CLARUS LIS

CLARUS Prime

User Manual

Everyday work in Clarus: from reception to the report

For laboratory staff: reception, technologists, approvers and managers

Version **9.95.2**

Revised **2026-11-09**

Clarus Medical Intelligence LLC

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Chapter 1

Installing Clarus on a computer

This chapter is for the person who puts CLARUS Prime on a laboratory computer for the first time. It follows what you see, in the order you see it: the check of the computer, the installer's pages, the end of the installation, and then updating and removing. The installer is called Setup in what follows.

1.1 What this chapter is for

Everything CLARUS Prime needs is inside Setup: the program, the runtime it runs on and the database. Nothing is downloaded during the installation and no internet connection is required to finish it. Setup is the file you get from the download or from the USB stick; run it and follow its pages.

Setup does four things, in this order: it looks at the computer before copying anything, asks you the few questions that matter, copies the program and creates the laboratory's own database, and then starts the activation. What happens after the last page is the subject of other chapters: Chapter 39: First setup and Chapter 38: Licence.

1.2 What the computer needs

Setup runs a check of the computer before it copies a single file. The check is the script `check-this-computer.ps1`, and the page that shows it is titled «Checking this computer». What it looks at is the following, and nothing else.

It looks at	A stop (Setup cannot go on)	A note (it will work, but…)
Windows	A 32-bit Windows, or a Windows older than Windows 10.	None.
Free space on the system drive	Less than 5 GB for a server (2 GB for a computer in an existing branch).	Less than twice that amount: it installs, but the database and the backups grow.
Memory	None.	Less than 4 GB for a server (2 GB for a computer in an existing branch): it works, but slowly when several people work at once.
The disk	None.	A spinning hard disk: it works, and a solid-state disk makes the database faster.

It looks at	A stop (Setup cannot go on)	A note (it will work, but...)
Port 5439 (the database) and port 8000 (the program)	None.	None. A port used by another program is not a stop: Setup takes the next free one and records it. A port used by CLARUS Prime itself means this will be an update.
Administrator rights	None.	Not running as administrator: the program installs for the current user only, and the database starts when somebody signs in, not when the computer starts.
Other security software	None.	Security software other than Windows Defender: if the database fails to start, allow the CLARUS Prime folder in that program and install again.

A computer that joins an existing branch is checked as a member: it has no database port, needs less room, and its administrator-rights line only says that none are needed.

If anything is a stop, Setup shows a message that the computer does not meet the requirements, and Next does not go on. Correct the cause and run Setup again. Notes never stop you; you read them and decide. A copy of the result is kept for support in the laboratory's data folder when Setup finishes, so whoever answers your call can see what the check saw.

> **Tip**
>
> A laboratory that switches its computers off at night should install as administrator. Only then is the database registered as a Windows service that starts with the computer.

1.3 Getting Setup

Setup is one file, downloaded from the supplier's site or copied from the USB stick. Run it by double-clicking. Setup is built to ask for administrator rights, but it lets you choose between installing for all users and installing for you only; see 1.6 Without administrator rights. If you choose all users, Windows asks whether you may make changes to the computer: answer yes.

1.3.1 The language comes first

Before any page, Setup asks which language to use. The choice governs everything after it: the wizard's own text, the licence agreement, the data statement, and the language CLARUS Prime itself opens in. Setup asks even when Windows is in a language Setup knows, so a laboratory is never given a language it did not choose. It offers the program's languages: English, Arabic, French, German, Spanish, Portuguese (Brazil), Portuguese (Portugal), Turkish, Kurdish and Kabyle.

The licence agreement is written in Arabic for the Arabic Setup. Every other language shows the English agreement, and each page says so in its own words: the English agreement is the one that binds.

1.4 The pages of Setup

The pages come in this order. A page that does not apply to your case is not shown.

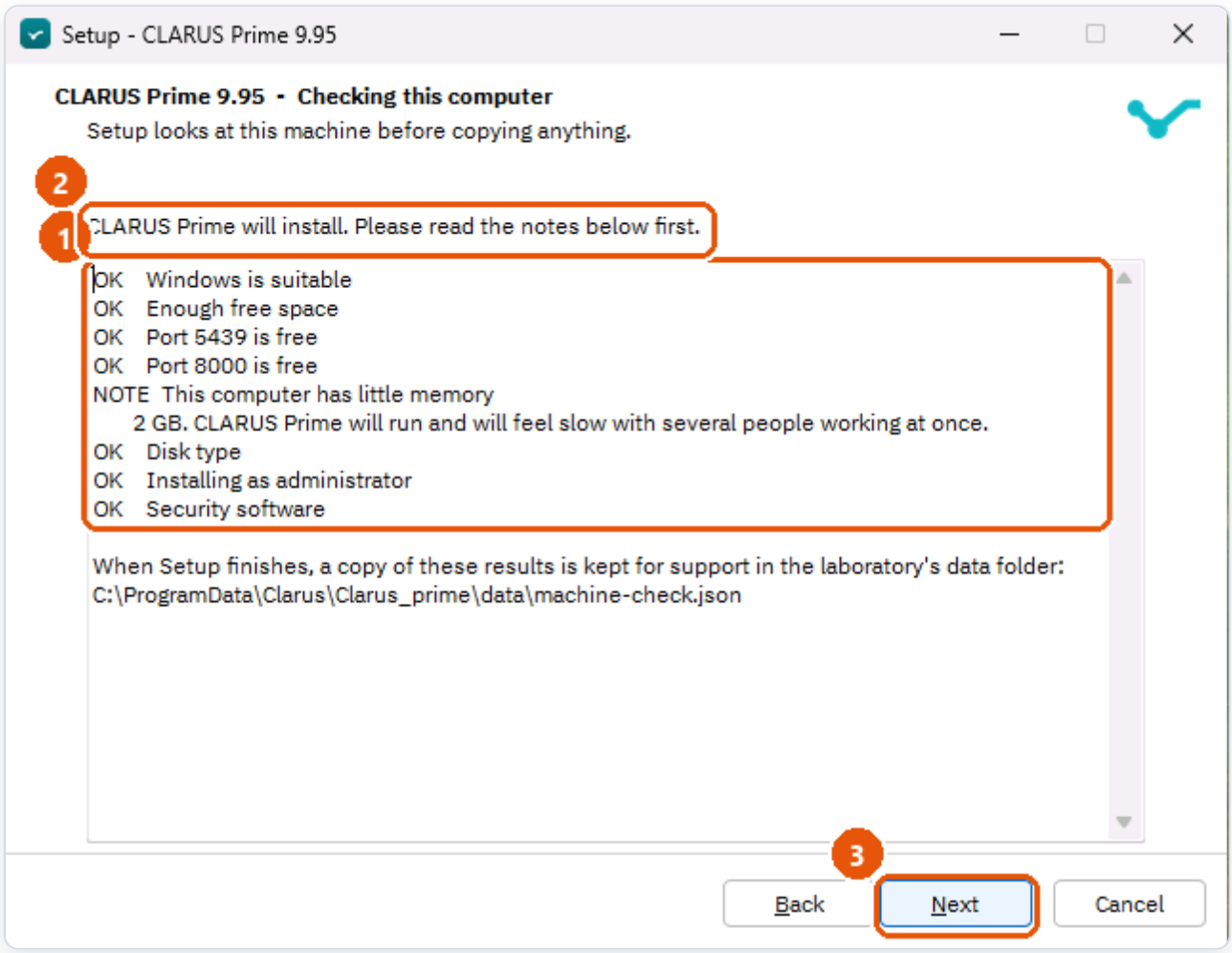


Figure 1-1: Setup's page that checks the computer: 1 the result for each item, 2 the headline above them, 3 the Next button.

Page	What it asks or says
Welcome	Introduces Setup. When you press Next the computer check runs.
Licence agreement	The terms of use. You must accept them to continue.
Installation type	What this computer will be in the laboratory. See 1.4.1 The installation type.
Data and privacy	How the program handles the laboratory's data, in a text you read. Tick the agreement box to go on; without it Setup says «Please tick Agree to continue».

Page	What it asks or says
Checking this computer	The check described above.
Ready to install	A summary of what Setup will do: the program folder, the laboratory's data folder, its backups, and the country and currency. Two choices: install this way (recommended), or let me choose the folders, the languages and the country. Shown only for a new branch server, not for an update or for a computer in an existing branch.
The folder	Where the program goes. Shown on the second choice and for a computer in an existing branch; not asked on an update, which keeps the existing folder. Not shown on the first choice.
A laboratory already on this computer	Shown only when Setup finds the data or the backups of an earlier installation in the chosen place.
Where the backups go	The folder of the daily backups. Shown on the second choice and on an update, and not for a computer in an existing branch.
The laboratory's languages	Which languages besides English are installed with the program. Shown only on the second choice, and not for a member or an update.
The laboratory's country and this computer's settings	The country, its currency, the time zone, the paper and the printers Windows reports. Shown only for a new laboratory with no data in the chosen place (on the second choice), and not for a member or an update; if Windows did not say which country the computer is in, it is shown on the first choice too.
Activation	The serial number, optional.
Review before copying	Setup's standard «Ready to install» page, which shows everything you chose before any file is copied. Shown only on the second choice.
Installing	The progress, stage by stage.
Finished	The result of the activation and the details of this copy.

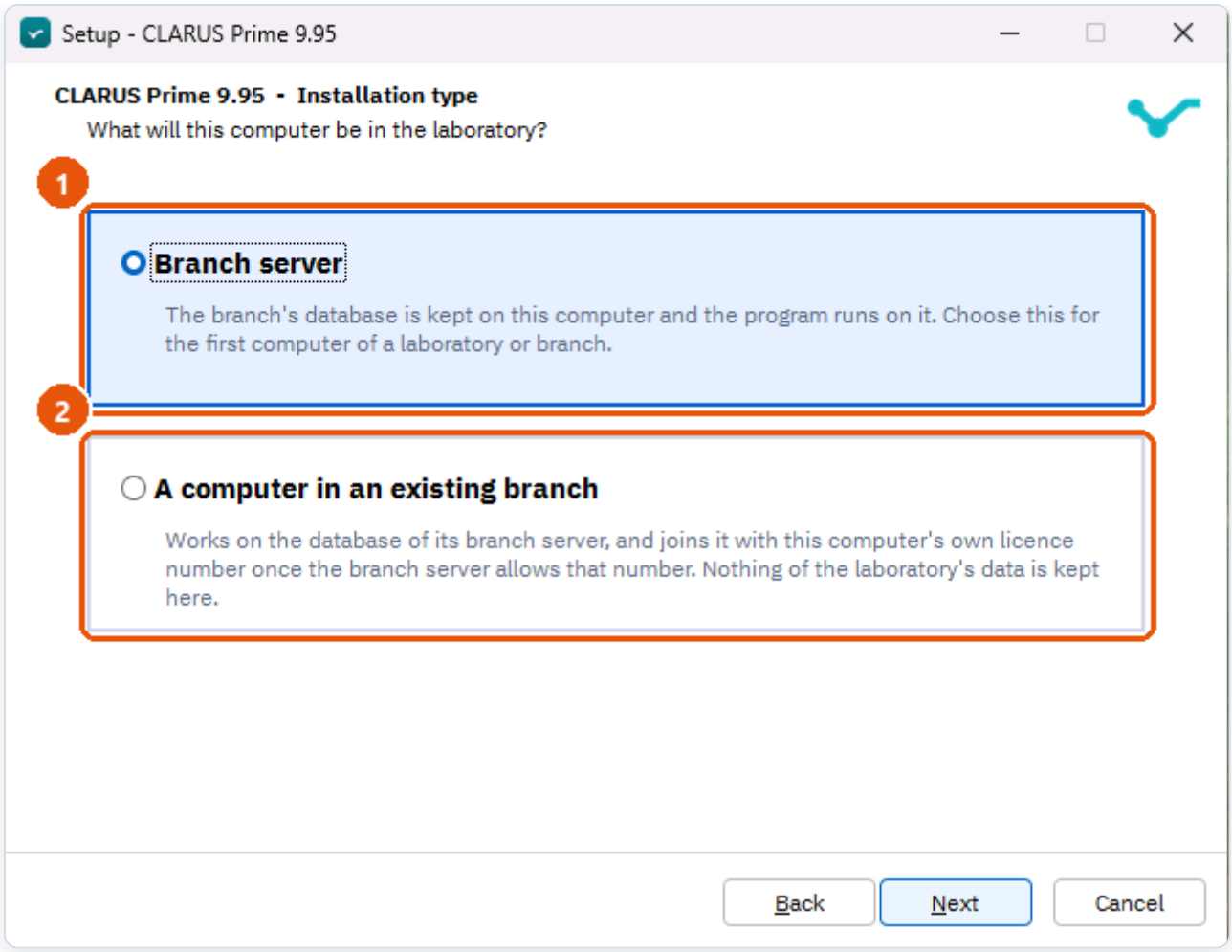


Figure 1-2: Setup's page for the installation type: 1 the branch server card, 2 the card of a computer in an existing branch.

1.4.1 The installation type

This page asks what the computer will be in the laboratory. It is skipped when Setup finds the program already on the computer, because an update keeps the role it has.

Choice	What it means
Branch server	The branch's database is kept on this computer and the program runs on it. Choose this for the first computer of a laboratory or of a branch. This is the usual choice and the one for a single computer.
A computer in an existing branch	The computer works on the database of its branch server, and joins it with its own licence number once the branch server allows that number. Nothing of the laboratory's data is kept on it.

A computer in an existing branch gets a shorter Setup: no data and privacy page, no backups page, no languages page, and the computer check page only if it found something to mend. How the computer then joins its branch is the subject of Chapter 28: Linking branches and computers.

1.4.2 Data and privacy

The page shows the data statement in the language you chose. Its short form: CLARUS Prime runs entirely on the laboratory's own computer, and patient data never leaves it. Read the statement itself for the exact list of what the program sends to the supplier when it looks for updates. Tick the agreement box to continue.

1.4.3 The folders

Setup chooses the drive D for the program, its data and its backups when the computer has a fixed drive D, so a copy survives if the drive C has to be rebuilt. Without a drive D it uses the Program Files folder for the program and ProgramData for the data and the backups. The recommended way shows you these choices on the summary page and asks nothing more. The other way shows the folder page and the backups page, where you may choose other folders.

What	With a fixed drive D	Without a drive D
The program	`D:\Clarus\Clarus_prime`	`C:\Program Files\Clarus\Clarus_prime`
The laboratory's data	`D:\Clarus\Clarus_prime\data`	`C:\ProgramData\Clarus\Clarus_prime\data`
The daily backups	`D:\Clarus\Clarus_prime-backups`	`C:\ProgramData\Clarus\Clarus_prime-backups`

If the program is installed «for you only» (see 1.6 Without administrator rights), its folder is `%LOCALAPPDATA%\Programs\Clarus\Clarus_prime` instead of Program Files. The laboratory's data is never placed inside Program Files: if Setup finds earlier data in ProgramData, or an existing installation has recorded its data folder in its settings, the data stays where it is and an update does not move it.

A folder inside another project's folder is refused, with the folder named, and you choose another one. Setup is never installed inside another program's folder.

> **Caution**
>
> A backup on the same computer is lost if the whole computer fails. Copy the backups regularly to an external disk or to another computer. The backups page says so in its own text.

1.4.4 A laboratory already on this computer

This page appears only when Setup finds the data or the backups of an earlier installation for the folder you chose. It offers three ways to start, and it deletes nothing whichever you choose.

Choice	What happens
Use the laboratory's data in the folder named	The installation starts from the data that is already there.
Restore the newest backup, named with its date	The newest backup is restored. If it cannot be restored, the laboratory starts from the data that is there and the backup file is not touched.
Start a new laboratory; the earlier data stays where it is	A new, empty laboratory. The earlier data remains in its old place.

1.4.5 The laboratory's languages

The program always works in English. This page lets you tick the other languages the laboratory needs. Every language is already inside Setup, so ticking one installs it with the program and needs no internet connection. A language marked experimental is offered with that word beside it. Languages can be added or removed at any time from the laboratory's languages screen under general settings.

1.4.6 The country and the settings

Setup shows where Windows says the computer is: the country, its currency, the time zone, the paper, the printers (the default one marked with an asterisk; each printer is given its role later, on the station's card) and the data and backup folders. Confirm the country and the currency or change them; the laboratory can change them later in Settings, under the regional format. If Windows did not say which country the computer is in, the page is shown on every path and Next waits until you choose one. No accreditation standard is chosen here: the laboratory chooses its own in the program.

1.4.7 Activation

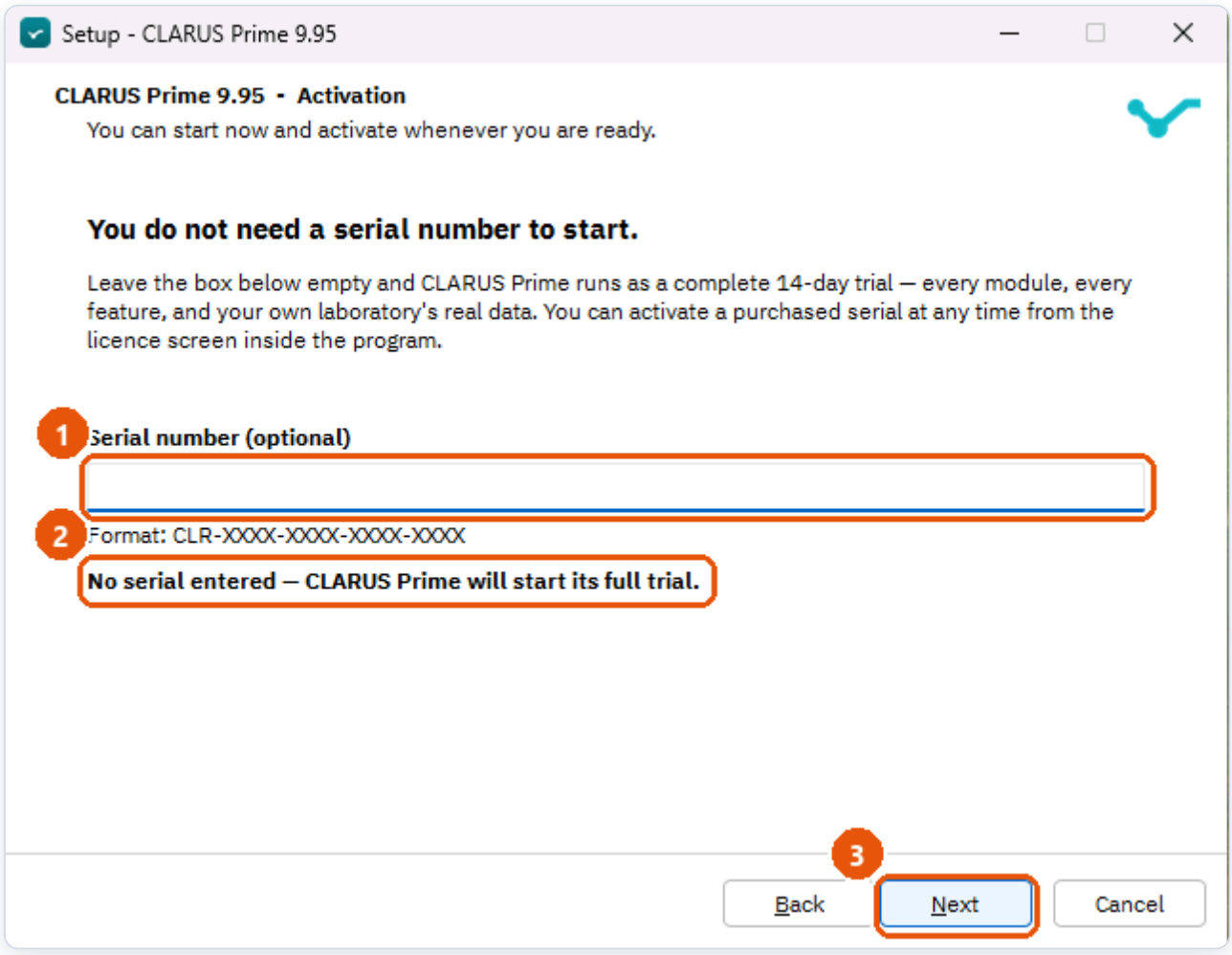


Figure 1-3: Setup's activation page: 1 the serial number box, 2 the line that says what has been read, 3 the Next button.

You do not need a serial number to start. Leave the box empty and CLARUS Prime runs as a complete 14-day trial with every module and the laboratory's own real data. A purchased serial is typed in the box; it has the form `CLR-XXXX-XXXX-XXXX-XXXX`. You do not type `CLR` or the dashes: the box adds them as the groups fill, and dashes and spaces you type are ignored. The sixteen characters are digits and letters, but never the letters I, L, O and U; the box turns I and L into 1, O into 0 and U into V, and drops any other character. Arabic-Indic digits are turned into ordinary digits. A line under the box tells you what it has read: how many characters have been typed, that the serial is complete and reads correctly, or that one character does not match the rest, in which case check it against the card. The usual pairs of confusion are 1 and I, and 0 and O.

Next does not go on with a serial that is incomplete or has a mismatching character; Setup says so and waits. An empty box always goes on: that is the trial. For a computer in an existing branch the same page asks for the licence number of this computer instead, and does not offer a trial; if you do not have the number now, leave it empty and type it in the computer's window after installing.

The details of the licence are the subject of Chapter 38: Licence.

1.4.8 Installing

While Setup works it names each stage: placing the program files, registering the laboratory tools, creating the laboratory database (the longest step), building the laboratory tables and loading the test catalogue, checking the licence, installing the languages, and registering the program's services with Windows. A computer in an existing branch has a stage for joining its branch.

1.4.9 The last page

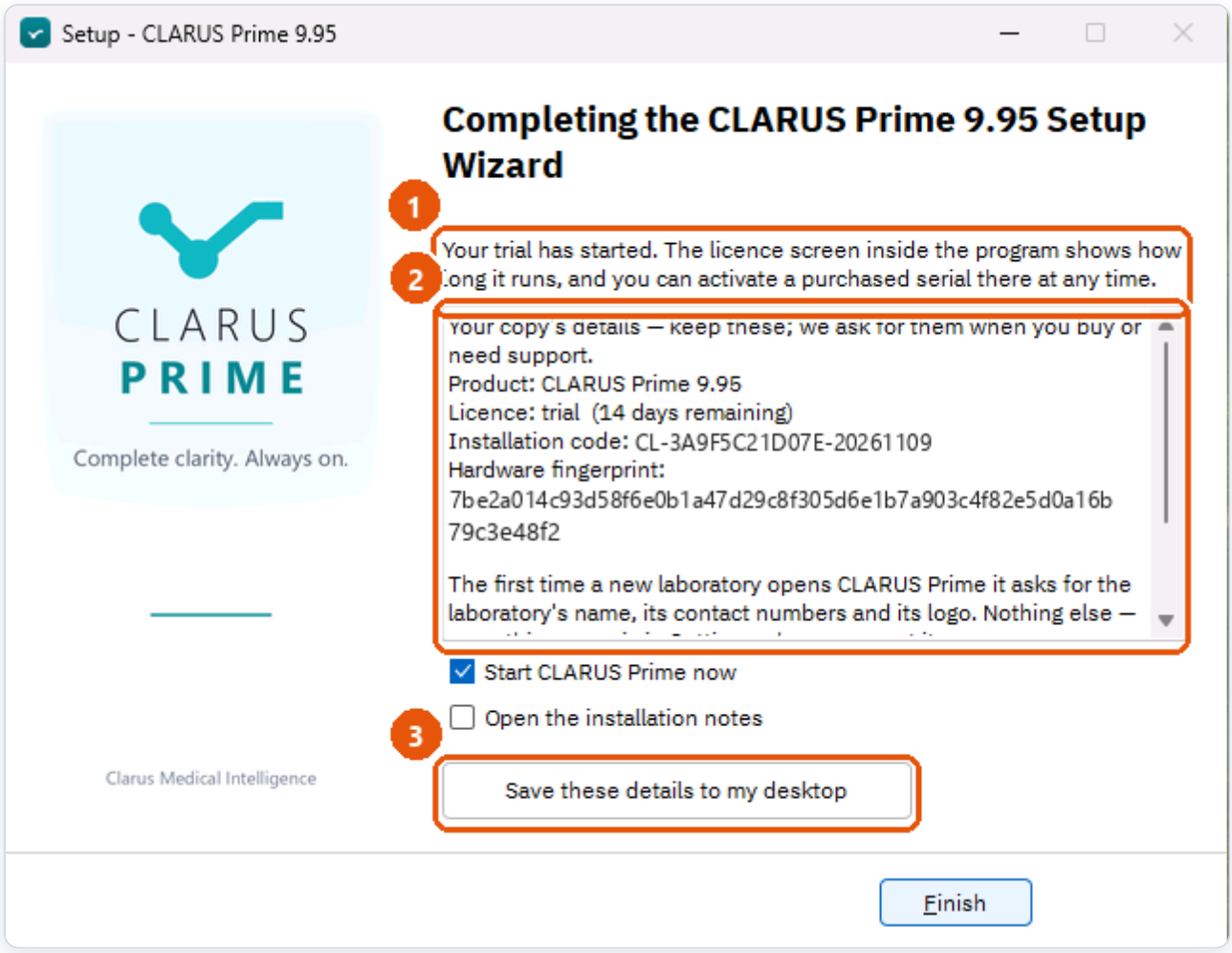


Figure 1-4: Setup's last page: 1 the result of the activation, 2 the details of this copy, 3 the button that saves them to the desktop.

The last page says what became of the activation, and shows the details of this copy: the product, the licence, the installation code, the hardware fingerprint, the serial, where it is installed and where the data is kept. Keep these details; the supplier asks for them when you buy or need support. A button saves them as a file on the desktop. A computer with no internet can use the installation code and the fingerprint to activate from a phone: open `claruslis.com/activate`, enter the two values and the serial, and bring the downloaded file back on a USB stick.

The page says	Meaning
CLARUS Prime is activated and ready.	The serial was accepted.
Your trial has started.	No serial was typed. The licence screen inside the program shows how long it runs.
The serial was not accepted, but it is installed and your trial keeps it fully usable.	Open the licence screen in the program to try again.
Your serial is recorded, but it is not activated yet.	Open the licence screen in the program and press activate.

If the computer could not reach the supplier's server during Setup, the page says the trial starts with the supplier's signature, which did not arrive: connect the computer to the internet, open the program and press «Try now» on the trial screen; without the internet the same screen shows a code to scan with your phone, to download the trial file and bring it across.

Two buttons are offered: start the program now, and open the installation notes.

1.5 After the installation

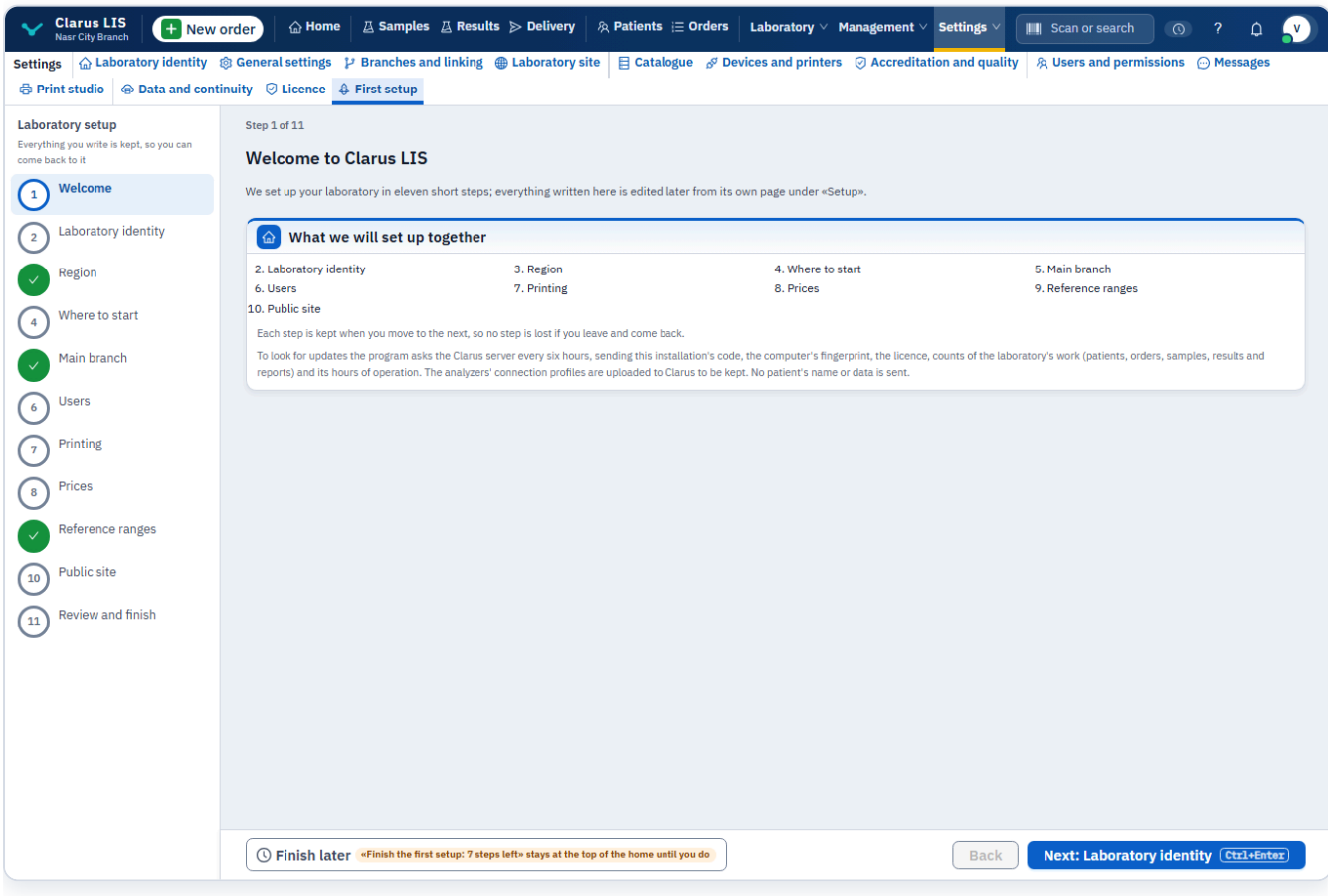


Figure 1-5: The program after the installation: the first setup, which asks for the laboratory's name, contact numbers and logo.

1. Open CLARUS Prime from the desktop shortcut or from the Start menu. The program opens in the browser.
2. The first time it asks for the laboratory's name, its contact numbers and its logo, and then walks you through the first setup. Fill it in before you register the first patient, because it is what prints on every report. See Chapter 39: First setup.
3. To activate a serial, or to see how long the trial has left, open the licence screen. See Chapter 38: Licence.
4. Check where the data and the backups are, and arrange the copy to another disk. See Chapter 37: Data and continuity.

The database is registered as a Windows service of the «automatic» type, so it starts with the computer and comes back by itself after a power cut, without anyone signing in. As for the program itself, Setup registers a hidden task that starts it at every Windows sign-in with no window (for an install «for you only», an entry in your account's sign-in startup instead), so the laboratory's analyzers are heard after a restart without waiting for someone to open it; if the task could not be registered, the program starts when its window is opened. To open the window after a restart use the desktop shortcut or the Start menu, which opens the window on the running program. Registering the service needs administrator rights and a folder that only administrators can change (the proposed Program Files folder, for example); otherwise a task that starts the database when a user signs in to Windows is registered in place of the service.

> **Note**
>
> To keep CLARUS Prime on the taskbar, open it from its desktop shortcut, then right-click its icon on the taskbar and choose «Pin to taskbar». Windows lets only you do this, not Setup.

1.6 Without administrator rights

The installer is built to ask for administrator rights, and offers a choice between all users and your account only. That choice is shown when Setup is run interactively without the command-line options that fix it in advance (`/ALLUSERS` or `/CURRENTUSER`); this comes from Setup's settings, and was not tried on screen. Setup's words: «CLARUS Prime can be installed for all users (requires administrative privileges), or for you only. Installed for you only, the program runs only while you are signed in to Windows: the branch's computers and the phone cannot reach it while you are signed out.» Then the program runs only while you are signed in to Windows, and the branch's other computers and the phone cannot reach it while you are signed out. The database starts when somebody signs in, not when the computer starts. For a laboratory, install as administrator.

1.7 Updating

Run the new Setup on the computer where CLARUS Prime is. Setup recognises it: the computer check says that CLARUS Prime is already on the computer and that this will be an update, the installation type page is

skipped, and the folder page is not shown, because the folder of the existing installation is kept (this is the installer's standard behaviour for an update; Setup does not change it). If the running program is holding its files, Setup closes it first. If it still holds them, Setup stops and leaves everything as it was; close the program or restart the computer and run Setup again.

If the program is found installed for a different Windows account or privilege level, Setup warns that installing again creates a second copy with its own folder and database, so the laboratory's data would be in one of them and not the other, and asks whether to install a second copy anyway.

An update from the supplier can also come as two files, the update package and a small handoff file. A technician installs it from the install folder with `update-clarus-lis.ps1`; it checks the package against the recorded checksum and refuses anything that does not match, and keeps a copy of the version it replaced so it can be put back. The last two versions are kept. The laboratory's data is not touched in either direction.

1.8 Removing

Use Windows Add or Remove Programs, or the Uninstall shortcut in the Start menu folder. The uninstaller asks one question: remove everything, or keep the laboratory's data? In every case the removal stops the database service (or the sign-in task that starts it) and unregisters it, and removes the task that starts the program at sign-in, before it deletes the files. A silent removal asks nothing and keeps the data.

Choice	What goes	What stays
Keep the laboratory's data (the usual choice)	The program.	The database, the settings and the backups. Installing again brings the laboratory back as it was.
Remove everything except the backups and the licence	The program, the database, the settings and the logs.	The backups, the keys they are read with and the licence information.

> **Danger**
>
> Removing the program does not clear patient data from the disk when you keep the data. If you are decommissioning the computer, the data must be removed separately. And never delete the data folder by hand to save space: it holds the key that the patients' encrypted fields are locked with, and without it the records cannot be read.

1.9 Two common installations

1.9.1 Task 1 — A single computer

1. Run Setup and choose the language.

2. Accept the licence agreement.
3. On the installation type page keep Branch server.
4. Accept the data and privacy page.
5. Read the computer check; stops must be corrected, notes weighed.
6. On the summary page press Install this way (recommended).
7. On the activation page type the serial, or leave the box empty to begin the trial.
8. When Setup finishes, press the button to start the program and go on to the first setup, Chapter 39: First setup.

1.9.2 Task 2 — A computer that joins an existing branch

1. Get from the branch server's administrator the licence number allowed for this computer.
2. Run Setup, choose the language, accept the licence agreement.
3. On the installation type page choose A computer in an existing branch.
4. On the activation page type the licence number, or leave it empty and type it later in the computer's window.
5. When Setup finishes, open the program. Its window joins the computer to its branch; the rest is in Chapter 28: Linking branches and computers.

1.10 What the screen says

The screen says	Meaning	What to do
This computer is ready for CLARUS Prime.	Every check passed.	Go on.
CLARUS Prime will install. Please read the notes below first.	There are notes but no stop.	Read them, then decide.
CLARUS Prime cannot be installed on this computer yet.	There is a stop.	Correct what the stops name and run Setup again.
This computer does not meet the requirements above.	You pressed Next on a stop.	Same.
Not enough free space	Less free space than the check needs.	Free space on the system drive.
Not running as administrator	No administrator rights.	Run Setup as administrator if the computer is switched off at night.

The screen says	Meaning	What to do
The folder you chose is inside another project's folder	The folder is inside another program's folder.	Choose another folder.
Please tick Agree to continue.	The data statement is not accepted.	Tick the box.
One character does not match the rest of the serial	A typing mistake.	Compare with the card; 1 and I, 0 and O.
The serial must be 16 characters	An incomplete serial (16 characters after «CLR», not counting the dashes).	Complete it, or empty the box to start the trial.
The program already on this computer is still running and holding its files	An update was refused.	Close the program or restart, and run Setup again.
Setup did not finish	The step that prepares the database ended with an error code. Setup names a file with the record.	Send that file to the supplier, or correct the cause it names and run Setup again.
Windows blocked the database engine	Smart App Control in Windows refused to run the database engine. Administrator rights do not change this.	Turn Smart App Control off in Windows Security and restart; it cannot be turned back on without reinstalling Windows, so ask the supplier first if that is not acceptable.
The laboratory's tables could not be built	The database runs, but building or updating the tables stopped before it finished.	Run Setup again; if it stops again, send the file.
The laboratory database could not be prepared	The step that prepares the database did not finish.	Restart the computer and run Setup again as administrator; if it stops again, send the file.

A technician who installs without the wizard runs Setup with `/VERYSILENT /SUPPRESSMSGBOXES /NORESTART` from an elevated prompt, and adds `/LOG="C:\setup.log"` to keep a record. Its exit code is the setup step's own code: 0 when the install finished, anything else when it did not. The reason is in `install-transcript.log` in the install folder.

> **Note**
>
> If the database does not start, the commonest cause on Windows is security software that prevents PostgreSQL from creating its worker processes. The error message names the two folders to allow. The details belong to the service manual.

1.11 See also

- Chapter 39: First setup: the first setup of a new laboratory.
- Chapter 38: Licence: the licence, the serial and the activation.
- Chapter 37: Data and continuity: where the data and the backups are, and the copy to another disk.
- Chapter 28: Linking branches and computers: a computer that becomes a branch server or joins one.

Chapter 2

Getting started

This part is about what a person meets first: signing in, the bar at the top of every screen, the keys, what each role sees, the first setup, and how to read this manual.

2.1 What this part is for

Every working day starts the same way: you sign in, and the program shows you its bar. This part explains the sign-in (by password or by scanning a code), what to do when a password is forgotten, the bar and everything on it, the keys that work on every screen, why two colleagues see different menus, and the first setup that prepares a new laboratory.

2.2 How to read this manual

- A **name in bold** is a button, field, tab or window exactly as the program writes it, in the language you chose. When a name changes with the language, the manual follows the language it is written in.
- A picture carries **numbered discs**. The caption says what each number points at, for example «1 the box, 2 the button». Read the caption beside the picture.
- A key is written between brackets, for example `Ctrl+S`. Keys are listed in the section «The keys of the program».
- A note marked **Note** adds a detail, **Tip** a shortcut, **Warning** something that can cost you work, and **Danger** something that cannot be undone.
- Every screen has its own chapter. This part is the only one that is not about one screen.

2.3 Signing in



Figure 2-1: The sign-in screen: 1 the language, 2 the way of signing in, 3 the user name, 4 the password, 5 the remember box, 6 the sign-in button, 7 the forgotten-password link.

The sign-in screen is a single card titled **Clarus LIS**. It offers the language (**Language**) first, so that someone who cannot read the screen can change it before anything else.

Element	What it does
Language	Chooses the language of the screen before you sign in.
How to sign in	Appears only when more than one way is offered: **Password**, or **QR code** where the laboratory offers it.
Username	Your user name. It is required: if you leave it empty the screen says «Enter your username».
Password	Your password.
Remember this device	Keeps this computer signed in to you. Tick it only on a computer you use alone.
Sign in	Signs you in and takes you to the screen you were trying to open, or to the home.
Forgot your password?	Opens the recovery window (below).

Element	What it does
Sign in without a password (new installation)	Appears only on a new installation whose administrator has no password yet.

2.3.1 Task 1: sign in with a user name and password

1. Type your name in **Username**.
2. Type your password in **Password**.
3. Tick **Remember this device** only if this computer is yours alone.
4. Press **Sign in**.

If the sign-in fails the card shows a red message with the reason, and you may try again.

2.3.2 Task 2: sign in by scanning a code

Where the laboratory offers it, the choice **QR code** appears above the form (not during the first-administrator setup).

1. Choose **QR code** in **How to sign in**.
2. Open «Clarus LIS Manager» on your phone and scan the code on the screen, as the line **Scan this code with «Clarus LIS Manager» on your phone:** says.
3. The code changes after a short time, and the screen tells you how long (**The code changes in ....**). If it changes before you scan it, scan the new one.

When you scan it the screen signs you in by itself.

2.3.3 The second step

If the administrator turned on the second step for your account, signing in with the password is followed by one more check. It takes one of two forms:

- The phone: the screen shows a number, and you open «Clarus LIS Manager» on your phone and choose that number (**Open «Clarus LIS Manager» on your phone and choose this number:**). The request has a time limit, shown on the screen. If it ends, type the six-digit code instead or sign in again.
- The code: type the six-digit code that your authenticator app shows in **Verification code**. It is sent by itself as soon as the sixth digit is typed; **Sign in** does the same.

Press **Back** to return to the password.

2.3.4 Task 3: a forgotten password

Press **Forgot your password?** under the sign-in button. The window **Recover an administrator's password** opens.

1. Type your name in **Username**.
2. Type the code in **Recovery code or vendor code**: the recovery code printed on the emergency sheet, or the code the vendor sent you. If the vendor sent you a file, use **Load the vendor code's file**.
3. Type the new password in **New password** and again in **Type the new password again**.
4. Press **Set the new password**.

The window tells you the new password is set and that every session opened with the old password has ended. Sign in with the new password; a new recovery code is shown to you at that sign-in.

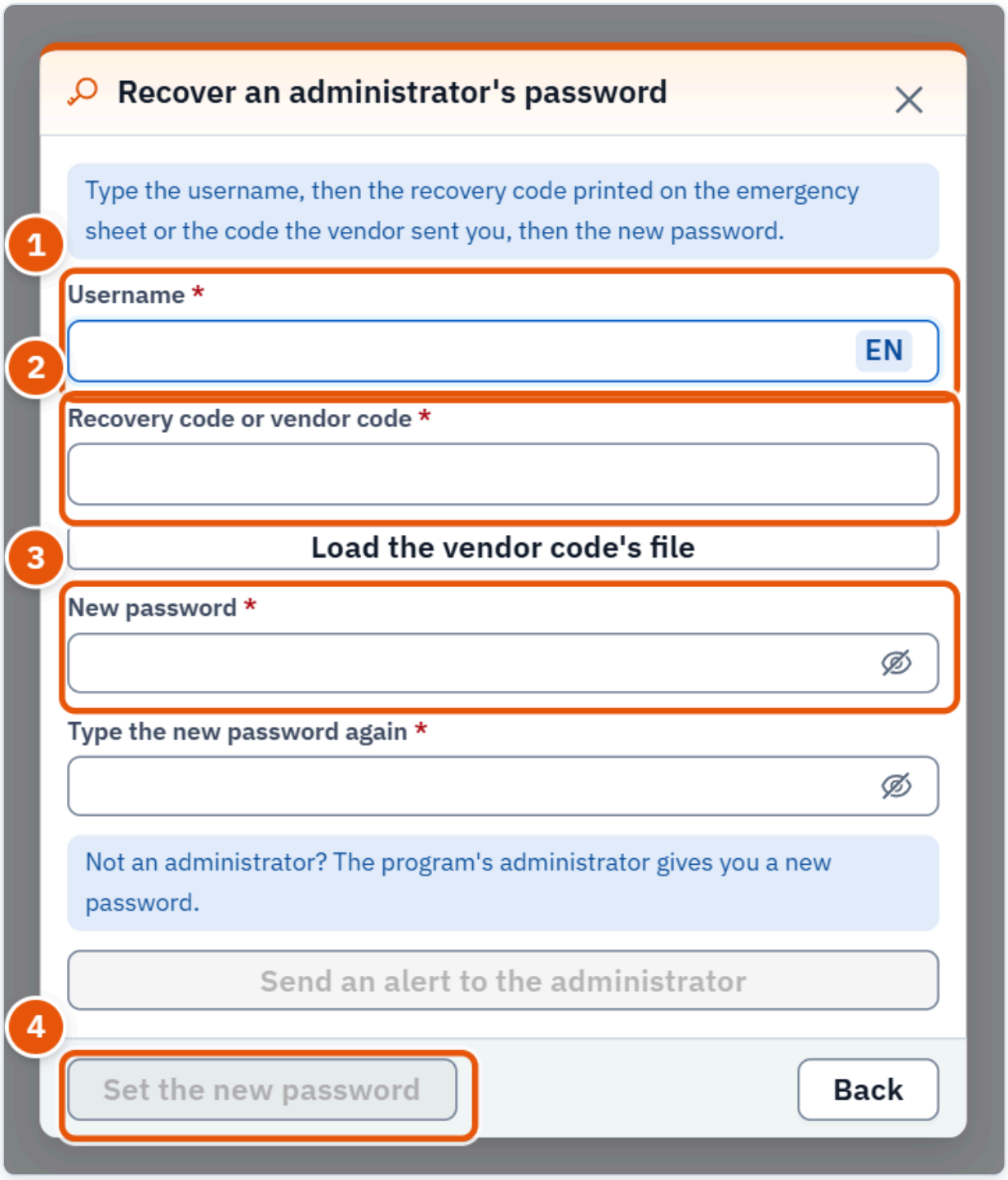


Figure 2-2: The recovery window: 1 the user name, 2 the recovery code, 3 the new password and its repeat, 4 the button that sets it.

> **Note**
>
> The recovery code works for an administrator's account, and the window says so. If you are not an administrator, type your name and press **Send an alert to the administrator** (it is dim until a name is typed): an alert reaches the program's administrators, who give you a new password.

2.3.5 The recovery code and the emergency sheet

When an administrator signs in, a window named **Password recovery code** shows the code. The text explains that the code appears this time only, so print the emergency sheet with **Print the emergency sheet** and keep it away from the computer. The sheet carries the laboratory's name, the user name, the recovery code, the cloud backup code (or says it is not turned on), the installation number and the steps for returning on a new computer. Tick **I have saved the code** when you have saved it; only then does **Continue** work.

> **Caution**
>
> Whoever holds the sheet can set a new password for your account. Keep it in a safe place.

If you lose the sheet, an administrator opens **My account**, finds **Password recovery code** and presses **New code**. The administrator types the password; the old code stops working at once and a new one is shown.

2.3.6 The first administrator on a new installation

A fresh installation may have an administrator with no password yet. The card is then titled **First administrator setup** and asks for the administrator's **Full name**, **User name:** and **Password** (the screen states the minimum length), then **Type the password again**. Press **Create the administrator**. If the two passwords differ the screen says so.

On a new installation you may instead press **Sign in without a password (new installation)**. After you do, a strip at the top of every screen asks you to give the administrator a password: choose **Set the password**, or **Later**. If the server belongs to a laboratory chain, its administrator arrives from the chain's administrator site with the first exchange, and the card says so (**This server is linked to its laboratory's chain: its administrator arrives from the chain's administrator site with the first exchange. Sign in with that account once it has arrived.**). Sign in with that account once it has arrived.

2.4 The top bar

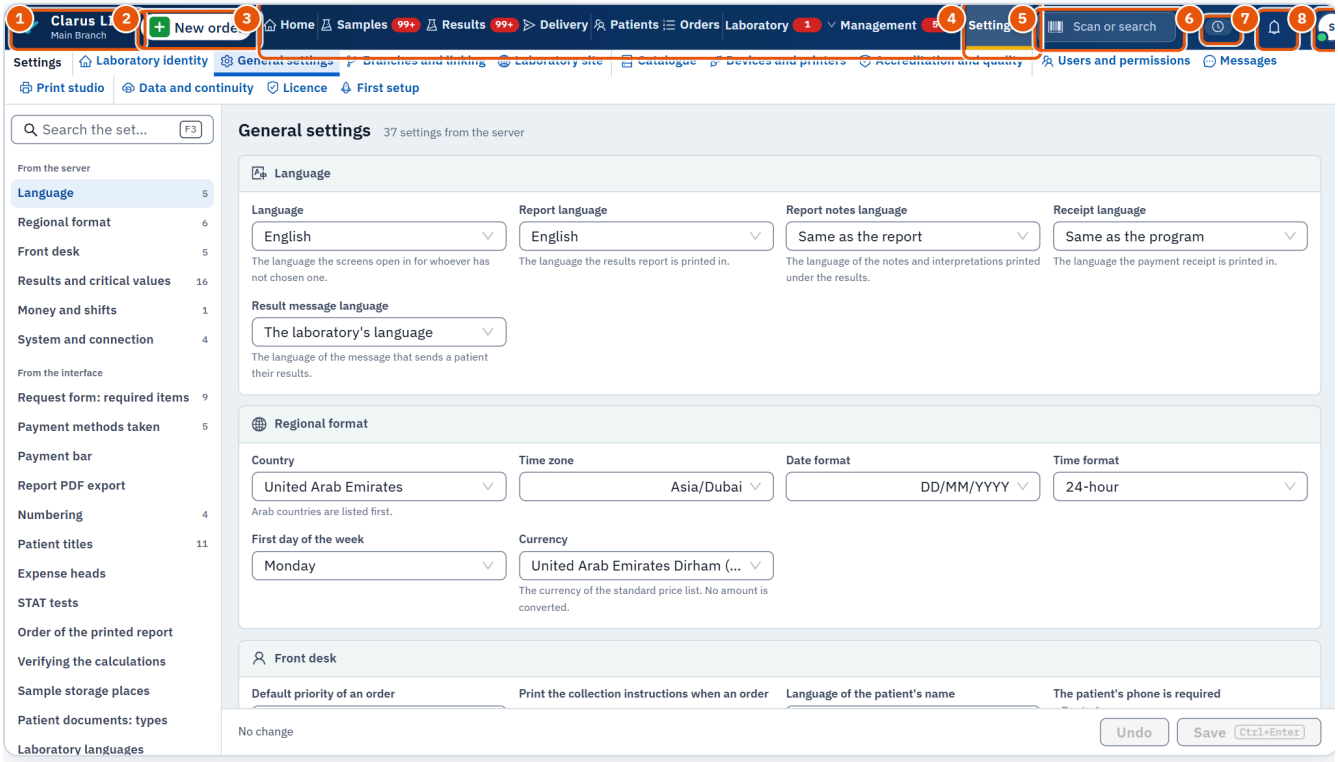


Figure 2-3: The top bar: 1 the program's name and branch, 2 the New order button, 3 the menu, 4 a group, 5 the search box, 6 the shift chip, 7 the bell, 8 your name.

The bar stays on every screen. It holds, in this order: the name **Clarus LIS** with the branch's name under it; the **New order** button; the menu; the search box; and, on the far side, the marks and buttons described below.

2.4.1 The menu

The menu is built from your permissions: each screen is shown only to a person whose role may open it. Light lines divide it into four clusters:

Cluster	Items
Home	**Home**
The day's flow	**Samples**, **Results**, **Delivery**
People and orders	**Patients**, **Orders**
Groups	**Laboratory**, **Management**, **Settings**, **Support**

A **group** is a button that opens a second row under the bar, visible and whole, listing its screens. It is not a drop-down. A group appears only when you may open at least one of its screens. Arriving at a screen of a group opens that group's row by itself; press the group again to close the row.

Group	Its screens
Laboratory	**Send-outs**, **Daily QC**, **Microbiology**, **Clinical AI**
Management	**Treasury**, **Prices and contracts**, **Claims**; **Attendance**, **Follow-up**, **Inventory**; **Quality**, **Security and audit**; **Marketing**, **Clarus Market**
Settings	**Laboratory identity**, **General settings**, **Branches and linking**, **Laboratory site**; **Catalogue**, **Devices and printers**, **Accreditation and quality**; **Users and permissions**, **Messages**, **Print studio**; **Data and continuity**, **Licence**, **First setup**
Support	**Health and diagnostics**, **Cases and reports**, **Go-live**, **Server and updates**

In a group the screens are divided into sections by light lines; the sections are the semicolons above.

> **Note**
>
> The group **Support** belongs to the vendor's engineer alone. A laboratory's own roles do not see it.

2.4.2 The numbers beside items

Some items carry a small number: **Samples** (samples still to draw or receive), **Results** (results waiting for entry), **Daily QC**, **Quality**, **Inventory** and **Prices and contracts**. A group carries the sum of the numbers of its screens. A number above 99 shows as 99+. The number turns urgent in colour when part of it is urgent; nothing is shown when there is nothing to do. The numbers are refreshed about every minute.

2.4.3 The New order button

It is the program's main button. It is shown to whoever may create an order, and it works from any screen; F1 works only for the same people. Press it, or press F1. If you are already on the new-order screen and something is typed there, that screen asks you to confirm before starting afresh.

2.4.4 The search box

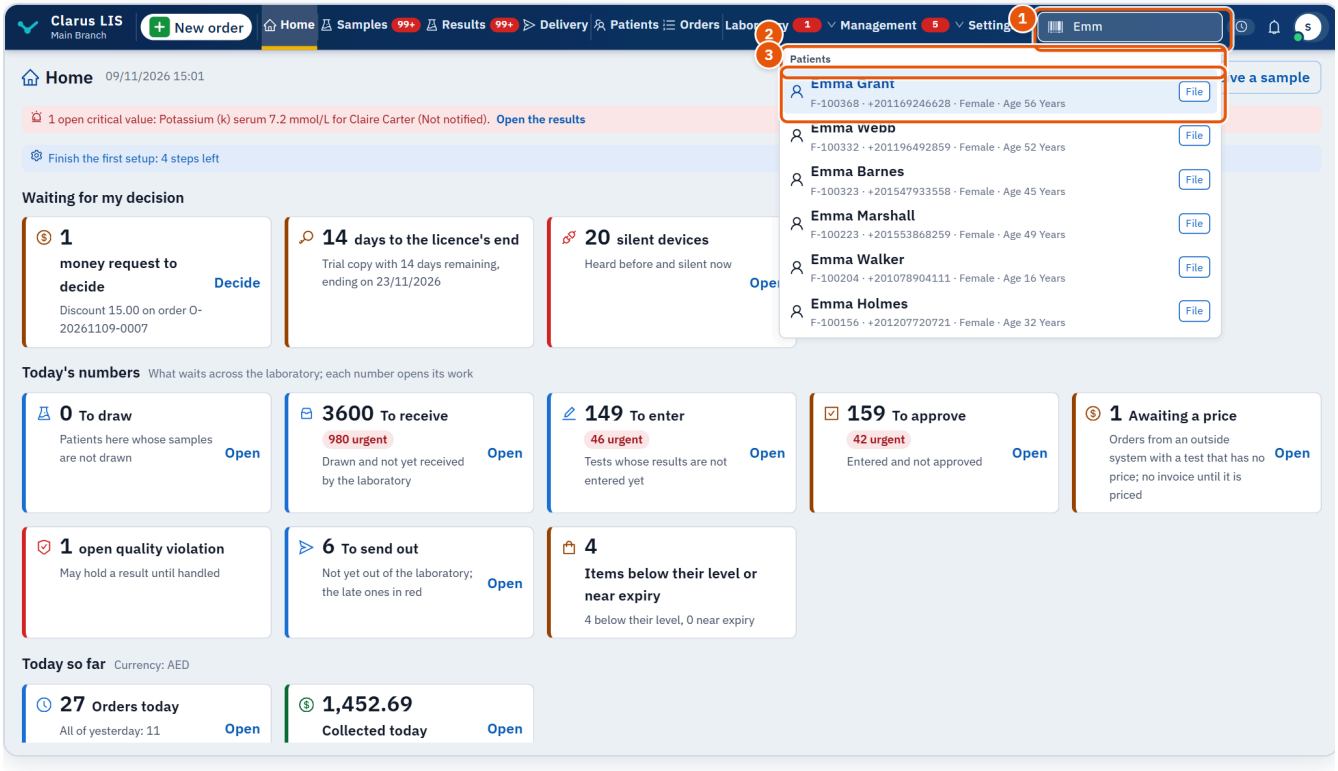


Figure 2-4: The search box: 1 the box, 2 a group of results, 3 one result.

The box **Scan or search** is at the top of every screen. Press `/` from anywhere to jump into it (the key is also shown inside the box). Type at least two characters. It finds a sample by its barcode, an order by its number, a patient by name, phone, file number or national ID, a test, a doctor, or a screen. The results are grouped under **Samples**, **Orders**, **Patients**, **Tests**, **Doctors** and **Screens**; a patient's line shows the file number, phone, sex and age. A scanner works from any screen when no field has the focus: a barcode scanned then is searched at once.

1. Press `/` and type, or scan a barcode.
2. Move through the results with the up and down arrows.
3. Press `Enter` on the result you want, or click it. Press `Esc` to close the results.

What a result opens: a patient, a new order with that patient (the button **File** beside it opens the patient's file instead; a person who may not create orders gets the file); an order or a sample, its screen with it searched; a test, the catalogue, only for whoever may open it; a doctor, a new order with that doctor; a screen, that screen (at most four screens are offered, and only yours). If you press `Enter` without choosing, one exact match opens by itself; if there are several results they are listed; if there are none, the text goes to the patient search on the order screen.

If nothing is found, the box says so. If the search fails it says **The search failed.**.

> **Note**
>
> A patient's file may be protected. Opening it then asks for a reason first (**A protected file**): write why, or choose one of the common reasons. The reason is kept in the audit trail.

2.4.5 Marks and buttons on the far side

Element	What it does
Critical button (**Critical** and a number)	Appears only to a person who may approve results, and only while there are open critical values (checked about every minute). Pressing it opens **Results**.
The shift chip	Shown only to a person who holds a shift or may open one. It says **No shift** (pressing it opens the window that opens a shift), or **My shift since ...** (pressing it opens the window that closes it). If a shift of an earlier day was left open it says so (**Yesterday's shift is open**) in orange.
The help button, a «?»	Shown on every screen that has its own chapter in this manual, between the shift chip and the bell; the sign-in page has none. Pressing it opens, in a new tab, this screen's chapter of the user manual on Clarus's website, in the program's language and for the program's version. If the computer cannot reach the website, the same tab opens the manual the program carries inside itself, in Arabic or English, so the press never ends on an error page. Its tooltip says «Help: this screen's chapter of the user manual».
The bell (**Messages and alerts**)	Opens the window of messages and alerts. The number on it counts the messages you have not seen plus your due reminders; it is asked about every half minute.
Your name, with a round mark	Opens **My account**. The mark shows the first letter of your name, and the button turns to a disconnected state when the program cannot reach the server.
Test environment	Appears only on a test copy: every name and number there is invented.
Developer mode	Tells the vendor's engineer that this session sees what the laboratory does not.

On a narrow window the bar keeps the numbers and gives up the words; the name of each button is still its tooltip.

2.4.6 Strips under the bar

Strips appear above the screen's own content and say what needs your attention:

- **Clarus technical support is inside your copy now.** while a remote support session is open, with its end time. Anyone may stop it with **Stop now**.
- The administrator-password strip described in the section on signing in.

- A strip telling you that the browser is translating the page (**The browser is translating this page, so test names, units and results may change. Turn the translation off from the translate button in the address bar and choose «Show original».**). Turn the translation off, or test names, units and results may change.
- On the home only, the licence strip.

2.4.7 Messages, alerts and reminders

The bell opens **Messages and alerts**. A message from the management arrives as a **Banner**, a **Notice** or an **Urgent message**. An urgent one closes only with **I have read it**. You may answer with **Reply**, with a quick reply (**Done**, **Seen**, **I will call you**), or write to the management with **Write to management**.

A **reminder** is a note you set for yourself or for others. From the window press **New reminder**, then fill in **Reminder text (up to 500 characters)**, **When**, **Repeat** (**Once**, **Daily**, **Weekly** or **Monthly**), **How it appears** and **Who it is for** (**Myself**, **Roles** or **People**), and press **Save reminder**. The text is limited to 500 characters, and the time starts one hour from now. Reminding others (roles or people) is offered only to whoever is allowed to. When it falls due it appears; choose **Done**, or snooze it for ten minutes, an hour or until tomorrow. **Hide** hides it but it stays in the messages until you press **Done** or snooze it. Your own reminders are listed under **My reminders**, where **Withdraw** cancels one.

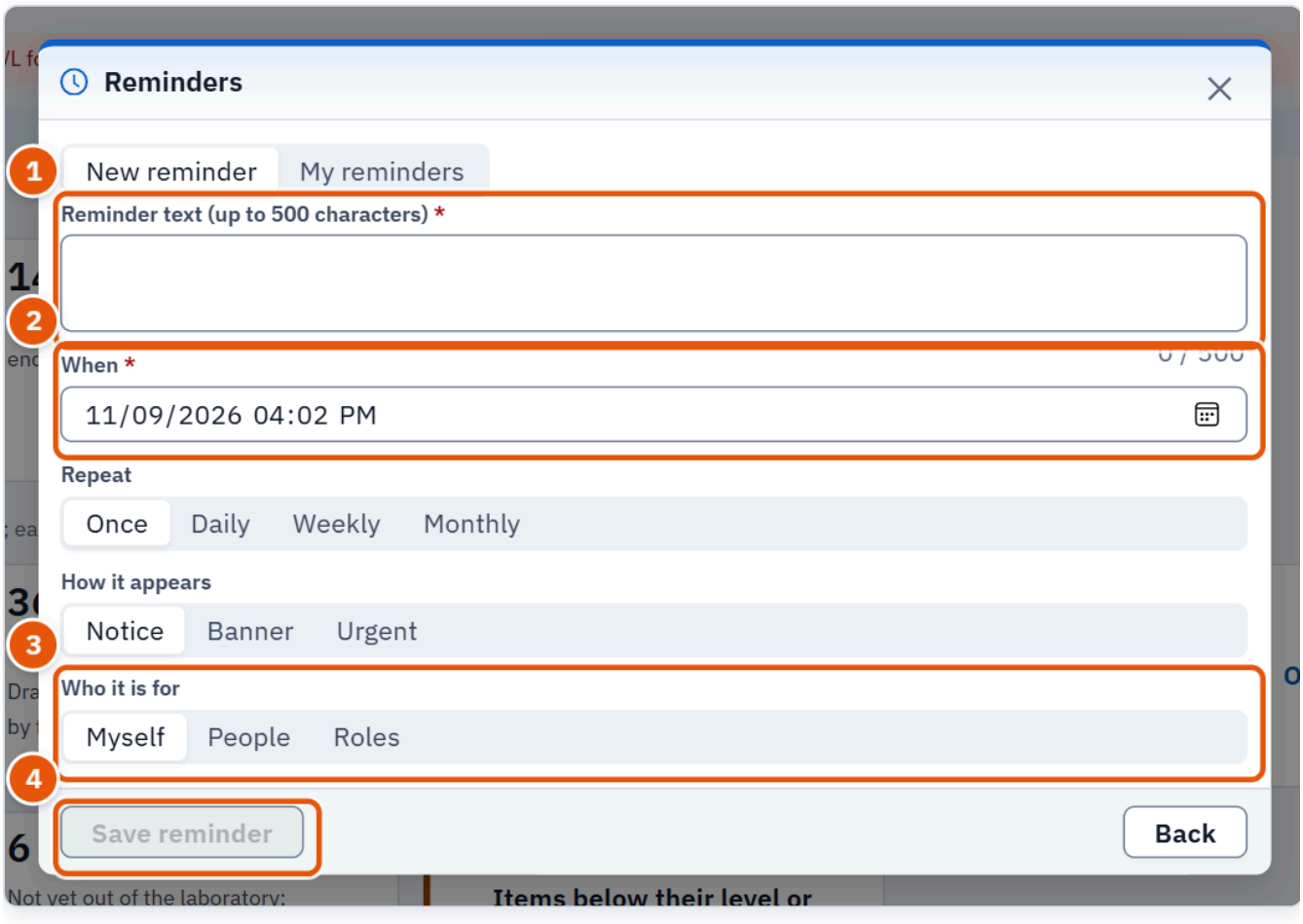


Figure 2-5: The reminders window: 1 the text, 2 the time and the repeat, 3 who it is for, 4 the save button.

2.5 My account

Press your name in the bar. The window **My account** opens.



Figure 2-6: My account: 1 the name and role, 2 the password, 3 the second step, 4 the phone, 5 the display size and language, 6 sign out.

Element	What it does
Name, **Role**, **Branch**	Who you are in the program.

Element	What it does
Password with **Change it**	Asks for the current password, then the new one twice, and saves it with **Save the new password**.
Password recovery code with **New code**	A new recovery code, as described above. Shown to administrators only.
Two-step verification	Turn it on with **Turn it on**: scan the code with an authenticator app, or type the key by hand, then type the six-digit code. Turn it off with **Turn it off**. It is changed from inside the laboratory only: from outside, the window shows a note saying so instead of the buttons.
My phone	Pairs a phone with «Clarus LIS Manager»: **Pair a phone** shows two codes, one to download the app and one to pair the phone. A paired phone is listed with when it was last seen and can be taken off with **Remove**. If the app is switched off or your role does not carry it, the window says why, and offers a link to the page where it is changed only to whoever may change it.
Screens with **Send to the screens**	Opens the send window (below). Shown only to whoever may send to the screens.
Tell support about a problem with **Tell support**	Sends support a report of the system's state, without any patient's data. Shown only to whoever may manage settings.
My attendance	Opens your attendance for the month: days present, absent, minutes late, minutes left early, incomplete days, leave and your punches.
Display size	**Smaller**, **Normal** or **Larger**. It applies on this computer while you are signed in.
Language	Changes the language of the screen and its direction at once. A language marked **experimental** is not yet complete. If the language cannot be loaded the screen keeps its own language and says so.
About the company	Opens the about window: what the company makes, what it believes, and how to reach it.
Sign out	Ends your session.

> **Tip**
>
> The direction of the screen follows the language: Arabic is written from right to left and English from left to right. The whole screen turns, including the bar.

2.5.1 Send to the screens

Opened from **Send to the screens**, the window **Send to the screens** sends a message to the laboratory's screens. It has two tabs: **New message** and **Sent**.

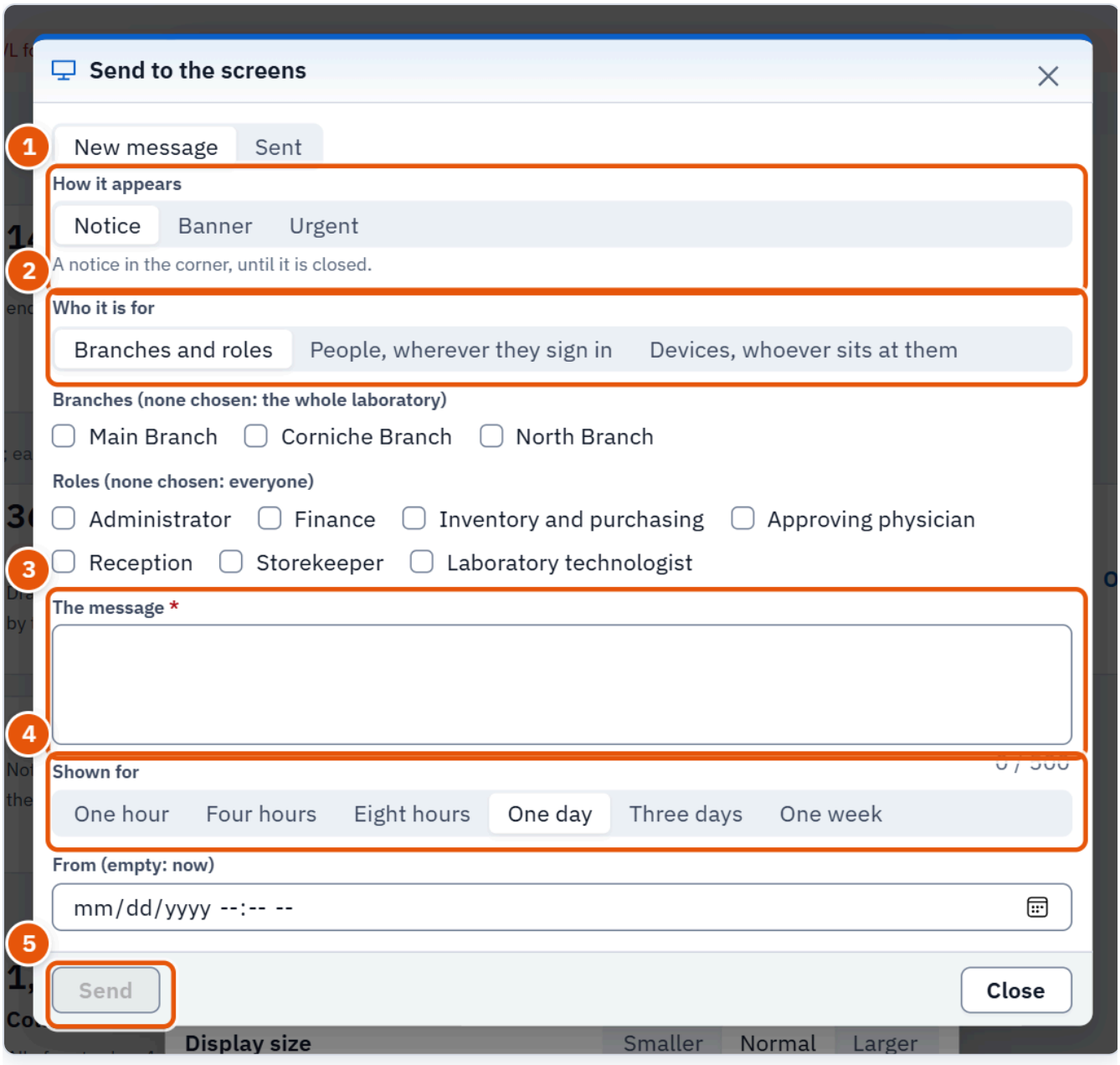


Figure 2-7: The send window: 1 how it appears, 2 who it is for, 3 the message, 4 the duration, 5 the send button.

1. In **How it appears** choose how it appears: **Banner** (a band along the bottom until its time ends), **Notice** (a notice in the corner until it is closed), or **Urgent** (a window that closes only with the reader's acknowledgement).
2. In **Who it is for** choose **Branches and roles**, **People, wherever they sign in** or **Devices, whoever sits at them**. With the first, choose roles (none chosen means everyone); with the second, choose people; with the third, choose devices.
3. Type **The message**.
4. Choose **Shown for**: one hour, four hours, eight hours, one day, three days or one week. **From (empty: now)** leaves the start empty to mean now.
5. Press **Send**.

The window says each screen it is for shows the message within half a minute. The tab **Sent** lists what you sent, its state (**Showing now**, **Waiting for its time**, **Ended**, **Withdrawn**), who saw it and who acknowledged it (**Who saw it**), and **Withdraw** takes one back.

2.6 The keys of the program

One key means the same on every screen.

Key	What it does
`F1`	**New order**, from any screen.
`/`	Goes to the top bar's search box, from anywhere.
`F3`	Goes to the current screen's own search or scan box.
`F2`	Goes to a screen's second box (on the order screen, the catalogue search).
`Ctrl+Enter`	The screen's main action: for example save the order, or save and approve what is ready.
`Ctrl+S`	Saves, without the main action.
`Enter`	The next field.
`Shift+Enter`	The previous field.
`Esc`	Closes a window.
`N`	On a board, a new place for what is picked (the new tube on the barcode board).
`1` to `5`	On the results screen, the five states in the order of its bar. Not while you are typing in a box.

2.7 What each role sees

The menu hides what the permissions do not allow, so two people at the same laboratory may see different bars. Everyone who is signed in sees **Home**; the home is composed from what waits for that person. The roles that the program names are **Administrator**, **Reception**, **Laboratory technologist**, **Approving physician**, **Finance**, **Inventory and purchasing**, **Storekeeper** and **Developer support**. What each role may do is set in **Users and permissions**.

- A screen you may not open is absent from the menu. A group is absent when none of its screens is yours.
- Inside a screen, what happens to a button you may not use differs from screen to screen (dim or absent); the chapter of each screen says which.
- Some features need a permission beyond the screen's: for example the critical button in the bar appears only to whoever may approve results.

> **Note**
>
> If you expect a screen and it is not in your menu, ask the laboratory's administrator to check your role. Do not look for another route to the screen.

2.8 The first setup

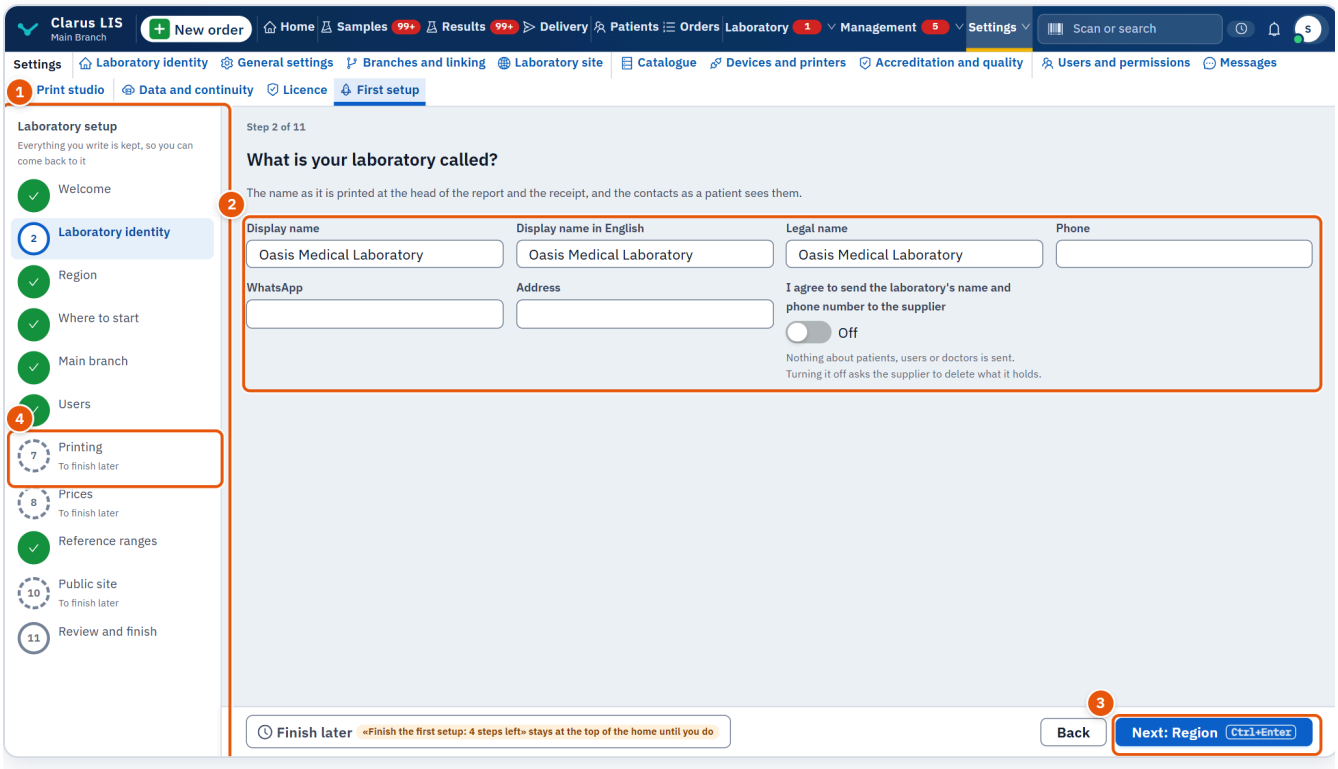


Figure 2-8: The first setup: 1 the steps, 2 the step's text and its fields, 3 the button to the next step, 4 finish later.

The first setup prepares a new laboratory in eleven short steps. It is **First setup** in the group **Settings**, and it stays in the menu so you can finish it later or review it at any time. Its title is **Laboratory setup**. Every step is kept when you move to the next one, so nothing is lost if you leave and come back, and you can return to any step.

Step	What it settles
Welcome	What we will set up together. On a branch server of a chain it says what is set at the centre and what stays here.
Laboratory identity	The laboratory's name as printed at the head of the report and the receipt, and the contacts as a patient sees them.
Region	Country, time zone, currency and language: from them every page and paper writes its dates and amounts.

Step	What it settles
Where to start	Where to start: **New laboratory** (the whole Clarus catalogue), **From RealLab** (patients, visits, tests and prices come from the RealLab file) or **Branch of a chain** (it links by its licence number through Clarus Link, and the catalogue and the users come from the centre).
Main branch	The branch in which orders are registered first. Other branches are added later from **Branches and linking**.
Users	An account and a role for everyone who works, so nobody signs in as someone else. The step counts the working users and, if you are alone, says so.
Printing	Which printer prints the report, which the receipt and which the tube labels, chosen in **Devices and printers**.
Prices	The price of each test, written in **Prices and contracts**. The step counts the active tests that still have no price.
Reference ranges	The reference range of each test, in each test's card in **Catalogue**. The step counts the tests that still have none.
Public site	The page where a patient sees the laboratory and receives a result, written in **Laboratory site**.
Review and finish	What is set up and what is left.

Steps whose work is done on another screen carry a button that opens it, for example **Open devices and printers**, **Open prices**, **Open the catalogue**, **Open the laboratory site** and **Open users**. In such a step press **Reviewed** when you have looked at it.

2.8.1 Task 4: complete the first setup

1. Open **First setup** from the group **Settings**.
2. In each step, read the text, write what is asked or open the page it names, then press the button that goes to the next step (it reads **Next: ...**).
3. If you cannot finish now, press **Finish later**. The home keeps a line at its top reminding you how many steps are left, until you finish.
4. On the last step press **Finish the setup**. The screen says **The first setup is finished.**.

> **Note**
>
> You may finish with steps still open. The last step says how many are left, and finishing counts every step with nothing saved in it as reviewed. What is left can be completed later from its page.

> **Note**
>
> If you chose to bring the history from RealLab, the price and reference-range steps become a review of what arrived. The migration itself is run from **Data and continuity**.

2.9 Messages and what to do

The screen says	Meaning	What to do
The sign-in did not succeed.	The server refused the sign-in.	Check the user name and password, and try again.
The sign-in was not completed.	The second step could not be completed.	Press **Back** and sign in again.
The request on the phone ended. Type the code, or sign in again.	The phone's request timed out.	Type the code, or sign in again.
The two passwords do not match.	The two passwords differ.	Type them again.
The password could not be set.	The recovery code or the user name was not accepted.	Check them, or ask the administrator.
This language could not be loaded from the server, so the screen keeps its language. Check that the server is running, then try again.	The language could not be loaded from the server.	Check the server is running and try again.
Nothing found. Press Enter to look for a patient by this on the order screen.	The search found nothing.	Press `Enter` to look for a patient by that text on the order screen.
The save failed, so the step stays as it was.	The step could not be saved.	It stays as it was; try again.

2.10 See also

- **Results**: the chapter on results and approval.
- **Users and permissions**: roles and permissions, which decide what each person sees.
- **First setup**: the first setup, as a screen of its own.

Chapter 3

A day's work in order

This part follows one working day of a laboratory in the order things happen, as a path through the screens. It gives no field-by-field detail: each stage names the screen to open, the few steps, and what to check before moving on. The detail is in the chapter of each screen, named at the end of every stage.

Stage	Who usually does it	Screen
Morning	Anyone who opens the day	**Home**
Reception	Reception	**New order**
The bench	Technologist	**Samples**, **Results**, **Daily QC**, **Microbiology**
Approval	Whoever approves results	**Results**
Delivery	Reception or the delivery desk	**Delivery**
The evening	The one who closes the day	the shift chip, **Data and continuity**

What a person sees depends on the permissions of their role, so a stage may be done by one person in a small laboratory and by five in a large one.

3.1 Morning

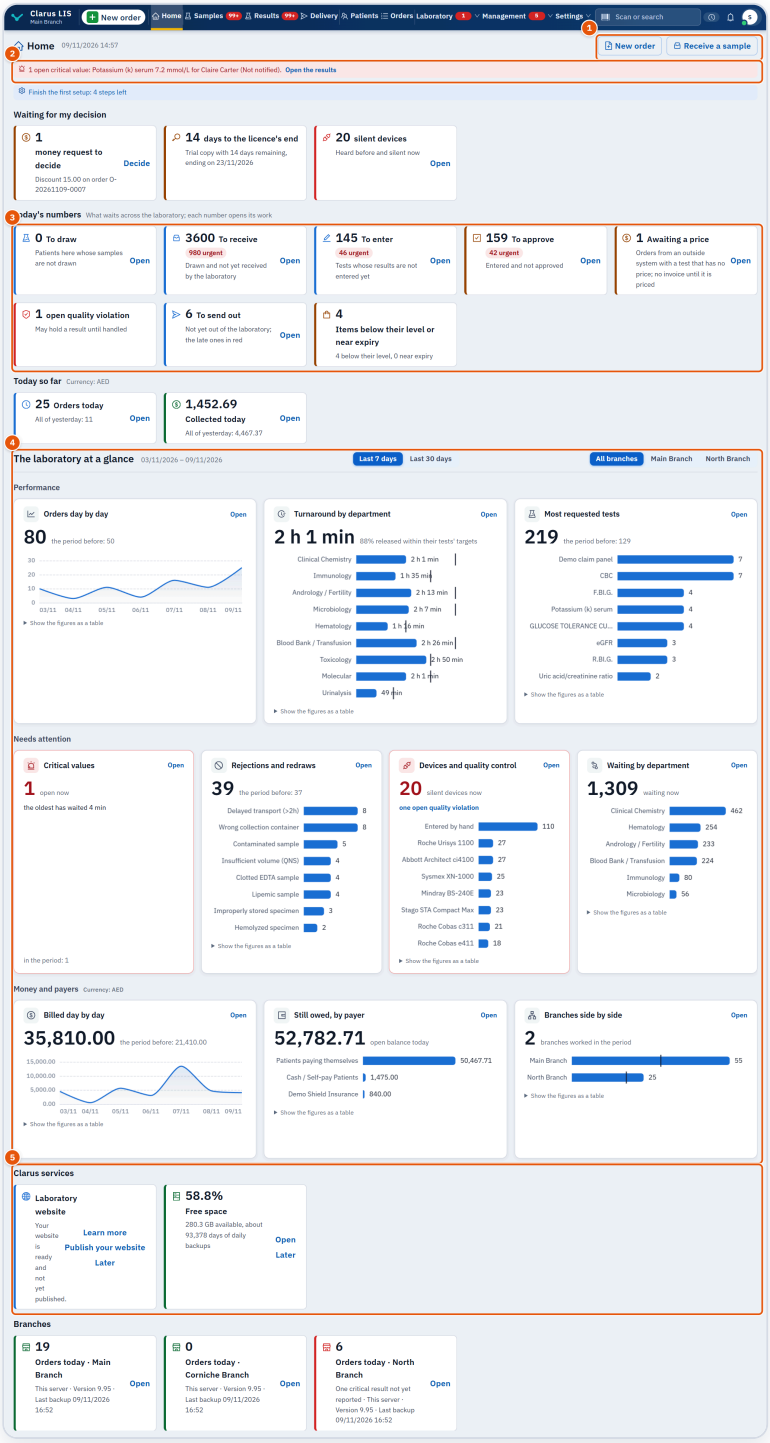


Figure 3-1: Home at the start of the day: 1 the quick buttons, 2 the critical values, 3 the cards of what waits.

1. Sign in. **Home** opens first.
2. If a red alert about critical values is there, read it first and press **Open the results**.
3. Read the cards: **To draw**, **To receive**, **To enter** and the card of results to approve. Each number is live; pressing a card opens the screen where that work is done.

4. Open your shift: in the top bar the shift chip says **No shift**; press **Open a shift**. If it says **Yesterday's shift is open**, a shift from an earlier day was never closed.

Check before moving on: that you have a shift of your own, because where the laboratory allows money without a shift, what you take goes into no shift (the order screen warns of it), and where the laboratory requires a shift, the payment window refuses until one is open. Detail: Home.

3.2 Reception

Reception opens **New order** (or presses **New order** on Home).

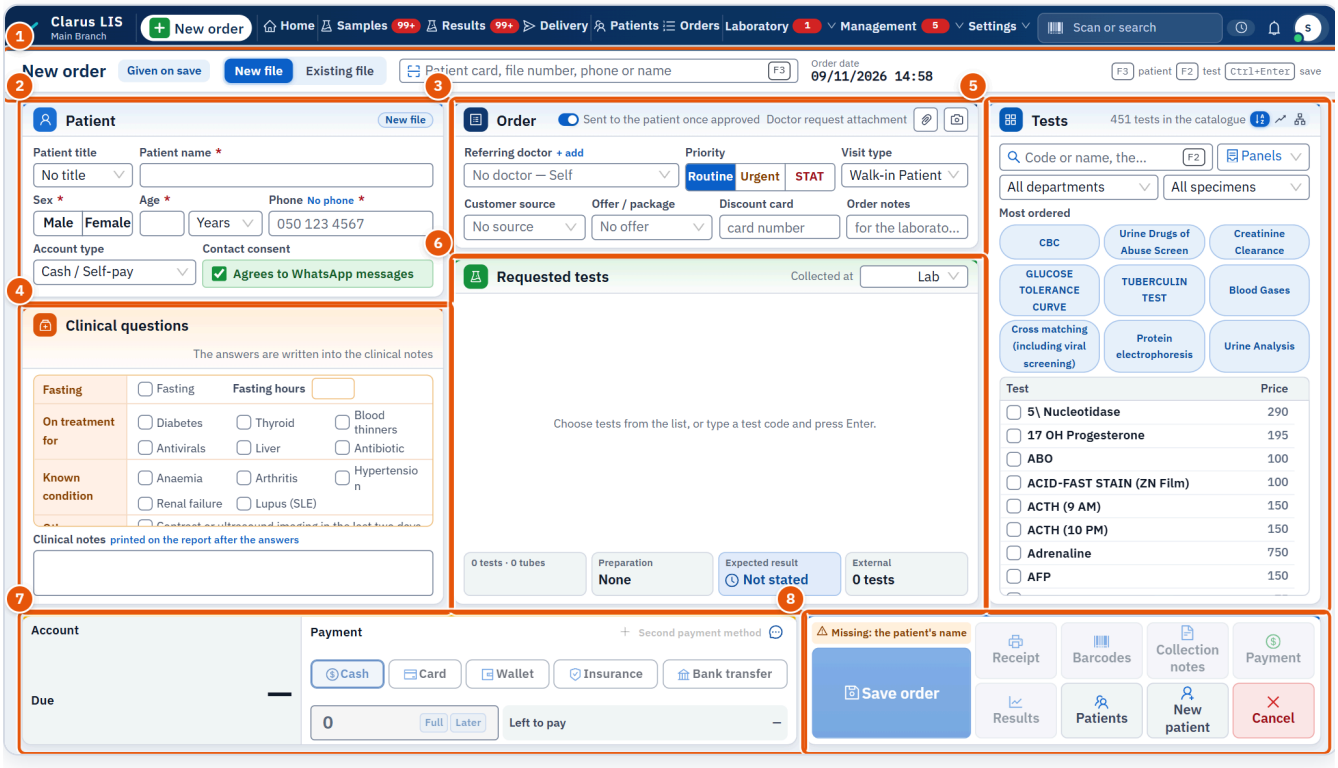


Figure 3-2: The New order screen.

1. Find the patient in **Patient card, file number, phone or name** by card, file number, phone or name. If there is no file, fill the new file: name, sex, age or birth date, and phone. Answer any identity window the program raises about a possible duplicate.
2. Choose the doctor and the priority.
3. Add the tests from the catalogue or by typing a code, and check the basket.
4. Read the price and what is due, choose the payment method and write what is collected now, or leave it empty to collect later.
5. When the list under **Before saving** shows **Ready to save**, save. The order receives its number.
6. After saving, print the receipt and the barcodes (**Receipt**, **Barcodes**) and the collection instructions if the patient needs them.

Check before moving on: that the labels are printed and stuck on the tubes, and that the patient knows when to come back. The patient's file is seen and changed in **Patients**; saved orders are found in **Orders**. Detail: New order, Patients, Orders.

3.3 The bench

3.3.1 Drawing and receiving samples

Open **Samples**.

1. Scan the label of each tube in **Scan a label or type a number**.
2. Press **Receive the sample**. To receive many at once, tick them and use the bulk bar.
3. Look at the tube. If it cannot be used, record its condition or reject it; the program then opens a new draw.
4. When analysis begins, press **Start the analysis**.

Check before moving on: that no sample carries an open alert you have not read, and that every tube has been received.

3.3.2 Entering results

Open **Results**.

1. Scan the sample, or choose the order from the queue. The queue puts the most urgent first.
2. Type the value in each row and press Enter to move on. Results from an analyzer arrive by themselves and are marked as such.
3. Look at the flags: a value outside the interval is flagged at once, and a value far from the last one is held until you look at it.
4. Press Save.

Check before moving on: that no row is left typed but not saved, and that the foot shows no red mark you have not understood. Detail: Samples, Results and approval.

3.3.3 Daily quality control

Approval of a test can be held until a quality-control run has passed in the last 24 hours. Record the day's run on **Daily QC** before the first approval, so that nothing is held for it later.

3.3.4 Microbiology

A culture test is requested at reception with its antibiotics chosen in the order screen. Its work is done on **Microbiology**.

3.4 Approval

The person who approves results opens **Results** and chooses the state awaiting approval.

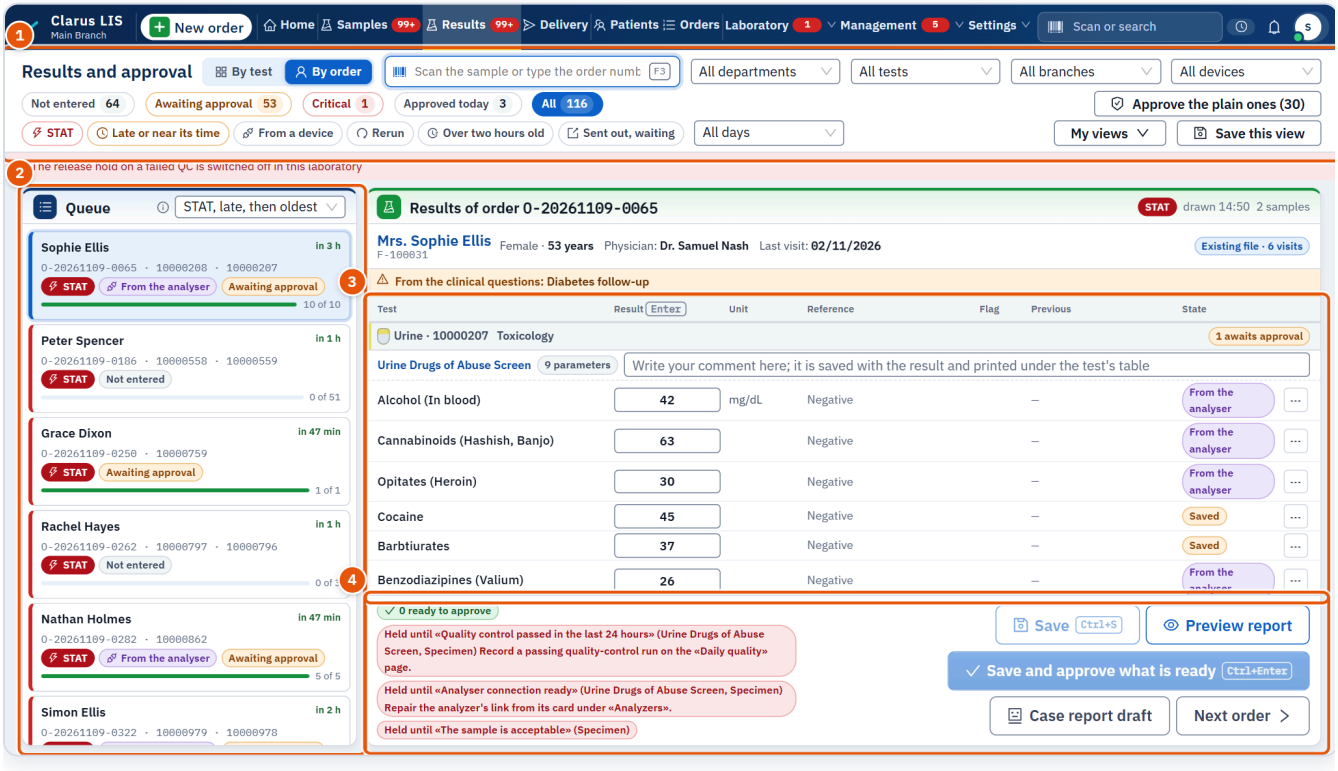


Figure 3-3: The Results screen.

1. Open the order and read the values with their flags, the reference interval and the previous result.
2. For a critical value, record the call to the physician and his read-back; approval is held until it is recorded.
3. Press **Save and approve what is ready** and confirm. To approve many plain results together, use the bulk approval of the plain ones. It never takes a critical value, and takes values outside the interval only if the laboratory's setting allows it.
4. Press **Next order**.

Check before moving on: that nothing critical is still waiting for its call. Home shows a red alert for open critical values first. A mistake found after approval is corrected on the same screen by amending or withdrawing the result, with a written reason. Detail: Results and approval.

3.5 Delivery

The delivery desk opens **Delivery**, on the page **Ready to hand over**.

1. Find the order: scan the receipt, or type the order number or the phone.
2. Look at the money left. If some is left, press **Collect the remainder, then hand over**, or follow the laboratory's setting.

3. Choose who receives: **The patient**, **A relative** or **The treating doctor**, and press **Handed over**. Or print the report, download the PDF, or send the link or the WhatsApp message.
4. Watch the page **Messages sent** for messages that failed, and send again what waits.

Check before moving on: that each order handed over has its entry in the hand-over log, and that no order is held without its reason. Detail: Delivery.

3.6 The evening

1. Collect what is still owed from the day's orders, or leave it recorded as owed.
2. Close the shift: press the shift chip's **Close the shift**. The money you took is counted under that shift. The accounts of shifts are in **Treasury**.
3. The manager looks at the backup card on Home, which says when the last backup was made and where else a copy is kept. A backup that has not run is dealt with before the day ends.
4. Press **Sign out**.

Check before leaving: that the shift is closed and that Home shows the day's backup. Detail: Home, and the chapter on data and backup.

3.7 See also

Home, New order, Samples, Results and approval, Delivery, Patients, Orders.

Chapter 4

Home

Menu: **Home** (the first item in the bar). Address: `/`.

4.1 What this screen is for

Home is the page the program opens on. It shows what is waiting for you today, so that you start from the work and not from a search. Each number on it is live, and pressing a card opens the screen where that work is done.

It is built from your own permissions, not from the name of your role. Whoever runs the laboratory sees what waits for their decision; whoever approves results sees the critical values first; whoever enters results sees their own list; reception sees the latest orders. If your permissions change, your Home changes at once.

4.2 Who sees it

Everyone who is signed in sees Home. What is on it depends on what your role holds:

You see...	...if your role holds
The quick buttons **New patient**, **New order**, **Receive a sample**	**Write patient files** for the first; **Create orders** for the other two
The cards **To draw** and **To receive** (not on the approving physician's Home)	**Read orders**
The cards **To enter** and the one for results to approve; the list of your pending results	**Enter results**
The critical values by name	**Verify results** with **Enter results**
The laboratory at a glance (the figures of the laboratory)	**Read analytics**
The panel **Waiting by department**	**Enter results**
Waiting for my decision, **Today so far** and **Clarus services**	**Manage settings** (Today so far also needs **Read analytics**)
The money-requests card in **Waiting for my decision**	**Manage billing** with **Approve a discount or a refund from the phone**

You see...	...if your role holds
The card **Awaiting a price**	**Read orders** with **Edit registered orders**, on the managers' and reception Homes
The line to finish the first setup	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**

A card still counts when your role cannot open the screen behind it; whether it leads there depends only on that screen being in the program. A place the server refuses to read is left out.

4.3 The screen at a glance

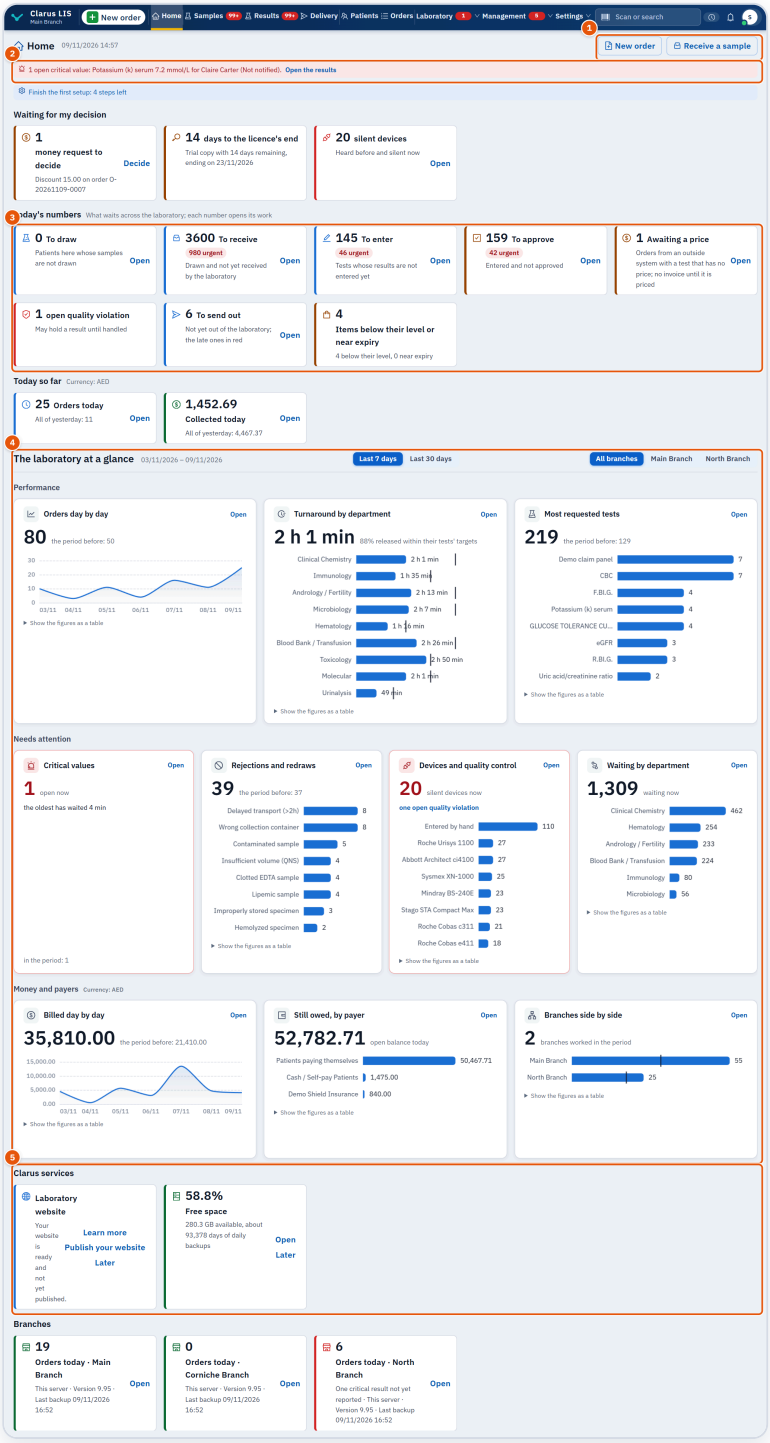


Figure 4-1: The Home screen: 1 the quick buttons, 2 the critical values, 3 the cards of what waits, 4 the laboratory at a glance, 5 the Clarus services.

The page is made of these parts, from top to bottom:

1. **The title and the quick buttons**: the title shows the date and time the page was opened, and, on the approval, bench and reception Homes, the word naming your kind of Home.
2. **The critical-values alert**: drawn only when some critical value is open.

3. **The list of work**: the latest orders, or your first pending results.
4. **The cards of what waits**: counts that open their screens.
5. **The laboratory at a glance**: charts and figures for a period.
6. **Clarus services**: the state of the services of the program.

Which parts appear depends on the permissions in the table above.

4.4 Your kind of Home

Your Home is chosen from your permissions, checked in this order (the first that applies wins). The approval, bench and reception kinds put their word beside the date in the title; the managers' and the plain Home show none.

Home	For whoever...	What comes first
Waiting for my decision	holds **Manage settings**	The section **Waiting for my decision**, then the day's numbers
Waiting for my approval	holds **Verify results** and not **Create orders**	The open critical values, then the cards of approval
My work	holds **Enter results**	The list of your pending results
Reception queue	holds **Create orders**	The list **Latest orders**
Home	anyone else	The counts that their permissions open

4.5 The top of the page

Element	What it does
New patient	Opens the form to register a patient.
New order	Opens a new order.
Receive a sample	Opens the samples screen.
Finish the first setup: ...	A line that appears while the first setup is not finished, with how many steps are left (**... steps left**). Pressing it opens the setup. When no step is left but the setup is not yet marked complete the line says **Finish the first setup**; once it is complete the line goes. For a laboratory that has neither started the setup nor put it off, the setup opens by itself the first time Home loads, and the line is not drawn at that moment.

A quick button appears only to whoever may use it, and only if its screen is in the program.

4.6 The critical-values alert

When a critical value is open, a red alert comes before everything else.

Element	What it does
The alert for a user who both enters and approves results	Names up to two open values with the test, the value, the patient and where the call stands, and says how many more there are.
The alert for others	Gives only the count and the age of the oldest, with the number past the escalation time, and says the approving physician follows them and that a calling doctor should be put through.
Open the results	Goes to the results screen.
Open critical values (a table on the approving physician's Home, replacing the alert)	Columns **Patient**, **Test**, **Value**, **State**; an overdue row is marked urgent. Opening a row goes to the results screen.

The state of a critical value is one of: **Not notified**, **Notified, not acknowledged**, **Notified and acknowledged**, or **Past the time** (the escalation time has passed, and the row is marked urgent).

4.7 The list of work

List	Who sees it and what it holds
Latest orders	The reception Home. Columns **Order**, **Patient**, **Physician**, **Tests** (approved over total) and **Time**.
The first pending results	The bench and approval Homes: at most ten rows, from the results list itself, with a first column (**Sample** on the bench list, **Order** on the approval list), **Patient**, **Test** and **State**; the bench list adds **Department**. The approval list keeps only results that already have a value. The state says **Enter** or **Approve**, and **Urgent · …** when the order is urgent.
All results	A link above the list to the results screen.

While the list loads it says **Loading the list**; if it fails, **The list could not be loaded.**. An empty list says **Nothing waits now.**, or **No orders yet.** for orders.

4.8 The cards of what waits

Each card shows a number, a short note and, when its screen exists, leads to it. Cards for urgent work show how many are urgent.

Card	What it counts
To draw	**Patients here whose samples are not drawn**
To receive	**Drawn and not yet received by the laboratory**
To enter	Tests whose results are not entered yet.
The card of results to approve	**Entered and not approved**
Awaiting a price	**Orders from an outside system with a test that has no price; no invoice until it is priced**
May hold a result until handled	Open quality violations. Opens the quality screen.
Heard before and silent now	Silent devices. Opens the devices screen. Not drawn here on the managers' Home, where it sits in **Waiting for my decision**.
To send out	**Not yet out of the laboratory; the late ones in red**
Items below their level or near expiry	**... below their level, ... near expiry** (managers' Home).
Contracts ending soon	**An ended contract no longer prices; a week or less left in red** (managers' Home).
Site bookings today	The bookings made through the website for today that are not cancelled or already turned into orders: **The nearest at ...**, or **No booking waits today** (reception Home, for whoever may read orders).

The four cards of the daily work (draw, receive, enter, approve) show even at 0 once their figures have been read. The others appear only when something waits there. **Awaiting a price** appears on the managers' and reception Homes only.

4.9 What waits for my decision (managers)

The section **Waiting for my decision** gathers the cards that need a decision. When nothing waits it says **Nothing waits for your decision now.**.

Card	What it shows
money requests to decide	Requests for a discount or a refund; the note gives the amount and the order of the first two. **Decide** opens the requests page of the treasury. Shown only to whoever holds **Manage billing** with **Approve a discount or a refund from the phone**.

Card	What it shows
days to the licence's end	Appears only in the last two weeks of the licence; red when three days or less remain.
silent devices	Devices heard before and silent now.
Working on paper now	Appears while the laboratory works on paper; says **Downtime declared at ...**.

Below the cards, the section **Today so far** counts **Orders today** and **Collected today** against **All of yesterday: ...**, in the currency named in **Currency: ...**.

4.10 The laboratory at a glance

The laboratory at a glance is drawn for whoever may read analytics. Choose the **Period** (7 days or 30 days; it starts at 7); when your figures count more than one branch you can also choose the **Branch**, or **All branches**. The dates of the period are written beside the choice.

The panels are in three rows:

Row	Panels
Performance	**Orders day by day**, **Turnaround by department**, **Most requested tests**
Needs attention	**Critical values**, **Rejections and redraws**, **Devices and quality control**, **Waiting by department**
Money and payers	**Billed day by day**, **Still owed, by payer**, **Branches side by side**

The row **Money and payers** is drawn only when the money may be shown to you or when branches are listed, and **Billed day by day** and **Still owed, by payer** are left out when it may not.

A panel shows a big figure, a note, and a chart. **the period before: ...** compares with the period before. **Open** appears only when you may open the screen behind the panel, and goes to it. Under each chart **Show the figures as a table** shows the same figures as a table. The overview is read again every five minutes.

Where a panel has nothing yet, it says so and may offer the first step, such as **Register the first order**, **Open the results** or **Connect a device**. While the figures are read the screen says **Reading the laboratory's figures**.

4.11 Clarus services and branches

The section **Clarus services** is drawn on the managers' Home. It shows cards for the services in use, the backup and the disk space, a service waiting for your attention, and at most one offer of a service not yet switched on. A service you do not use says it is not switched on and what it would give you, and has **Buy the service** when it is for sale.

Each card has **Later**: it hides the card from your page for seven days (**This card leaves your page for seven days.**).

Card	What it says
The licence	Shown here only while its card is not already in **Waiting for my decision** (that card takes over in the last two weeks): the days left, and either the end date or that it stopped.
The backup	**Last copy … (…)**, or **No copy yet**, and where else a copy is kept (**and a copy in the cloud**, **and a second copy off this computer**, or **Your only copy is on this computer**).
The disk	**… available, about … days of daily backups**.
The link between branches	**Not switched on**, **Connected since …**, or **Switched on, not connected now**.
The phone application	**Last seen …** or **No phone paired**.
The clinical assistant	**Not switched on**, or the use per day and the balance.
The updates	**Current version …**; shown only when an update is ready to install.
The laboratory's website	**Your website is ready and not yet published.** until it is published, then its address and the date of the last update.

When a card cannot be read it says **This card cannot be read right now.**; if the services as a whole cannot be read, the section says **The services cannot be read right now.**.

The section **Branches** appears when there is more than one branch or when a computer needs attention. For each site it says whether figures arrived (**This server**, **Figures received …**, **Nothing received since …** or **Nothing received yet**), its **Version …**, its last backup (**Last backup …** or **No backup recorded**), the computers without a licence and those on an older version, then **Orders today · …** and the critical results not yet reported.

4.12 Tasks, step by step

4.12.1 Task 1 — Start your day from Home

1. Open the program. Home is the first page.
2. If the red alert is there, read it first and press **Open the results**.
3. Read the cards. Each number is the count that waits; press one to open the screen where it is done.
4. Press **New order** to begin an order, or pick a row from the list.

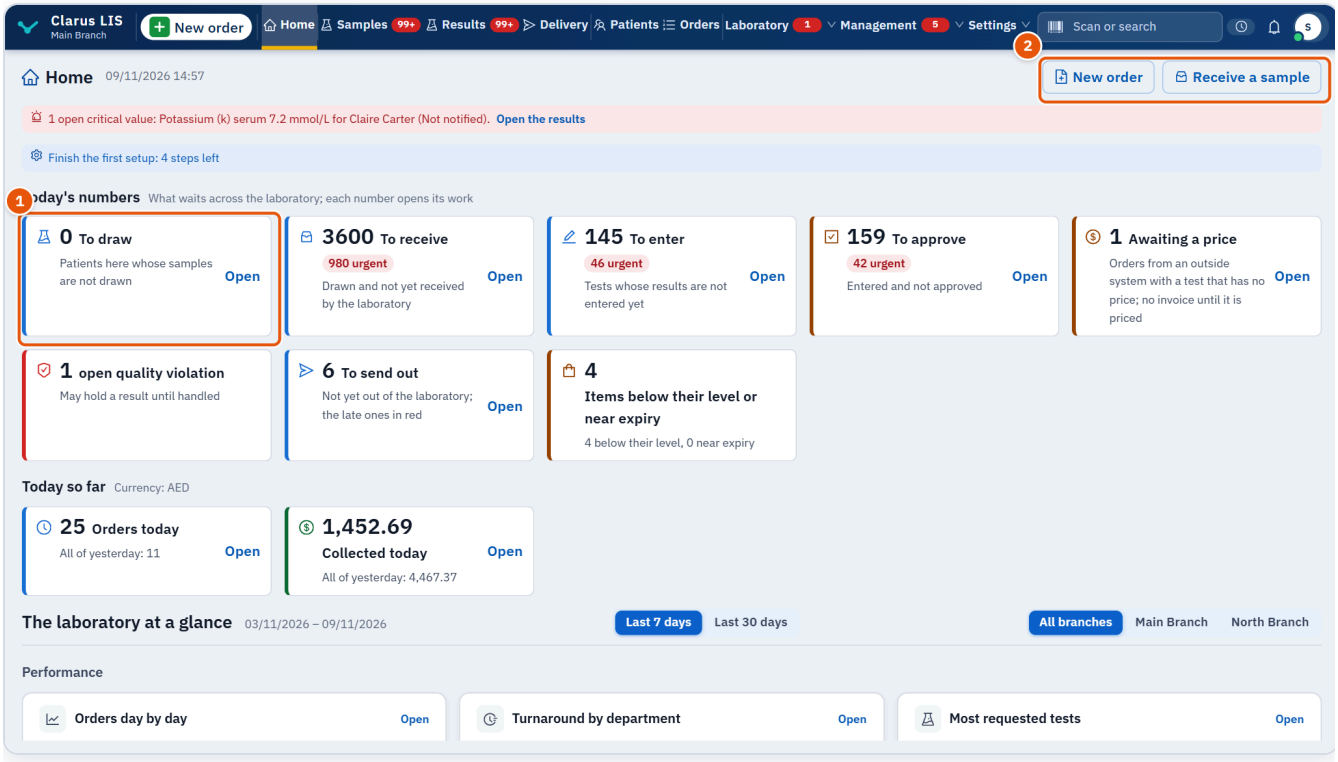


Figure 4-2: The cards of what waits: 1 a card with its number and its note, 2 the quick buttons.

4.12.2 Task 2 — Finish the first setup

1. Press the line **Finish the first setup**.
2. Follow the steps the setup shows. The line gives the number of steps left until none remains.

4.12.3 Task 3 — Decide a discount or a refund

1. On the managers' Home, find the card in **Waiting for my decision** whose title is money requests.
2. Read the amount and the order number in its note.
3. Press **Decide**. The requests page of the treasury opens, where the requests are decided.

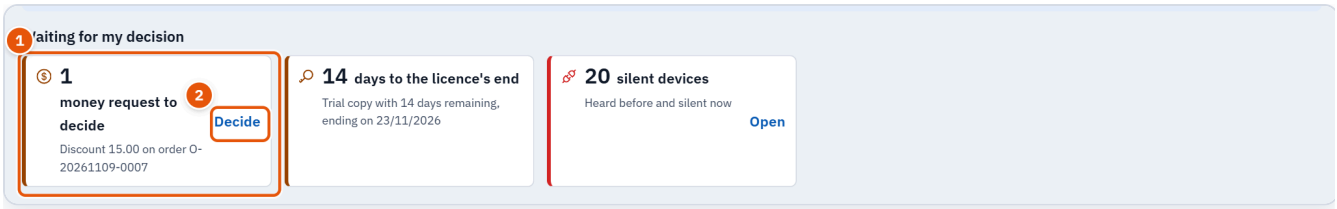


Figure 4-3: The section of decisions: 1 the money requests card, 2 **Decide**.

4.12.4 Task 4 — Change the period of the overview

1. Go to **The laboratory at a glance**.
2. Press another choice under **Period**.
3. If several branches appear, choose one under **Branch**.
4. To read a chart as numbers press **Show the figures as a table**.

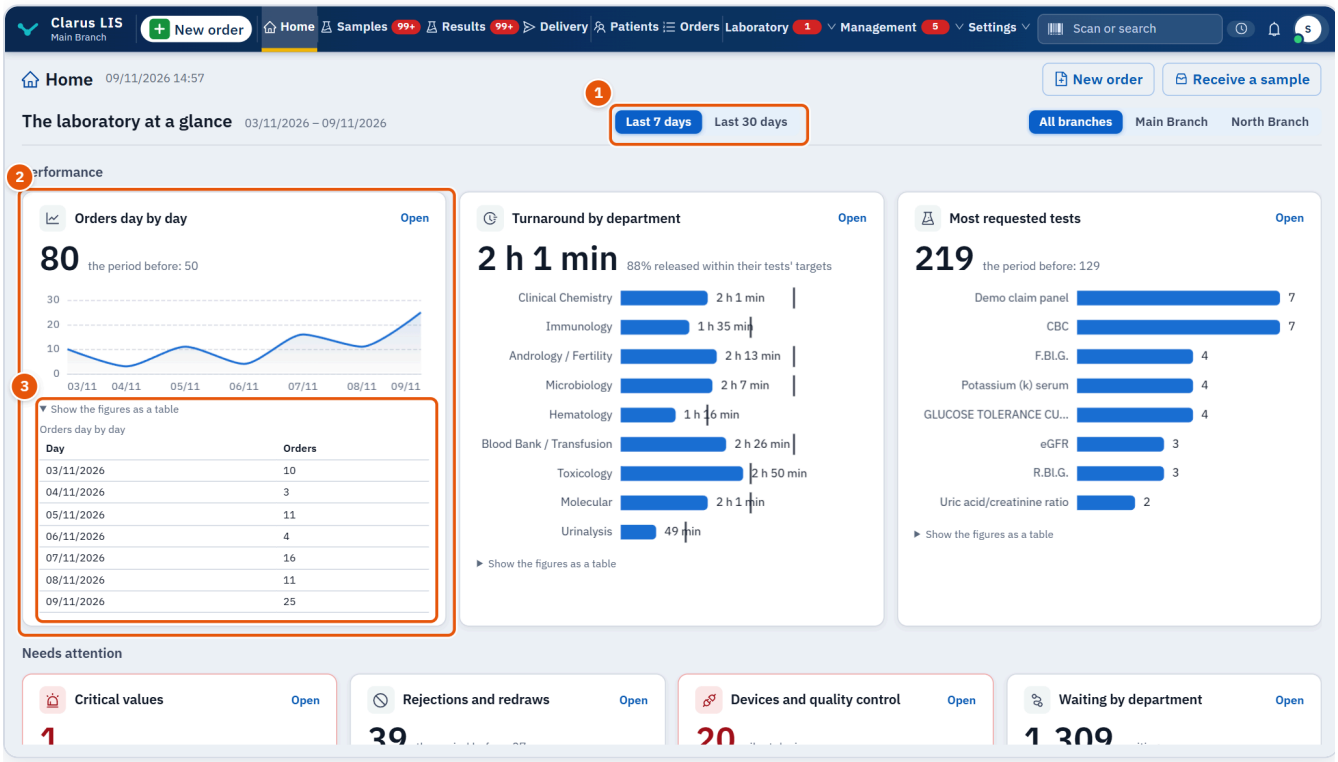


Figure 4-4: The overview: 1 the period, 2 a panel with its figure and chart, 3 the table of the same figures.

4.12.5 Task 5 — Publish the laboratory's website

When the card of the website says **Your website is ready and not yet published.**:

1. Press **Publish your website**. The window **Publish the laboratory's website** opens.
2. Read what will appear on the internet: the **The website's name**, then choose the **Website look** (**Calm medical**, **Dark**, **Modern** or **Warm**) and, when the window offers more than one, the **Website language**.
3. To change the name press **Open the website settings** (it leads to the site settings screen, when that screen is available).

4. Press **Publish now**. The window says **Your website is published at ....**, and its single button then closes it. Before publishing, **Back** closes the window without publishing. If the server refuses, its reason is shown in the window.
5. Afterwards the card offers **Open the website** and **Edit the settings**.

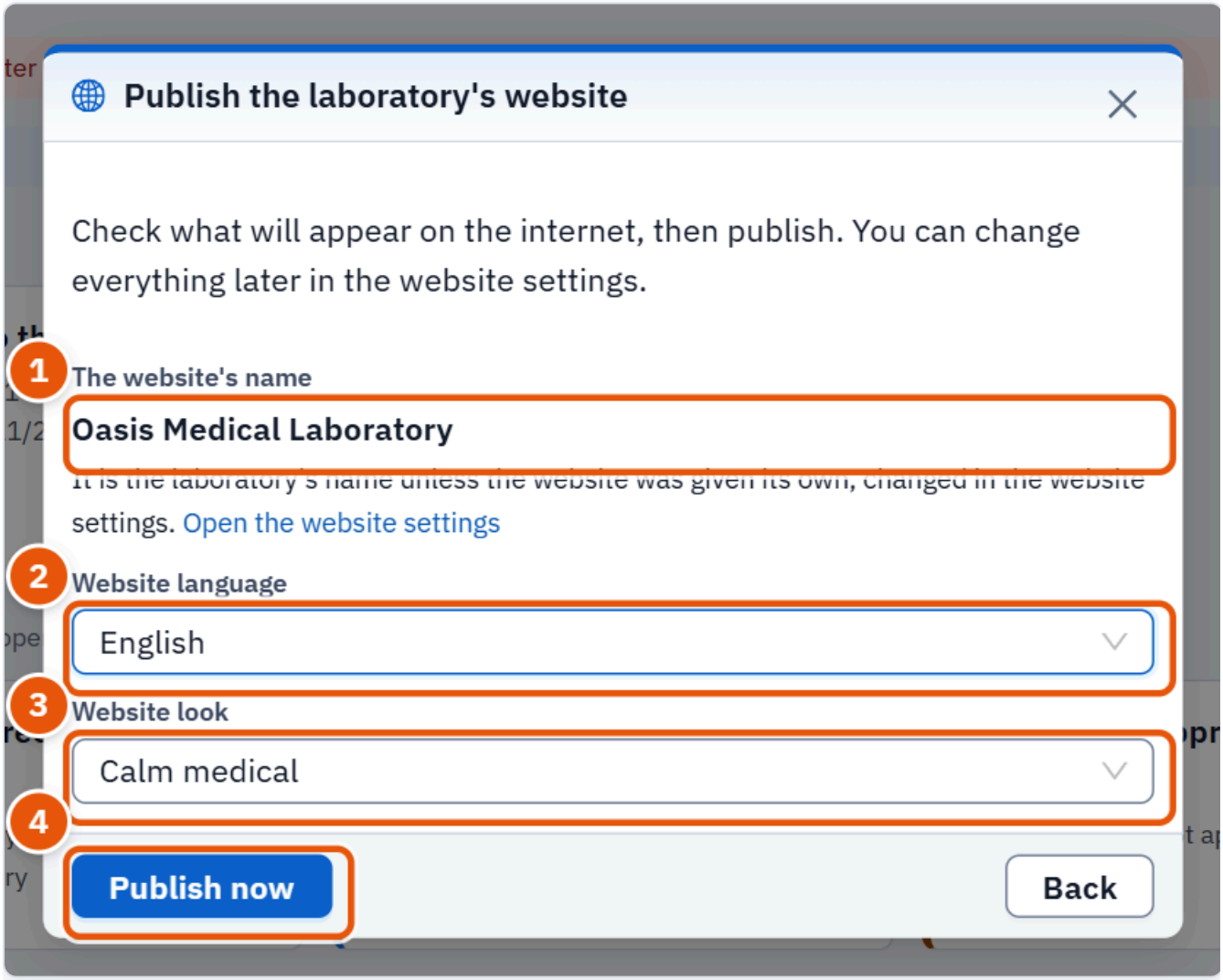


Figure 4-5: Publishing the website: 1 the name, 2 the language, 3 the look, 4 **Publish now**.

4.13 Messages and what to do

The screen says	Meaning	What to do
The list could not be loaded.	The list could not be fetched from the server	Reload the page; if it persists check the connection
The overview could not be read. It will be asked again in a few minutes.	The overview could not be read; it asks again after a few minutes	Wait, or reload

The screen says	Meaning	What to do
The money of these branches is left out, because no exchange rate is written for its currency in that month: .... Write it in «Rates of exchange».	A branch's money is left out because no exchange rate is written for its currency in that month	Write the rate in Rates of exchange
The services cannot be read right now.	The services could not be read	Reload later
This card cannot be read right now.	One card cannot be read	Try again later
Nothing waits for your decision now.	Nothing needs your decision	Nothing

4.14 See also

Results and approval (where the cards of entry and approval lead), Samples (draw and receive), Orders (new order and awaiting price), Daily quality, Devices, Settings and users (the permissions above), Treasury (money requests).

Chapter 5

New order

Menu: **New order**. Address: `/order/new`.

5.1 What this screen is for

This is the reception desk. Here the patient is found or registered, the tests are chosen, the price is worked out and the money is taken, and the order is saved. Saving gives the order its number and opens the samples; nothing else in the laboratory starts before it.

One screen holds the whole flow: the patient (search, a new file, checks against duplicates), the account, the referring doctor and the coverage, the clinical questions, the catalogue and the basket of tests, price changes and discounts, saving, and what you do right after saving (receipt, barcodes, collection notes, payment, results, the next patient). The same screen also reopens a saved order for editing.

5.2 Who sees it

Whoever holds **Create orders**. The menu hides the screen from everyone else. Within the screen:

You can...	...if your role holds
Open the order screen and save an order	Create orders
Search for existing patient files, and see the files that match the name and phone you type	Read patient files
Change the price of a test inside the basket	Manage prices, contracts and commissions
Change an external laboratory's cost, make one the test's default, add or register a laboratory	Manage the laboratory's structure: branches, numbering, first run, external laboratories
See the patient's documents strip (existing file only)	See and add the patient's documents
Attach the doctor's request	Enter results
Add a doctor from the order (**+ add**)	Add a doctor quickly from the order screen
Take payment and give a manual discount	Collect money, or manage billing
Open a saved order for editing, right after saving it	Edit orders
Open the results of the saved order	Enter results, or approve them

Anyone who may take orders can choose which laboratory a sent-out test goes to for this order; only the cost and default fields need the laboratory-structure right.

A missing right is shown in one of two ways. These are dim, with a tooltip saying why: the attachment buttons, the payment controls (method, amount, second method), and the **Payment** and **Results** buttons (for example «You may not collect money»). These are not shown at all: the price pencil on a basket line, the **+ add** link, the patient documents strip, the duplicate suggestions, the manual-discount button and the **Edit the order** button (the cancel button stays in its place instead). Without the right to collect, the order is saved with no payment.

5.3 The screen at a glance

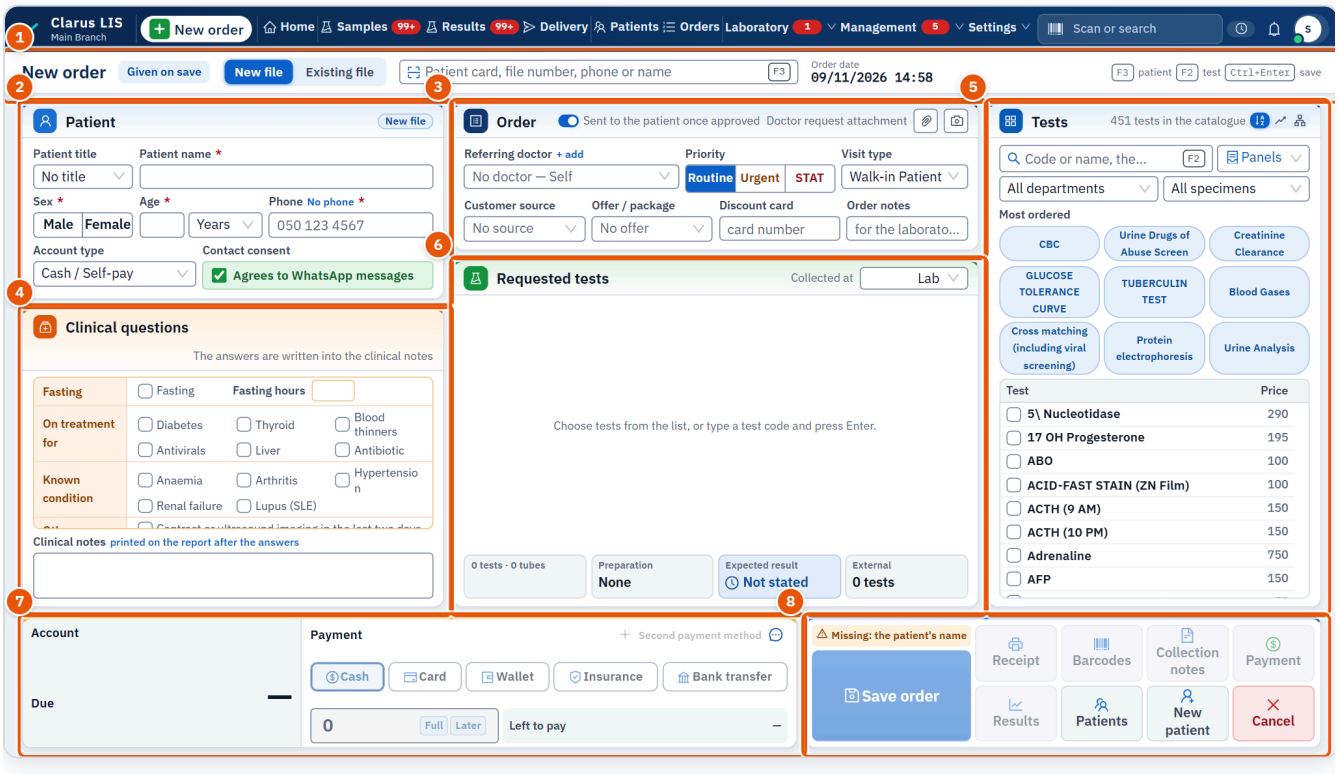


Figure 5-1: The New order screen: 1 the head strip, 2 the patient, 3 the order, 4 the clinical questions, 5 the catalogue, 6 the basket, 7 price and collection, 8 the actions.

1. **The head strip**: the order number, the patient search, the date, and whether the patient file is new or existing.
2. **The patient**: the fields of the file, the account type and the coverage.
3. **The order**: the doctor, the priority, the visit type, the source, the offer, the discount card and the order notes.
4. **The clinical questions**: answers that print on the report.
5. **The catalogue**: where tests are found and added.
6. **The basket**: the tests chosen, their places and prices.

7. **Price and collection**: the total, discounts, what is due and the payment.
8. **The actions**: what is still missing before saving, and what happens after.

5.4 The head strip

Element	What it does
Order number	Shows **Given on save** until the order is saved.
Patient card, file number, phone or name	The patient search (see 5.5.1 Finding a patient). It is closed while a saved order is being edited.
Order date	Today's date and the time, kept up to date by the minute.
Patient file	Switches between **New file** and **Existing file**; choosing the second puts the cursor in the search. Both are off after saving and while editing.
Editing order	Appears instead of the number when a saved order is open for editing.
After saving	The saved number, and **Collected ...** and **Remaining ...** when there is something taken or left.

The strip also reminds you of the three shortcut targets: **patient**, **test** and **save**.

5.5 The patient

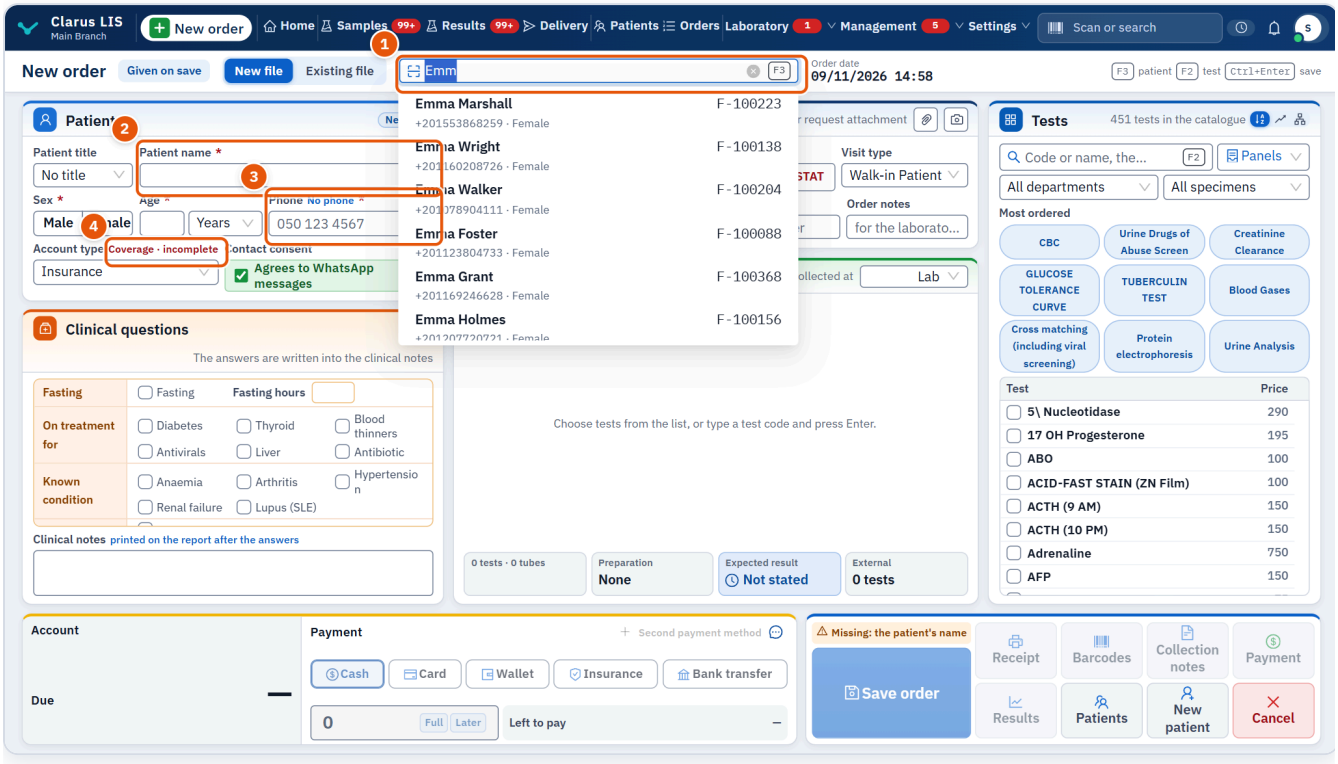


Figure 5-2: The patient: 1 the search box, 2 the name, sex and age, 3 the phone, 4 the coverage.

5.5.1 Finding a patient

Control	What it does
Patient card, file number, phone or name	One box in the head strip for the patient card, the file number, the phone or the name. From two characters it lists up to eight files, marking those that share a full name with another file. Choosing one opens that patient's file. Enter in the box first tries the text as a patient card (a scanner types the code and presses Enter); if it is not a card and exactly one file matches, that file opens.
No patient matches this search	The message when nothing matches the search.

Once an existing file is open its fields cannot be changed here (they are dim); the order does not change the file, so edit it on the patient's page. The one exception is the address, which a home visit asks for and which is saved to the file with the order.

If the file you choose shares its exact full name with another file, a window asks for the patient's phone or national ID before the file is used (see 5.5.3 Checks against duplicates).

5.5.2 The fields of a new file

Field	What it does
Patient title	The patient's title. **auto** shows that the program chose it from the sex; **No title** leaves it out.
Patient name	Required. The full name: at least a first and a second name.
Sex	Required. **Male** or **Female**; nothing is chosen until you choose.
Age and **Age unit**	Required. The age (up to three digits) in **Days**, **Months** or **Years**.
Birth date	Required. Typed as **DD/MM/YYYY**. The screen shows either the age fields or the birth date field, according to a setting of the laboratory, not both.
Phone	Required, unless the laboratory's setting makes it optional. If the patient has none, press **No phone**, then choose **Why there is no phone**: **A child**, **An elderly person**, **A referred sample** or **Another reason**, which also needs **The reason in a few words**.
Contact consent	For a new file, a tick for **Agrees to WhatsApp messages**, shown only where the laboratory keeps consent records. For an existing file consent is changed on the patient's page.
Account type	Who pays.

Field	What it does
Coverage	Shown beside the account type when the type is a covered one; opens the coverage details and says **incomplete** when something is missing.

The coverage window holds **Commercial account** (**Use the default account** returns to the default), **Contract**, **Membership class**, **Member / card number** (required for some account types), **Approval number** and **Coverage status** (**Automatic**, **Pending approval**, **Approved** or **Rejected**). A note in the window appears when the payer needs an authorization number.

For an existing patient the card also shows **Last visit**, **Visits** and, when money is owed from earlier orders, **Previous balance ...**. That balance can be collected with this order: in the payment area, tick **+ Previous balance** (unticked by default, and offered only to someone who may collect money). **Repeat the previous order** adds the tests of the patient's last order.

5.5.3 Checks against duplicates

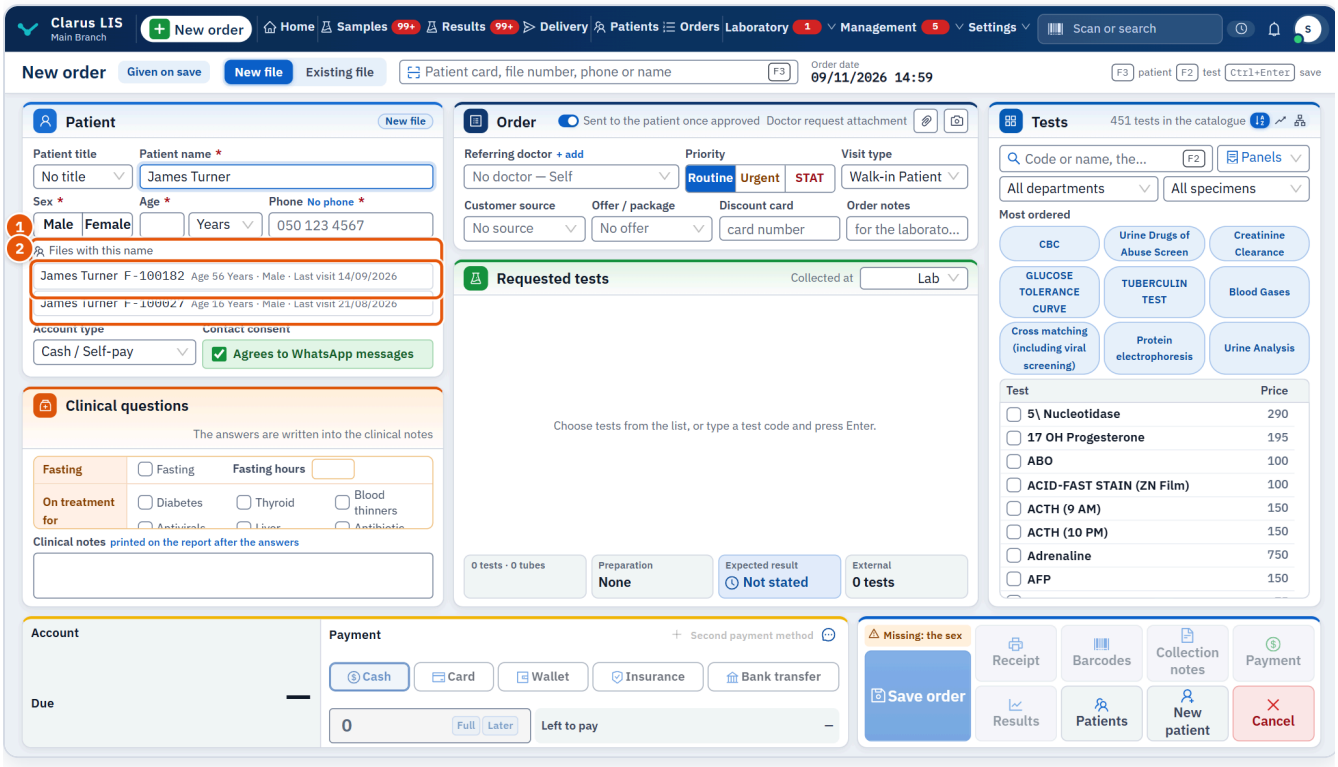


Figure 5-3: The identity check: 1 the file that matches, 2 the choices.

While you type the name and the phone of a new file, the program looks for existing files (only for someone who may read patient files). **Existing files matching what is typed** lists them, each with the age, the last visit (**No order yet** if none) and, when both the name and the phone belong to one file, the button **Use this file**. Nothing here blocks saving.

Situation	What the screen shows	What to do
The name and the phone are one file's	**This patient already has a file** with **Use this file**	Press it if it is the patient; the file opens as it is
Files with the same name	**Files with this name**, each with **Open this file**	Open the file if it is the same patient
The phone is on a file under another name	**This number is on a file under another name:** with **Open this file if it is the same patient**	A family may share one number, so the number alone is not proof
The phone is on many different families	**This number is on the files of several different families, so it identifies nobody: make sure of the patient's own number.**	Confirm the patient's own number
You press save on a new file and a file matches strongly (not on the phone alone)	The window **A file already matches this patient**	**Use the existing file** cancels the save and nothing is saved; open that file from the search. **Open a new file anyway** goes on and saves. Closing the window also cancels the save
You press save on a new file and only the phone matches another person's file	The window **This phone number is on another file**	**Use the existing file** (or closing the window) cancels the save. **New file: a family member sharing the number** saves the new file with the shared number. **New file: the number moved to someone else** saves it and marks the number on the old file
You choose a file that shares its exact full name with another file	The window **Two files carry this name**	Ask for the patient's phone or national ID, type it and press **Check**; the file is used only if it matches. Closing the window abandons the choice

If the number moved to someone else, the old file's phone is marked to be confirmed and no result message goes to it until it is saved again at that patient's next visit.

5.6 The order

Element	What it does
Referring doctor	The referring doctor, searchable (a doctor typed on the wrong keyboard layout is still found). **+ add**, for whoever holds the right, opens **Add a doctor** (**Doctor's name**, **Specialty**). Without a doctor the order is shown as a self-referral.
Priority	**Routine**, **Urgent** or **STAT**.
Visit type	Shown only when the laboratory uses visit types; **None** for none.

Element	What it does
Customer source	Where the customer came from; **No source** for none.
Offer / package	The offer or package; **No offer** for none.
Discount card	The discount card number, typed or scanned. The screen says whose card it is and its percent, or why it does not apply; the order is refused until the card applies or is cleared.
Order notes	A free note on the order.
Sent to the patient once approved	A switch: whether results go to the patient by themselves once approved; the other state is **Not sent to the patient by itself**.
Doctor request attachment	Attach the doctor's request: **Camera** or **Choose a file** (dim without the right to enter results). A PNG, JPEG, WebP or GIF image or a PDF, up to 10 MB; a file the server would refuse is refused at once. **Remove the attachment** removes it. The file is sent after the order is saved.

The receipt note and the billing note are written behind the notes icon in the payment area; the clinical notes are in the clinical questions.

5.7 The clinical questions

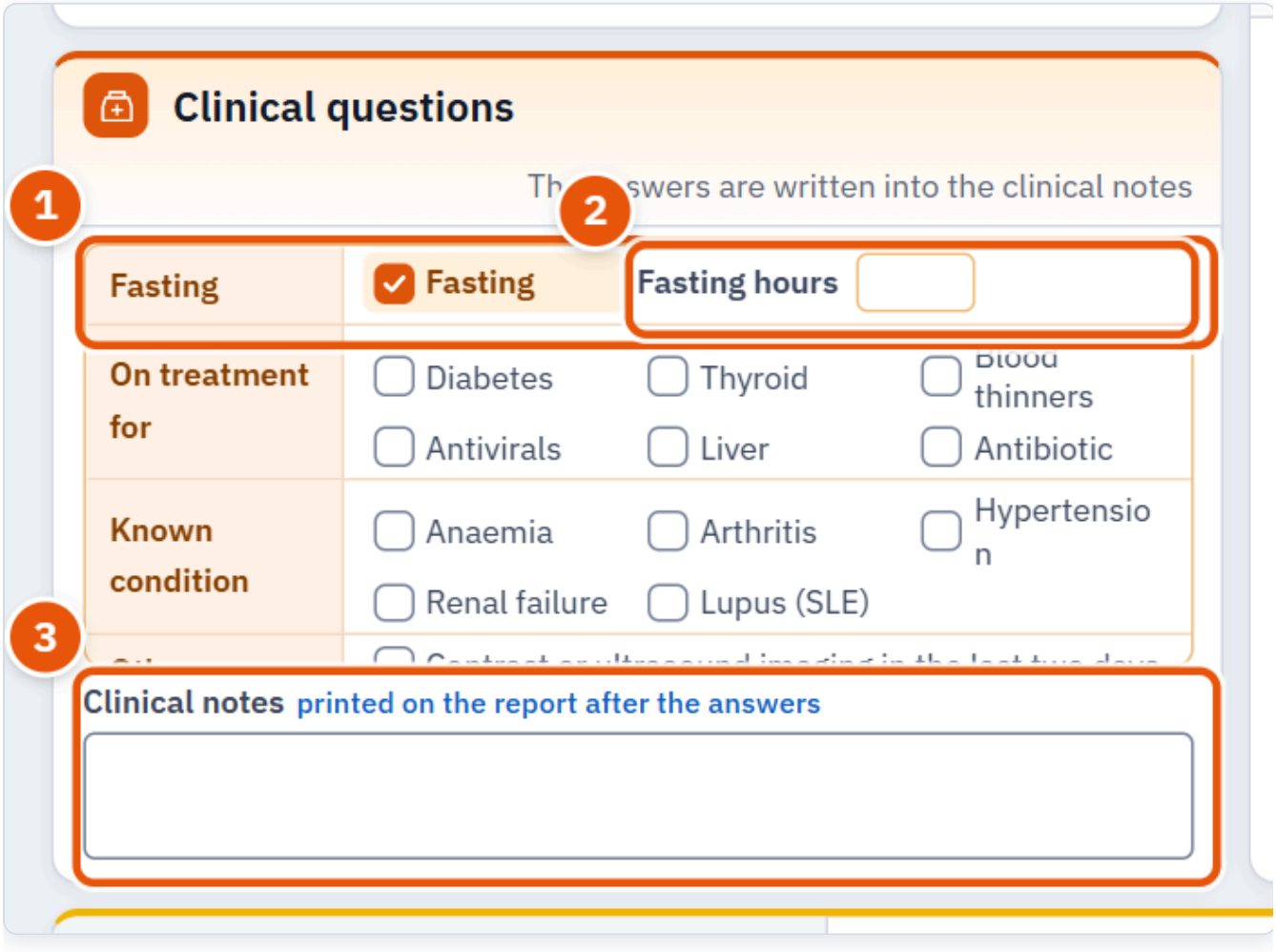


Figure 5-4: The clinical questions: 1 the groups, 2 the fasting hours, 3 the notes.

Clinical questions: the answers are written into the clinical notes. The questions come in groups: **Known condition**, **On treatment for**, **Fasting** and **Other**; some questions are offered according to the patient's sex. Each is a tick. A group that a chosen test asks for is highlighted and says **for ...**, naming those tests. The fasting group has **Fasting hours**, two digits at most. **Clinical notes** is printed on the report after the answers.

5.8 The catalogue

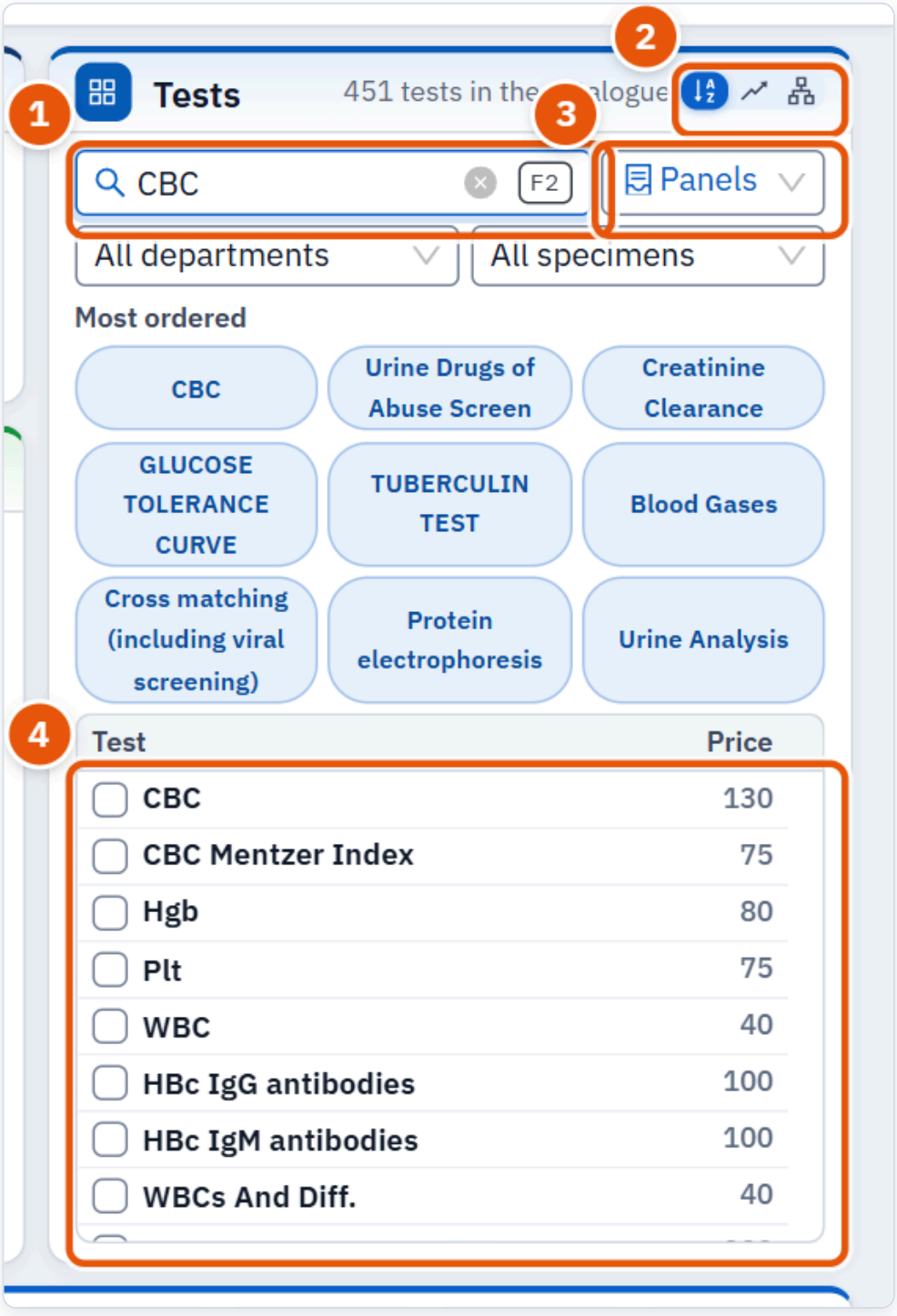


Figure 5-5: The catalogue: 1 the search box, 2 the sort, 3 panels and packages, 4 the list.

Control	What it does
Code or name, then Enter to add	Type a code or a name and press Enter. The test is added only if what you typed is exactly its code or its name and it is switched on; otherwise nothing is added.

Control	What it does
Sort the list	**Alphabetical**, **Most ordered** (offered only where the program counts orders) or **By department**. Each user's choice is remembered in the browser. A search lists by relevance instead.
All departments and **All specimens**	Limit the list to one department or one specimen.
Panels & packages	**Panels** and **Packages & offers**; choosing one adds it (a package also names the offer on the order).
The quick buttons	A row of up to nine panels or most-ordered tests; each toggles the test.
The list	Columns **Test** and **Price**; up to 150 rows. Clicking a row adds the test, and clicking it again removes it. A test inside a panel says **... is in ...**.

From two typed letters, tests that match but are switched off in the laboratory are listed at the end, faded. Beside each is a button to open the catalogue for whoever holds the catalogue right; for everyone else the screen says **Ask whoever manages the catalogue to switch it on.**. If Enter finds the code of a switched-off test it says so and adds nothing. If what you typed is not exactly one test, choose it from the list.

5.9 The basket

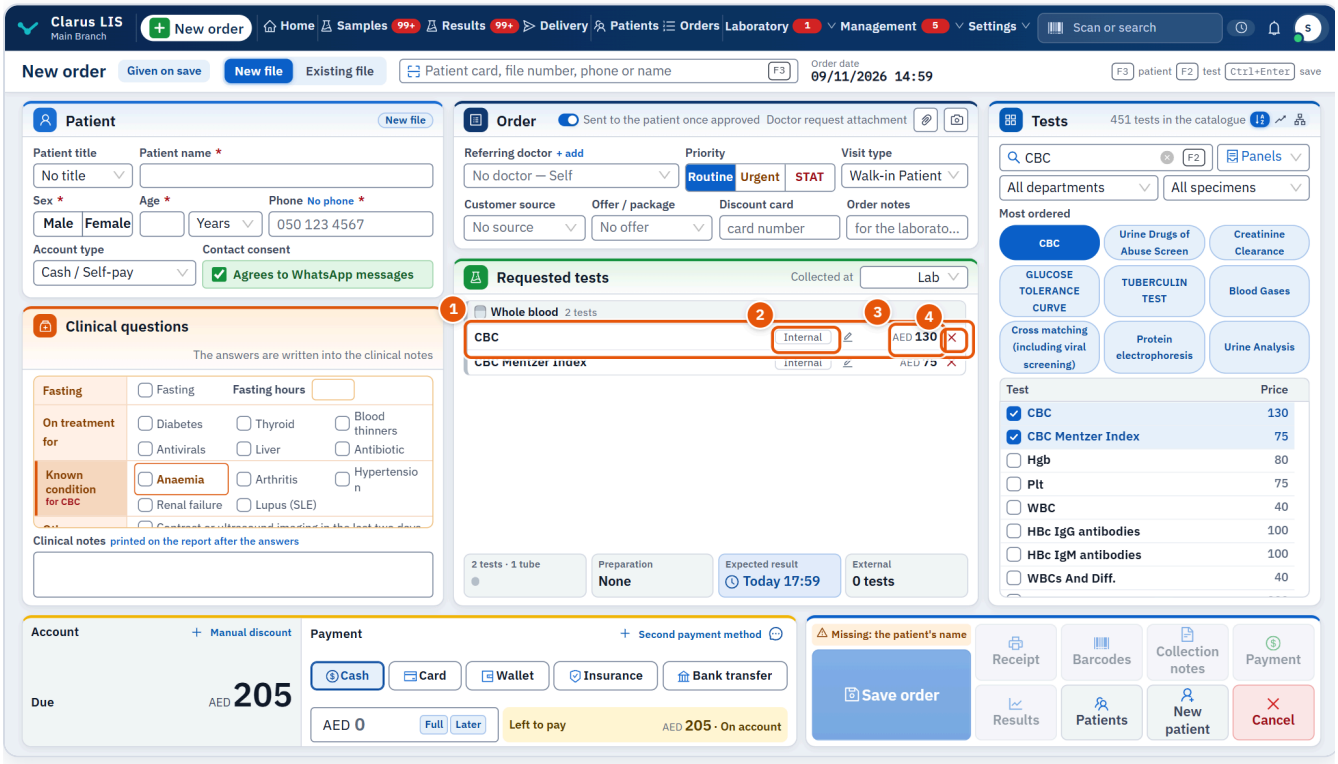


Figure 5-6: The basket: 1 one test, 2 where it is done, 3 its price, 4 remove.

Requested tests lists the tests chosen, grouped by tube. The title bar has **Sample collected at**: **Lab**, **Home** or **Other place**. A home visit or another place asks for an address in a small window, and the address is required to save. The place cannot be changed while editing a saved order. Each line can show:

Element	What it does
The test	Its name, a **Fasting** tag if it needs fasting, and a mark if the patient has a recent order of it (see 5.9 The basket).
Where this test is performed	Click to switch between internal and external.
Edit the test's price	A pencil, shown only to whoever may change prices (or, on a sent-out test, to anyone, to choose its laboratory), and only where the price comes from a list that can be edited. Opens the price window.
Remove this test	Removes the test.
Choose antibiotics	For a culture test, opens the antibiotics window (it also opens by itself when a culture is added).

A line whose price is not on the payer's list shows a button for the pricing question instead of a figure (see 5.10.5 Task 5 — Change a test's price or its external laboratory). A sent-out line says under it which laboratory the order sends it to, or that none is set.

A summary under the lines gives the number of tests and tubes, the preparation needed (fasting or none), the expected result time and the number of external tests.

A test the patient already ordered recently is marked yellow with its order code; the mark says to ask before drawing it again.

5.10 Tasks, step by step

5.10.1 Task 1 — Register a new patient and an order

1. Type in **Patient card, file number, phone or name** (two characters at least) to be sure the patient has no file.
2. If not, fill **Patient name**, **Sex**, **Age** (or **Birth date**) and **Phone**.
3. Choose the doctor and the priority.
4. Add the tests (5.10.4 Task 4 — Choose the tests).
5. Press save when **Ready to save** shows. If a duplicate window appears, answer it (see 5.10.2 Task 2 — Settle a possible duplicate).

5.10.2 Task 2 — Settle a possible duplicate

1. When **Existing files matching what is typed** lists a file, compare name, age and last visit.
2. If it is the patient, press **Use this file** (or open it from the list).
3. If not, keep typing. At save, answer the window: **Open a new file anyway** only if you are sure. Choosing **Use the existing file** saves nothing; open the existing file and start again.
4. For a shared phone number choose between **New file: a family member sharing the number** and **New file: the number moved to someone else**.

5.10.3 Task 3 — Answer the clinical questions

1. Tick what applies in each group.
2. If fasting is asked for, write **Fasting hours**.
3. Add anything else in **Clinical notes**.

5.10.4 Task 4 — Choose the tests

1. Type a code or a name in **Code or name, then Enter to add** and press Enter, or click a test in the list.
2. For a whole panel or package use **Panels & packages**.
3. Check the basket. Remove a wrong test with **Remove this test**.
4. For a culture, check **Choose antibiotics**.

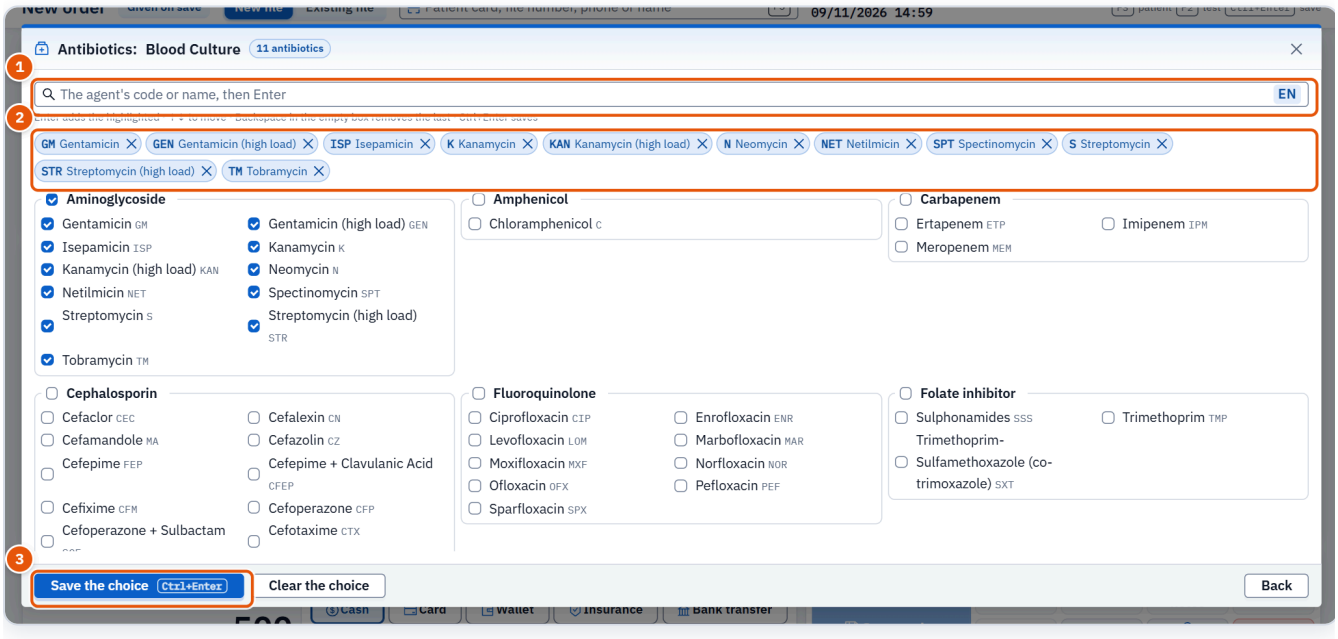


Figure 5-7: The antibiotics window: 1 the search, 2 the chosen antibiotics, 3 save.

In **Antibiotics:** the search box takes English letters only; from two letters it lists the matching antibiotics, and Enter adds the highlighted one. The arrows move between matches, Backspace in the empty box takes back the last one, and Ctrl+Enter saves. Antibiotics can also be ticked by class. Press **Save the choice**, or **Clear the choice**. If the catalogue defines none, the window says so.

5.10.5 Task 5 — Change a test's price or its external laboratory

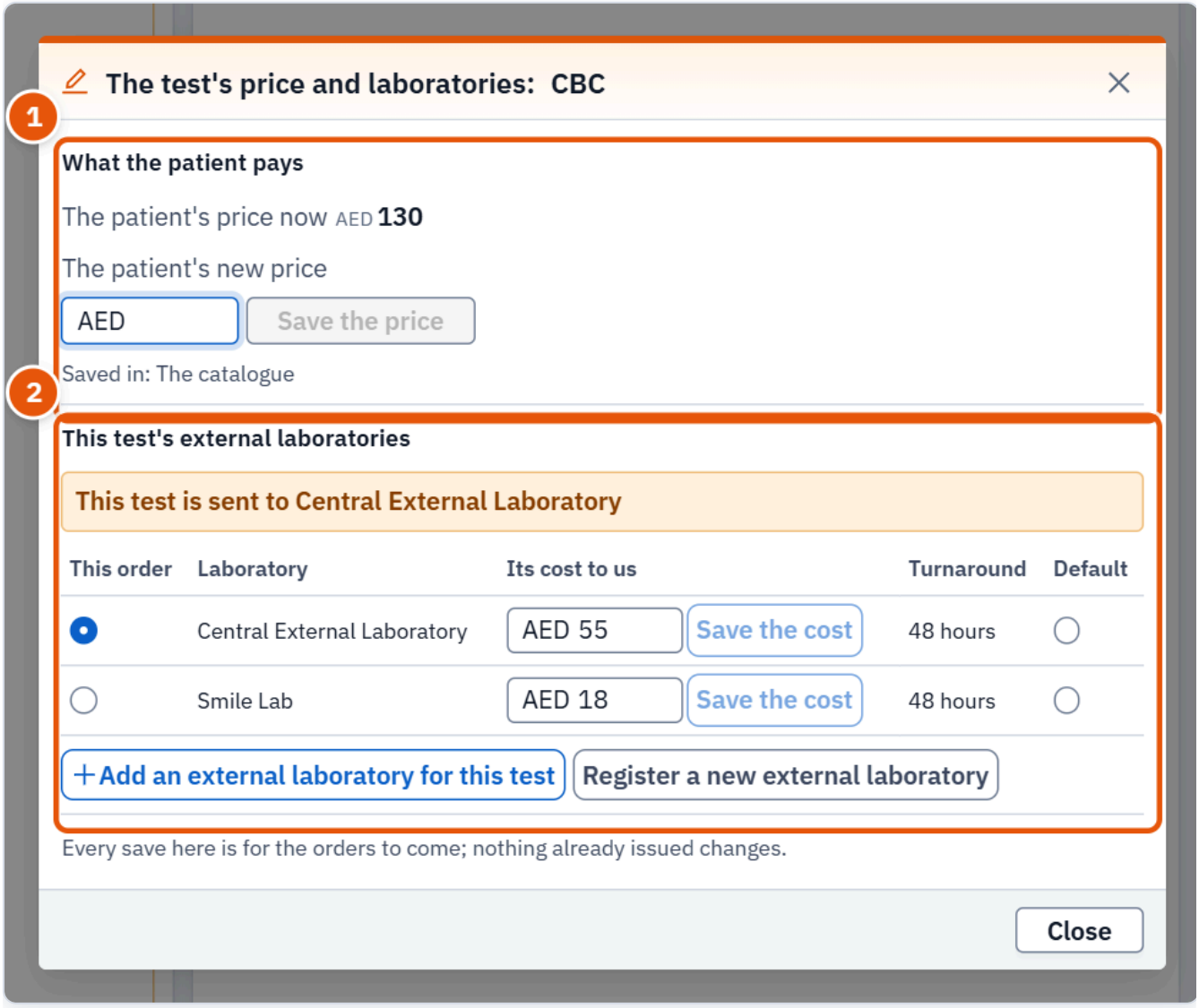


Figure 5-8: The test's price window: 1 the patient's price, 2 the external laboratories.

1. In the basket press **Edit the test's price**. The window **The test's price and laboratories:** opens.
2. Under **What the patient pays** (for whoever may change prices) type **The patient's new price** and press **Save the price**. The window says which list the price is saved in.
3. For a sent-out test, under **This test's external laboratories** choose the laboratory for this order. Whoever holds the laboratory-structure right can also write its cost and press **Save the cost**, make a laboratory the default, and add or register a laboratory.
4. To add a laboratory press **Add an external laboratory for this test**.

Every save here is for the orders to come; nothing already issued changes. The laboratories section is not offered while a saved order is being edited.

If a test is not on the payer's list, or the payer's list prints it on several lines, the basket line asks first: no figure is shown and the order cannot be saved until it is answered. In the window choose **The patient pays**

it in cash, at its base price, or **Write its price by hand** (recorded with who wrote it and when), or choose the line the payer's paper names. Press **Apply**.

5.10.6 Task 6 — Collect payment and give a discount

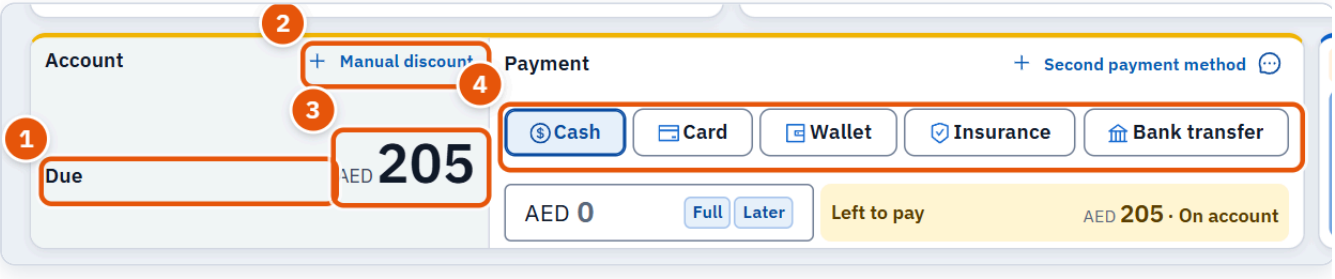


Figure 5-9: Price and collection: 1 the total, 2 the discount, 3 the due, 4 the method and the amount.

1. Read **Total**, then **Due**. Taxes and the visit fee appear as lines of the account. A previous balance can be added with its tick, **+ Previous balance**.
2. Choose **Payment method** (the digits 1 to 6 pick one when the cursor is not in a field) and write **Collected now**. The buttons **Full** and **Later** fill it, and **Least** appears only when a least amount is set below the due. Leave it empty to collect later. Some methods ask for a reference. Enter in the amount saves the order.
3. For two methods, add **Second payment method**.
4. For a discount, press **Manual discount** at the top of the account area. It is offered only to whoever may collect, once the price is known, and only while the manager has left room for a discount.

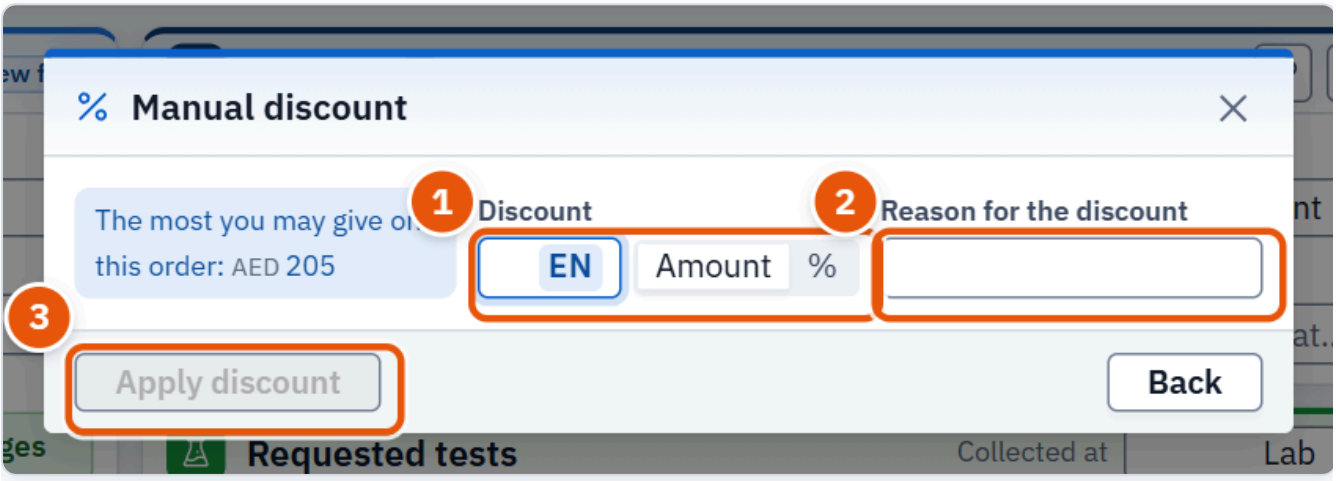


Figure 5-10: The manual discount: 1 the value, 2 the reason, 3 apply.

1. In **Manual discount** read **The most you may give on this order:** (the most you may give, set by your role and the tests' ceilings), write **Discount** as an amount or a percent (up to 100) and **Reason for the discount** (up to 200 characters; required), then **Apply discount**. **Remove discount** cancels it. A discount beyond the room is refused.

The amount is checked: a number, not more than the total, and not less than the least to collect now. If you have no open shift the screen warns that what you take goes into no shift. Where the payer pays part, **Payer share** and **Contract discount** are shown.

5.10.7 Task 7 — Save and what comes after

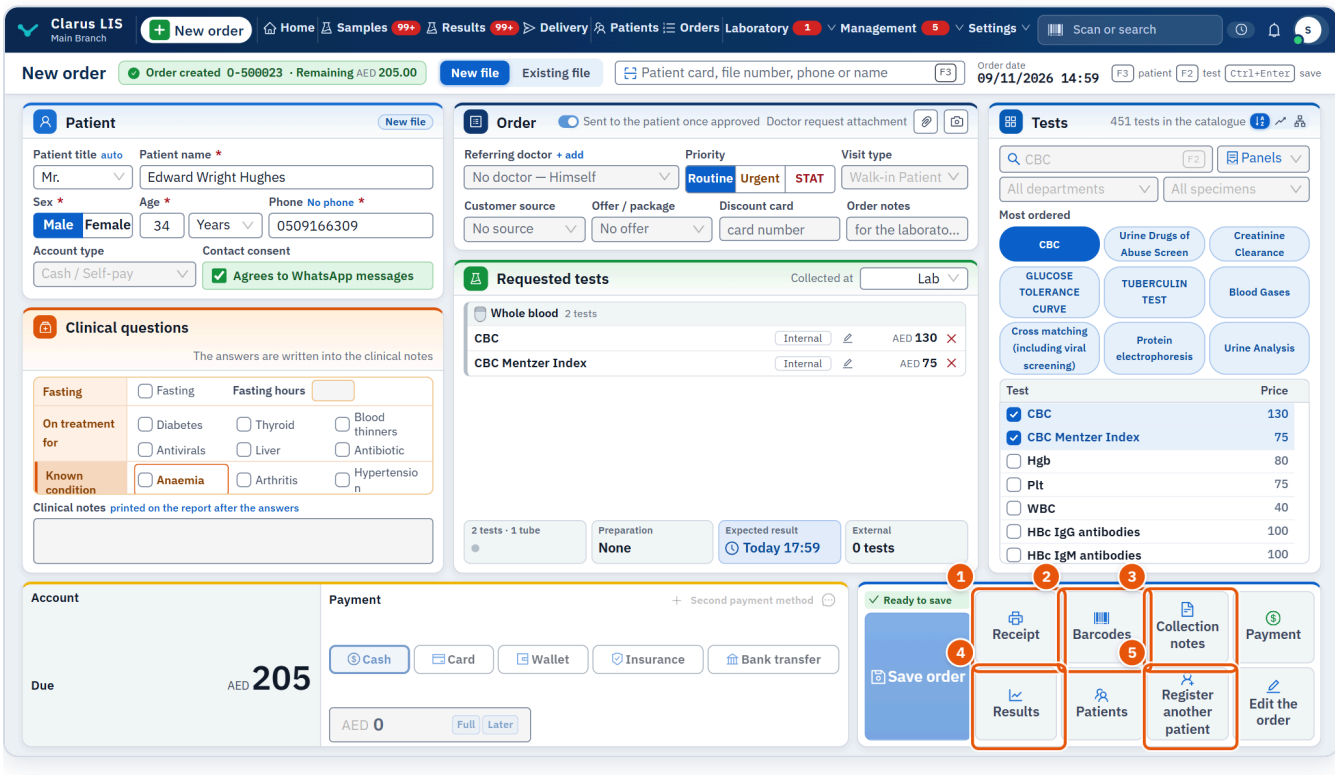


Figure 5-11: After saving: 1 the receipt, 2 the barcodes, 3 the collection notes, 4 the results, 5 the next patient.

1. Look at the line above the save button. It names what is missing (the patient's data, tests, the price, the amount, the member number, the address or the price question); press it to be taken there, and its tooltip gives the whole sentence.
2. When it says **Ready to save**, save (Ctrl+Enter also saves). The order receives its number. Each sample is registered as received.
3. After saving, **Printed once the order is saved**: **Receipt**, **Barcodes** and **Collection notes**. Barcodes are printed by hand, never by themselves.
4. **Payment** opens payment of what remains; it is dim when nothing remains or you may not collect. **Results** opens the order's results; it is dim without the results rights.
5. **Register another patient** clears the screen for the next patient. The **Patients** button is dim: its screen is not built in this interface yet.
6. **Edit the order** appears in the place of the cancel button, for whoever may edit orders.

Before saving, the cancel button (**Cancel**) asks **Cancel this order**; confirming with **Clear the order** clears everything on the screen.

5.10.8 Task 8 — Edit a saved order

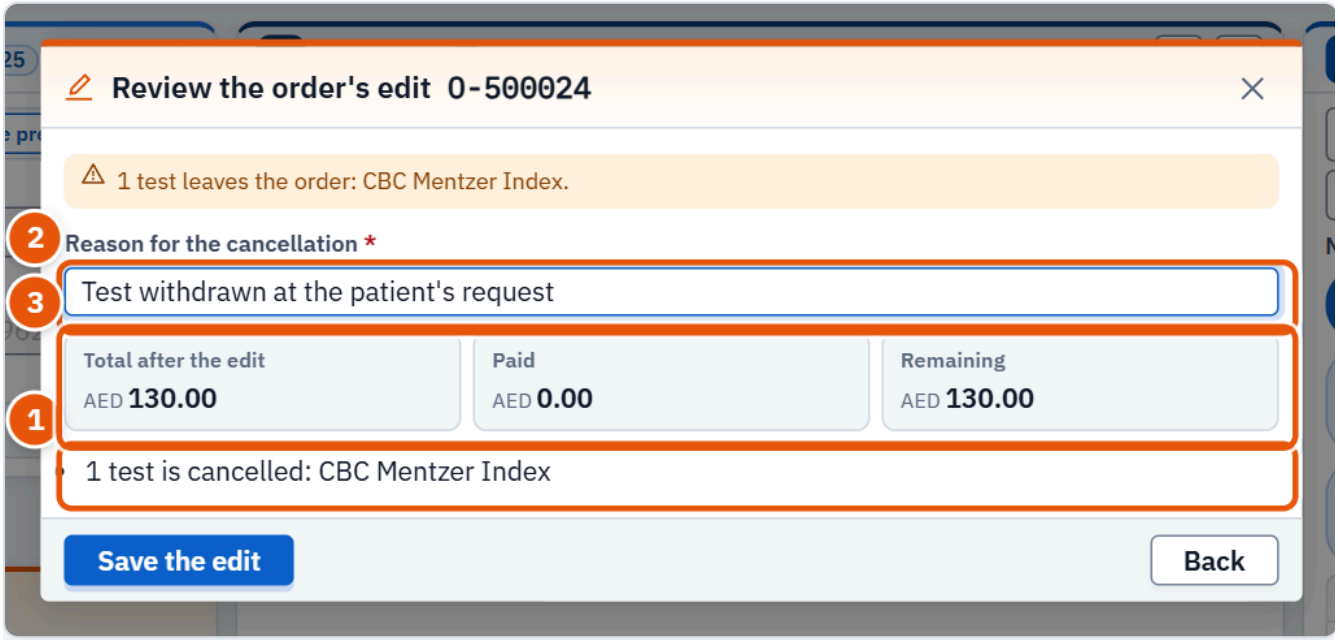


Figure 5-12: Reviewing an edit: 1 the tests leaving, 2 the reason, 3 the figures after the edit.

1. Press **Edit the order** (after saving, for whoever may edit orders). The screen opens the order as **Editing order**; the patient is fixed and payment is not offered.
2. Change what you need: add or remove tests, change the doctor, the account and so on.
3. Press save. If nothing changed the screen says so and nothing is saved. Otherwise **Review the order's edit** lists what the edit does: tests added or cancelled, tests priced again, new samples and their labels.
4. When a test leaves the order, write **Reason for the cancellation**; the figures appear after it. If a result of a cancelled test was entered and not approved, tick the confirmation too.
5. Check **Total after the edit**, **Paid** and **Remaining**, then press **Save the edit**. **Back** returns without saving.
6. To abandon the edit press **Undo the edit**; if anything was changed it asks first. **Open the order again** opens the order again as it is saved (it is also offered when the order changed since you opened it).

A test whose result is already approved or on a report is not cancelled; the screen refuses and names it.

5.11 Messages and what to do

The screen says	Meaning	What to do
Cannot save: ...	Something is missing	Read the reason given with it

The screen says	Meaning	What to do
The order was not saved	The server refused the order	Read the reason shown, correct and save again
The price could not be calculated: …	The price could not be worked out	Press **Try again**
No test has the code or name «…»; nothing was added.	No test has that code or name	Check the spelling
The test … (…) is in the catalogue but is not switched on in this laboratory; nothing was added.	The test is off in this laboratory	Open the catalogue if you may, or ask whoever manages it
This phone number is one digit repeated: write the patient's real number, or choose «No phone»	The phone is one digit repeated	Write the real number or choose **No phone**
This is not a phone number in the laboratory's country; a foreign number is written with + and its country code	The number is not valid in the laboratory's country	Fix it; a foreign number needs + and its country code
The member or card number is required for this account type.	The account type needs a member number	Write it in the coverage details
Nothing in the order changed to be saved.	The edit changed nothing	Nothing to save
Some sample statuses were not applied.	Some samples were not updated	Check the samples screen

5.12 See also

Patients (the file shown here), Samples (what the barcodes open), Results and approval (what comes after saving), Prices and contracts (the lists behind the price), Catalogue (switching a test on), Treasury (shifts and payments).

Chapter 6

Samples

Menu: **Samples**. Address: `/samples`.

6.1 What this screen is for

This is where a tube is followed from the moment it is drawn until it is disposed of. You scan the sample's label, see which order and patient it belongs to, and move it one step at a time: **receive** it at the bench, **start** its analysis, **store** it afterwards and, when the retention time is over, **dispose** of it. A sample that cannot be used is **rejected** here, and the program opens a new draw.

The screen also keeps the sample's record: when it was really drawn, what its condition was on arrival, any alert on it, the timed draws of a protocol such as glucose tolerance, and the printing of its barcode labels.

6.2 Who sees it

You can...	...if your role holds
See the screen and the list of samples	**Read orders** or **Accept, reject and receive samples**
Open the barcode board (change which tube holds a test)	**Create orders**

Without the permission for the board, its button is not shown at all. The barcode print buttons (**Print today's unprinted labels**, **Last 200 labels** and **Print their labels**) are shown only to a role that may Print reports, receipts and labels; the screen's other buttons are shown to anyone who sees it; if the server refuses a step for your role, the screen says so.

6.3 The screen at a glance

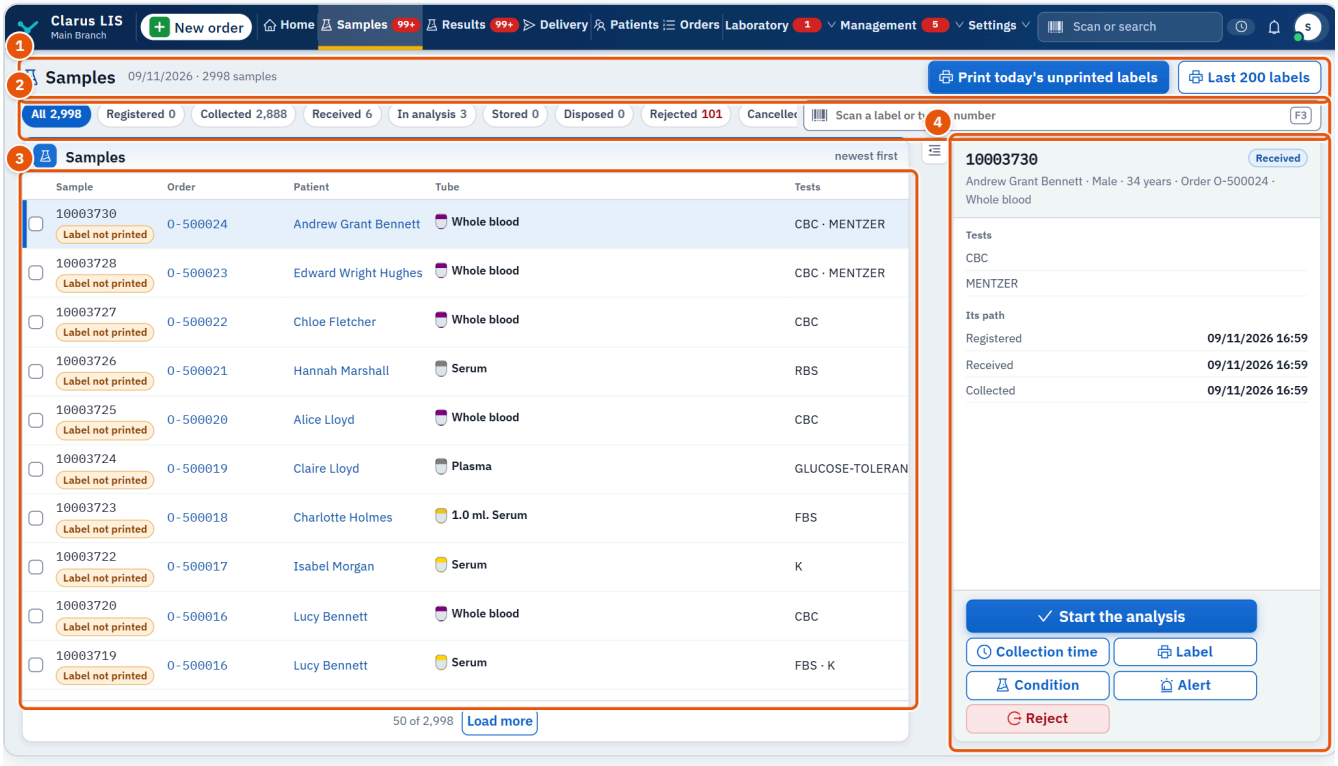


Figure 6-1: The Samples screen: 1 the title and the two print buttons, 2 the scan box and the state chips, 3 the list of samples, 4 the chosen sample.

1. **The title**, with the day and how many samples it holds, and the two buttons that print labels: **Print today's unprinted labels** and **Last 200 labels**.
2. **The scan box and the state chips.**
3. **The list**: **Samples**, one line per sample.
4. **The chosen sample**: its details and the buttons that act on it.

6.4 The head

Control	What it does
Print today's unprinted labels	Prints the labels of the day's samples that have none yet. Shown only when the list has a day.
Last 200 labels	Prints the last 200 labels again.
Scan a label or type a number	A scanner types the label's code and presses Enter; or type the sample's number or the order's. While you type, the list narrows to what matches. On Enter the sample opens in the details. If nothing has that code: «No sample with the code …». The code stays selected, so the next scan replaces it.

Control	What it does
Sample state	Chips that limit the list, each with its count: **All**, **Registered**, **Collected**, **Received**, **In analysis**, **Stored**, **Disposed**, **Rejected**, **Cancelled**, **Alert** and **Timed draw**. The chips **Registered**, **Collected** and **Cancelled** appear only when the server counts samples in that state. Changing the chip clears the chosen sample and the ticks.

6.5 The list

Column	Meaning
(tick box)	Chooses the sample for a bulk action. A rejected or cancelled sample has none.
Sample	The sample's code. **Label not printed** marks a label not yet printed (not shown on a rejected or cancelled sample). **Re-drawn as:** gives the code of the new draw; **Re-draw of:** gives the code of the sample this one replaces.
Order	The order's code, which opens the order.
Patient	The patient's name.
Tube	The specimen type, in the tube's colour.
Tests	The codes of the tests drawn into this tube.
State	The state, and an **Alert** mark when the sample has an open alert or a custody problem. A rejected sample shows the reason.
Approved	How many of the tube's tests are approved out of how many, such as 2/4.

The list shows one laboratory day, runs **newest first**, loads 50 lines at a time (more are loaded when there are more) and renews itself every 30 seconds. With the chip **Stored** on, a warning counts the stored samples that are past their retention time.

When the list is empty the screen says why: for example «No sample today.», «No received sample waits.» or, after a search, «No sample matches ...».

6.6 The chosen sample

The details show the code, the state, the patient with sex and age, the order and the specimen. Under them **Tests** lists the tests, and **Its path** gives the times: **Registered**, **Received**, **Collected** (or «not recorded») and, once stored, **Stored at**.

A note appears when the sample has an open alert or its custody needs review. The custody notes say what is wrong: collected and not received in time, no active barcode label, a received sample with no receipt time, a stored sample with no storage place, a rejected sample with no active re-draw, or an open

result still linked to a rejected sample. A timed sample also shows its protocol and the time of the next draw.

Button	What it does
One main button, by the state	**Receive the sample** for a registered or collected sample; **Start the analysis** for a received one; **Store the sample** for one in analysis; **Dispose** for a stored one. A rejected, cancelled or disposed sample has none.
Collection time	Records when the sample was really drawn. Not shown on a rejected or cancelled sample.
Label	Prints the sample's label. Once printed, the button reads **Print the label again**.
Condition	Records what the tube looks like. Not shown on a rejected or cancelled sample.
Alert	Puts an alert on the sample.
Timed draws	Shown only for a sample of a timed order.
Reject	Rejects the sample. Not shown on a rejected or cancelled sample.

6.7 Tasks, step by step

6.7.1 Task 1 — Follow a sample from receipt to storage

A sample passes through these steps in order: registered or collected, **received**, **in analysis**, **stored**, **disposed**. Each press of the main button moves it to the next.

1. Scan the sample's label in **Scan a label or type a number**, or choose it in the list.
2. Press **Receive the sample**. The screen says the sample was received.
3. When the analysis begins, press **Start the analysis**.
4. When it is done, press **Store the sample**. In the window **Store the sample** choose the place: **Fridge**, and **Shelf** when that fridge has shelves; the save button stays dimmed until they are chosen. If the laboratory has not set its storage places yet, the window says so and its button reads **Store without a place**: the sample is stored without a place and its custody notes that. The places are set in Setup.
5. After the retention time, press **Dispose**. In **Dispose of the sample** write **How it was disposed of** (required; the button stays dimmed without it) and press **Dispose**.

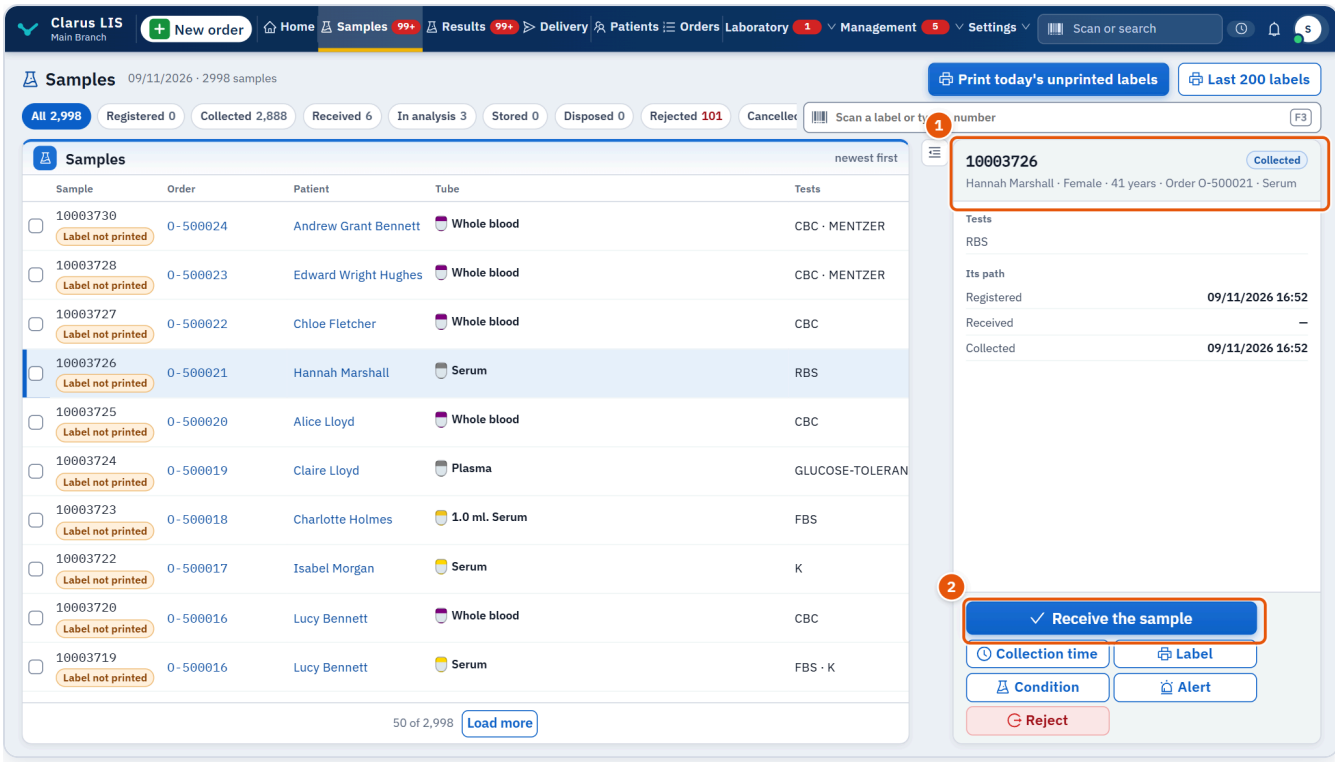


Figure 6-2: Receiving a sample: 1 the chosen sample, 2 the receive button.



Figure 6-3: Storing a sample: 1 the place, 2 the confirm button.

6.7.2 Task 2 — Receive or start many samples at once

1. Tick the boxes of the samples in the list.
2. A bar appears above the list (**Chosen samples**), saying how many are chosen. Press **Receive the chosen** or **Start the analysis of the chosen**. The screen sends the step for every chosen sample whatever its state, and the server decides.
3. To print their labels, set **Copies for this print** if you wish (1 to 10; left empty, the labels print as designed) and press **Print their labels**.

4. **Clear the choice** unticks them all.

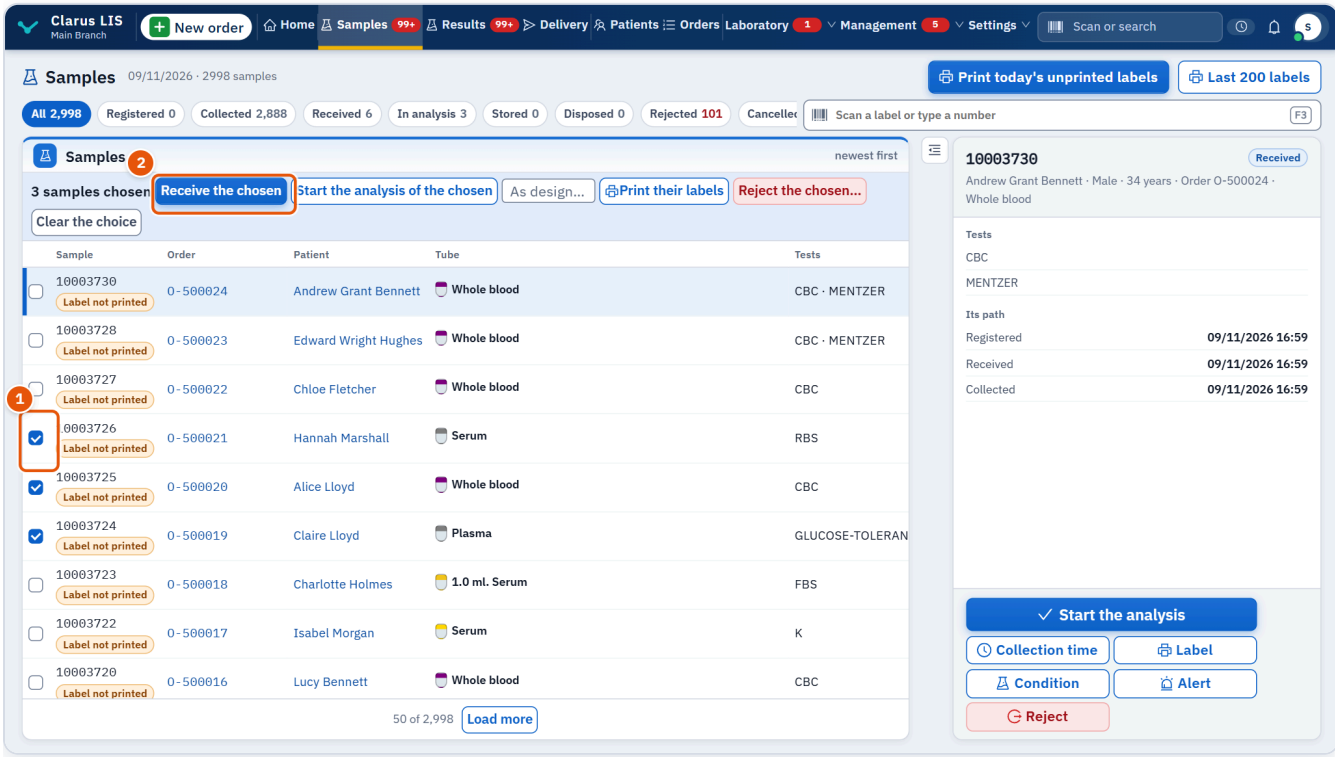


Figure 6-4: The bulk bar: 1 the tick boxes, 2 the receive button.

6.7.3 Task 3 — Reject a sample

1. Choose the sample and press **Reject**; or tick several and press **Reject the chosen**.
2. In the window, choose **Reason for rejecting** from the list (it holds the conditions that justify rejection, and the choice is required). The last choice is **Other**; then **The reason** must be written. For the other reasons you may add a **Note**.
3. Press the reject button of the window; it stays dimmed until a reason is given.

> **Caution**
>
> The rejection is final. The server opens a new draw by itself for each rejected sample, and the rejected one then shows the code of its replacement.

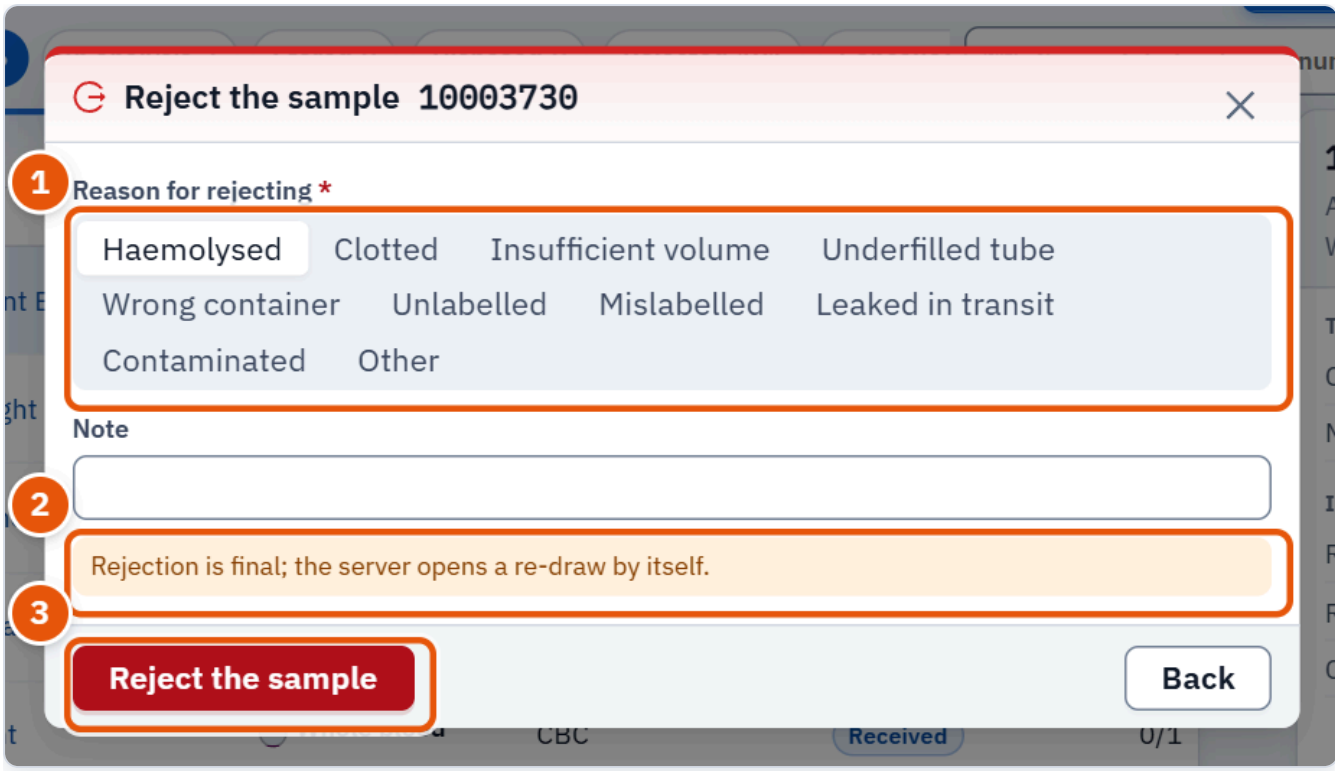


Figure 6-5: Rejecting: 1 the reason, 2 the notice that it is final, 3 the reject button.

6.7.4 Task 4 — Record the sample's condition

1. Choose the sample and press **Condition**.
2. In **What the tube shows** choose what the tube shows. The list of conditions comes from the server, and the button in step 4 stays dimmed until one is chosen.
3. If the condition chosen is one that justifies rejection, **Decision** appears: choose **Accept with a note** or **Ask for a re-draw**. The first is unavailable for a condition that cannot be accepted with a reservation. Writing a **Note** is optional.
4. Press **Record the condition**.

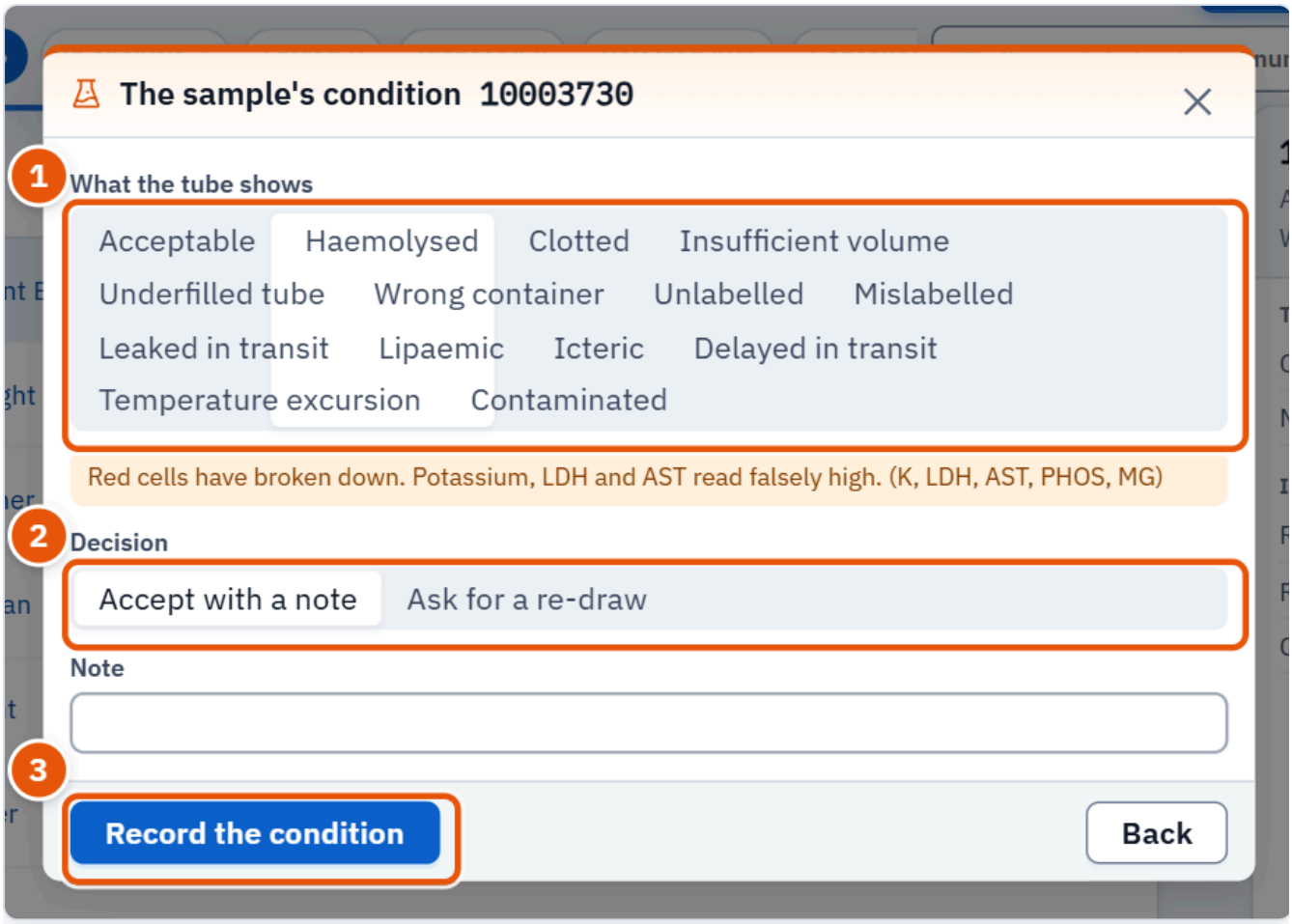


Figure 6-6: The condition window: 1 what the tube shows, 2 the decision, 3 the save button.

6.7.5 Task 5 — Record the real collection time

The transport time to the laboratory is counted from it.

1. Choose the sample and press **Collection time**.
2. Write **Actual collection time** in the form `2026-10-03 10:52`. Another form is not accepted: the field says «Write the time as ...» and the save button stays dimmed.
3. Write who drew it in **Drawn by** (optional).
4. Press **Record the collection time**.

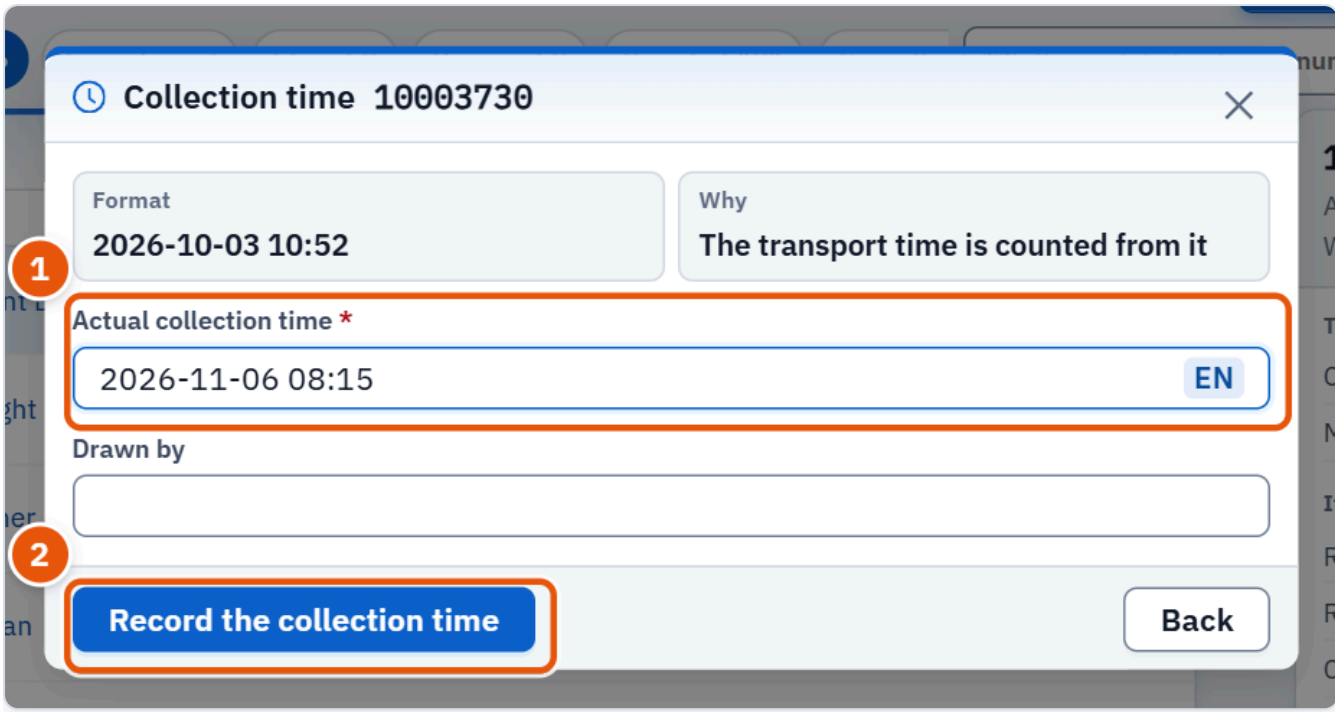


Figure 6-7: The collection time: 1 the time, 2 the save button.

6.7.6 Task 6 — Put an alert on a sample

1. Choose the sample and press **Alert**.
2. Choose **Severity**: **Urgent**, **Needs follow-up** or **For information**.
3. Write **What is it** (required) and press **Record the alert**. The severity starts at **Needs follow-up**.

The sample then carries the **Alert** mark in the list, and the chip **Alert** counts it.

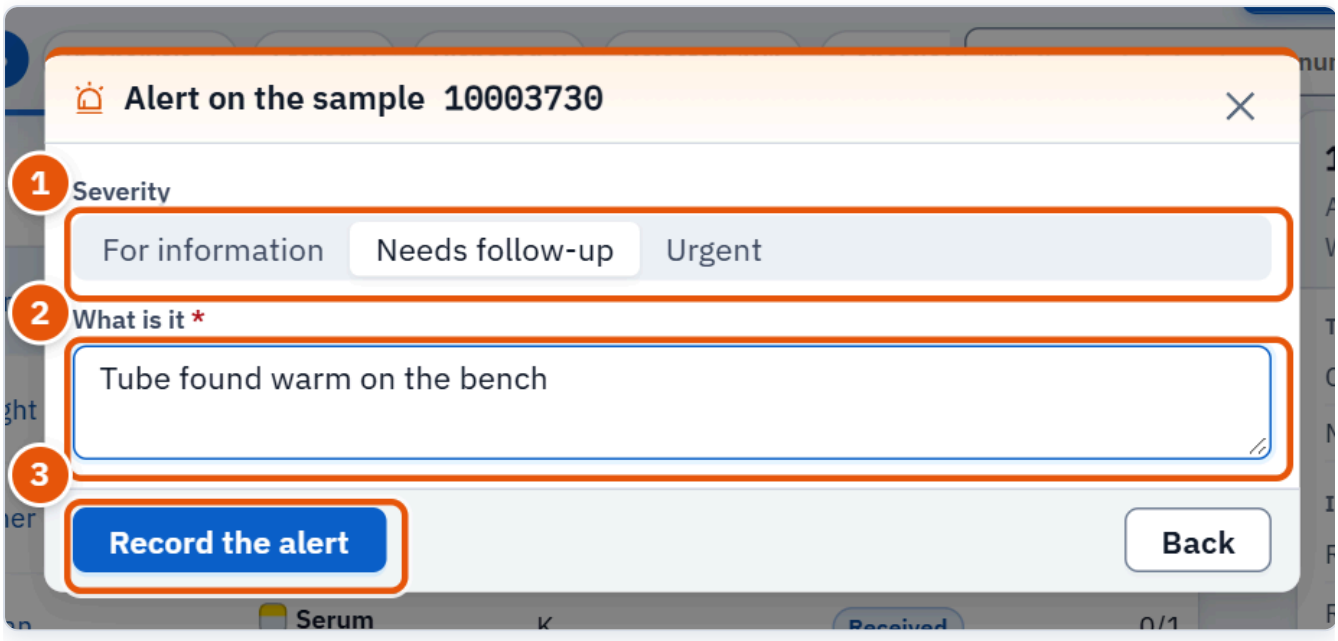


Figure 6-8: The alert window: 1 the severity, 2 the message, 3 the save button.

6.7.7 Task 7 — Timed draws

A sample of an order with a timed protocol, such as **Glucose tolerance (GTT)** or **Two-hour post-prandial glucose**, shows **Timed draws**.

1. Press it. The window shows when the protocol started and a table: **Draw**, **Due**, **Taken** and **Sample**. Each draw says where it stands: waiting, due, late, missed or outside its window.
2. When the patient is drawn, press the button that records the next draw (**Record the draw: ...**; when none is left it reads **No draw is left in this protocol.** and is dimmed). If it was outside its window the screen says so, and the report says so too; a late draw is recorded, not refused. The label of that draw's tube is sent to print at once.
3. To stop the protocol (offered only while it is not complete) press **Abandon the protocol**, say why in **Why did the protocol stop?** (required) and confirm with **Abandon the protocol**. The reason is written on the report, no draw is recorded after it, and measuring again needs a new protocol.

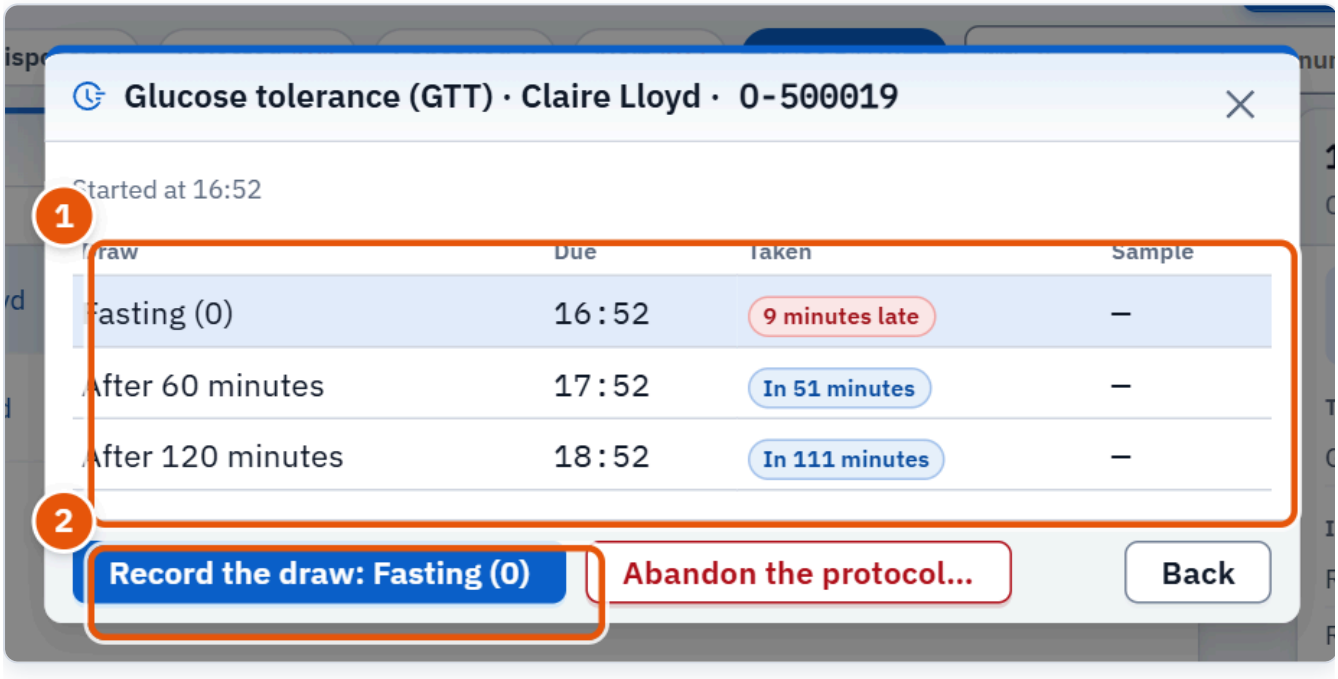


Figure 6-9: The timed draws: 1 the table of draws, 2 the button that records the draw.

6.7.8 Task 8 — Print labels and use the barcode board

Each tube has one label with all its tests. From this screen, labels are printed with **Print today's unprinted labels**, **Last 200 labels**, the chosen sample's label button, or **Print their labels**.

The window **The order's labels** is opened from the Orders screen and from the order screen, not from here. It lists the order's tubes, a tick for each, and whether each label is printed.

1. All tubes start ticked. Leave ticked the ones you want and press the print-picked button (dimmed when none is ticked), or print them all.
2. **The order's envelope label** prints the label of the order's envelope.

3. **Copies for this print** (1 to 10) sets the number of copies for this print, envelope included; left empty (**As in the label designer**) it keeps what the label designer says.

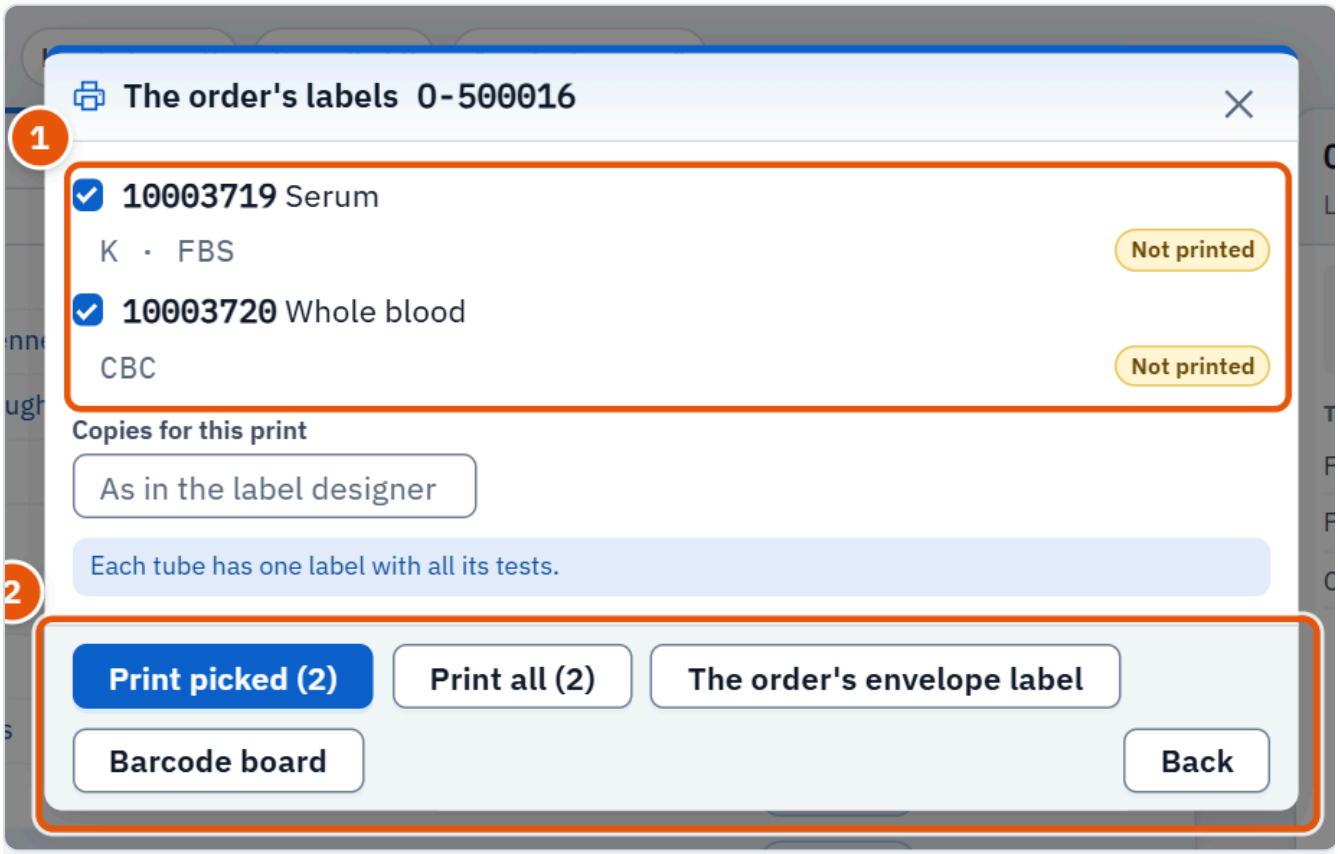


Figure 6-10: The order's labels: 1 the tubes and their ticks, 2 the print buttons.

To change which tube holds a test, press **Barcode board** in that window (it needs the permission to create orders; without it the button is not shown).

1. Drag a test onto another tube, or onto **A new tube** to draw it into a tube of its own. From the keyboard: pick the test, walk the tubes with the arrows, press Enter to drop it, N for a new tube, and Esc to let go.
2. If the two tubes are of different kinds, or the test is done elsewhere, the screen warns first. Choose **Move it anyway** or **Leave it where it is**.
3. A tube whose label was printed is marked **Label printed**. Moving a test out of it, or into it, asks **Why does this printed tube change? (optional; the move is kept in the audit log either way)**; the reason is optional, and the move is kept in the audit log either way.
4. When tubes have changed, the screen tells you which. Press **Print them again**.

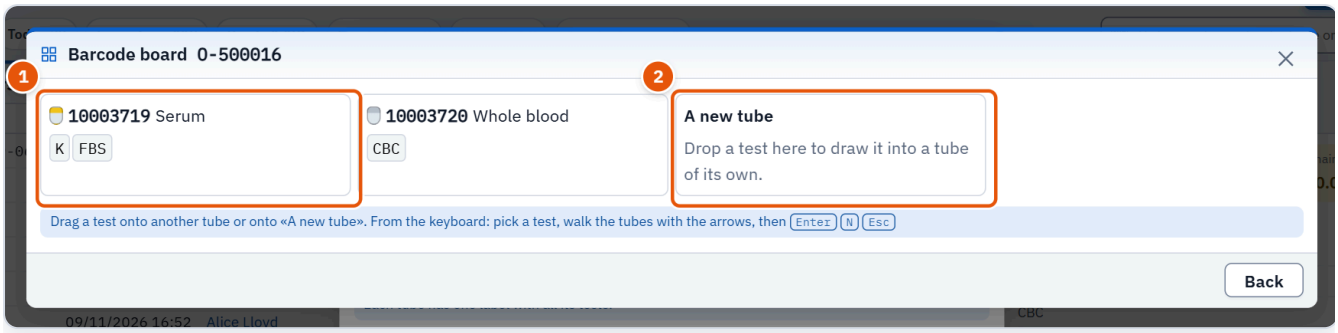


Figure 6-11: The barcode board: 1 a tube, 2 the new-tube area.

6.8 Messages and what to do

The screen says	Meaning	What to do
No sample with the code …	The code was mistyped, or no such sample exists	Scan again, or search by the order's number
The code could not be read.	The scan failed	Scan again
That could not be saved.	The server refused the step	Read the reason shown, correct and repeat
The samples could not be read.	A connection fault	Check the connection and retry
… stored samples are past their retention	Samples kept longer than the retention time	Dispose of them (6.7.1 Task 1 — Follow a sample from receipt to storage)
The move could not be made.	The board refused the move	Look at the tubes and try again
Write the time as 2026-10-03 10:52	The collection time is not in the expected form (shown under the field)	Write it as in the example
Rejection is final; the server opens a re-draw by itself.	A notice before rejecting	Be sure, then reject

6.9 See also

Orders (where the labels window opens), Order (the draw at reception), Results and approval (what follows the analysis), Patients (the patient's file).

Chapter 7

Results and approval

Menu: **Results and approval** (in the bar, after Samples). Address: `/results`.

7.1 What this screen is for

This is where the laboratory's work becomes a result a patient can be given. A technologist **enters** the values of each order here, the program checks them against the reference interval, the previous result and the analyzer's own readings, and a person with the right to approve **approves** them. Nothing reaches a printed report, a message or a referring physician before it has been approved here.

One screen holds the whole path: finding the order, typing or receiving the values, handling the unusual ones (outside the interval, critical, far from the last result), approving, and — when a mistake is found later — amending or withdrawing an approved result with a written reason.

7.2 Who sees it

Whoever holds **Enter results** or **Verify results**. The menu hides the screen from everyone else. Within the screen:

You can…	…if your role holds
Type and save values	Enter results
Change a value already saved but not yet approved	Enter results **and** Change a result not yet approved
Approve; call a critical value; approve the plain ones together; withdraw the approval of a result	Verify results
Amend an approved result	Verify results **and** Change a result not yet approved
Set a test's delta limit (7.7.4 Task 4 — A value far from the last one (delta check))	Manage settings
See the list of results approved today	Publish reports, or Verify results
See the **Previous** column (the patient's last result)	Read patient files. Without it the column says so instead of showing a value.
Preview the report	Print reports, receipts and labels
Share a saved view with a role	Manage settings

Most buttons you may not use stay visible but dim, and their tooltip says why (for example «You may not approve results.»). Some are not shown at all: Preview report, Amend, Withdraw approval, the fields for a delta limit, and sharing a view.

7.3 The screen at a glance

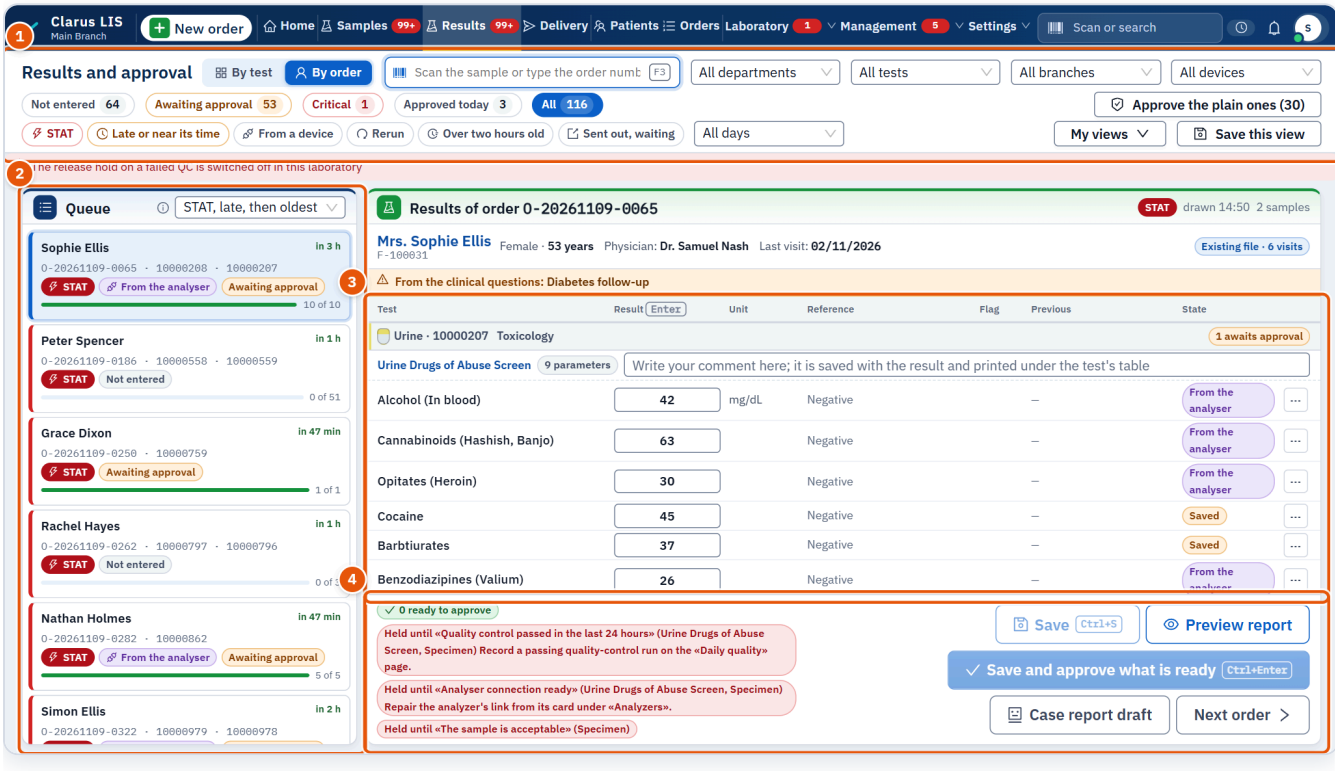


Figure 7-1: The Results and approval screen: 1 the head, 2 the queue, 3 the open order's table, 4 the foot.

The screen has four parts, from top to bottom:

1. **The head**: the box to scan a sample or type an order number; the two ways of working; the five states; the filters and your saved views.
2. **Queue**: the orders (or tests) waiting, most urgent first.
3. **The open order**: its heading, then the table of its tests, tube by tube.
4. **The foot**: what is ready, what is held and why, and the buttons to save, preview, approve and go to the next order.

7.4 The head

7.4.1 Finding an order

Control	What it does
Scan the sample or type the order number (key **F3** jumps here)	A barcode scanner types the sample's code and presses Enter. The order opens. If nothing has that number: «No sample or order has the number ...». If the order has nothing left to enter or approve: «Nothing in this order is waiting for entry or approval.»
Way of working: By order / By test	“By order” lists orders and opens one at a time. “By test” lists the tests waiting, with how many patients each has, and shows one test for all those patients — the way to work a whole run on one analyzer.
The five states (keys **1** to **5**)	**1 Not entered**, **2 Awaiting approval**, **3 Critical**, **4 Approved today**, **5 All**. Each shows how many it holds. State 4 appears only if you may see approved results.
Department	Limits the queue to one department; the open order then shows only that department's tests («Only the ... department of this order is shown»).
Days	“All days”, “Today”, “Yesterday”, “A day” (choose it) or “A period” (From / To).
Narrow the list	**STAT**; **Late or near its time**; **From a device**; **Over two hours old**; **Rerun**; **Sent out, waiting**; and by **Test**, **Branch**, **Device**, **Priority and source**.
In force	The filters now in effect as small tags. Press a tag's cross to remove it, or **Clear all**.

If the filters hide orders, the queue says so: «No results with these filters; 3 orders are hidden» with **Show them**. A line above the queue also reminds you of unapproved samples and tests from earlier days, with **Show them**.

7.4.2 Saved views

A combination of filters you use every day can be kept.

1. Set the filters.
2. Press **Save this view**, type a name (up to 40 characters) and press Enter or **Save**.
3. Choose it later from **My views**. **Delete the view «...»** removes it.

Views are kept for you alone, in this browser, and no more than eight. A name used again replaces the view that had it.

Whoever manages settings can **Share with a role**: choose the role; the view then appears for that role under **Shared with my role**, and «Stop sharing ...» withdraws it.

7.4.3 Sorting

Order sorts the queue: “STAT, late, then oldest” (the default), “Oldest first” or “Newest first”.

7.5 The queue

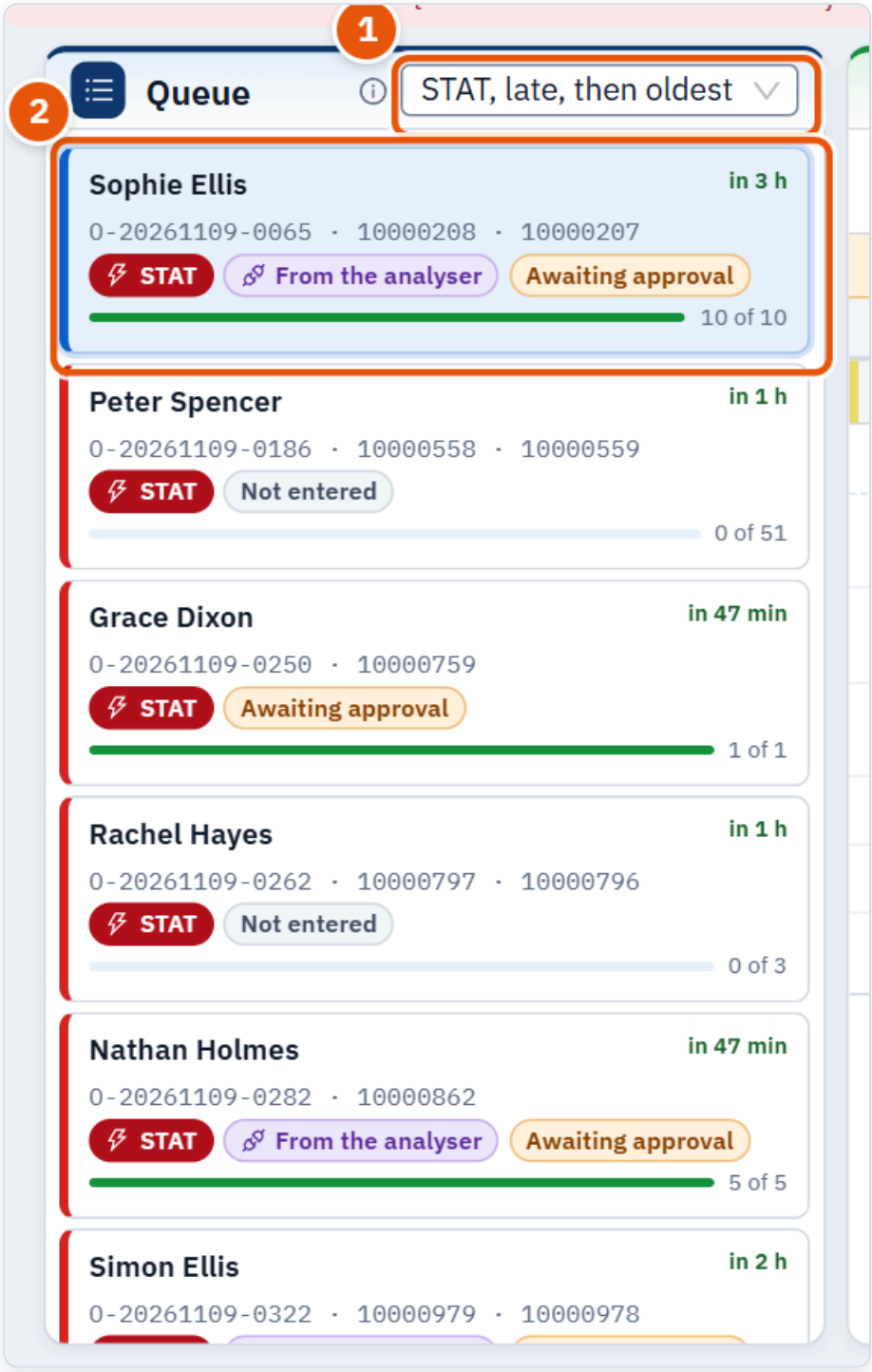


Figure 7-2: The queue: 1 how it is ordered, 2 one order, with its marks and its time.

Each line is an order: patient, order number, the tubes, and how far along it is (**Not entered**, **Incomplete**, **Awaiting approval**, or «3 of 8»). Marks beside it: **STAT**, **Critical value**, **From the analyser**, and the time:

«in 40 min», «late in 12 min», «late by 2 h». In “By test” the lines are tests with the number of patients waiting. In “Approved today” they are the orders approved today with the number of tests in each.

7.6 The open order

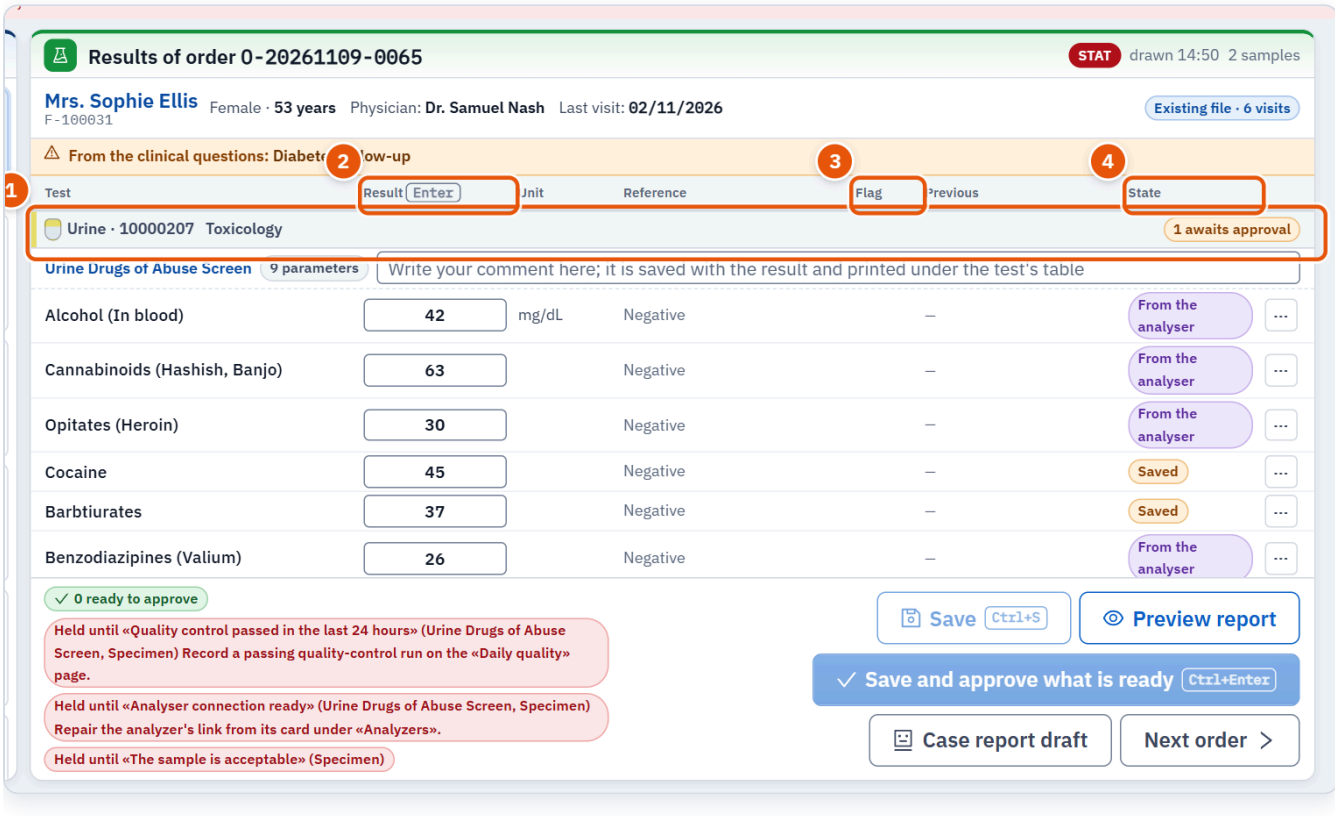


Figure 7-3: The open order: 1 a tube's group, 2 the Result column, 3 the Flag column, 4 the State column.

The heading shows the order number, the patient, age and sex, the physician, the last visit, how many samples, when each was drawn, and the answers to the clinical questions asked at reception.

The table has one row per test, grouped under its **tube**, with a stripe in the tube's colour:

Column	Meaning
Test	The test's name. A panel shows how many parameters it has and how many await approval.
Result (**Enter** moves to the next field, **Shift+Enter** to the one before)	Where you type. A pick-list test offers its choices; type the first letter to pick. Numbers are always shown left to right.
Unit	The unit.
Reference	The reference interval for this patient's age and sex.
Flag	Low, high, critical, or the flag the analyzer sent.
Previous	The patient's last approved result of the same test.

Column	Meaning
State	**Not saved** (typed but not saved), **Saved**, **From the analyser**, **Calculated**, **Critical**.

A **calculated** test (for example a ratio or an estimated filtration rate) is never typed: it is worked out from the others and shows **Calculated**. If an input is missing the row says why — for example that triglycerides above 400 mg/dL make the equation invalid, or that the patient's age is not recorded — and the value can be entered as measured directly.

If a test's result agrees with neither itself nor the others you will see **does not match its own inputs**; recheck the inputs.

Differentials. While you type a differential, the program adds the parts up and warns when they do not reach what is expected («adds up to 97, 3 less than 100%»).

7.7 Tasks, step by step

7.7.1 Task 1 — Enter the results of an order

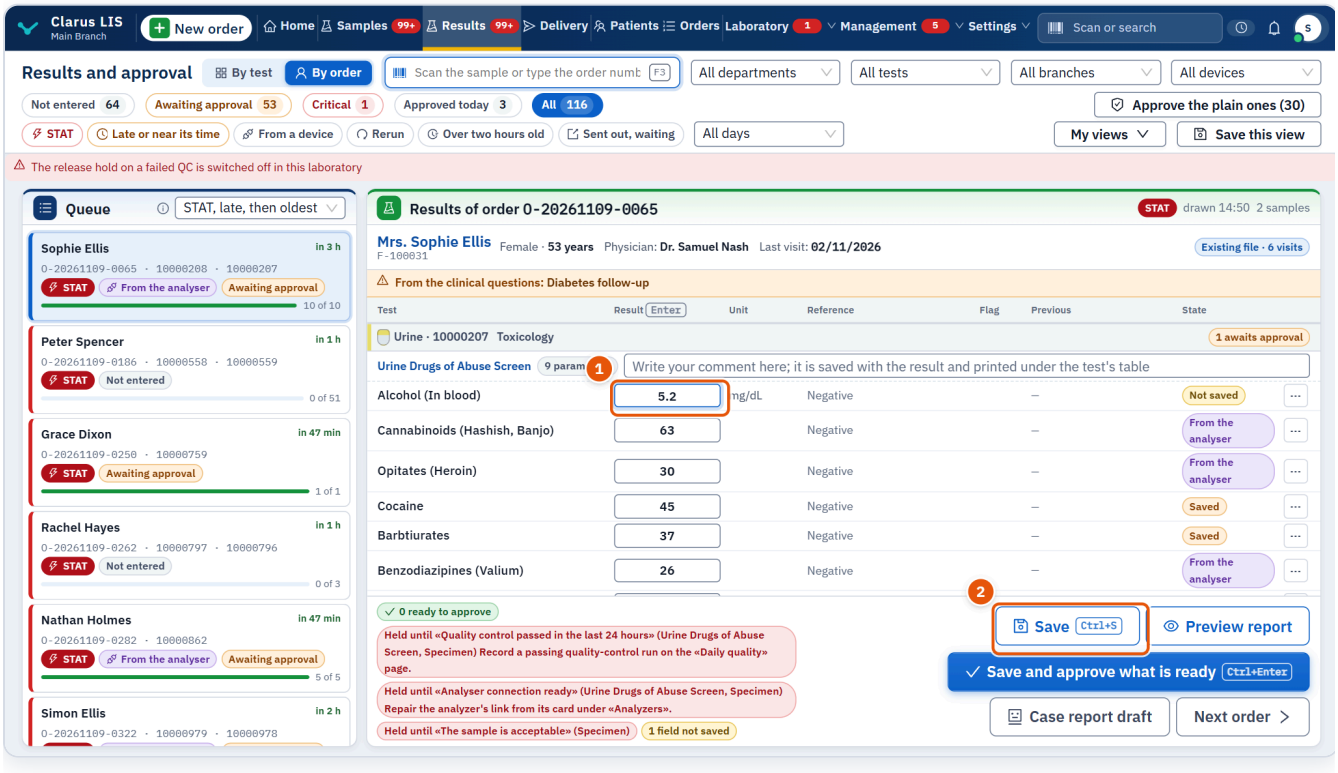


Figure 7-4: Entering a value: 1 the field with the value typed, 2 Save, which is now enabled.

1. Scan the sample, or choose the order from the queue. The cursor goes to the first empty field.
2. Type the value and press **Enter**. The cursor moves to the next field.

3. A value outside the reference interval is flagged at once. Far outside it (more than 20 times the upper limit of the interval, or less than the lower limit divided by 20) the program asks **Check this value before it is saved** — press **The value is right, save it** or **Go back and correct it**.
4. A value beyond what the analyzer can measure asks **A value beyond the measuring range**: **Yes, the value is right** or **Type it again**.
5. When all are typed, press **Save** (**Ctrl+S**). The foot says «5 results saved».

If you try to leave the order with something typed and not saved, **Results not saved** asks: **Save and go**, **Stay here**, or **Go without saving**.

7.7.2 Task 2 — A panel or a descriptive sheet

A test made of many parameters (a urinalysis, a stool exam, semen analysis, a coagulation profile, a manual differential) shows one line with **Open the sheet** or **Open the form**.

1. Press it. The sheet opens with all the parameters; **Enter** moves between them.
2. For pick-lists, **Normal for the empty (n)** fills every empty pick-list field with the normal value the catalogue names. The values are marked **Suggested** — they are **not results** until you press **Confirm the normal shown** or change them. A number is never filled.
3. Press **Save the sheet**, or **Save and go to the next**.

Colours: “Suggested” (not a value until confirmed); “Normal filled by the program: check it”; “Abnormal”; “Empty”: closed as «not performed» at approval, after asking you.

Semen analysis and the other forms check what you type against the WHO 2021 limits and warn when motility parts do not add to 100% or the time from collection to analysis exceeds 60 minutes. Images and charts from the analyzer can be attached with **Upload image**; they print in the report.

7.7.3 Task 3 — A critical value

A critical value is held until it is called to the physician and read back.

1. The row shows **Critical** and a bar: «Critical value: called to the physician, who reads it back, before approval.»
2. If your laboratory has chosen «Type a critical value twice» (off unless it is switched on), the program asks you to **type the value a second time** before saving; if the two differ it asks again.
3. Press **Record the call** on the row. The window **Critical value call** opens with three steps: (1) **Who takes it** — press **I take it**; (2) **Call and read-back** — **Called to** (the physician), **The value as read back**, **Note**, then press **Record the call** again. The read-back is compared with the result; if it differs, the call is refused and stays open; (3) **Approval** — when recorded, «The test can be approved now.» Press **Approve the test**.
4. If you cannot reach anyone, **Escalate**: choose **To whom**, give the **Reason** and press **Record the escalation**.

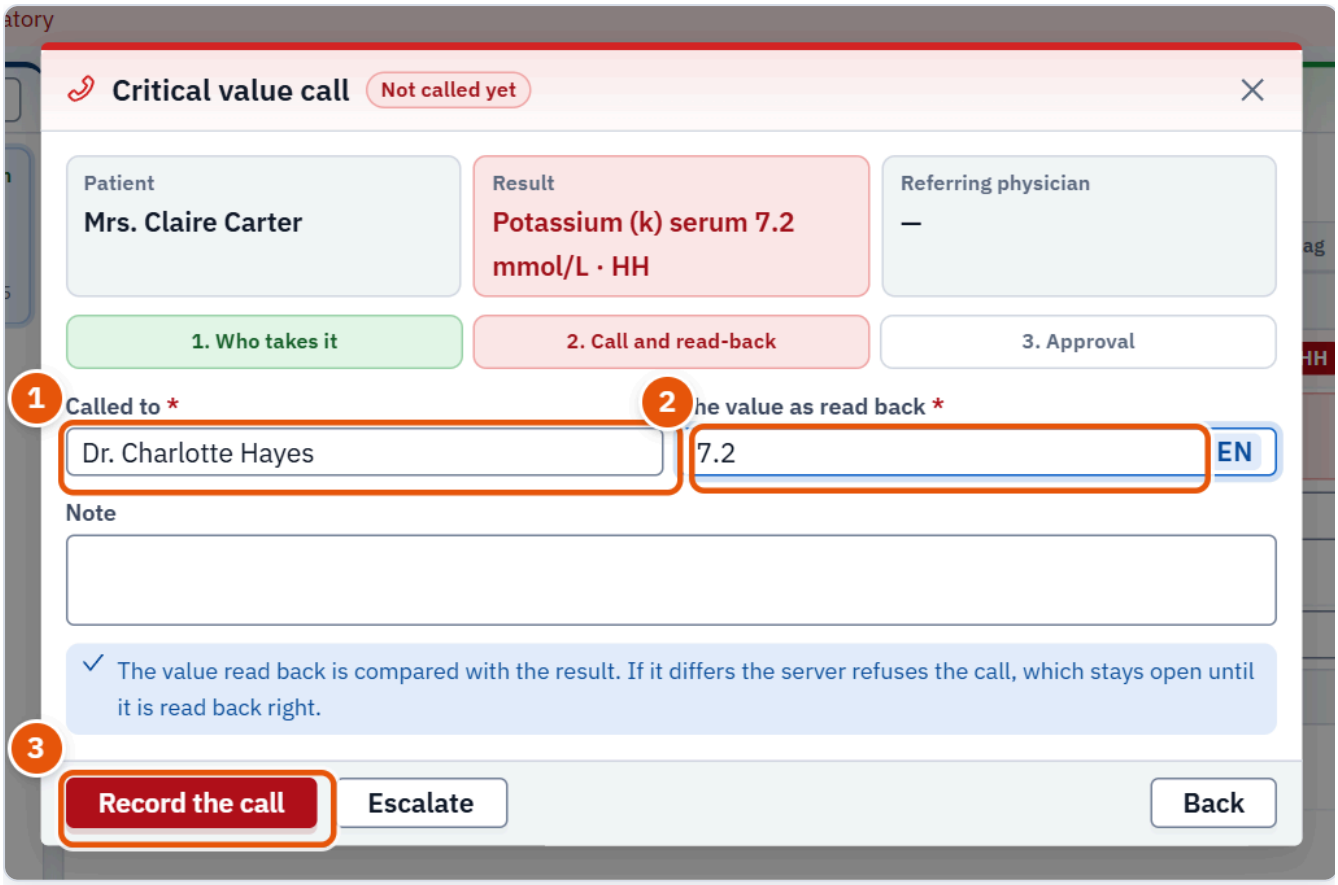


Figure 7-5: Recording the call: 1 who the value was called to, 2 the value as read back, 3 **Record the call**.

The **Record the call** button on the row is dim for anyone who may not approve results.

7.7.4 Task 4 — A value far from the last one (delta check)

If a test has a delta limit and the new value moved more than the limit from the patient's last approved result within the look-back days, the row shows **Past the delta limit** with the sentence («Moved by 2.1 from 4.0; the limit is ±1.5.»). Approval holds it until you review the value.

To set the limit open the test's **Tools** (see 7.7.9 Task 9 — Test tools); the fields appear only to whoever manages settings: **Delta limit against the previous result** — “Largest change (%)”, “Largest difference (unit)”, “Look-back (days)”. Leave both limits empty to switch it off (the look-back days alone do not set a limit), then **Save the limit**.

7.7.5 Task 5 — The analyzer's readings and rerunning

When the analyzer sent more than one reading, the row shows **Rerun**. If two readings are far apart it shows **Two readings far apart: choose one**, and approval is held until you choose.

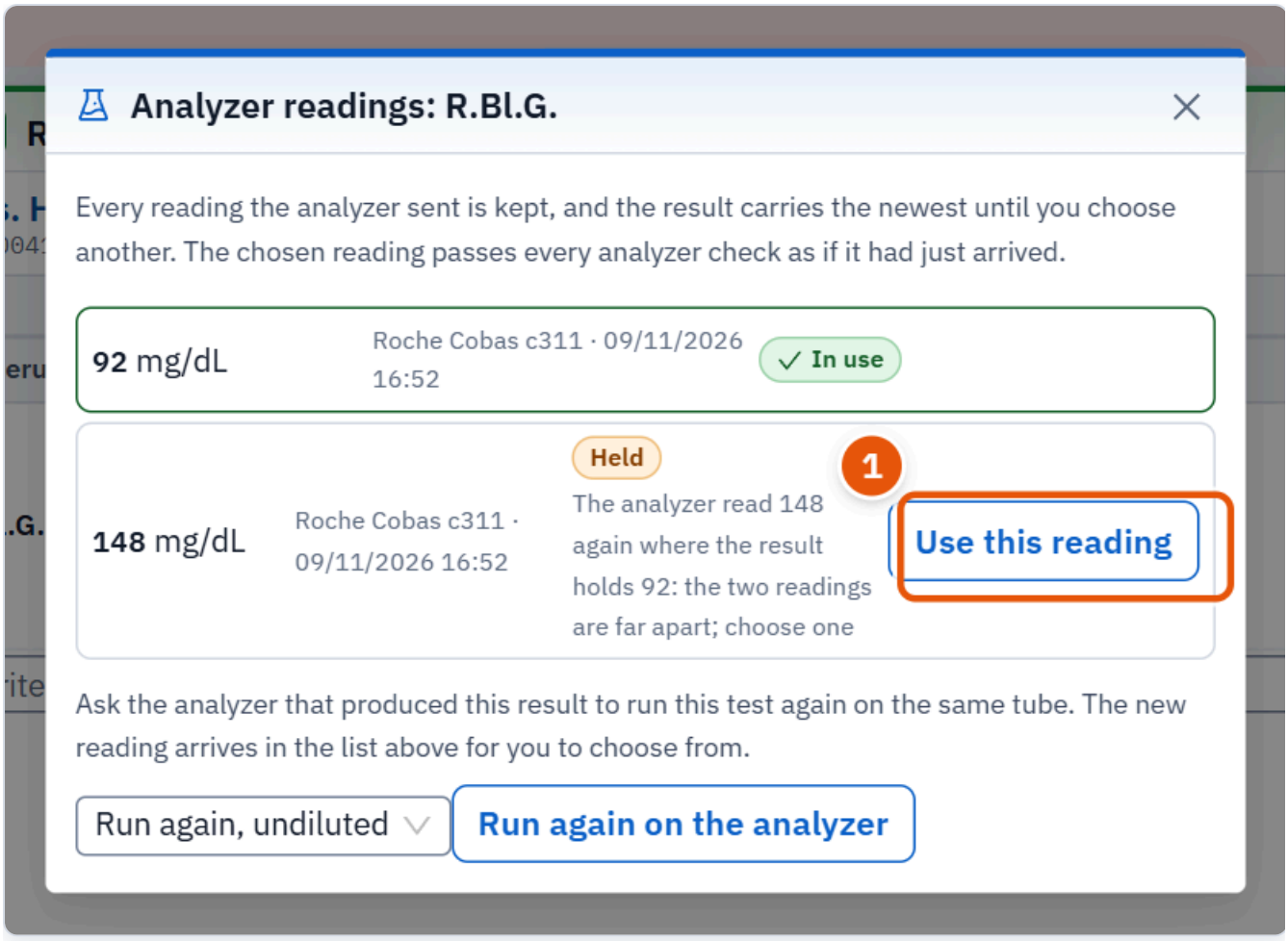


Figure 7-6: Two readings far apart: the first stays in use, the second is **Held** until you choose it with **Use this reading**.

The held reading says why it is held, in the program's own words, and nothing changes in the result until you press **Use this reading** on the reading you trust.

1. Press the mark. **Analyzer readings: [test]** lists every reading, with the dilution, the run number, the operator, the instrument and the reagent lot.
2. The newest is **In use**. Press **Use this reading** on another to choose it; it passes all the analyzer's checks as if it had just arrived.
3. To ask the analyzer to repeat the test on the same tube press **Run again on the analyzer**. Choose the dilution — **Run again, undiluted**, **Diluted ×n**, **Less sample (Dec)**, **More sample (Inc)** — The request goes to the analyzer's station and the new reading appears in the list.

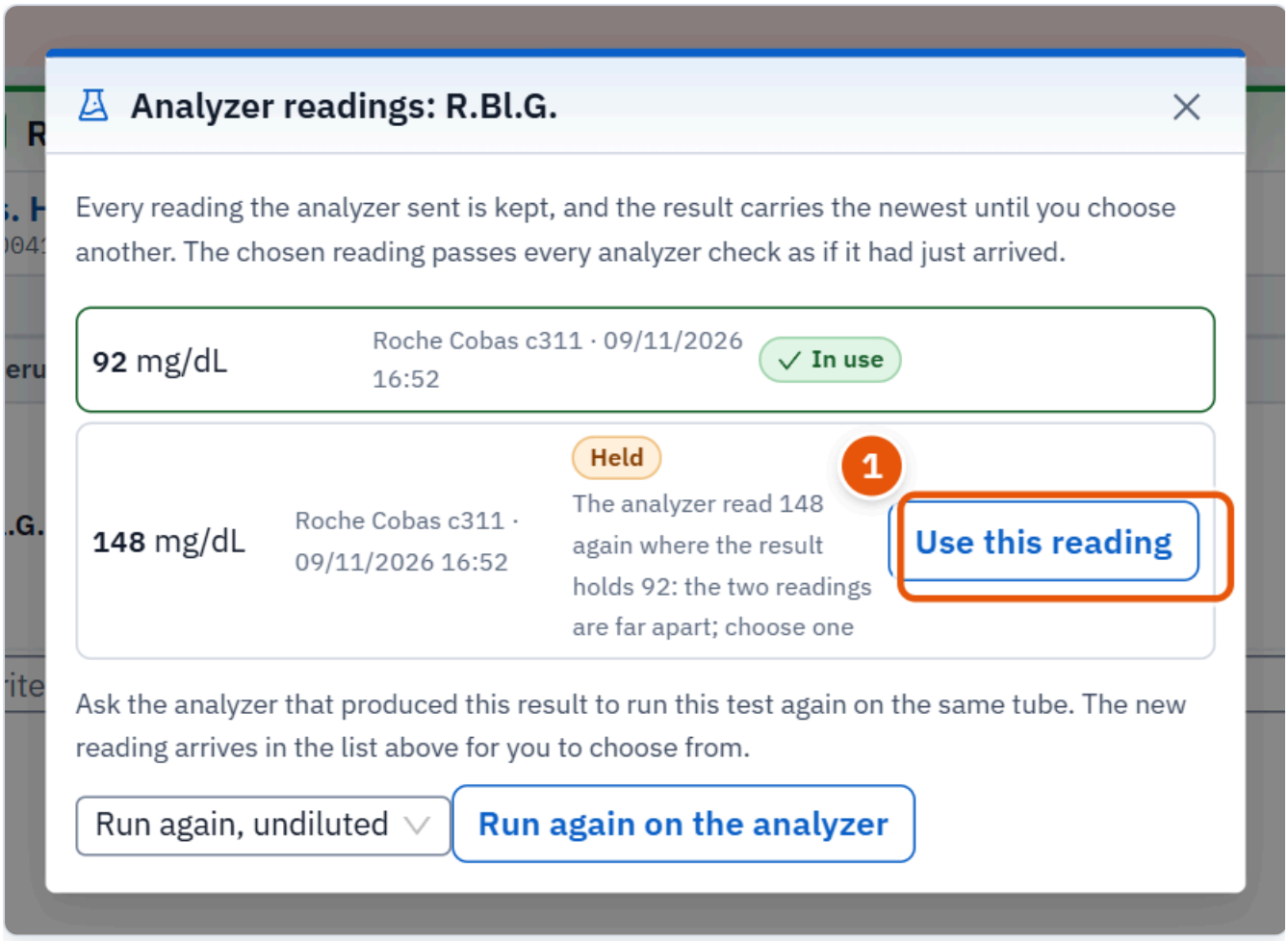


Figure 7-7: The analyzer's readings of one result: 1 **Use this reading**.

Flags the analyzer sent show beside the reading with what each means to the laboratory (information, interpretation, morphology, specimen, serum indices — haemolysis, icterus, lipaemia —, error, outside the measuring range). A serum-index flag can stop a result releasing itself.

7.7.6 Task 6 — Approve

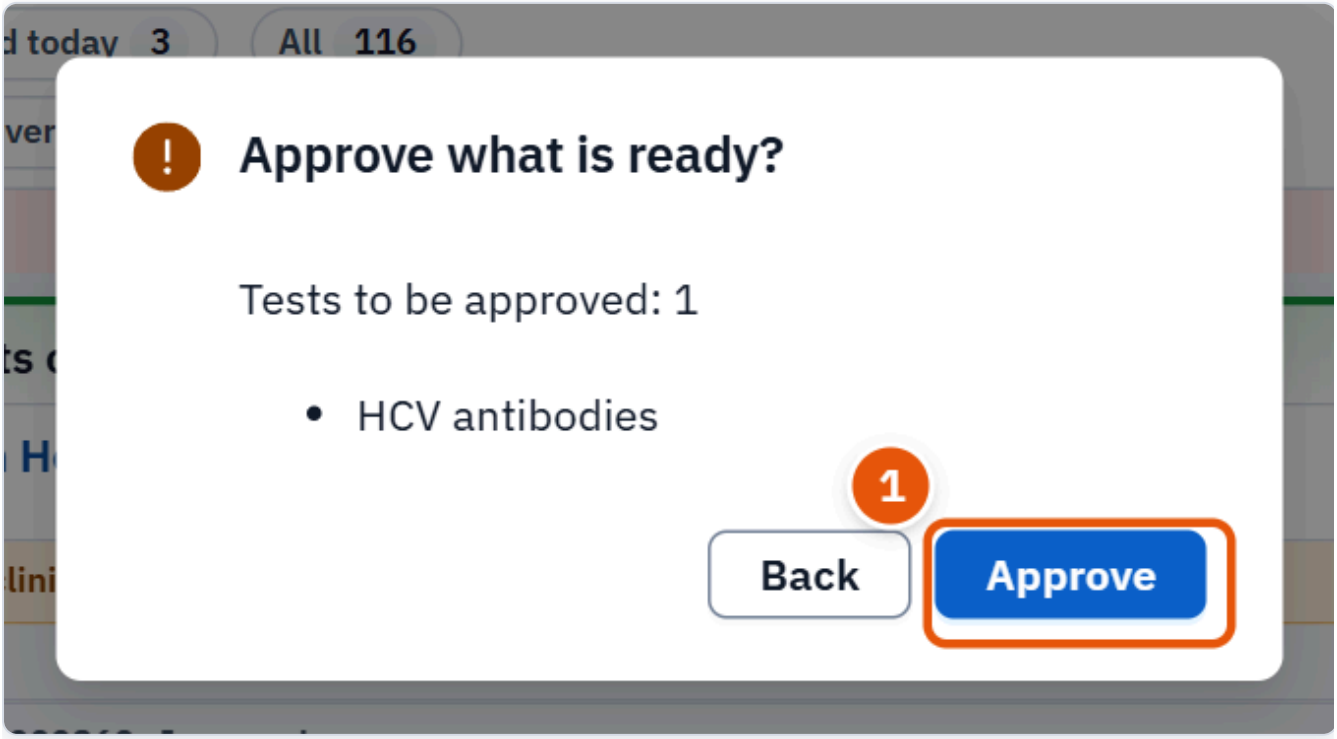


Figure 7-8: Approving what is ready: 1 Approve.

At the foot, a green mark says how many tests are ready; orange marks list what needs review; red marks list what is held.

1. Press **Save and approve what is ready** (**Ctrl+Enter**). The program saves what you typed first.
2. **Approve what is ready?** shows «Tests to be approved: 5». Press **Approve**.
3. If some tests have empty fields, **Empty fields** says «2 empty fields will be closed as "not performed"». **Close them and approve**, or **Do not approve this test**.
4. The result: «5 tests approved». If the server refused any, it says which and why.
5. Press **Next order**.

Approve the plain ones (n) (in “By order”, for those who may approve) approves at once every test in the list that is complete and not critical, and has no value outside the interval, unless your laboratory has chosen to let non-critical high and low values in (then your name is recorded with each such value). The window **The tests to approve** lists them; **Approve n tests** confirms. Tests that cannot be approved this way are listed with the reason, to be approved from their own cards. The server checks each test again.

7.7.7 Task 7 — When approval is held

A red mark in the foot names what holds a test and where to fix it.

Held until…	Where to fix it
A quality-control run passed in the last 24 hours	Record one on **Daily QC** (the screen's own messages call the page «Daily quality»)
A quality-control violation is resolved	**Daily QC**
The analyzer's connection is repaired	The analyzer's card in **Devices and printers**
The analyzer's calibration is recorded	Its card in **Devices and printers**
The analyzer's alert is reviewed	**Held messages** on its card
Two far-apart readings are chosen between	The mark beside the result
The critical value is called	The critical-value window
Patient consent / timed protocol / request form is complete	The mark names the check only; the screen does not say where to complete it

Some checks cannot be overridden: the mark then says **Held by a check that cannot be overridden**.

7.7.8 Task 8 — Preview the report

Preview report shows the report as it will print. While any result on it is unapproved it carries «DRAFT — NOT APPROVED». If you have typed values not yet saved, the preview shows them as a draft that is never stored.

7.7.9 Task 9 — Test tools

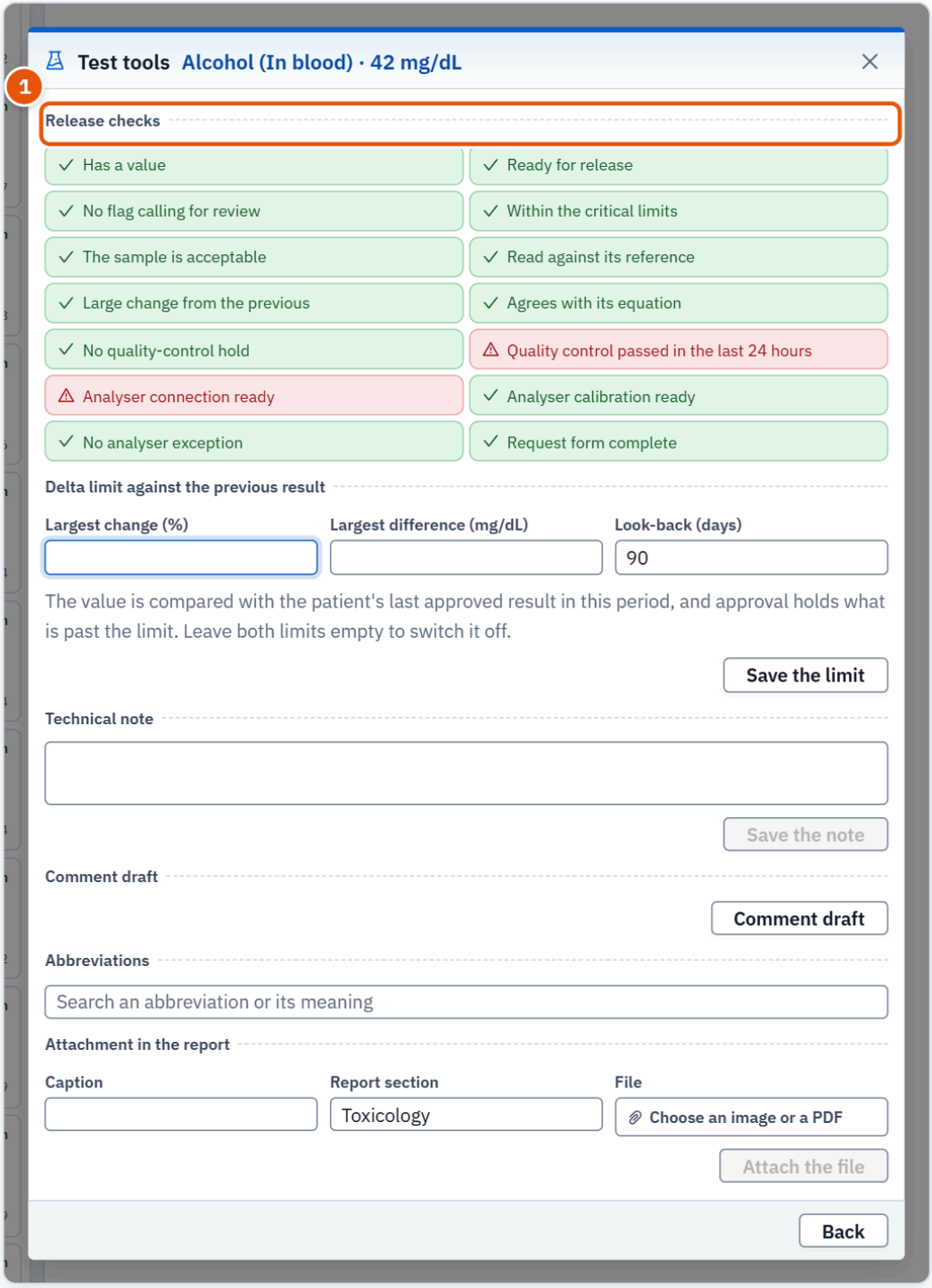


Figure 7-9: A test's tools window; 1 the release checks the result must pass.

Tools of [test] (beside each test) opens:

- **Release checks** — the list of checks the result passes before approval, each ticked or not.
- **Technical note** — type a note and **Save the note**. **RealLab's ready comments** offers comments to put in the note; only **Save the note** saves it.
- **Abbreviations** — search an abbreviation or its meaning.

- **Attachment in the report** — **Caption**, **Report section**, **Choose an image or a PDF**, **Attach the file**.
- **Delta limit** (7.7.4 Task 4 — A value far from the last one (delta check)).

7.7.10 Task 10 — Amend or withdraw an approved result

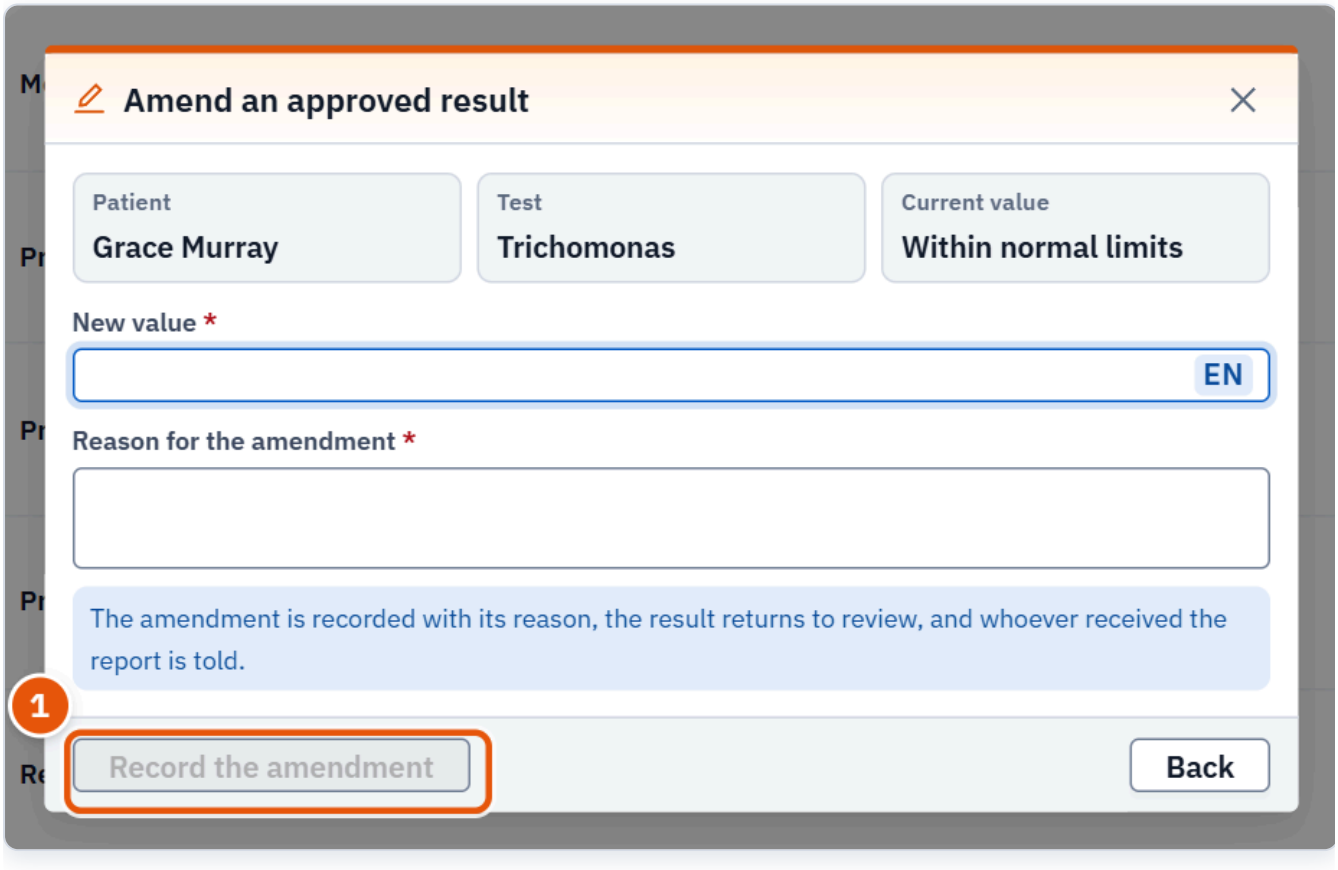


Figure 7-10: Amending an approved result: 1 Record the amendment.

1. Press state **4 Approved today**, choose the order. Each result shows who approved it and when.
2. **Amend**: type the **New value** and the **Reason for the amendment**; **Record the amendment**. The amendment is recorded with its reason, the result returns to review, and whoever received the report is told. If no report had been issued yet, the value is simply saved.
3. **Withdraw approval**: give the **Reason for withdrawing the approval**; **Withdraw the approval**. The result keeps its value and returns to the queue to be changed and approved again; its report is withdrawn, and once approved again it prints headed **Amended Report**.

Withdrawing needs “Verify results”; amending needs that and “Change a result not yet approved”. Without them the button is not shown. The old value and reason stay in the record.

7.8 Keys

Key	Does
F3	Go to the scan box
1 – 5	Choose the state (never while typing in a field)
Enter / **Shift+Enter**	Next / previous field
Ctrl+S	Save
Ctrl+Enter	Save and approve what is ready

7.9 Messages and what to do

The screen says	Meaning	What to do
No sample or order has the number …	The code was mistyped, or belongs to another branch	Scan again; check the branch filter
Not everything typed was saved	The server refused some values	Read the refusal beside each; correct and save
The approval failed; nothing was approved	A connection fault	Check the connection and try again
The server refused to approve some tests	A check failed on the server	See the red marks in the foot
The value … is above the most the analyzer measures	Beyond the measuring range	Confirm, or dilute and rerun
The previous one was zero, so no percent can be taken	Delta by percent impossible	Review the value by eye
needs permission to read patient files	Your role cannot see **Previous**	Ask the administrator if you need it

7.10 See also

Samples (what arrives here), Delivery (what leaves after approval), Daily QC (the quality hold), Devices and printers (analyzer faults), Quality (corrective actions), Settings and users (the permissions above).

Chapter 8

Delivery

Menu: **Delivery**. Address: `/delivery`.

8.1 What this screen is for

This is where an approved report leaves the laboratory. The desk finds the order, sees what is approved and what money is left, then hands the report over on paper, as a PDF file, on WhatsApp, or as a link the patient opens. Every hand-over is written in a log: who received it, how, which tests, and what was owed at the time.

The screen has three pages: the orders **Ready to hand over**; the **Versions and amendments**, where report versions are signed and amendments after approval are followed; and the **Messages sent**, where the messages sent to patients are watched and dispatched.

8.2 Who sees it

You can...	...if your role holds
Open the screen and the page **Ready to hand over**; hand over, print, publish or stop a link	**Publish reports**
Open the page **Versions and amendments** and sign versions	**Publish reports**
See the page **Messages sent**, and use its two buttons	**Publish the portal and communications**
Collect the remainder from this screen	**Take payments at the desk** or **Manage billing**
Hand over when the laboratory's setting requires full payment	**Manage billing**

A page you may not use is not shown at all. A hand-over button you may not use under the full-payment setting stays visible but dim, and its tooltip reads «**The laboratory's setting lets only a billing manager hand over a report with money left**».

8.3 The screen at a glance

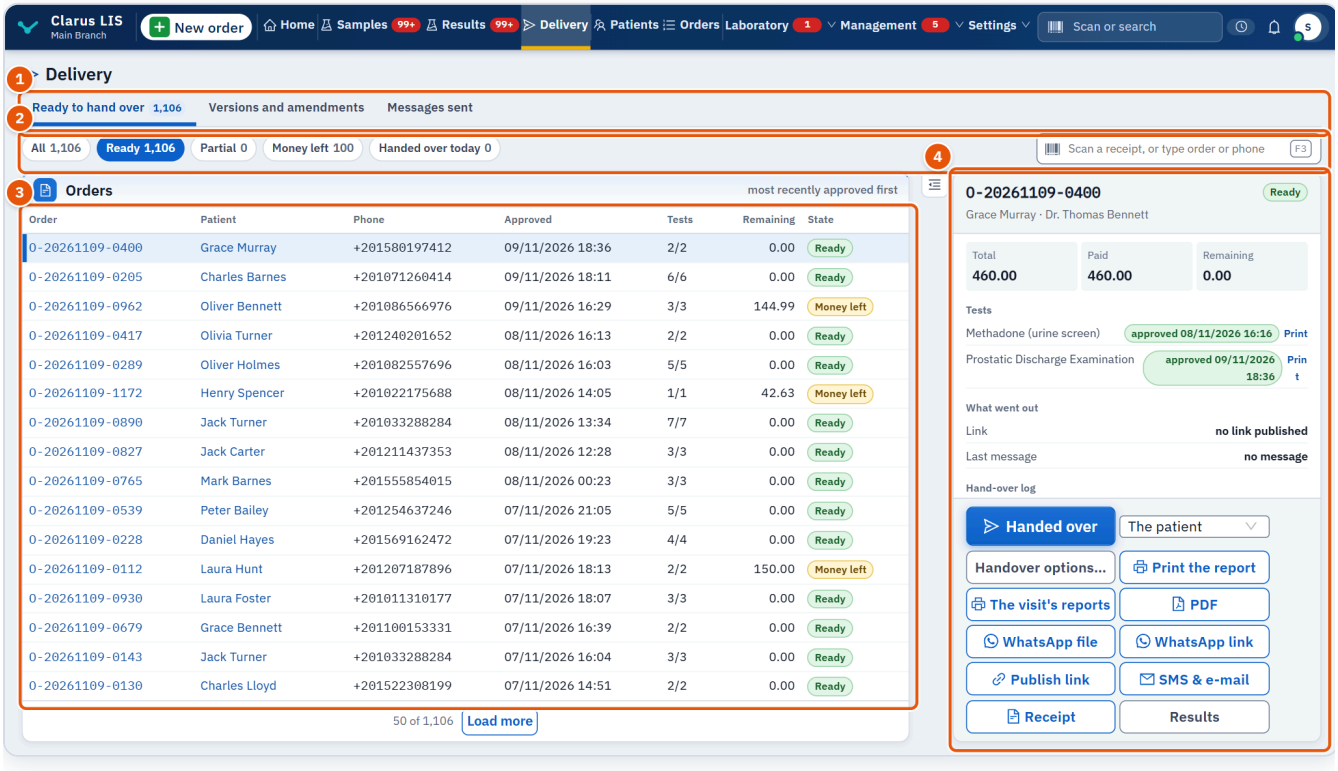


Figure 8-1: The Delivery screen: 1 the three pages, 2 the order-state filters and the search box, 3 the list of orders, 4 the chosen order with its buttons, tests, what went out and the hand-over log.

1. **The pages**: **Ready to hand over**, **Versions and amendments**, **Messages sent**.
2. **Filters and search**: the state of the order, and a box that takes the receipt scanned, an order number or a phone number.
3. **The list Orders**: the most recently approved first.
4. **The chosen order**: its buttons, its figures, its tests, what went out, and the hand-over log.

8.4 The page «Ready to hand over»

8.4.1 Filters and search

Control	What it does
Order state	Chips with a count each: **All**, **Ready**, **Partial**, **Money left**, **Handed over today**. Choosing one clears the chosen order.
Search box	**Scan a receipt, or type order or phone**. Typing also clears the chosen order. If nothing matches the screen says «**No order matches «...»**.».

8.4.2 The list Orders

Column	Meaning
Order	The order code.
Patient	The patient.
Phone	The patient's phone.
Approved	When the result was approved.
Tests	Approved tests over the order's tests, for example 3/5.
Remaining	The money left.
State	A chip: **Ready**, **Partial**, **Money left** or **Held**.

Choose a row to open the order beside the list. When no row is chosen the screen says «**Choose an order from the list.**». An empty list says why, according to the filter (for example «**No order with an approved result waits to be handed over.**»).

8.4.3 The chosen order

At its head: the order code, the patient and physician, and a chip: **Held** when a release hold is on the order, else the money left, else the order's state. Then the buttons:

Button	What it does
Collect the remainder, then hand over	Shown when money is left, the order has an invoice, the order is not held and you may collect. Opens the payment window; once the order is paid in full the hand-over follows by itself.
Handed over	Hands over, on paper at the desk, every approved test not yet handed over, to the receiver chosen beside it. Dim until a receiver is written (the tooltip says «**Write the receiver's name, and where the doctor works when he receives it.**»), and dim under the full-payment setting if you do not manage billing.
Receiver choice	Beside the button: **The patient**, **A relative** (then **Name of who receives it**) or **The treating doctor** (then **Doctor's name** and **Where the doctor works**).
Handover options	Opens the hand-over window to hand over part of the order, or by another way.
Print the report	Opens the print window (8.7.3 Task 3 — Print the report).
The visit's reports	Prints the patient's reports of the visit.
PDF	Downloads the report as a PDF file. If it fails: «**The report's PDF could not be downloaded.**».

Button	What it does
WhatsApp file / **WhatsApp link**	Prepares a WhatsApp message with the file, or with the result link.
Publish link	Publishes the result link; for an order whose link is already live the same button publishes it again.
SMS & e-mail	Queues the link to be sent by SMS and e-mail.
Stop link	Appears only when a link is live or a message was sent. Stops the link (8.7.7 Task 7 — Stop a patient's result link).
Receipt	Prints the receipt.
Results	Opens the order in the Results screen, for whoever may enter or approve results.

While the order is held, the hand-over buttons and the collect button are not shown; the print, PDF, WhatsApp, publish and send buttons are dim with the tooltip «**The order is held: it is not published until the hold is lifted**», and a note explains: «**This order's release is held (...): it is not published or sent until the person who approves results lifts it.**».

Under the buttons:

Part	What it shows
Figures	**Total**, **Paid**, **Remaining**.
Tests	Each test with a green chip «**approved ...**» and a **Print** button, or **In progress** if it is not approved yet.
What went out	**Link** (live or none), **Last message** (channel, state and time of the last one, or «**no message**»), and **Handed over** when it was handed over.
Hand-over log	One entry per hand-over: when, who received it, the way (**Paper at the desk**, **PDF file**, **WhatsApp** or **E-mail**), who handed it, the tests, the money left then and the reason if one was written. Before any hand-over: «**Nothing of this order has been handed over yet.**».

8.4.4 The hand-over window

Opened by **Handover options**.

Element	What it does
Patient and **Remaining**	The patient and the money left.
Tests handed over	A tick for each approved test; those given before carry **Handed over before**. At least one must be ticked: «**Tick at least one test.**».
Received by	The same receiver choice as on the screen.

Element	What it does
How it left	**Paper at the desk**, **PDF file**, **WhatsApp** or **E-mail**.
Reason for handing over before payment	Appears, and is required, when money is left, the laboratory's setting requires full payment and you manage billing.
Record the hand-over	Records the hand-over.
Back	Closes the window.
Collect the remainder	Shown in the refusal (below) when you may collect.

8.4.5 The print window

Element	What it does
The whole order / **One test**	Print the whole order or one test; for one test choose **The test to print**.
Each family on a page of its own	Puts each family of tests on a page of its own.
Report language	The language of the report; **The laboratory's report language** is the laboratory's own.
The report as it will print	The report as it will print, with «**Preparing the preview**» while it loads.
Print / **Back**	Print, or close without printing.

8.5 The page «Versions and amendments»

Two tables, **Report versions** and **Amendments after approval**, each with its own filter chips, newest first.

Element	What it does
Version state	**All versions**, **Unsigned**, **Superseded**, each with a count.
Version table	A tick (only on unsigned versions), **Version**, **Order**, **Patient**, **No.**, **Issued**, **State** (signed with the signer's name, unsigned, or superseded).
Amendments	Chips: all amendments, or **Awaiting re-approval**.
Amendment table	**Order**, **Test**, **From**, **To**, **Reason**, **State**.
Sign the chosen (...)	Signs the ticked versions; dim until one is ticked.

8.6 The page «Messages sent»

Element	What it does
Message state	**All**, **Queued**, **Sent**, **Failed**, each with a count.
Period	**Today**, **Week** or **Month**.
Published links	A note with the number of links now published.
Table **Messages**	**Time**, **Order**, **Patient**, **Channel**, **Message**, **Attempts**, **State**. A failed message shows why it failed.
Retry the failed	Tries the failed ones again; dim when none failed.
Send the queue now	Sends at once what waits in the queue.

The page and its two buttons appear only for a role holding **Publish the portal and communications**.

8.7 Tasks, step by step

8.7.1 Task 1 — Hand over a report with nothing left to pay

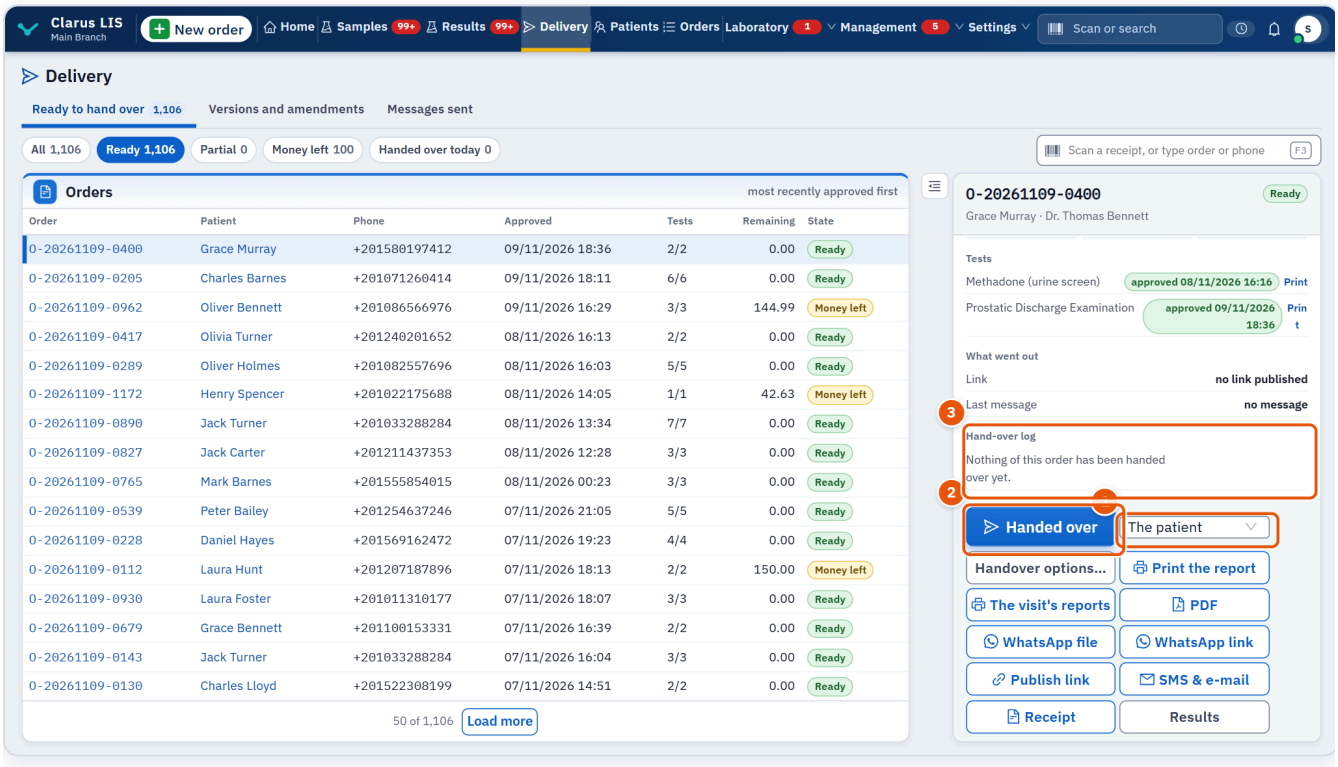


Figure 8-2: Handing over: 1 the receiver choice, 2 Handed over, 3 the hand-over log.

1. On **Ready to hand over**, find the order: scan the receipt or type the order number or phone. The state chips narrow the list.
2. Choose the row.
3. Choose who receives: **The patient**, **A relative** (write the name) or **The treating doctor** (write the name and where he works).
4. Press **Handed over**. The program confirms the hand-over and the order gets an entry in **Hand-over log**.

To hand over only some tests, or by another way, press **Handover options**, tick the tests, choose **How it left** and press **Record the hand-over**.

8.7.2 Task 2 — Hand over a report with money left

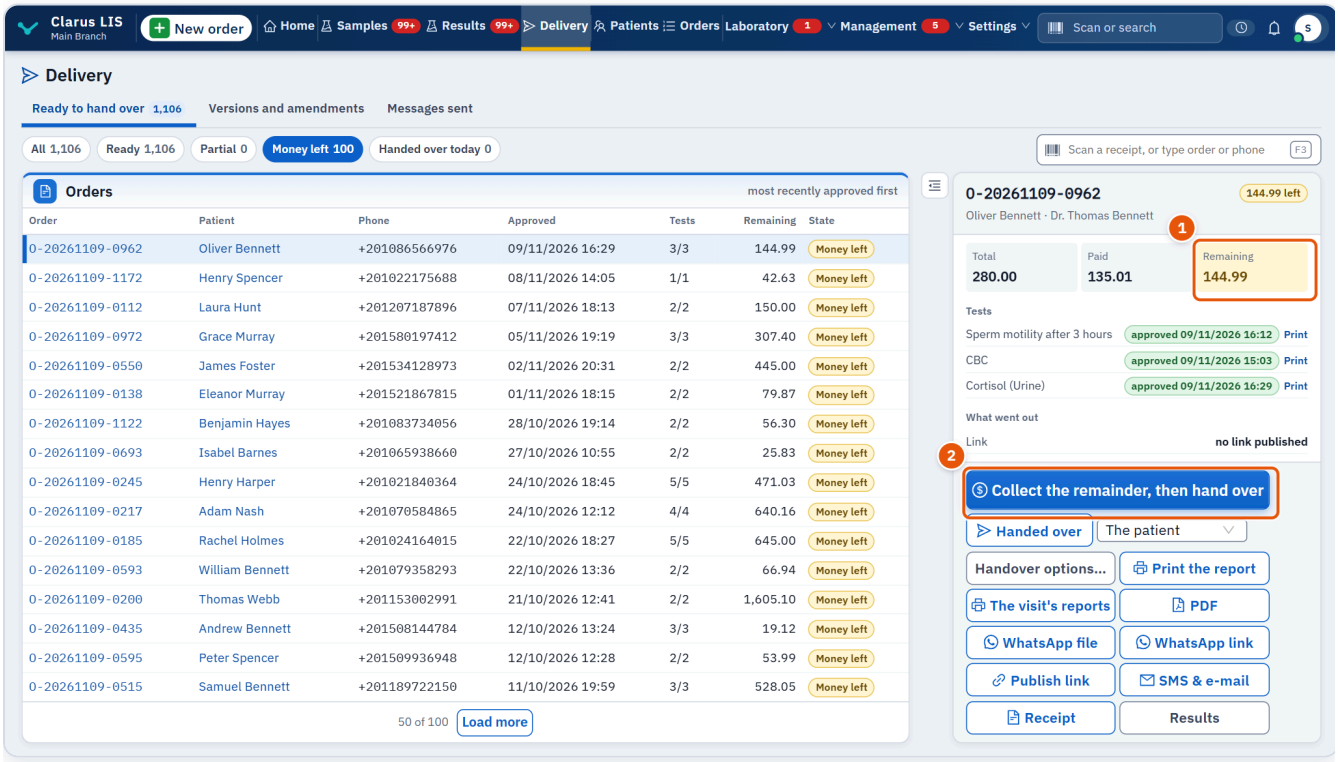


Figure 8-3: An order with money left: 1 the Remaining figure, 2 Collect the remainder, then hand over.

What the screen does depends on the laboratory's setting.

1. Choose the order. The chip says how much is left.
2. If you may collect, press **Collect the remainder, then hand over**, complete the payment in the window, and the hand-over follows once nothing is left.
3. If the setting requires full payment and you do not manage billing, **Handed over** and **Handover options** are dim («**The laboratory's setting lets only a billing manager hand over a report with money left**»). The hand-over window, if opened, shows the refusal and offers **Collect the remainder**.
4. If the setting requires it and you manage billing, **Handed over** opens the hand-over window: write the **Reason for handing over before payment** and press **Record the hand-over**. The screen then says the

report is handed over and the debt stays in the patient's file, with the amount.

8.7.3 Task 3 — Print the report

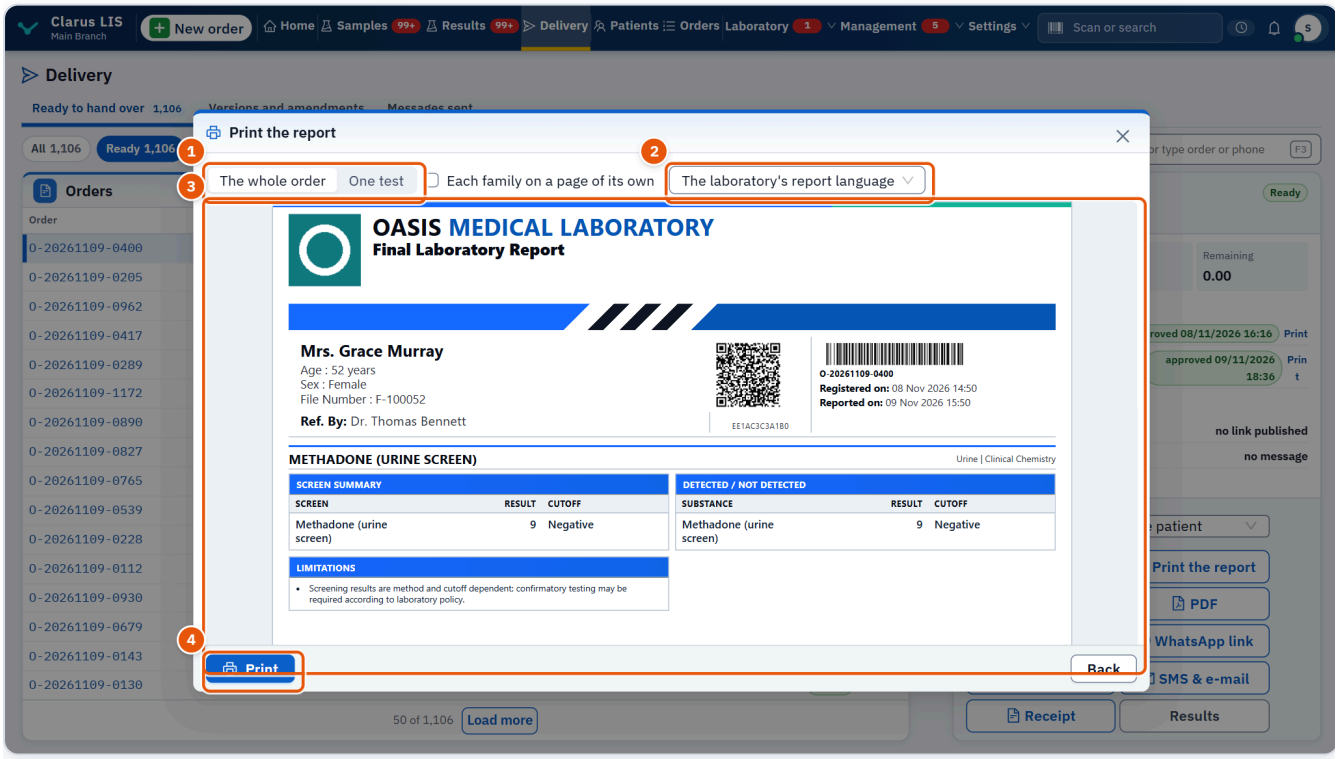


Figure 8-4: The print window: 1 the whole order or one test, 2 the report language, 3 the preview, 4 Print.

1. Choose the order. If it is held, the print buttons are dim until the hold is lifted.
2. Press **Print the report**, or **Print** beside one test.
3. Choose **The whole order** or **One test** and, for one test, the test.
4. Choose the **Report language** and, if wanted, **Each family on a page of its own**.
5. Check the preview and press **Print**.

To print every report of the patient's visit press **The visit's reports**; for the receipt, **Receipt**.

8.7.4 Task 4 — Send the report as a link, PDF or WhatsApp

1. Choose the order (it must not be held).
2. For a link: press **Publish link**; the screen says the report is published and, when it has one, gives the address. Press **SMS & e-mail** to queue it for the patient by SMS and e-mail; the screen names the channels used. If the file has neither phone nor e-mail it says nothing was sent.
3. For a file: press **PDF**.
4. For WhatsApp: press **WhatsApp file** or **WhatsApp link**. Depending on the laboratory's connection, the program either sends the message itself, or opens the chat with the message ready and asks you to press Send in WhatsApp (and, for a file, to drag the saved PDF into the chat).

8.7.5 Task 5 — Sign report versions

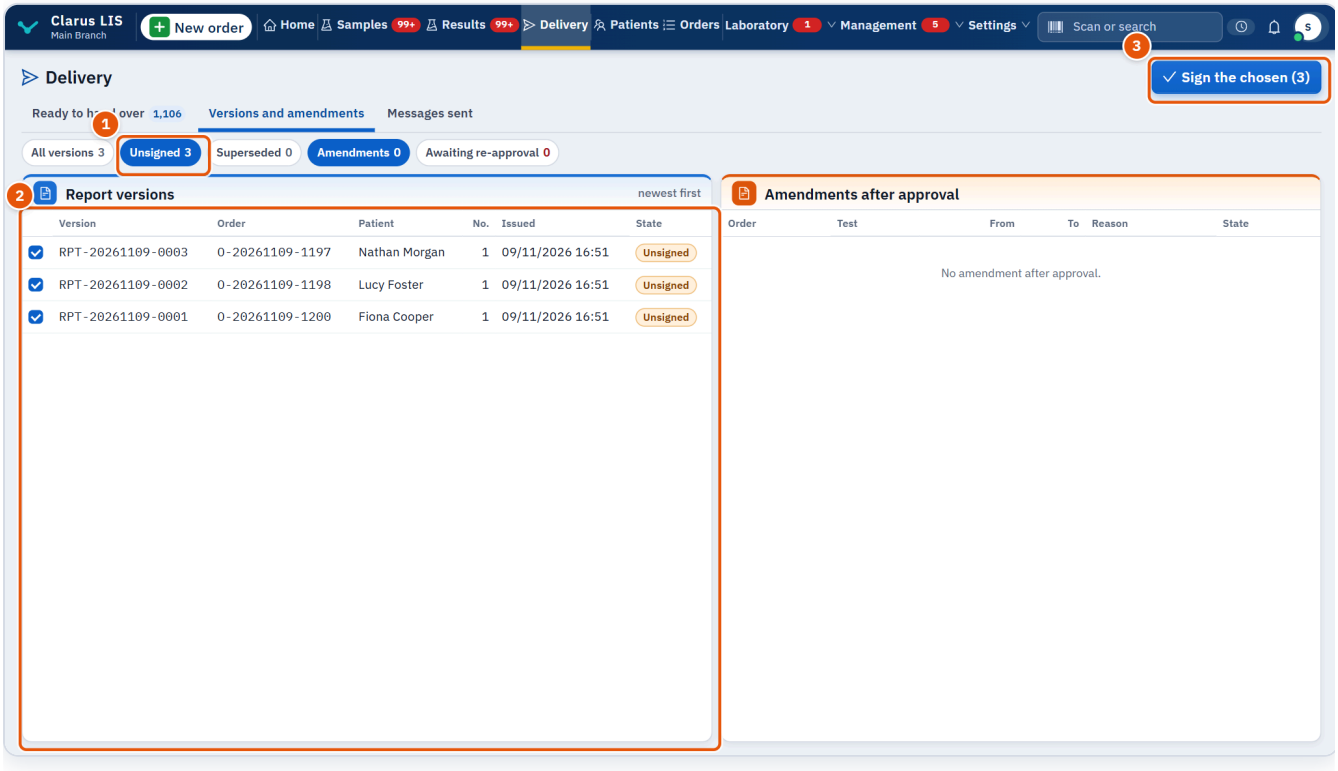


Figure 8-5: Signing: 1 the unsigned filter, 2 the ticked versions, 3 Sign the chosen.

1. Open **Versions and amendments**.
2. Choose **Unsigned** to see what waits.
3. Tick each version to sign.
4. Press **Sign the chosen (...)**. The screen says how many were signed.

8.7.6 Task 6 — Follow amendments after approval

1. On **Versions and amendments**, look at **Amendments after approval**.
2. Choose **Awaiting re-approval** to see those not yet approved again. Each row shows the old and new value and the reason.

Amendments are made on the Results screen; this page only follows them.

8.7.7 Task 7 — Stop a patient's result link

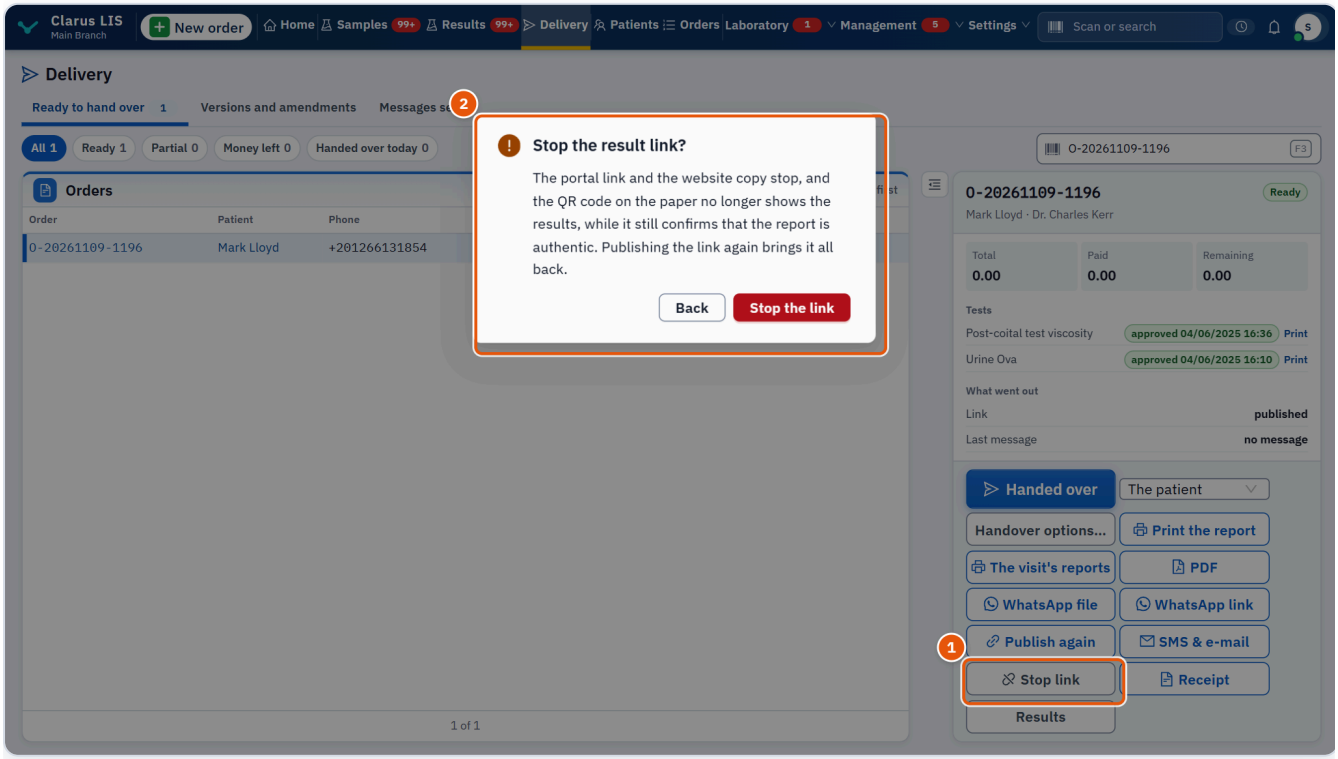


Figure 8-6: Stopping the link: 1 Stop link, 2 the confirmation window.

1. Choose the order. **Stop link** appears when its link is live or a message was sent.
2. Press it. The window **Stop the result link?** explains: the portal link and the website copy stop, and the QR code on the paper stops showing results while still confirming that the report is authentic.
3. Press **Stop the link** (or **Back**). The screen says the link is stopped.
4. To restore it, press **Publish link** again.

8.7.8 Task 8 — Dispatch messages

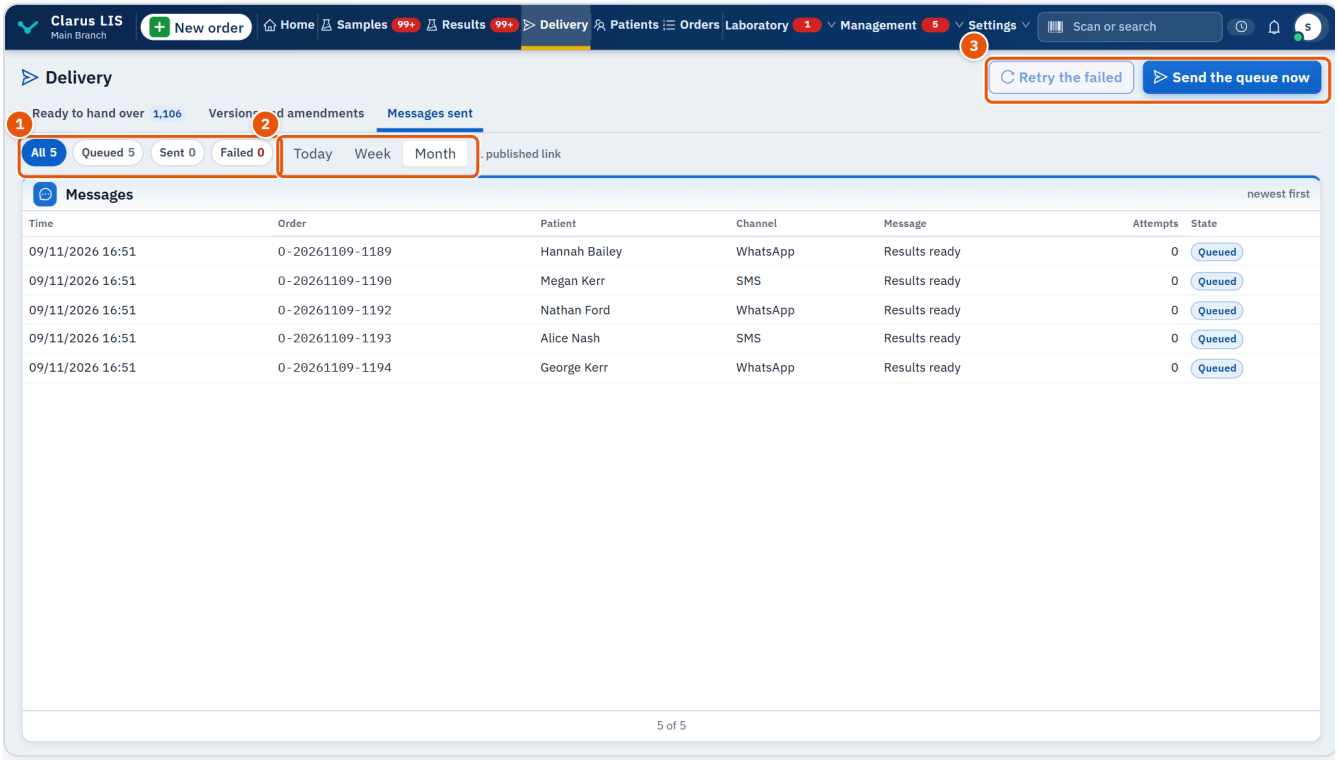


Figure 8-7: The Messages page: 1 the state chips, 2 the period, 3 the two buttons.

1. Open **Messages sent**.
2. Choose the state and the period.
3. Press **Send the queue now** to send now what waits in the queue.
4. Press **Retry the failed** to try the failed ones again. Read the reason shown on a failed message before you retry.

8.8 Messages and what to do

The screen says	Meaning	What to do
The orders ready to hand over could not be read.	The list could not be read	Press retry; check the connection
This order's release is held (...): it is not published or sent until the person who approves results lifts it.	A release hold is on the order	Wait until the hold is lifted
The laboratory's setting lets only a billing manager hand over a report with money left	The setting reserves this to billing managers	Collect the remainder, or ask a billing manager
Write the receiver's name, and where the doctor works when he receives it.	No receiver is written	Write the name

The screen says	Meaning	What to do
The hand-over could not be recorded.	The hand-over was not recorded	Try again
This server does not record hand-overs yet; nothing was recorded.	This server cannot record hand-overs	Nothing was recorded; contact support
Nothing was sent: the patient's file has no phone number and no e-mail.	The file has no phone and no e-mail	Complete the patient's file
This patient's phone number needs confirming: it may now belong to someone else. Open the patient's file, confirm or correct the number, and send again.	The number may belong to someone else now	Confirm it in the patient's file, then send
The patient has no WhatsApp number on file.	No WhatsApp number	Add it to the patient's file
No link a patient can open exists yet. Send «WhatsApp with the file» so the report arrives as a file, or publish the laboratory's website.	No link exists yet	Send the file instead, or publish the link first
The report's PDF is saved and the chat is open: drag the saved file into the chat, then press Send in WhatsApp.	The chat is open but the file is not attached	Drag the saved file in and press Send
The report could not be published.	The link was not published	Try again
The result link could not be stopped.	The link was not stopped	Try again
The version could not be signed.	A version was not signed	Try again
That could not be done.	The action on messages failed	Try again

8.9 See also

Results and approval (what arrives here, and amendments), Orders and payment (the money collected), Patients (phone and WhatsApp number), Settings and users (the permissions above and the full-payment setting).

Chapter 9

Patients

Menu: **Patients**. Address: `/patients`.

9.1 What this screen is for

This is the laboratory's directory of patient files. Every patient who has ever been registered has one file here, with an identity, contact details, clinical notes, and everything that has happened to the patient: orders, results, reports, payments, samples and documents.

From the directory you find a file, read it, correct it, open a new order for the patient, issue a card, send a message, archive a file that is no longer in use, and merge two files that belong to one person.

9.2 Who sees it

Whoever holds **Read patient files**. Within the screen:

You can...	...if your role holds
See the directory and read the file's overview	Read patient files
Create a file; edit a file; archive it; restore it; issue a card (the card window itself, with the points, opens for every role that sees the screen)	Write patient files
Open a new order for the patient; stop or resume uploading the patient's results to the website; send a test to another branch; record the patient's consent to marketing messages in the file window	Create orders
Tick the box that marks a file sensitive	The administrator role
Merge a duplicate into a file	Manage settings
See the **Visits** and **Attachments** tabs	Read orders
See the **Results** tab	Enter results, Verify results, Publish reports, or Print reports, receipts and labels
See the **Reports** tab	Publish reports, or Print reports, receipts and labels
See the **Money** tab, the **Open balance** figure and the **Balance** column of the directory	Take payments at the desk, or Manage billing

You can...	...if your role holds
See the **Samples** tab	Read orders, or Accept, reject and receive samples
See the **Activity** tab	Manage settings
See and add documents in the **Documents** tab	See and add the patient's documents
Send a message (and tick files in the directory for one)	Send messages to patients
Print a report from the file (**Print**, **Print all the patient's reports**)	Print reports, receipts and labels
Use **Send** in the **Reports** tab, which opens **Delivery**	Publish reports

A button you may not use is not shown.

9.3 The screen at a glance

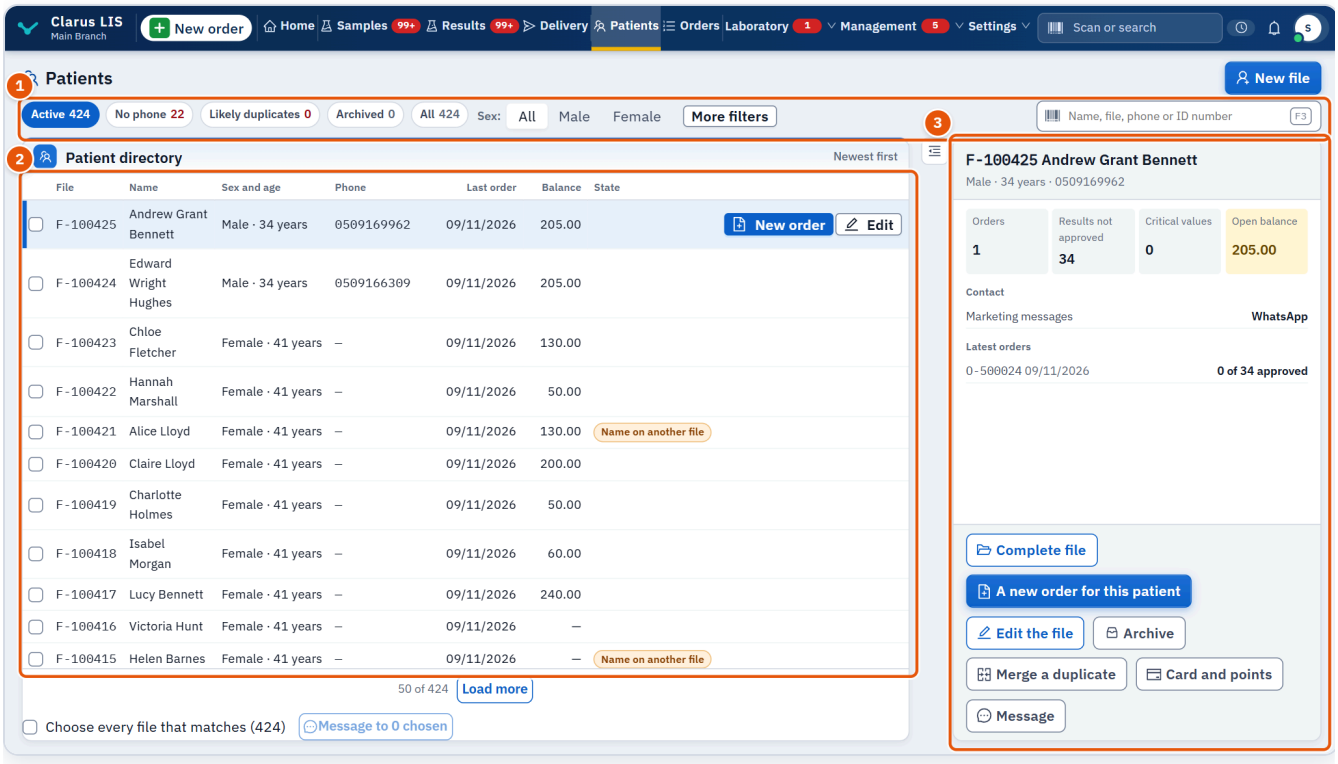


Figure 9-1: The Patients screen: 1 the search box and filters, 2 the patient directory, 3 the chosen patient's file with its action buttons.

1. **Search and filters**: the search box, the state of files, sex and **More filters**.
2. **The directory**: **Patient directory**, one line per file, with a box to tick the file for a message.
3. **The patient's file** (**The patient's file**): the figures, the contact, the clinical notes, the latest orders, and the buttons that act on the file.

The button **New file** is at the head of the screen if you may write patient files.

9.4 The directory

Control	What it does
Name, file, phone or ID number	Searches by name, file number, phone, e-mail or national ID. While you search, the note **Searching every branch** says the search is not limited to this branch.
Files' state	**Active**, **No phone**, **Likely duplicates**, **Archived** or **All**. In **Likely duplicates** each pair of likely twins is shown side by side.
Sex:	Limits the list to one sex, or **All**.
More filters	Opens **The directory's other filters**: **Age:** (under 18, 18 to 64, 65 and over), **Registered:** (today, the last 7 days, the last 30 days, any time), **Blood type**, and **With clinical notes**. The button shows how many of them are in effect.
Clear the filters	Removes all these filters.

The columns are **File**, **Name**, **Sex and age**, **Phone**, **Last order**, **Balance** and **State**. A file may be marked **Archived** or **Sensitive file**, and a name that also appears on another file is marked **Name on another file**.

Each line has two buttons, **New order** and **Edit** (double-clicking the line also opens the edit). The list shows 50 files at a time; more are loaded on request. Click a line to read its file in the file pane; until you click, the first file of the list is the one shown, and the screen says **Choose a patient in the directory to read the file.** only when the list is empty. A merged file has no edit button and cannot receive a new order, and an archived one cannot receive a new order either.

9.4.1 Choosing patients for a message

1. Tick the box of each file (**Choose patients for a message**), or tick **Choose every file that matches (...)** to choose every file that matches the search and filters.
2. Press **Message to ... chosen**. It stays dimmed until something is chosen.
3. **Clear the choice** removes the choice.

Changing the search or any filter also drops the choice. These boxes appear only for a role that may send messages.

9.5 The patient's file

The chosen file shows these buttons, each only if your role allows it: **Complete file**, **A new order for this patient**, **Edit the file**, **Archive** (or **Restore to active** for an archived file), **Merge a duplicate**, **Card and**

points and **Message**. A file that is archived or merged cannot receive a new order, and a merged file has no edit or message button; the server refuses to edit it or issue it a card. **Card and points** is shown to every role that sees the screen.

Element	What it shows
Figures	**Orders**, **Results not approved**, **Critical values**, and **Open balance** for those who may see money.
Alerts	The count of amendments to approved reports waiting to be approved again, and of abnormal results in the recent orders.
Contact	**Marketing messages**: the channels the patient agreed to, or **Does not agree**, or **Not asked yet**.
The laboratory's website	Whether the patient's results are uploaded to the website (see 9.6.8 Task 8 — Stop or resume uploading a patient's results to the website). This row appears only once the laboratory's website is published.
Clinical notes	**Allergies**, **Chronic conditions** and **Current medications**, when they are recorded.
Latest orders	The latest orders, or **No orders in this file yet.**.

9.5.1 The complete file

Complete file opens **Patient file** in a window, with these tabs (**The file's sections**):

Tab	What it holds
Overview	**Identity**: **File number**, **Born**, **Telephone**, **First visit**, **Last visit**; **In the file**; the clinical notes; and **Discount cards** with their state (**Active** or **Stopped**).
Visits	The orders: **Order**, **Date**, **Doctor**, **Branch**, **State** and **Tests**. A test still awaiting its result offers **Send to a branch**. Search by order, test or doctor, and limit by **From** and **To**.
Results	**Test**, **Value**, **Unit** and **Flag**. **Flagged results only** keeps only the flagged ones.
Reports	Each report version with its **Version**, state (**Draft**, **Final**, **Amended** and the others), and when it was **Made**, **Signed** and **Sent**. **Print** opens a preview of that order's report before anything is printed, and **Send** takes you to **Delivery** with the order found; **Print all the patient's reports** prints the patient's reports (up to 50). **Handed over at the desk** lists what was handed over at the desk.
Money	**Billed**, **Paid**, **Refunded** and **Payer's share**; then **Invoices** and **Payments and refunds**.
Samples	Each sample with its specimen type, state and collection time, a rejection reason if any, and **Sent to other laboratories**.
Activity	The log of who did what to the file: **Action**, **On**, **Details**.

Tab	What it holds
Attachments	The files attached to the patient's orders, each with its **Caption**.
Documents	The patient's own documents (see 9.6.9 Task 9 — Documents).

Long lists show the first 50 rows and **Show more (... of ...)** shows 50 more each time. Every tab except the overview and the documents has date limits, and all except **Money** and **Attachments** have a search box. **Export to Excel** saves the rows now shown as a CSV file that a spreadsheet program opens. In **Visits** an order number opens the order in **Orders** for a role that may read orders. The window also has **Message** if your role allows it.

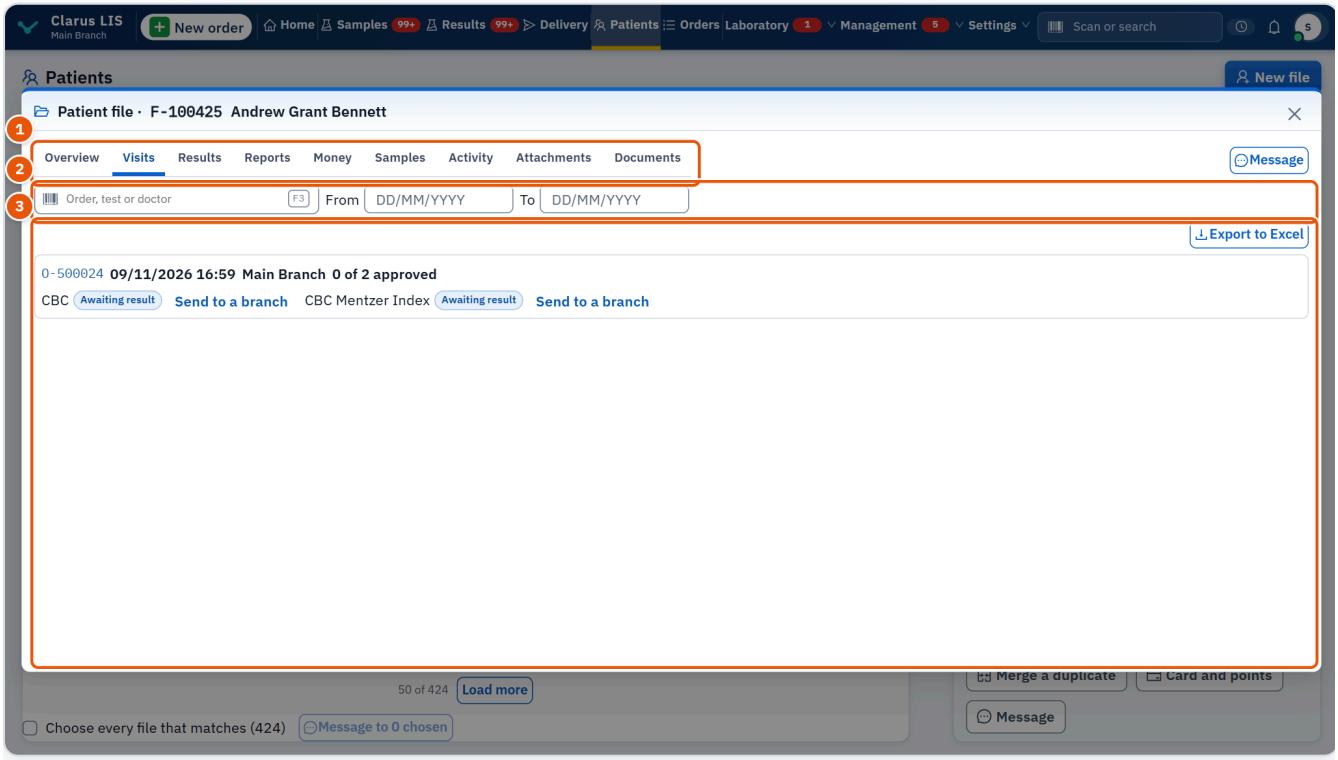


Figure 9-2: The complete file: 1 the tabs, 2 the search and date limits, 3 the list of the chosen tab.

9.6 Tasks, step by step

9.6.1 Task 1 — Find a patient

1. Type in **Name, file, phone or ID number**. Part of a name, a file number, a phone number or an ID number is enough.
2. If nothing appears, the screen says **No file matches «...»**.. Check the spelling, or choose **All** in **Files' state**, since archived files are not in **Active**.
3. Narrow a long list with **More filters**.
4. Click the line. The file opens in the file pane.

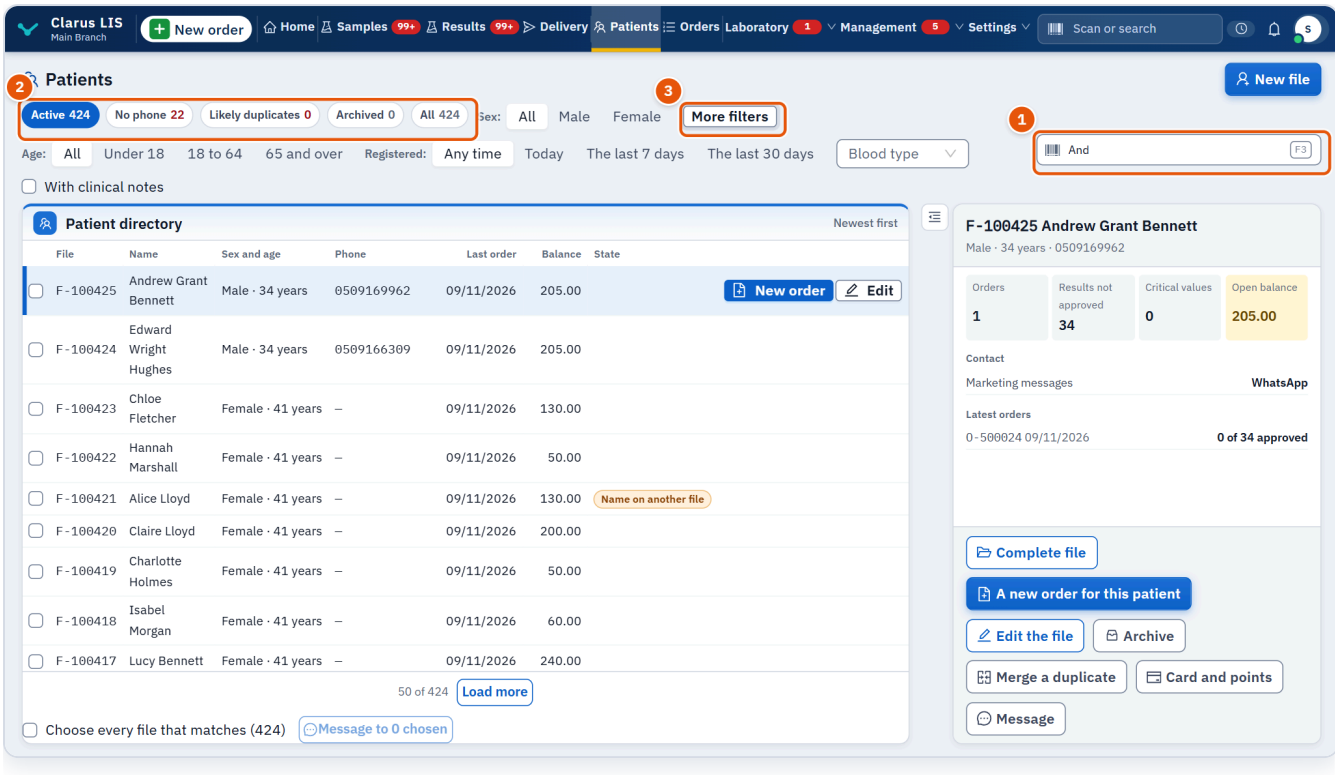


Figure 9-3: Searching: 1 the search box, 2 the state of files, 3 More filters.

9.6.2 Task 2 — Create a new file

1. Press **New file**. The window **New patient file** opens.
2. Fill **Identity**: **First name**, **Family name**, **Sex**, **Birth date** (written day, month, year) and the other fields; and **Contact**: **Phone** and the rest. The first name, last name, sex and birth date are required. For a new file a phone number is also required if the laboratory's desk settings say so; otherwise it is optional. When the phone box is empty the box **Why there is no phone** appears, and a reason is required only when the phone is required.
3. Under **Medical**, add **Allergies**, **Chronic conditions** and **Current medications** if known.
4. Record, in **Agrees to marketing messages by**, the channels the patient agrees to. This field is shown only to a role that may create orders. The same role sees the website upload box when the laboratory's website is published.
5. Press **Save the file**. The screen says that the new file is saved and gives its number.

If the program thinks the patient is already registered it says **This patient may be registered already. Open their file if it is them, or save a new file anyway.**. Press **Open their file** if it is the same person; otherwise press **Save a new file anyway**.

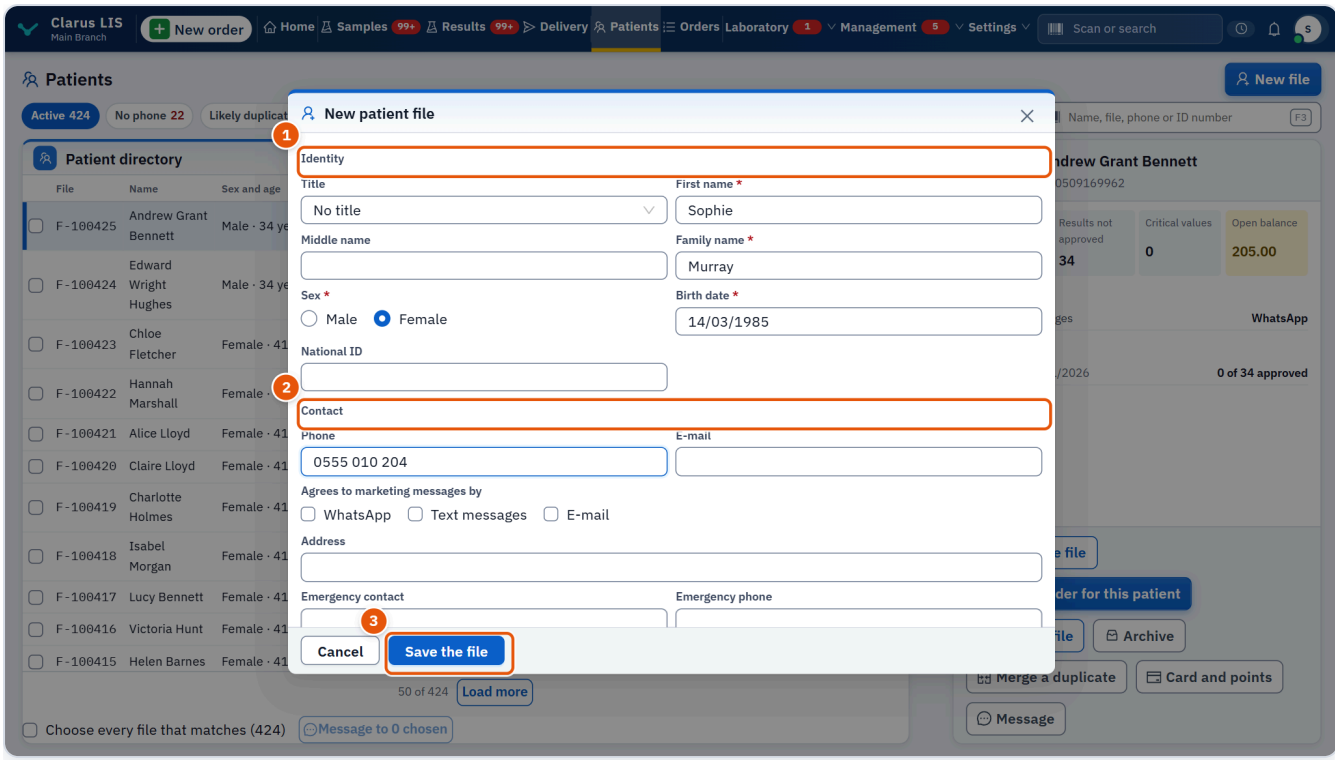


Figure 9-4: The new file: 1 identity, 2 contact, 3 the save button.

9.6.3 Task 3 — Edit a file

1. Choose the file and press **Edit the file** (or press **Edit** on its line).
2. Change what is needed. A field the program requires says **This field is required.**; a birth date that is not complete says **Write the whole birth date correctly.**.
3. Press **Save the file**. The screen says **The file is saved.**.

The box **Sensitive file: it opens only once its opener says why** is shown only to the administrator role.

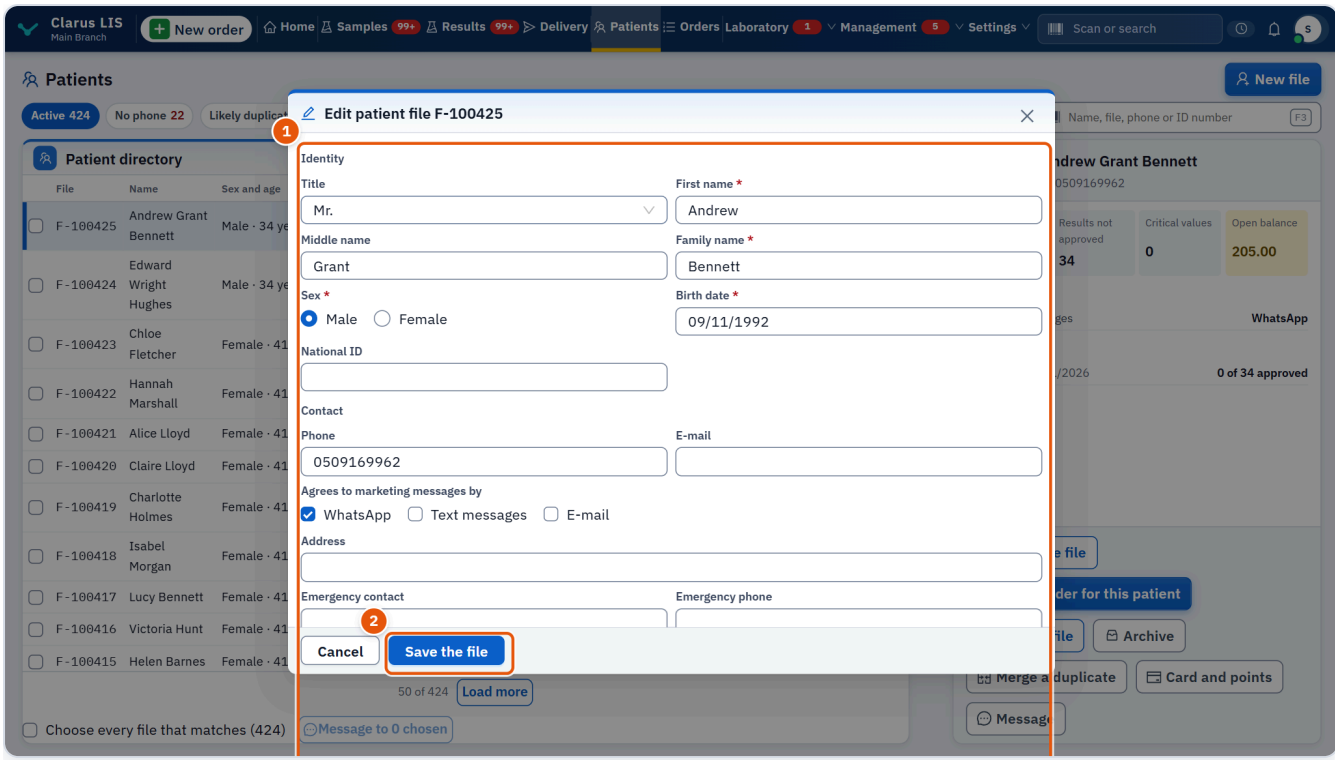


Figure 9-5: Editing the file: 1 the fields, 2 Save the file.

9.6.4 Task 4 — Open a new order for the patient

1. Choose the file, then press **A new order for this patient** (or **New order** on the line).
2. The program opens the order screen (**New order**) with this patient already entered. The button is not shown for an archived or merged file.

9.6.5 Task 5 — Issue a card and read the points

1. Choose the file and press **Card and points**. The window **...'s card and points** shows the **Points**: **Balance**, **All ever earned** and **The last movements** (each movement is **Earned**, **Redeemed**, **Expired**, **Adjusted** or **Reversed**); the history lists the latest 12 movements.
2. Under **Issue a card to the patient** (shown only to a role that writes patient files, and never for a merged file), choose the **Card type**: **Barcode**, **NFC card**, **QR** or **RFID card**. The window starts on **QR**.
3. Press **Issue the card**. The card's number appears; press **Copy** to copy it. It is the number printed or written on the card, and scanned at reception.
4. Press **Close**.

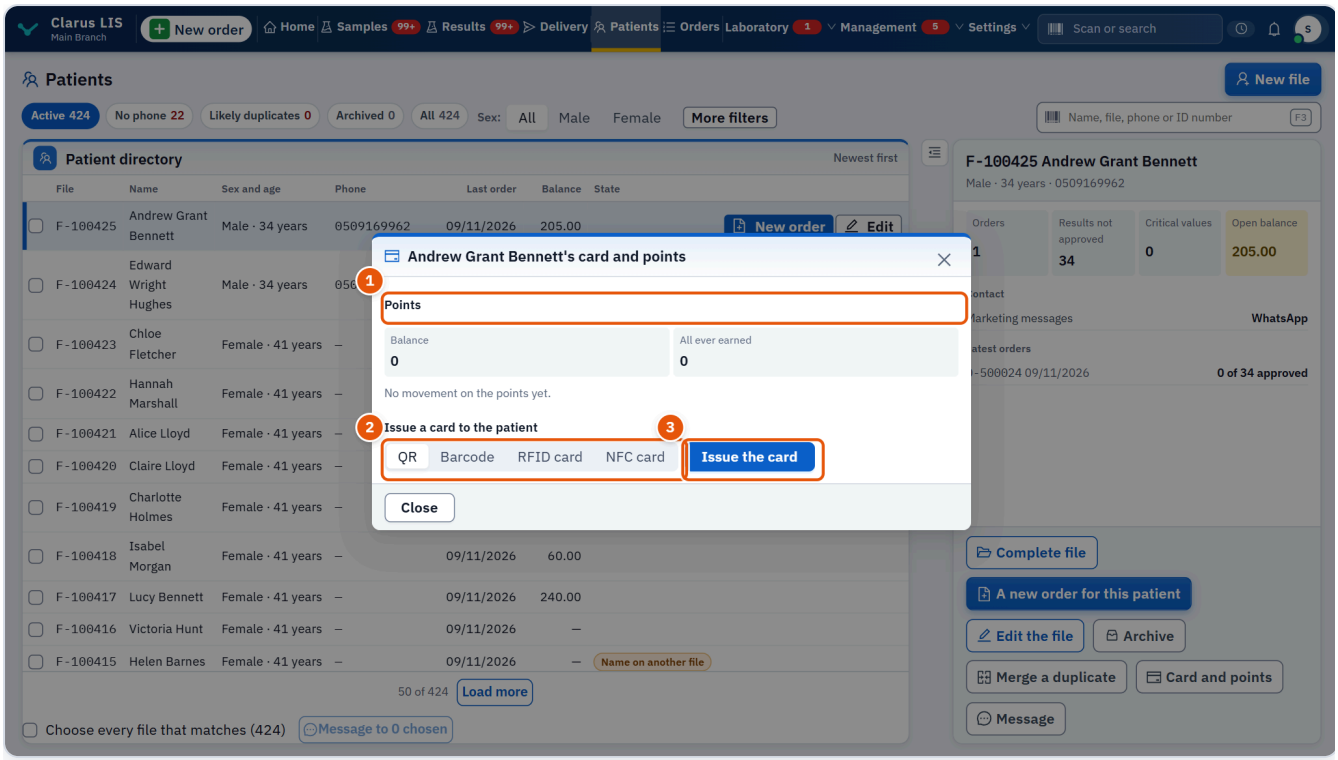


Figure 9-6: The card window: 1 the points, 2 the card type, 3 Issue the card.

9.6.6 Task 6 — Send a message

1. Choose one file and press **Message**, or tick several files and press **Message to ... chosen**.
2. In the window **Message to ...**, choose the **Channel**: **SMS** or **WhatsApp** (the window starts on **WhatsApp**).
3. Either choose a **Ready message** (offered when the laboratory has some) to fill the text, or write **The message**, up to 1000 characters. The text is required.
4. The window counts who the message reaches and who is left out: patients with no phone, and patients who did not agree to messages on this channel. Only a patient who agreed and has a phone receives it. The send button stays dimmed while the text is empty or nobody is reached. If more are reached than the laboratory's per-minute pace, the window says the sending is spread out.
5. Press **Send to ... patients** and confirm. The screen says the message is on its way.

If messages to patients are switched off in the laboratory, the window says so: the message waits in the queue until they are switched on in **Messages**. Every send is written in the audit trail.

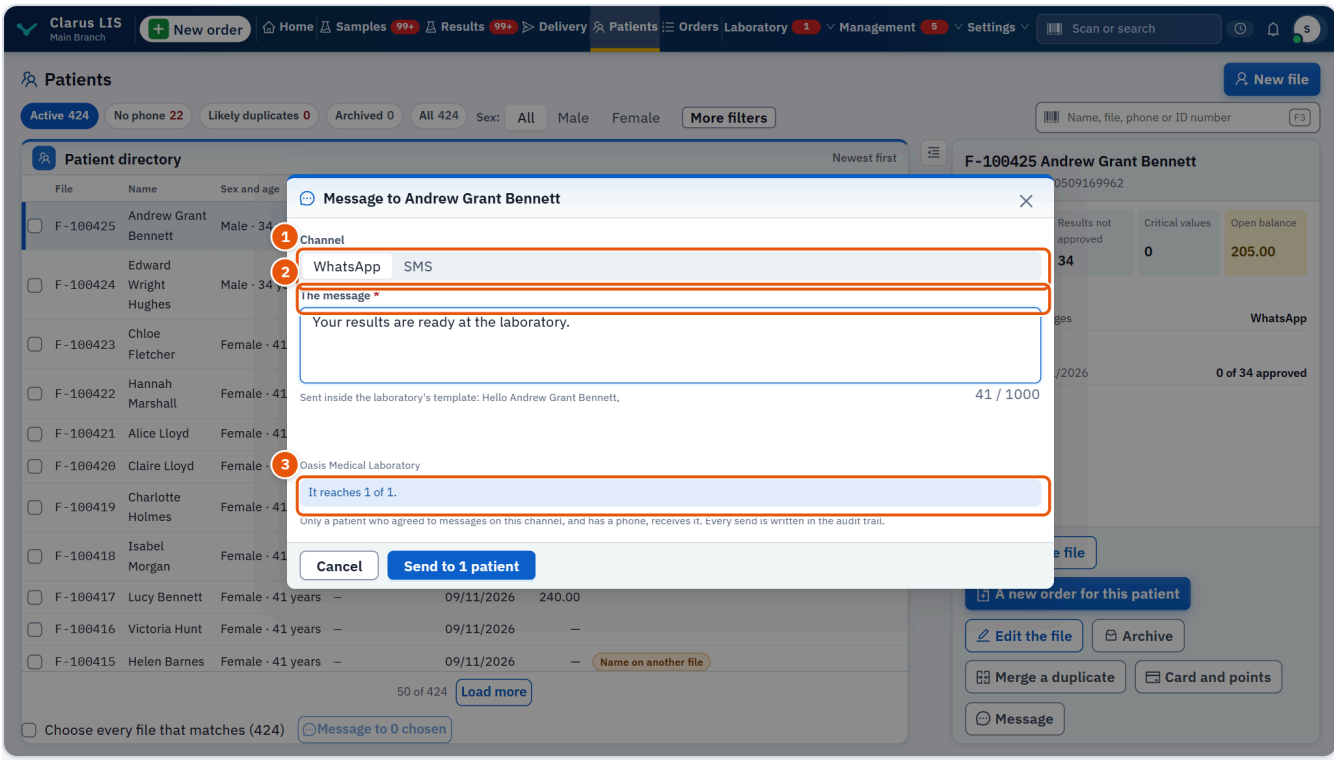


Figure 9-7: The message window: 1 the channel, 2 the text, 3 who it reaches.

9.6.7 Task 7 — Archive and restore a file

1. Choose the file and press **Archive**.
2. Write the **Reason (kept with the file)** (the window does not insist on one), then press **Archive the file**. The file leaves the active list; its orders, results and payments stay.
3. To bring it back, choose **Archived**, choose the file and press **Restore to active**, then confirm.

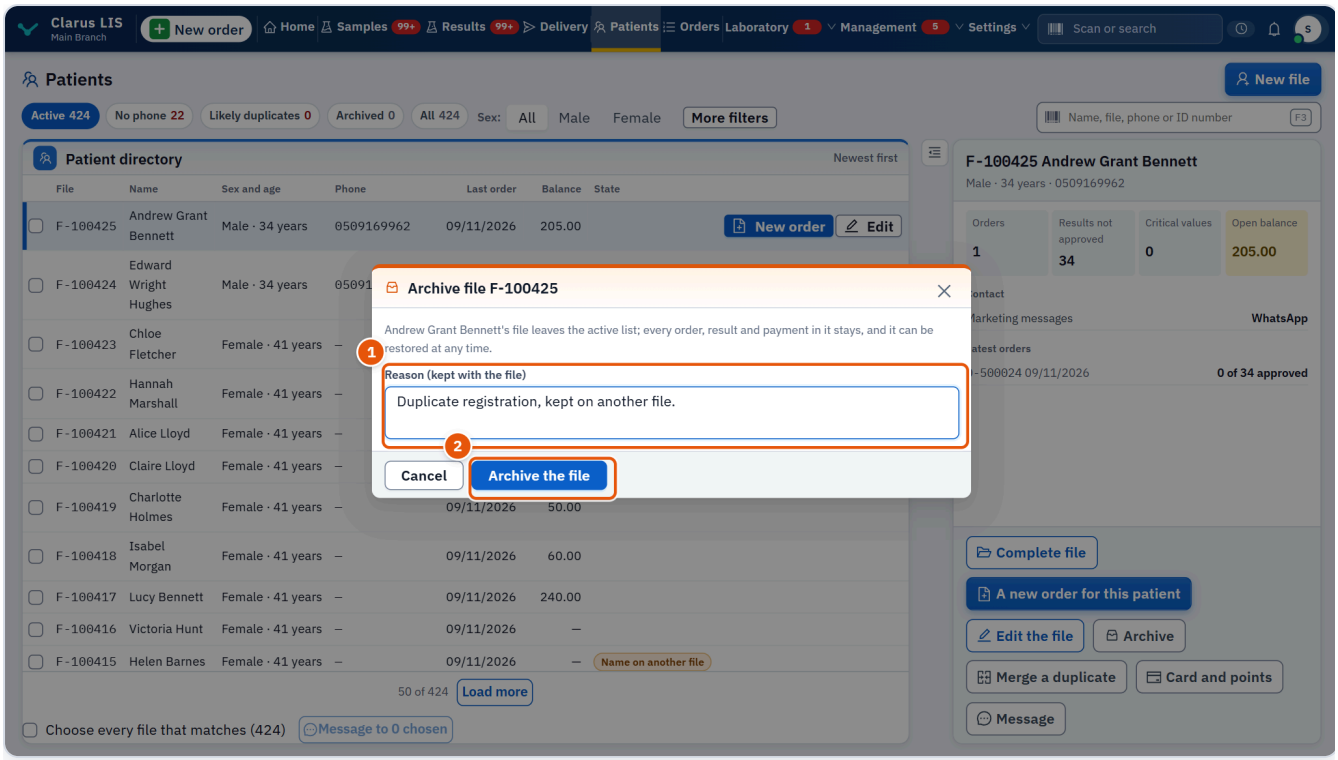


Figure 9-8: Archiving: 1 the reason, 2 Archive the file.

9.6.8 Task 8 — Stop or resume uploading a patient's results to the website

1. Choose the file. The row **The laboratory's website**, which exists only when the laboratory's website is published, shows whether **Uploading results** is on, since when and by whom.
2. To stop, press **Stop uploading** and confirm: what was uploaded is withdrawn and nothing more is uploaded.
3. To start again, press **Resume uploading**.

Only a role that may create orders sees these buttons. The same choice is a box in the new-file and edit windows, saved with the file.

9.6.9 Task 9 — Documents

1. In the complete file, open **Documents**.
2. To add one, under **Add a document** choose the **Type**, the **Expires on** date if it has one, the **Contract party** (offered only when the laboratory has contract parties; or **No contract party**) and a **Note**; then choose **From a file** (one or several files) or **From the camera** (one photo). The upload starts as soon as the file is chosen, so fill the other fields first. A PNG, JPEG, WebP or GIF image or a PDF, up to 10 MB, is accepted; the camera takes PNG, JPEG or WebP.
3. In the list, **Show** opens a document, **Save on this computer** saves it, and **Withdraw** takes it out of the file after confirmation; its file is kept. An expired document is marked **Expired**.

These documents are never printed on a report or a receipt, and every look at a file is written in the access log.

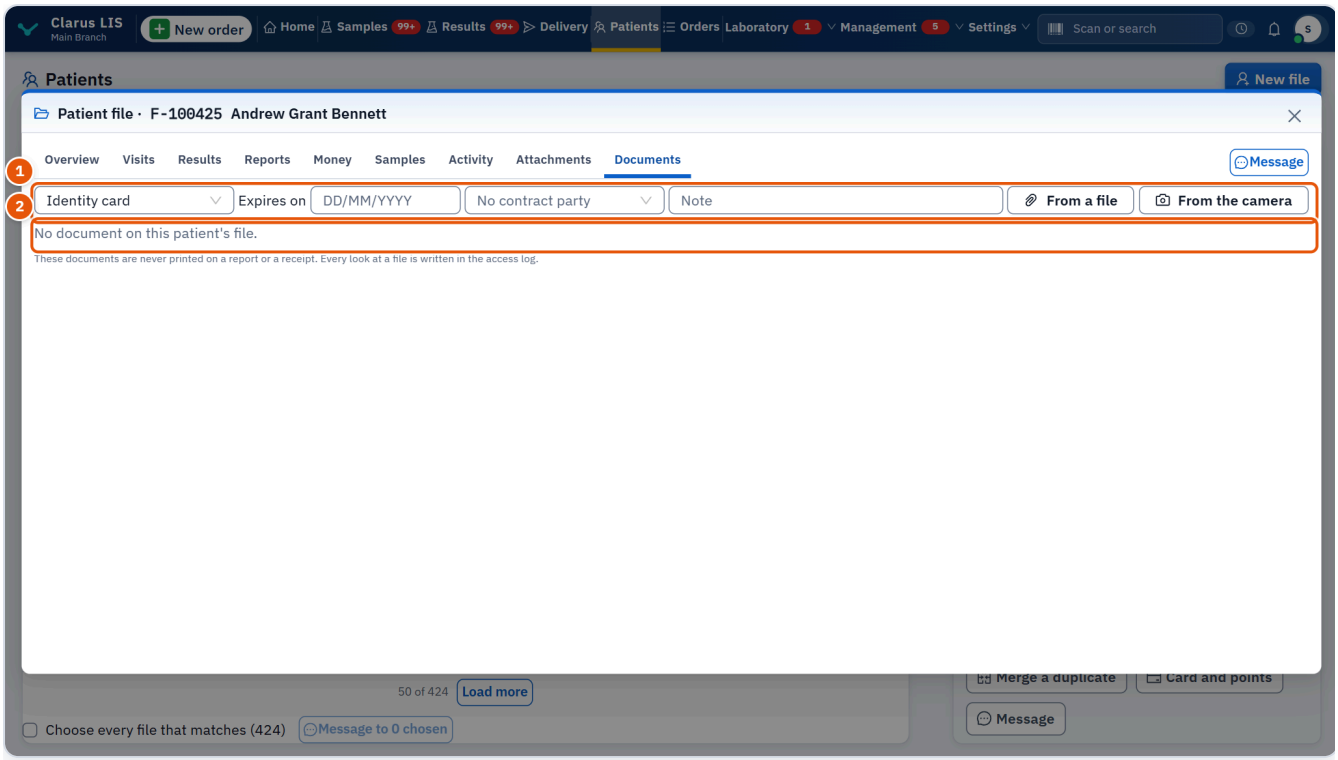


Figure 9-9: The Documents tab: 1 the add form, 2 the list of documents.

9.6.10 Task 10 — Send a test to another branch

1. In the complete file, open **Visits**.
2. On a test still **Awaiting result**, press **Send to a branch**.
3. Choose the branch and press **Send**. The screen says the test was sent to that branch.

Only branches other than the one you work in are offered. The test then shows as **Sent to branch ...**.

9.6.11 Task 11 — Merge two files of one person

1. Open the file that should stay and press **Merge a duplicate**.
2. The window lists **Files that may be this same person:** with the reason for each (such as **Name and birth date** or **Same national ID**); a file that matches by phone alone is not offered here, since a family shares a phone. Press **This one** on the right one, or find it in **Find the duplicate by file number, name or phone** (two characters at least).
3. Check the two files, shown as **The file kept** and **The duplicate**. If they differ in birth date or sex the window says so, and you must tick **I have checked that both files are one person**.
4. Write the **Reason (kept in the log)** (the window does not insist on one) and press **Merge the two files**.

> **Caution**
>
> Every order, result and payment of the duplicate moves to the file that stays, and the duplicate is marked merged. Do it only for two files of one person.

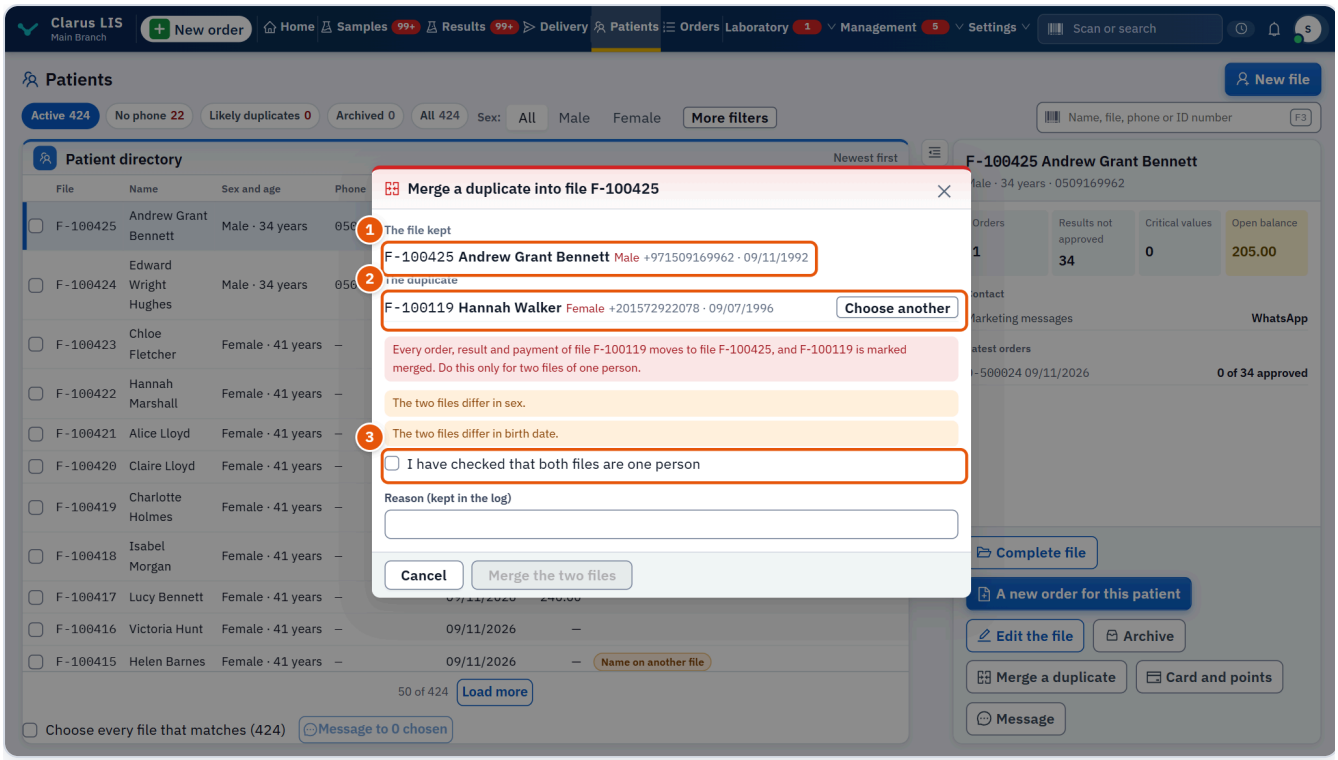


Figure 9-10: Merging: 1 the kept file, 2 the duplicate, 3 the confirmation box.

9.7 Messages and what to do

The screen says	Meaning	What to do
The patient directory could not be loaded.	A connection or server fault	Reload; check the connection
No file matches «...».	Nothing has this text	Check spelling; choose All in the files' state
This patient may be registered already.	A file with the same details exists	Open that file, or save anyway if it is another person
The file could not be saved.	The server refused the save	Read the field notes and correct
The file is saved; the consent to marketing messages could not be.	The file saved but the consent did not	Open the file again and record the consent
The merge failed. Nothing was changed.	The server refused the merge	Check the two files and try again
The message could not be sent.	A fault in sending	Try again
The documents could not be read.	A connection fault	Reopen the tab
The file is larger than 10 MB.	The document is too large	Attach a smaller copy

9.8 See also

New order (what the file opens), **Results** (the results shown here), **Delivery** (sending reports), **Messages** (switching patient messages on), **Users and permissions** (the permissions above).

Chapter 10

Orders

Menu: **Orders**. Address: `/orders`.

10.1 What this screen is for

This is the list of every order the laboratory has registered. Use it to find an order, see its money and its tests, and move on to the screen that does the next piece of work on it. The daily work itself happens in the queue that owns it: samples, results and delivery.

The list is counted by state, and an order is found by its number, the patient, the phone or the doctor. The order you choose shows its total, what was paid and what remains, each of its tests with whether it is approved, and the buttons its state allows: hand over, edit, open its results, print.

10.2 Who sees it

Whoever holds **Read orders**. Within the screen:

You can…	…if your role holds
Open the list and see the chosen order	Read orders
Press **New order**	Create orders
Press **Edit the order**	Edit registered orders
Press **Hand over**	Publish reports
Press **Receipt**	Print receipts, or Print reports, receipts and labels
Press **Labels** or **Worksheet**	Print reports, receipts and labels
Press **Results**	Enter results, or Verify results

A button you may not use is not shown. (The handing-over button opens the delivery screen, which only a role that publishes reports can enter.) **Receipt** is hidden while the order awaits a price.

10.3 The screen at a glance

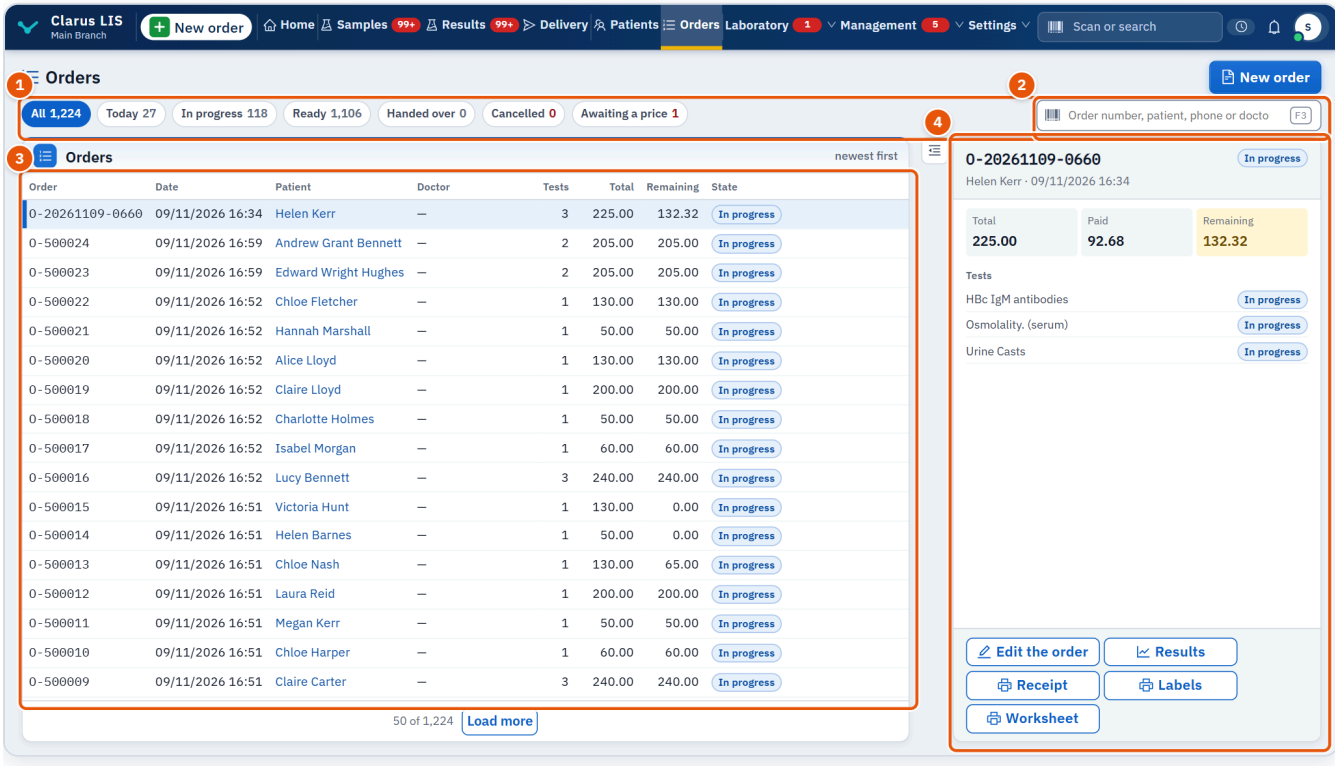


Figure 10-1: The Orders screen: 1 the state filters, 2 the search box, 3 the list of orders, 4 the chosen order.

1. **The state filters**: **Order state**, each with the number of orders it holds.
2. **The search box**: **Order number, patient, phone or doctor**.
3. **The list**: **Orders**, **newest first**.
4. **The chosen order**: **The chosen order**, with its money, its tests and its buttons.

10.4 The state filters

Filter	What it shows
All	Every order
Today	Orders of today
In progress	Orders still being worked
Ready	Orders whose results are ready
Handed over	Orders already handed over
Cancelled	Cancelled orders
Awaiting a price	Orders with a test that has no price. This filter appears only while at least one order waits for a price (or while it is the filter you chose).

Choosing a filter clears the order you had chosen. A link from another screen (for example the home page) can open the list already on one of these filters.

10.5 The list

Column	Meaning
Order	The order number
Date	When it was registered
Patient	The patient
Doctor	The requesting doctor, or a dash
Tests	How many tests the order has
Total and **Remaining**	The amount and what remains to pay. These two columns appear only when the list carries amounts.
State	The state, or how many tests are approved («3 of 8 approved»). An order with an unpriced test also carries a mark: «No price — needs pricing».

The list reads 50 orders at a time; a button at its foot reads more. It refreshes itself every minute.

10.6 The chosen order

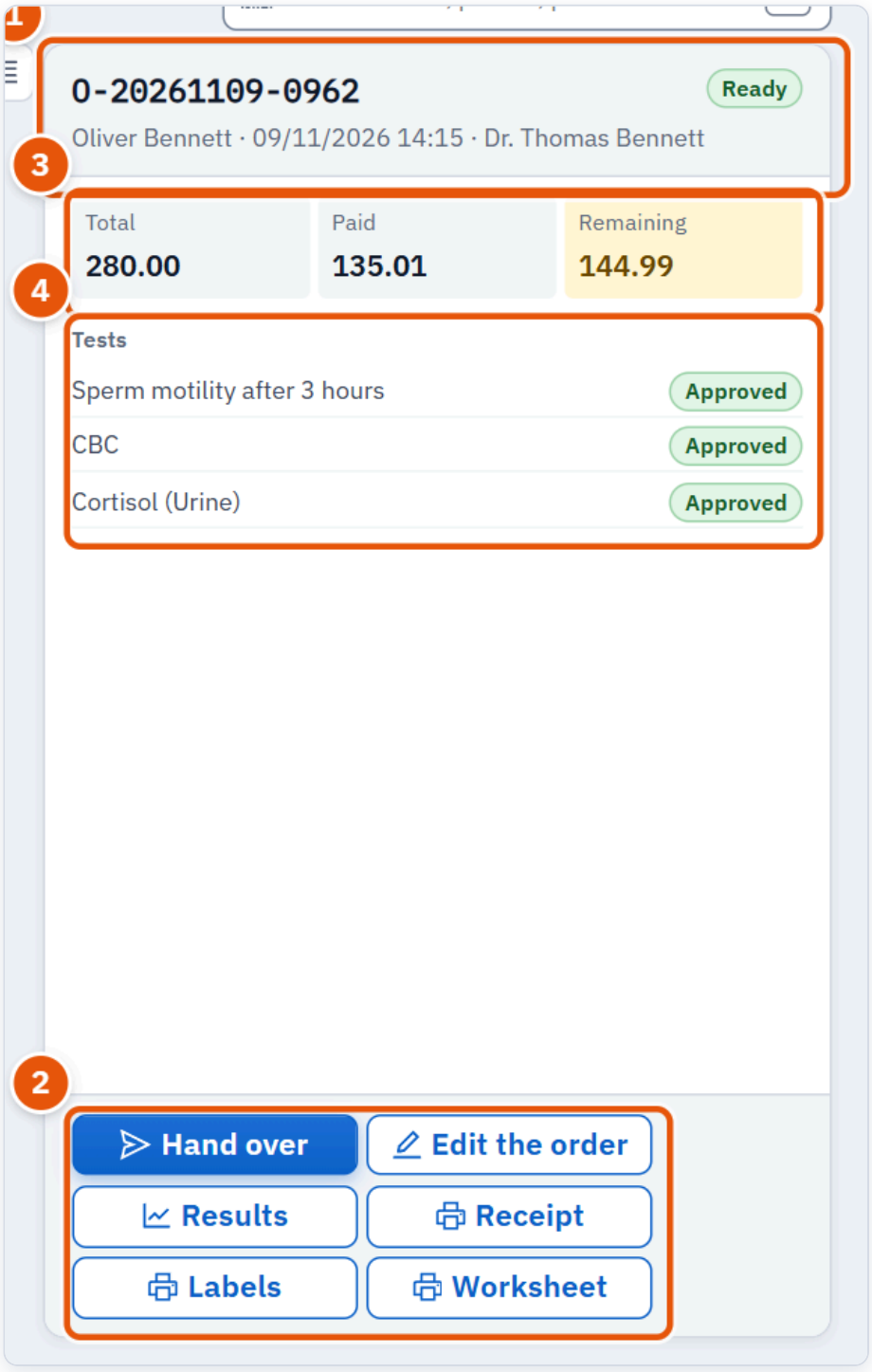


Figure 10-2: The chosen order: 1 the order number and state, 2 the buttons, 3 the money, 4 the tests.

The heading shows the order number, its state, then the patient, the date and the doctor. If you have not chosen one, the first in the list is shown.

Element	What it does
Hand over	Opens the delivery screen looking for this order. Shown only for a ready order that is not cancelled.

Element	What it does
Edit the order	Opens the order for editing. Not shown for a cancelled order.
Results	Opens the results screen on this order. Not shown unless your role enters or verifies results; it does not depend on the order's state.
Receipt	Prints the receipt.
Labels	Opens the window of the order's barcode labels.
Worksheet	Prints the worksheet.
Total, **Paid**, **Remaining**	The invoice figures, shown when the order has an invoice. A remaining amount is marked as due.
Tests	Each test of the order, with whether it is approved or still in progress.
Handed over	When the order was handed over, shown if it was.

If a test was ordered by an outside system and has no price here, a warning names it: no invoice is issued and no receipt is printed until its price is written. Edit the order and write the price; who wrote it is kept.

10.7 Tasks, step by step

10.7.1 Task 1 — Find an order

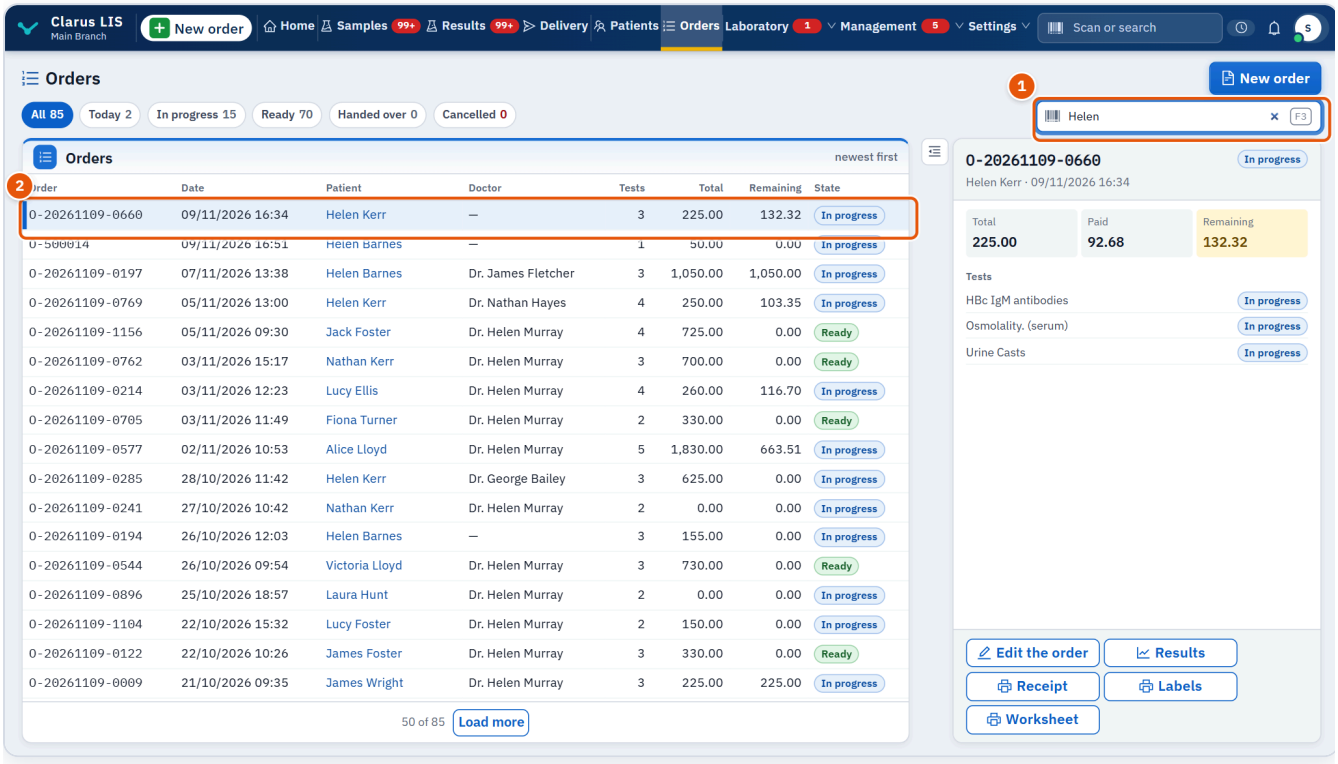


Figure 10-3: Searching: 1 the text typed, 2 the matching order in the list.

1. Click the search box and type a number, a patient, a phone or a doctor.
2. The list narrows after a moment. Click the order you want; it opens as the chosen order.
3. To narrow by state first, press one of the state filters.

If nothing matches, the list says no order matches what you typed.

10.7.2 Task 2 — Register a new order

1. Press **New order** (it is shown only if you may create orders).
2. The order screen opens; fill it there.

10.7.3 Task 3 — Hand over a ready order

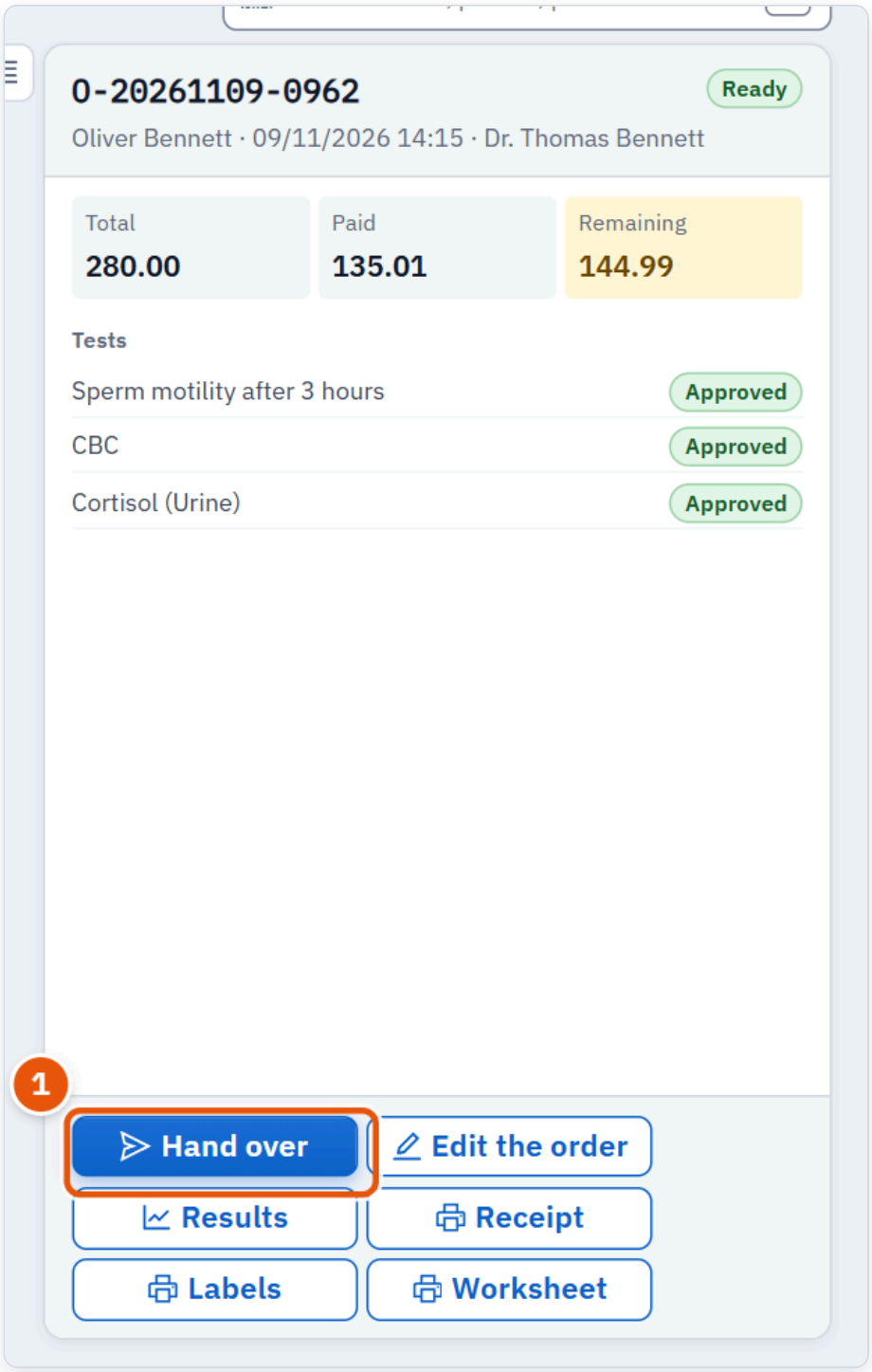


Figure 10-4: A ready order with the **Hand over** button.

1. Press **Order state Ready**, then choose the order.
2. Press **Hand over**. The delivery screen opens with this order looked up.
3. Finish the handing over there.

10.7.4 Task 4 — Price an order that waits for a price

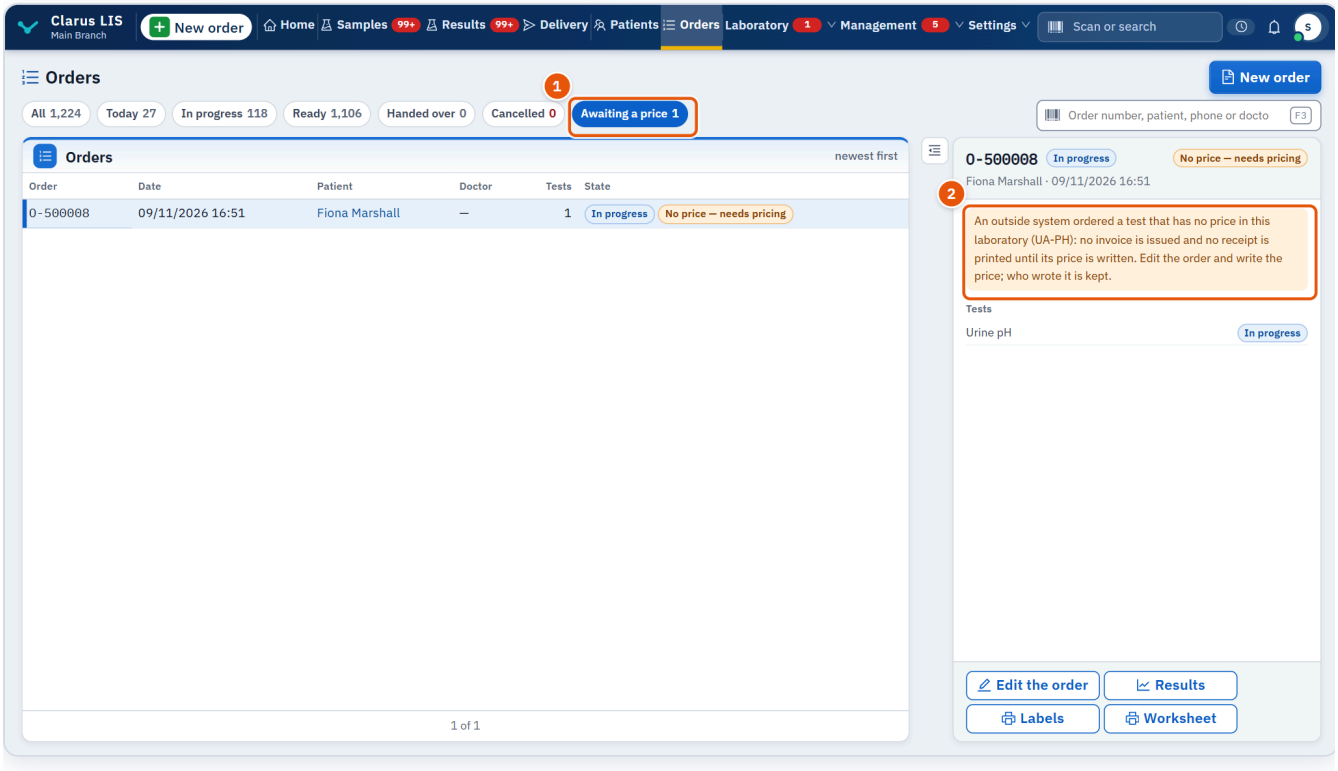


Figure 10-5: An order awaiting a price: 1 the filter, 2 the warning naming the test.

1. Press **Awaiting a price**, then choose the order.
2. Read the warning; it names the tests without a price.
3. Press **Edit the order** and write the price in the order.

10.7.5 Task 5 — Print the order's papers

1. Choose the order.
2. Press **Receipt**, **Labels** or **Worksheet**.
3. **Labels** opens a window for the barcode labels; the other two send the paper to print.

10.8 Messages and what to do

The screen says	Meaning	What to do
Reading the orders…	The list is loading	Wait
The orders could not be read.	A fault reading the list	Use the retry control and check the connection
No order matches «…».	The search found nothing	Check the spelling, or clear the search

The screen says	Meaning	What to do
No order yet. / No order today. / No order in progress.	Nothing in that filter	Choose another filter
Choose an order from the list.	None is chosen	Click an order
No price — needs pricing	A test has no price	See 10.7.4 Task 4 — Price an order that waits for a price

10.9 See also

New order (registering), Samples, Results and approval, Delivery (handing over), Prices (pricing a test), Settings and users (the permissions above).

Chapter 11

Send-outs

Menu: **Send-outs**. Address: `/lab/sendouts`.

11.1 What this screen is for

Some tests are not done in your laboratory: they are sent to an external laboratory. This screen follows each of them from the moment it is created with the order, through calling the courier and handing the samples over, to the return of the result, and then keeps the account of what is owed to each external laboratory.

It has four pages, named in the bar **Send-out pages**: **Send-outs**, **Batches**, **Accounts** and **External laboratories**. The tests that have no laboratory yet are collected in a window opened by **Waiting for a laboratory**.

11.2 Who sees it

You can…	…if your role holds
Open the screen, the queue and the batches (the **Waiting for a laboratory** window too)	**Read orders**
Record that a laboratory received a batch	**Create orders**
Enter the returned results; attach the external laboratory's report	**Enter results**
Print the batch's manifest again	**Print reports, receipts and labels**
Open the accounts page	**Manage billing** or **Read analytics**
Record or void a payment; export the accounts; open the statement of samples sent	**Manage billing**
Print a laboratory's month statement	**Manage billing** and **Print reports, receipts and labels** together
Open the **External laboratories** page, and on it add, edit, stop, delete laboratories; assign tests; edit price-list lines and routing rules; open the list library	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**

You can...	...if your role holds
Add a price-list line to the catalogue as a new test	**Manage the laboratory's structure: branches, numbering, first run, external laboratories** and **Manage settings** together

A page or button you have no permission for is **hidden**, not greyed: a role without **Manage the laboratory's structure: branches, numbering, first run, external laboratories** has no **External laboratories** tab, and one without **Manage billing** sees no payment or export button. The queue's own buttons (call the courier, hand over, change laboratory, keep in house) are not hidden by role; if the server refuses one for your role it says so in the window.

11.3 The screen at a glance

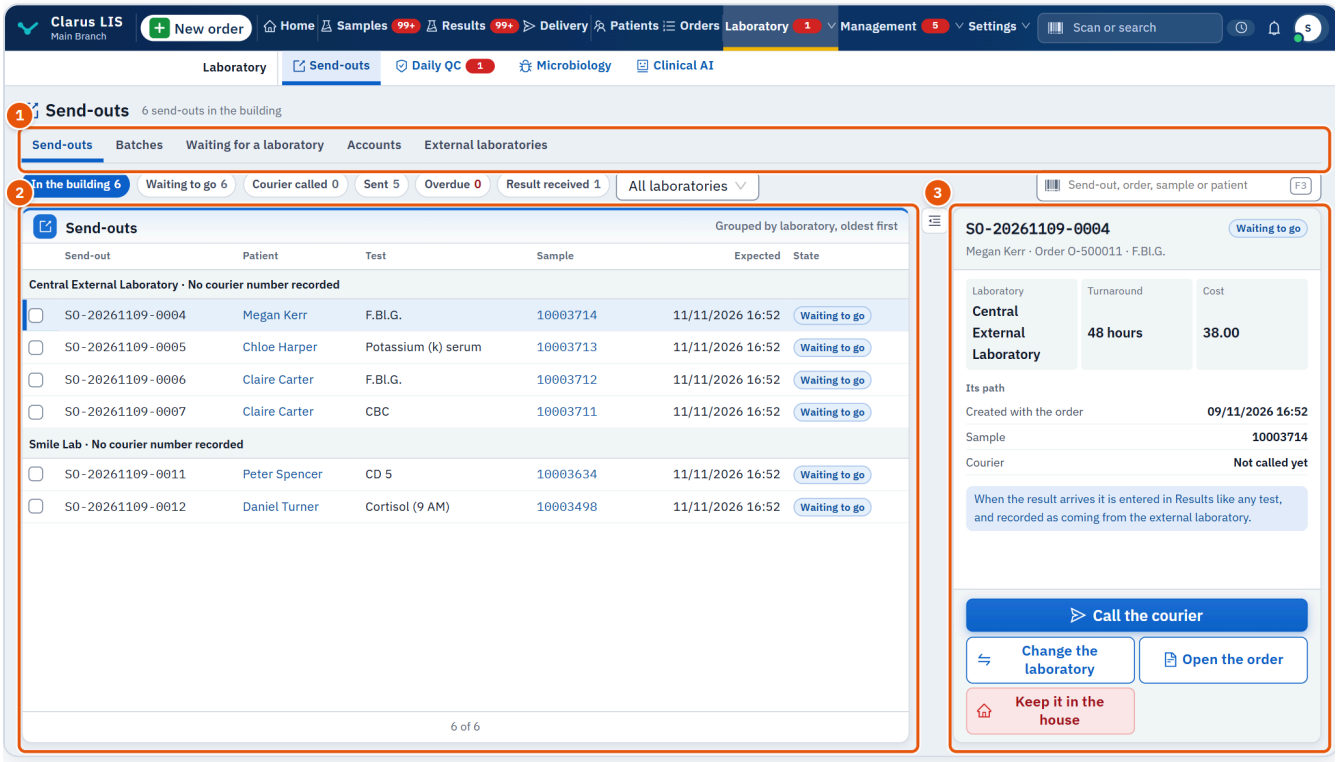


Figure 11-1: The Send-outs screen: 1 the page bar, 2 the list, 3 the details of the chosen send-out.

1. **The page bar**: **Send-outs**, **Batches**, **Waiting for a laboratory**, **Accounts**, **External laboratories**.
2. **The list** of the page, with a search box and state filters.
3. **The details** of the line chosen in the list, with its actions.

11.4 Page: Send-outs

The list **Send-outs** is **Grouped by laboratory, oldest first**. A line has the send-out, the expected time and its state.

Control	What it does
Send-out, order, sample or patient	Finds by send-out, order or sample code, or patient name.
Send-out state	**In the building** (the page opens on it), **Waiting to go**, **Courier called**, **Sent**, **Overdue**, **Result received**. Beside them a laboratory selector narrows the list to one laboratory.
Actions on the chosen	Appears when lines are ticked (only lines still in the building have a tick box): the number chosen, **Call the courier**, **Hand to the courier and print the manifest**, **Clear the choice**.

The list loads 100 lines at a time (a button below it brings more) and refreshes by itself every minute.

The details show the laboratory, turnaround and cost, then **Its path**: **Created with the order**, the sample, the courier (**Not called yet** until called), **Handed to the courier** and **Result received**. The buttons depend on the state of the chosen line:

- **Call the courier** appears while it is **Waiting to go**; **Hand to the courier** once the courier is called; **Enter the result** once it is dispatched, and it takes you to Results for that order.
- **Change the laboratory** and **Keep it in the house** appear only while the sample is still in the building.
- **Open the order** is always there.

When a result is late the details say so and advise calling the laboratory. A result that arrives is entered in Results like any test and recorded as coming from the external laboratory.

11.4.1 The windows of this page

Window	What it does
Call the courier · 1 send-out	Writes a message for each laboratory's courier with the number of tests and samples. **Open WhatsApp** records «Courier called» for that laboratory and opens WhatsApp; it is shown only when a courier number is recorded, and one press opens one conversation. **Copy the text** copies the text to send another way (and nothing is recorded as called). Send-outs that have already left the building are not included.
Hand to the courier · …	Hands over to the courier. Shows send-outs, samples, the courier called, and the fields **Received by** and **Note**. The courier's name is required (it starts as the name of the courier called); **Hand over and print the manifest** stays dimmed until it is filled. It makes a batch and prints the manifest in two copies (courier and laboratory). With several laboratories, each is its own batch with its own manifest.
Change the laboratory	Moves a send-out to another laboratory with **Move it to the chosen one**. It offers only the active laboratories that are listed for that test, and the button stays dimmed until you choose a different one. Possible only while the sample is in the building.
Keep it in the house	Cancels the sending: the test is done in the house. A **Reason** is required; the button stays dimmed until you write it.

Window	What it does
Waiting for a laboratory · 1 test	Lists tests that have no default laboratory. Choose a laboratory for each (that test's laboratories come first, with cost and turnaround, then the other active ones), then press **Send the chosen (1)**.

11.5 Page: Batches

A batch exists from the handover. The list is ordered **Drafts first, then the latest handed over**, 50 lines at a time, and the page opens on **Open**. Filter by **Batch state**: **Open**, **Draft**, **Overdue**, **Sent**, **Received**, **Results entered**, **Reported**; and by **Laboratory sent to**.

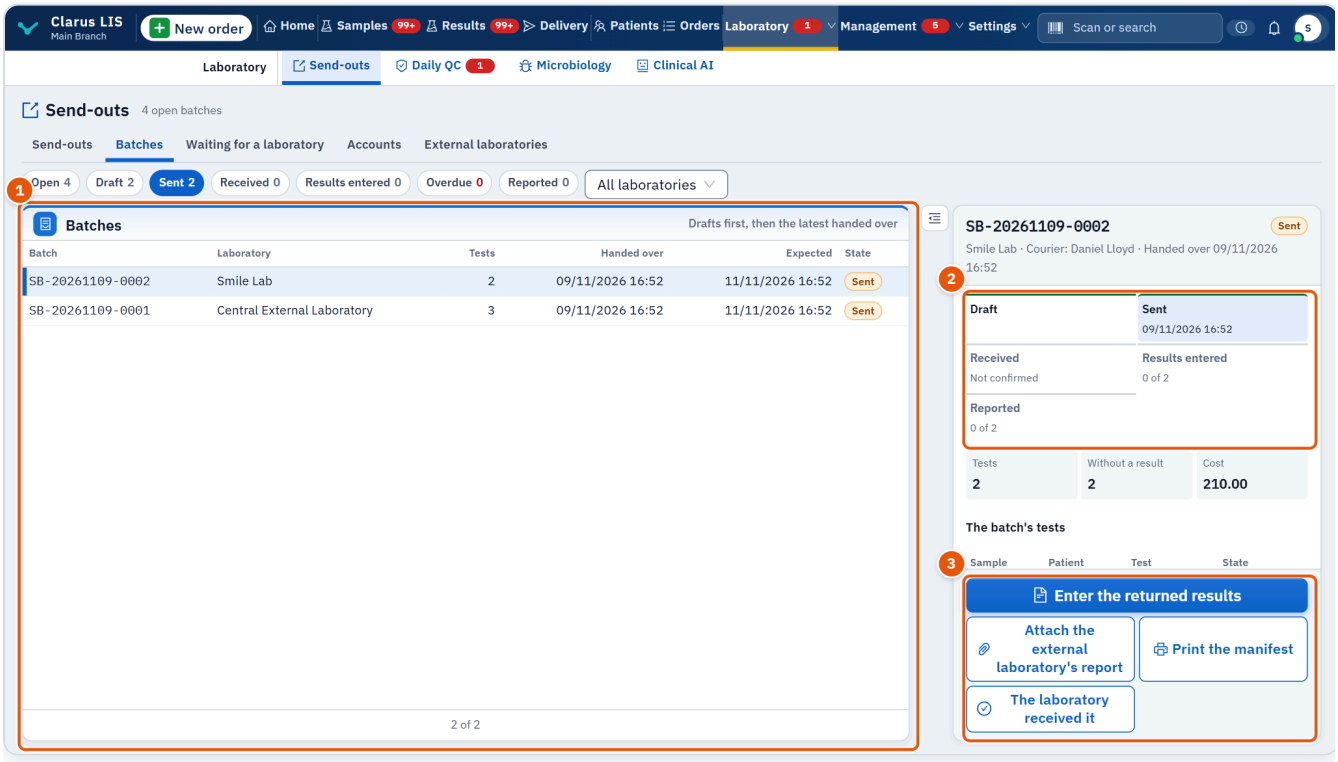


Figure 11-2: The Batches page: 1 the list, 2 the batch's stages, 3 its actions.

Control	What it does
Batch, **Laboratory**, **Tests**, **Handed over**, **Expected**, **State**	The list columns.
Batch stages	The stages of the chosen batch; the courier and the time of handover.
The laboratory received it	Records that the external laboratory received the batch. Shown only to a role with **Create orders**, and only while the batch is sent and not yet marked received.

Control	What it does
Enter the returned results	Shown only to a role with **Enter results**, and not once the batch is reported. Opens **The batch's results**: a table of the batch's tests with Result, Unit, Reference. A field left empty stays without a result. **Save the results (...)** saves them as Results does; approval is still there.
Attach the external laboratory's report	Attaches the external laboratory's report (PDF, PNG, JPEG or WebP, up to 10 MB) to an order (you choose the order when the batch holds several) with an optional note of up to 200 characters; a file of another type or over the size is refused in the window. It is kept with the order and never printed with your report.
Print the manifest	Prints the manifest again. Shown only to a role with **Print reports, receipts and labels**, and when the batch has a manifest.
Open in send-outs	Shown on a draft instead of the other buttons: goes to the send-outs page, on that laboratory.

A draft only gathers what goes to a laboratory; it becomes a batch at the handover, which is done from **Send-outs**. An overdue batch says when its oldest test was expected.

11.6 Page: Accounts

Shows, for each external laboratory and for the chosen month, **Sent**, **Cost due**, **Patients' price**, **Margin**, **Paid** and the balance over all time: owed to it, paid ahead, or settled. The cost is the external laboratory's price to you, not the patient's price. **Previous month** and **Next month** change the month; **Excel file** downloads the table; **Samples statement** opens the statement of all samples sent. Those last two, the payment buttons and the month's statement are hidden from a role without the permissions in the table above.

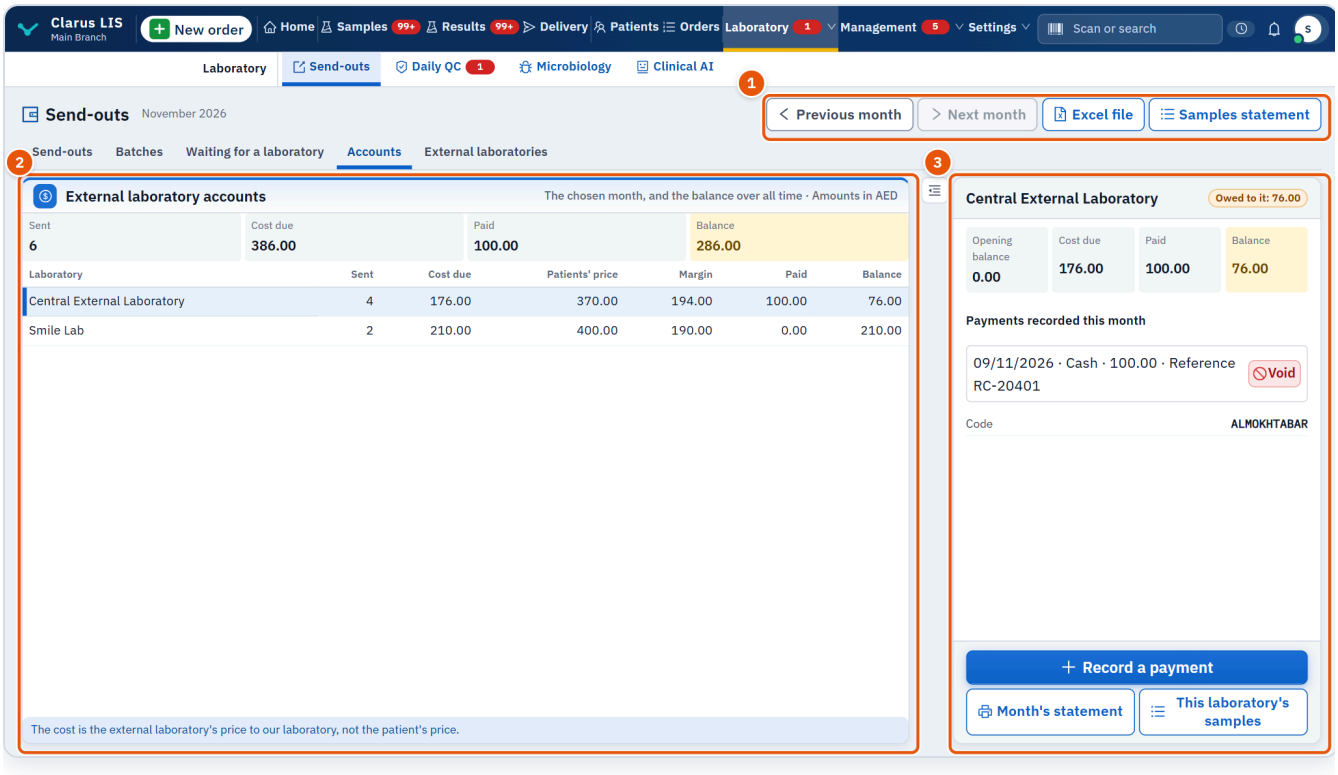


Figure 11-3: The Accounts page: 1 the month, 2 the laboratories, 3 the chosen laboratory's account.

For a chosen laboratory the details show the opening balance, the payments recorded this month (reference, method, notes) and the month's statement (**This laboratory's samples**).

Window	What it does
Record a payment	Fields: **Kind** (payment or opening balance), **Amount**, **Method** (cash, card, bank transfer, e-wallet, InstaPay and others), **Date**, **Receipt or transfer number**, **Notes**. The amount and a date written as YYYY-MM-DD are required; **Record** stays dimmed until both are right. The method is asked only for a payment. The opening balance is recorded once per laboratory.
Void the payment	A payment is never deleted: it is voided with a **Reason for voiding** (required), which stays on the statement. The void button sits beside each payment not yet voided.
Samples sent out	Each sample: date, patient, order, test, laboratory, whether the result arrived, our price, our cost and the difference. Export to Excel or PDF.

11.7 Page: External laboratories

The list **External laboratories** is ordered **Active first**; search by name, code or courier. Columns: **Laboratory**, **Courier**, **Turnaround**, **Tests**, **State**. The details show the contact, default turnaround, address, notes and the laboratory's tests with their code at the laboratory, cost and default.

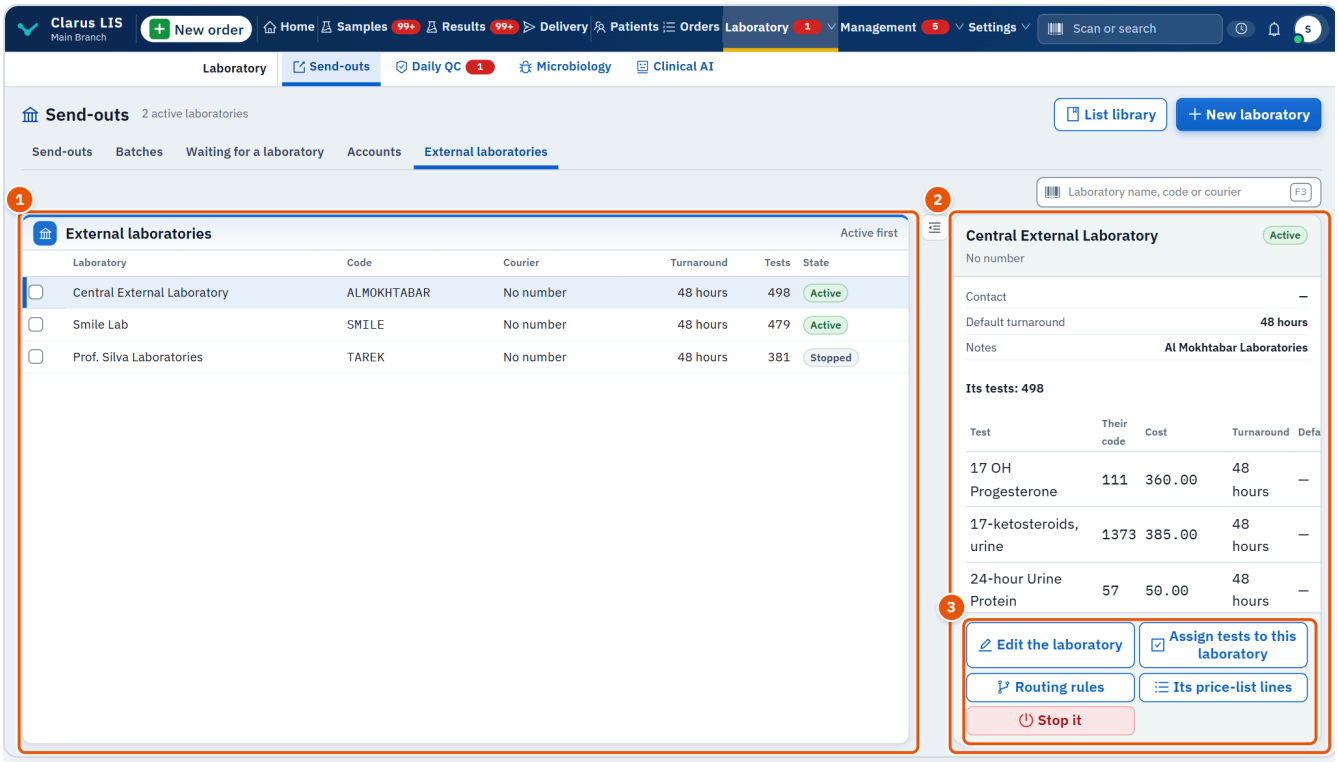


Figure 11-4: The External laboratories page: 1 the list, 2 the details, 3 the action buttons.

Control	What it does
New laboratory	Opens the form: code, laboratory name, courier's name and number, contact person, phone, default turnaround in hours, email, address, notes. The code and the name are required. The courier's number is what WhatsApp uses.
Edit the laboratory	The same form for the chosen laboratory.
Assign tests to this laboratory	Window **Tests for ...**: choose the tests sent here, the cost (it starts at the printed price when there is one), the turnaround, and whether this laboratory is the test's default. Filters: **All**, **Sent here**, **Not sent here**; search; section. For a stopped laboratory this button (like the routing one) is dimmed: activate it first.
Routing rules	Window **Routing rules of ...**. Rules send tests to this laboratory by test, payer or branch. The more specific rule wins (test, then payer, then branch); a rule never sends a test the laboratory does not take; the order's own choice outranks every rule. The option **Sent out where the rule applies, even if it is done in house** sends even what is done in house. The test list offers only the tests assigned to this laboratory. **Add the rule** stays dimmed until at least one of test, payer or branch is chosen; **Stop it** stops a rule and it stays in the record.

Control	What it does
Its price-list lines	Window **Price-list lines of …**: the lines of the laboratory's printed price list, with printed price and price in use, filters (**All**, **Need a choice**, **Priced by the laboratory**, **Switched off**, **Unbound**). For a line you may **Bind** it to a test, set **Laboratory's price** with **Save the price**, **Back to the printed price**, or **Add to the catalogue**. The button appears only for a laboratory whose printed list was taken from the library; **Add to the catalogue** appears only on a line bound to no test, and only for a role holding both **Manage the laboratory's structure: branches, numbering, first run, external laboratories** and **Manage settings**.
Stop it / **Activate it**	Switches the laboratory off or on. Stopping tells you how many send-outs remain open there; move them from the list.
List library	Opens the library of lists.
Delete the chosen	Tick laboratories (a tick box in the list), then confirm. A laboratory nothing was ever sent to is deleted; one with send-outs is only stopped and its name stays on its send-outs and accounts.

11.8 Tasks, step by step

11.8.1 Task 1 — Call the courier and hand over the samples

1. Open **Send-outs** and filter **Waiting to go**.
2. Tick the send-outs, or choose one and use its buttons.
3. Press **Call the courier**, then **Open WhatsApp**. Send the message in WhatsApp.
4. When the courier arrives press **Hand to the courier and print the manifest** (or **Hand to the courier**). Write who received in **Received by**; it is required.
5. Press **Hand over and print the manifest**. The manifest prints in two copies.

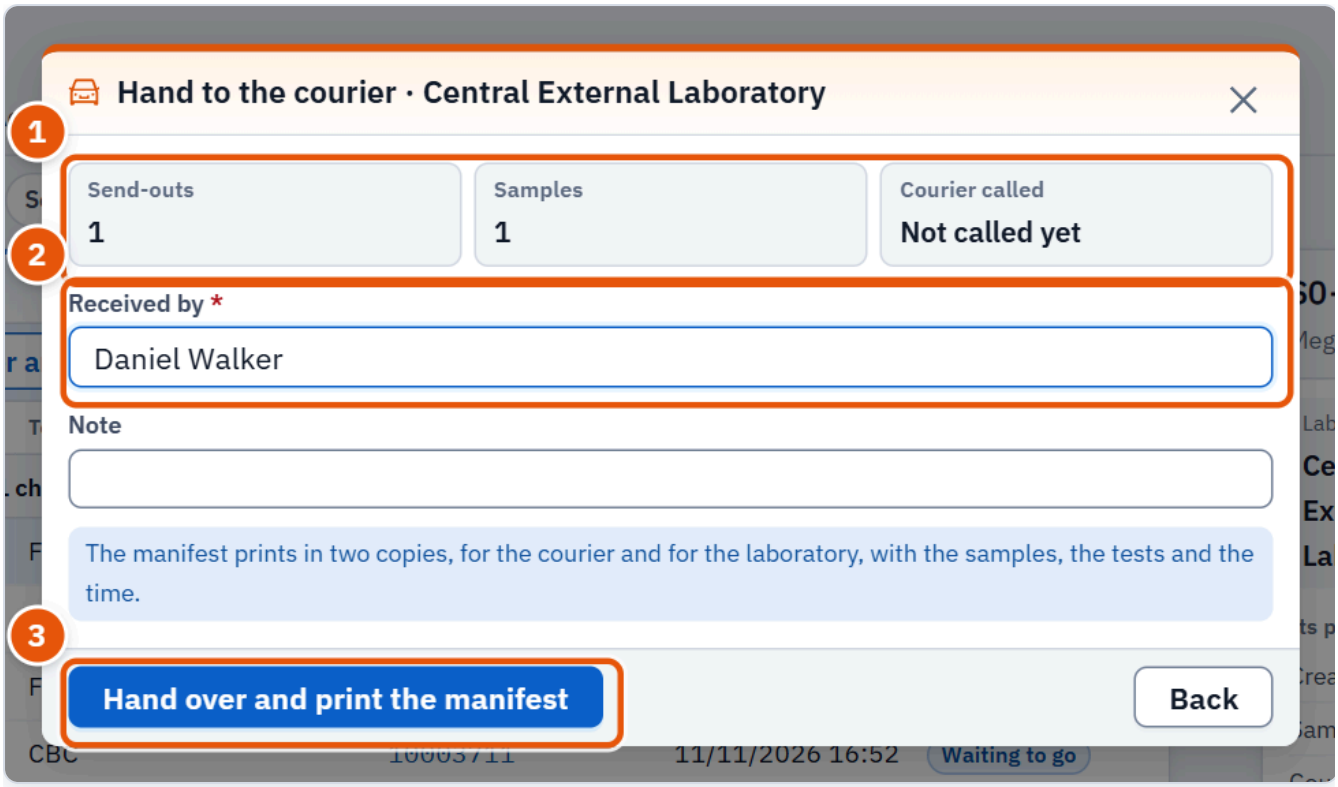


Figure 11-5: The hand-over window: 1 the laboratory and counts, 2 who received, 3 the button.

11.8.2 Task 2 — Change the laboratory or keep a test in the house

1. Choose the send-out; it must still be in the building.
2. **Change the laboratory**: choose the laboratory and press **Move it to the chosen one**. Or **Keep it in the house**: write the reason and press **Keep it in the house**.

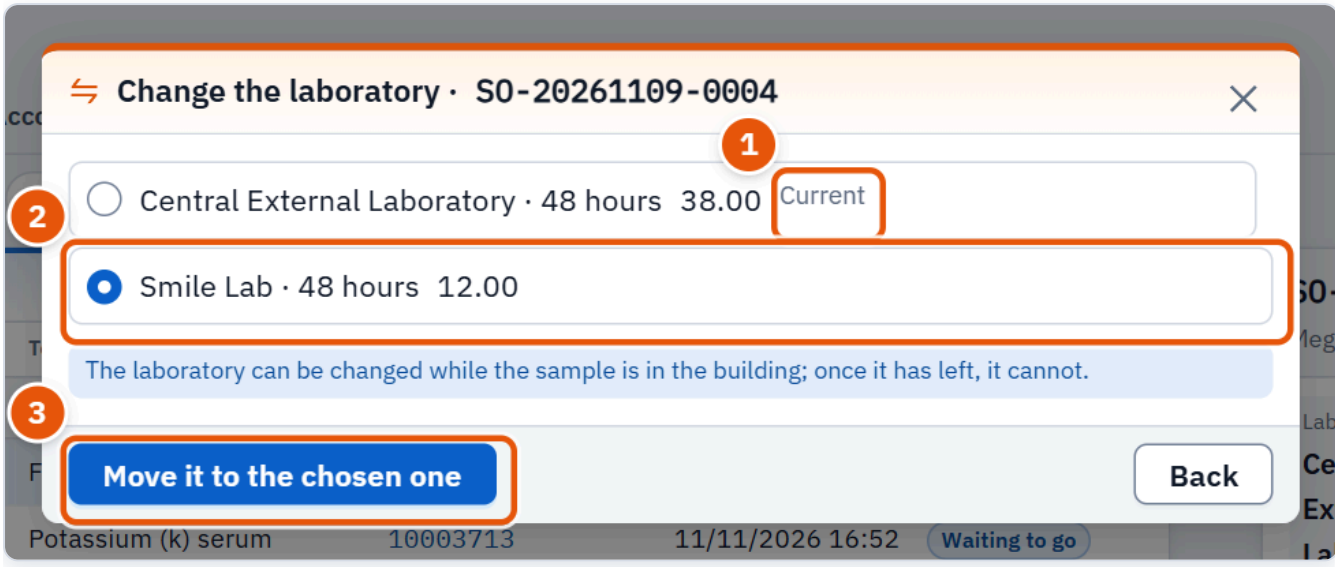


Figure 11-6: Change the laboratory: 1 the current laboratory, 2 the choice, 3 the button.

11.8.3 Task 3 — Receive the results of a batch

1. In **Batches** choose the batch.

2. Press **The laboratory received it** when the laboratory confirms receipt (the button is there only for a batch that is sent and not yet received).
3. When results return, press **Enter the returned results**, type them and press **Save the results (...)**.
4. Optionally **Attach the external laboratory's report**.
5. Approve the results in Results.

11.8.4 Task 4 — Add an external laboratory and its tests

1. In **External laboratories** press **New laboratory**, fill the form and press **Save the laboratory**.
2. Choose it and press **Assign tests to this laboratory**; tick the tests, check the cost, then **Save**.
3. Add **Routing rules** if payer or branch should decide.

11.8.5 Task 5 — Record a payment to a laboratory

1. In **Accounts** choose the laboratory and the month.
2. Press **Record a payment**; fill the amount, method, date and receipt number; press **Record**.
3. To correct a mistake press **Void** on the payment and give a reason.

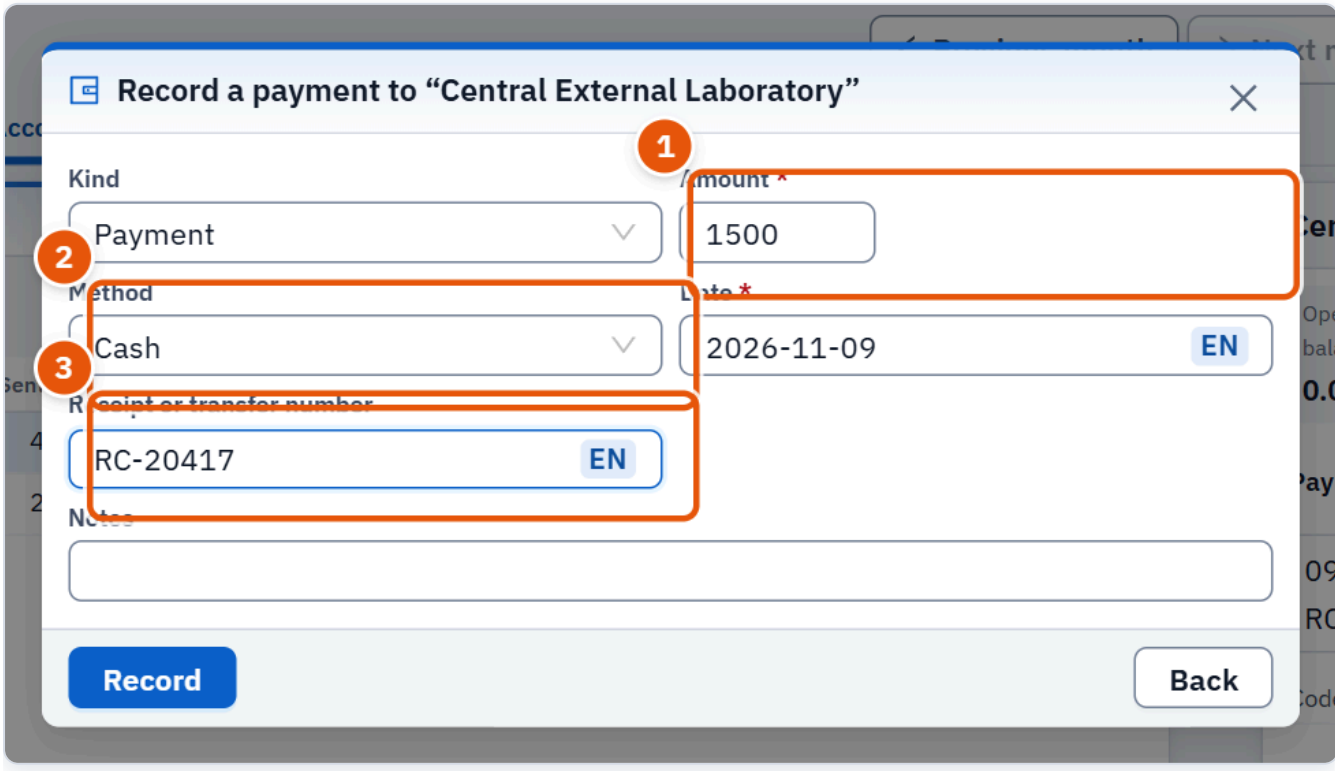


Figure 11-7: Record a payment: 1 kind and amount, 2 method and date, 3 receipt number.

11.9 Messages and what to do

The screen says	Meaning	What to do
WhatsApp did not open: no usable courier number, or the browser blocked the window.	The call was recorded but WhatsApp did not open: no usable courier number, or the browser blocked the window.	Allow pop-ups or use **Copy the text**.
The message is written; send it another way. “Courier called” is recorded only once WhatsApp is opened.	The laboratory has no courier number, so there is no WhatsApp button and the call is not recorded.	Send the text another way.
This laboratory is switched off: switch it on, then assign tests to it.	The laboratory is stopped.	Activate it first.
No active laboratory yet. Add one in the «External laboratories» tab.	No active laboratory.	Add one in the laboratories page.
The laboratory can be changed while the sample is in the building; once it has left, it cannot.	Too late to change.	Contact the laboratory.
Choose at least a test, a payer or a branch.	A rule needs a scope.	Choose a test, payer or branch.

11.10 See also

- **Results**
- **Orders**

Chapter 12

Daily QC

Menu: **Daily QC**. Address: `/lab/qc`.

12.1 What this screen is for

This is where the laboratory proves, every day, that its analyzers measure correctly. A technologist **records a run** of a control material (a control lot of known target value), the program judges each value against the Westgard rules, and the Levey-Jennings chart shows how the lot has behaved over time.

The screen is also a gate. A quality-control run that fails, or the absence of a passing run, **holds the approval of results** on the Results screen: the held result cannot be approved until a passing run is recorded and any open violation is resolved here. The same screen holds the setup of the automatic release of results (rules per test, a replay of the rules, and the analyzer controls).

12.2 Who sees it

Whoever holds **Enter results**. The menu hides the screen from everyone else. The dossier of the screen names no other permission; the buttons below are not separately restricted on the screen.

You can...	...if your role holds
Open the screen, record a run, resolve a violation, manage lots, read the rules, and set the automatic release	Enter results

12.3 The screen in a glance

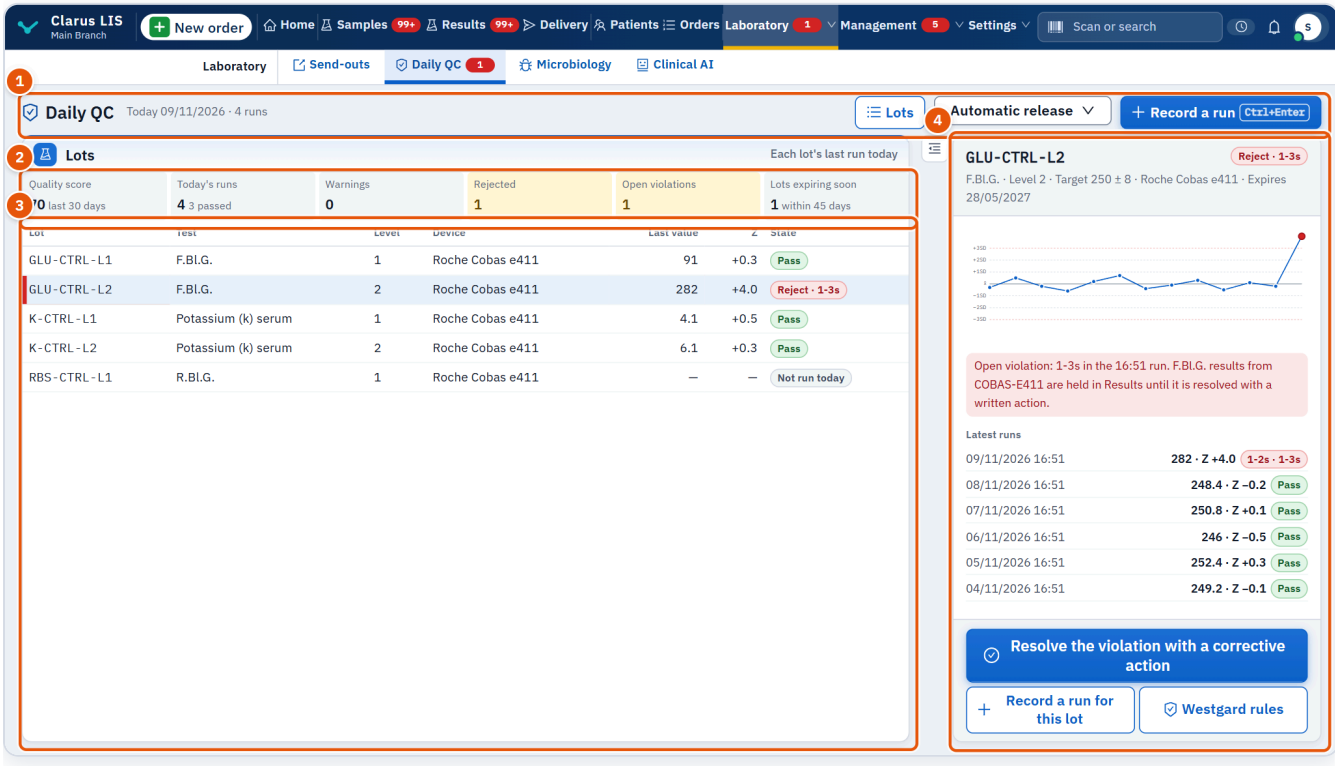


Figure 12-1: The Daily QC screen: 1 the head with its buttons, 2 the figures, 3 the list of lots, 4 the chosen lot's details and chart.

1. **The head**: the title with today's date and the number of runs, and the buttons **Lots**, **Automatic release** and **Record a run** (**Ctrl+Enter**).
2. **The figures**: **Quality score**, **Today's runs**, **Warnings**, **Rejected**, **Open violations** and **Lots expiring soon**.
3. **The list of lots**: each active lot with its last run today.
4. **The lot details**: the chosen lot, its Levey-Jennings chart, its latest runs and its actions.

12.4 The head and the figures

Element	What it does
Lots	Opens the control lots window (12.7.4 Task 4 — Manage the control lots).
Automatic release	A menu with **Rules per test**, **Replay the rules** and **Analyzer controls** (12.7.5 Task 5 — Set the automatic release rules per test, 12.7.6 Task 6 — Replay the rules before relying on them, 12.7.7 Task 7 — Map an analyzer's control to a lot).
Record a run (**Ctrl+Enter**)	Opens the window to record a run (12.7.1 Task 1 — Record a run).
Quality score	The quality score for the last 30 days.

Element	What it does
Today's runs	The runs recorded today and how many passed.
Warnings and **Rejected**	The warnings and rejections counted by the server. A non-zero rejected count is marked as due.
Open violations	Violations still open. Each one holds results until it is resolved.
Lots expiring soon	Lots that expire within 45 days.

The screen refreshes itself every minute.

12.5 The list of lots

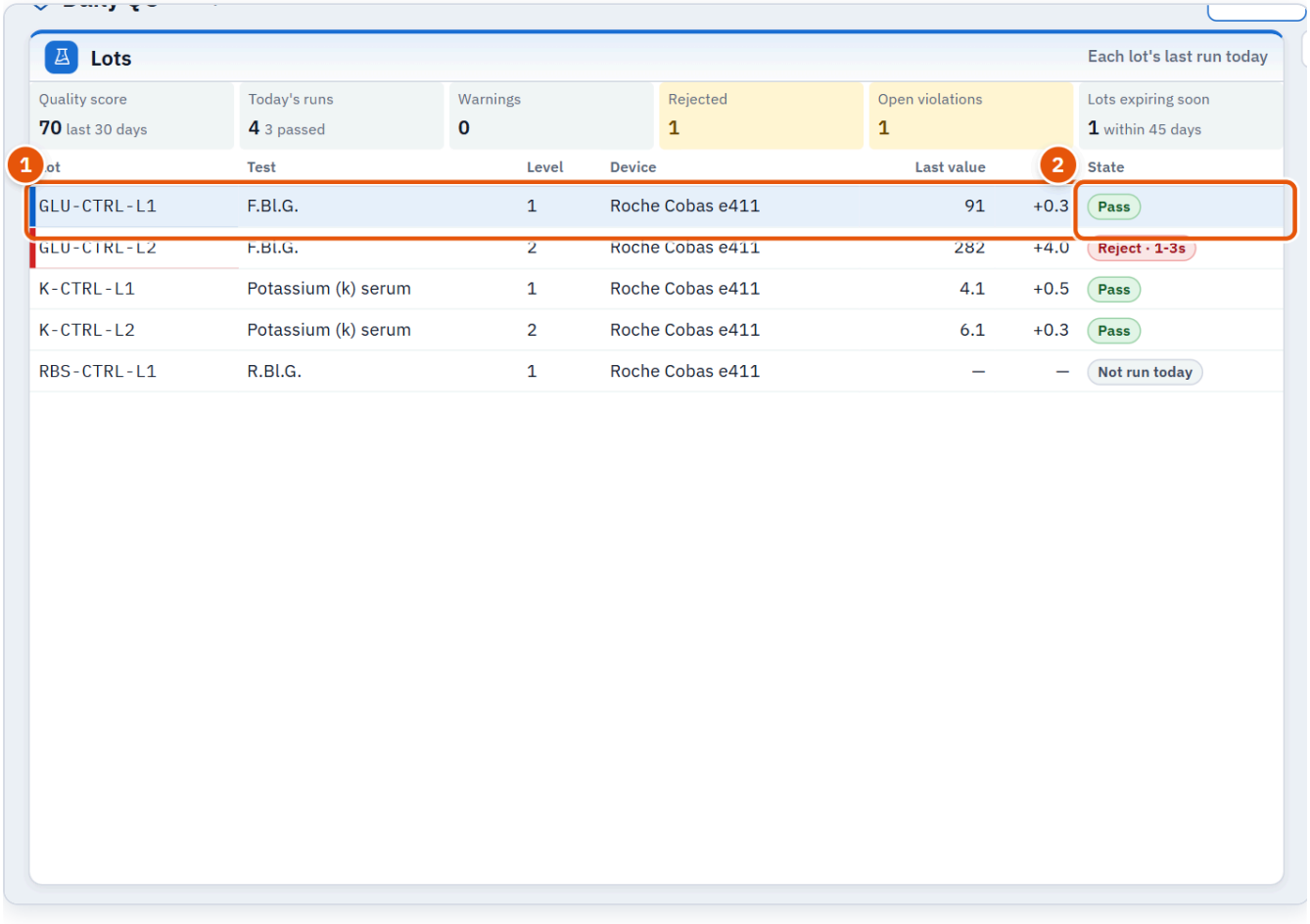


Figure 12-2: The list of lots: 1 one lot, 2 its state.

The list is headed «Each lot's last run today». Its columns are **Lot**, **Test**, **Level**, **Device**, **Last value**, **Z** and **State**. Z is how many standard deviations the value lies from the target. The state is the verdict the server gave: **Pass**, **Warning** or **Reject**, with the rule that failed beside it; or **Not run today** if the lot has no run today. A lot with an open violation is marked as urgent. If there is no active lot the list says to add one from **Lots**.

Choose a lot to see its details.

12.6 The lot details and the chart

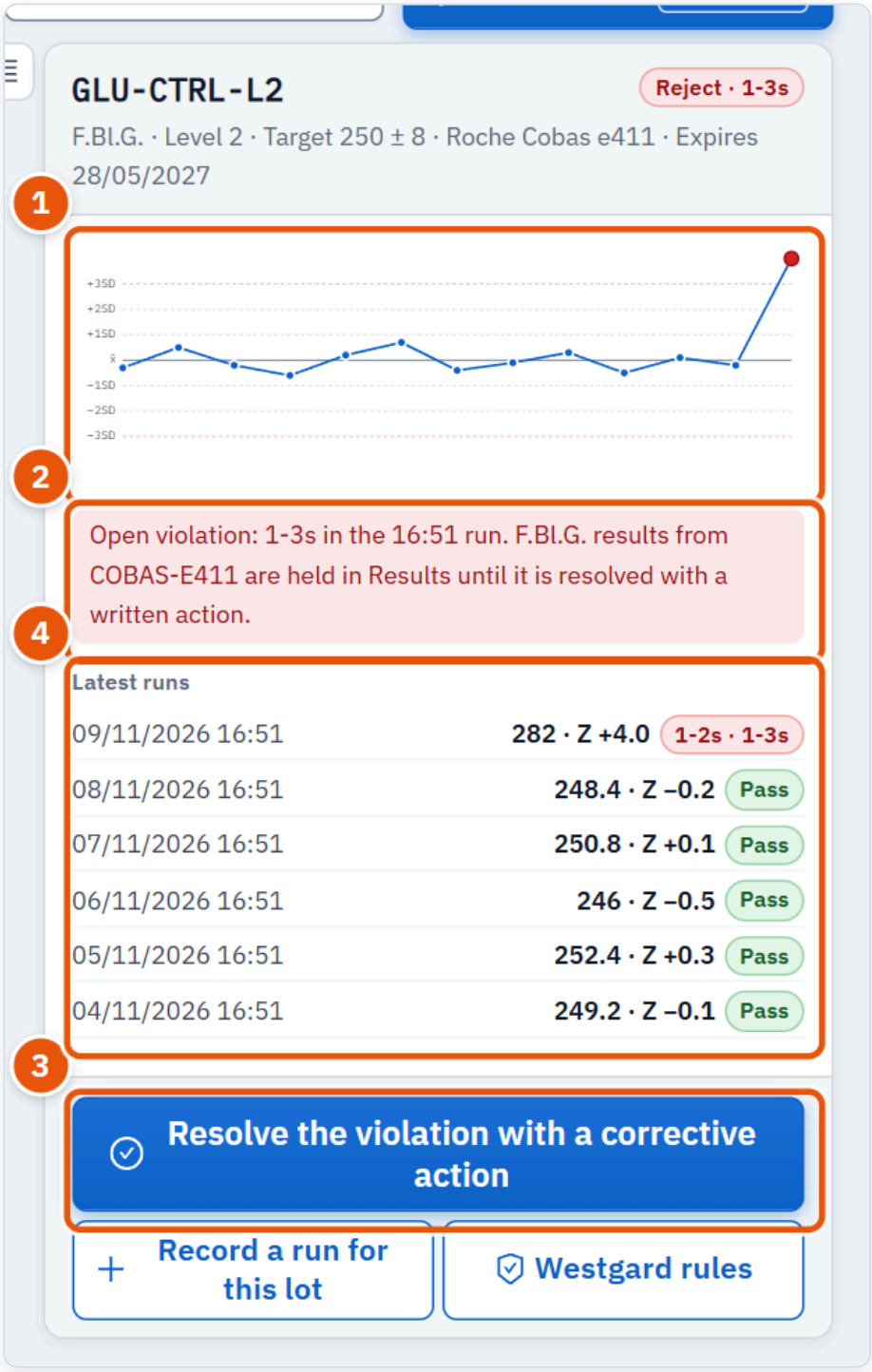


Figure 12-3: The chosen lot: 1 the Levey-Jennings chart, 2 the open violation, 3 Resolve the violation, 4 the latest runs.

The heading gives the lot code and its state; under it are the test, the level, the target with its standard deviation (or «No target set»), the device and the expiry date.

Element	What it does
The Levey-Jennings chart	Plots the lot's runs against its target. A warning or rejected run is a larger point with a ring, and its verdict shows in the tooltip. Empty, it says the lot has no runs yet.
The note about the chart	If it appears, the chart shows only the lot's runs among the newest results until the server returns all of them.
The red note about an open violation	Names the rule, the time of the run, the test and the device, and says that the device's results are held in Results until it is resolved with a written action.
The expiry note	Appears when the lot expires within 45 days: prepare the next lot and add it from **Lots**.
Resolve the violation with a corrective action	Shown only while the lot has an open violation. Opens 12.7.3 Task 3 — Resolve a violation.
Record a run for this lot	Opens the run window for this lot.
Westgard rules	Opens the Westgard rules and device performance window (12.7.8 Task 8 — Read the Westgard rules and device performance).
Latest runs	The lot's six latest runs: time, value, Z and the rules that failed or the verdict.

12.7 Tasks, step by step

12.7.1 Task 1 — Record a run

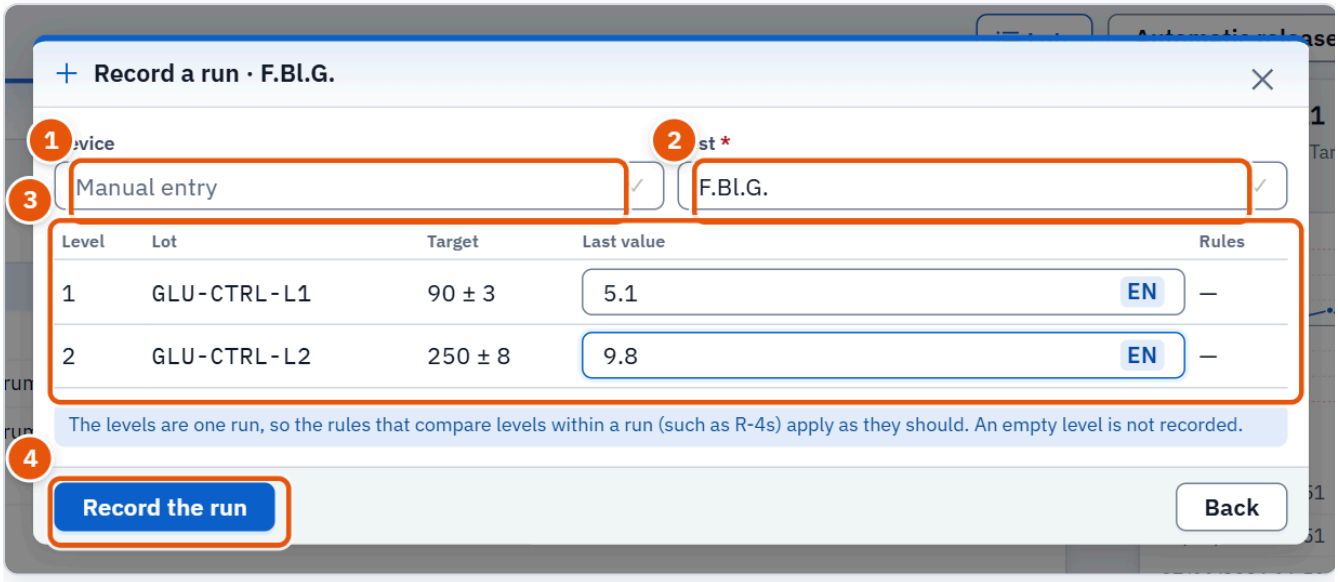


Figure 12-4: Recording a run: 1 the device, 2 the test, 3 one value per level, 4 Record the run.

1. Press **Record a run** (**Ctrl+Enter**, which works even while the cursor is in a field, but not while another window is open), or **Record a run for this lot** on a chosen lot.

2. Choose the **Device**, or leave it as **Manual entry**. If only one device exists it is chosen for you.
3. Choose the **Test** (it is already chosen when you started from a lot). The table lists one line per level of that test's active lots, with the lot and its target.
4. Type the measured value of each level. A level left empty is not recorded.
5. Press **Record the run**. The levels are recorded in order as one run, so the rules that compare levels within a run (such as R-4s) apply. Each line then shows its verdict, the failed rules and Z.
6. Press **Done**.

If the server refuses, the reason shows in red in the window; correct and try again.

12.7.2 Task 2 — Read the Levey-Jennings chart

1. Choose the lot in the list.
2. Read the chart: the target line and the lot's runs. A point far from the target, or a ringed point, is a run that warned or was rejected.
3. Read **Latest runs** for the exact value, Z and the rule behind each.
4. If you need the rules' meaning, press **Westgard rules** (12.7.8 Task 8 — Read the Westgard rules and device performance).

12.7.3 Task 3 — Resolve a violation

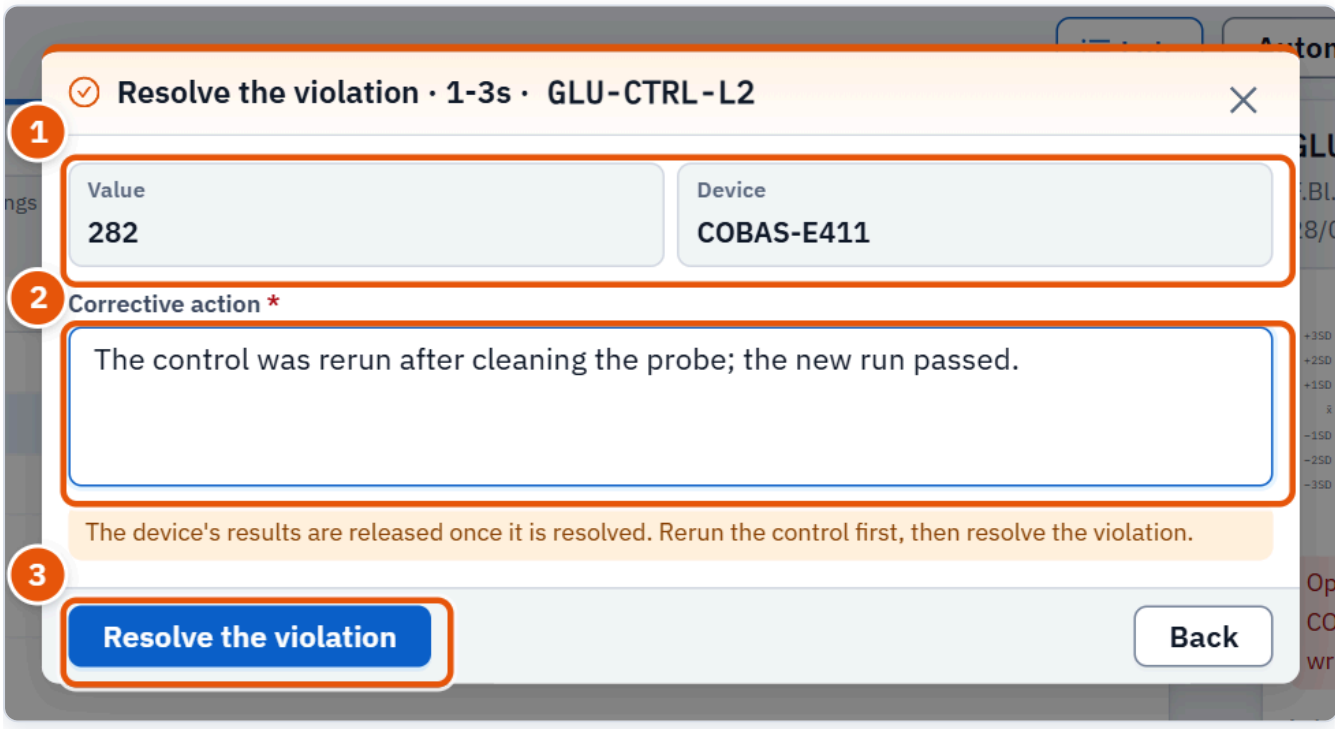


Figure 12-5: Resolving a violation: 1 the value and the device, 2 the corrective action, 3 Resolve the violation.

A failed run opens a violation. While it is open, the results of that device are held in Results.

1. Rerun the control first and record the run (12.7.1 Task 1 — Record a run). The window says: rerun, then resolve.
2. Choose the lot with the violation and press **Resolve the violation with a corrective action**.
3. The window shows the value and the device. Write the corrective action that was taken.
4. Press **Resolve the violation**.

A **reject** cannot be closed without its written corrective action: the button stays dim until you write it. A **warning** closes without one; write what was done if you wish. When it is resolved, the hold on the device's results is lifted.

12.7.4 Task 4 — Manage the control lots

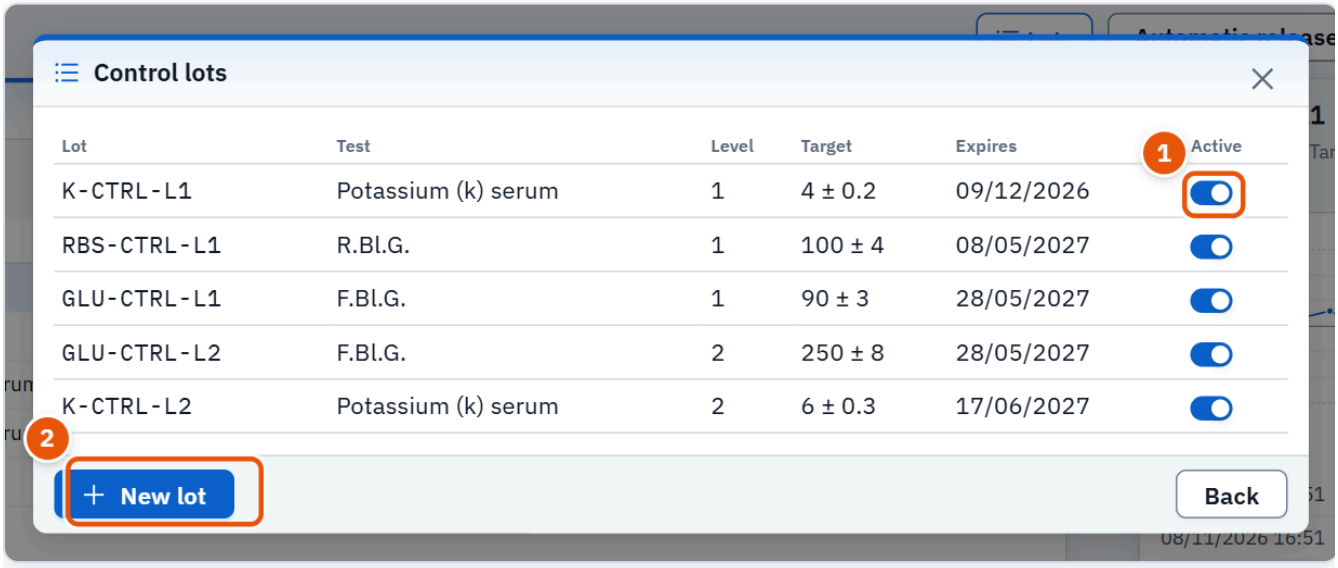


Figure 12-6: Control lots: 1 the lots with their switch, 2 New lot.

1. Press **Lots**. The window **Control lots** lists the lots; if empty it says so.
2. To retire a spent bottle, turn off its **Active** switch. A lot is switched off, never deleted; the window keeps listing switched-off lots, while the main list shows active ones only.
3. To add a lot press **New lot** and fill **Lot code** (written in capitals), **Test code** (a test code; it also accepts one not yet used by any lot), **Level** (1, 2 or 3), **Expires** (optional), **Target** and **Standard deviation**. The standard deviation must be greater than zero, and the code, the test, the target and the deviation must all be filled before the button is enabled.
4. Press **Save and activate**.

12.7.5 Task 5 — Set the automatic release rules per test

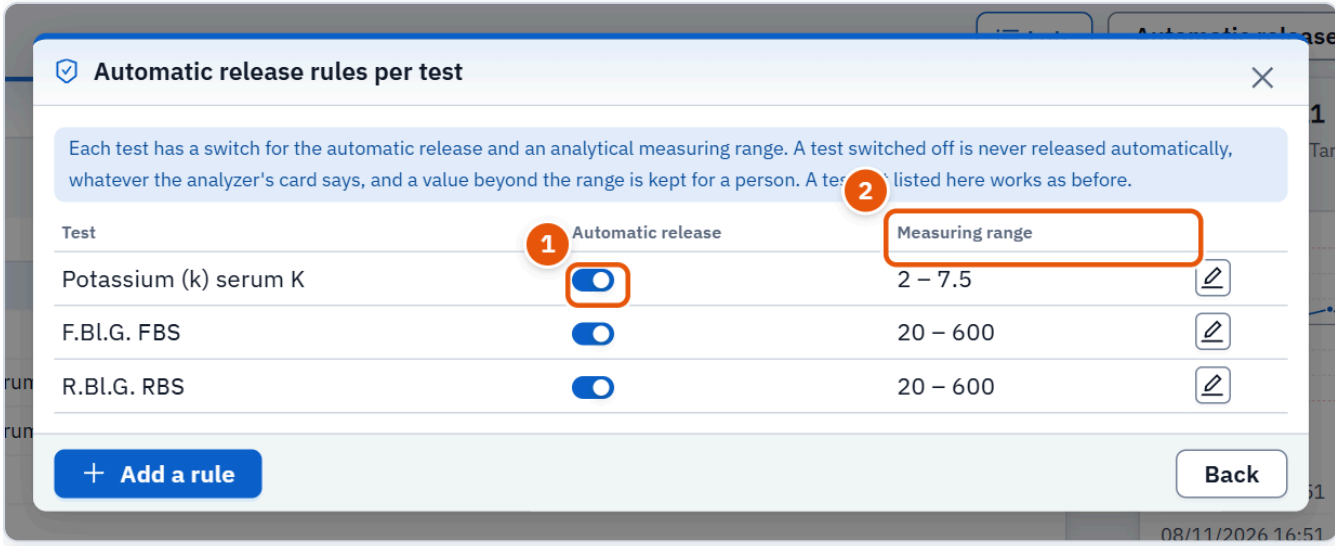


Figure 12-7: Automatic release rules: 1 a test's switch, 2 its measuring range.

1. Press **Automatic release**, then **Rules per test**. The window **Automatic release rules per test** lists the tests with a rule; if none, it says so.
2. To allow or forbid the automatic release of a test, use the switch **Automatic release** on its line. A test switched off is never released automatically, whatever the analyzer's card says.
3. To write a rule press **Add a rule**, choose the **Test** (search by code or name), and give the **Lower limit** and **Upper limit** limits of the **Measuring range**. Leave both empty to remove the range. A value beyond the range, or one the analyzer marks with "<" or ">", is kept for a person.
4. Press **Save**.

A test not listed works as before.

12.7.6 Task 6 — Replay the rules before relying on them

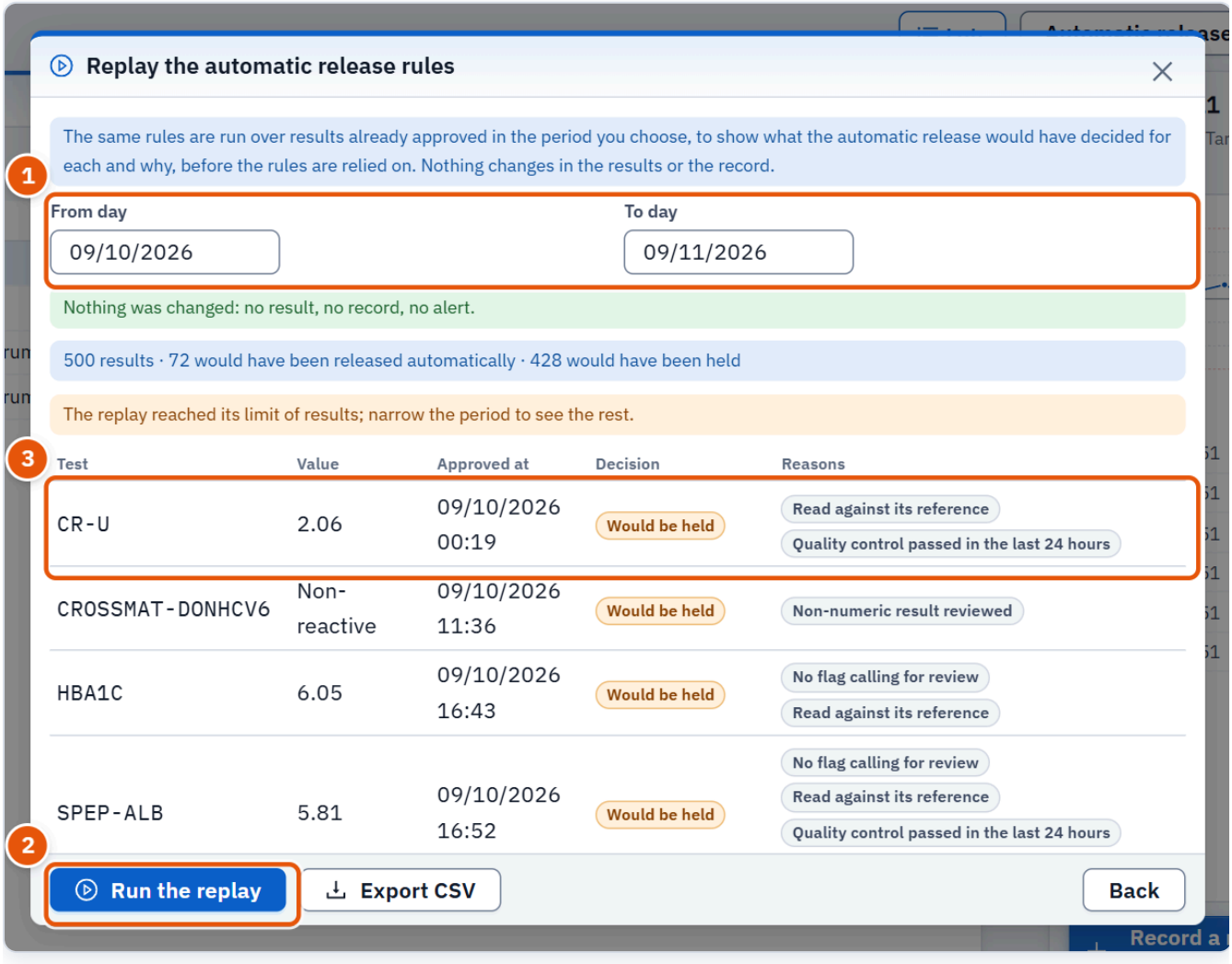


Figure 12-8: The replay: 1 the period, 2 Run the replay, 3 the decisions.

1. Press **Automatic release**, then **Replay the rules**.
2. Choose **From day** and **To day**.
3. Press **Run the replay**.
4. Read the counts: how many results, how many would have been released automatically and how many held. The table gives, per result, the **Test**, **Value**, **Approved at**, the decision (**Would be released automatically** or **Would be held**) and the reasons.
5. To keep the table, press **Export CSV**.

The replay changes nothing: no result, no record and no alert. Quality-control, calibration and connection state are judged as they are now, not as they were when the result was approved. If the replay reaches its limit of results, narrow the period.

12.7.7 Task 7 — Map an analyzer's control to a lot

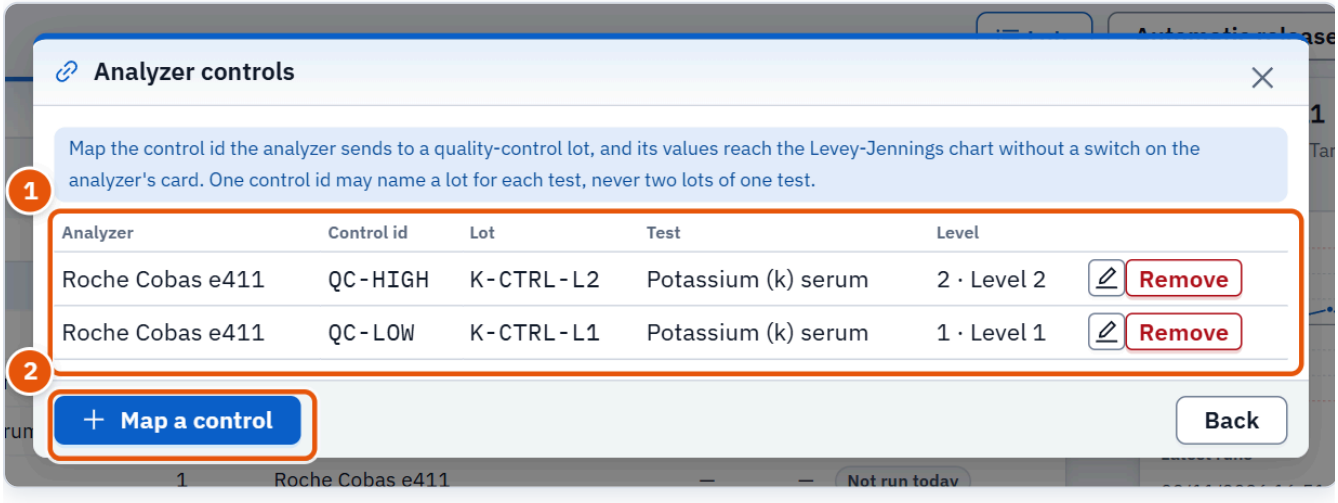


Figure 12-9: Analyzer controls: 1 the mapped controls, 2 Map a control.

1. Press **Automatic release**, then **Analyzer controls**.
2. Press **Map a control**.
3. Choose the **Analyzer**, type the **Control id** exactly as the analyzer sends it, choose the **Lot**, and add a **Note** if you wish.
4. Press **Save**.

The values the analyzer sends under that control id then reach the Levey-Jennings chart without a switch on the analyzer's card. One control id may name a lot for each test, never two lots of one test. **Remove** deletes a mapping.

12.7.8 Task 8 — Read the Westgard rules and device performance

Press **Westgard rules**. The window **Westgard rules and performance** lists each rule with its **Meaning**, its **Effect** (**Reject** or **Warning**) and how many are **Open**; and under **Device performance**, per device, the **Runs** and the **Mean |Z|**. If there is no run yet, it says so.

12.8 How quality control holds approval

Two checks on the Results screen depend on this one:

Check on Results	What holds	How to release it
Quality control passed in the last 24 hours	No passing quality-control run in the last 24 hours	Record a passing run (12.7.1 Task 1 — Record a run)
No quality-control hold	An open violation on the device	Rerun the control, then resolve the violation (12.7.3 Task 3 — Resolve a violation)

The Results screen shows the hold as a red mark in its foot, and its own messages call this page «Daily quality». The hold is on the device's results, not on the lot alone. Some holds cannot be overridden from Results; they are lifted only here.

> **Caution**
>
> Do not approve results of a device with an open violation by working around the hold. Rerun the control, then resolve the violation with a written action.

12.9 Messages and what to do

The screen says	Meaning	What to do
Quality control could not be loaded.	A fault reading the screen's data	Retry; check the connection
No active control lots. Add one from Lots.	No active lot	Add a lot (12.7.4 Task 4 — Manage the control lots)
The action failed. Try again.	The server refused a step	Read the reason in red and try again
Open violation: … results … are held in Results until it is resolved with a written action.	A failed run holds that device	Resolve it (12.7.3 Task 3 — Resolve a violation)
This lot expires … Prepare the next one.	Expiry within 45 days	Add the next lot (12.7.4 Task 4 — Manage the control lots)
Unreadable range: …	A stored measuring range cannot be read	Open the rule and write the range again (12.7.5 Task 5 — Set the automatic release rules per test)
The replay failed.	The replay could not run	Narrow the period and try again
The replay reached its limit of results	Too many results in the period	Narrow the period
The rules could not be read.	A fault reading the rules	Close and reopen the window
The controls could not be read.	A fault reading the mappings	Close and reopen the window
It could not be saved.	The server refused the save	Check the fields and try again

12.10 See also

Results (where the hold shows and approval happens), **Devices and printers** (analyzer cards and their faults), **Quality** (corrective actions).

Chapter 13

Microbiology

Menu: **Microbiology**. Address: `/lab/microbiology`.

13.1 What this screen is for

This is where a culture is followed from the day it is started to the day it is closed. The list shows every culture of the laboratory with its state; beside it, the open culture shows its growth, the antibiotics chosen when it was ordered, and its susceptibility results.

Three jobs are done here: **starting** a culture that was ordered and is still waiting, **adding susceptibility results** (each one Susceptible, Intermediate or Resistant), and **finalizing** the culture with its state and a growth summary. A sensitivity assistant reads a device's report and proposes the results for you to review.

13.2 Who sees it

Whoever holds **Enter results**. The menu hides the screen from everyone else.

You can...	...if your role holds
See the cultures, start one, add susceptibility results, finalize, use the assistant	Enter results

13.3 The screen at a glance

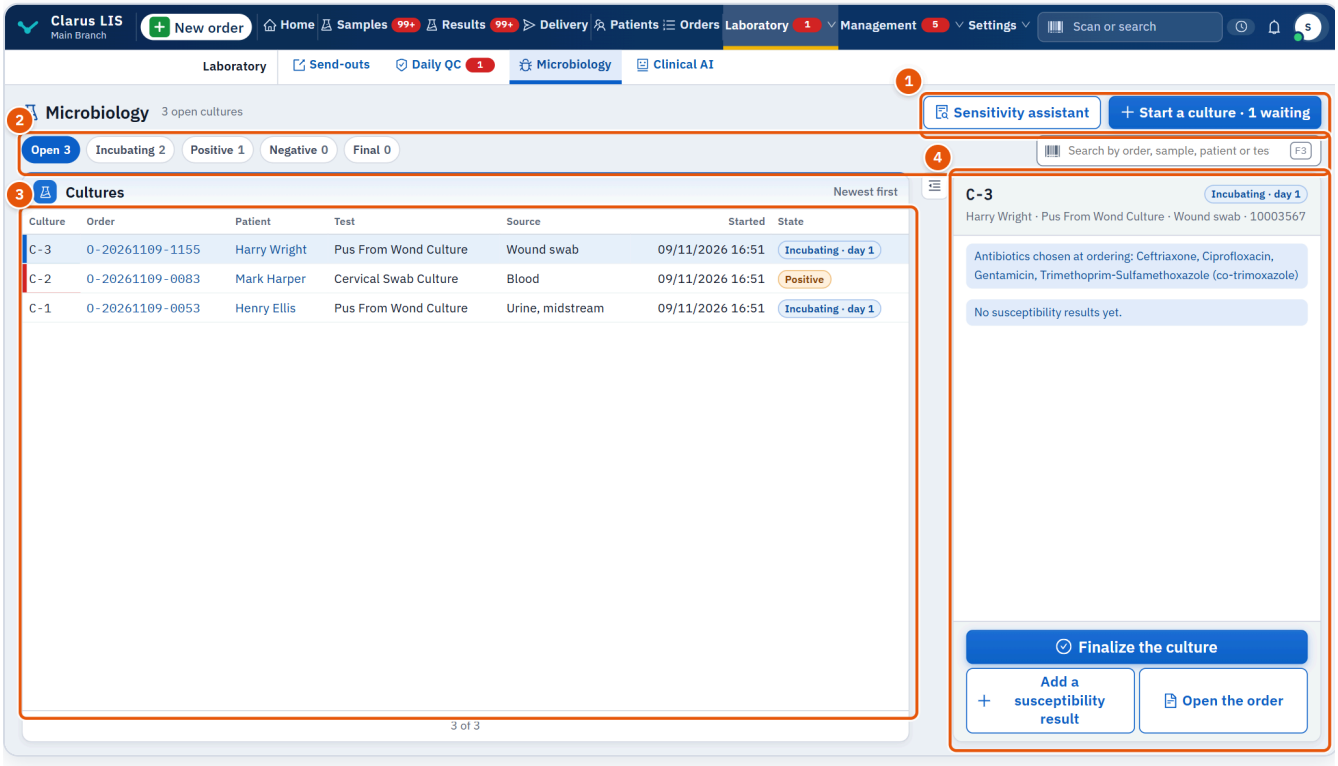


Figure 13-1: The Microbiology screen: 1 the action buttons, 2 the state filters and the search box, 3 the list of cultures, 4 the open culture's details.

1. **The action buttons**: **Sensitivity assistant** and the start button.
2. **The filters and search**: the five culture states and the search box.
3. **The list**: **Cultures**, newest first.
4. **The details**: the chosen culture, its growth and its susceptibility table.

13.4 The head, the filters and the list

Item	What it does
Start button	Reads «Start a culture · **N** waiting», where N is the number of cultures ordered and not yet started. It opens the start window.
Sensitivity assistant	Opens the assistant for the culture now chosen. It appears whenever a culture is chosen; the first row of the list is chosen for you until you press another.
Culture state	Five tags, each with its count: **Open** (incubating and positive together, the default), **Incubating**, **Positive**, **Negative**, **Final**. Changing the tag clears the chosen culture.
Search box	Searches by order, sample, patient or test.

Item	What it does
Cultures	One row per culture; a positive culture is marked as urgent. The rows load fifty at a time, with a button for more.

The columns of the list:

Column	Meaning
Culture	The culture's number, written C-n.
Order	The order; it is a link to the order.
Patient	The patient.
Test	The culture test.
Source	Where the specimen came from.
Started	When incubation began.
State	**Incubating** (with the day of incubation, for example «day 2»), **Positive**, **Negative** or **Final**.

When the list is empty it says so for the tag chosen (for example «No cultures incubating.»), or «No culture matches» followed by your search words. The list refreshes itself every minute.

13.5 The culture's details

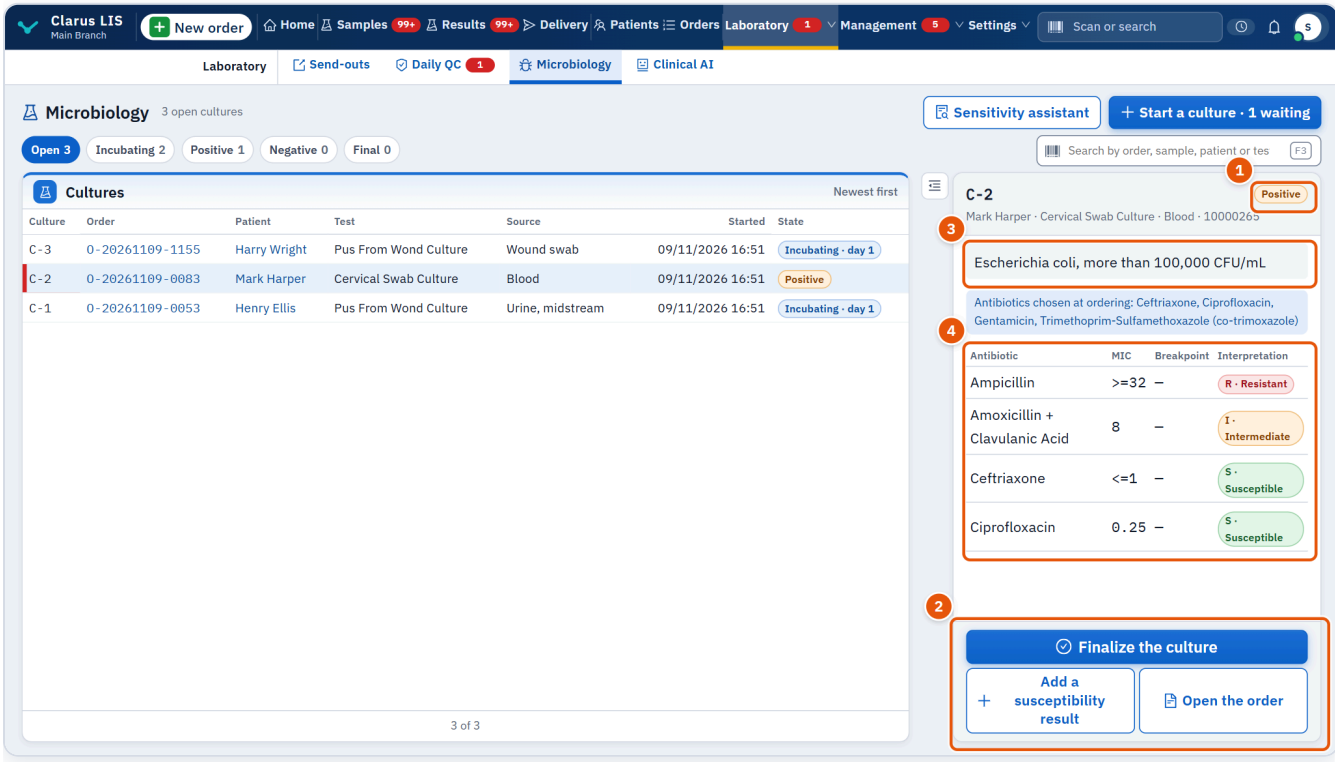


Figure 13-2: The details of a culture: 1 its state, 2 the buttons, 3 the growth, 4 the susceptibility table.

The heading shows the culture's number and state, then the patient, test, specimen source and sample. Under it:

Item	What it does
Finalize the culture	Opens the finalizing window. It appears only while the culture is open (incubating or positive).
Add a susceptibility result	Opens the susceptibility window. It is hidden for a negative culture.
Open the order	Goes to the order's edit page.
Growth	The growth summary if one was written; otherwise **Growth:** followed by the organisms found.
Antibiotics chosen at ordering: …	A note naming the antibiotics chosen when the culture was ordered.
Susceptibility table	**Antibiotic**, MIC, **Breakpoint** and **Interpretation** (S, I or R with its name). When the culture has more than one organism, each row names its organism.

With no results yet, the table is replaced by «No susceptibility results yet.»

13.6 Tasks, step by step

13.6.1 Task 1 — Start a culture

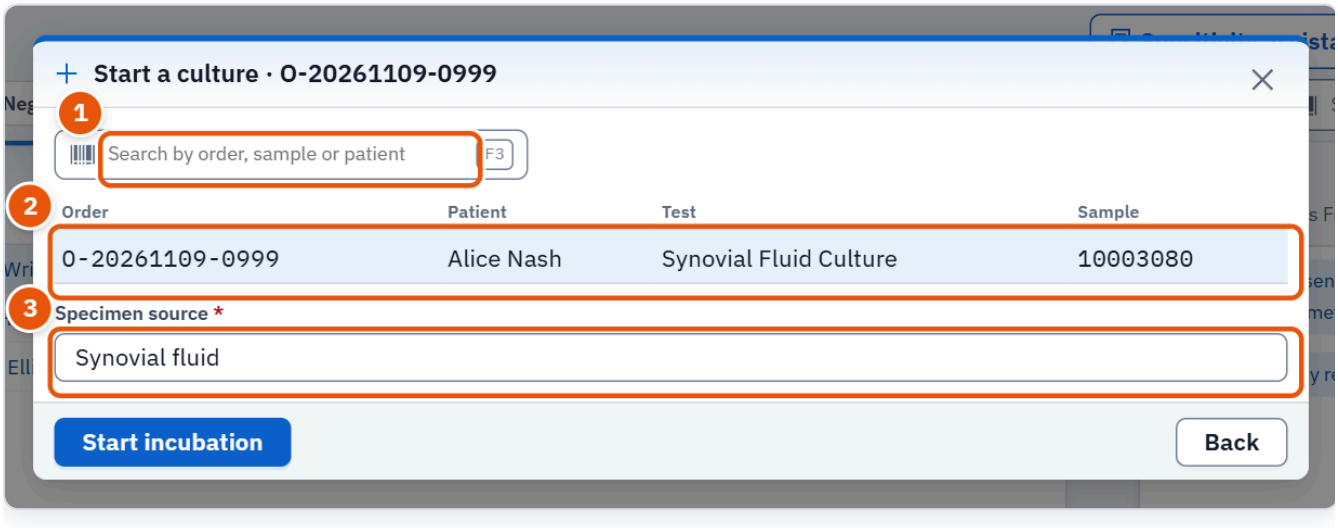


Figure 13-3: The start window: 1 the search box, 2 the chosen row, 3 the specimen source.

1. Press the start button.
2. Optionally search by order, sample or patient.
3. Choose the row of the culture. The window title now names its order.
4. Check **Specimen source**. It appears once a row is chosen and is filled with the specimen type of the order; correct it if needed. It cannot be empty.
5. Press **Start incubation**. It stays dim until a row is chosen and the source is filled.

The culture joins the list as incubating. If nothing is waiting, the window says «No cultures waiting to start.»

13.6.2 Task 2 — Add susceptibility results



Figure 13-4: The susceptibility window: 1 the organism, 2 the antibiotic, 3 the MIC, 4 Susceptible, Intermediate, Resistant.

1. Choose the culture, then press **Add a susceptibility result**.
2. Choose the **Organism**. Both lists can be searched by typing.
3. Choose the **Antibiotic**. Antibiotics marked with a star were chosen when the culture was ordered and come first.
4. Type the MIC if you have it. It is optional.
5. Choose **Interpretation**: S Susceptible (**Susceptible**), I Intermediate (**Intermediate**) or R Resistant (**Resistant**). Nothing is chosen at first.
6. Press **Add and continue**. The organism stays; the antibiotic, MIC and reading are cleared for the next one. The window counts the results added.
7. When finished, press **Done**.

The add button stays dim until the organism, the antibiotic and the reading are chosen.

13.6.3 Task 3 — Use the sensitivity assistant

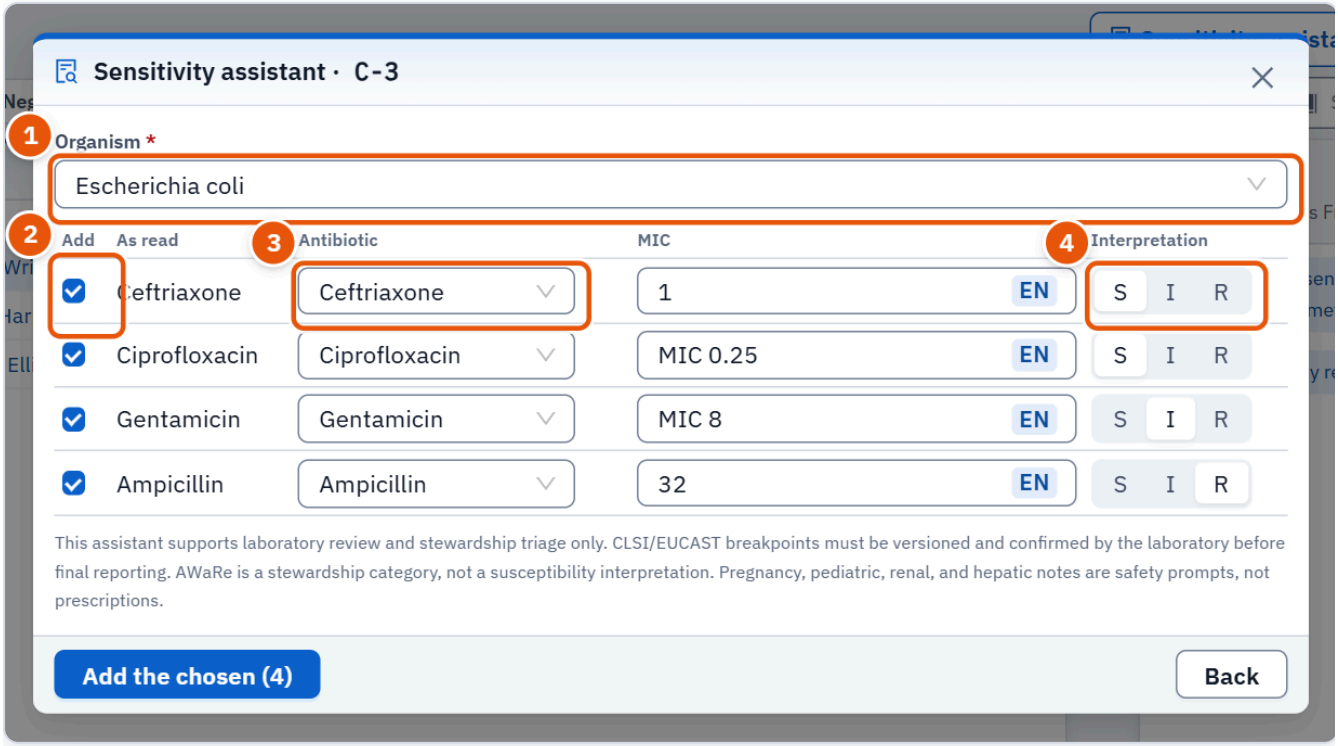


Figure 13-5: The assistant after reading: 1 the organism, 2 the tick boxes, 3 the antibiotic matched, 4 the reading.

1. Choose the culture, then press **Sensitivity assistant**.
2. Either choose the device's file (PDF, text, CSV or an image) with **Choose the device's file**, or paste its text in **Or its text**. Once a file is chosen the text box is disabled.
3. Press **Extract the results**.
4. Review what came back. The organism is matched from your list; change it if wrong. Each row shows **As read**, the antibiotic matched, the MIC and the reading. A row that could not be matched says «Not matched: choose the antibiotic»; choose one, or leave it unticked. A row's tick box is dim until it has both an antibiotic and a reading. Notes above the table are the assistant's own warnings; read them.
5. Correct any row, and tick the ones to keep (a row with a match and a reading is ticked by itself).
6. Press the button «Add the chosen (**N**)».

Nothing is added without this review. The read button stays dim until a file is chosen or text is typed, and the add button until an organism is chosen and at least one row is ticked. If the file gives no results the window says so. After adding, the rows are locked and the window closes with **Done**.

13.6.4 Task 4 — Finalize a culture

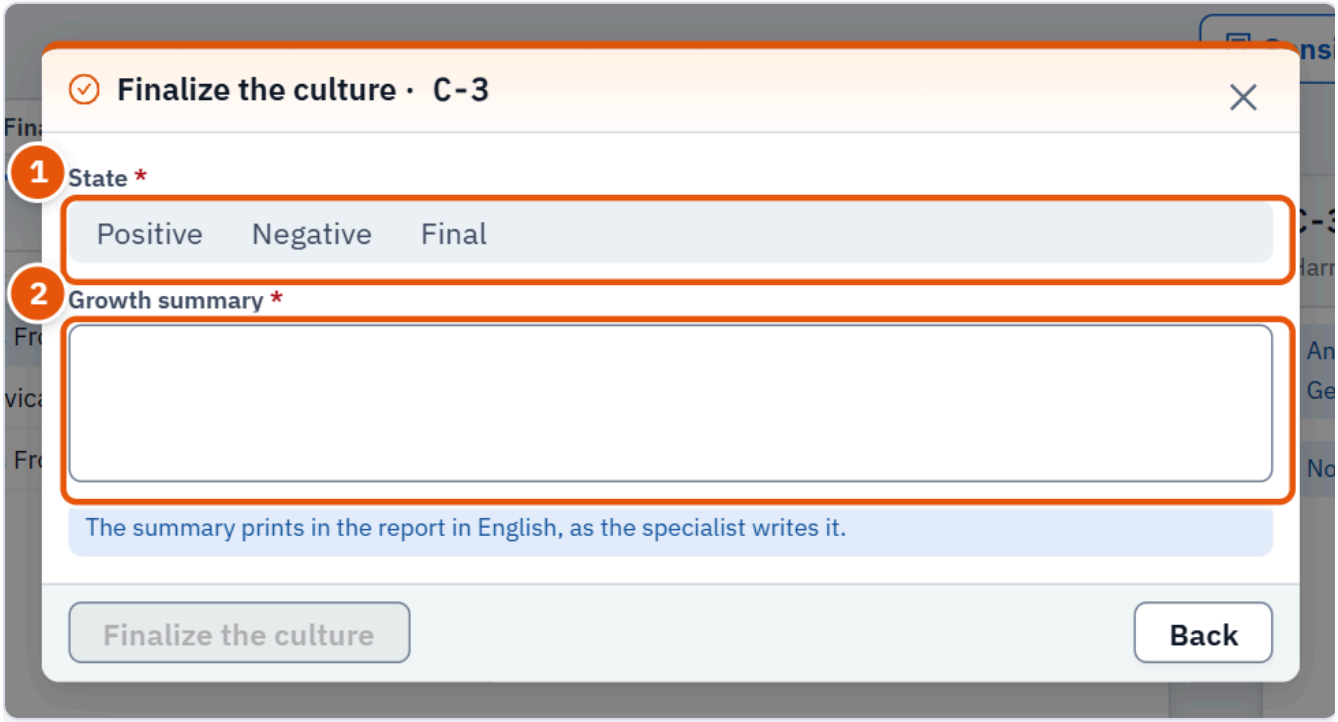


Figure 13-6: The finalizing window: 1 the state, 2 the growth summary.

1. Choose an open culture and press **Finalize the culture**.
2. Choose the **State**: **Positive**, **Negative** or **Final**. None is chosen at first.
3. Write the **Growth summary**. It starts with the growth summary already written, if any. It is required and prints in the report in English, as the specialist writes it.
4. Press **Finalize the culture**. It stays dim until the state is chosen and the summary is not empty.

> **Tip**
>
> Add the susceptibility results first. A negative culture hides the add button, and a closed culture no longer offers **Finalize the culture**.

13.7 Messages and what to do

The screen says	Meaning	What to do
The cultures could not be loaded.	The list did not arrive.	Use the retry offered under the list.
No cultures waiting to start.	Every ordered culture has been started.	Nothing to do.

The screen says	Meaning	What to do
The action failed. Try again.	The server refused or did not answer; when the server gives its own reason, that is shown instead.	Press the button again; if it persists, tell the administrator.
Susceptibility is shown from the laboratory's newest results only, until the server returns the whole culture.	The culture's full record has not arrived yet.	Wait a moment; the full table replaces it.
The assistant read no susceptibility results from this file.	The file had nothing the assistant could read.	Try the text, or add the results by hand (13.6.2 Task 2 — Add susceptibility results).
No cultures here.	The list is empty, so there is nothing to show in the details.	Change the tag or the search.
Choose a culture to see its growth and susceptibility.	Rows exist but none is chosen (the screen normally chooses the first one).	Press a row.

13.8 See also

- **Results** for entering and approving the order's results.
- **Orders** for the order itself.

Chapter 14

Clinical AI

Menu: **Clinical AI**. Address: `/lab/clinical-ai`.

14.1 What this screen is for

Clinical AI holds the drafts that the Clarus clinical AI service has written: a comment on one result, or a case report for a whole order. They are scientific, not diagnostic. A specialist reads each draft and approves it, edits it and then approves it, or rejects it.

The screen is for reviewing. A draft is not asked for here: a case report draft is requested from the results screen (see 14.7 Asking for a draft), and a comment on one result from that result's tools window there, with the button **Comment draft**. The program states it on the screen itself: **No draft enters a report before approval**. A draft is never a result, and it never enters a report, until a person approves it.

14.2 Who sees it

You can...	...if your role holds
Open the screen, read the drafts, approve, edit, reject, and remove an approved case report	**Verify results**
Open the **Settings** window and the **Top up** window	**Manage settings**
Open the **Ledger** window	**Manage settings** or **Manage billing**

A button you may not use is not shown.

14.3 The screen at a glance

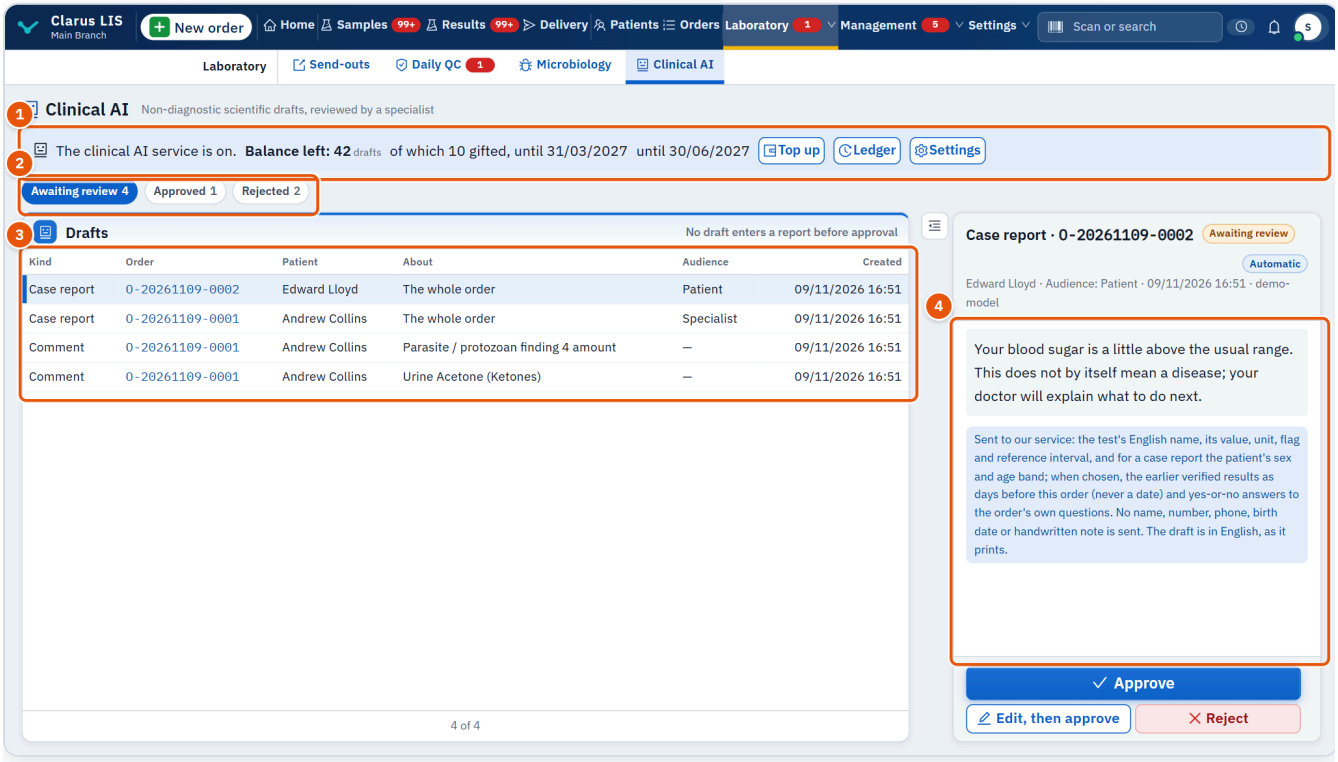


Figure 14-1: The Clinical AI screen: 1 the service bar, 2 the draft-state filter, 3 the drafts list, 4 the draft being reviewed.

1. **The service bar**: the service's state in the server's own sentence, the balance, and the buttons.
2. **The filter Draft state**: three states, each with a count.
3. **The list Drafts**.
4. **The draft pane The draft**: the text, and the buttons to decide.

When the service is switched off for this laboratory, the screen shows only the service bar and a card titled **The service is not switched on yet**. The card says what the service is and that the drafts waiting for review will appear here once it is switched on. There are no filters and no list.

14.4 The service bar

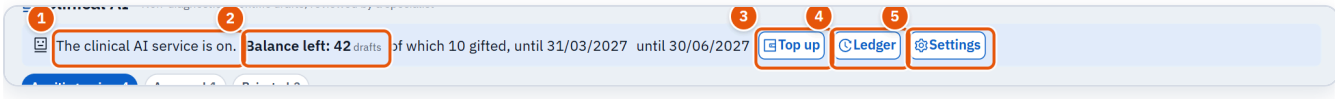


Figure 14-2: The service bar: 1 the state sentence, 2 the balance, 3 Top up, 4 Ledger, 5 Settings.

Item	What it does
The sentence	The service's state as the server states it: on, no balance, unreachable, or off.

Item	What it does
Balance left:	The drafts left in the balance. Shown when the service is on.
of which … gifted, until …	Shown when part of the balance is a gift, and until when it is valid.
until …	Shown when the service is valid until a set date.
Top up	Opens the top-up window. Shown to whoever manages settings, when the service is on or has run out of balance (or when the server offers a purchase of drafts).
Ledger	Opens the balance ledger. Shown when the service is on or out of balance.
Activate now	Takes you to the licence screen. Shown only when the server says the licence must be bought and this copy has no working licence.
Try again	Shown when the service could not be reached; asks again.
Settings	Opens the settings window. Shown to whoever manages settings.

While the balance is empty or the service cannot be reached, asking for a new draft is refused with a reason. Approving or rejecting drafts that already exist continues.

14.4.1 Top up the balance

1. Press **Top up**.
2. Type the **Card number**. It has sixteen characters after CAI; dashes and spaces do not matter. The **Top up** button stays dim until the number reads as valid.
3. Press **Top up**. The window then states the new balance. Press **Done**.

Only the last four characters of the card are kept in the record. If the server refuses the card, its reason appears in red in the window and nothing is added.

14.4.2 The ledger

The window **Clinical AI balance ledger** says the balance now, and under it lists every movement: **Date**, **Movement**, **Drafts**, **Details** and **By**. The movements are: **Top-up card**, **Draft**, **Gift**, **Automatic gift**, **Refund**, **Correction** and **Expired**. A gift shows until when it is valid. Press **Back** to close it.

14.4.3 The settings window

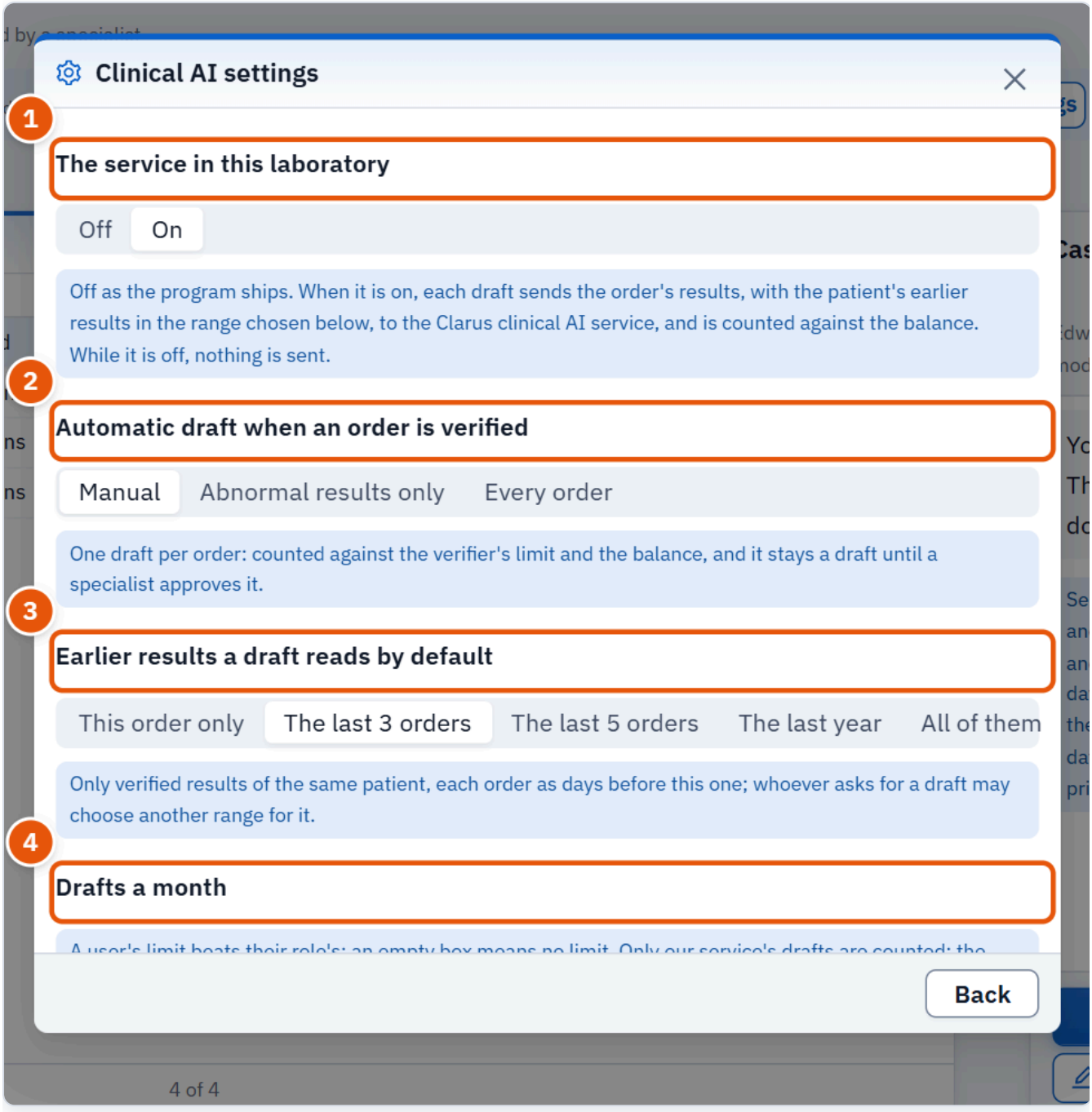


Figure 14-3: The settings window: 1 the service on or off, 2 the automatic draft, 3 the earlier results, 4 the monthly limits.

Each choice is saved the moment you make it; the screen answers with the message **Saved.**

Setting	What it does
The service in this laboratory: **Off** / **On**	The service ships off. While it is off nothing is sent. When it is on, each draft sends the order's results, with the patient's earlier results in the chosen range, to the Clarus clinical AI service and is counted against the balance.

Setting	What it does
Automatic draft when an order is verified: **Manual** / **Abnormal results only** / **Every order**	Whether a draft is written by itself when an order is verified. One draft per order, counted against the limit of the person who verified and against the balance; it stays a draft until a specialist approves it.
Earlier results a draft reads by default	The earlier verified results of the same patient that a draft reads: **This order only**, **The last 3 orders**, **The last 5 orders**, **The last year** or **All of them**. Whoever asks for a draft may choose another range for it.
Drafts a month, Roles	A limit for each role. An empty box means **No limit**. **Save** stays dim until you change the number; press it to keep it. The line beside it says who set it and when.
Drafts a month, Users	A limit for one user, which beats the role's. The table shows **This month** against the limit, and whether the limit is **Own** or **From the role**. **Follow the role** gives the user back to the role.

The count renews on the date the window states. Only the service's own drafts are counted.

14.5 The drafts list

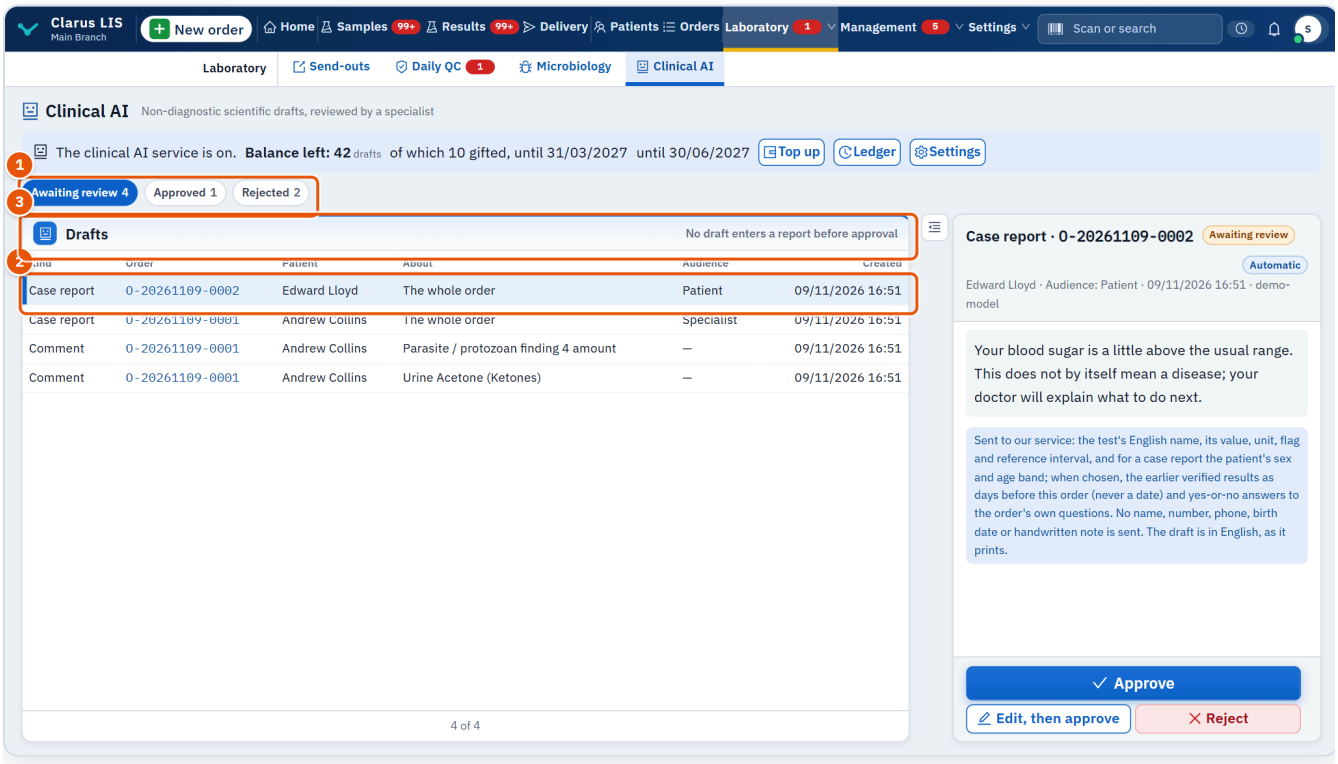


Figure 14-4: The drafts list: 1 the three state chips, 2 one draft, 3 the note about approval.

The filter **Draft state** has three chips: **Awaiting review**, **Approved** and **Rejected**, each with the number it holds. The screen opens on **Awaiting review**. Changing the filter clears the draft you had chosen.

Column	Meaning
Kind	**Case report** or **Comment**.
Order	The order number, a link to the order.
Patient	The patient's name.
About	For a comment, the test it is about. For a case report, **The whole order**.
Audience	For a case report, who it is written for: **Patient**, **Treating physician** or **Specialist**. A dash for a comment.
Created	When the draft was written.

Press the button for more rows at the foot of the list when there are more than fit. An empty filter says so, for example **No drafts awaiting review.** The list refreshes by itself about every minute. If it cannot be loaded the list says **The drafts could not be loaded.** with a button to try again. In one case the server returns an incomplete list; the screen then says **Drafts are shown without the patient's name, and comments only while awaiting review, until the server returns the full list.**

14.6 Reviewing a draft

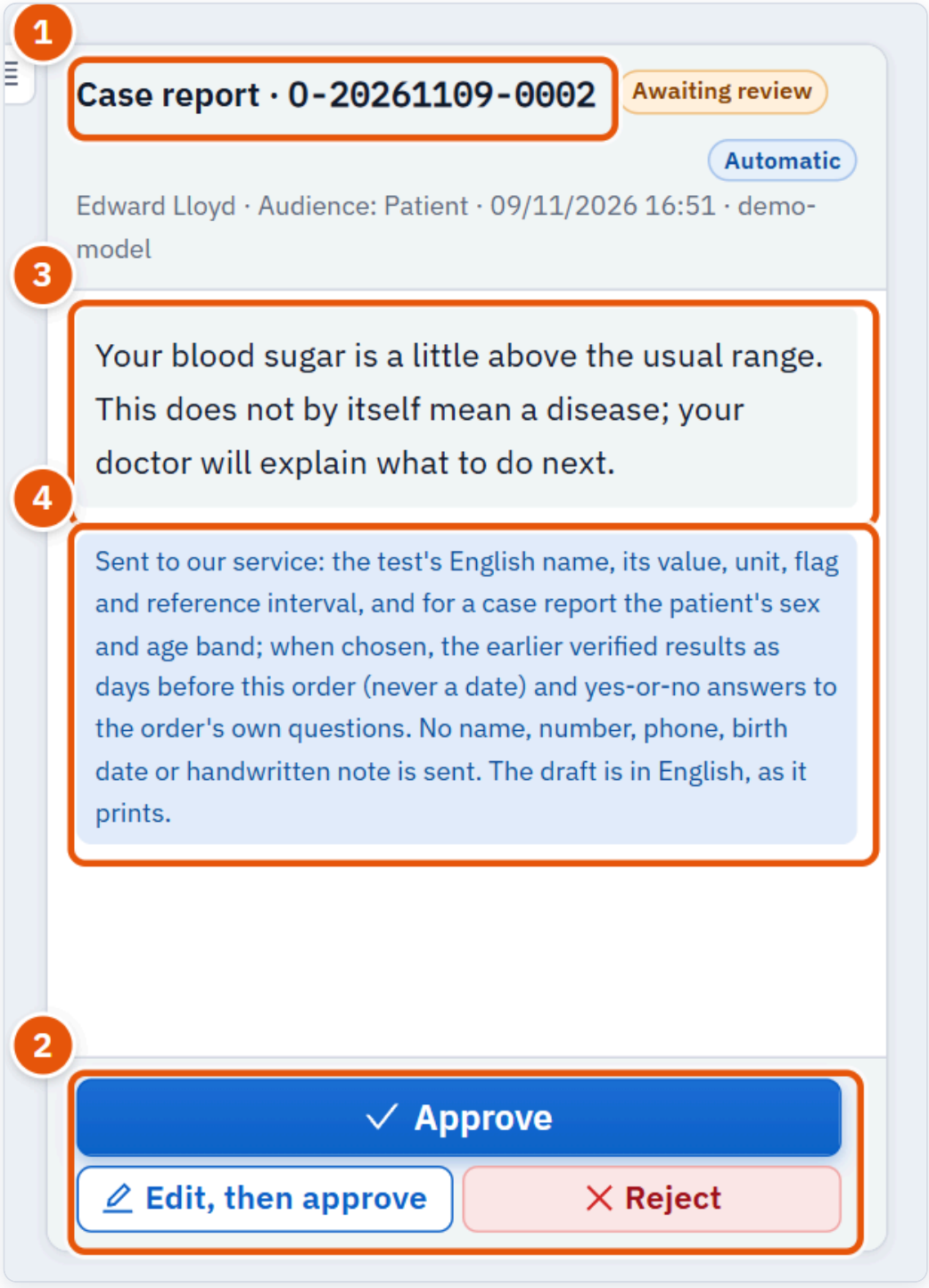


Figure 14-5: The draft pane: 1 the title and state, 2 the buttons, 3 the draft's text, 4 the note about what is sent.

Select a row. The pane **The draft** shows the kind and order number, the state (**Awaiting review**, **Approved** or **Rejected**), a tag **Automatic** if the program wrote it by itself, and a line with the patient, the audience or test, the date and the model. Below is the draft's text, in English and left to right, as it prints. A note under it states exactly what is sent to the service, and that no name, number, phone, birth date or handwritten note is sent.

For a draft **Awaiting review**, the buttons are:

Button	What it does
Approve	Approves the text as it is. The screen says **The draft was approved.**
Edit, then approve	Turns the text into a box you can type in.
Approve the edited text	Replaces **Approve** while editing. Dim if the box is empty. The screen says **The edited text was approved.**
Cancel the edit	Leaves the editing without saving.
Reject	Rejects the draft. The screen says **The draft was rejected.**

An approved case report has one button, **Remove it from the approved**. It takes the report off, and the screen says **Removed from the approved; it stays in the audit trail.** A rejected draft, and an approved comment, have no button.

14.6.1 Task 1 — Approve a draft as it is

1. Open **Clinical AI**. The chip **Awaiting review** is selected.
2. Select a row. Read the whole text.
3. Press **Approve**.
4. The message **The draft was approved.** appears and the draft leaves the list. Find it under **Approved**.

14.6.2 Task 2 — Correct a draft and approve it

1. Select the draft.
2. Press **Edit, then approve**. The text becomes a box.
3. Correct the text.
4. Press **Approve the edited text**. To give up instead, press **Cancel the edit**.

14.6.3 Task 3 — Reject a draft

1. Select the draft.
2. Press **Reject**. It moves to **Rejected**.

14.6.4 Task 4 — Remove an approved case report

1. Press the chip **Approved**.
2. Select a case report.
3. Press **Remove it from the approved**. It is removed from the approved list and, as the message says, stays in the audit trail.

If an action fails, the screen shows the server's reason or **The action failed. Try again.**

14.7 Asking for a draft

A case report draft is requested from the results screen (**Results and approval**), not from this one. The button **Case report draft** in the foot of an open order is shown only to someone who may approve results, and only when the service is not off.

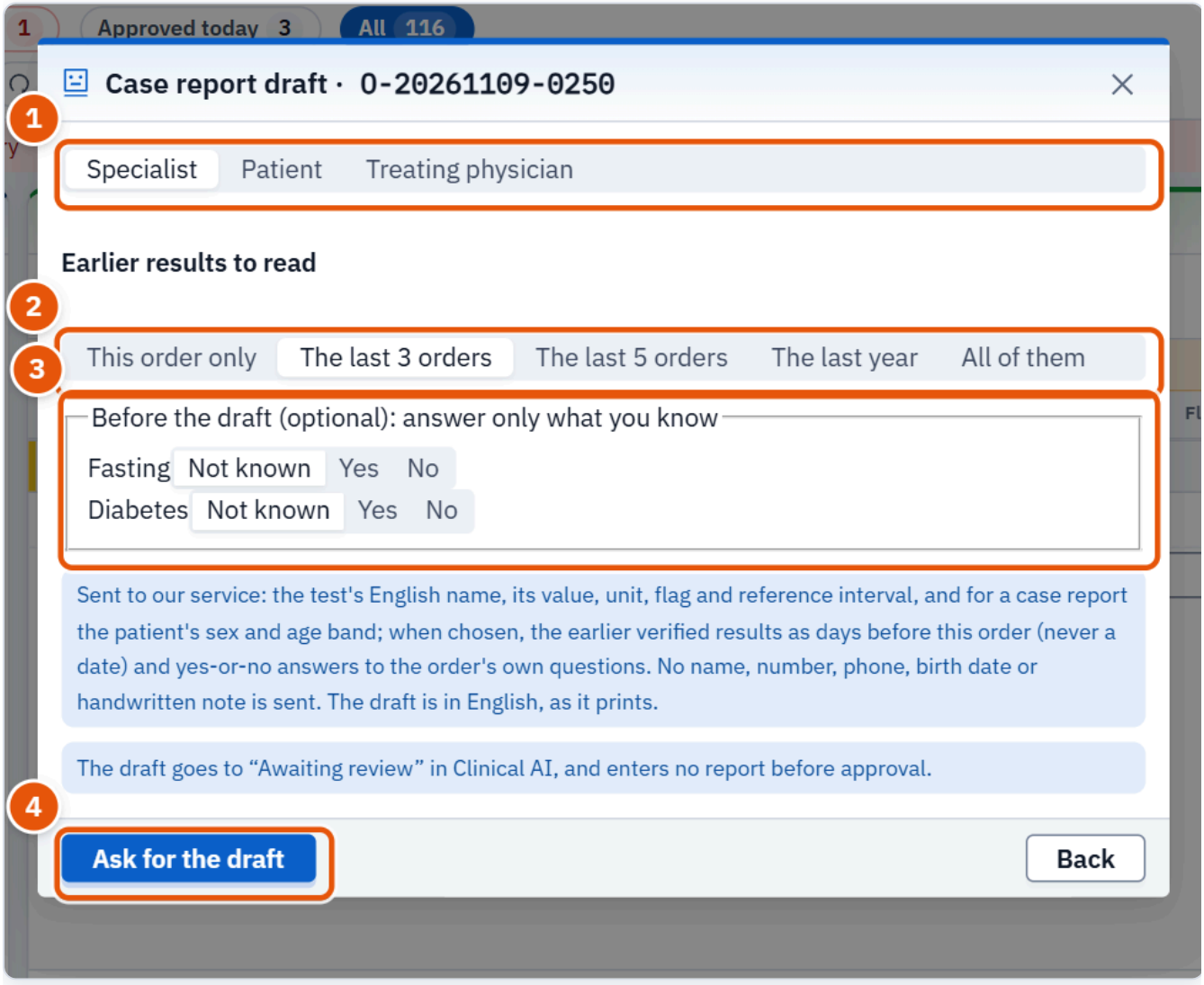


Figure 14-6: The request window: 1 the audience, 2 the earlier results to read, 3 the optional questions, 4 the Ask button.

1. Open the order and press **Case report draft**. The window **Case report draft** opens with the order number.
2. Choose the audience: **Patient**, **Treating physician** or **Specialist**. Nothing can be asked until one is chosen.
3. Under **Earlier results to read** choose the range. It starts at the range the manager set, or the last 3 orders if none was set.
4. If the order carries clinical questions, **Before the draft (optional): answer only what you know** shows up to three. Answer **Yes** or **No**; **Not known** sends nothing for that question.

5. Press **Ask for the draft**. The draft reaches **Awaiting review** here and enters no report before approval.

If the service is not on, the window shows the reason and **Ask for the draft** stays dim. A refusal from the server appears in red in the window.

14.8 Messages and what to do

The screen says	Meaning	What to do
The service is not switched on yet	The service is off in this laboratory.	A manager can switch it on in **Settings**.
The drafts could not be loaded.	The drafts could not be loaded.	Press the retry button on the list.
The action failed. Try again.	An approve, reject or remove did not go through.	Try again.
Choose a draft to review.	No draft is selected.	Select a row.
No drafts here.	The filter has no drafts.	Choose another chip.
No movement of the balance yet.	The balance has not moved.	Nothing to do.

14.9 See also

- **Results and approval**: where a case report draft is requested and where results are approved.

Chapter 15

Treasury and accounts

Menu: **Treasury**. Address: `/admin/treasury`.

15.1 What this screen is for

This is where the laboratory's money is handled and read: the invoices and what each patient has paid, the requests for a discount or a refund that wait for a manager, the cashiers' shifts and their differences, the expenses, and — for those who keep the books — the books themselves, receipt vouchers, the bank, payroll, suppliers, doctors' commissions and the financial reports.

The screen is one page with a row of pages (**Treasury pages**). Everyone who may open it sees **Invoices** and **Expenses**; each of the other pages appears only for a role that holds its permission. This chapter has one section per page. The most used tasks are written step by step; the rest are in tables of elements.

15.2 Who sees it

The screen opens for whoever holds **Take payments at the desk** or **Manage billing**. Page by page:

You can…	…if your role holds
See the invoices, print a receipt, ask for a refund or for the credit to be handed back, pay an expense recorded as owed	**Take payments at the desk**
Change or void an expense, and manage recurring expenses	**Manage billing**
See **Approval requests**	**Manage billing** and **Approve a discount or a refund from the phone**, both
See **Shifts** and **Cash to the centre**	**Manage billing**
Write off a patient's debt on an invoice (the button appears while the invoice has a balance)	**Write off a patient's debt on an invoice**
See **Reports**	**Read the laboratory's books and financial reports**
See **The books**	any of **Read the laboratory's books and financial reports**, **Start the books and set the chart, the year and the payment methods' accounts** or **Close a month of the books**

You can...	...if your role holds
Start the books, link payment methods to accounts, add or edit tax types	**Start the books and set the chart, the year and the payment methods' accounts**
Close a month (the section is absent from the page without it)	**Close a month of the books**
See **Receipt vouchers**, **Bank** and **Doctors' commissions**	**Record receipt vouchers**
See **Payroll**, and add employees, prepare and pay a payroll	**Prepare and pay the payroll, and give advances**
Approve a payroll (the button is absent without it)	**Reverse an entry of the books and approve a payroll**
See **Suppliers**	**Record supplier invoices and payments**
See **Consolidated** and write exchange rates	**Read the chain's consolidated books**

A page your role does not hold is simply not in the row of pages. A button your role does not hold is not drawn at all; it is not shown greyed.

15.3 The screen at a glance

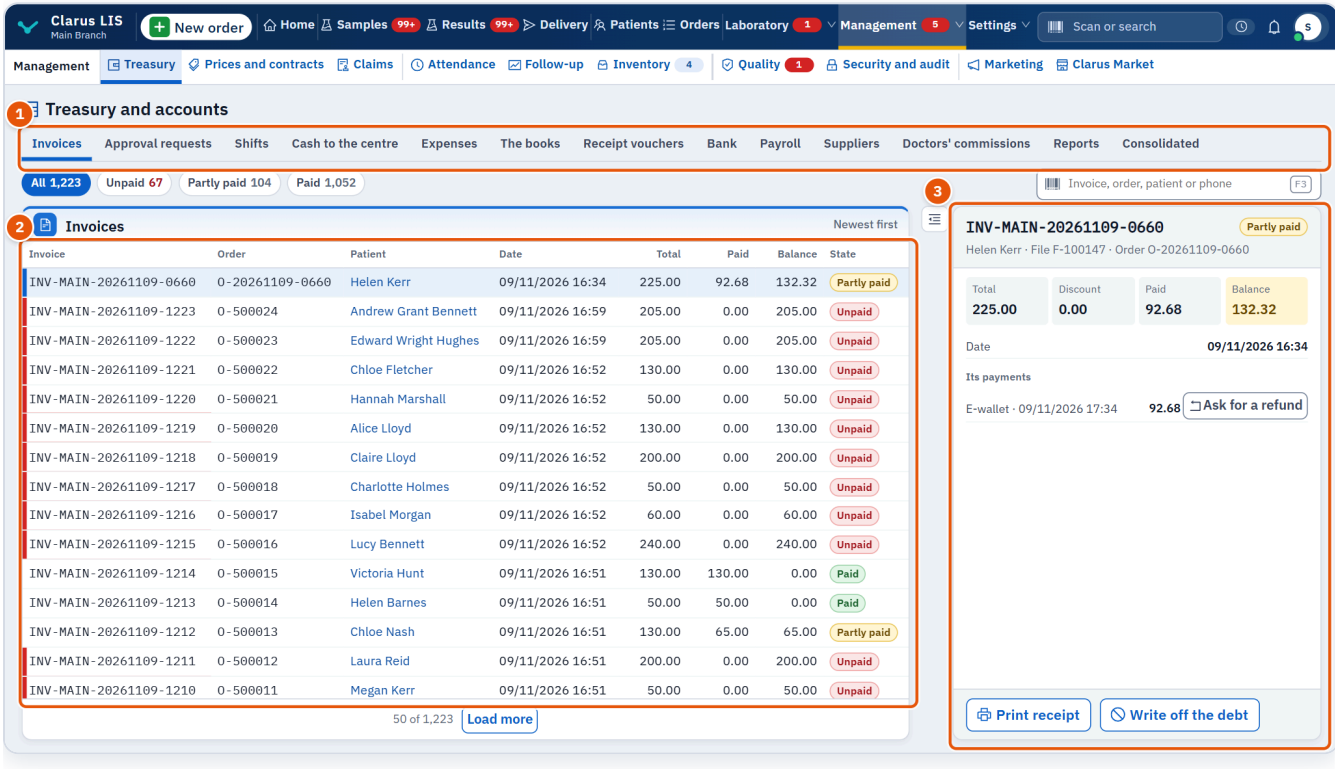


Figure 15-1: The Treasury screen: 1 the row of pages, 2 the list on the left of the work area, 3 the details of the chosen line.

1. **The row of pages**: **Invoices**, **Approval requests**, **Shifts**, **Cash to the centre**, **Expenses**, then the books' pages.
2. **The list**: the invoices, requests, shifts or expenses of the page, with a filter above it.
3. **The details**: choose a line and its details and actions appear. Until you choose one, the screen says so («Choose an invoice in the list to see its details.»).

15.4 Invoices

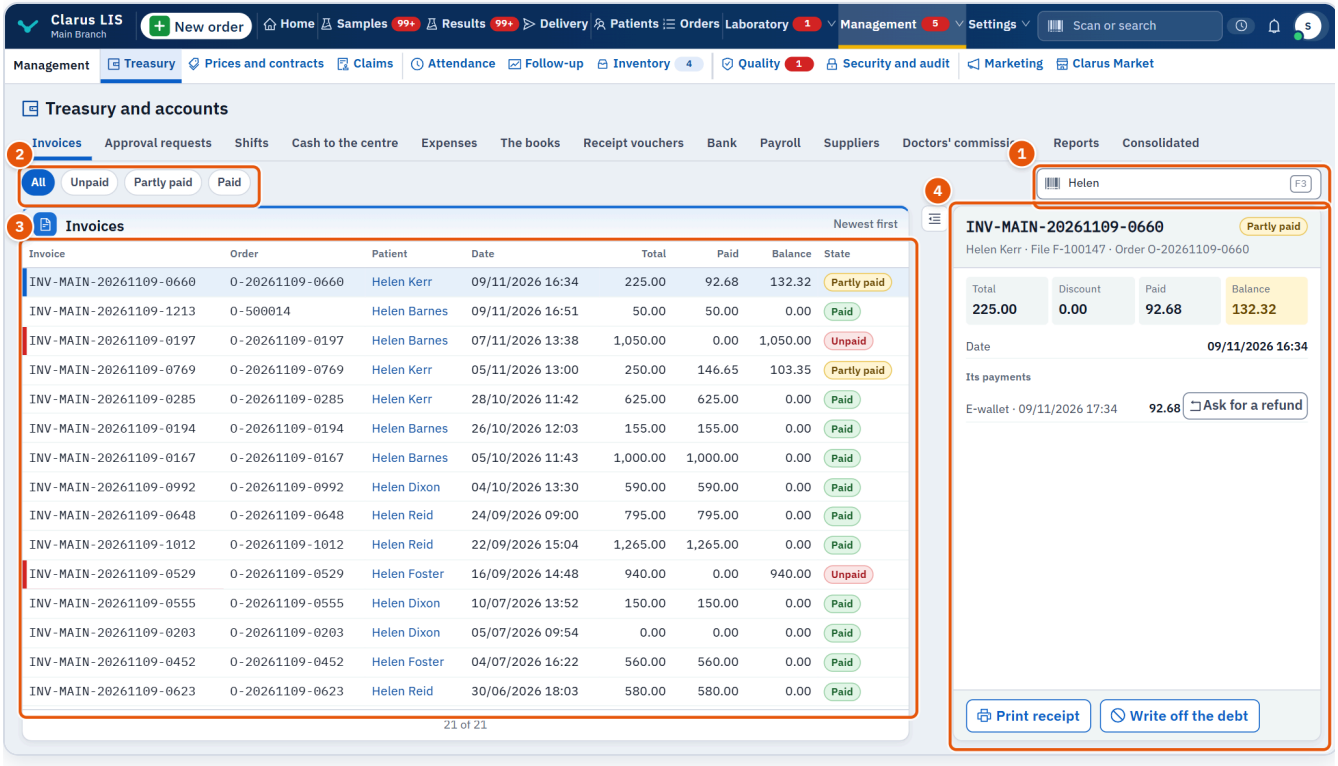


Figure 15-2: The Invoices page: 1 the search box, 2 the state filter, 3 the list, 4 the invoice details.

Element	What it does
Invoice, order, patient or phone	Searches by invoice or order number, patient name or phone. If nothing matches, the screen says so and suggests the order number or the patient's phone.
Invoice state	**All**, **Unpaid**, **Partly paid**, **Paid**.
Newest first	The list order.
Columns	**Invoice**, **Order**, **Patient** (a name that opens the patient's file), **Date**, **Total**, **Paid**, **Balance** and the state. The list shows 50 at a time and refreshes by itself every minute.
Invoice details	The file and order of the invoice, **Discount** with **Discount reason**, **Payer type** and **Payer**, **Owed to the patient** when the patient paid more than the invoice, and **Its payments**.
Print receipt	Prints the receipt.

Element	What it does
Ask for a refund	Beside each payment that still stands in **Its payments** (not a reversed one, and not a payer's remittance); asks for a refund of that payment (15.4.1 Task 1 — Ask for a refund).
Ask to hand the credit back	Shown only when the invoice carries credit; asks for the patient's credit to be handed back (15.4.1 Task 1 — Ask for a refund).
Write off the debt	Shown only while the invoice has a balance; writes off what the patient still owes on this invoice (15.4.2 Task 2 — Write off a patient's debt).

15.4.1 Task 1 — Ask for a refund

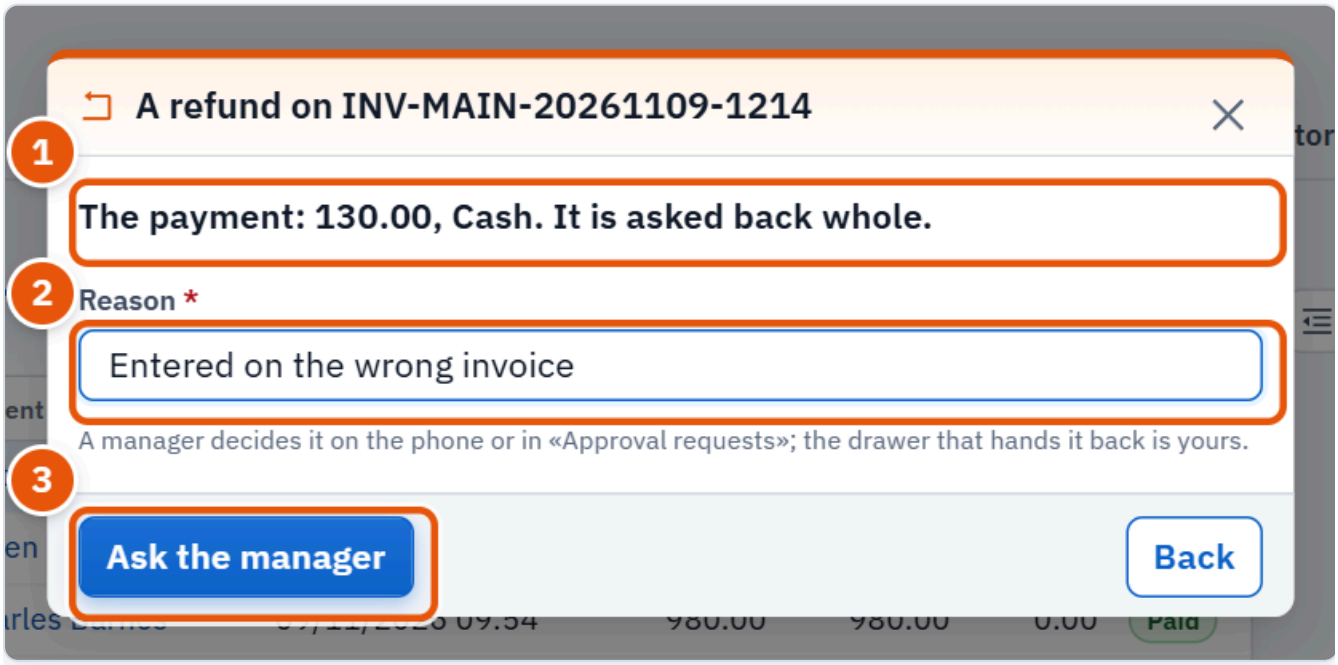


Figure 15-3: Asking for a refund: 1 the payment, 2 the reason, 3 the button that asks the manager.

1. Choose the invoice, then press **Ask for a refund** beside the payment. For money paid above the invoice, press **Ask to hand the credit back** instead.
2. The window shows the payment and its method; it is asked back whole. For a credit it shows what was paid above the invoice.
3. Write the **Reason** (up to 300 characters); the button stays unavailable until you do.
4. Press **Ask the manager** (for a credit, **Ask the manager**).
5. The screen says the request waits for a manager's word. A manager decides it on the phone or in **Approval requests**; the drawer that hands the money back is yours.

> **Note**
>
> A refund is never made by the person who asks for it: the request goes to a manager.

15.4.2 Task 2 — Write off a patient's debt

1. Choose the invoice and press **Write off the debt**. The window shows how much the patient owes; no more than that can be written off.
2. Write the amount and the reason (up to 300 characters), then press **Continue**; it stays unavailable while the amount is empty or above what is owed, or the reason is blank.
3. Read the restatement carefully: it names the amount, the invoice and the reason.
4. Press **Confirm the write-off**. The screen says the write-off is recorded.

> **Caution**
>
> A write-off is never deleted once it is recorded. This window cannot void one; the invoice's earlier write-offs are listed in it for reading.

15.5 Approval requests

This page lists what waits for a manager: a discount above a role's limit, and a refund.

Element	What it does
Filter	**All**, **Discount**, **Refund**.
Oldest first: the patient is waiting	The list is ordered with the oldest first.
Columns	**Request**, **Amount**, **Invoice**, **Patient**, **Asked by**, **At** and the branch. The page refreshes by itself every 20 seconds.
Request details	The invoice, the order, the total and paid, **Why it was asked**, and for a percentage discount **Asked**. Under some permissions the patient's name is not shown.
Approve / **Refuse**	Decide the request (15.5.1 Task 3 — Decide a request).

15.5.1 Task 3 — Decide a request

1. Choose the request. If it is your own, the screen says another manager must decide it, and the two buttons are not offered.
2. To agree, press **Approve**. The window says what will be recorded in your name (a discount on the invoice, or a refund from it). Add a **Note (optional)** if you wish and press **Approve** again.
3. To refuse, press **Refuse** and write **The reason, as the desk will tell the patient**; it is required, so the desk can tell the patient.

15.6 Shifts

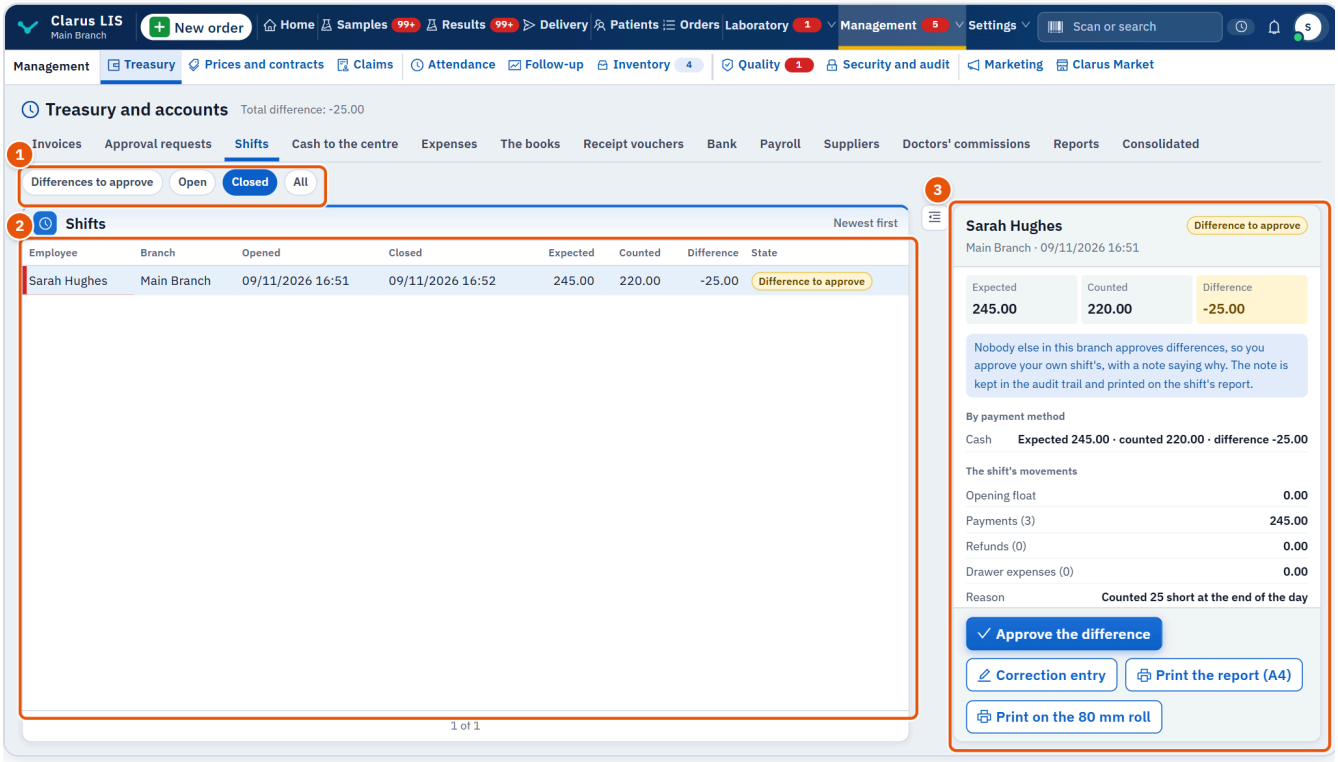


Figure 15-4: The Shifts page: 1 the filter, 2 the list of shifts, 3 the shift's details and actions.

Element	What it does
Filter	**Differences to approve** (the page opens on it), **Open**, **Closed**, **All**.
Columns	**Employee**, **Branch**, **Opened**, **Closed**, **Expected**, **Counted**, **Difference**.
Marks	**Open since yesterday** for a shift left open since yesterday; the review state: **No difference**, **Difference to approve**, **Difference approved**.
Shift details	**By payment method** (expected, counted and difference for each method), **The shift's movements** (**Opening float**, the payments, the refunds and the drawer expenses), who approved, the corrections and the difference after them.
Correction entry	Offered for any closed shift.
Print the report (A4) / **Print on the 80 mm roll**	Print the shift's report on A4 or on the 80 mm roll.

15.6.1 Task 4 — Approve a shift's difference

1. Choose a shift whose review state is **Difference to approve** (the filter **Differences to approve** lists them).
2. Press **Approve the difference**. The window repeats the difference; a closed shift is never changed.

3. Write a **Note** if you wish and press **Approve the difference**.

You do not approve the difference of your own shift, and the button is not offered for it. The one exception: where nobody else in the branch can approve, the button is offered for your own shift and the note becomes required, saying why; the note is kept in the audit trail and printed on the report.

To fix a difference instead, press **Correction entry**, choose the **Payment method**, write the **Amount** with its sign (positive for more in the drawer, negative for less) and the reason, and press **Correction entry**.

15.7 Cash to the centre

A branch sends cash from its main safe to the laboratory's centre, and the centre receives it. What was sent and not yet received stays «cash on its way» in the books.

Element	What it does
An amount to send to «...»	The amount a branch sends. The box appears only at a branch that is not the centre.
Send the amount	Asks for confirmation, then sends; the amount leaves this branch's main safe. **Cancel** withdraws.
Columns	**Remittance**, **From branch**, **Sent on**, **Amount**, and the state: **On its way** or **Received**.
The remittance	The remittance chosen, with **To**, and **Received on** once received.
Receive the cash	Offered only for a remittance that the server allows you to receive: asks for confirmation, then the amount enters the centre's main safe.

15.8 Expenses

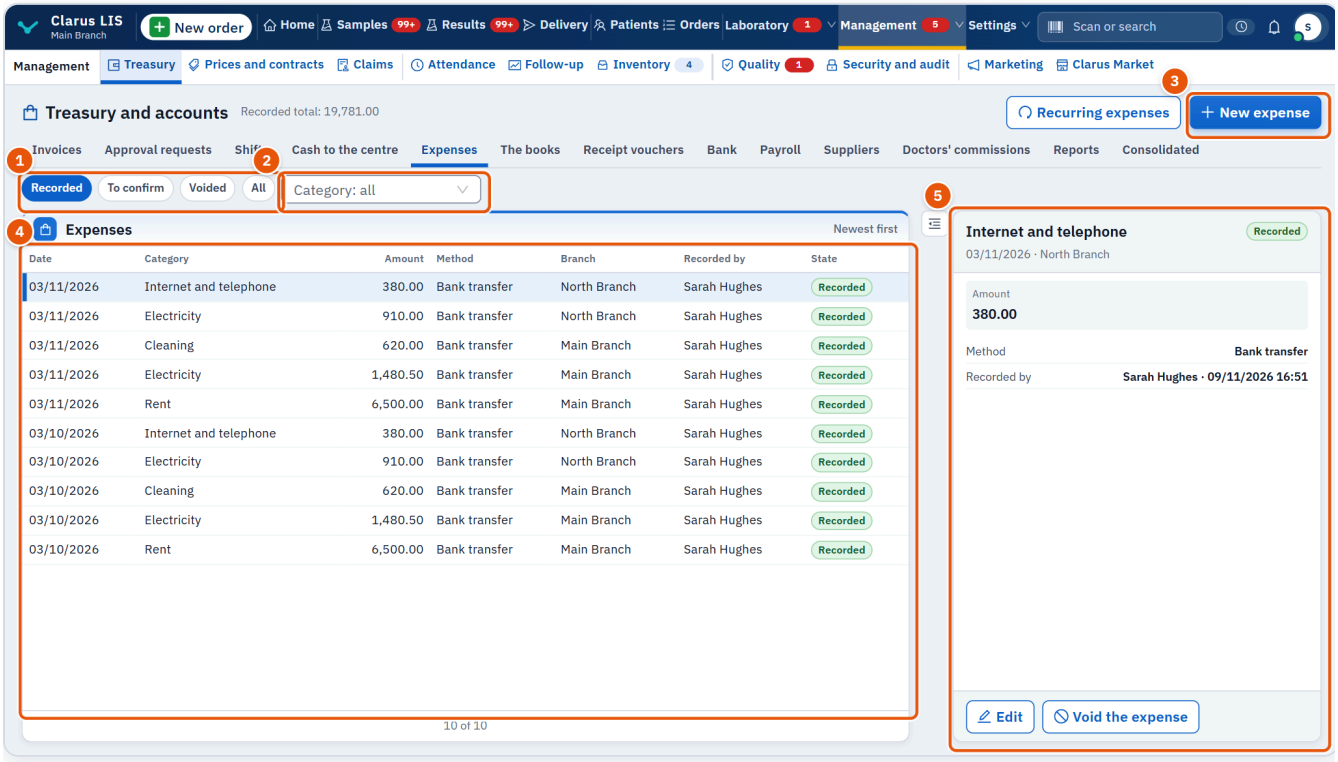


Figure 15-5: The Expenses page: 1 the state filter, 2 the category filter, 3 New expense, 4 the list, 5 the details.

Element	What it does
State filter	**Recorded** (the page opens on it), **To confirm**, **Voided**, **All**.
Category: all	Limits the list to one category.
Recorded total: …	The total of the recorded expenses in the list.
Columns	**Date**, **Category**, **Amount**, **Method**, branch, **Recorded by**, state.
New expense	Opens the window to record an expense (15.8.1 Task 5 — Record an expense).
Recurring expenses	Opens the recurring expenses (15.8.2 Task 6 — Recurring expenses); shown only to whoever manages billing.
Expense details	Description, whether it was paid and when, the shift it came from, whether it pays a purchase order, and whether it came from a recurring expense.
Confirm the expense	For an expense waiting for confirmation: correct the amount if it differs from the recurrence; the switch **Owed, not paid yet** records it as owed instead of paid; then **Confirm**.
Edit / **Void the expense**	Change or void an expense that is not already voided, for whoever manages billing; both need a written reason.

Element	What it does
Pay what is owed	Pays an expense recorded as owed and not yet paid (choose the method and the day); needs the permission to take payments.
Receipt	Opens the picture or file attached to the expense.

15.8.1 Task 5 — Record an expense

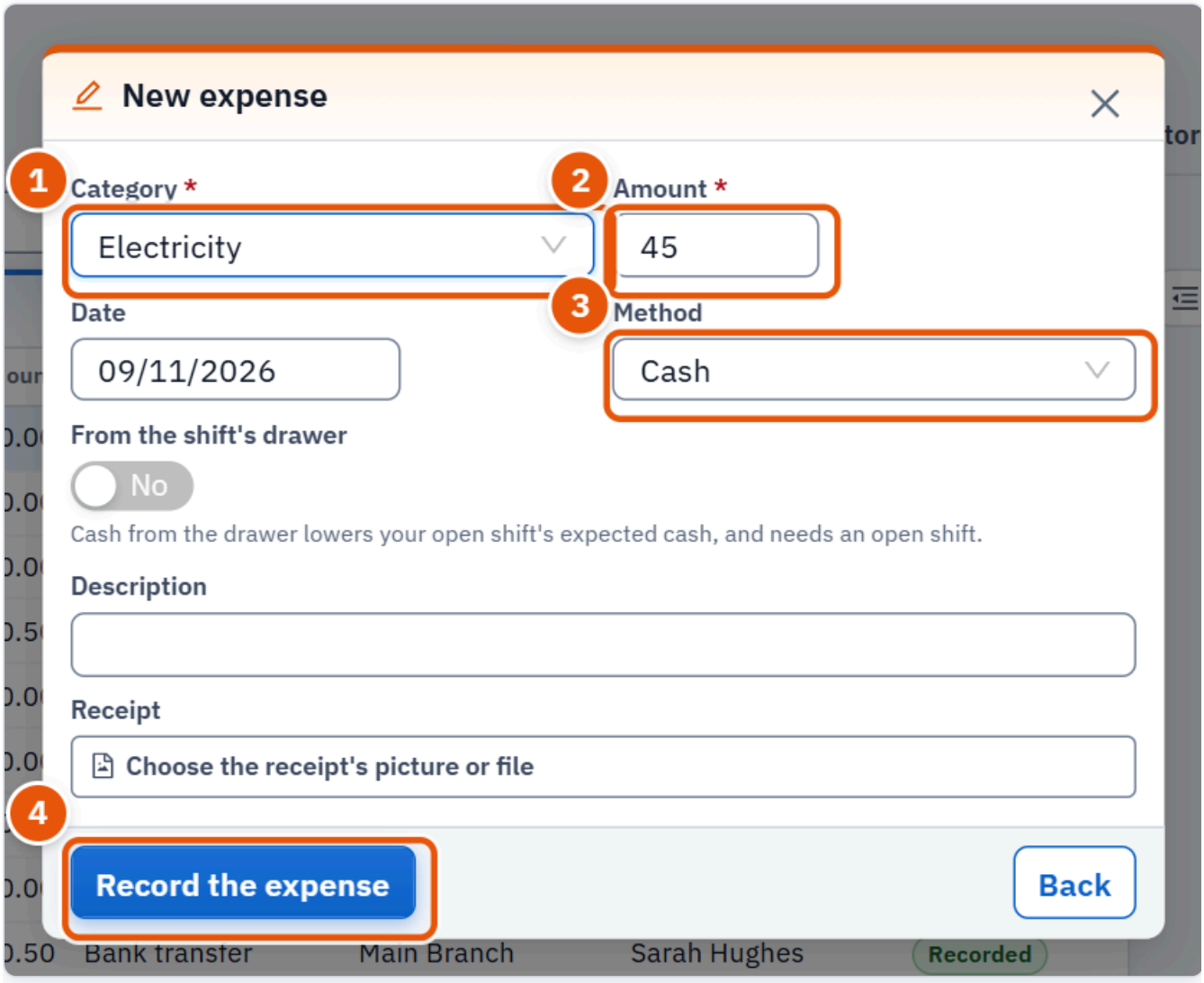


Figure 15-6: Recording an expense: 1 the category, 2 the amount, 3 the method, 4 Record the expense.

1. Press **New expense**.
2. Choose the category and write the amount; the screen says they are required.
3. Choose the payment method. When the method is cash, the switch **From the shift's drawer** appears; it takes cash from the drawer: it lowers your open shift's expected cash and needs an open shift.
4. Change the date if it is not today.
5. Write the description, and attach the receipt with **Choose the receipt's picture or file** if you have one.
6. Press **Record the expense**.

15.8.2 Task 6 — Recurring expenses

1. Press **Recurring expenses**.
2. Fill the category and amount, choose **Repeats**: **Monthly** (a day from 1 to 28) or **Weekly** (a day of the week), and press **Add the recurring expense**.
3. Each time it falls due it appears under **To confirm** and counts nowhere until it is confirmed with **Confirm the expense**. To record it as owed rather than paid, switch **Owed, not paid yet** on when confirming; it is then paid later with **Pay what is owed**.
4. The window lists the recurrences already written. One can be stopped with **Stop** and brought back with **Resume**; it is never deleted.

15.9 The books

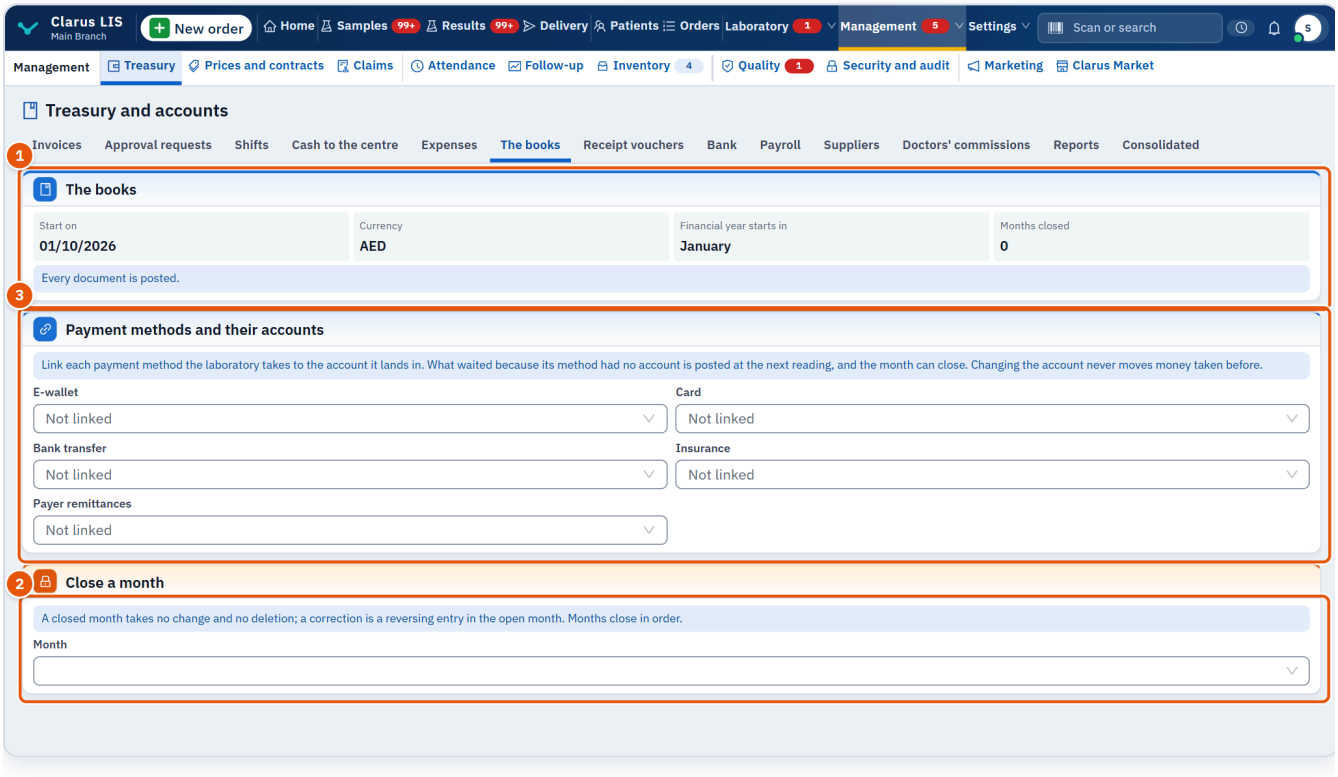


Figure 15-7: The Books page: 1 the books' state, 2 close a month, 3 the payment methods' accounts.

If the books are not started, whoever holds the finance settings sees the form that starts them, and anyone else sees a note saying to ask for it.

Element	What it does
Start the books	Done once. **Start date**, **Financial year starts in**, the accounts of the payment methods, new accounts (**A new account (a bank, a card terminal, a wallet)**: **Account kind**, **Account name**, **Add the account**), and **Balances on the start day**; then **Start the books**. What came before the start date stays a record to read.

Element	What it does
Summary	**Start on**, **Currency**, **Financial year starts in**, **Months closed**, and whether documents wait to be posted.
Close a month	Shown to whoever holds the permission to close. Choose the **Month** (the list holds the months from the start date up to, but not including, the current month, that are not yet closed); the close button appears only when nothing stops it. A closed month takes no change; a correction is a reversing entry in the open month. Months close in order.
It cannot close now	Shown on choosing the month, with the reasons it cannot close: a shift of that month still open, recurring expenses waiting for confirmation, or documents waiting to be posted.
Payment methods and their accounts	Shown to whoever holds the finance settings. Links each payment method to the account it lands in (cash is not listed; a payer's remittance is). **Not linked** marks a method with no account; its documents wait and post at the next reading. Changing an account never moves money taken before.

15.9.1 Task 7 — Close a month

1. Open **The books**.
2. Under **Close a month**, choose the month.
3. If **It cannot close now** lists a reason, clear it first (close the shift, confirm the recurring expenses, link the payment method's account) and choose the month again; the close button is not there while a reason stands.
4. Press the close button. The screen says the month is closed.

15.10 Receipt vouchers

Element	What it does
From / **To**	The period shown; it opens on the first of this month up to today.
New receipt voucher	Records a receipt voucher: money received that is not an invoice payment. Fill the item (an active one from the list), the amount, the method, the day and a **Note**, then **Save**; it stays unavailable until the item and the amount are filled.
List	**Day**, **Item**, **Method**, **Amount**, **State**. Choosing a recorded voucher opens the window that voids it; a **Reason** is required.
Discount cards sold	The discount cards sold in the period: **Card** and **Programme**. Choosing a recorded sale opens the window that voids it, with a reason. Voiding a sale reverses its entry; the card stays as it is and is stopped on the discount cards page.

15.11 Bank

Element	What it does
Account	The account read: one of the bank, card-terminal and wallet accounts; the period opens on this month. **Import a statement** and **Match automatically** stay unavailable until an account exists.
Import a statement	Import a statement (15.11.1 Task 8 — Import a bank statement).
Match automatically	Matches statement lines with lines of the books automatically.
Settle a terminal	Settles a card terminal or wallet: **Amount settled**, **Fees**, **Reference**; the screen then says how much reaches the bank.
Totals	**Statement total**, **Lines not matched**, **In the books only**.
Statement lines	Each line with its day, description, amount and state: **Matched**, **Not matched** or **Posted**. Choosing a line opens its window. For an open line it shows the lines of the books with the same amount as **Lines of the books for the same amount**; choosing one matches it at once. For a matched line it offers **Undo the match**. An open line with no match, such as a fee or interest, is posted from its own window: as a bank fee when its amount is negative, as income otherwise.
In the books, not in the statement	What the books hold and the statement does not.
Terminal and wallet settlements	The settlements of the period, for reading.

15.11.1 Task 8 — Import a bank statement

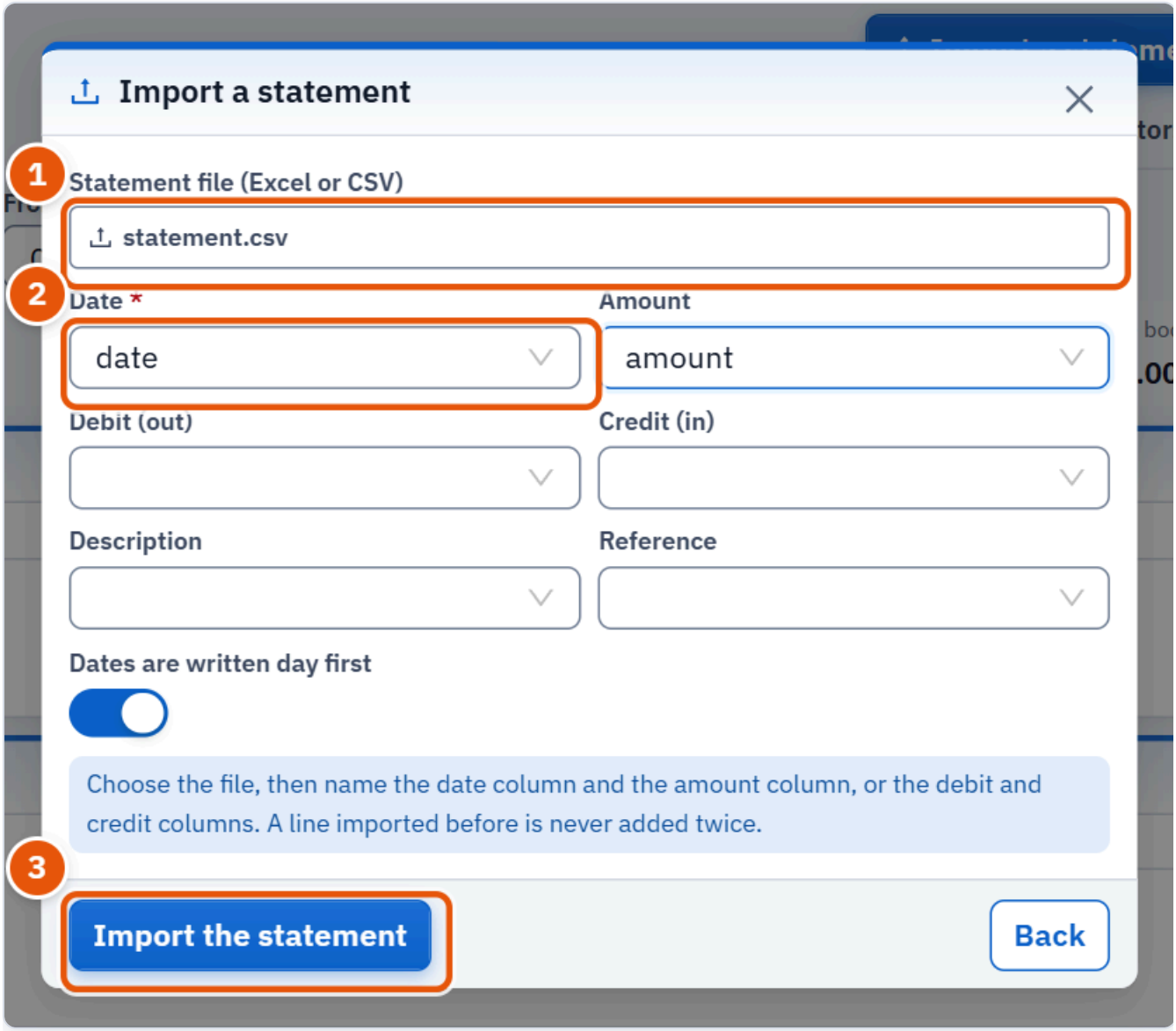


Figure 15-8: Importing a statement: 1 the file, 2 the columns, 3 Import the statement.

1. Press **Import a statement**.
2. Choose the file with **Choose the statement file** (Excel or CSV).
3. The column boxes appear once the file is read. Name the date column, and the amount column or both the debit and the credit columns; the description and reference columns are optional. **Dates are written day first** is on by default; switch it off if dates are written month first.
4. Press **Import the statement**. The screen says how many lines were added, how many were imported before, and how many matched. A line imported before is never added twice.

15.12 Payroll

Element	What it does
Employees	The list: **Employee**, **Basic salary**, **Advance left** and whether active. **New employee** adds one; choosing a row edits it.
New allowance or deduction	An allowance or a deduction, by **Kind**, with its names in Arabic and English.
New advance	Gives an employee an advance with a payment method, repaid by **Advance instalment**; if the instalment is left empty the whole advance is taken in one.
The month's payroll	The month's payroll, a line for each employee: **Allowances**, **Deductions**, **Advance instalment**, **Net**; and **Total net**. The state is **Draft**, **Approved** or **Paid**.
Attendance suggests	A column shown only when the attendance module is installed: the absence deduction it suggests. The line's window shows the days and minutes behind it; **Take the suggestion** writes the suggestion into the deduction item you pick; the manager decides. An employee with no work schedule gets no suggestion. Late and early minutes are shown, not priced.
Advances	The advances.

15.12.1 Task 9 — Prepare, approve and pay a payroll

1. Choose the month in **The month's payroll**, then press **Prepare the payroll**; the button is there only while that month has no payroll. The payroll is a draft.
2. Click a line to change it (only a draft can be changed); take the attendance suggestion if you want it.
3. Press **Approve the payroll** (needs **Reverse an entry of the books and approve a payroll**; the button is absent without it).
4. Once approved, press **Pay the payroll**, choose the method and save.

15.13 Suppliers

Element	What it does
New supplier invoice	Records a supplier's invoice: **Supplier** (an active one), **Supplier's invoice number**, **Due date** (optional), and lines (**Account**, **Description**; **Add a line** and **Remove the line**). A line counts once it has an account and an amount. The input tax of every tax type switched on for purchases is added automatically.
Payment to a supplier	A payment to a supplier. It settles the supplier's oldest invoices first.
Supplier invoices	The invoices of the period with what is **Owed**.

Element	What it does
Payments to suppliers	The payments of the period.
Suppliers' aging	How old the debts are: up to 30 days, 31 to 60, 61 to 90, over 90.
Tax types	Tax types (**New tax type**): **Tax**, **Kind** (**Percent** or **Fixed amount**), **Rate**, **Applies to**, **The price includes the tax**, **Falls on the departments**. There is no tax in the program but what the laboratory adds, and a new type is off until it is switched on (**On**). Adding a type and choosing one to edit need the finance settings permission. **The price includes the tax** and **Falls on the departments** appear only for a type that applies to sales.

15.14 Doctors' commissions

Element	What it does
Owed to doctors	For each doctor: the number of commissions and the oldest.
Pay commissions	Choosing a doctor's row in the list opens the payment window (15.14.1 Task 10 — Pay a doctor's commissions).
Commission payments	The payments of the period, with **Recorded** or **Voided**. Choosing a recorded payment opens **Void the payment**.
Void the payment	Voids a payment, with a reason; the commissions it settled are owed to the doctor again.

15.14.1 Task 10 — Pay a doctor's commissions

1. In **Owed to doctors**, choose the doctor's row; the window **Pay commissions** opens.
2. Every commission is ticked at the start; untick under **Pay** the ones you do not pay now (each shows its order and test). Each commission is paid whole; the amount is the sum of those still ticked.
3. Choose the method, the day, write a **Reference** if you wish, and press **Pay commissions**.

15.15 Reports

Element	What it does
Report	**Trial balance**, **Income statement**, **Balance sheet**, **Cash report**, **Aging**, **Statement of account**, **Taxes**, and the detail reports: **Revenue in detail**, **Expenses in detail**, **Profit by department**, **Journal**, **Control accounts reconciliation**.

Element	What it does
From / **To**	The period (the balance sheet, aging and the control accounts read at a date, **At**, and show no start date). Choosing an account's row in the trial balance or a detail report opens its ledger; choosing a party in the aging opens its statement.
By department	A switch that appears for the income report and splits it by department. The revenue report splits by department, test, payer and account by itself.
Aging of	Patients, payers, suppliers or external laboratories.
Statement of account	Choose the kind of party, type part of its name or code, then choose it from the list.
Export to Excel / **Export to PDF**	Export the report; unavailable until the report has loaded and for the party statement chosen from the list (its window has its own pair).

The trial balance says whether the books balance. If the books are not started, the reports read nothing; start them under **The books**.

15.16 Consolidated

For a chain of branches, with the centre's currency as the common currency.

Element	What it does
Consolidated trial balance	The branches' books together, each branch translated at the month's rate.
The consolidation is shown once the missing rates of exchange are written:	The consolidation is not shown until the missing rates are written; **Write the rate** opens the window.
Rates of exchange	One rate for each month and currency; no rate is assumed. A rate is fixed once its month is closed in the centre's books.
Eliminated between the chain's branches	The entries between two branches that cancel each other, and what is left without its pair. What remains of the branches' current account is shown as «Cash in transit».

15.17 Messages and what to do

The screen says	Meaning	What to do
The books are not started yet	No finance page can read anything	Ask whoever holds the finance settings to start the books

The screen says	Meaning	What to do
It cannot close now	A shift, a recurring expense or a document blocks the month	Clear the reason listed, then close again
Cash from the drawer needs an open shift	The expense was taken from the drawer with no shift open	Open a shift, or choose another method
This is your request, so another manager decides it	You cannot decide what you asked	Ask another manager
The consolidation is shown once the missing rates are written	A branch's currency has no rate for the month	Write the rate under Rates of exchange
It could not be saved. Try again.	The server refused or the connection failed	Check the fields and the connection and try again

15.18 See also

Claims (payers), **Users and permissions** (roles and permissions).

Chapter 16

Prices and contracts

Menu: **Prices and contracts**. Address: `/admin/prices`.

16.1 What this screen is for

This is where the laboratory decides what each test costs and what changes that cost for a particular payer. Two price systems meet here: the **base price** each test carries in the catalogue, and the **commercial directory** that bends it: price lists, payers (insurers, companies, doctors), contracts with their rules, membership plans, and the commissions paid to referring doctors.

The screen has nine pages, one per kind of thing. The first page shows every test with its base price and can show, for any test, how an order would reach its final price for a chosen payer. The other pages are lists you read, search and edit; most hold a short list on one side and the details of the chosen row beside it.

16.2 Who sees it

You can...	...if your role holds
Open the screen and use the pages: tests, lists, payers, contracts, plans, commissions, types, and the payers' printed lists	**Manage settings**
Add, change or remove a branch's own price on the page **Branch prices** (the page itself opens with the first permission; without this one the buttons are not offered)	**Manage prices, contracts and commissions**
Open the **Payer list library** (the button on the page **Payers' printed lists**)	**Manage prices, contracts and commissions**

The menu hides the screen from everyone who lacks the first permission. A button you may not use is not offered.

16.3 The screen at a glance

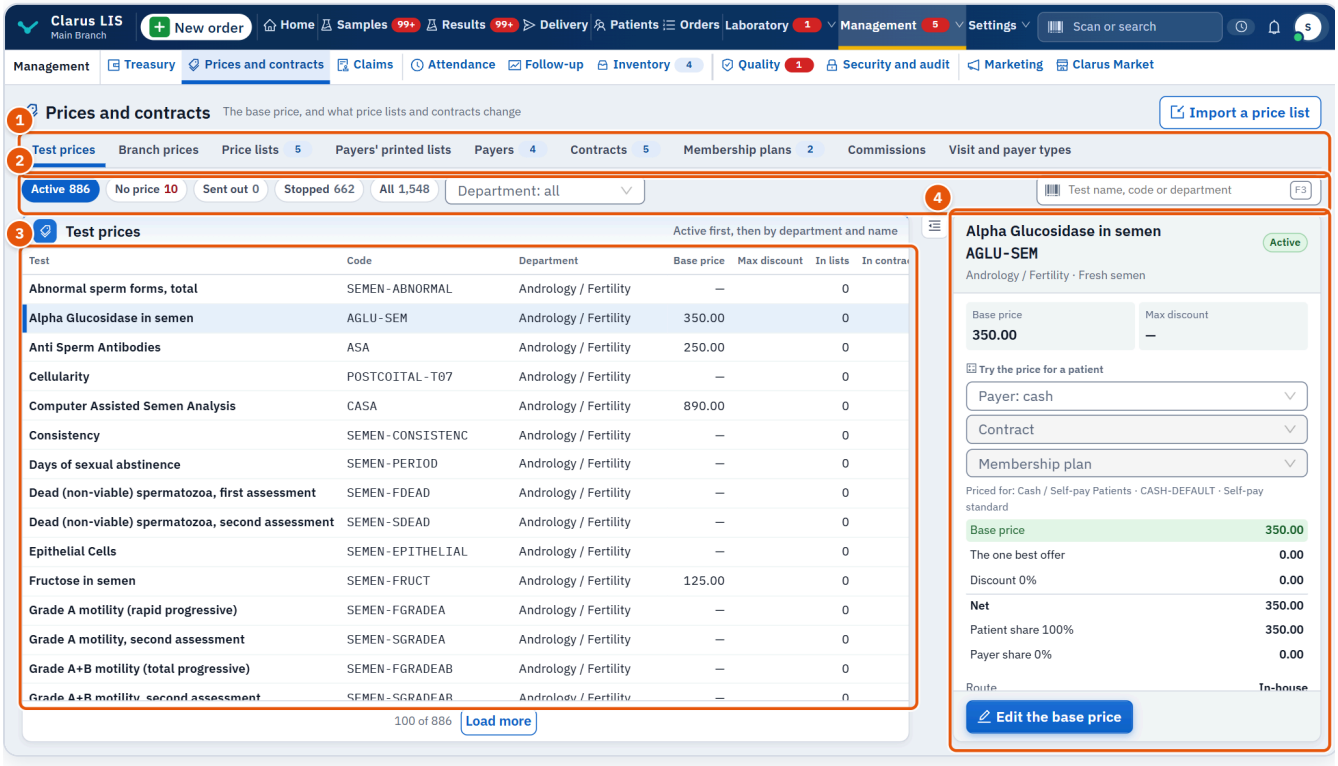


Figure 16-1: The Prices and contracts screen on its first page: 1 the nine pages, 2 the filters and search, 3 the list of tests, 4 the details of the chosen test.

1. **The pages**: a row of nine tabs under the name **Prices and contracts pages**. The count of rows is shown on the tabs that have one (lists, **Payers**, contracts, plans, commissions).
2. **Filters and search**: they narrow the list below.
3. **The list**: one row per item. Choosing a row shows it in the details.
4. **The details**: the figures of the chosen row, its action buttons and, on the first page, the price trial.

Each page starts with its own title, and every list says plainly when it is empty (for example **No contracts yet.**) or when a search finds nothing (**Nothing matches "…".**).

16.4 Page 1: Test prices

The list note says: **Active first, then by department and name**. The page opens on the filter **Active**. The list shows 100 tests at a time; a bar at its foot loads the next hundred.

Element	What it does
Filter the list	Chips: **All**, **Active**, **Stopped**, **Sent out**, **No price**. Each shows its count when the whole catalogue has been read.
Department: all	Limits the list to one department.

Element	What it does
Test name, code or department	Searches by name, code or department.
Import a price list	Opens the import window (see 16.13.5 Task 5 — Import a price list from a file).
Columns	**Test**, **Code**, **Department**, **Base price**, **Max discount**, **In lists**, **In contracts**.

A test with no price shows the red mark **No price**, and the row is highlighted if the test is active: a test that nobody can price should not be on sale. A field that belongs to a larger test shows a dash, since it is not sold alone.

The details of the chosen test (**Price details**):

Element	What it does
Figures	**Base price**, **Max discount** and, for a test sent out, **Send-out cost**.
Edit the base price	Opens the form of the base price (16.13.1 Task 1 — Change a test's base price).
Try the price for a patient	Pick a payer, then its contract and its plan; the program prices the test as an order would (16.13.2 Task 2 — See where a price comes from).
Rows	**Route** (**In-house** or **Sent out** with the outside laboratory's name), **In lists**, **In contracts**, **Current offer** when one is running, and **Ordered** (how many times the test was ordered).

16.5 Page 2: Branch prices

A branch can charge its own price for a test in place of the centre's price. A branch with no price of its own charges the centre's price for every test (**This branch has no price of its own; it charges the centre's price for every test.**).

Element	What it does
Branch	Chooses the branch whose prices you see.
Add a branch price	Opens the window **Branch price: …**: choose the **Test** and type the **Branch price**, then **Save**. Needs **Manage prices, contracts and commissions**.
Columns	**Code**, **Name**, **Centre price**, **Branch price**.
Edit	Changes the branch price of the chosen test (the test itself cannot be changed).
Back to the centre's price	Removes the branch's own price; the branch charges the centre's price again.
Linked branch	A mark shown when the branch is linked from another site.

16.6 Page 3: Price lists

A price list gives selected tests a price other than the base price. It is chosen by a payer or a contract.

Element	What it does
Columns	**Name**, **Code**, **Items**, **Valid** (**Open-ended** when it has no dates), **State**.
Filters	**Active**, **Stopped**.
New price list	Opens the form: **Name**, **Code**, **Kind** (**Standard**, **Cash**, **Insurance**, **Corporate**), **Starts**, **Ends**, **Active**.
Edit	The same form on the chosen list. Its code cannot be changed once it exists.
The list's items	Opens the items of the list (16.13.3 Task 3 — Price tests in a price list).

16.7 Page 4: Payers' printed lists

These are the payers' own price lists, kept exactly as the payer printed them, every line. A list arrives switched off; you switch on the one your laboratory's contract names, and both lists of a payer may be on together (**A list arrives switched off. Switch it on when the laboratory's contract with the payer is on it; both lists may be on together.**).

Element	What it does
Columns	**List**, **Payer**, **Lines**, **Tests on more than one line**, **Unbound lines**, **State**.
Filters	**On**, **Off**.
Switch the list on / Switch the list off	Switches the list; the screen confirms with a short message.
Show the lines	Opens the lines window (16.13.7 Task 7 — Edit a line of a payer's list).
Details	The three counts, then **Services (not tests)**, **Lines at the laboratory's price**, **Contract**, **Source**, **List version**.
Switch them on	Appears in a warning when the list prices tests that are switched off in the catalogue (**Tests the list prices that are switched off in the catalogue: .... An order cannot reach them until they are switched on.**); an order cannot reach them until they are switched on.
Payer list library	The payer library (16.13.8 Task 8 — Use the payer library). It shows the number of updates when the library offers any. Offered only with **Manage prices, contracts and commissions**.

16.8 Page 5: Payers

A payer is a party that pays instead of, or beside, the patient: an insurer, a company, a doctor's clinic.

Element	What it does
Columns	**Payer**, **Code**, **Payer type**, **Price list**, **Discount**, **State**.
Search	By code, name or phone.
New payer	The form: **Payer name**, **Code**, **Payer type**, **Price list**, **Discount**, **Payment terms in days**, **Credit limit**, **Billing cycle** (**Per order**, **Weekly**, **Monthly consolidated**, **Quarterly**), **Phone**, **Active**.
Details	The discount, credit limit and payment terms, the price list, and how many contracts (**Its contracts**) and plans (**Its membership plans**) it has.

16.9 Page 6: Contracts

A contract states what a payer covers and what the patient pays. The state chip shows when the contract is about to end: the days left within a month, in red within a week, and **Contract ended** once it has passed.

Element	What it does
Columns	**Contract**, **Payer**, **Price list**, **Coverage**, **Patient share**, **Valid**, **State**.
Filters	**In force**, **Not in force**.
New contract	The form, with the fields in 16.13.4 Task 4 — Add a payer and a contract.
Contract rules	Opens the rules of the contract (16.13.6 Task 6 — Set rules for a contract).
Details	Coverage, patient share and discount; the price list, **Invoicing**, **Pre-authorisation**, the validity, and the number of rules.

16.10 Page 7: Membership plans

A membership plan is a class of members under a payer, such as a premium tier, with its own discount and coverage.

Element	What it does
Columns	**Plan**, **Payer**, **Contract**, **Discount**, **Coverage**, **State**.

Element	What it does
New membership plan	The form: **Payer**, **Contract** (only that payer's contracts are offered), **Plan**, **Code**, **Kind** (**Standard**, **Insurance**, **Syndicate**, **Corporate**, **Cash**), **Discount**, **Coverage**, **Patient share**, **Active**.

Leave the plan's coverage empty and it follows the contract's coverage; an explicit 0 stays 0.

16.11 Page 8: Commissions

A commission rule says what a referring doctor earns on the tests they send.

Element	What it does
Columns	**Doctor**, **On** (a test, a department, or **All tests**), **Commission**, **State**.
New commission rule	The form: **Doctor**, **Department**, **Test**, **Kind** (**Percent** or **Fixed amount**), **Commission**, **Computed on** (**The price after discount** or **The price before discount**), **Starts**, **Ends**.
Stop the rule / **Resume the rule**	Switches the chosen rule off or on.

A rule is never edited in place. To change one, stop it and add a new rule. With no department and no test, the rule applies to every test (**No department and no test: every test.**).

16.12 Page 9: Visit and payer types

Two short lists on one page. The chips **Payer type** and **Visit type** choose which you see.

Element	What it does
Columns	**Name**, **Kind**, **Asks at registration** (what reception must ask for: **Payer**, **Contract**, **Member number**, **Address**, or **Nothing**).
New payer type	The form: **Name**, **Code**, **Kind** (self-pay, insurance, corporate, syndicate, government, doctor, credit, charity), **Order**, three switches for what reception asks (**Payer**, **Contract**, **Member number**), **Active**.
New visit type	The form: **Name**, **Code**, **Description**, **Order**, **Address**, **Visit fee**, **Active**. The visit fee is what a visit of this type adds to the patient's invoice, such as a home visit; leave it empty for none.
Edit	Edits the chosen type.

16.13 Tasks, step by step

16.13.1 Task 1 — Change a test's base price

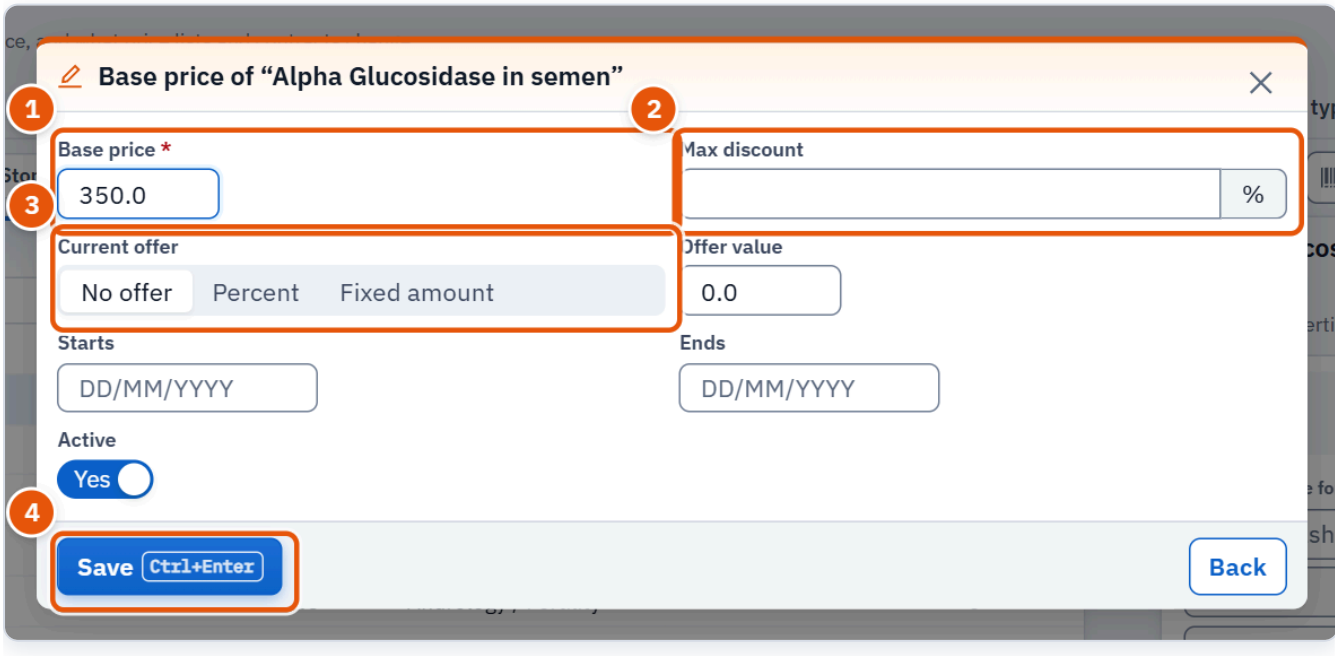


Figure 16-2: The form of the base price: 1 the price, 2 the maximum discount, 3 the offer, 4 Save.

1. On the page **Test prices**, find the test and choose its row.
2. Press **Edit the base price**.
3. Type the **Base price** (required). Optionally set the **Max discount**.
4. To run an offer, choose **Current offer** as **Percent** or **Fixed amount**, type the **Offer value**, and give **Starts** and **Ends**. An offer in percent cannot exceed 100% (**An offer's percent cannot exceed 100%.**). Choose **No offer** for none.
5. Press **Save**. The screen says **Saved.**.

The switch **Active** on the same form puts the test on or off sale.

16.13.2 Task 2 — See where a price comes from

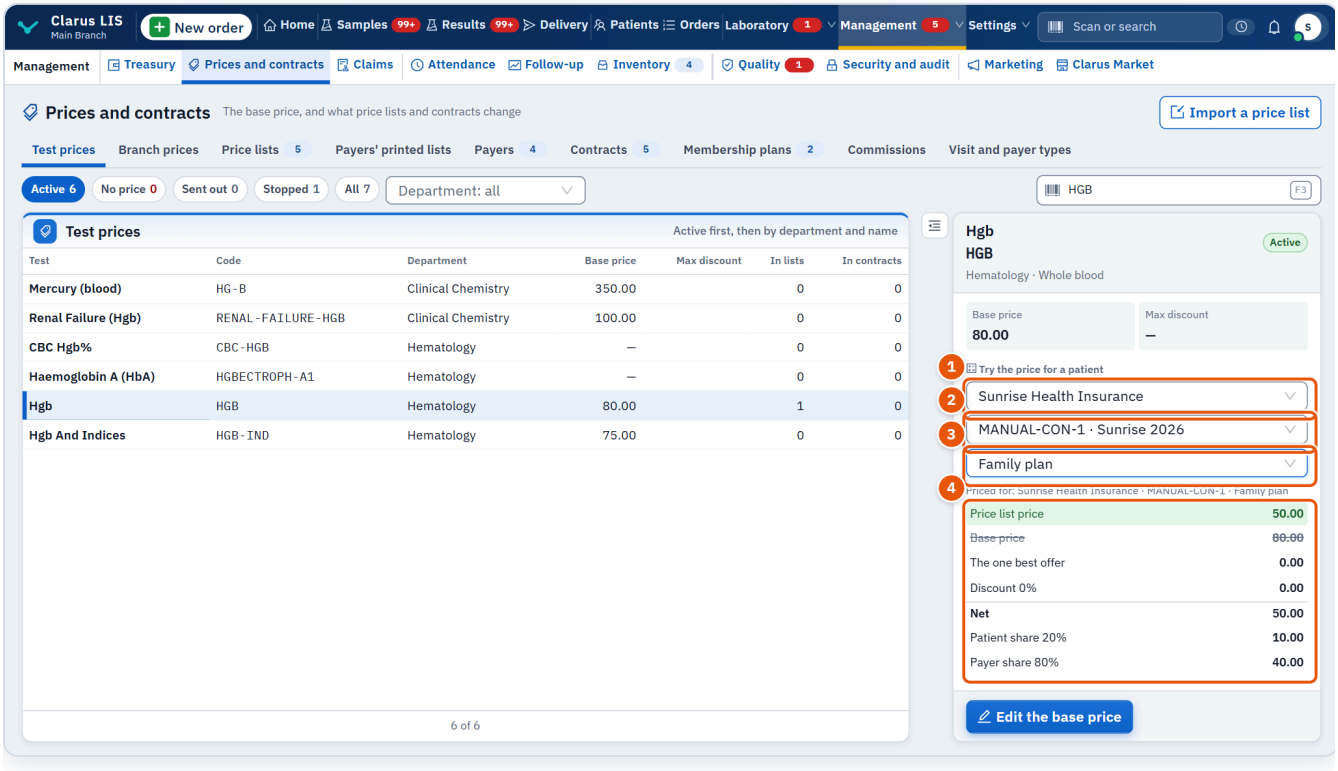


Figure 16-3: The price trial: 1 the payer, 2 the contract, 3 the plan, 4 the steps of the price.

1. Choose the test on the first page.
2. In **Try the price for a patient**, choose the payer (the default is **Payer: cash**). Then, if it has any, choose its contract and its plan.
3. Read the steps from the base price down to the net: the base price, the price list price or the negotiated price in the contract rule, the discount, the one best offer, the payer share and the patient share.
4. A line says what the program priced against (**Priced for: …**). If the test needs pre-authorisation under these terms, a warning tells you to record its number on the order.

The trial changes nothing; it only asks the server the price an order would get.

16.13.3 Task 3 — Price tests in a price list

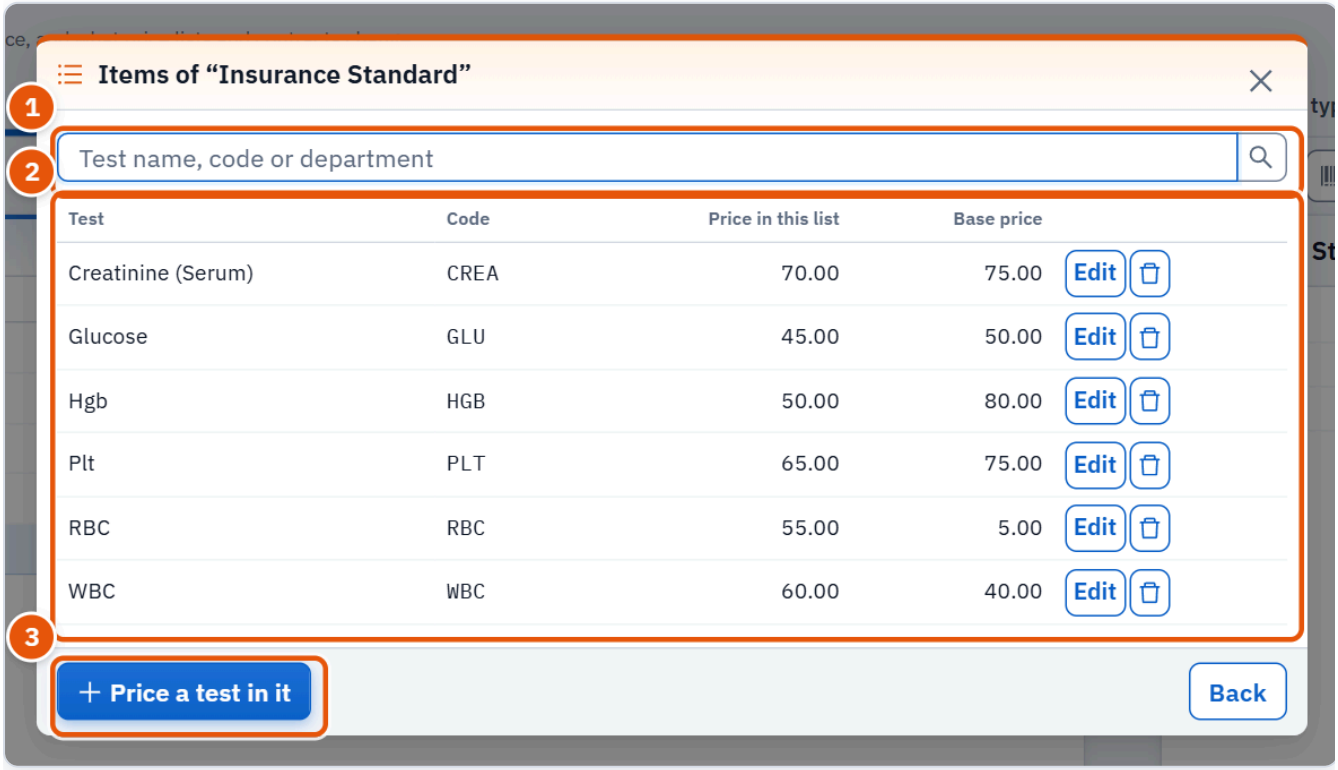


Figure 16-4: The items of a price list: 1 the search, 2 the items, 3 the button to price a test.

1. On the page **Price lists**, choose the list and press **The list's items**.
2. Press **Price a test in it**, choose the test, type the **Price in this list**, and **Save**. The base price is shown beside it for comparison.
3. To change an item, press **Edit** on its row. To remove it, press its bin button (**Take it out of the list**) and confirm; its price in the list goes back to the base price.
4. A long list loads in parts: press **Load more**, or narrow the search.

16.13.4 Task 4 — Add a payer and a contract

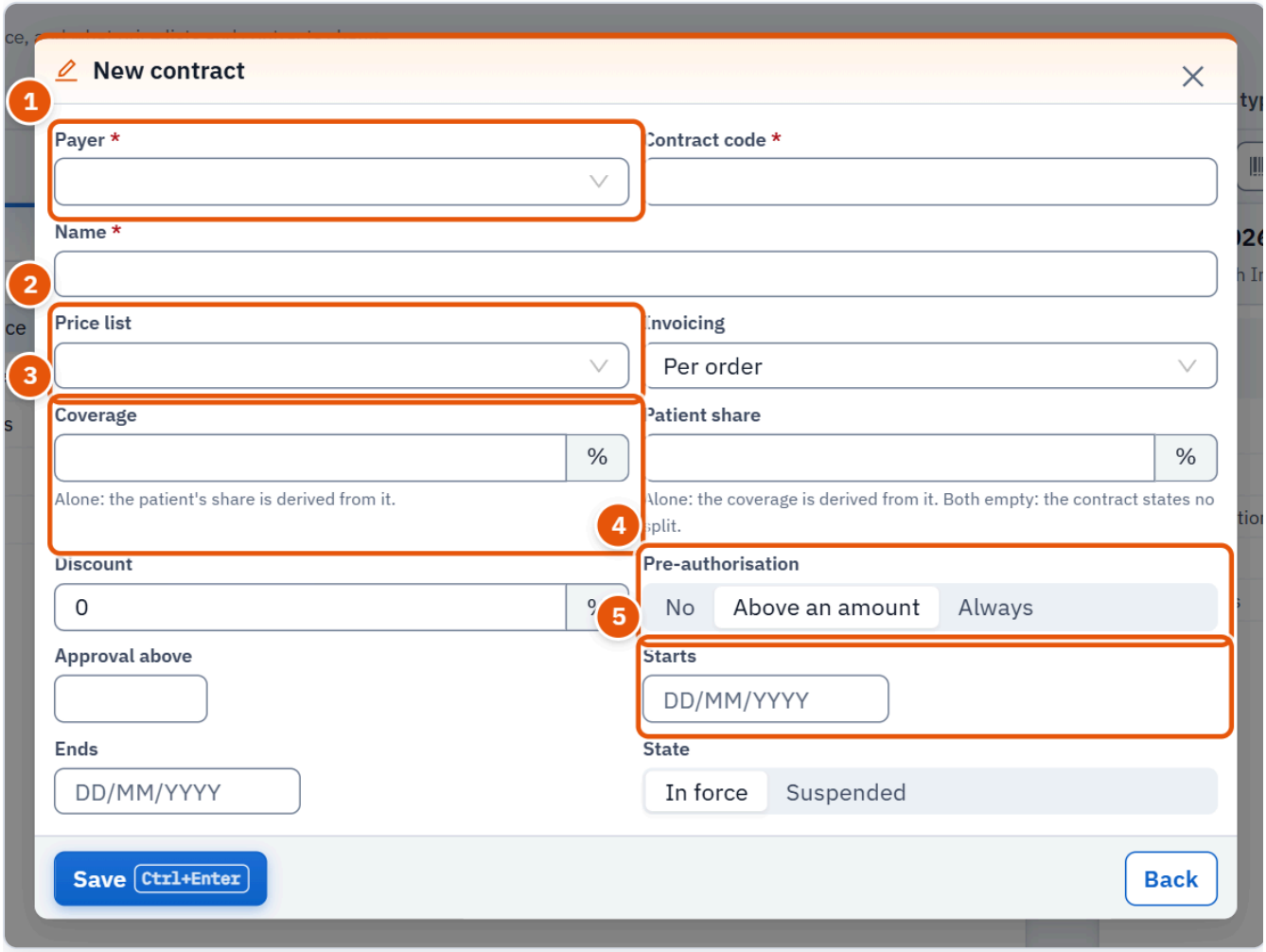


Figure 16-5: The contract form: 1 the payer, 2 the price list, 3 coverage and patient share, 4 pre-authorisation, 5 the dates.

1. On the page **Payers**, press **New payer**. Fill the name, code and payer type (required), then **Save**.
2. On the page **Contracts**, press **New contract**.
3. Choose the payer, type the **Contract code** and the **Name**.
4. Choose the **Price list** and the **Invoicing**.
5. Set the shares. Give **Coverage** alone and the patient's share is derived from it; give **Patient share** alone and the coverage is derived. Give both and they must make 100% (**Coverage and patient share together must make 100%.**). Give neither and the contract states no split.
6. Choose **Pre-authorisation**: no, above an amount (then type the **Approval above**; **Enter the amount above which pre-authorisation is needed.**), or always.
7. Set **Starts** and **Ends**; the end cannot be before the start. Choose the state: in force or suspended.
8. Press **Save**.

A code is fixed once the row exists. You can edit everything else later with **Edit**.

16.13.5 Task 5 — Import a price list from a file

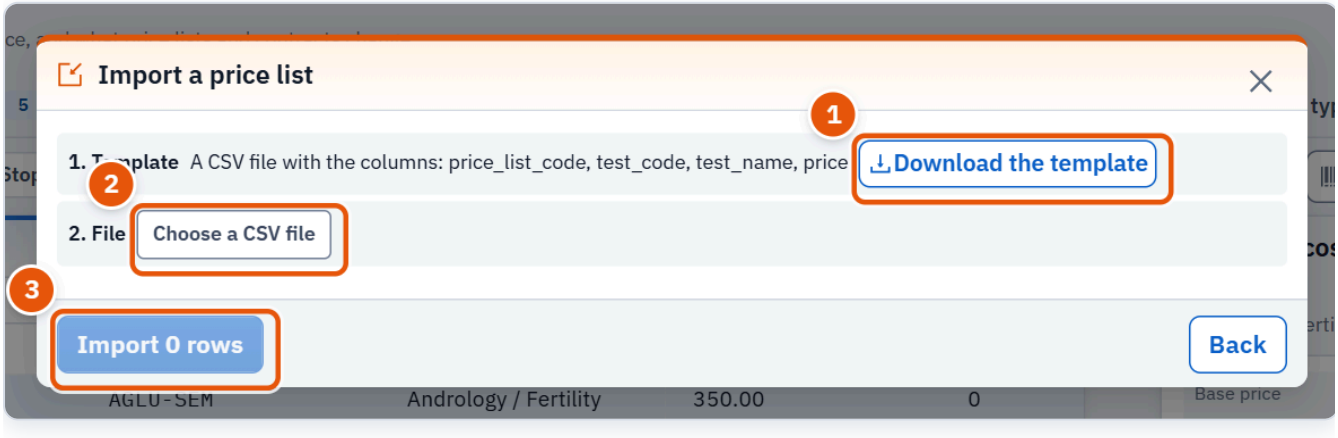


Figure 16-6: The import window: 1 the template, 2 the file, 3 the review.

1. On the first page, press **Import a price list**.
2. Step 1: press **Download the template** to save a CSV file with the columns the program expects.
3. Fill the file, keeping its columns, then step 2: **Choose a CSV file**.
4. Step 3: the program checks every row before sending anything and says how many are sound and how many will not be imported. A row can be refused for an invalid price, an empty list code, an empty test code, a list the program does not know, or a code not in the catalogue. Codes are read in capitals, so `glu` and `GLU` are the same; an empty price counts as 0, and a negative one is refused.
5. If some rows are refused, press **Download the rejected rows** to get them in a file with the reason beside each, and correct them. A test is never guessed from its name.
6. Press the import button (its label carries the number of rows). When it finishes the window says how many were imported and how many the server refused. Press **Close**.

Only the sound rows are sent. The import writes the prices into the lists at once.

16.13.6 Task 6 — Set rules for a contract

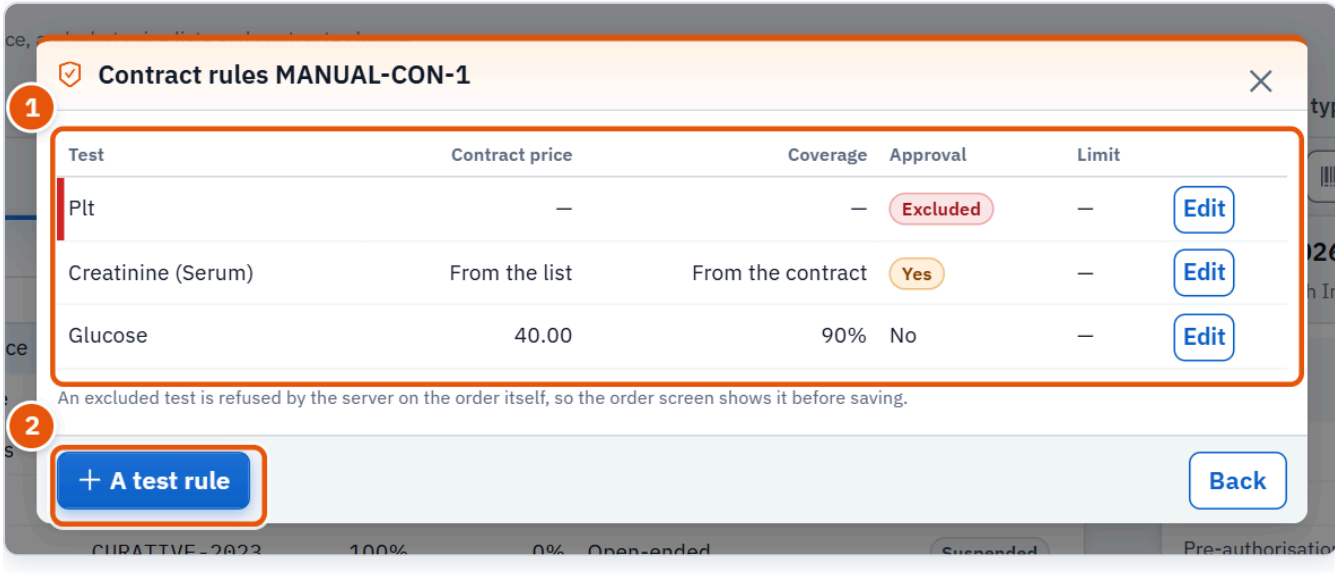


Figure 16-7: The rules of a contract: 1 the list of rules, 2 the button to add a rule.

1. On the page **Contracts**, choose the contract and press **Contract rules**.
2. The window lists the tests that have a rule, with **Coverage**, **Approval**, **Limit** (for example **Once a day**), **Excluded** for excluded tests, and where the price comes from (**From the contract** or **From the list**). With no rules: **No rules for this contract: every test on its general terms.**.
3. Press **A test rule**. Choose the test, then set what applies: **Covered by the contract** (switch it off to exclude the test), the **Contract price** (empty means the contract's list price), coverage, patient share, **Pre-authorisation**, and **Once every (days)** (empty means no limit).
4. Press **Save**.

An excluded test is refused by the server on the order itself, so the order screen shows it before saving.

16.13.7 Task 7 — Edit a line of a payer's list

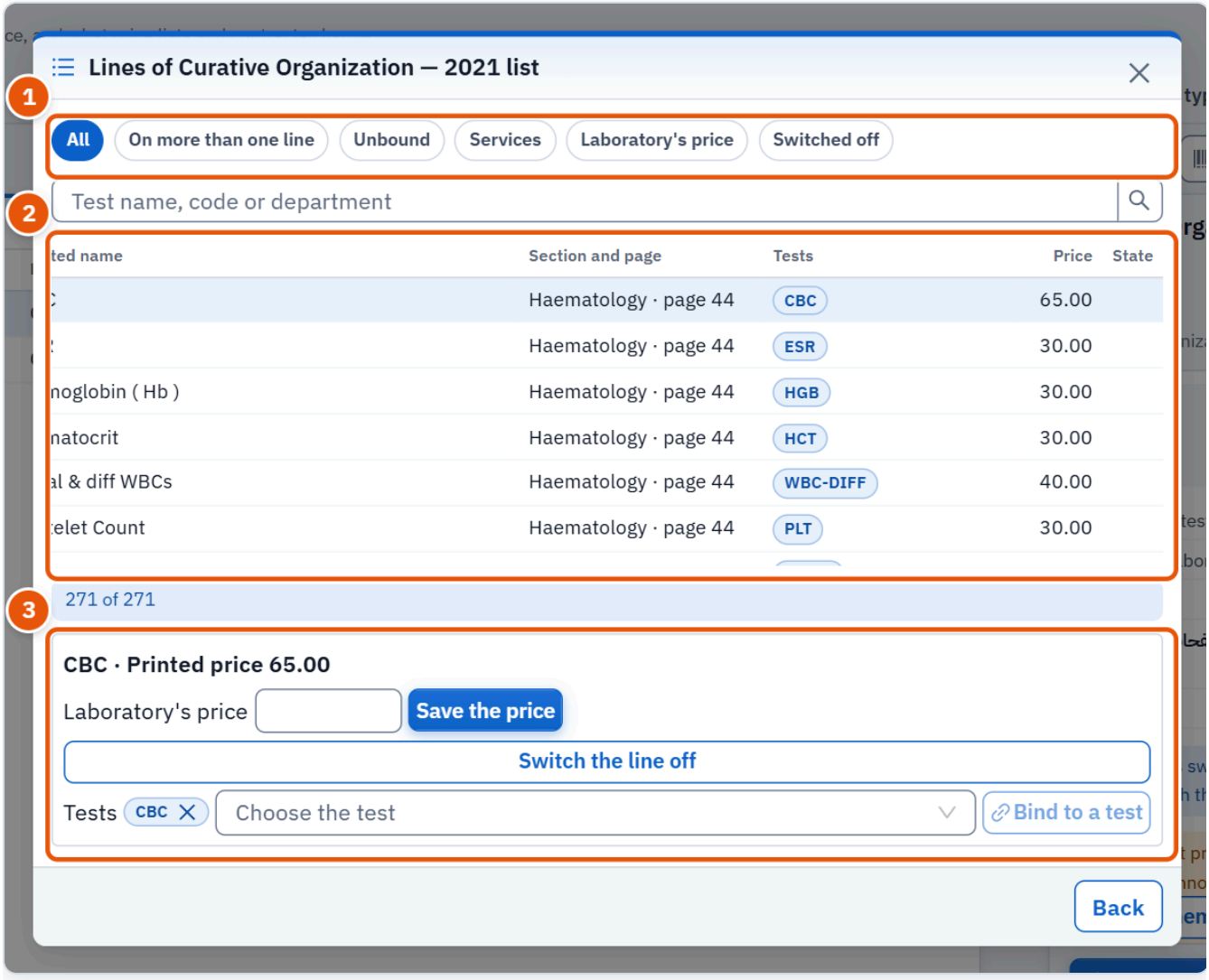


Figure 16-8: The lines of a payer's list: 1 the filters, 2 the lines, 3 the edit area of the chosen line.

1. On the page **Payers' printed lists**, choose the list and press **Show the lines**.
2. Narrow with the chips (**All**, **Laboratory's price**, **Switched off**, **Services**, **On more than one line**, **Unbound**) or by search.
3. Choose a line. Under the table you see its printed name and printed price.
4. To charge your own price, type the **Laboratory's price** and press **Save the price**. **Back to the printed price** drops your price.
5. To stop using the line, press **Switch the line off** (and **Switch the line on** to bring it back).
6. For a test line, bind it to a catalogue test: choose the test and press **Bind to a test**. The small cross on a test's code takes it off the line. The button **Bind to a test** stays dim until you have chosen a test.

A line is **Not bound** when the program could not find its test; until you bind it, no order is priced from it.

16.13.8 Task 8 — Use the payer library

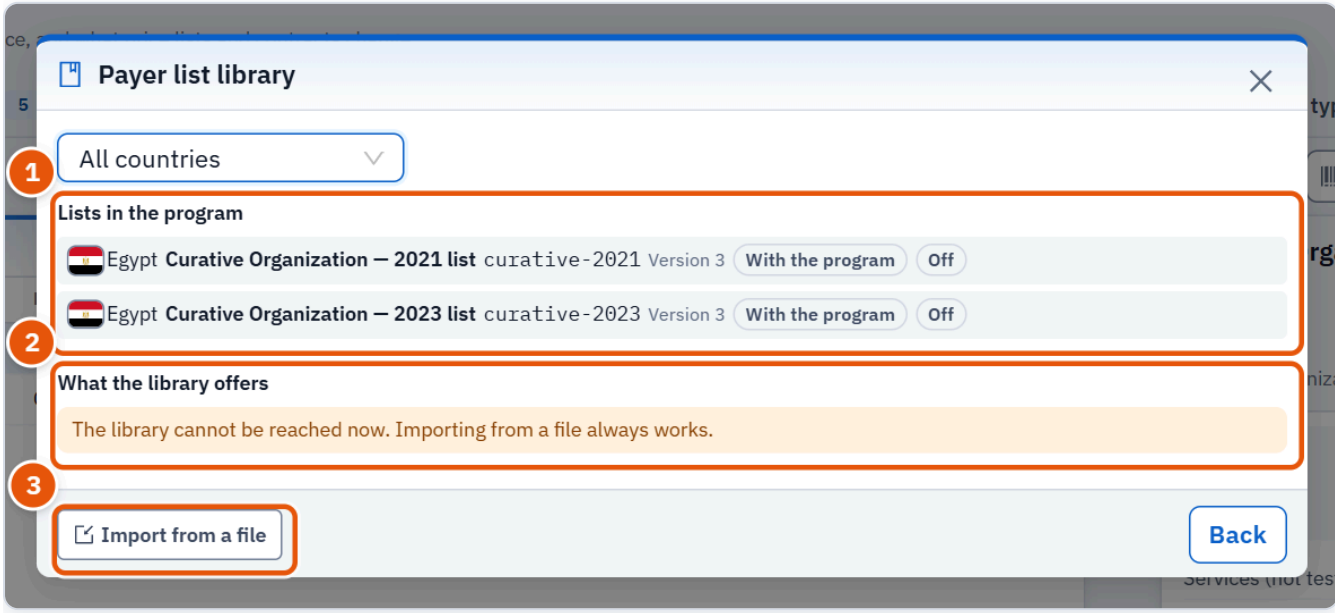


Figure 16-9: The payer list library: 1 the lists in the program, 2 what the library offers, 3 Import from a file.

1. On the page **Payers' printed lists**, press **Payer list library**.
2. **Lists in the program** shows each list with its version, its source (**With the program**, **From the library** or **From a file**) and whether it is on. **Remove the list** stops the list's contract; the lines and your edits stay.
3. **What the library offers** lists what the library offers, with a **Country** filter. A list with a newer version is marked **Update available**; one that needs a newer program says so and has no button. A list already installed at the same version has no **Show what would change** button either, and **Remove the list** appears only on lists that are on.
4. Press **Show what would change** on the list you want. The window shows what would change: new lines, changed lines, lines leaving the list and your own edits that stay. Your own prices and switched-off lines are kept; an update writes only what the payer printed.
5. Press **Apply this version**. A first install comes in switched off: switch it on from the page **Payers' printed lists** when your contract is on it.
6. If the library cannot be reached, **Import from a file** still works with a file.

> **Note**
>
> If the list names test codes the program's catalogue does not have, the other lines apply and no line is bound to those codes.

16.14 Messages and what to do

The screen says	Meaning	What to do
The prices could not be loaded.	The prices could not be read	Check the connection and press retry
This field is required.	A required field is empty	Fill it
Coverage and patient share together must make 100%.	Coverage and patient share given together do not make 100%	Correct one, or give one alone
The end date is before the start date.	The dates are reversed	Correct them
Enter the amount above which pre-authorisation is needed.	Pre-authorisation above an amount without the amount	Type the amount
An offer's percent cannot exceed 100%.	An offer in percent is above 100	Lower it
Could not save.	The server refused the save	Read the reason that follows and correct
The library cannot be reached now.	The library cannot be reached	Import from a file instead
The library is closed to this copy now.	The library is closed to this copy	Import from a file instead

16.15 See also

General settings and **Users and permissions** (the permissions above), **Catalogue** (the tests and their departments), **Orders** (where these prices are applied).

Chapter 17

Claims

Menu: **Claims**. Address: `/admin/claims`. Two more pages open from it: Statements of claims (`?page=statements`) and Payer setup (`?page=setup`).

17.1 What this screen is for

A laboratory that bills a payer (an insurer, a company, a contract) does not hand the payer the invoice alone. It hands over a **claim**: the order, its invoice, the tests, the codes and the payer's share. This screen keeps every claim in one queue from the day it is staged until the payer's money is recorded on the invoice.

Along the way you export the claim as a file or send it through the payer's channel, record what the payer answers, record the transfer, and decide what to do about a refusal: appeal, rebill, adjust, write off, or hold. Beside the queue are the statements (one payer, one period, issued as a paper) and the set-up of the payer's channel.

17.2 Who sees it

Whoever holds **Manage billing**. The menu hides the screen from everyone else. Within the screen:

You can…	…if your role holds
Use the queue, stage a claim, export, record answers and transfers, work the statements	Manage billing
Open **Health information exchange** for a claim's order	Publish reports
Open **Payer setup**	Manage settings

Without that permission the **Payer setup** button is not shown, and the address `?page=setup` simply opens the queue. The Reports-publish button is likewise absent, not dim.

17.3 The screen at a glance

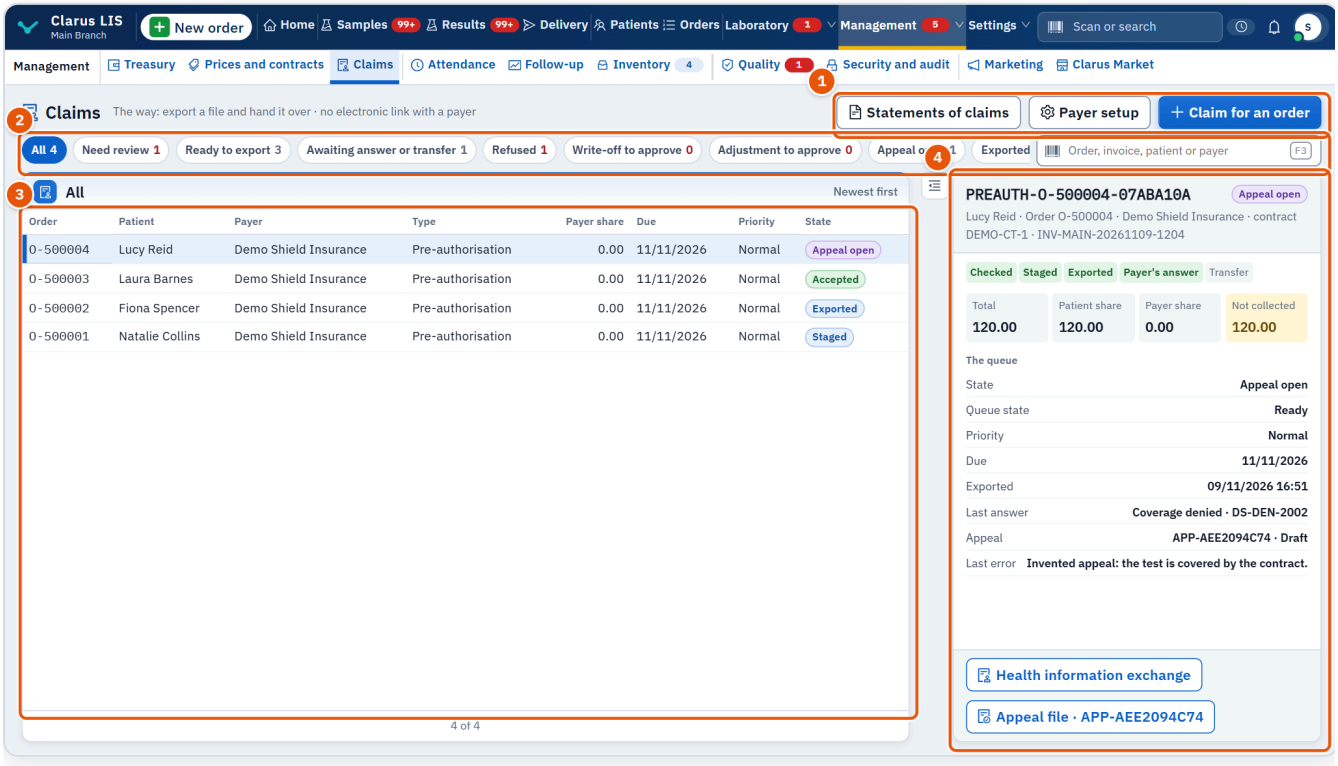


Figure 17-1: The Claims screen: 1 the buttons at the top, 2 the filters and the search box, 3 the claims table, 4 the chosen claim's details.

1. **The buttons at the top**: **Statements of claims**, **Payer setup** (only for those who manage settings) and **Claim for an order**. A line under the title says how claims leave the laboratory: by exporting a file and handing it over, or, once a payer's channel is active, also through that channel.
2. **The filters and the search box**, with a count on each filter.
3. **The claims table**, newest first.
4. **The chosen claim**: its steps, its figures, its queue and what you can do with it.

17.4 The queue

17.4.1 Filters and search

Control	What it does
Filter the claims	One chip at a time, each with its count: **All**, **Need review**, **Ready to export**, **Awaiting answer or transfer**, **Refused**, **Appeal open**, **Write-off to approve**, **Adjustment to approve**, **Exported or closed**.
Search box	Finds by order, claim or invoice number, patient name or payer. When nothing matches it says: «No claim matches “…”».

Choosing a filter or typing in the search clears the chosen claim; the first claim of the new list is chosen. The list refreshes by itself every minute, and it loads fifty claims at a time.

17.4.2 The table

Column	Meaning
Order	The order's number.
Patient	The patient.
Payer	The payer.
Type	**Final** or **Pre-authorisation**.
Payer share	The part of the invoice the payer owes.
Due	The queue's due date, if one was set.
Priority	**Immediate**, **Urgent**, **Normal** or **Low**.
State	Where the claim stands (below).

Rows that need attention are marked: send failed, coverage denied, returned for an error, write-off to approve, adjustment to approve.

17.4.3 The states

State	Meaning
Staged	The claim is prepared and waits to be exported or sent.
Exported / **Sent**	The file was exported, or the claim was sent through the channel.
Send failed	The payer's channel did not take it; the reason is kept on the claim.
Answered, **Accepted**, **Partly accepted**, **Paid**	The payer answered.
Coverage denied, **Returned for an error**	The payer refused the coverage, or returned the claim for an error.
Remitted	The transfer was recorded.
Appeal open, **Rebill needed**	An appeal is open, or the claim must be billed again.
Write-off to approve, **Adjustment to approve**	A decision waits for a second person to approve.
Written off, **Adjusted**	The decision was approved.

State	Meaning
On hold	The claim is on hold.
Recovery refused	The recovery decision was refused.

17.5 The chosen claim

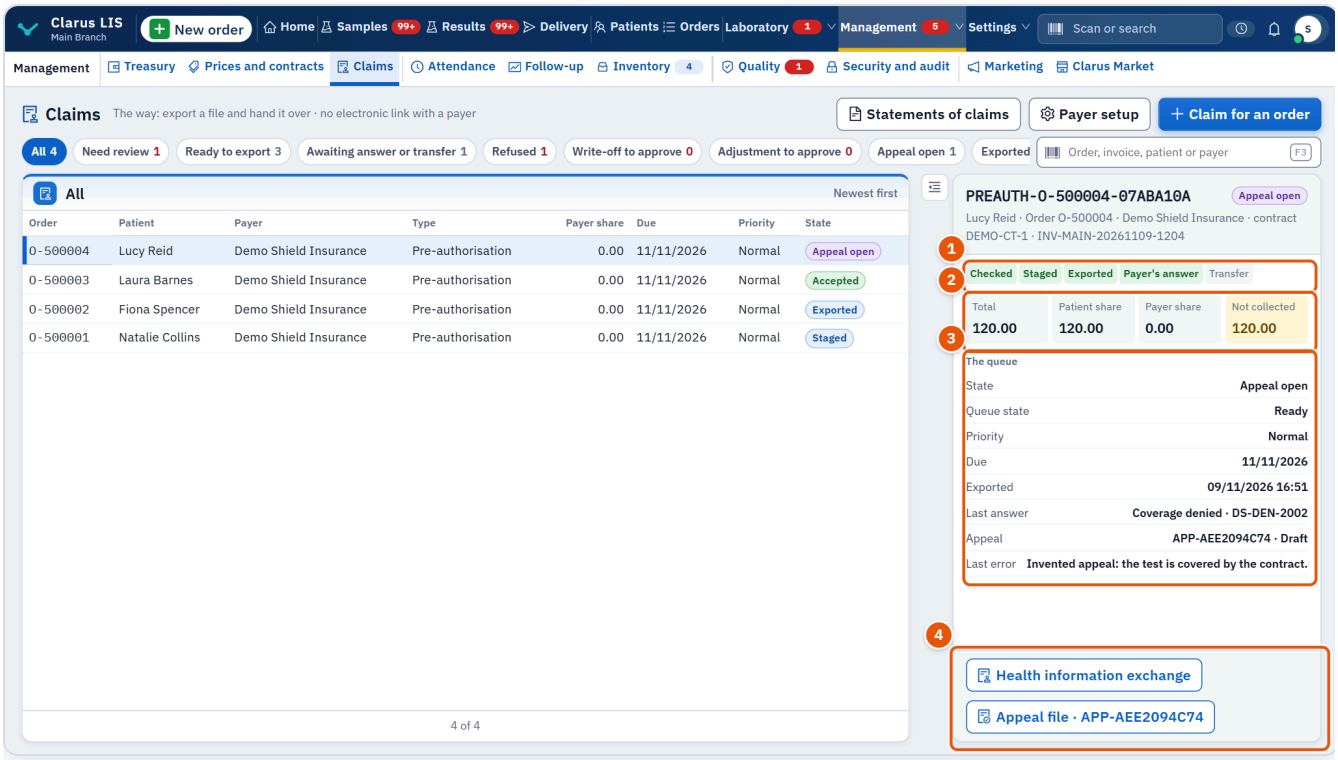


Figure 17-2: The details of a claim: 1 the steps, 2 the four figures, 3 the queue, 4 the buttons.

Element	What it shows or does
The title	The claim's code and its state; under it the patient, the order, the payer, the contract and the invoice.
The claim's steps	Five steps: **Checked**, **Staged**, **Exported**, **Payer's answer**, **Transfer**. Those reached are marked.
Figures	**Total**, **Patient share**, **Payer share** and **Not collected** (the invoice's total less what was paid).
A red note	If the claim still lacks things: **N** things are missing before export.
The queue	The state, the queue state, the priority, the owner, the due date, the hold reason, when it was exported, the last answer with the payer's reference, the amount recorded on the invoice, the appeal and its state, and the last error. Only what exists is shown.

Element	What it shows or does
A decision awaiting approval	A recovery decision waiting for approval: its kind, amount, reason and when it was recorded.

17.5.1 The buttons of a claim

The buttons depend on the state. The first one is the main one.

State	Buttons
Staged	**Send to the payer** (only when a payer channel is active), **Export the file**, **Hold or defer**
Exported or send failed	**Send to the payer** (with an active channel), **Record the payer's answer**, **Hold or defer**
Sent	**Record the payer's answer**, **Hold or defer**
Responded, accepted, partly accepted, paid	**Record the transfer**, **Record the payer's answer**
Coverage denied, returned for an error	**Recovery decision**, **Record the payer's answer**
Write-off or adjustment to approve	**Review the decision**

Health information exchange appears for those who may publish reports, and the appeal button (**Appeal file**, with its code) appears once the claim has an appeal or rebill file.

17.6 The windows

17.6.1 Claim for an order

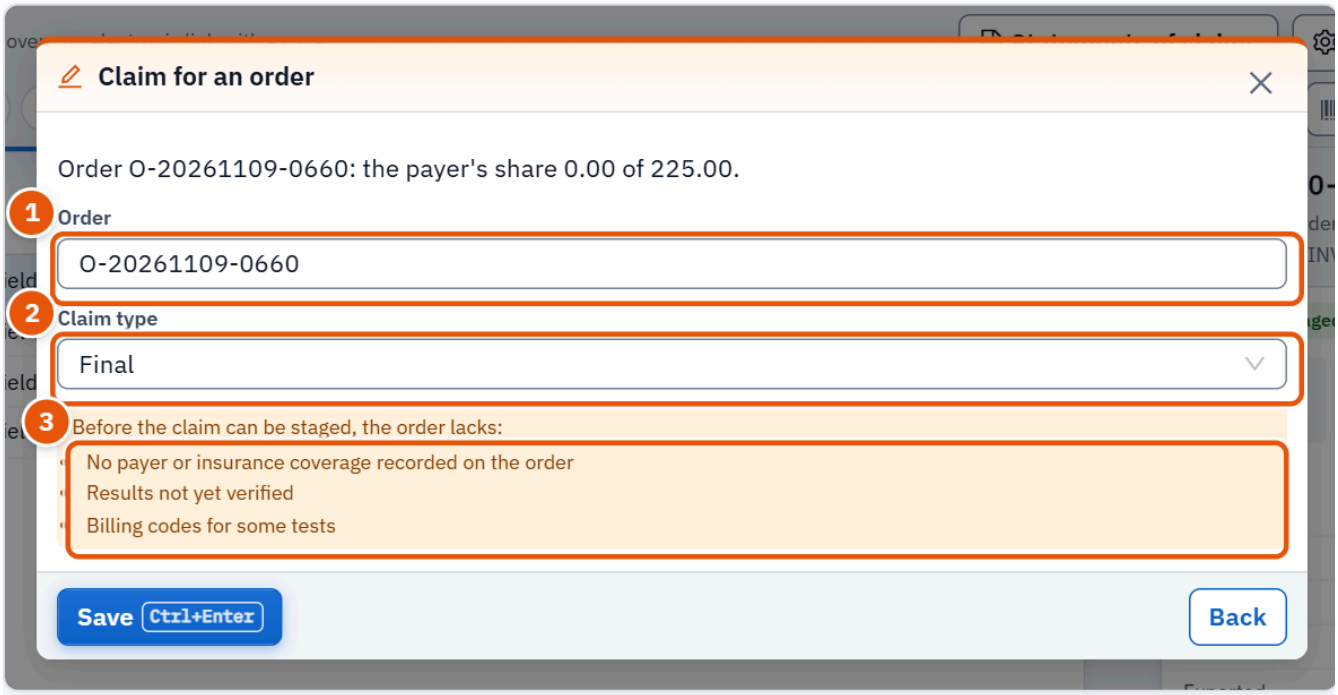


Figure 17-3: The window «Claim for an order»: 1 the order box, 2 the claim type, 3 what the order still lacks.

Field	What it does
Order	Scan the order number, or search by number or patient name (at least two characters), then pick the order from the short list of six. Typing again clears the chosen order.
Claim type	**Final** or **Pre-authorisation**.

When an order is chosen the program checks it. If it is complete it says so and the claim is staged on saving. If not, it lists what is missing: the payer or coverage, the invoice, clinical notes or a diagnosis, verified results, the authorisation number, billing codes for some tests, or release readiness. Saving is refused until the list is empty. Staging the same order twice does not make a second claim.

17.6.2 Send, export and record

Window	Fields	Notes
Send to the payer	none: one press	The payer's channel answers. «The claim was sent to the payer», or a warning that the channel did not take it.

Window	Fields	Notes
Export the file	none: one press	Marks the claim exported and saves a file to hand to the payer.
Hold or defer	**Queue state**, **Priority**, **Owner**, **Due**, **Hold reason**	The reason is required unless the state is ready.
Record the payer's answer	**Answer** (accepted, partly accepted, paid, coverage denied, returned for an error), **Payer's reference**, **Note**	
Record the transfer	**Amount transferred**, **Payer adjustment**, **Expected**, **Payer's reference**, **What to do with the difference**, **Note**	Enter the amount or the adjustment.
Recovery decision	**Decision**, **Expected recovery**, **Write-off amount**, **Next action on**, **Owner**, **Reason**	The reason is required.
Review the decision	**Review**, **Your note or evidence reference**, **Evidence**	The note is required.

The recovery decisions are: **Appeal**, **Rebill**, **Adjustment**, **Write-off**, **Hold for the owner**, **Accept, no action**. The choices for the difference in a transfer are: **Collect the rest from the payer**, **Request a corrected remittance advice**, **Adjust with the payer**, **The rest is the patient's**, **Review for write-off**, **No action**.

While you fill in a transfer, the window shows what will be written on the invoice: the payment applied (never more than the invoice's open balance) and what is left, and whether the transfer is short of what was expected or is an overpayment. An overpayment is not recorded as a payment.

17.6.3 Appeal file

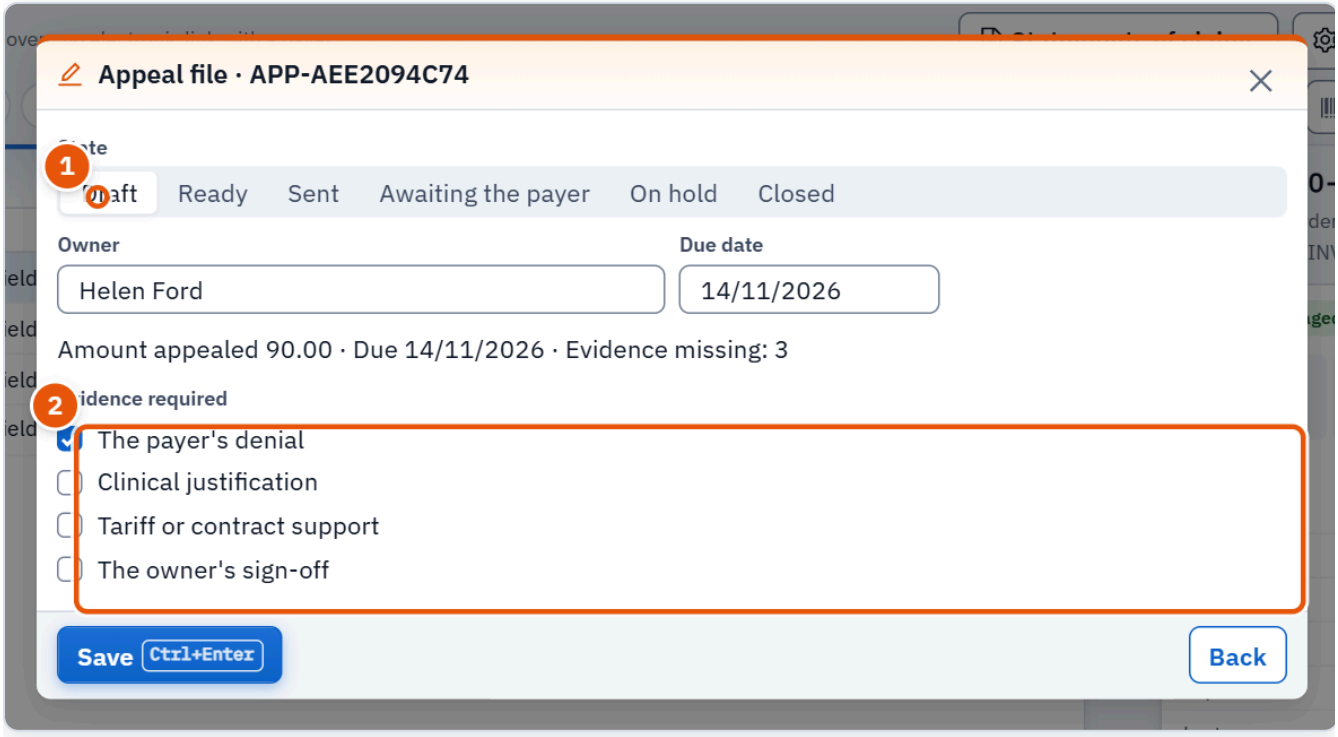


Figure 17-4: The appeal file: 1 the state, owner and due date, 2 the evidence list.

Element	What it does
State	**Draft**, **Ready**, **Sent**, **Awaiting the payer**, **On hold**, **Closed**.
Owner, **Due date**	Who answers for the file and by when.
Evidence required	A tick for each paper in hand. The list is set by the file (for example the payer's denial, the corrected claim, the clinical justification, the owner's sign-off).

The line at the foot says how much is appealed, the due date and how many papers are missing. A file cannot be marked sent, or awaiting the payer, while any paper is missing.

17.6.4 Health information exchange

For those who may publish reports. From a claim, **Health information exchange** prepares a package of the order's results for another system.

Field	What it does
Destination	**National health exchange**, **Hospital system (HL7 v2)** or **FHIR R4 interface**.
Consent basis	The patient's explicit consent, the patient's request, treatment, payment, health care operations or public health.

Field	What it does
Consent reference (optional)	Optional.

As with a claim, the order is checked first: the patient's national number and file number, the patient's current consent, results on the order, verified results and release readiness. If anything is missing, the package is not staged. When complete, saving stages the package and downloads its file.

17.7 Statements of claims

Press **Statements of claims**. A statement gathers one payer's tests over one period, so that it can be reviewed, issued and printed as one paper. **Back to claims** returns to the queue.

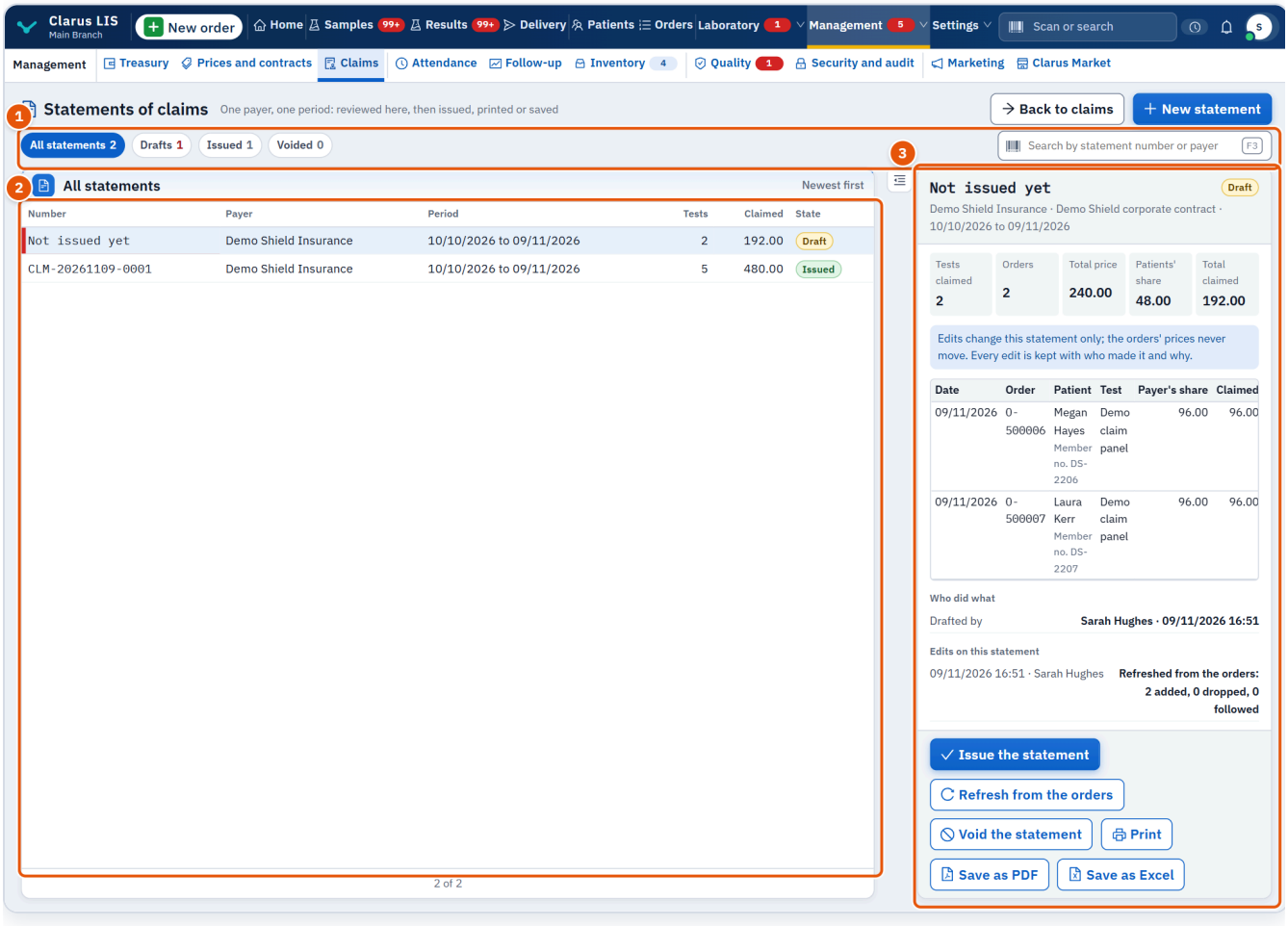


Figure 17-5: The statements page: 1 the filters and the search box, 2 the statements table, 3 the chosen statement and its lines.

Element	What it does
Statement state	**All statements**, **Drafts**, **Issued**, **Voided**.
Search box	By statement number or payer name.

Element	What it does
Table	**Number**, **Payer**, **Period**, **Tests**, **Claimed**, **State**.
Figures	**Tests claimed**, **Orders**, **Total price**, **Patients' share**, **Total claimed**.
The statement's lines	Date, order, patient (with member number), test, the payer's share and the amount claimed. A line taken off the claim says so; an edited one says **Edited**.
Edits on this statement	Every edit with who made it, when, and why.
Who did what	Who drafted it and, once issued, who issued it.

Buttons on the chosen statement: a draft has **Issue the statement**, **Refresh from the orders** and **Void the statement**; an issued statement has only **Void the statement**. For every statement: **Print**, **Save as PDF**, **Save as Excel**. Issue is dim while the statement has no lines.

17.8 Payer setup

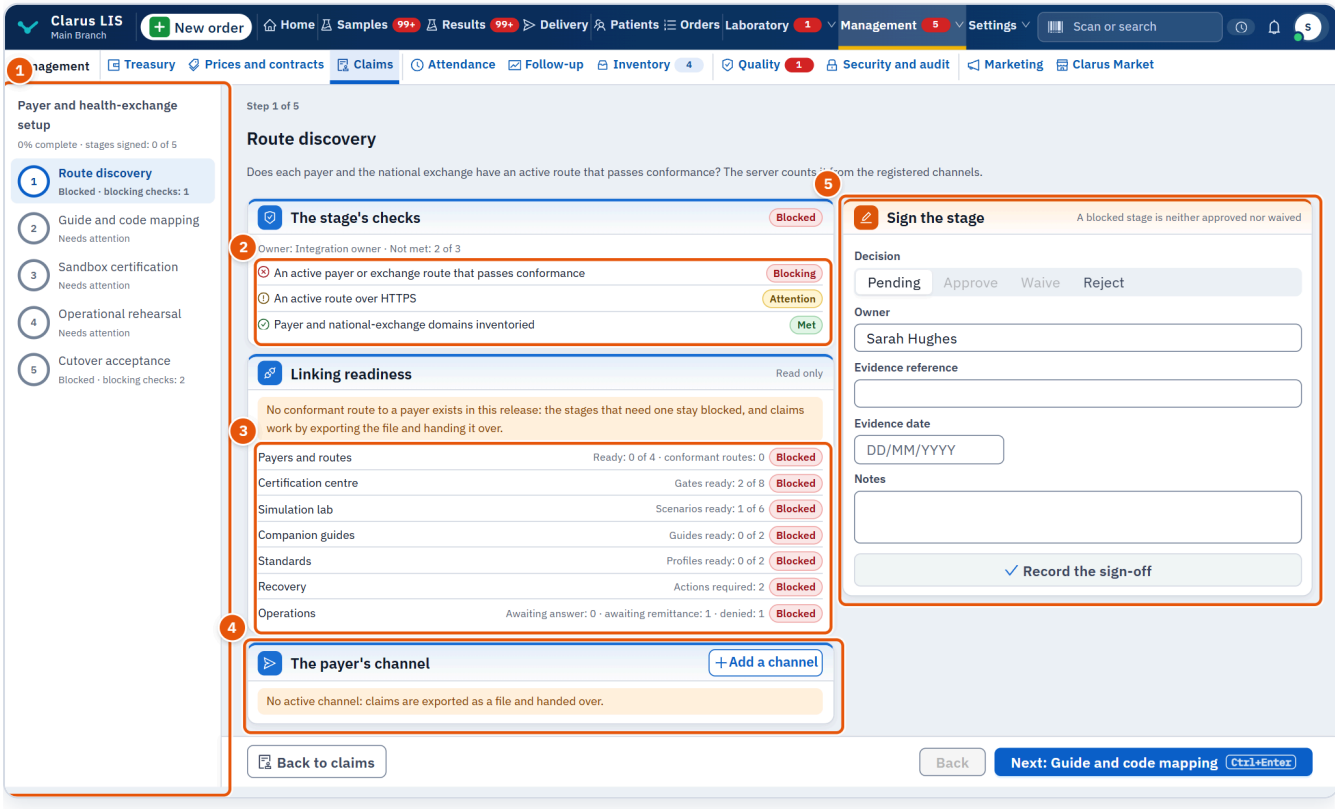


Figure 17-6: The payer setup: 1 the stages on the side, 2 the stage's checks, 3 the linking readiness, 4 the payer's channel, 5 the sign-off.

Payer setup is a guide through five stages, with a progress line («% complete · stages signed»). Each stage shows its owner and its checks.

Stage	What it is for
Route discovery	Whether each payer and the national exchange has an active route that passes conformance; the server counts it from the registered channels.
Guide and code mapping	The payer's guide, and billing and LOINC codes mapped to the tests.
Sandbox certification	Conformance evidence from a sandbox or an official body.
Operational rehearsal	A rehearsal of eligibility, denials, remittance, acknowledgements, retries and escalation.
Cutover acceptance	The owners' decision to go live, the rollback plan and the route approval.

Each check is passed, a warning, or blocking. **Linking readiness** (read only) shows one line per area with a status: **Ready**, **Needs attention**, **Blocked**. If no conformant route exists, the page says so: the stages that need one stay blocked, and claims work by exporting the file.

Sign the stage: choose a **Decision** (**Pending**, **Approve**, **Waive**, **Reject**), the **Owner**, the **Evidence reference**, the **Evidence date** and **Notes**, then **Record the sign-off**. Approval and waiver need the reference and the date. A blocked stage can be neither approved nor waived. If a stage's checks change after signing, it is marked as needing a new signature.

17.8.1 The payer's channel

The card **The payer's channel** lists the channels where **Send to the payer** posts a claim. Each shows its name, its address and whether it is active. A channel is switched off, never deleted.

Field	What it does
Channel name	A name you recognise. Required, like the address.
Address (https://)	The address the payer gives for claims. It must start with `https://`: a claim leaves the laboratory over nothing else.
Active	Whether the channel is in use.

17.9 Tasks, step by step

17.9.1 Task 1 — Stage a claim for an order

1. Press **Claim for an order**.
2. Scan the order number or type part of it, and pick the order.

3. Choose the **Claim type**.
4. Read the result of the check. If items are listed, complete them in their own screens and come back.
5. Save. The claim appears in the queue as **Staged**.

17.9.2 Task 2 — Export or send a claim

1. Choose the claim in the table (filter **Ready to export** lists those ready).
2. Press **Export the file** and hand the saved file to the payer, or press **Send to the payer** if a channel is active.
3. If a send fails, the claim stays with its reason (**Last error**); correct it and send again, or export.

17.9.3 Task 3 — Record the payer's answer and the transfer

1. Choose the claim and press **Record the payer's answer**.
2. Choose the **Answer**, type the payer's reference and save.
3. When money arrives, press **Record the transfer**, type the amount (and the adjustment if any), choose what to do with the difference and save.
4. Check the line that says what will be recorded on the invoice before saving.

17.9.4 Task 4 — Deal with a refusal

1. Choose a refused claim and press **Recovery decision**.
2. Choose the **Decision**, the amounts, the next action date and the owner, and write the reason.
3. A write-off or an adjustment waits for approval. A different person chooses the claim, presses **Review the decision**, chooses **Approve** or **Refuse** and writes a note. The person who recorded the decision does not see the review button at all.
4. For an appeal, open the **Appeal file**, tick the papers in hand and change its state.

17.9.5 Task 5 — Issue a statement

1. Press **Statements of claims**, then **New statement**.
2. Choose the **Payer**, a **Contract** or all of them, and the first and last day (the payer and both days are required, and the first day must come before the last). Save.
3. Review the lines. Press **Edit** on a line to change the amount claimed, take it off the claim, or add a note (lines are edited only while the statement is a draft). The reason is required when the amount changes or the line is taken off the claim, and is kept with the edit; a change to the note alone does not need it.
4. If lines say their order changed, press **Refresh from the orders** or take them off the claim.
5. Press **Issue the statement** and confirm. An issued statement is not edited; it can only be voided, with a reason, and its tests may then be claimed on another statement.

17.10 Messages and what to do

The screen says	Meaning	What to do
The claims could not be loaded.	The list did not arrive.	Use the retry button, then check the connection.
The claim cannot be staged until what it lacks is completed.	The order is missing something from the list.	Complete each item, then save again.
This claim was already staged; it was not created twice.	The order already has this claim.	Find it in the queue.
The payer's channel did not take the claim; the reason is kept on it.	The send failed.	Read **Last error**, correct, send again or export.
This write-off or adjustment is your decision, so someone else approves it.	You recorded it.	Ask another person to review it.
Enter the amount transferred or the adjustment.	The transfer window has neither.	Type one.
Write the reason for the hold or deferral.	The hold has no reason.	Write it.
The file cannot be marked sent while evidence is missing.	The appeal lacks papers.	Tick the papers in hand, or keep the file as a draft.
The address starts with https://...	A channel address does not.	Type the full address as the payer gave it.
Resolve the blocking checks first	The stage is blocked.	Clear its blocking checks.

17.11 See also

- **Claims**: this screen.
- **Delivery**: reports and delivery.

Chapter 18

Attendance

Menu: **Attendance**. Address: `/admin/attendance`.

18.1 What this screen is for

This screen records who came to work, who did not and who was late, every day. The punches arrive from fingerprint devices, from a file a device or another program exported, or are typed by hand. Nothing is lost and nothing is counted twice, and a punch is never deleted: a wrong one is voided with its reason.

The month page gives **days and minutes only**. The payroll turns them into a suggested deduction, and the manager decides. The employees are the payroll's own register: an employee is added on the payroll page, and here you give them their number in the fingerprint device and their work schedule.

18.2 Who sees it

You can...	...if your role holds
Open the screen and read the pages Today, Month, Employees and schedules, Holidays and leave, and Punches without an employee	**Read the attendance of every employee**
Punch by hand, void a punch or a leave, link a number to an employee, save a schedule, add a holiday or a leave, open the Fingerprint devices and Import a file pages	**Manage attendance: numbers, schedules, leaves, files, devices and punches by hand**

Without the management permission the pages Fingerprint devices and Import a file are not offered, and the buttons that change anything are absent.

18.3 The screen at a glance

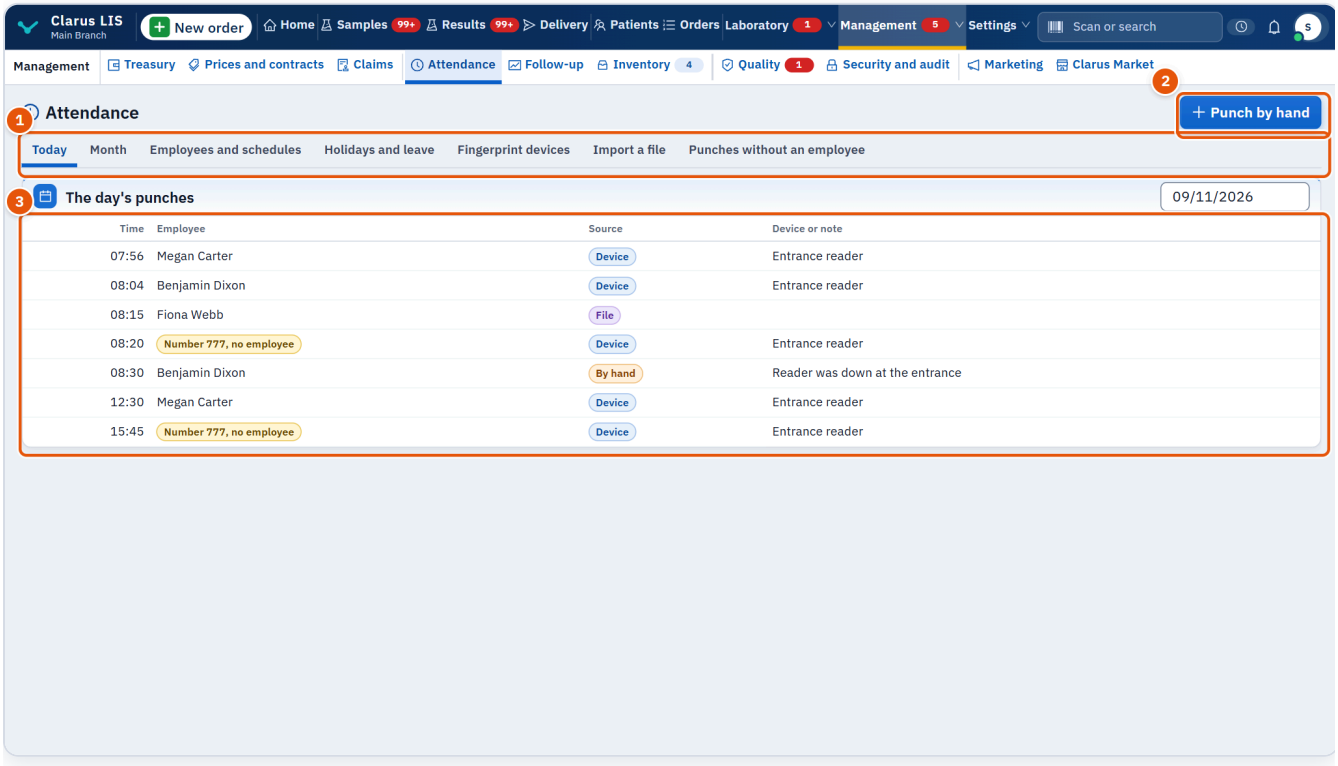


Figure 18-1: The Attendance screen: 1 the page tabs, 2 the Punch by hand button, 3 the day's punches.

1. **The page tabs** (**Attendance pages**): **Today**, **Month**, **Employees and schedules**, **Holidays and leave**, **Fingerprint devices**, **Import a file**, **Punches without an employee**.
2. **The page's own buttons**, which differ from page to page.
3. **The page's table or form.**

18.4 Today

The page opens here. The card **The day's punches** lists one day's punches; its date box (**Day**) starts at today.

Column	Meaning
Time	The hour and minute of the punch.
Employee	The employee, or **Number ..., no employee** when no employee carries that number yet.
Source	**Device**, **File** or **By hand**; a voided punch shows **Voided** instead.
Device or note	The device's name, or the note of a punch by hand.

If the day has none, the page says: **No punches on this day.**

18.5 Month

The card **Month** has a month box. Each employee has a row.

Column	Meaning
Working days	Working days of the month by the employee's schedule. An employee without a schedule shows **Set the working days first**.
Present	Working days (by the schedule) on which the employee has at least one punch. A punch on a day off or a holiday is not counted.
Absent	Working days with no punch. A holiday or a day of leave is not a working day here, so it is never an absence.
Leave	Days of recorded leave.
Unpaid	The part of the leave that is unpaid.
Minutes late	Minutes of lateness. The first punch of the day counts as late only if it comes after the start plus the minutes of grace; then every minute from the start is counted, not only the minutes past the grace.
Minutes left early	Minutes by which the employee left before the end of work, counted from the last punch to the end, and only if the exit is earlier than the end minus the grace.
Incomplete days	Working days with exactly one punch (an entry without an exit, or the opposite). Such a day also counts as present.

A note above the table says whether the month is complete or still running, up to which day, and repeats that the page shows days and minutes only.

18.6 Employees and schedules

The register of employees is the payroll's. A table shows each employee, **Number in the device** (or **No number**), **Work schedule** and **State**. For a role that manages attendance, clicking a row opens the employee's window.

Field in the window	What it does
Number in the device	The numbers already linked, each with a cross to give it back; the box **A new number in the device** and the button **Link the number** add another. These take effect at once.
In force from	The day the schedule starts to apply.
Minutes of grace	Minutes after the start that are not counted as late.

Field in the window	What it does
Working days	The days the employee works.
Starts at / **Ends at**	The hours of work. An end before the start is a shift that crosses midnight.

The button **Save the schedule** needs at least one working day and both hours. An employee with no schedule has no absence counted.

18.7 Holidays and leave

Two cards: the leaves of the chosen month (**Leave**) with a month box, and the official holidays of that month's year. The leave table has **Employee**, **Kind** (**Annual**, **Casual**, **Sick**, **Unpaid**, **Other**), **From**, **To** and the state (**Recorded** or **Voided**). The holiday table has the day and **Holiday**.

The buttons **Official holiday** and **Leave** appear only to a role that manages attendance.

18.8 Fingerprint devices

The program pulls the punches from the pulled devices by itself, and keeps only the employee's number and the moment. It never asks a device for a fingerprint template or a picture and writes nothing to it. The table shows **Name**, **Kind**, **Address**, **Last pull** and the state. The kinds are **ZKTeco, pulled**, **ZKTeco, pushing (ADMS)** and **Hikvision**.

Control	What it does
New device	Opens the device window. A pulled device needs a name and an address (**Device address**), with **Port** and **Connection** filled in by kind. A Hikvision device also needs **User name**. A pushing device needs its **Serial number** and address. A saved secret shows «**Kept; type a new one to change it**».
Test the connection	Asks the device if it answers and compares its clock with the server's. A clock off by minutes produces a warning.
Pull now	Pulls now and says how many new punches of those seen were added.

A pushing device has neither button: it sends by itself, so the server must be open on the local network and its address set in the device.

18.9 Import a file

For a file a device or another program exported: CSV, Excel or an attlog file. The same file is never imported twice.

18.10 Punches without an employee

A table of numbers a device or file sent that no employee carries yet: **Number in the device**, **Punches**, **First**, **Last**. Nothing of them is lost.

18.11 Tasks, step by step

18.11.1 Task 1 — Add a punch by hand

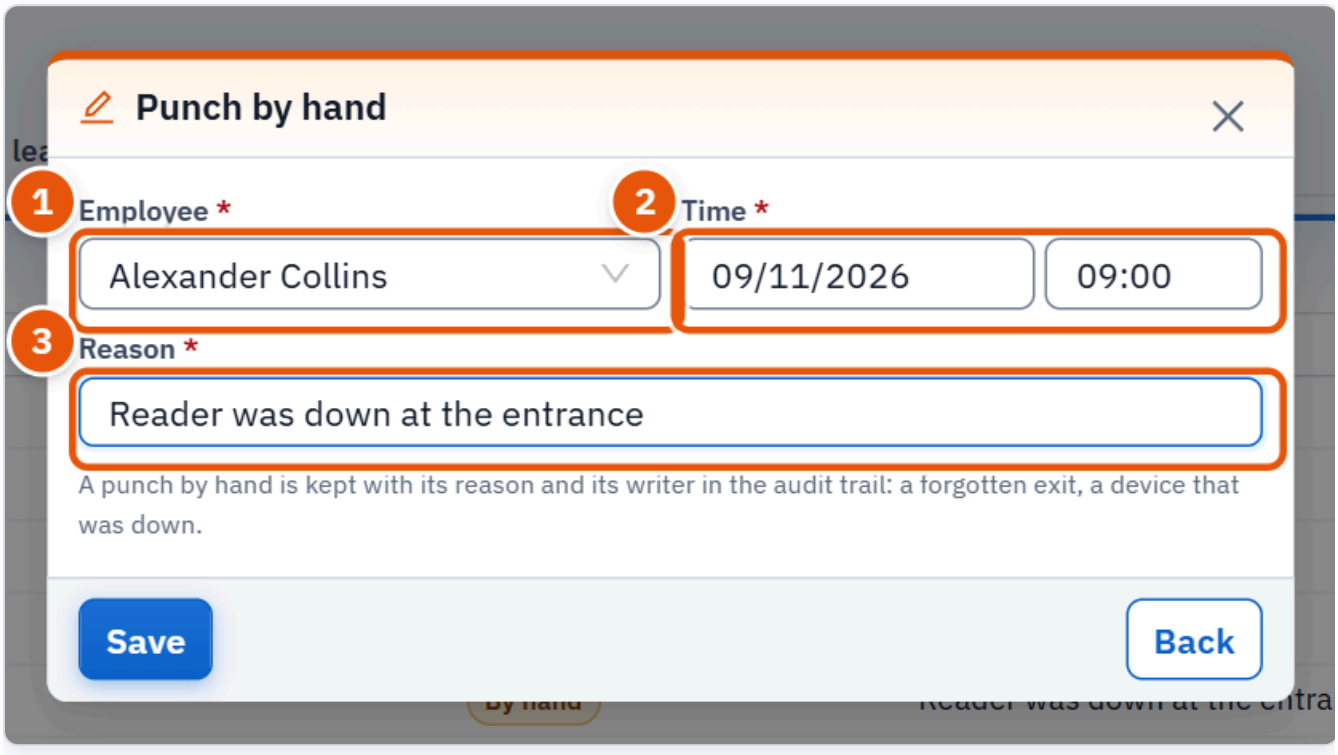


Figure 18-2: The window Punch by hand: 1 the employee, 2 the time, 3 the reason.

1. On **Today**, choose the day, then press **Punch by hand**.
2. Choose **Employee** (only active employees are listed).
3. Set **Time**; it starts at 09:00 of the chosen day.
4. Write the **Reason**. It is required, and is kept with your name in the audit trail.
5. Press **Save**.

18.11.2 Task 2 — Void a wrong punch

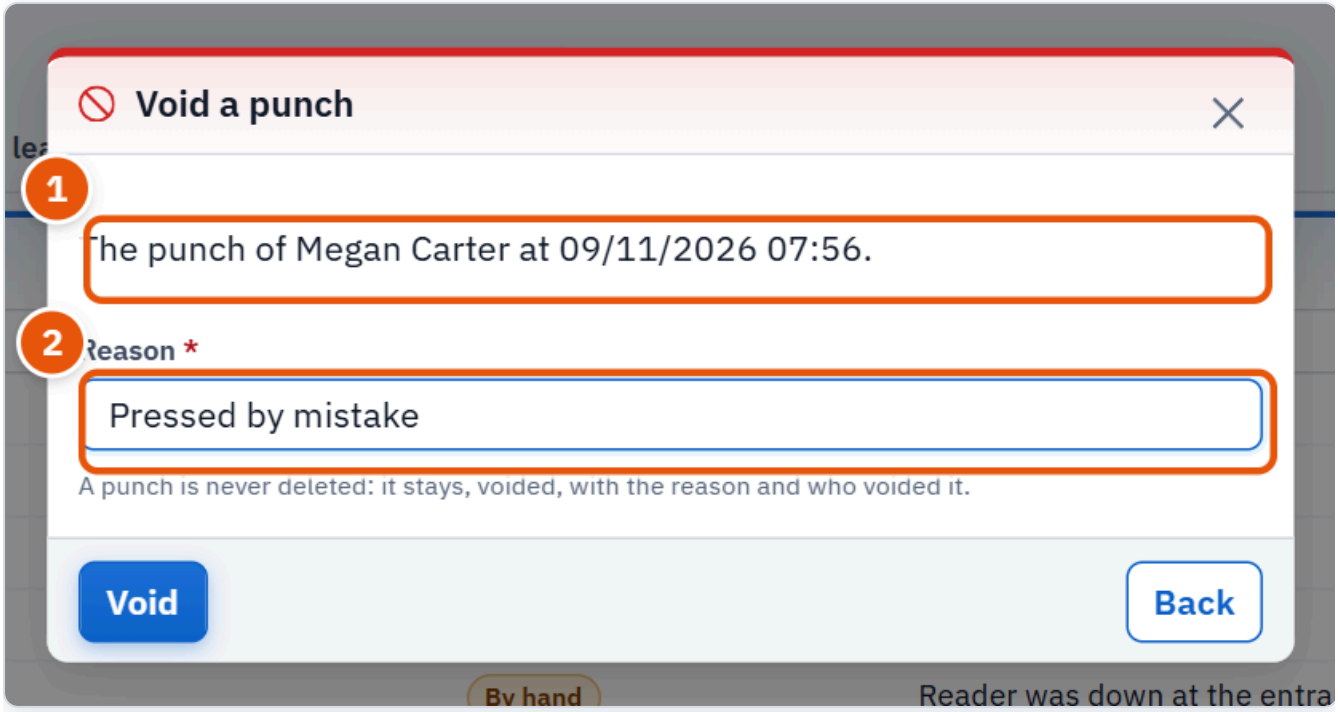


Figure 18-3: The window Void a punch: 1 the punch named, 2 the reason.

1. On **Today**, click the punch's row (a punch already voided cannot be clicked).
2. Write the **Reason**.
3. Press **Void**. The punch stays in the list, marked **Voided**.

18.11.3 Task 3 — Link an unknown number to an employee

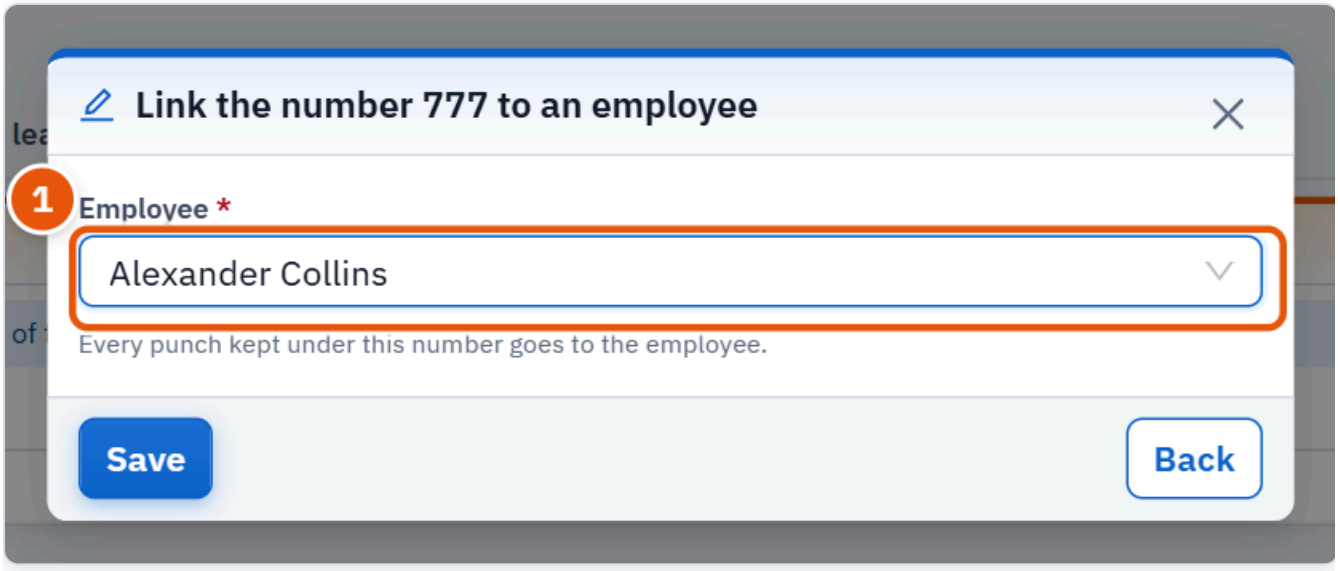


Figure 18-4: The window to link a number: 1 the employee.

1. Open **Punches without an employee** and click the number's row.

2. Choose the **Employee**.
3. Press **Save**. Every punch kept under that number becomes the employee's.

18.11.4 Task 4 — Give an employee a schedule

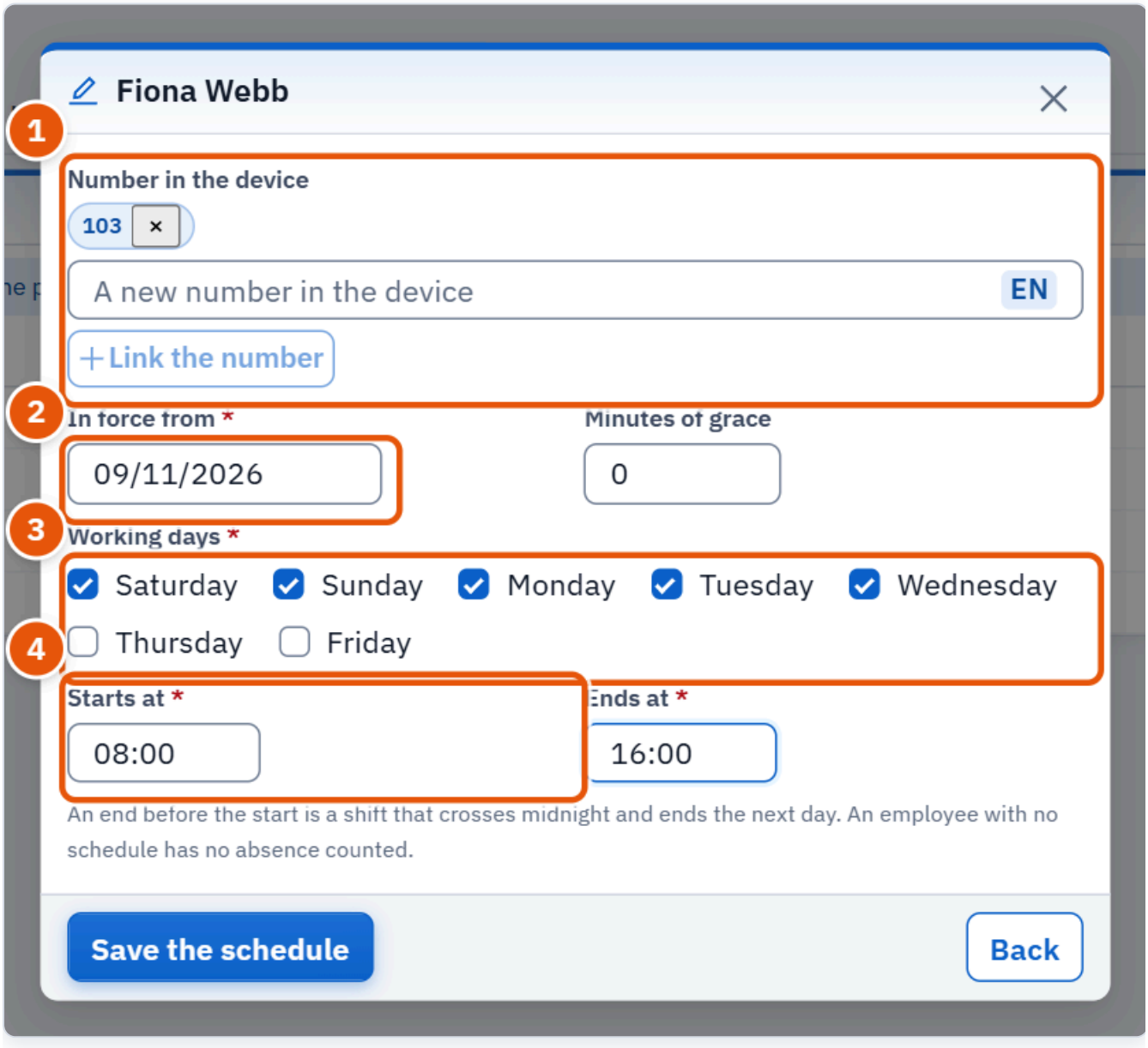


Figure 18-5: The employee's window: 1 the numbers, 2 the day it starts, 3 the working days, 4 the hours.

1. Open **Employees and schedules** and click the employee.
2. If the employee has no number yet, type it in **A new number in the device** and press **Link the number**.
3. Set **In force from**, tick the **Working days**, and set the two hours and the minutes of grace.
4. Press **Save the schedule**.

18.11.5 Task 5 — Record a leave or a holiday

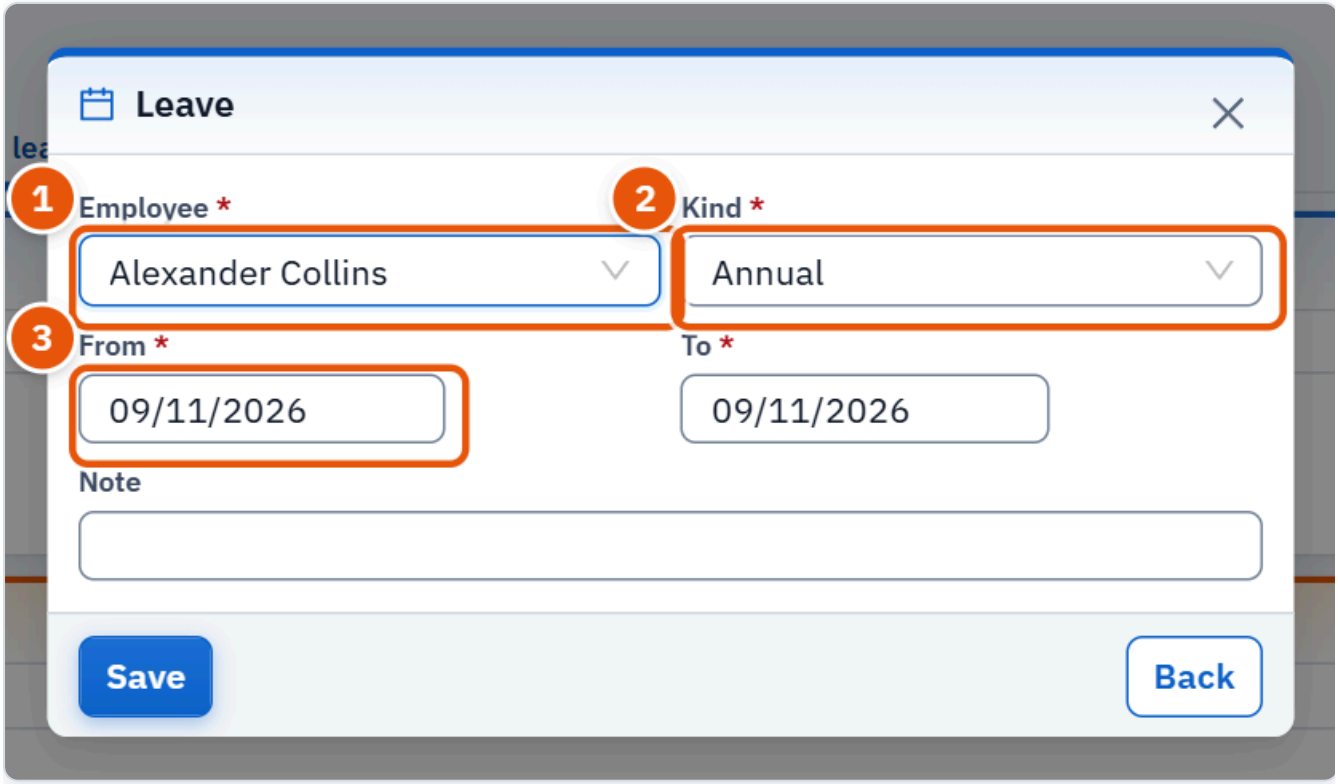


Figure 18-6: The window **Leave**: 1 the employee, 2 the kind, 3 from and to.

1. Open **Holidays and leave**.
2. For a leave press **Leave**; choose the employee and the kind, set **From** and **To**, add a **Note** if wished, and save.
3. For a holiday press **Official holiday**; set the day and its name. The switch **For every branch** is on by default. Save.
4. To void a leave, click its row, write the reason and press **Void**.

18.11.6 Task 6 — Add a fingerprint device



Figure 18-7: The window New device: 1 the name and the kind, 2 the address and the port.

1. Open **Fingerprint devices** and press **New device**.
2. Give the name, choose the kind, and fill the fields it asks for.
3. Press **Save**.
4. Press **Test the connection** on its row, and then **Pull now** to bring the first punches.

18.11.7 Task 7 — Import an attendance file

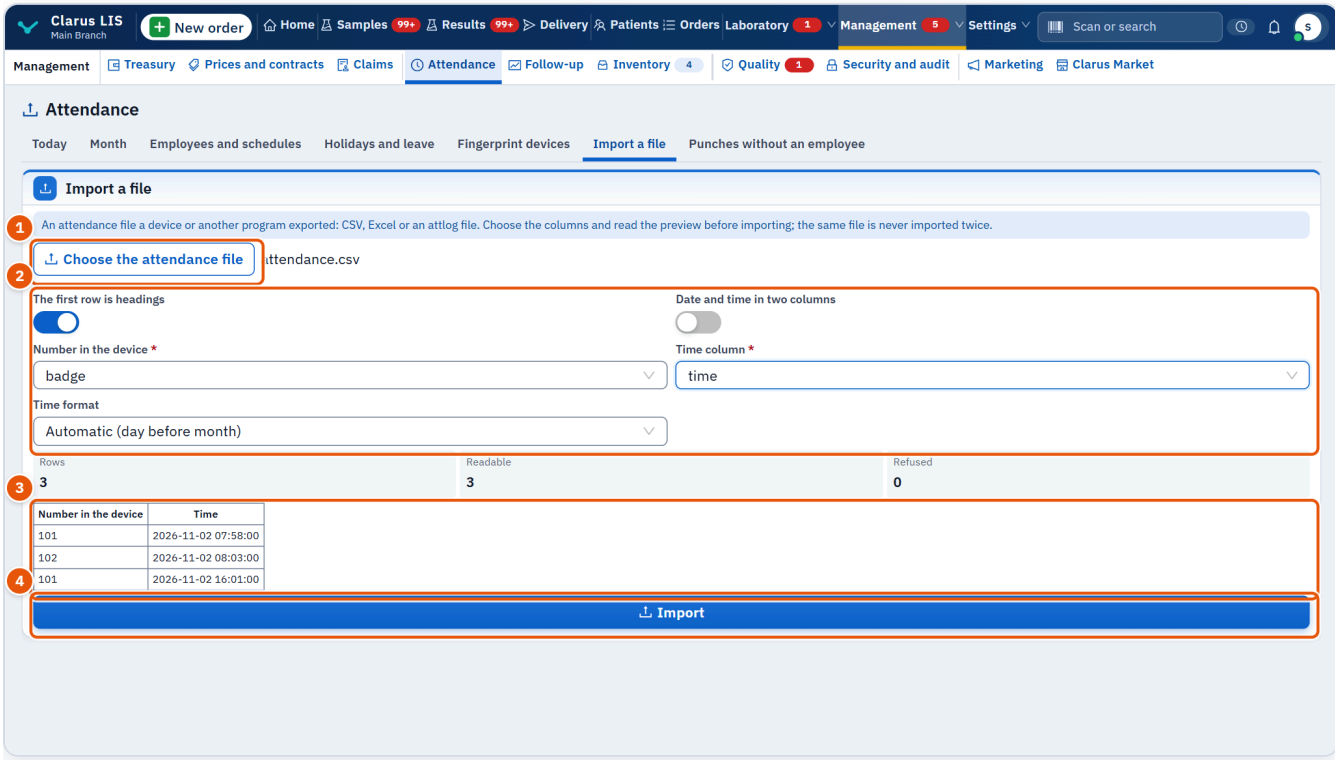


Figure 18-8: The import page: 1 the file, 2 the columns, 3 the preview, 4 the Import button.

1. Open **Import a file** and press **Choose the attendance file**.
2. After the file is read, check **The first row is headings** and, if the date and the time are in two columns, turn on **Date and time in two columns**.
3. Choose the column with the employee's number (**Number in the device**) and the time column (or the date and time columns). If the day-before-month order is wrong, choose the **Time format**.
4. Read the counts (**Rows**, **Readable**, **Refused**), the sample punches and the refused rows.
5. Press **Import**. The result says how many were new, how many were already kept and how many rows were refused.

18.12 Messages and what to do

The screen says	Meaning	What to do
The device could not be reached.	The device did not answer.	Check its address, port and that it is on; test again.
The device's clock is … minutes away from the server's: set it on the device.	The device's clock differs from the server's.	Set the clock on the device.
This device has not called yet.	A pushing device has not called yet.	Set the server's address in the device.

The screen says	Meaning	What to do
Set the working days first	The employee has no schedule.	Give a schedule on **Employees and schedules**.
Could not save.	The change was not saved.	Try again; read the message shown with it.

18.13 See also

- The payroll page: the suggested deduction from the month's days and minutes, and the register of employees.

Chapter 19

Follow-up

Menu: **Follow-up**. Address: `/management/follow-up`.

19.1 What this screen is for

This is the manager's view of the laboratory's money for a period: what was collected, what was handed back, what was spent, and what is left. It answers one question at a glance — did the laboratory earn or lose in this period?

Every figure is counted by the server. The screen only shows them and adds nothing up itself. You choose a period and, if you may, a branch; the report follows your choice.

19.2 Who sees it

Whoever holds **Read analytics**. The menu hides the screen from everyone else.

You can…	…if your role holds
Open the screen, read the figures and export them	Read analytics
Choose the whole laboratory instead of one branch	Read analytics, and not be held to particular branches

A person held to some branches reads only their own branches; the choice **The whole laboratory** is not offered to them, and the screen opens on their first branch. If only one branch is left to choose from, the branch choice does not appear at all.

19.3 The screen at a glance

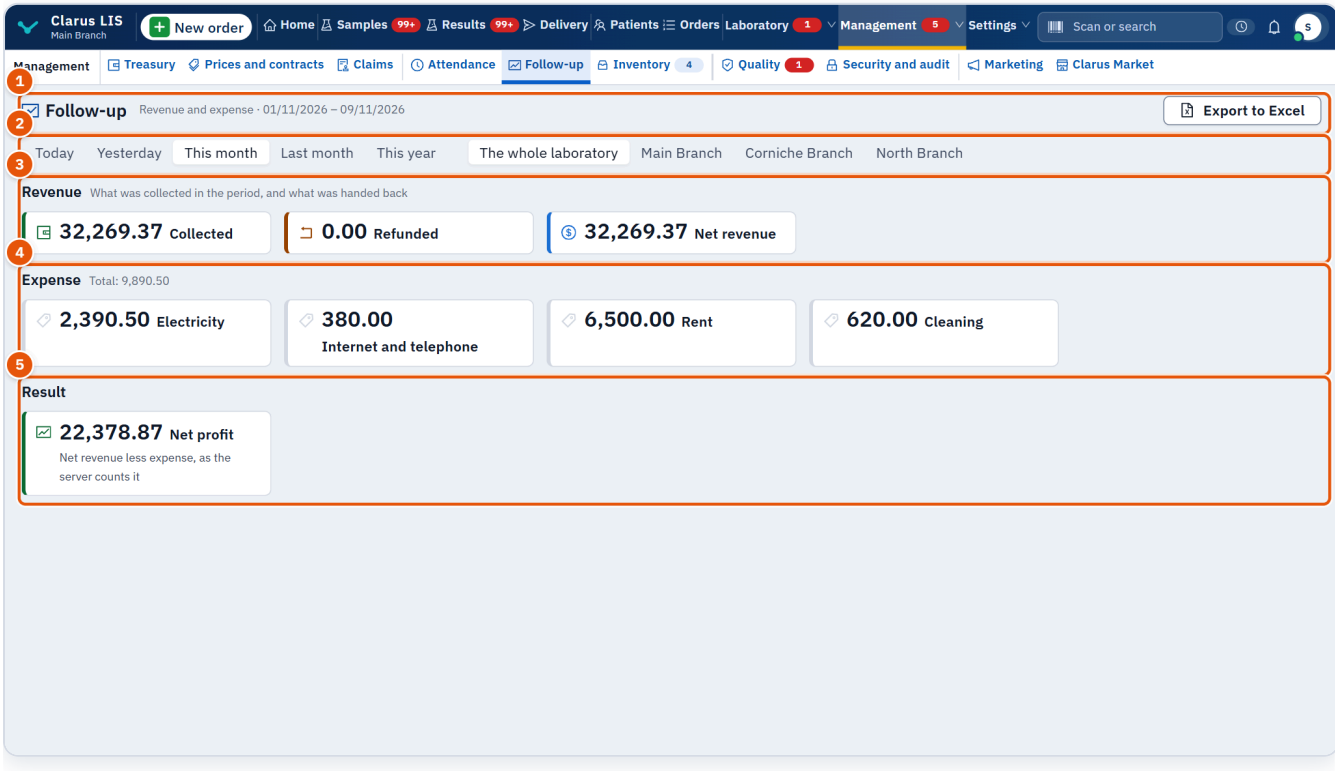


Figure 19-1: The Follow-up screen: 1 the title with the period and the export button, 2 the period and branch choices, 3 revenue, 4 expense, 5 result.

1. **The head**: the title **Follow-up**, the report name **Revenue and expense** with the first and last day of the period, and the button **Export to Excel**.
2. **The choices**: the period, and the branch when there is more than one to choose from.
3. **Revenue**: what was collected, what was refunded, and the net.
4. **Expense**: the total and each expense category.
5. **Result**: the net profit.

19.4 The choices

Control	What it does
Period	Five visible choices: **Today**, **Yesterday**, **This month** (the default), **Last month** and **This year**. The first and last day appear beside the report name.
Branch	Appears only when there is more than one choice: **The whole laboratory** and each branch.
Export to Excel	Downloads the report on screen as an Excel file. It stays dim until the figures have loaded (and while they are failing to load), and shows a busy mark while the file is prepared.

19.5 The figures

Area	Card	What it shows
Revenue	**Collected**	What was collected in the period.
Revenue	**Refunded**	What was handed back from it.
Revenue	**Net revenue**	Collected less refunded.
Expense	One card per category	The amount spent in each expense category, named in the language of the screen. The heading also carries the total.
Expense	**Store purchases received**	Shown only for the whole laboratory, and only when there were purchases received in the period.
Result	**Net profit**	Net revenue less expense, as the server counts it. The card is green, and turns red when the result is below zero.

19.6 Tasks step by step

19.6.1 Task 1 — Read the result of a month

1. Open **Follow-up**.
2. Under **Period** choose **Last month** (or leave **This month**).
3. If you manage several branches, choose **The whole laboratory** or one branch under **Branch**.
4. Read **Revenue**, then **Expense**, then **Net profit** at the bottom.

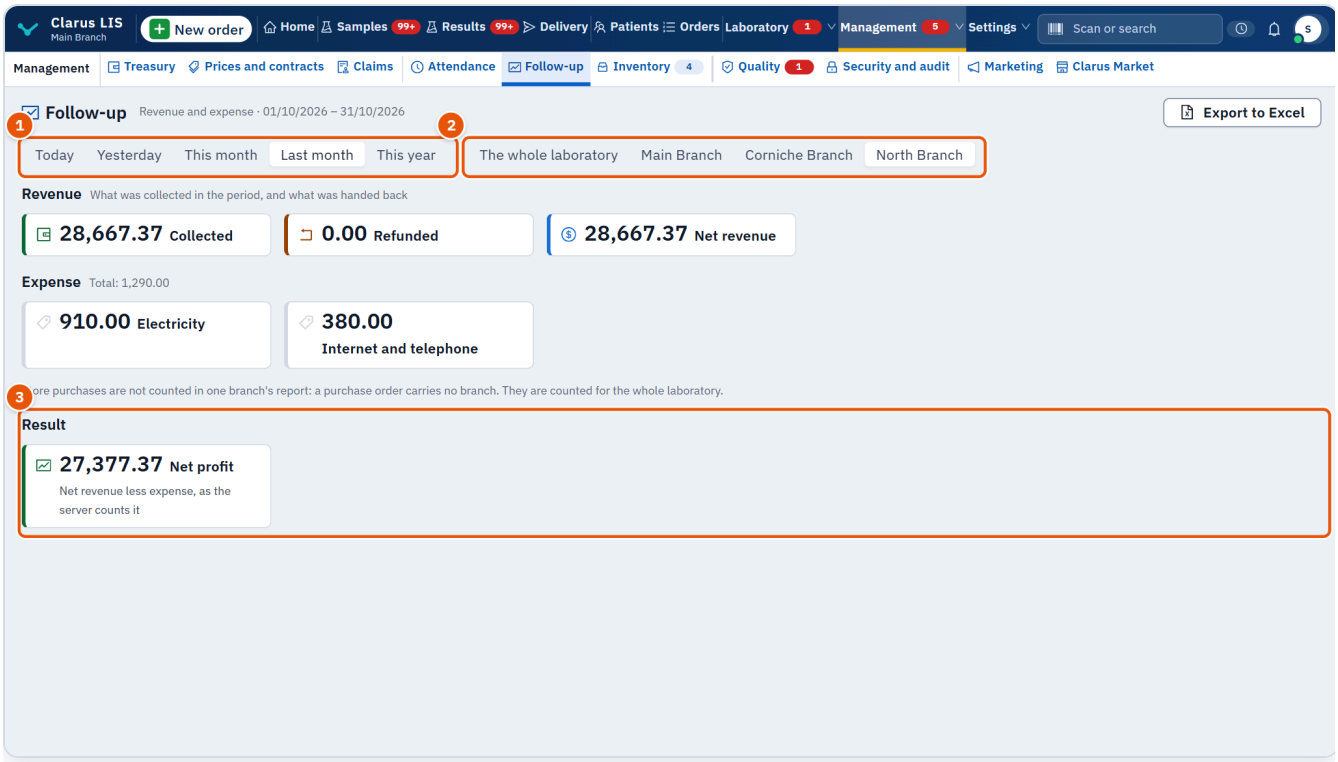


Figure 19-2: Reading a month: 1 the period, 2 the branch, 3 the net profit.

19.6.2 Task 2 — Export the report to Excel

1. Choose the period and the branch as above and wait until the figures appear.
2. Press **Export to Excel**.
3. The file downloads. If it cannot, a red message appears at the top (the server's own message when it gave one) and you may press the button again.

19.7 Messages and what to do

The screen says	It means	What to do
No expense recorded in the period.	No expense is recorded in the chosen period.	Nothing is wrong; choose another period if you expected expenses.
Store purchases are not counted in one branch's report: a purchase order carries no branch. They are counted for the whole laboratory.	A single branch's report leaves out store purchases, because a purchase order carries no branch.	Choose **The whole laboratory** to see them counted.
The file could not be downloaded. Please try again.	The Excel file did not download.	Press **Export to Excel** again; if it persists, check the connection to the server.

19.8 See also

- **Follow-up** is read-only: expenses themselves are recorded elsewhere in the program, not here.

Chapter 20

Inventory

Menu: **Inventory**. Address: `/admin/inventory`.

20.1 What this screen is for

This is where the laboratory keeps track of what it consumes: reagents, tubes, consumables and everything else it buys and uses. It shows how much of each item is in stock, which lots are about to expire, what has moved in and out, what has been ordered from suppliers, and what has to be ordered next.

The screen has eight pages, reached by the tabs at the top: **Items**, **Lots**, **Movements**, **Purchase orders**, **Stock counts**, **Suppliers**, **Consumption recipes** and **Reports**. Stock changes in only three ways: a **movement** you record, a **receipt** of a purchase order, and a **stock count** that is posted. A fourth way happens by itself: a test whose result is approved takes its items from stock, according to the recipes.

20.2 Who sees it

Whoever holds **View inventory and its reports**. The menu hides the screen from everyone else. Within the screen:

You can...	...if your role holds
See every page and the reports	**View inventory and its reports**
Create or edit items, import items, change lots (quarantine, recall, release), manage suppliers and their prices, and manage consumption recipes	**Manage inventory items, lots and recalls**
Record a stock movement	**Record stock movements**
Start, enter, send for review, post or cancel a stock count	**Run and post stock counts**
Write purchase orders, send them for approval, receive, close or cancel them (by the order's state); order from the reorder recommendations	**Manage purchase orders and supplier prices**
Approve or refuse a purchase order above the threshold	**Approve purchase orders above the threshold**

A button you may not use is not shown. A purchase order awaiting approval that you created or sent yourself cannot be approved by you: the approve and refuse buttons are simply not offered to you, and the

server also requires someone else with procurement approval. Exporting items is open to everyone who sees the screen.

20.3 The screen at a glance

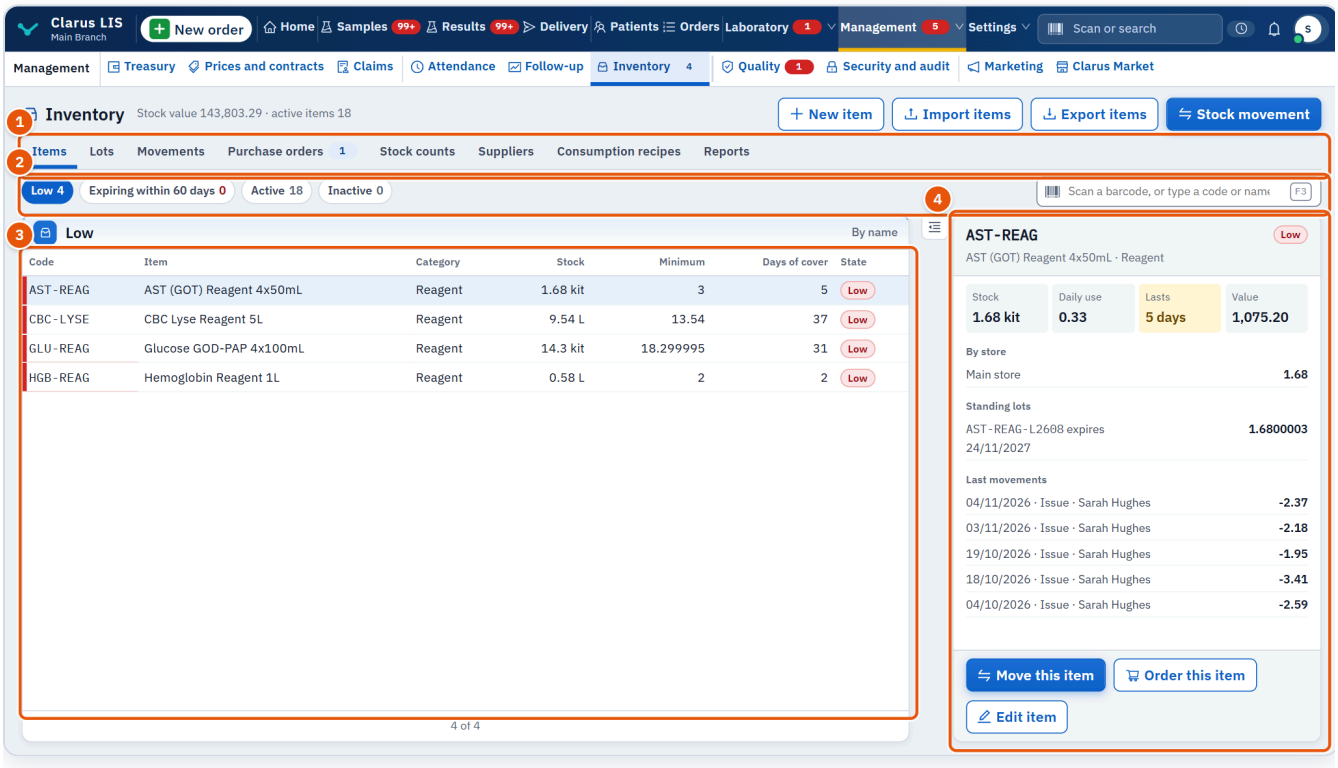


Figure 20-1: The Inventory screen: 1 the page tabs, 2 the filters, 3 the list, 4 the details of the chosen row.

Every page has the same shape:

1. **The tabs**, labelled **Inventory pages**, and above them a line that gives the stock value and the number of active items (and, on the purchase orders page, the approval threshold and the over-receipt limit).
2. **The filters** and the search box of the page.
3. **The list**: one row per item, lot, movement and so on, newest or most urgent first. A message tells you when the list is empty or could not be read (**The inventory could not be read.**).
4. **The details** of the chosen row, with the buttons that act on it. Until you choose a row it says: **Choose a row from the list to see its details.**

20.4 Page: Items

The list of everything the laboratory stocks.

Control	What it does
Filters: **Active**, **Low**, **Expiring within 60 days**, **Inactive**	Limit the list by the state of the item.
Search box	A barcode scanner types into it, or you search by code or name.
New item	Opens the item window to create an item.
Import items	Imports items from a file (20.12.2 Task 2 — Import items).
Export items	Exports the items.
Stock movement	Opens the movement window (20.12.1 Task 1 — Record a stock movement).

Columns: **Code**, **Item**, **Category**, **Stock**, **Minimum**, **Days of cover** and **State** (**Sound**, **Low** or **Inactive**).

The details of an item show its supplier, the **Daily use** and how long the stock **Lasts**, the **Value**, the stock **By store**, the **Standing lots** with their expiry dates, and the **Last movements**. Its buttons are **Edit item**, **Move this item** and **Order this item**, each shown only to those who may use it.

20.4.1 The item window

Field	What it holds
Item code, **Item name**	The item's code and name.
Category, **Unit**, **Brand**	How the item is grouped, counted and branded.
Minimum, **Maximum**	The stock below which the item is called low, and the most you want to hold.
Supplier, **Pack size**	The usual supplier and the size of a pack.
Tests per unit	How many tests one unit covers. It gives the cost of a single test and the tests remaining. It does not link the item to a test. Leave it empty if you do not count the item in tests.
Barcode	The code a scanner reads.
Active	An item that is not active is hidden from the default list.

The section **Tests that use it** is where you choose the tests that use the item and how much of the unit each takes. The item is taken from stock when the test's result is approved. You add a test by searching it (**Search a test by code or name to add it**), by adding a whole department (**Add all the department's**

tests), or by copying from another item (**Or copy the tests from another item: search it by code or name**). The quantity of each test must be above zero. The program never picks the tests on its own.

20.5 Page: Lots

A lot is a delivery of an item with its own number and expiry date.

Control	What it does
Filters: **Active**, **Expiring soon**, **Quarantined**, **Recalled**, **Depleted**, **All**	Limit the list by the lot's status.
Search box	By lot number or item.
Soonest expiry first	The order of the list.
Quarantine	Shown for an active lot. Holds the lot: nothing is issued from it until it is released. A reason is required.
Recall	Shown for an active lot. The lot is withdrawn and nothing is issued from it. A reason is required.
Release	Shown for a held or recalled lot. Returns it to use.

Columns: **Lot**, **Item**, **Store**, **Expiry** (with the days left, or **Expired**), **Remaining** and **Status**. The three buttons need **Manage inventory items, lots and recalls**.

20.6 Page: Movements

The record of every change of stock. It cannot be edited. Filter by type (**All types**, **Receipt**, **Issue**, **Transfer**, **Adjustment**, **Waste**, **Return to supplier**) or search by item, lot or reason. Columns: **Date**, **Item**, **Type**, **Quantity**, **Lot**, **Store**, **By** and **Reason**. The page has no details pane and shows 50 rows at a time, with a button to show more. The quantity carries a sign: plus for stock coming in, minus for stock going out.

20.7 Page: Purchase orders

Control	What it does
Filters (**Open**, **Draft**, **Awaiting approval**, **Ordered**, **Partly received**, **Received**, **Closed**, **Refused**, **Cancelled**, **All**)	Limit the list by the order's state. A state with no orders is not shown.
Search box	By order number or supplier.

Control	What it does
Purchase order	Opens the new order window (20.12.4 Task 4 — Write and approve a purchase order). Needs **Manage purchase orders and supplier prices**.
Reorder recommendations · …	Opens the reorder recommendations (20.12.3 Task 3 — Reorder).

Columns: **Order**, **Supplier**, **Created**, **Lines**, **Total** and **State**. The details list each line: what was ordered, the price and what has been received. The buttons of the details depend on the order's state and on your role: a draft offers send and cancel; a submitted order offers approve and refuse (to an approver who did not create or send it); an ordered order offers receive, close and cancel; a partly received one offers receive and close only. The buttons are **Send for approval**, **Approve**, **Refuse with a reason**, **Receive**, **Close with a reason** and **Cancel**. **Message the supplier** builds a message listing the order's lines to send to the supplier.

20.8 Page: Stock counts

A count compares what the program thinks is in stock with what is on the shelves.

Control	What it does
Filters: **In progress**, **In review**, **Posted**, **Cancelled**, **All**	Limit the list by the count's state.
Start a count	Starts a count (20.12.6 Task 6 — A stock count: start, enter, post). Needs **Run and post stock counts**.

Columns: **Code**, **Scope**, **Started**, **Started by**, **Items**, **Counted**, **Differences** and **State**. The details show the stages **Started**, **Counting**, **Review** and **Posted**.

20.9 Page: Suppliers

Control	What it does
Filters: **Active**, **Inactive**, **All**	Limit the list.
Search box	By supplier code, name or phone.
New supplier	Creates a supplier: **Supplier code**, **Supplier name**, **Contact person**, **Phone**, **WhatsApp phone**, **Email**, **Website**, **Address**, **Notes**, **Active**.
Edit supplier	Changes the chosen supplier.

Control	What it does
Add a price	Gives an item a price at this supplier: **Unit price**, **Pack size**, **Minimum order quantity**, and whether it is the **Preferred supplier for this item**.
Delete price	Removes a price after asking you to confirm. It sits beside each price in the details.

The list shows **Items** and **Open orders** of each supplier; the details list the **Item prices**, each with the price, the pack size and a mark if it is the preferred supplier. The add-price window needs you to choose an item and give the unit price; the pack size and minimum order are optional. The create, edit, add-price and remove-price buttons are not shown to anyone without **Manage inventory items, lots and recalls**.

20.10 Page: Consumption recipes

A recipe says what stock an activity takes each time it happens.

Control	What it does
Filter **Consumption recipe kind**: **Tests**, **Sample draws**, **Quality control**, **Printing**	Each kind has its own list and a note saying what it covers.
Add a consumption recipe	Adds a recipe: the subject (a test number, a device number with its QC, a specimen type, or a print kind: **Label**, **Receipt page** or **Report page**), the **Item** and the quantity above zero.
Remove	Removes a recipe after asking you to confirm.

Both buttons need **Manage inventory items, lots and recalls**. Recipes for tests can also be set from the item window.

20.11 Page: Reports

Choose the report under **Report**:

Report	What it shows
Consumption	What was used between **From** and **To**, grouped by **Item**, **Category** or **Month** (choose under **Group by**).
Expiry ageing	The lots by how soon they expire: **Expired**, **Within 30 days**, **31 to 60 days**, **61 to 90 days** and **Over 90 days**.
Movement value	For the period between **From** and **To**, one row per movement type with the number of movements, the net quantity and the net value.

The period starts as the last 30 days and applies to consumption and valuation; the expiry report has no period and shows the lots as they stand today, with the number of lots, the quantity and the value in each band (a band with no lots is not listed). Only the consumption report shows a total, in the heading of the table. With no data in the period the page says so.

20.12 Tasks, step by step

20.12.1 Task 1 — Record a stock movement

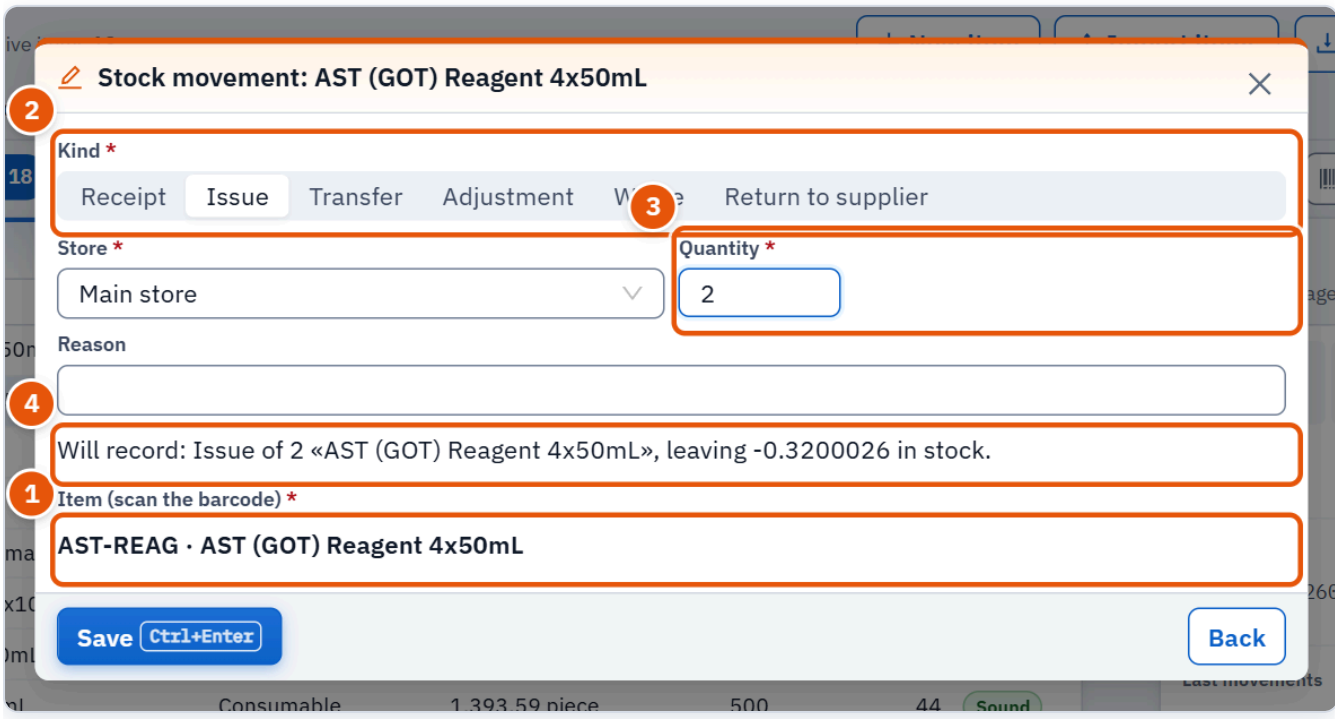


Figure 20-2: The movement window: 1 the item, 2 the kind, 3 the quantity, 4 the sentence saying what will be recorded.

1. Press **Stock movement** (or **Move this item** on an item's details). Needs **Record stock movements**.
2. Under **Item (scan the barcode)**, scan the barcode or search the item, then choose it.
3. Choose the **Kind**: **Receipt**, **Issue**, **Transfer**, **Adjustment**, **Waste** or **Return to supplier**.
4. Enter the quantity. For an adjustment the quantity is a difference: positive to add, negative to take away. For a transfer choose **From store** and **To store**, which must differ.
5. Choose the **Store** (a transfer asks for From and To instead). Only a **receipt** also asks for the **Unit cost** (optional), the **Lot** and **Expires on** (both required). The **Reason** is optional for every kind.
6. Read the sentence at the foot of the window. It says what will be recorded and what stock will be left. If the stock is not enough the window says so and refuses.
7. Confirm with the window's main button.

20.12.2 Task 2 — Import items

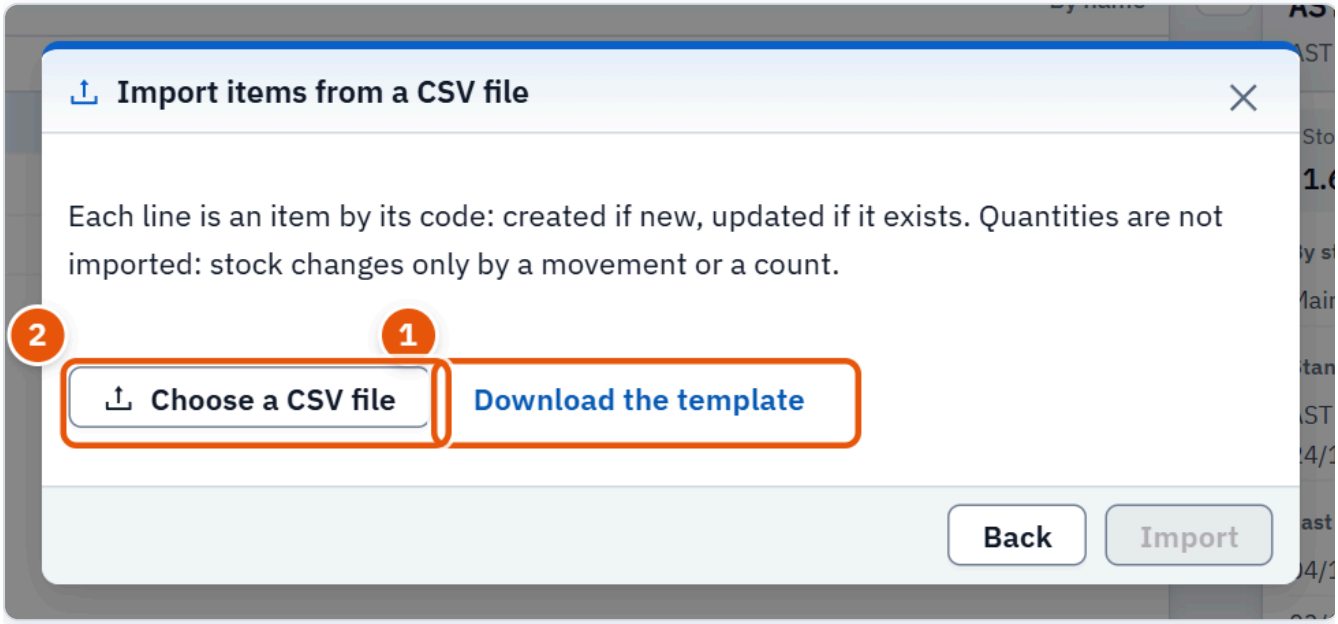


Figure 20-3: The import window: 1 the template link, 2 the file chooser.

1. On the items page press **Import items**. Needs **Manage inventory items, lots and recalls**.
2. Press **Download the template** to get the file layout, fill it, and save it as CSV.
3. Press **Choose a CSV file** and pick your file. The window says how many lines it read.
4. Press **Import**.
5. The window reports how many items were created, how many updated and how many refused. Each refused line is listed by its line number and item code only (the first 20 at most); the window does not give the reason, so check those lines in your file.

Each line is an item identified by its code: a new code creates an item, an existing code updates it. **Quantities are not imported.** Stock changes only by a movement or a count.

20.12.3 Task 3 — Reorder

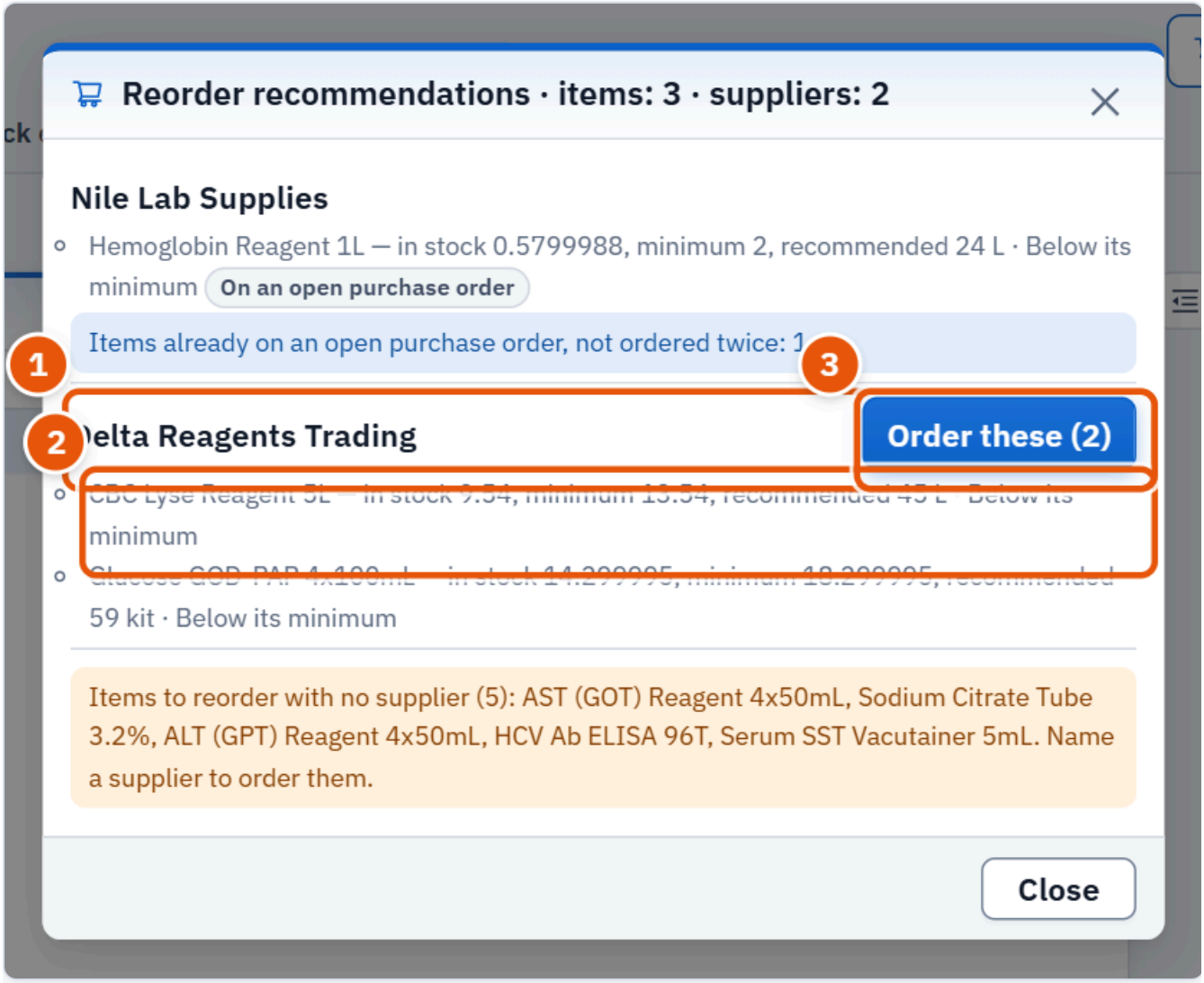


Figure 20-4: Reorder recommendations: 1 a supplier's group, 2 the reason for an item, 3 Order these.

1. On the purchase orders page press **Reorder recommendations · ...**; the number is how many items need ordering.
2. The window groups the items by supplier. Each line shows what is in stock, the minimum and the recommended quantity, and the reason: **Below its minimum**, **Runs out within a week at this use**, **Lasts less than a month**, **Needed by the expected use** or **Expires before it is used**.
3. Items already on an open purchase order are marked and left out of the order and of the message so they are not ordered twice (a note counts them); when every item of a supplier is already on an open order, the order button is not shown for that supplier. Items with no supplier are listed apart: name a supplier for them first.
4. Press **Message the supplier** (shown only for a supplier with a WhatsApp number) to prepare a message to the supplier, or **Order these (...)** to open a purchase order already filled with those items (this needs **Manage purchase orders and supplier prices**).

20.12.4 Task 4 — Write and approve a purchase order

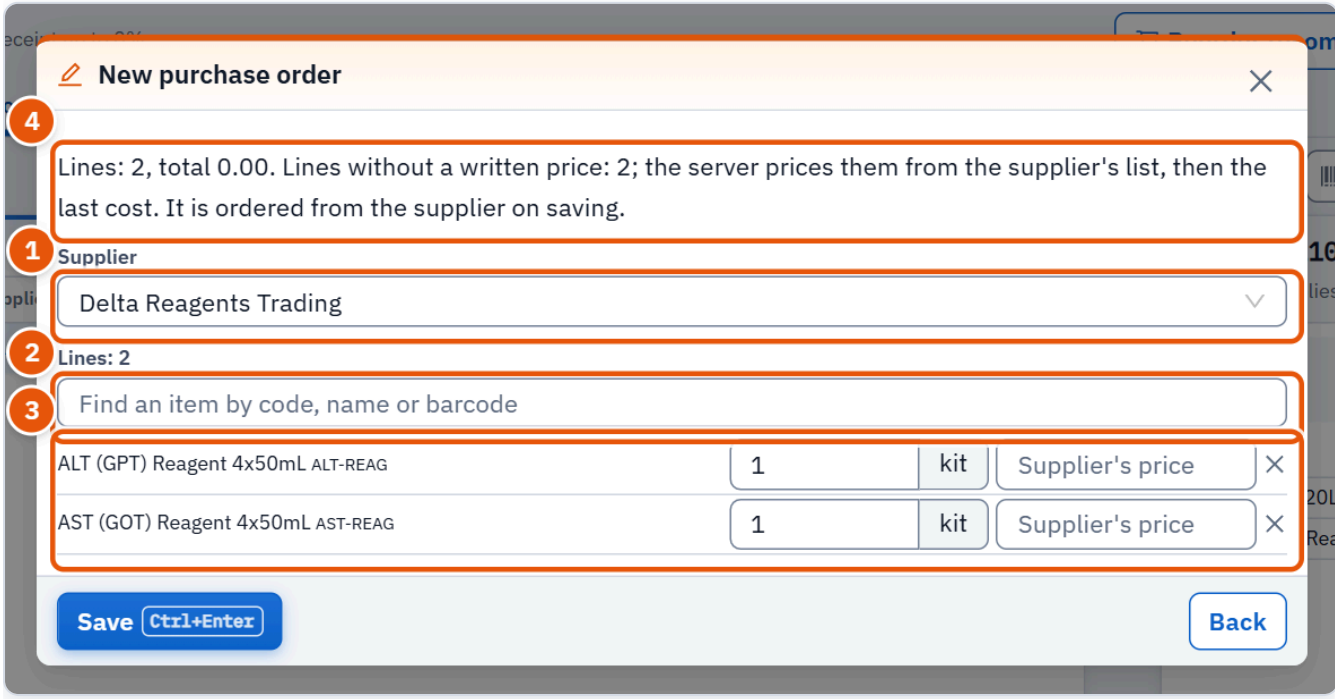


Figure 20-5: The new purchase order: 1 the supplier, 2 the search for items, 3 the lines, 4 the summary.

1. Press **Purchase order**. Choose the **Supplier** (an order may be written with none).
2. Search items by code, name or barcode and add them. Give each a quantity above zero. A price may be written; if it is not, the server prices the line from the supplier's list and then from the last cost.
3. Read the summary. If the total is above the approval threshold the order is saved as a draft awaiting approval; otherwise it is ordered from the supplier on saving.
4. Confirm. A draft is then sent with **Send for approval**.
5. Someone else who holds **Approve purchase orders above the threshold** opens it and presses **Approve** (with an optional note) or **Refuse with a reason** (with a reason, which the creator sees).

20.12.5 Task 5 — Receive an order

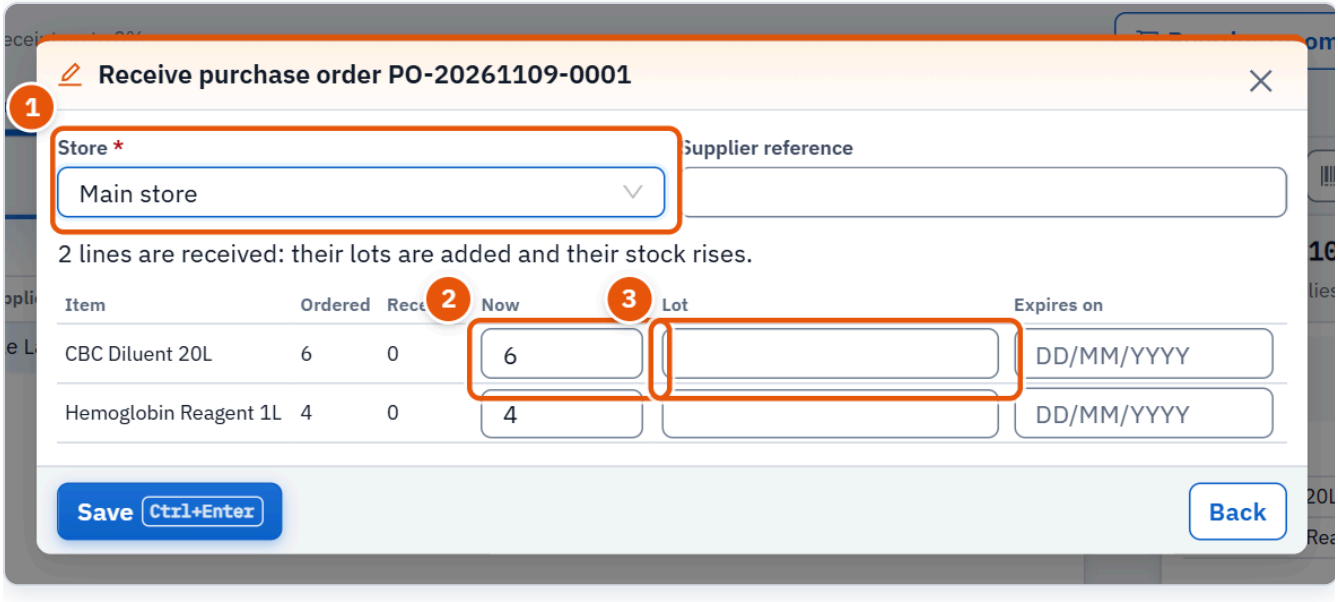


Figure 20-6: Receiving: 1 the store, 2 the quantity now, 3 the lot and expiry of each line.

1. Choose the order in the list. It must be ordered or partly received (and you need the **Manage purchase orders and supplier prices** permission); press **Receive**.
2. Choose the **Store** that receives the goods and, if you have it, the **Supplier reference**.
3. For each line the table shows what was ordered and what was received before. The box **Now** is filled with the rest; change it to what actually arrived (a line with zero is skipped).
4. Write the **Lot** of every line that arrives, and its **Expires on**. The window insists on the lot; it does not check the expiry itself.
5. The window refuses a quantity above the order beyond the over-receipt limit, and a line with no lot.
6. Confirm. The lots are added and the stock rises. Anything not yet received keeps the order **Partly received**. When nothing more will come, use **Close with a reason** with a reason.

20.12.6 Task 6 — A stock count: start, enter, post

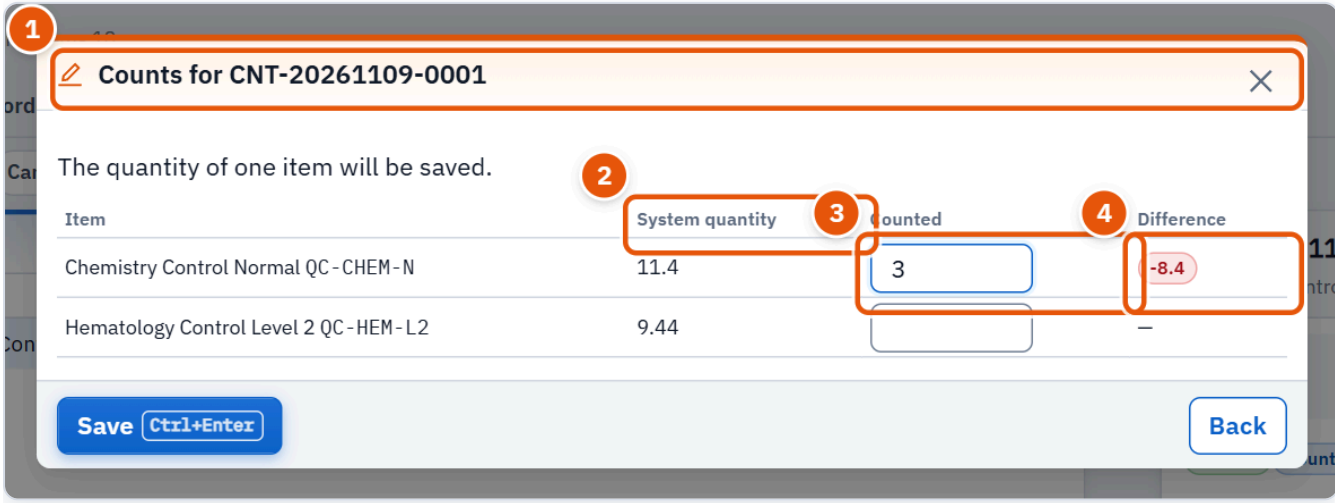


Figure 20-7: A count in progress: 1 the entry window, 2 the system quantity, 3 the counted quantity, 4 the difference.

1. On the counts page press **Start a count**. Choose the **Count scope**: **Full count**, **Category** (type the category) or **Store** (choose the store). A full count stops any other count from opening until it ends.
2. Choose the count in the list and press **Enter the counts**. For each item write the quantity you counted; the table shows the system quantity and the difference. An item marked **Stock moved since the count started** has had stock move since the count began. Confirm to save: only the items you filled in are saved, and a quantity cannot be negative. You can return and enter more. Entering is offered only while the count is open.
3. When all are entered, press **Send for review** and confirm in the window that opens. The count goes to review and its quantities can no longer be changed.
4. Press **Post the differences** (offered only in review). A window says how many lines have a difference; confirm and each difference is recorded as an adjustment movement.
5. To abandon a count press **Cancel the count** (offered while the count is open or in review) and write the reason; a cancelled count can never be posted.

20.12.7 Task 7 — Hold or recall a lot

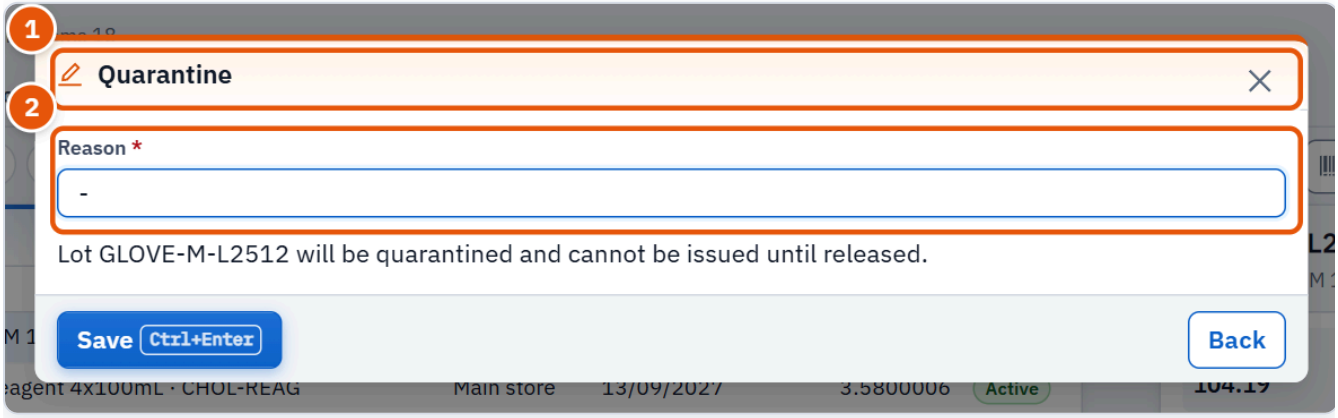


Figure 20-8: Holding a lot: 1 the lot, 2 the reason.

1. On the lots page choose the lot and press **Quarantine** or **Recall**.
2. Write the reason and confirm. Nothing is issued from the lot afterwards.
3. When the lot is cleared, choose it and press **Release**.

20.12.8 Task 8 — Read a report

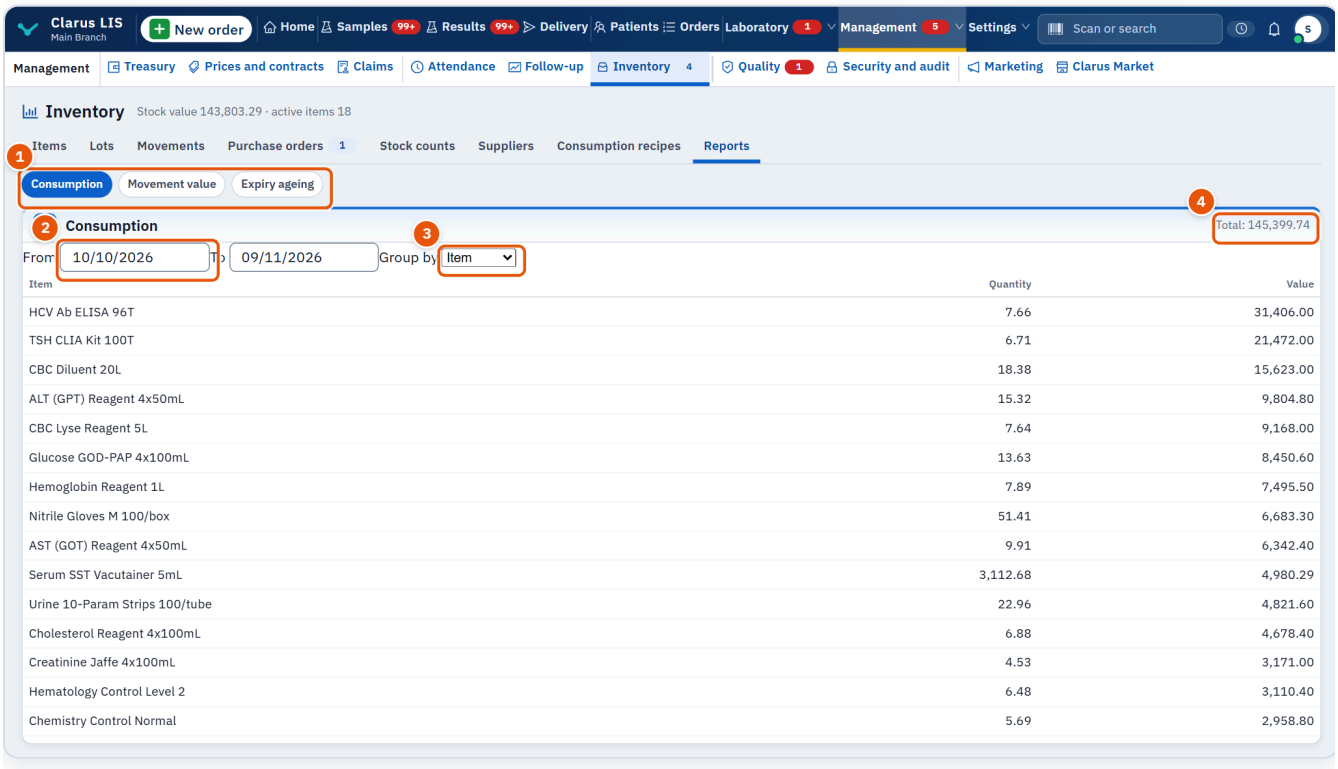


Figure 20-9: A report: 1 the report chosen, 2 the period, 3 the grouping, 4 the total.

1. Open the reports page and choose the report.
2. For consumption set **From**, **To** and **Group by**.
3. Read the table and the total under it.

20.13 Messages and what to do

The screen says	Meaning	What to do
Not enough stock: ... only.	A movement takes more than is in the store.	Lower the quantity or check the store.
A transfer needs two different stores.	From and to are the same.	Choose two stores.
Choose the category or store to count.	A count by category or store needs its scope.	Fill the category or store.
Enter the lot of «...».	A received line has no lot.	Write the lot.
«...» exceeds what was ordered beyond the over-receipt limit.	The quantity received is too high.	Lower it to the allowed level.
Approved by someone with procurement approval who neither created nor sent it.	You may not approve your own order.	Ask another approver.
Write the reason.	Cancel, close, refuse, quarantine and recall need a reason.	Type it.
The tests linked to this item could not be read...	The item's test list failed to load.	Reopen the window.
The import failed. Try again.	The file could not be imported.	Check the file and repeat.

20.14 See also

Results (where an approved result takes its items from stock), Settings and users (the permissions above).

Chapter 21

Quality

Menu: **Quality**. Address: `/admin/quality`.

21.1 What this screen is for

This is the laboratory's quality file under the title **Quality and accreditation**. It keeps four things apart in four pages: the corrective actions opened when something went wrong, the competency assessments of staff, the rounds of external quality assessment, and a summary of how ready the laboratory is for accreditation.

The daily quality-control charts are not here. This screen holds the records around them: what was decided, who was assessed, how an outside round turned out.

21.2 Who sees it

Whoever holds **Enter results** or **Verify results**. Within the screen:

You can…	…if your role holds
Read all four pages	Enter results, or Verify results
Open, change and close a corrective action; record a competency assessment; add a round and record its result	Verify results. Without it these buttons do not appear.

21.3 The screen at a glance

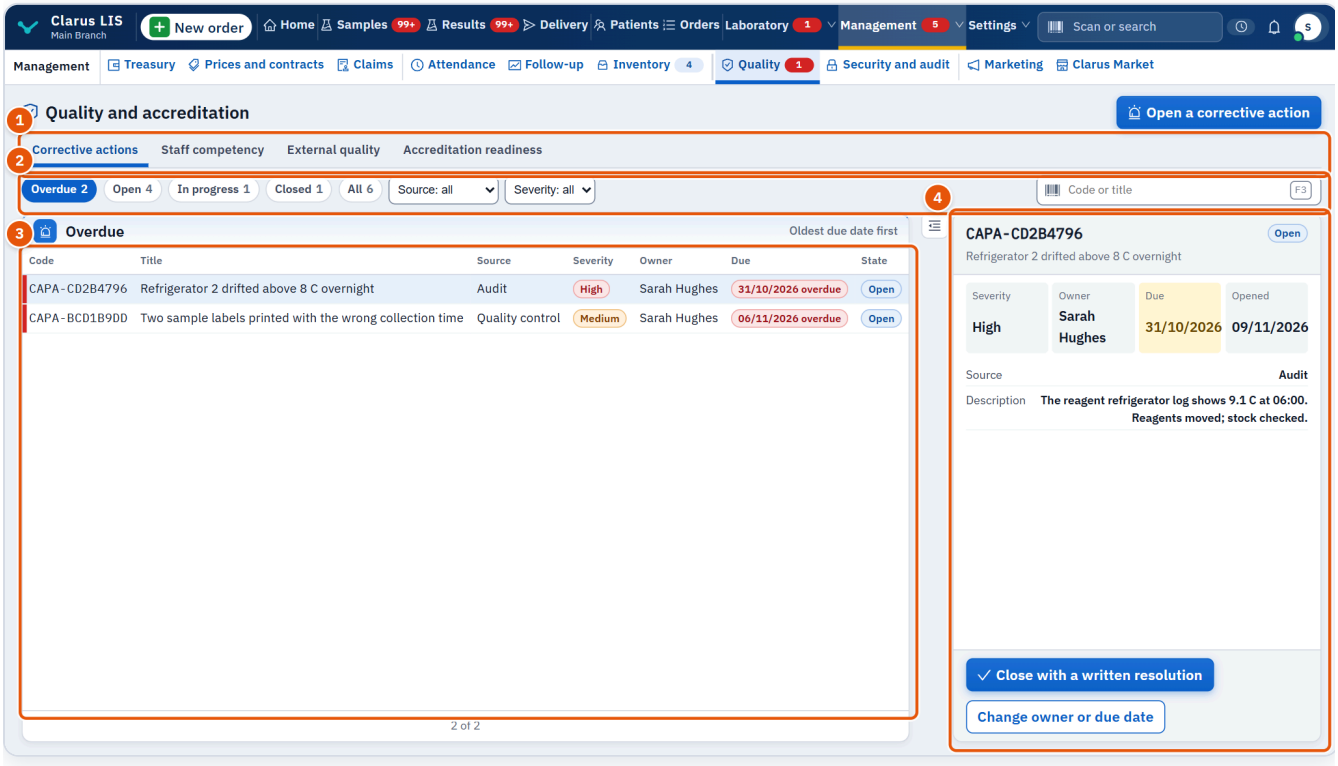


Figure 21-1: The Quality screen: 1 the four pages, 2 the filters and the search, 3 the list, 4 the details of the chosen record.

1. **The pages** (**Quality pages**): **Corrective actions**, **Staff competency**, **External quality** and **Accreditation readiness**.
2. **The filters** above the list, with the count each one holds, and a search box on the pages that have one.
3. **The list**, with a button to load more when there are more than fifty records.
4. **The details** of the record chosen in the list. The first record is chosen for you. Until the list is read it says «**Reading the records**»; if it cannot be read it says «**The records could not be read.**» with a retry.

21.4 Page: corrective actions

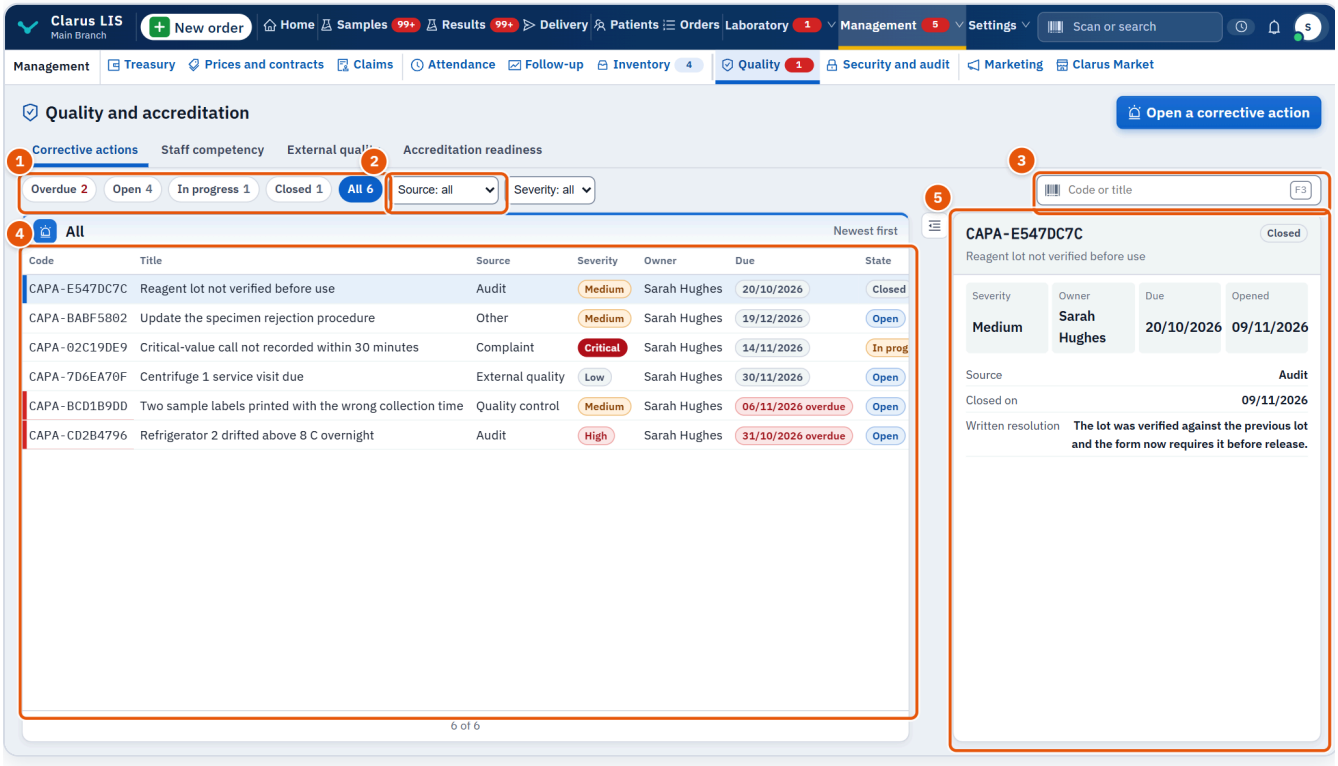


Figure 21-2: The corrective actions page: 1 the state filters, 2 the source and severity lists, 3 the search, 4 the actions, 5 the details.

Each action is a problem being followed until it is closed with a written decision. The list opens on **Overdue**, nearest due date first; **Closed** and **All** show the newest first.

Element	What it does
Action state	**Overdue**, **Open**, **In progress**, **Closed**, **All**, each with its count.
Source list	**Source: all**, or one of **Audit**, **Complaint**, **External quality**, **Quality control**, **Other**.
Severity list	**Severity: all**, or **Low**, **Medium**, **High**, **Critical**.
Search (**Code or title**)	Finds an action by code or title. With no match: «**Nothing matches «...».**».
List columns	**Code**, **Title**, **Source**, **Severity**, **Owner**, **Due**, **State**. A due date past today turns red and reads «**date** overdue».
Open a corrective action	Opens the window for a new action.
Details	Severity, owner, due date and **Opened**; the source and **Description**; for a closed action also **Closed on** and the **Written resolution**.

Element	What it does
Close with a written resolution and **Change owner or due date**	In the details of an action not yet closed.

The windows:

Window	Fields
Open a corrective action	**Title** (required), **Source**, **Severity**, **Owner** (chosen from the laboratory's active users, or **No owner**), **Due**, **Description**.
...: owner, due date and state	**State** (only **Open** or **In progress**), **Owner**, **Due**.
Close ...	**Written resolution** (required).

21.4.1 Task 1 — Open a corrective action

1. On the page **Corrective actions**, press **Open a corrective action**.
2. Type the **Title**.
3. Choose the **Source** and the **Severity**.
4. Choose the **Owner** and the **Due** if they are known.
5. Add a **Description** and save.

An action also opens by itself when an external round is saved with an unacceptable result (see below).

21.4.2 Task 2 — Change the owner or the due date

1. Choose the action in the list.
2. Press **Change owner or due date**.
3. Set the **State**, the **Owner** or the **Due**, and save.

21.4.3 Task 3 — Close an action

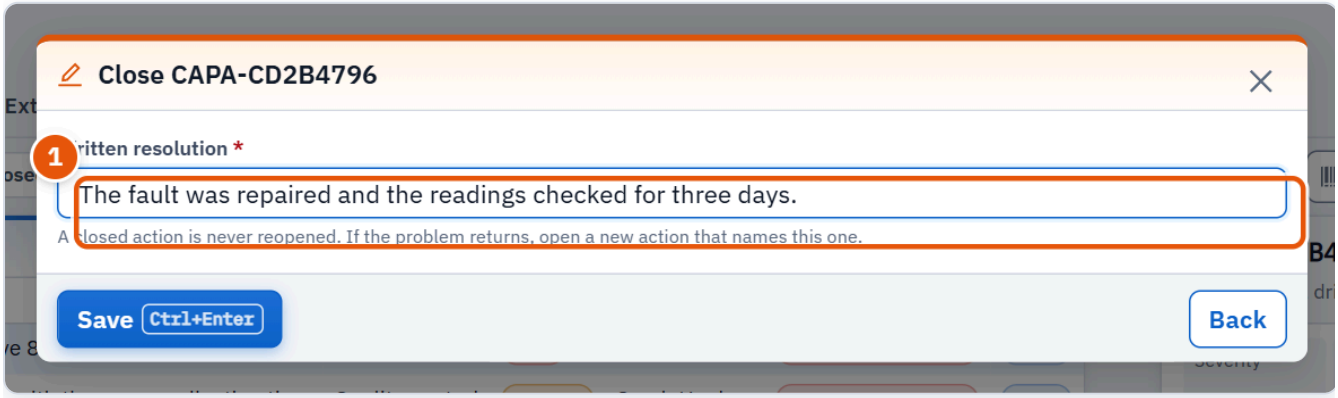


Figure 21-3: The window to close an action, with its written resolution.

1. Choose the action and press **Close with a written resolution**.
2. Write the **Written resolution**. Without it the window says «**Write the resolution before closing.**».
3. Save.

> **Caution**
>
> **A closed action is never reopened. If the problem returns, open a new action that names this one.**

21.5 Page: staff competency

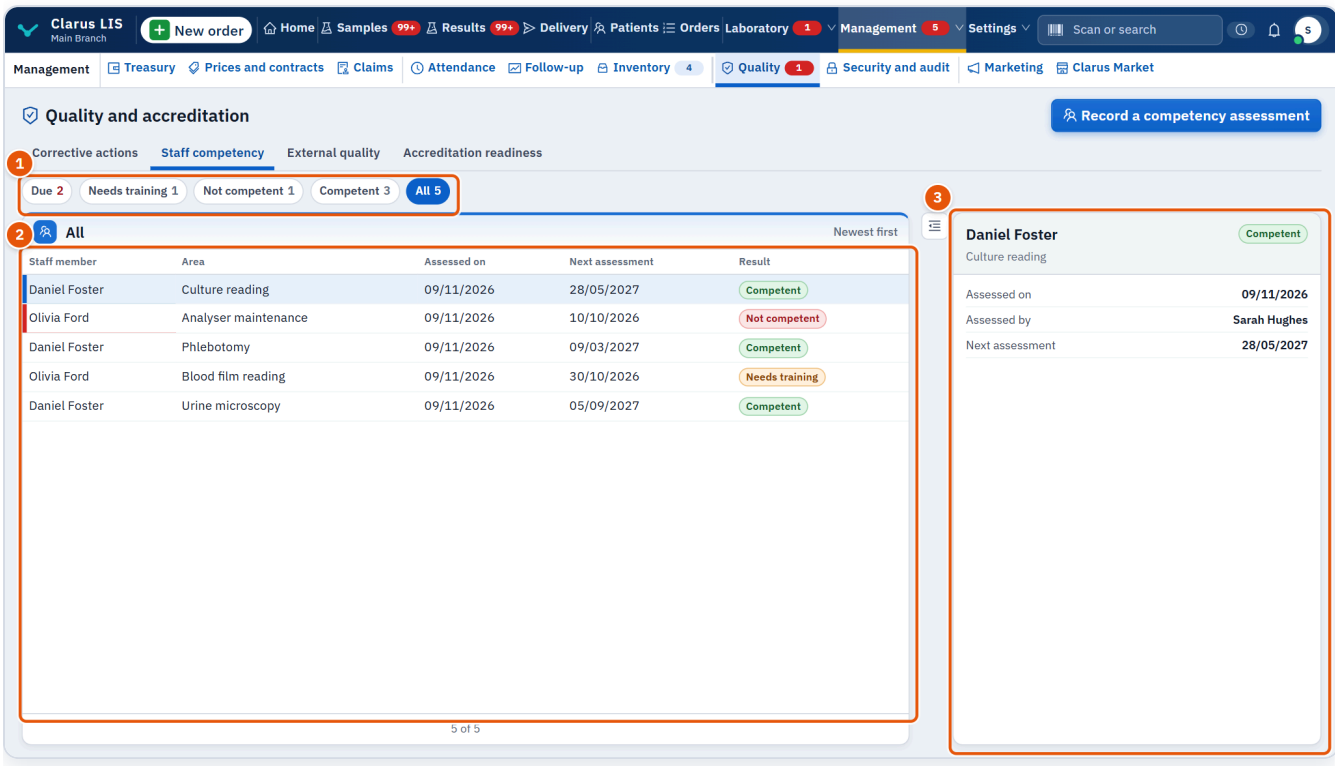


Figure 21-4: The staff competency page: 1 the filters, 2 the list, 3 the details.

The list opens on **Due**: assessments whose next date falls within thirty days from today or has already passed, nearest date first; the other filters show the newest first.

Element	What it does
Assessment result	**Due**, **Needs training**, **Not competent**, **Competent**, **All**, each with its count.
List columns	**Staff member**, **Area**, **Assessed on**, **Next assessment**, **Result**.
Details	The person and the area, the result, the date assessed, **Assessed by**, the next assessment and the **Notes**.
Record a competency assessment	Opens the window below.

The results are **Competent**, **Needs training** and **Not competent**.

21.5.1 Task 4 — Record a competency assessment

1. On the page **Staff competency**, press **Record a competency assessment**.
2. Choose the **Staff member** and write the **Area**; both are required.
3. Choose the **Result** (it starts at **Competent**).
4. Set the **Next assessment** and add **Notes** if needed.
5. Save. The assessor is you, and the server writes it: «**You are the assessor; the server records it.**».

21.6 Page: external quality

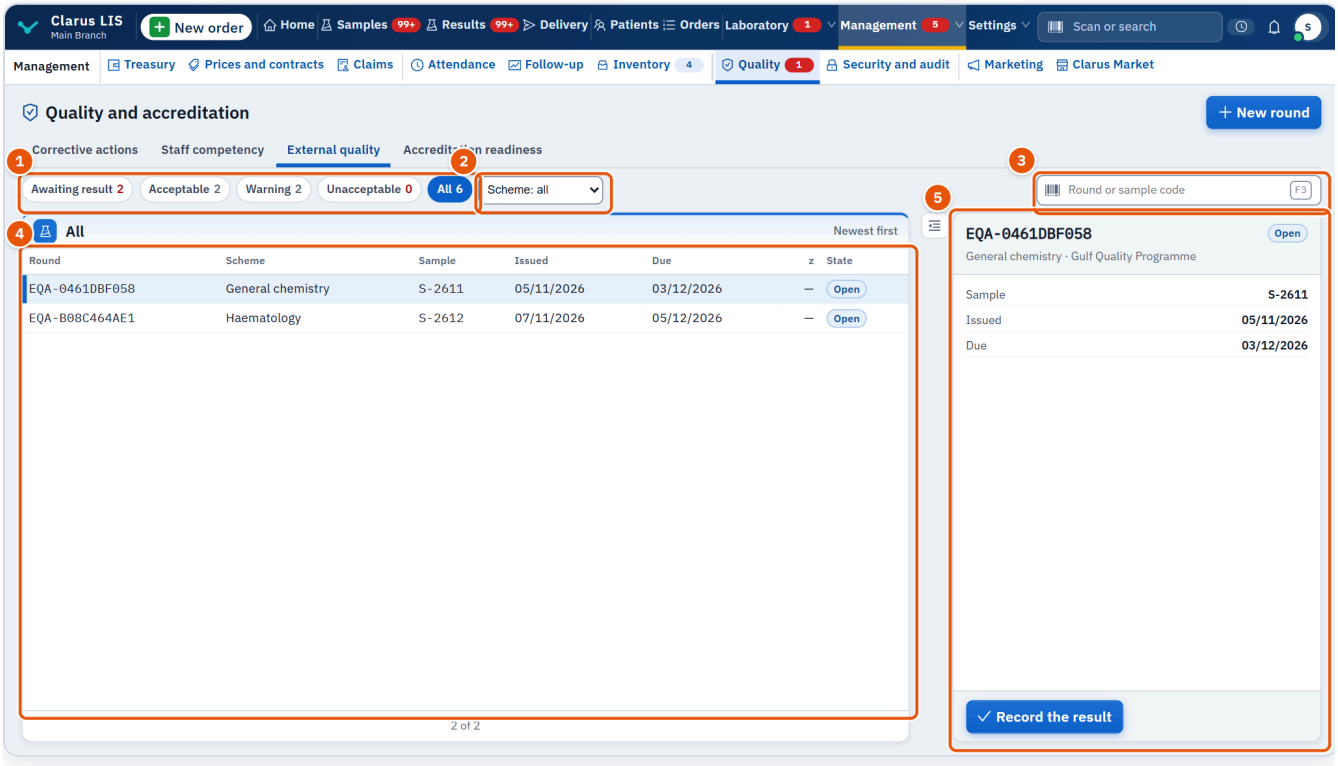


Figure 21-5: The external quality page: 1 the result filters, 2 the scheme list, 3 the search, 4 the list with its z column, 5 the details.

A round is one sample sent by an outside scheme. The list opens on **Awaiting result**, nearest due date first.

Element	What it does
Round result	**Awaiting result**, **Acceptable**, **Warning**, **Unacceptable**, **All**, each with its count.
Scheme list	**Scheme: all**, or one scheme by name.
Search (**Round or sample code**)	Finds a round by its code or its sample code.
List columns	**Round**, **Scheme**, **Sample**, **Issued**, **Due**, **z**, **State**. A round awaiting its result shows **Open**; a finished one shows **Acceptable**, **Warning**, **Unacceptable** or **Not evaluated**.
Details	An open round: sample, issued and due dates. A finished round: **Our result**, **Assigned value**, **Standard deviation** and z.
New round	Opens the window for a new round: **Scheme** (required), **Sample**, **Issued**, **Due**, **Notes**.

21.6.1 Task 5 — Add a round

1. On the page **External quality**, press **New round**.
2. Choose the **Scheme**.

3. Enter the sample code and the two dates, and save.

21.6.2 Task 6 — Record the result of a round

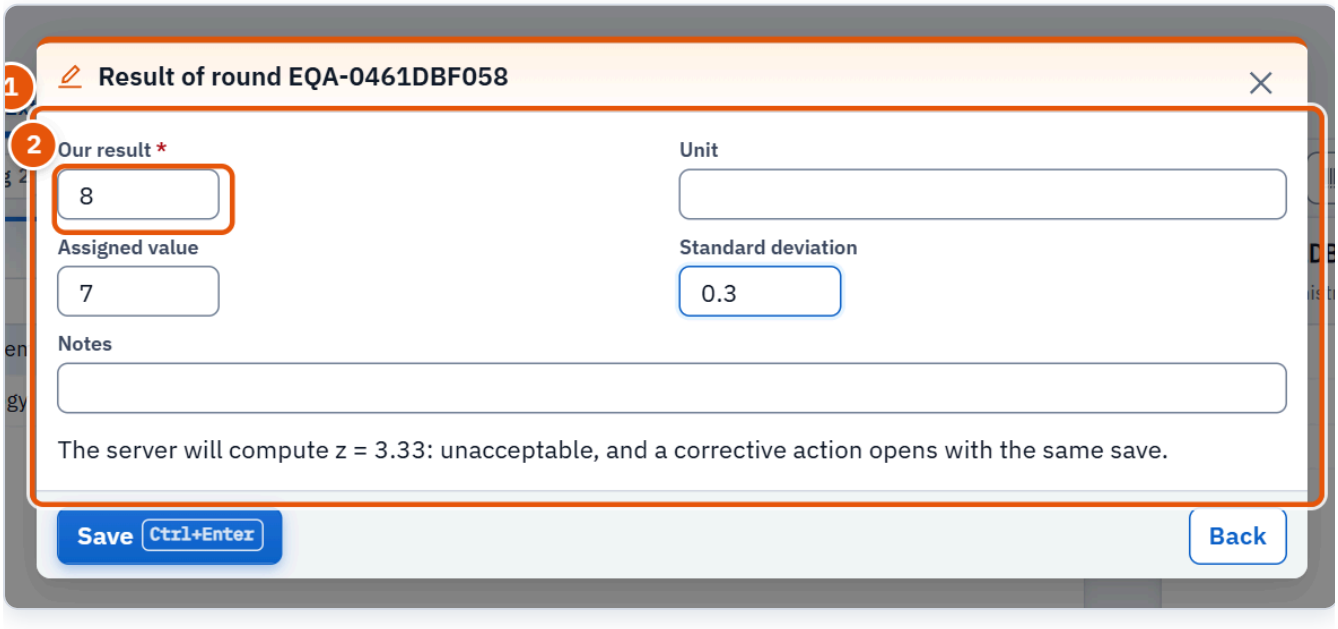


Figure 21-6: The window to record a round's result, with the line saying how the server will judge it.

1. Choose a round that is still open and press **Record the result**.
2. Type **Our result** (required) and the **Unit**.
3. Type the **Assigned value** and the **Standard deviation** from the scheme's report.
4. As you type, the window says how the server will judge it: acceptable, a warning, or unacceptable with its z. Without the assigned value and the standard deviation the result is not evaluated.
5. Add a comment if needed and save.

An unacceptable result opens a corrective action in the same save, with the source **External quality** and severity **High**.

21.7 Page: accreditation readiness

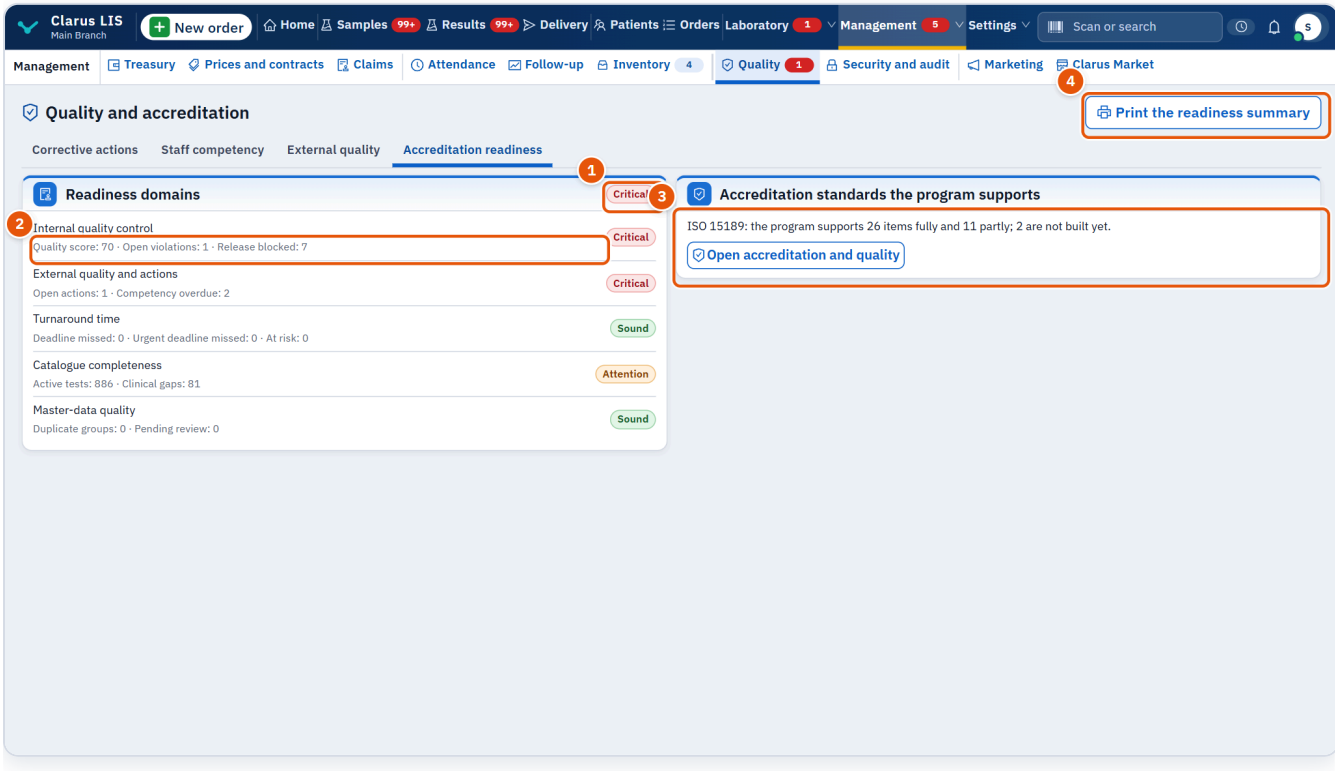


Figure 21-7: The readiness page: 1 the overall status, 2 one domain with its measures, 3 the standards card, 4 the print button.

This page is read only. The card **Readiness domains** shows the overall status in its corner and one line per domain with its measures and its own status.

Element	What it shows
Statuses	**Sound**, **Attention**, **Critical**, **Unavailable**.
Domains	**Catalogue completeness**, **External quality and actions**, **Master-data quality**, **Internal quality control**, **Turnaround time**.
Measures	Such as **Open actions**, **Competency overdue**, **Quality score**, **Deadline missed**, **Urgent deadline missed**, **Open violations**, **Clinical gaps**, **Duplicate groups**. Which ones appear depends on the domain.
Accreditation standards the program supports	How many items of the laboratory's first standard the program supports fully, partly, and not yet.
Open accreditation and quality	Goes to the accreditation screen.
Print the readiness summary	Prints the summary in your language.

21.8 Messages and what to do

The screen says	Meaning	What to do
The records could not be read.	The records could not be read.	Press retry; if it persists, check the connection and your permissions.
Write the resolution before closing.	The close window was saved empty.	Write the resolution.
Without the assigned value and the standard deviation the result is not evaluated.	The assigned value or the deviation is missing.	Enter both if you want the round evaluated.
Choose a record from the list to see its details.	No record is chosen.	Choose one in the list.

21.9 See also

- **Accreditation and quality**: the standards behind the readiness summary.

Chapter 22

Security and audit

Menu: **Security and audit**. Address: `/admin/audit`.

22.1 What this screen is for

This screen keeps the laboratory's memory of who did what. It has three pages. The **audit trail** lists every act the program recorded: who did it, when, in which part of the program and on which record. The **sessions** page shows who is signed in now, from where and since when, and lets you end a session. The **access** page lists sign-ins, failed attempts and every reading of a patient's record, and holds the laboratory's switch for access from outside.

Nothing here changes laboratory data. The only changes you can make are ending someone's session and turning access from outside on or off. The trail can also be exported to a file together with a proof that no entry in it was altered.

22.2 Who sees it

Whoever holds **Manage settings**. The menu hides the screen from everyone else.

You can...	...if your role holds
Read the three pages, filter and search them	Manage settings
Export the trail with its integrity proof	Manage settings
End another person's session	Manage settings
Turn access from outside on or off	Manage settings

22.3 The screen at a glance

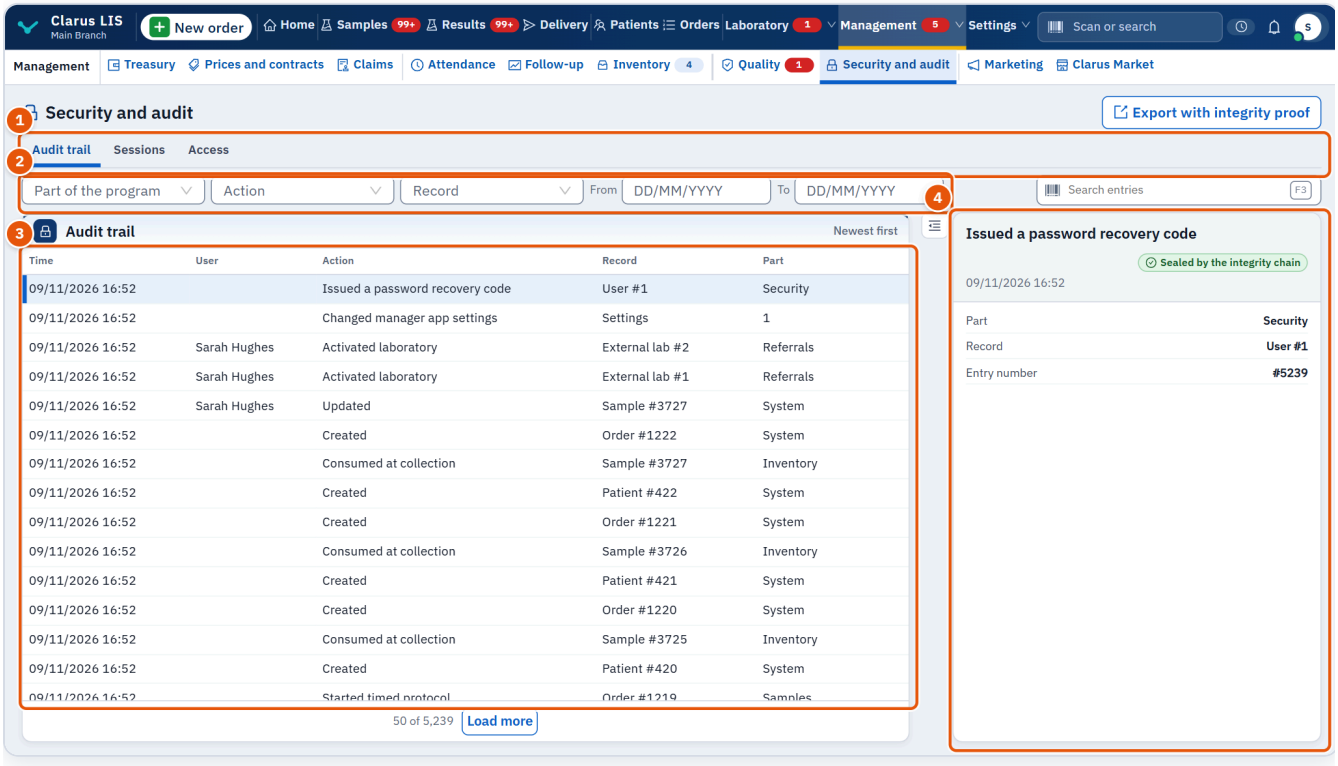


Figure 22-1: The Security and audit screen on the audit trail page: 1 the three page tabs, 2 the filters and the export button, 3 the trail, 4 the details of the chosen entry.

1. **The page tabs**: **Audit trail**, **Sessions** and **Access**.
2. **The filters and search** of the page you are on (they differ from page to page), and on the trail page the export button.
3. **The list**: newest first, fifty rows at a time. When more rows exist, a bar under the list shows how many are shown and lets you load more.
4. **The details** of the chosen row. The first row is chosen for you; click another to change it.

On every page, if the list cannot be loaded the screen says so and offers to try again; if nothing matches it says so in the list itself.

22.4 Page 1: the audit trail

22.4.1 The filters

Control	What it does
Part of the program	Keeps only entries written by one part of the program (for example Billing, Results, Samples). Choose from the list, or type to search it.
Action	Keeps only one kind of act (for example Saved settings, Recorded payment).

Control	What it does
Record	Keeps only entries about one kind of record (for example Patient, Backup).
From / **To**	Limit the entries to a span of days. The first day cannot be after the last.
Search entries	Free text; it is applied a moment after you stop typing.

Each of the three lists offers only the values that exist in this laboratory's trail. A small cross in the box clears that filter. The filters combine: an entry must satisfy all of them.

22.4.2 The list

Column	What it shows
Time	When the act happened.
User	The user who did it. When the program only knows a number, it is shown as «User» followed by that number.
Action	The act, in words.
Record	The kind of record, then its number after a `#`.
Part	The part of the program that wrote the entry.

22.4.3 The details

Element	What it shows
The title	The act, in words.
Sealed by the integrity chain / **Not sealed**	Whether the entry is sealed by the integrity chain. A sealed entry is linked to the ones before it, so an altered or removed entry would be found.
The line under the title	The user and the time.
Part, **Record**, **Entry number**	The part of the program, the record (kind and number), and the entry's own number.
What was recorded	What the program stored with the entry, as pairs of name and value. A name the program knows is shown in words with the stored name in brackets beside it; any other is shown as it was written. The values are data and are not translated.

22.4.4 What kinds of events are recorded

The trail names every act in words, and a code the screen has no words for is shown as stored, so a new kind of act never disappears from the trail. The kinds fall into these groups. The group names are only for this explanation and do not appear on the screen; everything in the table is taken from the acts the trail actually names.

Group	Examples of what is recorded
Results and reports	Recording, amending and auto-approving results; approving in bulk; marking a test not performed; generating or amending a report version; calculation failures and disagreements.
Samples, orders and patients	Assigning accession numbers, recording collection and rack position, disposing of a sample; creating, editing, cancelling or deleting an order; deleting a patient or physician; recording or revoking consent.
Money	Recording, reversing and voiding payments; discounts; patient write-offs and credit refunds; expenses and recurring expenses; cash remittances; claim statements, claim packages and their remittances.
Referrals and external laboratories	Choosing, assigning and changing referral laboratories; send-out costs; sending a test out as an exception; payments to external laboratories.
Inventory and procurement	Creating, approving, receiving, cancelling and closing purchase orders; goods receipts; stock counts; automatic consumption and its reversal; supplier prices.
Quality and blood bank	Quality-control lots and recipes; external quality rounds and results; competency records; corrective actions; blood donors, donations, unit screening, cross-matching, issue and transfusion.
Analyzers and devices	Device mappings, results-file layouts and pick-up sources; worklists sent to a device; refused orders; flag codes; reruns.
Users and access	Activating and deactivating users, resetting or recovering a password, recovery codes, permission overrides, branch access.
Branches and chains	Branch link keys, invitations and approvals; sync epochs and conflict policy; branch prices; member devices; chain links and handover.
Backup, restore and updates	Cloud backup enabled, disabled, uploaded, restored or deleted; restore drills; pruning old backups; preparing, applying and rolling back updates; importing an update manifest.
Phone app and messaging	Manager app phones paired, removed or suspended; remote access switched; screen messages and reminders; ready messages; patient messages and campaigns.
Artificial intelligence	Turning the clinical AI service on or off; usage limits; automatic drafting.
Settings and catalogue	Saving settings, print recipes, templates and request forms; catalogue changes; market items installed or reverted; migration imports and their undoing.

Group	Examples of what is recorded
Exported hand-over packets	Many acts of the form «Exported … packet» that record the production of commercial, installer, evidence and readiness documents.

The records are named in the same way, and the **Record** list holds them all: patients, orders, samples, results, devices, branches, backups, expenses and many more.

22.4.5 Exporting the trail with its proof

The export button, **Export with integrity proof**, exports exactly the entries the filters now select, and checks the integrity chain over exactly those entries. It is dim while the list is empty or an export is running.

1. Set the filters to the entries you need.
2. Press **Export with integrity proof**.
3. Read the message. If the check passed it says how many entries were exported out of how many matched. If the check found altered entries, the message is red and says so: contact support.
4. If the message **Export was limited to the first … entries; narrow the filters to export the rest.** appears, the export was limited to the first entries. Narrow the filters (for example by day) and export again to get the rest.

22.5 Page 2: sessions

A session is one signed-in browser or phone. The page lists them, newest first.

22.5.1 Filters

Control	What it does
Active / **Ended** / **All**	Shows only the sessions in that state, with a count on each. The page opens on the active ones.
User name or address	Search by user name or address.

22.5.2 The list and the details

Column	What it shows
User	The person's name, or the user name.
Role	Their role.
Address	The network address the session came from.

Column	What it shows
From	Where it came from: **Inside the laboratory**, **From outside** or **Manager app**.
Started	When the session began.
Last active	Its last activity.
State	A tag: **Your session** for yours, **Active** or **Ended**.

The details of the chosen session repeat the start and last activity, and add **Expires**, the time it ended (**Ended at**, if it was ended) and **Device and browser**.

The list refreshes by itself about every half minute.

22.5.3 Task: end someone's session

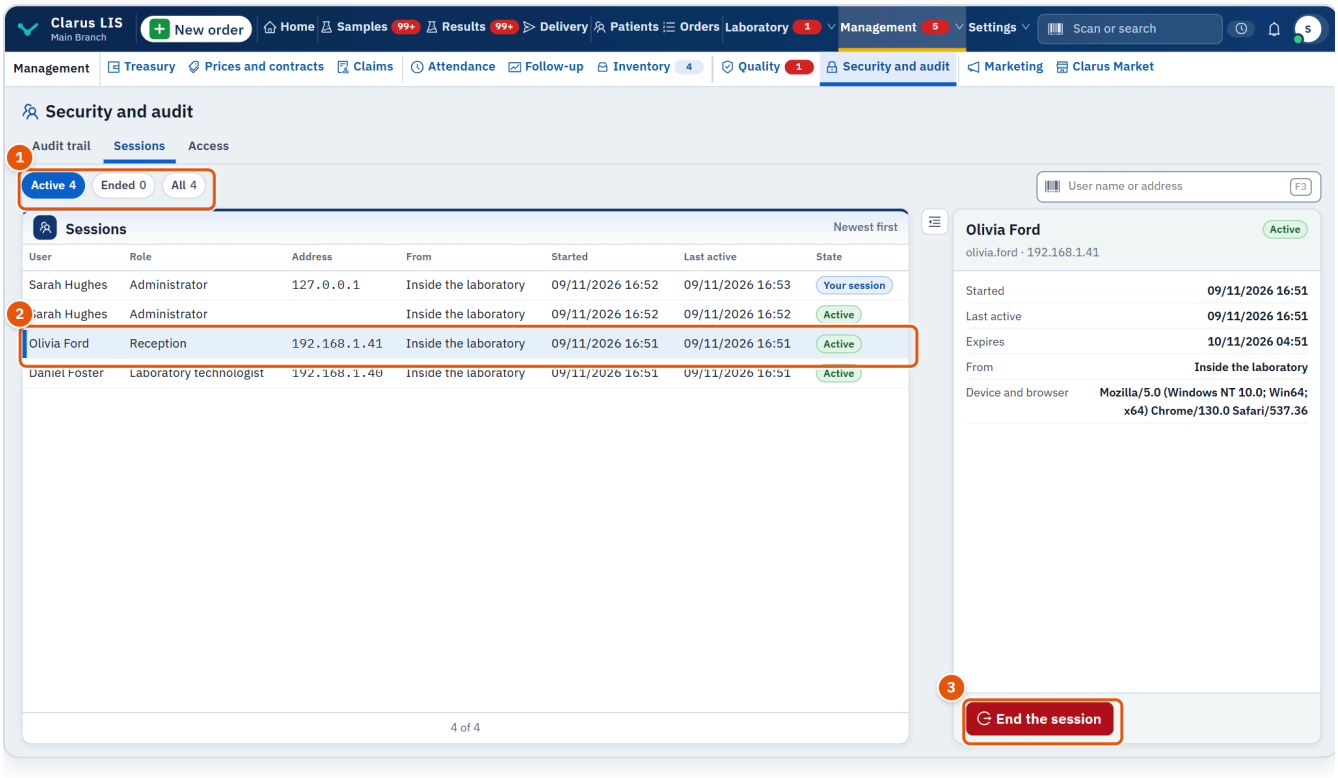


Figure 22-2: The sessions page with one active session chosen: 1 the state filters, 2 the chosen session, 3 the button to end it.

1. Open **Sessions**.
2. Find the session. Use **User name or address** if the list is long.
3. Click its row.
4. Press **End the session**. The button appears only for a session that is still active and is not your own.
5. In the confirmation, read that the person is signed out at once and may sign in again, then press **End the session** to confirm, or the cancel button to leave it.

6. The message **The session was ended.** appears.

Your own session shows a note that it cannot be ended from here.

22.6 Page 3: access

This page lists events about getting into the program and reading patient data. The top of the page may show a line about the access-event chain: either that it is intact, or that it is broken and you should contact support.

22.6.1 Filters

Control	What it does
Result: **All** / **Failed** / **Succeeded**	Keeps all events, only failed ones, or only successful ones.
Event	Keeps one kind of event. The list shows how many events of each kind exist.
User or record	Search by user or record.

22.6.2 The list and the details

Column	What it shows
Time	When it happened.
User	The user name.
Event	The kind of event.
Record	The record concerned.
Result	A green tag for success or a red tag for failure. Failed rows are marked as urgent.

The details pane (**Event details**) shows the kind of record, the result and up to six more stored facts about the event.

22.6.3 Kinds of access events

Group	Events
Signing in and out	**Sign-in**, **First-install sign-in**, **Sign-out**, **Session ended**
Passwords	**Password change**, **Request for a new password**, **Password recovery**, **Password recovery locked**
Recovery codes	**Recovery code issued**, **Recovery code renewed**, **Recovery code saved**

Group	Events
Reading patient data	**Patient search**, **Patient record read**, **Order read**, **Sample read**, **Result read**, **Report read**
Refused requests	**Unpermitted route refused**
Claims	**Claim package action**

22.6.4 Access from outside the laboratory

This box sits in the details pane of the access page, under the event details.

Element	What it does
The switch	Shows **On** or **Off**; flip it to change.
Sessions from outside now	How many sessions are open from outside the laboratory now.
Accounts with two-step verification	How many accounts use two-step verification. It appears only when the program reports it.
The note under them	The setting is changed from inside the laboratory only; turning it off ends the outside sessions.

22.6.5 Task: turn access from outside off

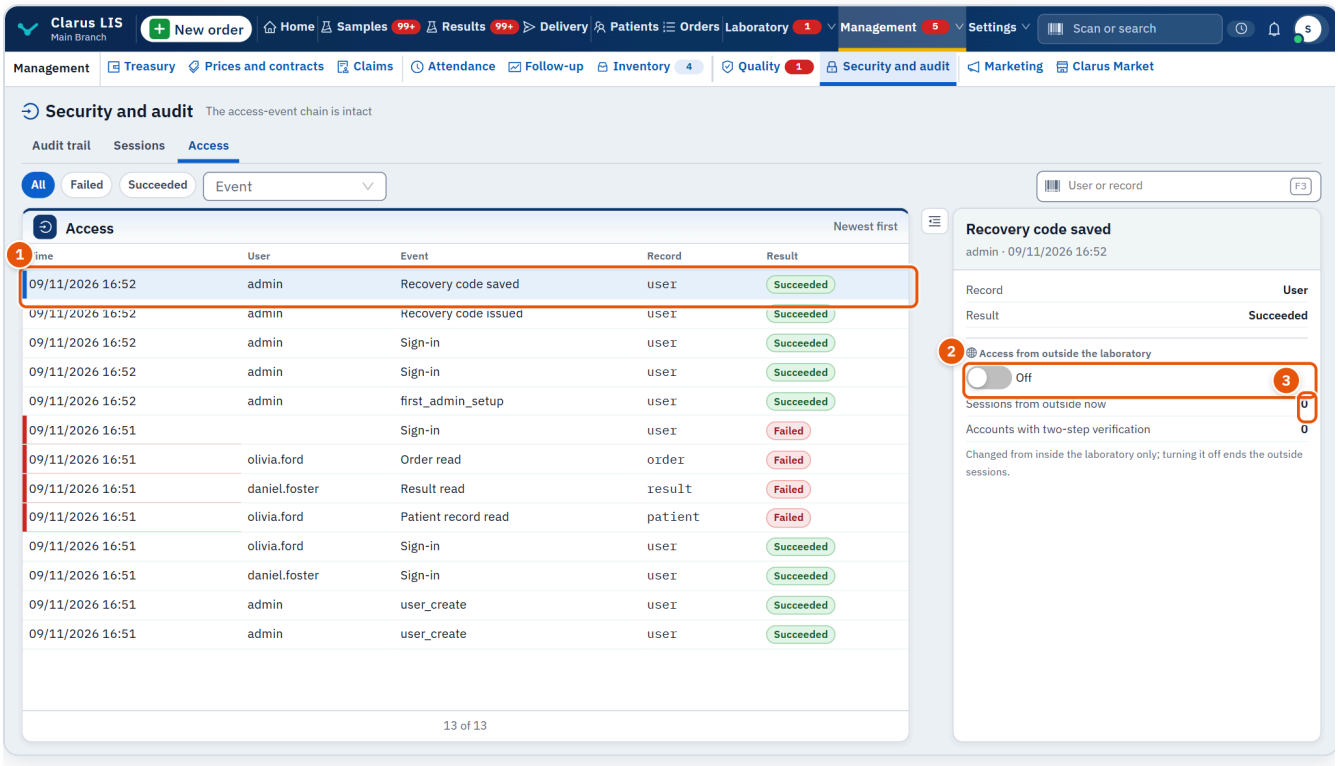


Figure 22-3: The access page: 1 the chosen event, 2 the access-from-outside switch, 3 the count of sessions from outside.

1. Open **Access**.
2. In the box **Access from outside the laboratory**, check **Sessions from outside now**: these people will be signed out.
3. Flip the switch. It shows a loading mark while it saves.
4. A message confirms the change: when turning it on, that access from outside is on; when turning it off, that it is off and how many sessions were ended.

> **Caution**
>
> Turning access from outside off ends every open session from outside at once. Anyone using the program from outside loses their work in progress.

22.7 Messages and what to do

The screen says	Meaning	What to do
Could not load the audit trail.	The list or the box could not be loaded.	Use the retry button on the list; if it persists, check the program is running.
No entries match the filters.	No trail entry matches the filters.	Widen the filters or clear the search.
No active sessions.	No session is active.	Choose **All** to see ended ones.
No matching events.	No access event matches.	Widen the filters.
Export failed.	The export did not complete.	Try again; narrow the filters if the span is large.
The access-event chain is broken: contact support	The access events no longer form an unbroken chain.	Do not ignore it; contact support.
Choose an entry from the trail to see its details.	No row is chosen.	Click a row.

22.8 See also

- **Security and audit**: this chapter.

Chapter 23

Marketing

Menu: **Marketing**. Address: `/admin/marketing`.

23.1 What this screen is for

This is where the laboratory keeps track of how people come to it and what that brings in. It holds the people who have shown interest but have not yet become patients (leads), the campaigns and offers the laboratory runs, the places customers come from, the doctors who refer, and the laboratory's own discount cards. Each page counts orders and revenue so you can see which source, campaign or offer is worth its cost.

The head of the screen carries one period that every figure is counted in. Pages are reached from the tabs under the title. Creating or editing a record always opens a window with a **Save** button; nothing is sent to anyone from the first six pages.

23.2 Who sees it

Whoever holds **Marketing: campaigns, offers and referrals**. The menu hides the screen from everyone else. Within the screen:

You can...	...if your role holds
Open the six pages, create and edit leads, campaigns, offers and sources, and issue and stop discount cards	Marketing: campaigns, offers and referrals
See the **Bulk sending** tab, prepare a send and hand it over for sending	**Manage settings**, besides **Marketing: campaigns, offers and referrals** which opens the screen (the tab is not shown without it)

23.3 The screen at a glance

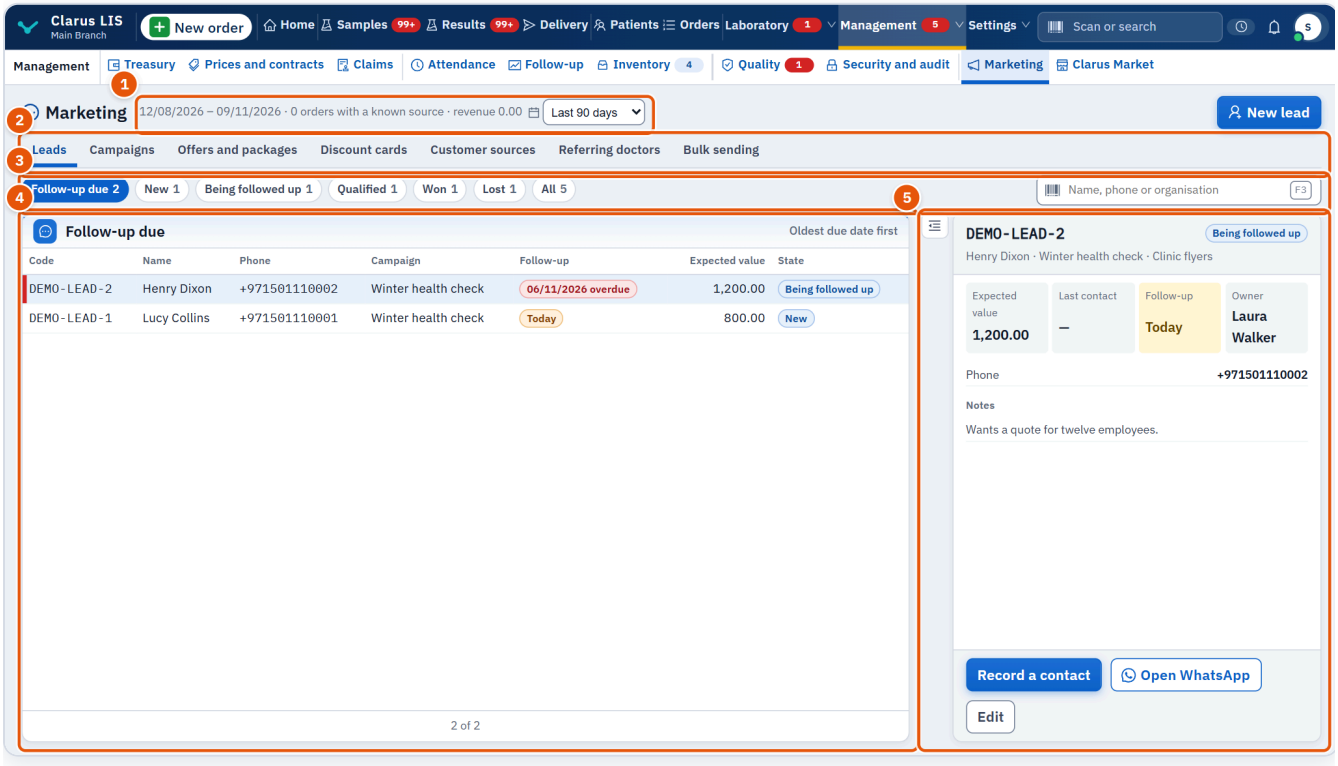


Figure 23-1: The Marketing screen on the Leads page: 1 the period of the figures, 2 the page tabs, 3 the state filters and search, 4 the list, 5 the details of the chosen row.

1. **The period** in the head: the dates, the number of orders with a known source and their revenue, and a box **Period of the figures** to choose the last 30, 90 or 365 days. It opens on 90 days.
2. **The page tabs**: **Leads**, **Campaigns**, **Offers and packages**, **Discount cards**, **Customer sources**, **Referring doctors**, and **Bulk sending** only for whoever manages settings.
3. **Filters and search**: small state buttons with a count on each, and a search box.
4. **The list**: one row per record. Choose a row to see it.
5. **The details**: the chosen row, its figures and its buttons. The first row is chosen for you; it says «**Choose a row from the list to see its details.**» only when the list is empty.

The period applies to the figures of campaigns' revenue, offers, sources and referring doctors. A patient's consent to marketing messages is not here: it lives in the patient's file.

23.4 Leads

A lead is a person or organisation who may become a customer. The page opens on those whose follow-up is due, the oldest first.

Element	What it does
Filters (**Lead state**)	**Follow-up due** (opens here), **New**, **Being followed up**, **Qualified**, **Won**, **Lost**, **All**. Each shows how many it holds.
Name, phone or organisation	Search box.
New lead	Opens the window to add a lead.
Columns	**Code**, **Name**, **Phone**, **Campaign**, **Follow-up**, **Expected value**, **State**. A follow-up that has come due is marked red when late («... overdue») or orange when it is today.
Details: figures	**Expected value**, **Last contact**, **Follow-up**, **Owner**; below them the phone, organisation, email and **Notes**.
Record a contact	Opens the window that records a contact.
Open WhatsApp	Shown when the lead has a phone. Opens WhatsApp with a greeting ready; the person sends it, nothing is sent by the program.
Edit	Opens the lead for editing.

The window for a new or edited lead has these fields:

Field	Meaning
Name	Required.
Phone, **Email**, **Organisation**	Contact details.
Expected value	What the lead is expected to be worth.
Follow-up	The day to follow up.
Owner	Who is responsible.
Notes	Free notes.

The window for a contact has **What happened** (required), **State after it** and **Next follow-up**. Before you save, it tells you what will be recorded: last contact today, the state, and the next follow-up.

23.5 Campaigns

Each campaign shows what it brought: leads, converted leads, orders and revenue. The newest come first.

Element	What it does
Filters (**Campaign state**)	**Planned**, **Active**, **Paused**, **Completed**, **All**.

Element	What it does
Search by campaign code or name	Search box.
New campaign	Opens the window to add a campaign.
Columns	**Code**, **Name**, **Channel**, **Budget**, **Leads**, **Orders**, **Revenue**, **State**.
Details	The figures **Budget**, **Leads**, **Converted** and **Revenue**; then **Channel**, **Dates**, **Owner** and **Description**.
Edit	Opens the campaign for editing.

The window has **Name** (required), **Code** (optional; fixed once the campaign exists), **State** (a new campaign starts as planned), **Channel**, **Budget**, **Expected leads**, **Starts on**, **Ends on**, **Owner** and **Description**.

23.6 Offers and packages

An offer is a discount or a package of tests. The page opens on the current offers, the ones with most revenue in the period first.

Element	What it does
Filters (**Offer validity**)	**Current** (opens here), **Not started**, **Ended**, **All**. An offer that is switched off counts as ended.
Offer name or code	Search box.
New offer	Opens the window to add an offer.
Columns	**Offer**, **Period**, **Tests**, **Discount**, **Orders**, **Revenue**.
Details: figures	**Catalogue price**, **Charged on the order**, **Advertised price**, **Orders in the period**; then the discount and the list of tests with their prices.
Edit the offer	Opens the offer for editing.
Share on WhatsApp	Opens WhatsApp with the offer's name and price ready; the person chooses whom to send it to.

If the advertised price is not what the order will really be charged, a warning says so («The advertised … differs from the … charged on the order.»).

The window has: **Offer** and **Code** (both required; the code is fixed afterwards), and **Discount**, which chooses how the offer works.

Kind of discount	What it does	Extra fields
A package at a fixed price	The package price is charged when every test of the package is ordered, spread over them by their prices. If one is missing, the package does not apply.	**Package price** (required)
A share of each test	A percentage off each test.	**Share %** (required), **Advertised price**
A sum off the whole order	A sum off the whole order.	**Sum** (required), **Advertised price**
No discount, no price: tracks the source only	Tracks the source only; no price.	none

Then **Applies under contracts and payers** (without it the offer never applies to an order under a contract or insurance), **Starts on** and **Ends on**. Below the fields, the tests: type in **Search the catalogue** and choose from the results; remove a test with the cross beside it. Where the laboratory has several branches, **Branches** limits the offer to the branches you choose (none chosen means **Every branch**). A line under the form sums the catalogue price and what will be charged.

23.7 Discount cards

This page has two lists: the laboratory's card programmes (family, loyalty or company) and the cards issued under them. A card's number typed on a self-pay order takes its programme's percentage off that order. There is no period on this page's figures.

Element	What it does
Card number or holder	Search box for the cards list.
New programme	Opens the window to add a programme.
Issue a card	Opens the window to issue a card. It is dim until at least one programme is in force.
Card programmes	Columns **Code**, **Programme**, **Kind** (**Family**, **Loyalty**, **Company**), **Discount**, **Card price** (or «**Free**»), **Active cards** and **State**. Choosing a row opens it for editing.
Discount cards	Columns **Card number**, **Holder**, **Programme**, **Discount**, **Valid until** and **State** (**Active** or **Stopped**).
Details of a card	Its programme and kind, discount, patient file, validity dates, **Issued** (date and who), **Stopped on** when stopped, and **Sold for**.
Stop the card	Shown only on an active card. Stops it at once and says «The card … is stopped».

The programme window has **Code** (required, fixed afterwards), **Programme** (the name, required), **Kind** (required), **Discount** (required), **Card price** (optional: what the holder pays when the card is issued; empty means a card given free), **Programme ends on**, **In force** and **Notes**.

The card window has **Card number** (required), **Programme** (required; only programmes in force are offered, with their discount and price), **Paid by** (how the price is taken when the programme has one), **Patient file number** (optional), **Holder**, **Valid from** and **Valid until**.

23.8 Customer sources

The places customers come from, with the orders and revenue each brought in the period. There are few rows, so there is no paging and no search.

Element	What it does
New source	Opens the window to add a source.
Columns	**Code**, **Name**, **Type** (**Walk-in**, **Referral**, **Digital**, **Campaign**), **Orders**, **Revenue**, **State**.
Edit	Opens the chosen source.

The window has **Code** (required, fixed afterwards), **Name** (required), **Type** (a new source starts as walk-in), **Description**, **Active** and **Display order**.

23.9 Referring doctors

A read-only list of the doctors who sent orders in the period, the one with most revenue first. It has a search box (**Search by doctor name or specialty**) and the columns **Doctor**, **Specialty**, **Organization**, **Orders** and **Revenue**. Nothing here can be added or changed.

23.10 Bulk sending

Shown only to whoever manages settings. It sends one approved message to many patients, and works in two steps so that you see the numbers before anything goes out.

Field	Meaning
Name of the send	Required. A name to recognise the send.
Channel	**WhatsApp**, **Text message** or **Email**.
Approved template	Required. Only approved templates of that channel are listed. If there is none the page says so; templates are approved in the Messages page of the settings.
Today's limit	The most messages that may be sent today. It opens on 200; the lowest value is 0.

Field	Meaning
Audience	**All patients**, **By a test they had**, **Lapsed patients** or **Recent visitors**.
Visited within (days) / **No visit for (days)**	The number of days, for the last two audiences: from 1 to 3650, opening on 90. The audience opens on «**Recent visitors**».
Test code	Required for the test audience.

As you choose, a note counts the patients who match; only those who consented to messages will receive it. The button **Prepare the send** is dim until the name, the template and (for a test audience) the test code are filled, and says which one is missing. Preparing does not send: it shows **The prepared send** with **Matched**, **Ready to send** and **Not sent**, and how many had not consented or were over the day's limit. Only the send button, which names how many are ready (dim when none is), hands the messages over for sending; once done the button gives way to a note that counts what was handed over, what had no number and who withdrew consent in the meantime.

23.11 Tasks, step by step

23.11.1 Task 1 — Follow up a lead

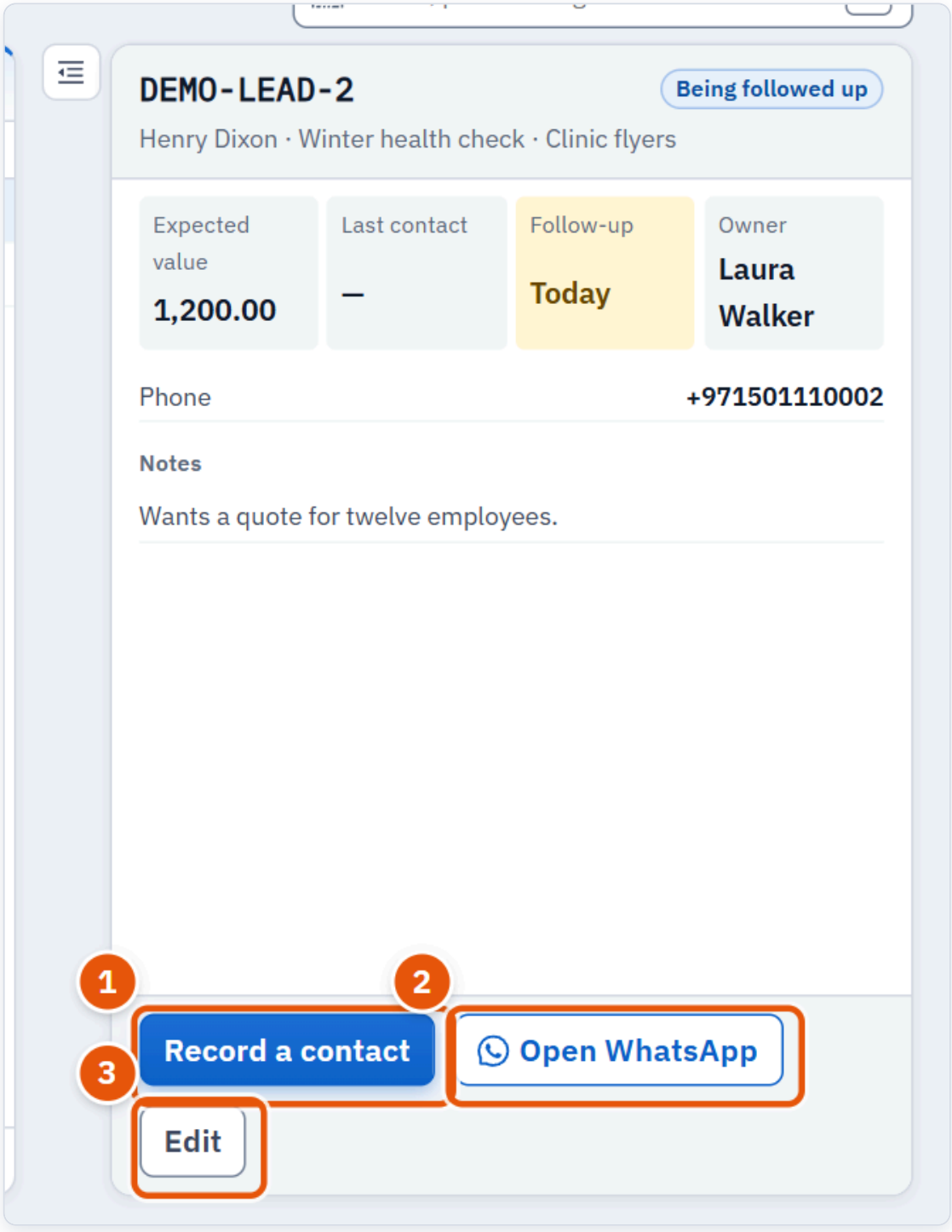


Figure 23-2: The details of a lead with its three buttons: 1 Record a contact, 2 Open WhatsApp, 3 Edit.

1. Open the **Leads** page. It shows the leads whose follow-up is due.
2. Choose the lead's row.
3. Press **Record a contact**.

4. Write **What happened**, choose **State after it** and, if there is one, **Next follow-up**. Read the line that says what will be recorded.
5. Press **Save**. What you wrote is added to the top of the notes with the date and your name.

To contact the lead yourself instead, press **Open WhatsApp**; the message opens ready and you send it.

23.11.2 Task 2 — Add a lead

1. On **Leads** press **New lead**.
2. Fill **Name** and whatever else you know.
3. Press **Save**. A new lead starts in the state «**New**».

23.11.3 Task 3 — Create or edit a campaign

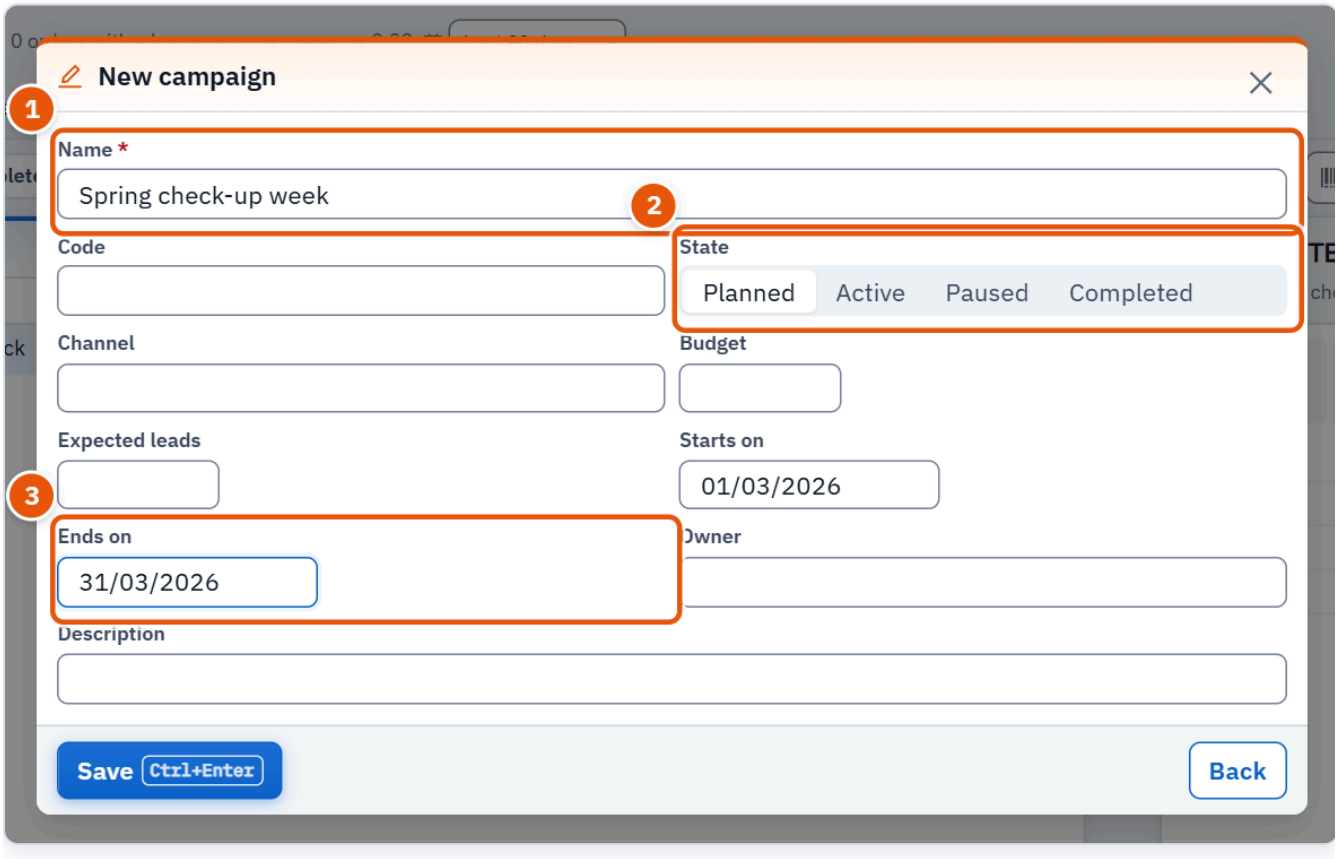


Figure 23-3: The new-campaign window: 1 the name, 2 the state, 3 the dates.

1. On **Campaigns** press **New campaign**; or choose a campaign and press **Edit**.
2. Fill **Name** (the only required field), the **Code** if you want one (new campaigns only) and the other fields.
3. Press **Save**. Its leads, orders and revenue appear as they arrive.

23.11.4 Task 4 — Create an offer or a package

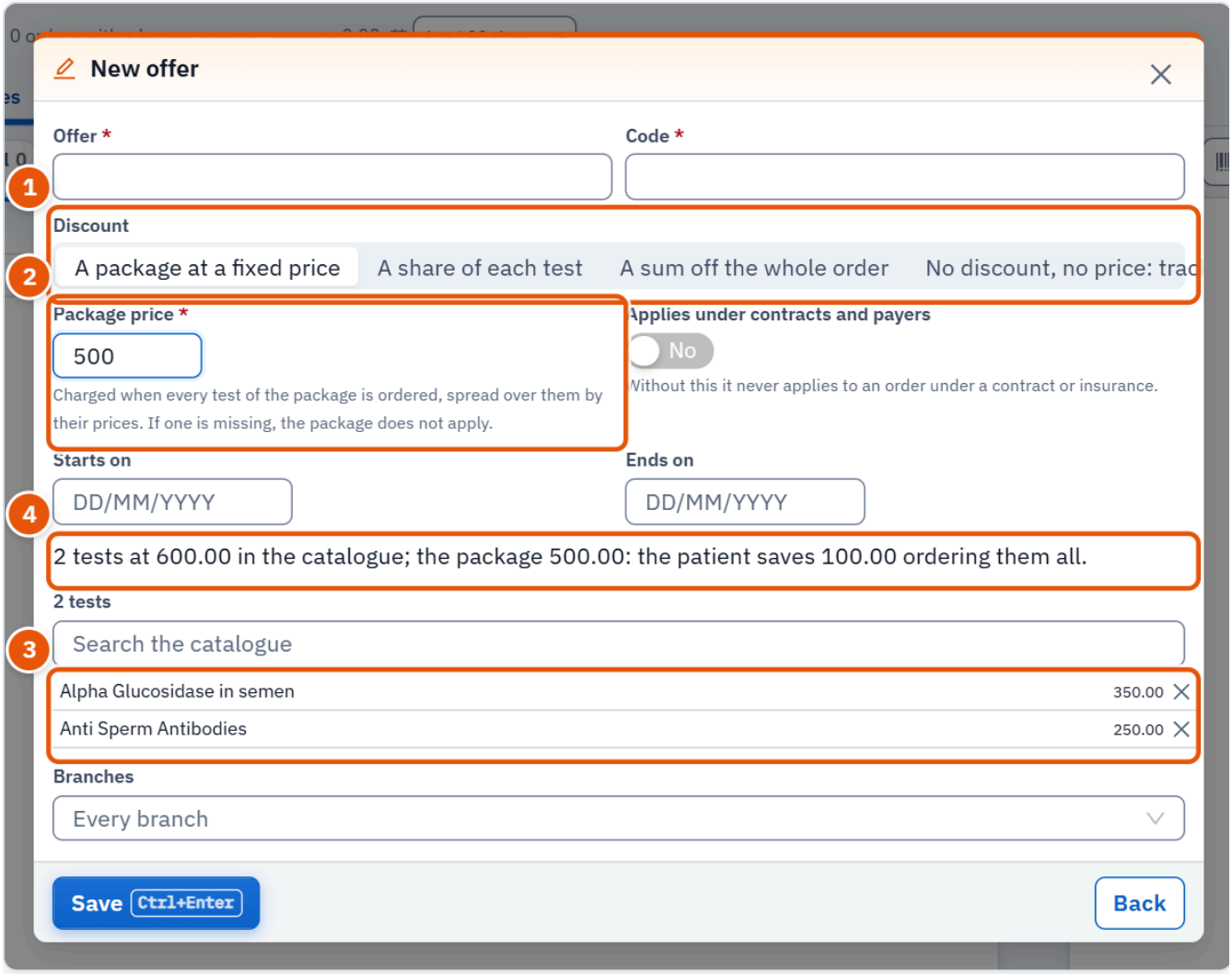


Figure 23-4: The offer window for a package: 1 the kind of discount, 2 the package price, 3 the tests, 4 the summary line.

1. On **Offers and packages** press **New offer**.
2. Type the name and the code.
3. Choose the kind of discount in **Discount**. The fields below change with it (see 23.6 Offers and packages).
4. Search the catalogue and choose the tests. A package needs at least two, a price above zero, and a price no higher than the catalogue prices of its tests added up; any other kind of offer needs at least one test.
5. Set the dates, and **Applies under contracts and payers** if the offer should apply under contracts too.
6. Read the line that compares the catalogue price with what will be charged. Press **Save**.

If a message says the package costs more than its tests, lower the price; if it asks for a price or tests, fill them.

23.11.5 Task 5 — Create a discount programme and issue a card

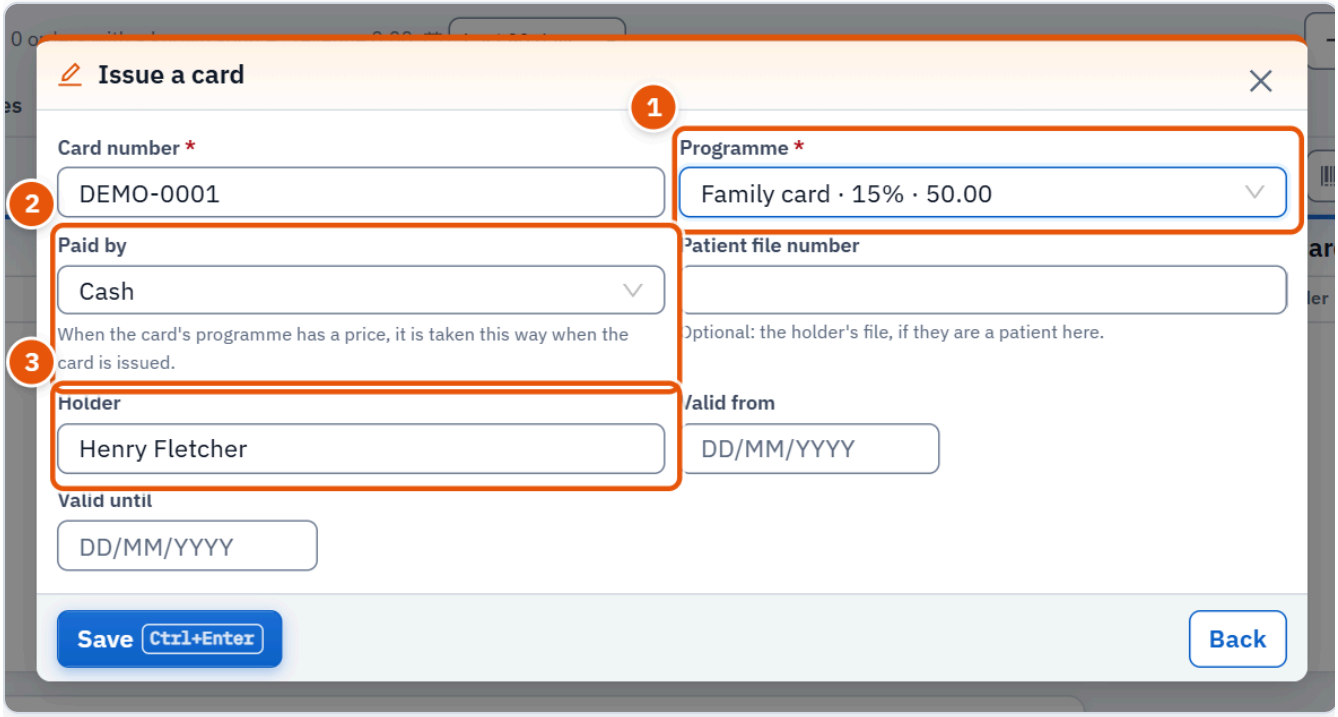


Figure 23-5: Issuing a card: 1 the programme, 2 how the price is paid, 3 the holder.

1. On **Discount cards** press **New programme**.
2. Give it a code, a name, a kind and a discount percentage. Enter **Card price** only if the holder pays for the card. Press **Save**.
3. Press **Issue a card**.
4. Type the card number, choose the programme, and fill the holder, the patient file number if the holder is a patient here, and the validity dates.
5. If the programme has a price, choose how it is paid in **Paid by**.
6. Press **Save**. The card appears in the list; a priced card is sold as it is issued.

To end a card, choose it and press **Stop the card**. To change or end a whole programme, choose it in the programmes list and untick **In force**.

23.11.6 Task 6 — Add a customer source

1. On **Customer sources** press **New source**.
2. Type the code and the name, and choose the type.
3. Press **Save**. Tick **Active** for it to be offered when a source is recorded.

23.11.7 Task 7 — Prepare and send a bulk message

This task sends real messages, so it has no picture and is not to be tried casually.

1. Open **Bulk sending** (only if you manage settings).
2. Name the send, choose the channel and an approved template, and set the day's limit.
3. Choose the audience and read the count of patients who match.
4. Press **Prepare the send** and read the three numbers and the note about consent and the limit.
5. When sure, press the send button. The messages are handed over and a note counts them.

23.12 Messages and what to do

The screen says	Meaning	What to do
Reading… / Could not be read.	The list is loading, or the server refused.	Wait, or press «Try again» beside the message, and check your connection.
Nothing matches «…».	The search found nothing.	Change the words, or choose «All».
No approved template for this channel	The channel has no approved template.	Approve one in the Messages page of the settings.
Name the send / Choose the template / Enter the test code	The button is dim for this reason.	Fill the named field.
A package has at least two tests.	A package was set with fewer.	Add tests.
A package cannot cost more than its tests in the catalogue	The price is above the total of the tests.	Lower the price.
The send failed.	The server refused the send.	Read the reason shown above the button and try again.
3 messages handed over for sending	The send was accepted.	Nothing; read the count of those without a number or who withdrew.

23.13 See also

Patients (a patient's consent to messages lives in the patient file), **Prices and contracts** (contracts, the catalogue prices an offer is measured against), **Treasury** (the sale of a priced card), **Messages** (approving the templates a bulk send uses), **Users and permissions** (the permissions above).

Chapter 24

Clarus Market

Menu: **Clarus Market**. Address: `/admin/market`.

24.1 What this screen is for

Clarus Market lists the price lists and offers that Clarus publishes, signed. They are only downloaded: nothing leaves the laboratory. A list is a suggestion. No price changes except by your hand, every change can be taken back, and the patient's price is never touched.

You can update the Market, or install a document from a file. Then open a document, choose the rows you want, apply them, and later take any of them back.

24.2 Who sees it

You can...	...if your role holds
See the screen and its documents	**View inventory and its reports**, **Manage billing**, **Manage settings** or **Manage purchase orders and supplier prices**
Update the Market, install from a file, switch the offers on or off	**Manage settings**
Apply rows of a price list, and take them back	**Manage settings** or **Manage purchase orders and supplier prices**

24.3 The screen at a glance

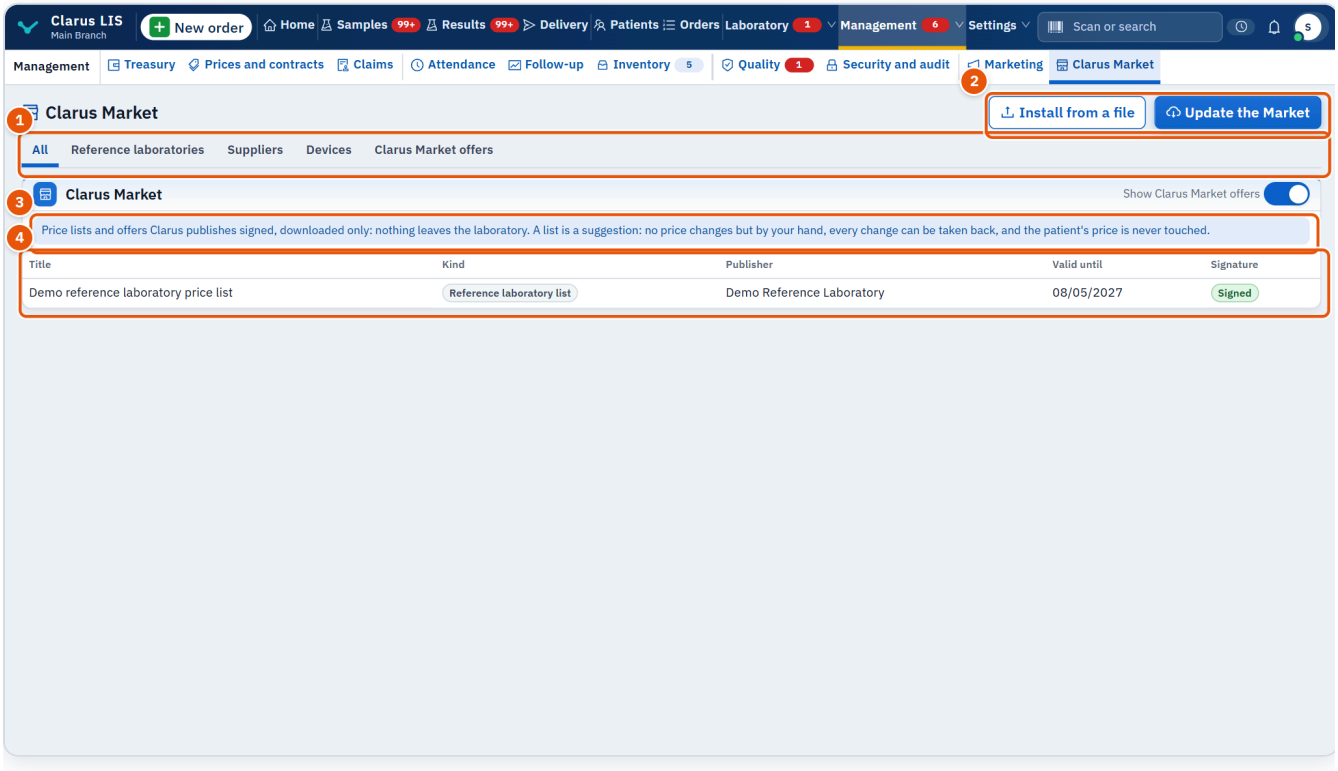


Figure 24-1: The Market screen: 1 the kinds, 2 the buttons, 3 the note and the switch, 4 the documents.

1. **The kinds**: **All**, **Devices**, **Reference laboratories**, **Suppliers** and **Clarus Market offers**.
2. **The buttons**: **Install from a file** and **Update the Market**.
3. **The note** about how the Market works, with the switch **Show Clarus Market offers**.
4. **The documents**, one row each.

Element	What it does
Install from a file	Installs a document from a file on this computer.
Update the Market	Downloads what Clarus has published and installs it.
Show Clarus Market offers	Shows or hides the offers everywhere they appear.
Table columns	**Title**, **Kind**, **Publisher**, **Valid until** and **Signature**.

Under the table, when the kind is **All** or **Clarus Market offers**, each current offer appears as a card with **Contact the supplier** and **Hide**. Both buttons are always there and need no permission: any signed-in user sees the offer cards. **Contact the supplier** shows the publisher's telephone and code on the card and opens nothing. **Hide** hides that offer for you personally, for good; others still see it.

24.4 The document window

Press a row to open its window. It shows the version, the date it is valid until and when it was installed. For a reference laboratory list or a supplier list, and if you may apply, it has three pages:

Page	What it shows
Items	The document's rows as published.
Suggestion	Each item, **Your value now**, **List price** and **State**.
Applied	**Item**, **Before**, **After**, **Applied at** and a **Take back** button.

24.5 Tasks

24.5.1 Task 1 — Update the Market

1. Press **Update the Market**.
2. Read the line that follows. It says how many documents were installed and how many were refused, with the reason for the first few.

If Clarus has published nothing yet, the screen says so, and your connection is fine.

24.5.2 Task 2 — Apply a price list

1. Press the list's row.
2. Open the page **Suggestion**.
3. If the publisher is not yet linked, choose one of yours in **Choose to link**.
4. Tick the rows you want. A row that is not matched, or that you do not send to this laboratory, cannot be ticked.
5. Press **Apply the chosen (...)**.

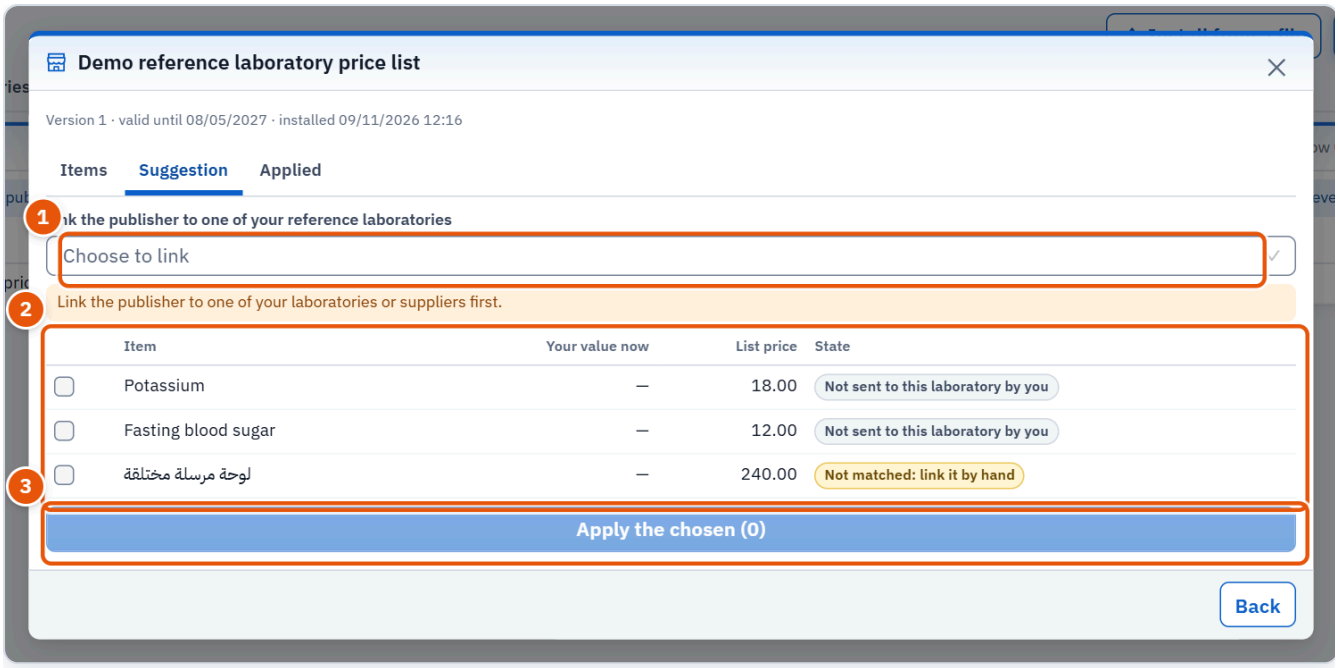


Figure 24-2: The suggestion page: 1 the link, 2 the rows, 3 the apply button.

24.5.3 Task 3 — Take a change back

1. Open the document, then the page **Applied**.
2. Press **Take back** on the row. The earlier value returns and the row shows **Taken back**.

24.6 Messages and what to do

The screen says	Meaning	What to do
This release does not carry the Market's content key yet, so no document is accepted until an update brings it.	This release cannot yet accept documents.	Wait for an update that brings the key.
Clarus has published nothing in the Market yet: there is nothing to install for now, and your connection is working.	Nothing to install now.	Nothing; try later.
The request could not be completed.	The request did not complete.	Check the connection and try again.
Nothing of this list was applied.	No row of this list was applied.	Nothing.

24.7 See also

The offers can also appear on the manager's home screen, as one card placed last. The server allows two more places, low stock in the inventory and purchasing, but this release's screens do not show an offer

there. Offers never appear on clinical screens. When the switch is off, no offer appears anywhere.

Chapter 25

Laboratory identity

Menu: **Laboratory identity**. Address: `/setup/identity`.

25.1 What this screen is for

This is where the laboratory says who it is: its name, how to reach it, its two colours and its logo. **The name, contacts and logo as they appear on the laboratory's public page.** The colours also reach the printed report's rules and section titles, the results page a patient opens, and the results emails, as the hints beside the two colour fields say.

You change the fields, see the colours in a live preview, and save everything together with **Save**. Nothing is written until you save.

25.2 Who sees it

Whoever holds **Manage settings**. The menu hides the screen from everyone else.

You can…	…if your role holds
Open the screen, change the identity and save it	Manage settings

25.3 The screen at a glance

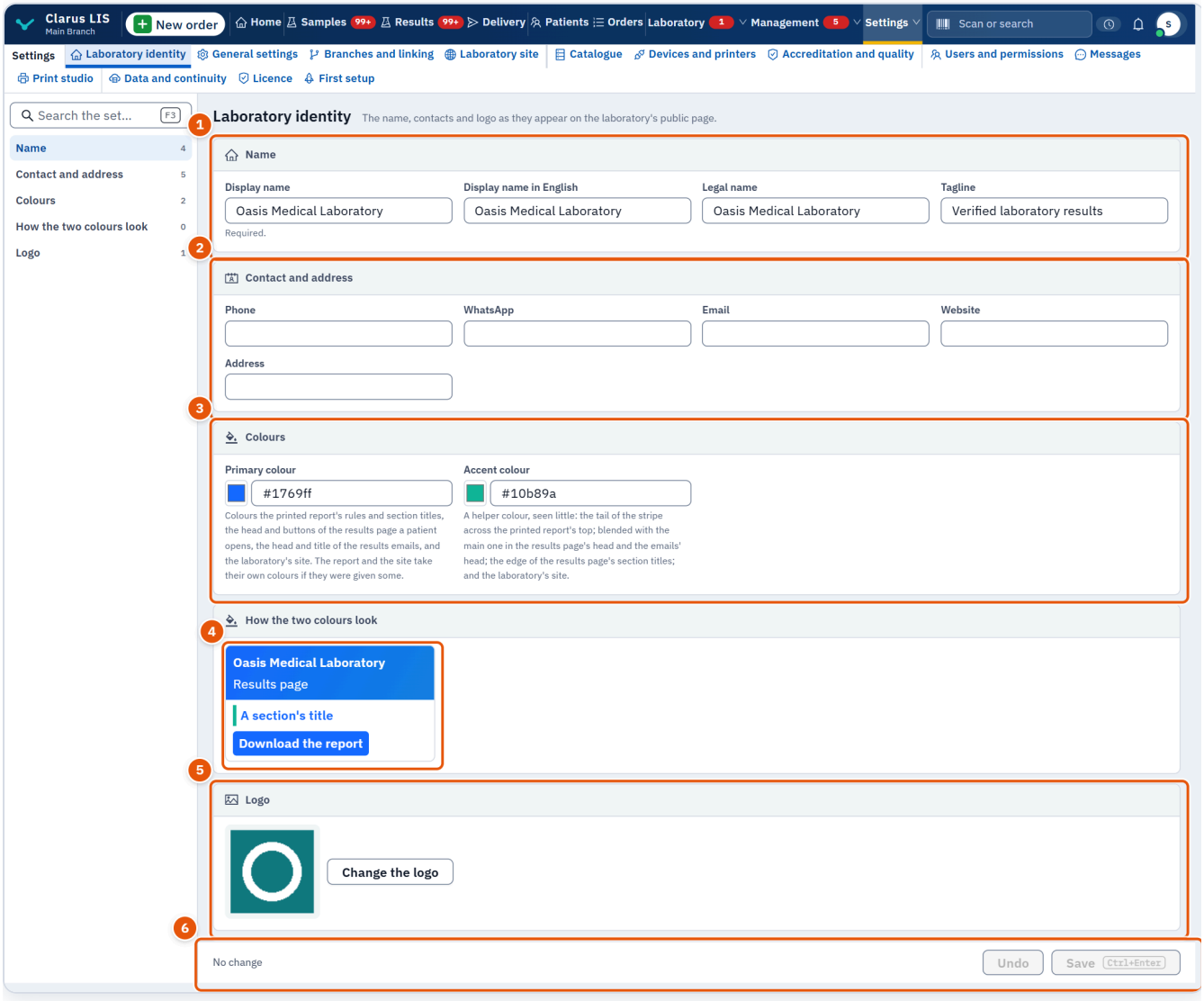


Figure 25-1: The Laboratory identity screen: 1 the name, 2 contact and address, 3 the colours, 4 the live preview, 5 the logo, 6 the save bar.

The screen has these parts:

1. **Name**: the laboratory's names and tagline.
2. **Contact and address**: phone, WhatsApp, email, website and address.
3. **Colours**: the primary and accent colours.
4. **How the two colours look**: the two colours as they will look.
5. **Logo**: the picture and the button to change it.
6. **The save bar**: the list of fields you have changed, **Undo** and **Save**.

25.4 Every area and its items

25.4.1 Name

Item	What it does
Display name	The laboratory's name as shown.
Display name in English	The same name in English.
Legal name	The laboratory's legal name.
Tagline	A short line that describes the laboratory.

25.4.2 Contact and address

Item	What it does
Phone	The laboratory's phone number.
WhatsApp	The laboratory's WhatsApp number.
Email	The laboratory's email address.
Website	The laboratory's website.
Address	The laboratory's address.

The phone, WhatsApp, email and website fields are written left to right. The screen does not stop you typing other letters in them.

25.4.3 Colours

Item	What it does
Primary colour	The main colour. It colours the printed report's rules and section titles, the head and buttons of the results page a patient opens, the head and title of the results emails, and the laboratory's site. The report and the site take their own colours if they were given some.
Accent colour	A helper colour, seen little: the tail of the stripe across the top of the printed report, the edge of the results page's section titles, a blend with the main colour in the page head and the emails' head, and the laboratory's site.

Each colour has a colour picker beside its code; the code box takes at most seven characters. A code is used only when it is whole (a `#` and six hexadecimal digits, for example `#1a73e8`); while it is half typed, the preview keeps the design's own colours.

25.4.4 How the two colours look

A small mock results page drawn from the two colours as you choose them: a head with the laboratory's name (**Display name**, or a stand-in if empty) and the words for the results page, a section title and a download button. It changes as you type, before you save.

25.4.5 Logo

Shows the current logo, or «**No logo yet**». **Change the logo** opens a file chooser for a PNG or SVG picture. The picture must not exceed 512 KB. A chosen picture counts as a change like any other and is saved with the rest. If you save without choosing a picture, the current logo stays.

25.5 Tasks step by step

25.5.1 Task 1 — Set the name and contacts

1. Open **Laboratory identity**.
2. In **Name**, type the **Display name**, and the English name, legal name and tagline if you want them.
3. In **Contact and address**, fill in the numbers, email, website and address.
4. Press **Save**.

25.5.2 Task 2 — Choose the colours

1. In **Colours**, pick or type the **Primary colour** and the **Accent colour**.
2. Look at **How the two colours look** and adjust until it reads well.
3. Press **Save**.

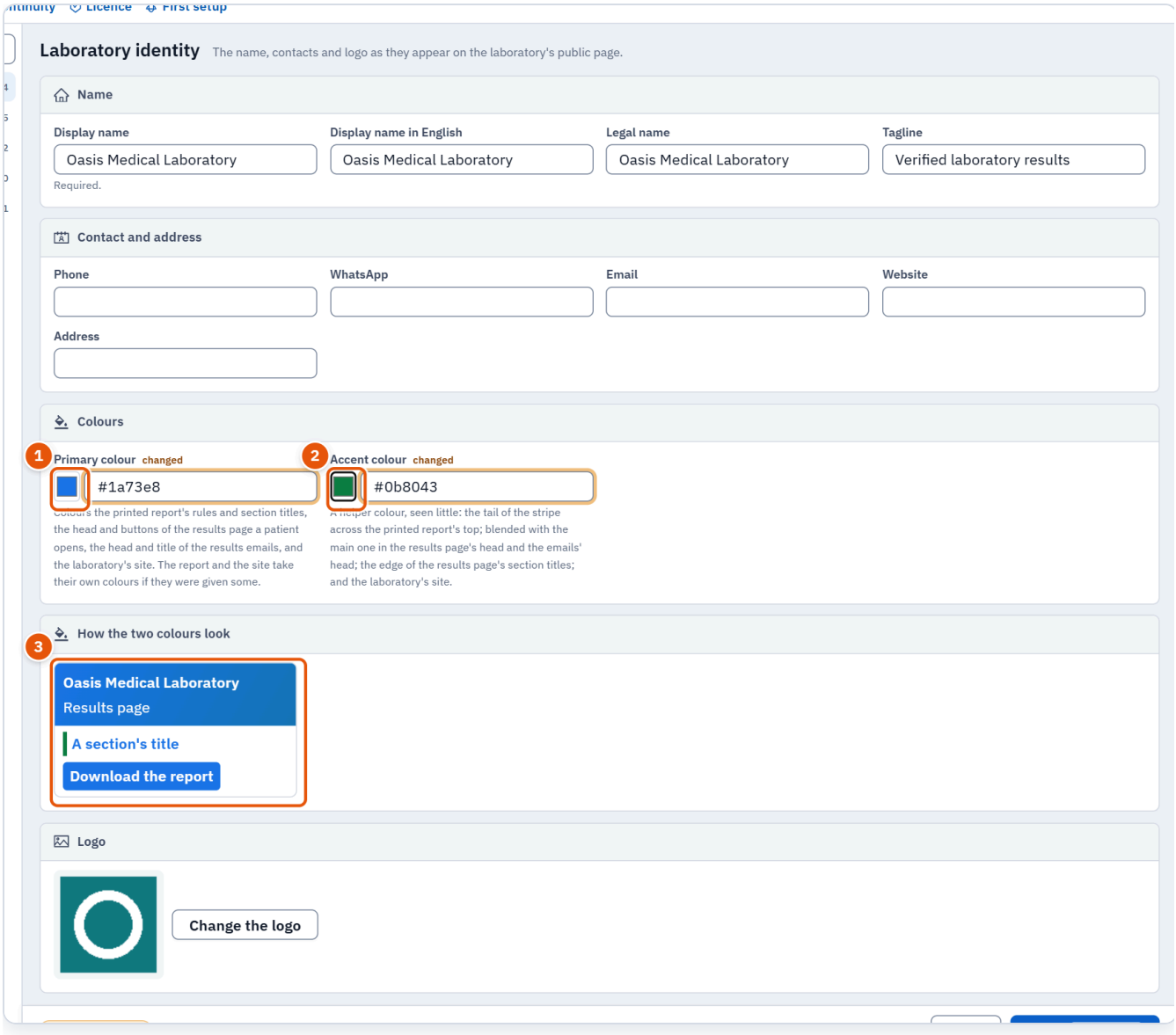


Figure 25-2: The colours and their preview: 1 the primary colour, 2 the accent colour, 3 the preview.

25.5.3 Task 3 — Change the logo

1. In **Logo**, press **Change the logo**.
2. Choose a PNG or SVG file of at most 512 KB. The new picture appears at once.
3. Press **Save**. Press **Undo** instead to give up all unsaved changes. Both buttons stay dimmed until something has changed.

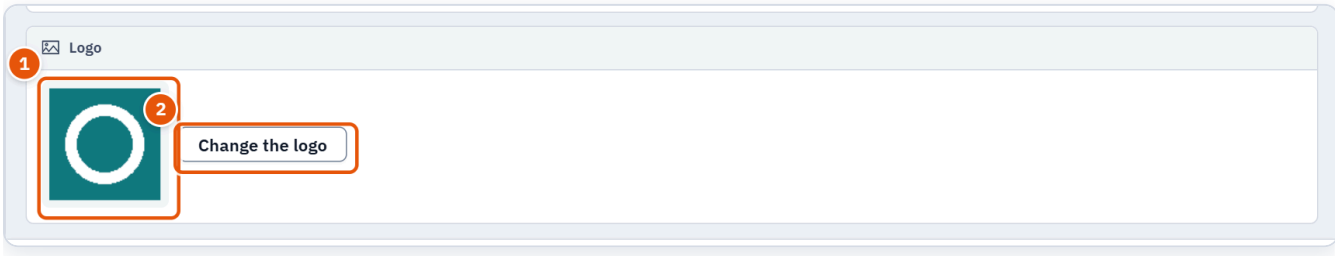


Figure 25-3: The logo area: 1 the current logo, 2 the change button.

25.6 Messages and what to do

The screen says	What it means	What to do
The picture is larger than 512 KB once it is stored. Choose a smaller one.	The chosen picture is over 512 KB.	Choose a smaller picture.
Settings saved.	The identity was saved.	Nothing.
The settings could not be saved. Try again.	The save failed.	Try again. If the server gave a reason, it is shown under the save bar.
The settings could not be loaded.	The screen could not read the current identity.	Retry.

25.7 See also

- **General settings**

Chapter 26

General settings

Menu: **General settings** (the Setup group). Address: `/setup/general`.

26.1 What this screen is for

This is the program's settings reference for the whole laboratory: the language of the screens and of what is printed, the regional format, the front desk's habits, the rules for results and critical values, money, the connection, and a series of tables the laboratory keeps for itself (payment methods, numbering, patient titles, expense heads, STAT tests, storage places, document types, languages).

The page is one list of sections with an index and a search box. Some sections are plain settings that you change and save together; others are tables with their own windows, which save themselves when you press their Save. A section that holds a change you have not saved shows a dot in the index.

26.2 Who sees it

Whoever holds **Manage settings**. The menu hides the screen from everyone else.

At a branch linked to a laboratory centre, a setting that the centre decides for every branch is shown but cannot be changed there: the section says «The laboratory's centre sets this for every branch; it is changed there.»

26.3 The screen at a glance

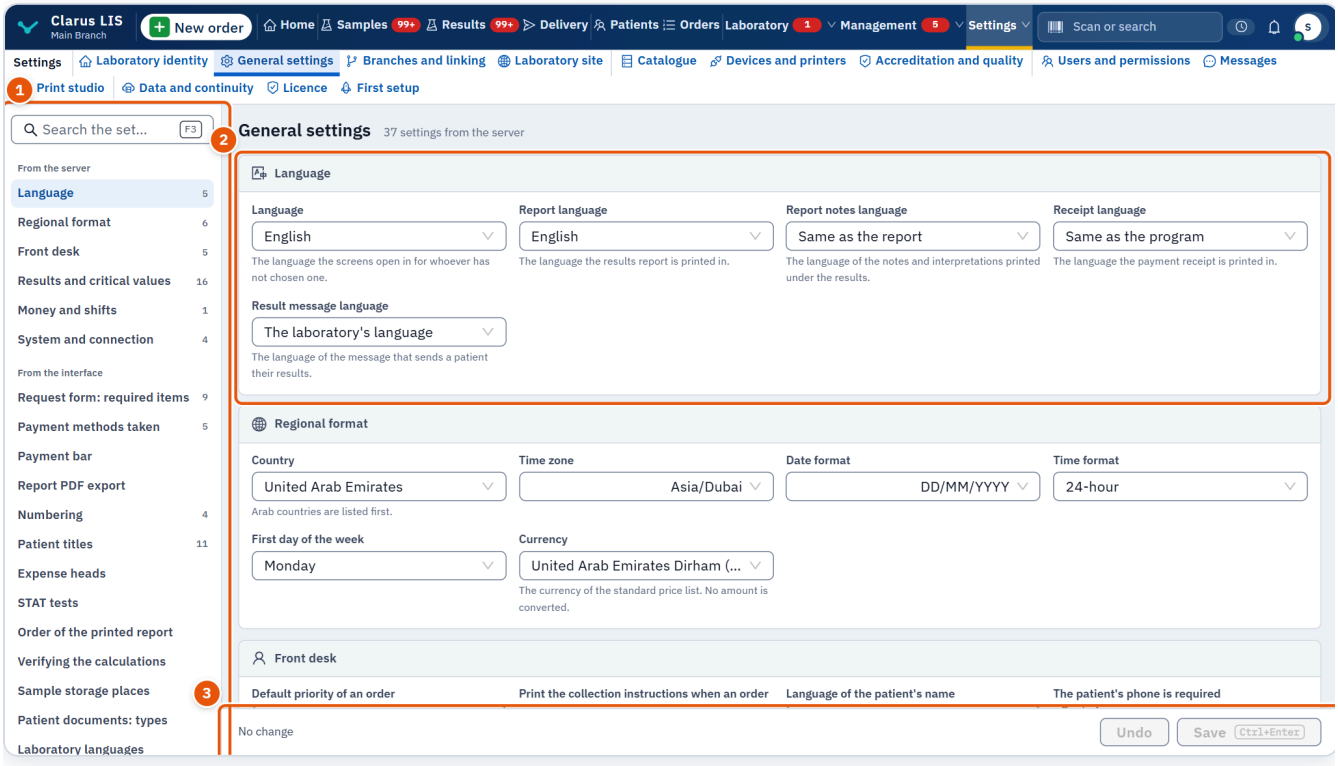


Figure 26-1: The General settings screen: 1 the index and the search box, 2 a section, 3 the bar that shows the unsaved changes with Undo and Save.

1. **The index and search**: every section by name, with a dot beside any that holds an unsaved change. Typing in the search box keeps only the sections and settings that match.
2. **The sections**, one after another. The first six come from the server (language, regional format, front desk, results and critical values, money, system); the rest are described below.
3. **The bar at the foot**: how many changes are waiting and their names, **Undo** to drop them, and **Save** (also **Ctrl+S**) to keep them.

Changes in the plain-settings sections, the request form, the payment bar and the PDF export are kept together by one **Save**. Some settings are marked as asking for confirmation: pressing Save then shows each one with its old and new value, and asks for a written reason that the audit keeps.

26.4 Plain settings

26.4.1 Language

Setting	What it changes	Choices
Language	The language the screens open in for whoever has not chosen their own.	Arabic, English, and the languages the laboratory installed

Setting	What it changes	Choices
Report language	The language the results report is printed in.	Arabic, English, and installed languages
Report notes language	The language of the notes and interpretations under the results.	Same as the report, Arabic or English
Receipt language	The language the payment receipt is printed in.	Same as the program, or a named language
Result message language	The language of the message that sends a patient the results.	The laboratory's language, or a named language

26.4.2 Regional format

Setting	What it changes	Choices
Country	The country; Arab countries are listed first.	A list of countries
Time zone	The time zone used for times shown and printed.	A list of zones, or the computer's time
Date format	The order in which dates are written.	DD/MM/YYYY, MM/DD/YYYY, YYYY-MM-DD, DD-MM-YYYY, DD.MM.YYYY, YYYY/MM/DD, YYYY.MM.DD
Time format	How the time is written.	12-hour, 24-hour
First day of the week	The first day in weekly views.	Saturday to Friday
Currency	The currency of the standard price list. No amount is converted.	A list of currencies

26.4.3 Front desk

Setting	What it changes	Choices
Default priority of an order	The priority a new order starts with.	Routine, Urgent, STAT
Print the collection instructions when an order is saved	On: the collection instructions open for printing by themselves after an order is saved. Off: they print only when you press their button.	On, Off

Setting	What it changes	Choices
Language of the patient's name	The language the name field types in when a patient is registered. Names already stored do not change.	The interface's language, Arabic, English, Arabic and English (a button switches), or an installed language
The patient's phone is required	On: a new patient needs a phone number, or «No phone» with a reason (a child, an elderly person, a referred sample, or another written reason). Turning it off asks for a written reason that the audit keeps.	On, Off
Show the test name in the screen's language in the order's list of tests	Off: each test shows its English name alone. On: its name in each user's screen language appears under it. A test is found by either name in both cases.	On, Off

26.4.4 Results and critical values

This section also opens from the gear on the Results screen.

Setting	What it changes	Choices
The haemoglobin taken as 100% (Hb%)	The haemoglobin value counted as 100%; use the value printed for your instrument.	A list from 13.8 to 16.0 g/dL
Mean normal prothrombin time (PT reagent)	The mean normal PT of your reagent, the geometric mean of at least 20 fresh samples of healthy people of both sexes over three working days; repeat for every lot.	Not stated, or 8.0 to 20.0 seconds in steps of 0.1
ISI of the PT reagent lot	The ISI printed on the thromboplastin lot; change it with the lot.	Not stated, or 0.80 to 3.00 in steps of 0.01
Mean normal aPTT (seconds)	The mean normal aPTT, from at least 20 fresh samples of healthy people; repeat for every lot.	Not stated, or 20.0 to 50.0 seconds in steps of 0.1
LDL equation	The equation that calculates LDL.	The equations the program offers
Iron-binding capacity measured	Whether the analyzer measures iron-binding capacity.	As offered
Upper limit of normal for AST (U/L)	The upper limit of your AST reference interval.	Not stated, or 20 to 80 U/L
Upper limit of normal for serum LDH (U/L)	The upper limit of your LDH reference interval.	Not stated, or 150 to 800 U/L

Setting	What it changes	Choices
Critical escalation interval	A critical value not reported within this time is escalated.	15, 30 or 60 minutes
Default notification channel	The channel a critical value is reported through by default.	Phone, WhatsApp, Email
Assign a critical value on notification	Assigns the critical value automatically when it is reported.	On, Off
Released by someone other than the one who entered it	On: only a second qualified person releases a result, as accreditation asks; every self-release is recorded. If a branch would be left with fewer than two people who may release, the confirmation names it first.	On, Off
The bulk approval includes high and low values that are not critical	Off: the plain-ones approval takes only fully normal tests. On: it takes high and low values too, recording who approved them. A critical value never goes into a bulk approval.	On, Off
Type a critical value twice	Asks for every critical value to be typed a second time before saving.	On, Off
The doctor may approve his own interpretation text	On: in a laboratory with one doctor, the writer or reviewer of an interpretation text may approve it. Off: a third person must.	On, Off
Susceptibility breakpoint standard	The standard printed under every susceptibility table; nothing is printed until you choose.	The standards offered

26.4.5 Money and shifts

Setting	What it changes	Choices
No collection without an open shift	On: a payment or refund is refused unless the person has an open shift in their branch, so every pound is in a counted drawer. Off: a shift is used by whoever opens one, and money is taken without one.	On, Off

26.4.6 System and connection

Setting	What it changes	Choices
Automatic refresh of the screens	How often the screens refresh themselves.	No refresh, 30 seconds, 60 seconds, 5 minutes

Setting	What it changes	Choices
Idle session timeout	How long an idle session lasts before it ends.	15, 30, 60 minutes, 4 hours, or **Never**
Check for updates online	The program asks the Clarus server every six hours for updates, sending the installation code, the computer's fingerprint, the licence, counts of the laboratory's work and its hours of operation. No patient's name or data is sent.	On, Off
I agree to send the laboratory's name and phone number to the supplier	Sends the laboratory's name and phone to the supplier. Nothing about patients, users or doctors is sent. Turning it off asks the supplier to delete what it holds.	On, Off

26.5 Request form: required items

A switch for each item the request form must carry; the switch is on when the item is required. The items are: **Patient identification**, **Patient sex and date of birth**, **Requesting clinician and contact**, **Tests requested**, **Specimen type and site**, **Date and time of collection**, **Clinical indication**, **Priority** and **Requester's authorisation**. It also opens from the New order gear.

26.6 Payment bar

Setting	What it changes	Choices
The amount starts at	What the order screen's amount starts at.	**Empty**, **The full due**, **The least**
Manual discount ceiling at the order	The ceiling on a manual discount at the order.	**The role's limit only**, **A percent of the bill**, **An amount**; then **Ceiling**
The receipt's fixed words	The receipt's fixed words.	Free text

26.7 Report PDF export

Setting	What it changes
Write every released report as a PDF to a folder on this computer	Turns the export on. Only reports released after it is turned on are written; an amended report is a new file and the earlier file is never deleted. Off: no new files are written and the old ones stay.

Setting	What it changes
Folder	Where the files go. Empty means the default folder inside the program's data folder; use **Default folder** to return to it. Each report goes in a folder for its year and month.
Folder status, **Last file**	Read-only: the state of the folder, the last file written, how many reports were written, and how many failed three times and wait for review.

26.8 Tables the laboratory keeps

Section	What it holds	Columns and choices
Numbering	The counters for invoice, order, patient file and sample barcode.	**Counter**, **Next number**, **Starts again** (never, every day, every month, every year), **Modes**
Patient titles	Mr, Mrs and the like. Also opens from the Patients gear.	**Title**, **Used for**, **Age**, **State**, **Patients**
Expense heads	The heads the expenses are booked under. A head is stopped, never deleted.	**Head**, **State**; window fields **Name in Arabic**, **Name in English**, **Order**, **Active**
STAT tests	The tests accepted as STAT, each with its reporting time. With none listed, a STAT order is measured against the test's usual time, capped at an hour.	**Test code**, **Test**, **Reporting time (minutes)**
Order of the printed report	The order of families inside a department and of tests inside a family.	See below
Verifying the calculations	Every equation with its source and version, and fixed examples worked beside their expected values. Sign it at installation and after an update that changes an equation.	**Equation**, **Version**, **Example**, **Expected**, **Calculated**, **Result**; button **Sign as verified**
Sample storage places	The fridges and shelves, with temperature limits and retention.	**Place**, **Shelves (one per line)**, **Temperature limits (°C)**, **Kept for (days)**
Patient documents: types	The kinds of document a patient's file keeps. A type with documents is turned off, not deleted; a type the program ships is never deleted.	**Name**, **Documents**, **In use**
Laboratory languages	The languages installed beyond English.	**Language**, **Version**, **In use for**

Section	What it holds	Columns and choices
Operating health	Facts about the installation, read-only: **Last backup** (on time or overdue, and whether a restore was rehearsed), **Licence** (its state and days left), and **Sealed secrets** (whether everything this copy sealed opens with its key; if not, the places that hold unreadable items are listed).	None

26.8.1 The calculation check

If the check shows «An example does not give its expected value», do not sign: contact support. If an equation has changed since the last signature, the section says so and asks you to sign again. When the prothrombin concentration is read from a curve (**Prothrombin concentration curve**), enter its points as **PT (seconds)** against **Concentration (%)**, press **Add a point**, then **Save the curve**; enter it again with each new reagent lot. Without a curve, the concentration is typed with each PT.

26.8.2 The order of the printed report

A panel or a package always prints on a page of its own, and a single test always stays with its family. You order the families inside a department and the tests inside a family; the order screen follows the same order. Choose the **Department**, move a family or a test up or down with its arrows, and press **Save the order**. **Back to the program's order** returns to the program's order.

26.9 Tasks step by step

26.9.1 Task 1 — Set a numbering format

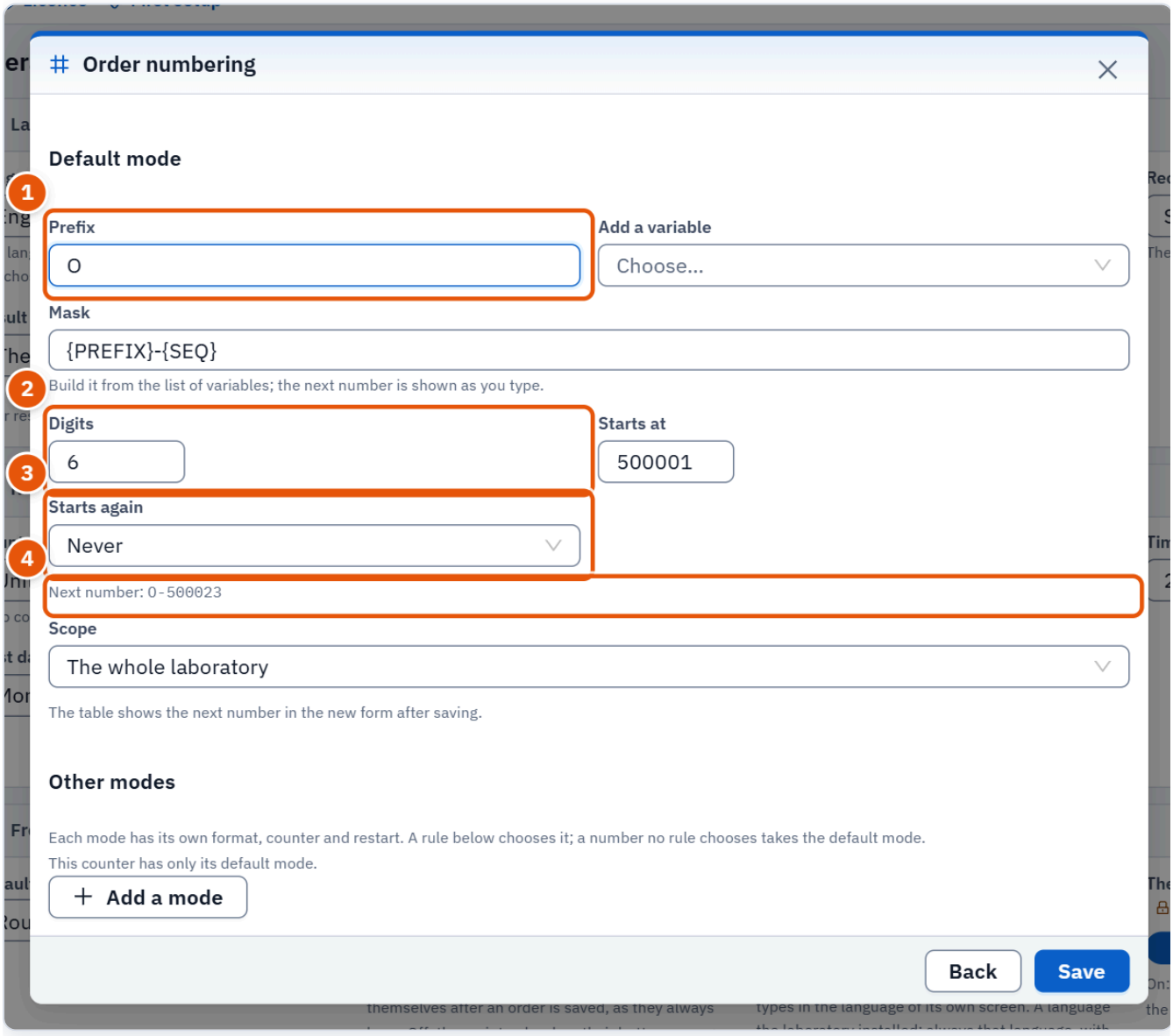


Figure 26-2: The numbering window: 1 the prefix and mask, 2 the digits and start, 3 the restart, 4 the preview of the next number.

1. In **Numbering**, press **Edit** on the counter's row. The window **... numbering** opens.
2. Write the **Prefix**.
3. Build the **Mask** from the variables: choose one in **Add a variable**. Examples of variables: the year in two or four digits, the month, the day, the branch code, the counter. The line **Next number:** shows the next number as you type.
4. Set **Digits**, **Starts at** and **Starts again**.
5. Choose the **Scope**: **Each branch on its own** or **The whole laboratory**.

6. For the invoice counter only, optionally choose **A series of its own for each** one of the fields, or keep **One series for all**. The other counters do not offer it.
7. Save. The table shows the next number in the new form. While you type, if the barcode of the number is too wide for the label, a red note appears under the preview; shorten the format. A counter whose Edit button is dimmed is locked and cannot be changed.

For numbers that must be written differently in some cases, the same window offers **Other modes**. Each mode has its own format, counter and restart. **Add a mode**, give it a **Mode name**, and under **Rules** add rules: when a field is one of some values, use the mode. The first rule a number answers chooses its mode; a number no rule chooses takes the default mode. Move rules with **Up** and **Down**, then **Save the rules**. A mode is never deleted: switched off, it keeps its counter. The codes the variables write for a referrer or a contract party are set in **Numbering codes**: one to eight capital letters or digits for each choice.

26.9.2 Task 2 — Add a patient title

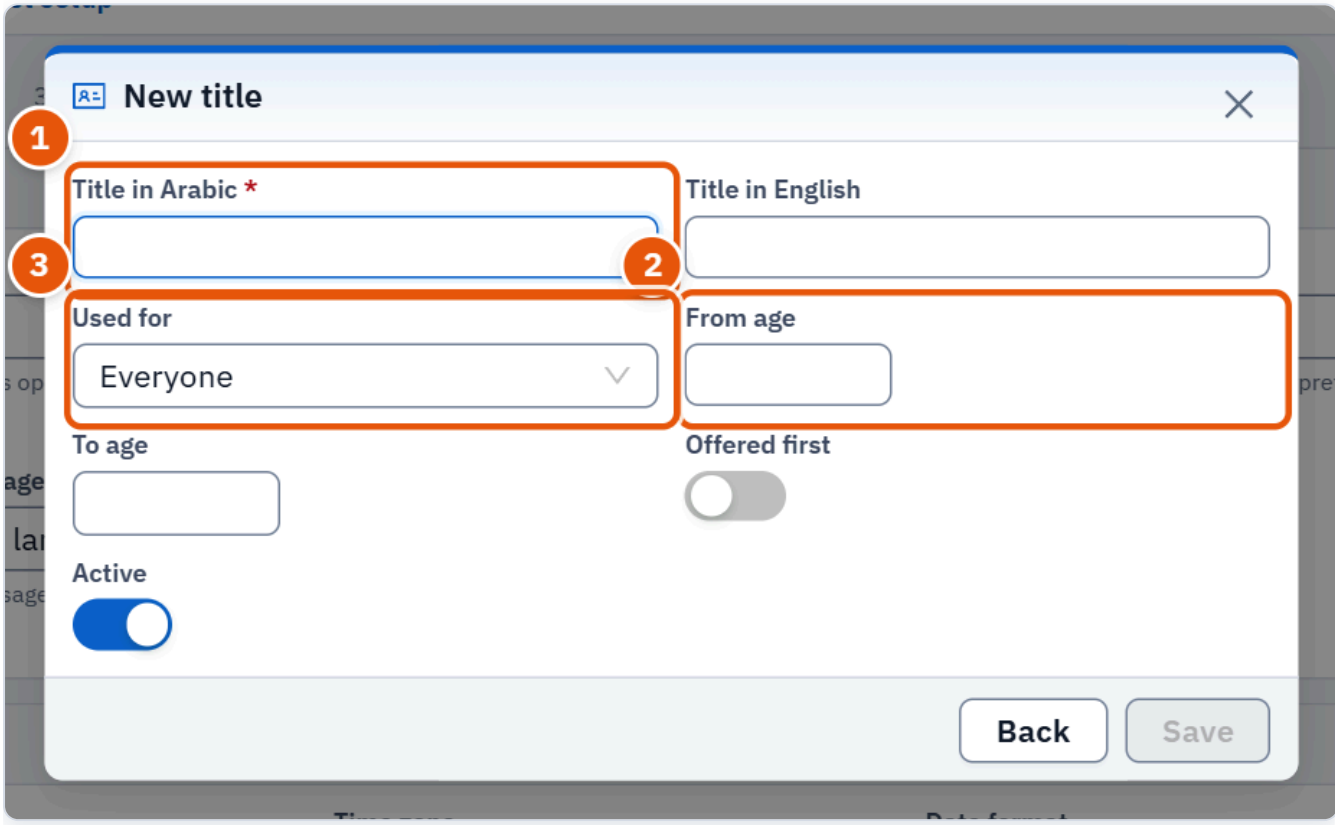


Figure 26-3: The new title window: 1 the Arabic and English titles, 2 the ages, 3 the people it is used for.

1. In **Patient titles** press **Add a title**.
2. Write **Title in Arabic** (required; Save stays dimmed until it is filled) and **Title in English**.
3. Choose who it is **Used for**: Everyone, Females or Males.
4. Optionally set **From age** and **To age**; empty means every age.
5. Keep **Active** on and save. The table shows the age band and, with the first-offered mark, which title is suggested first.

The Remove button appears only when you open an existing title. A title worn by patients is switched off, not deleted, when you remove it.

26.9.3 Task 3 — Add a payment method

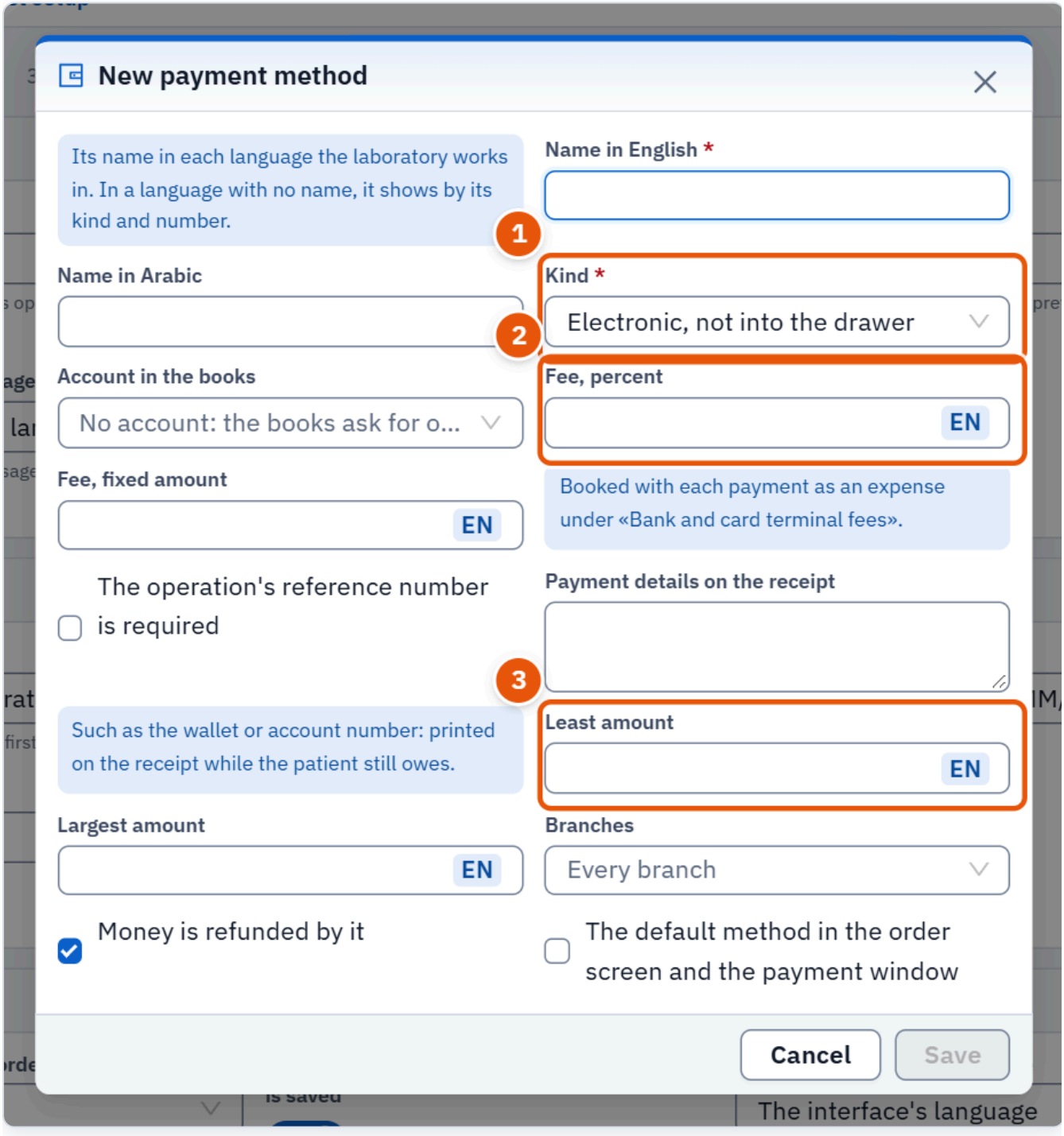


Figure 26-4: The payment method window: 1 the name and kind, 2 the fee and the books' account, 3 the amount limits and the branches.

1. In **Payment methods taken** press **Add a payment method**.
2. Write the **Name** in each language shown (at least one; Save stays dimmed until a name is written).

3. Choose the **Kind**: cash into the drawer, electronic not into the drawer, or insurance and deferred. The kind of a method the program ships, or one already used in a payment, does not change.
4. For a non-cash method set the **Account in the books** in the books (without one, the books ask for it before posting), and the fee as **Fee, percent** or **Fee, fixed amount**; the fee is booked with each payment as an expense.
5. Tick **The operation's reference number is required** if the cashier must type the operation's reference. Write **Payment details on the receipt**, such as a wallet number, to print on the receipt while the patient still owes.
6. Optionally set **Least amount** and **Largest amount**, the **Branches**, and **Money is refunded by it**.
7. Tick **The default method in the order screen and the payment window** if it should be preselected, then **Save**.

Use **Move up** and **Move down** to order the methods, and the **Taken** switch to stop taking one. A method used in a payment cannot be deleted, only turned off. Some methods show «Always taken».

26.9.4 Task 4 — Add a sample storage place

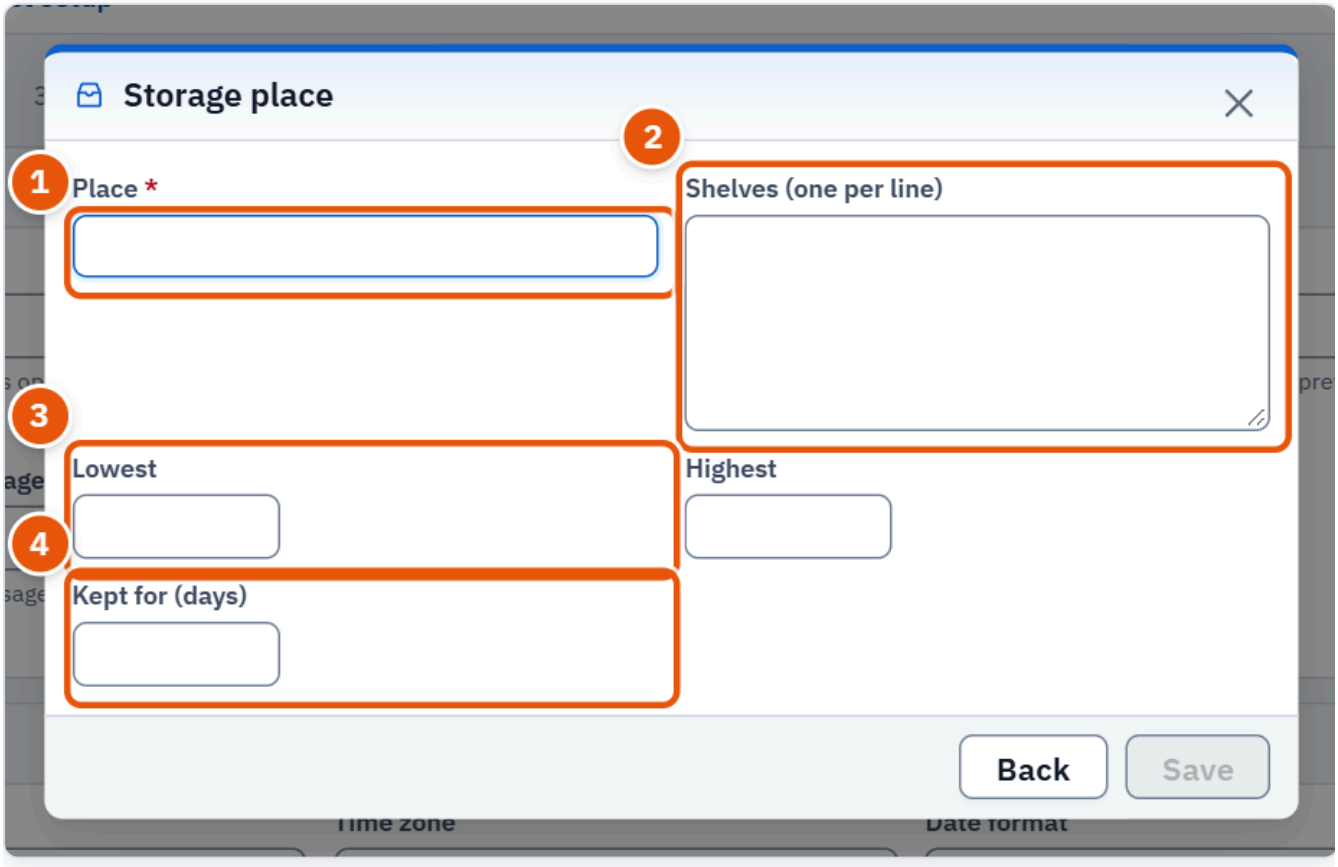


Figure 26-5: The storage place window: 1 the name, 2 the shelves, 3 the temperature limits, 4 the retention days.

1. In **Sample storage places** press **Add a place**.
2. Write the **Place** name.

3. Write the **Shelves (one per line)**, one per line.
4. Fill the temperature limits: **Lowest** and **Highest**.
5. Fill **Kept for (days)** (1 to 3650 days), then **Save**. The name is required; Save stays dimmed without it.

The place is saved at once by its own Save, not by the page's Save. **Remove the place** on a row deletes the place immediately, without asking for confirmation.

26.9.5 Task 5 — List a STAT test

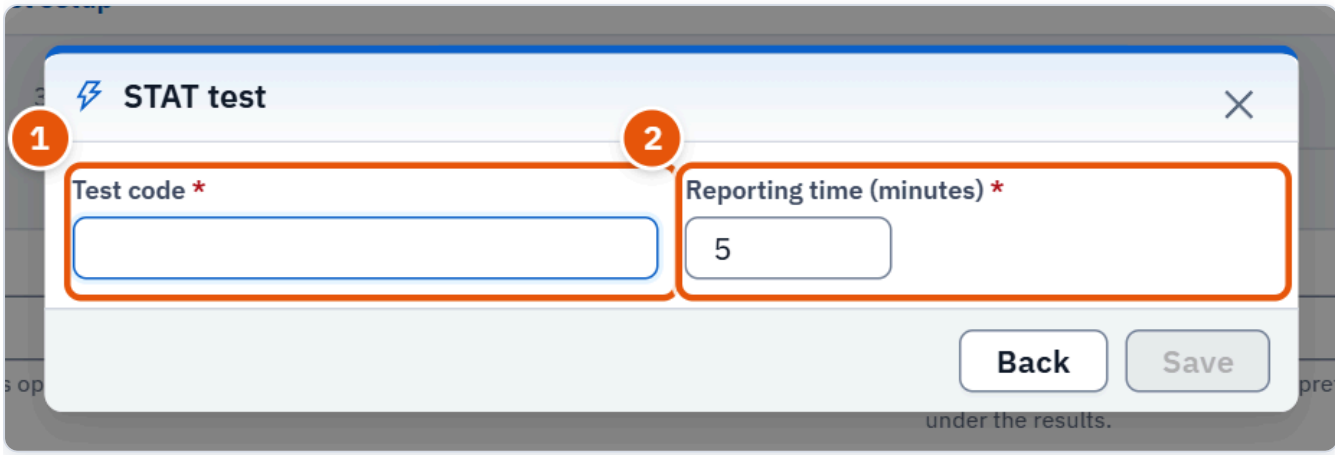


Figure 26-6: The STAT test window: 1 the test code, 2 the reporting time.

1. In **STAT tests** press **Add a test**.
2. Type the **Test code**; if it is not in the catalogue the row says so.
3. Type the **Reporting time (minutes)**, counted from the sample's reception; the window accepts only values between the lowest and highest the server allows.
4. Press **Save** (dimmed until a code is typed). The list is saved at once. A STAT order for this test is now measured against that time. **Remove from the list** on a row takes it off immediately, without confirmation.

26.9.6 Task 6 — Install a language

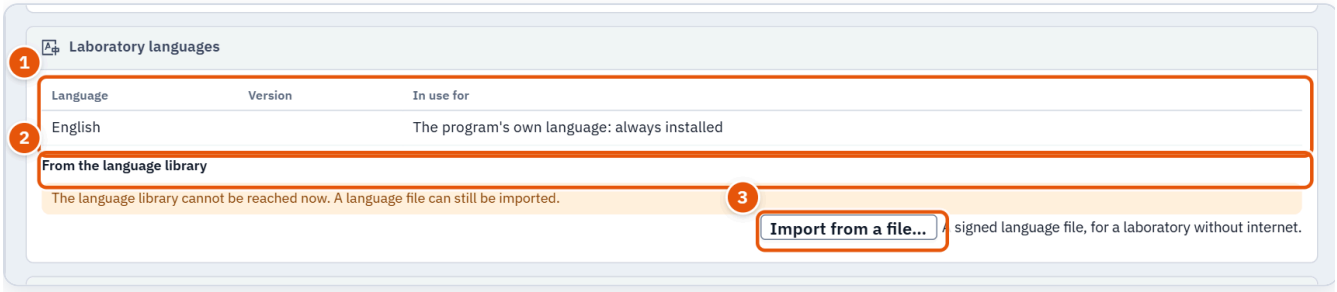


Figure 26-7: The language library: 1 the installed languages, 2 the library, 3 the file import.

1. Open **Laboratory languages**. The table lists the installed languages; English is always installed.

2. Under **From the language library** find the language and press **Install** (or **Update to version …** for a newer version). A language marked as needing a newer program version cannot be installed until the program is updated.
3. A window shows the language, its version, how many texts changed, were added or removed, and notes (texts that will show in English, experimental). Press **Apply**. A first installation offers the language to everyone.
4. Without internet, press **Import from a file** and choose a signed language file.
5. To remove a language press **Remove** and confirm: anyone working in it returns to English and nothing is deleted. A language used for the laboratory, the report, its notes, the receipt or the result message cannot be removed until you choose another there first.

26.9.7 Task 7 — Add an expense head or a document type

1. In **Expense heads** press **Add a head**; fill **Name in Arabic**, **Name in English** and **Order**; one name is enough (the one in the language you work in is the required one); save with the window's **Save**, which keeps it at once. To stop a head, switch **Active** off.
2. In **Patient documents: types** type the name in **A new type's name** and press **Add a type**.

26.10 Messages and what to do

The screen says	Meaning	What to do
The settings could not be loaded.	The server did not answer.	Press the retry button.
The settings could not be saved. Try again.	The save failed.	Try again; if it repeats, check the connection.
Settings saved.	All pending changes were kept.	Nothing.
An example does not give its expected value. Do not sign; contact support.	A calculation check failed.	Do not sign; contact support.
This number's barcode does not fit the label: shorten the format.	The numbering format is too long to print as a barcode.	Shorten the mask or the digits.
The title was switched off, not deleted.	Patients wear the title.	Nothing; it stays for them.
In these branches fewer than two people may release a result…	Turning on separate release would block those branches.	Give a second person the right first.
The language library cannot be reached now.	No internet.	Import a language file.

26.11 See also

- **Laboratory identity** for the laboratory's name, contacts, logo and colours.
- **Results** and **Orders** for the screens these settings act on.

Chapter 27

Branches and linking

Menu: **Branches and linking**. Address: `/setup/branches`.

27.1 What this screen is for

This is where the laboratory's branches are kept: each branch's code, name, type and contact details, who may sign in to it, and whether it is working or stopped. When a branch runs on another installation, the same screen shows how it is linked to this one and lets you exchange work with it.

The screen has up to three pages, shown as tabs when more than one is available: **Branches**, **Branch devices** (the computers that joined this branch's server) and **Samples sent** (tests one branch sent another to analyse). With only one page available, there are no tabs.

> **Note**
>
> Linking is now automatic, by the licence number, and the older linking doors are closed: this screen no longer creates an invitation for a new branch or a device key. The chapter Chapter 28: Linking branches and computers explains the procedure. This chapter describes what remains on the screen.

27.2 Who sees it

You can...	...if your role holds
Open the screen and read the branches	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**
Add a branch, edit it, set who reaches it, stop or start it	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**
Open the laboratory's network to the devices, and give a certificate authority	**Manage settings**
See the **Branch devices** page and allow a new computer's licence number	**Manage settings**
See the invitation box, the exchange line and the link controls of a branch on another installation	**Manage branches and linking**
See the **Samples sent** page	**Read orders**
Accept, return or cancel a sent sample	**Create orders**

The invitation box, the exchange line and the link controls appear only to someone who holds **Manage branches and linking**. If these parts are missing, ask the person who manages roles. The laboratory's network line needs **Manage settings** instead.

27.3 The screen in a glance

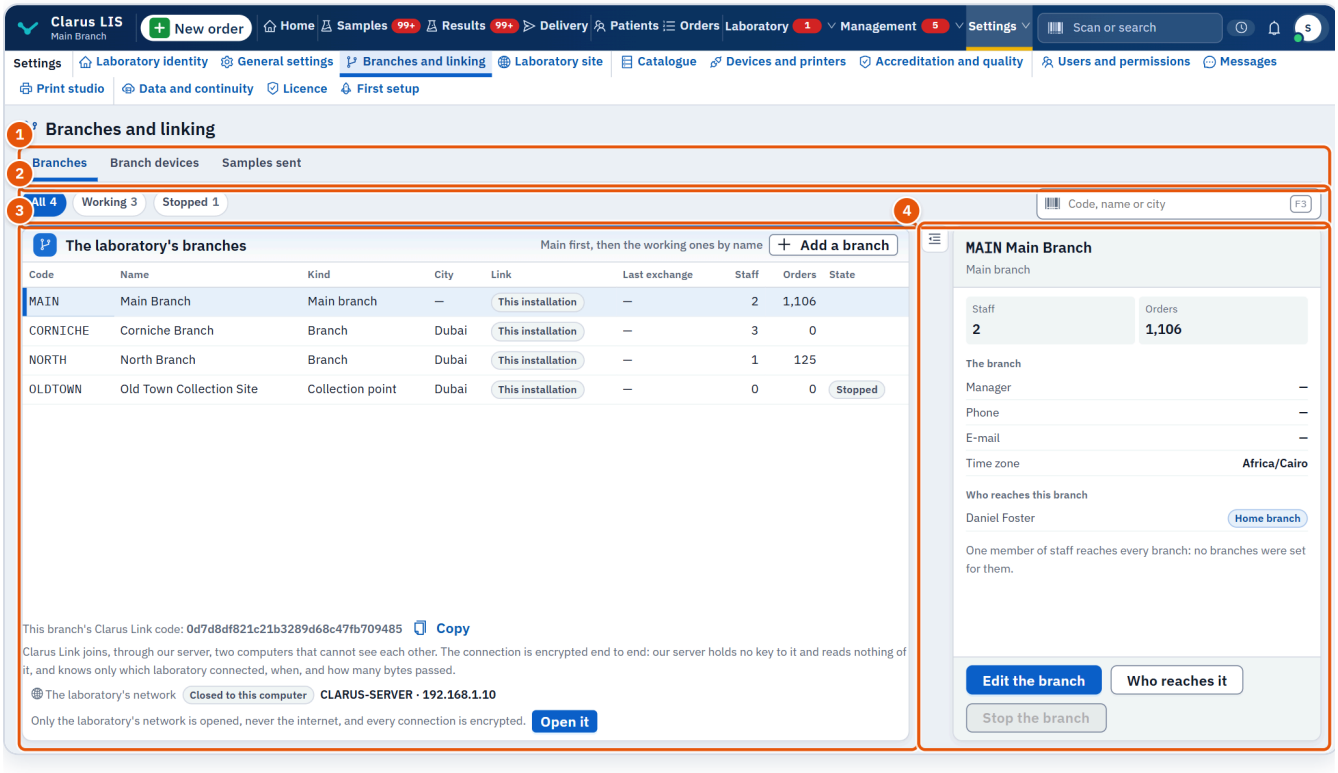


Figure 27-1: The branches page: 1 the tabs, 2 the filters and the search box, 3 the list of branches, 4 the details of the chosen branch.

1. **The tabs**: the pages available to you.
2. **The filters and search**: **All**, **Working** and **Stopped**, each with its count, and a box to search by code, name or city.
3. **The list**: **The laboratory's branches**, one row per branch.
4. **The details**: the branch you chose, with the buttons to act on it.

Beside the title, when other branches are linked, small tags say how many are linked (**... branches linked**), how many are late to exchange and how many links are failing. They appear only when the program measured something to report.

27.4 The branches page

27.4.1 The list

Column	What it shows
Code	The branch code.
Name	The branch name.
Kind	**Main branch**, **Branch**, **Centre** or **Collection point**.
City	The city.
Link	Whether the branch is on this installation or linked from another one.
Last exchange	How long ago the link last exchanged work; shown in orange when it is late. A dash means this branch has no link to report.
Staff	How many staff may sign in to it.
Orders	How many orders it holds.
State	A mark for the primary branch, and **Stopped** when the branch is stopped.

The button **Add a branch** sits above the list. It is dim, with the note **The current licence allows no more branches.**, when the licence allows no more branches.

27.4.2 The details of the chosen branch

Element	What it does
Edit the branch	Opens the branch's form.
Who reaches it	Opens the list of people who may sign in to this branch.
Stop the branch / **Start the branch**	Stops the branch after a confirmation, or starts it again. The primary branch cannot be stopped.
Staff, **Orders**	The two counts.
The branch	**Manager**, **Phone**, **E-mail**, **Address** (when filled) and **Time zone**.
Who reaches this branch	The people who reach this branch; a tag marks those whose home branch it is (**Home branch**).
The link	For a branch on another installation: the link's state, route, number in the chain and last exchange, with the link controls described below.

The three buttons appear only to whoever holds **Manage the laboratory's structure: branches, numbering, first run, external laboratories**. If some staff have no branch set, the page notes that they reach every branch.

27.4.3 The branch form

Field	What it holds
Branch name	Required.
Branch code	The branch code.
Branch type	The kind of branch.
Time zone	The branch's time zone; one choice is **The computer's time**.
Branch manager, **Phone**, **WhatsApp**, **Email**	Contact details.
City, **Country**, **Address**	Where the branch is.
The laboratory's primary branch	Marks the primary branch.

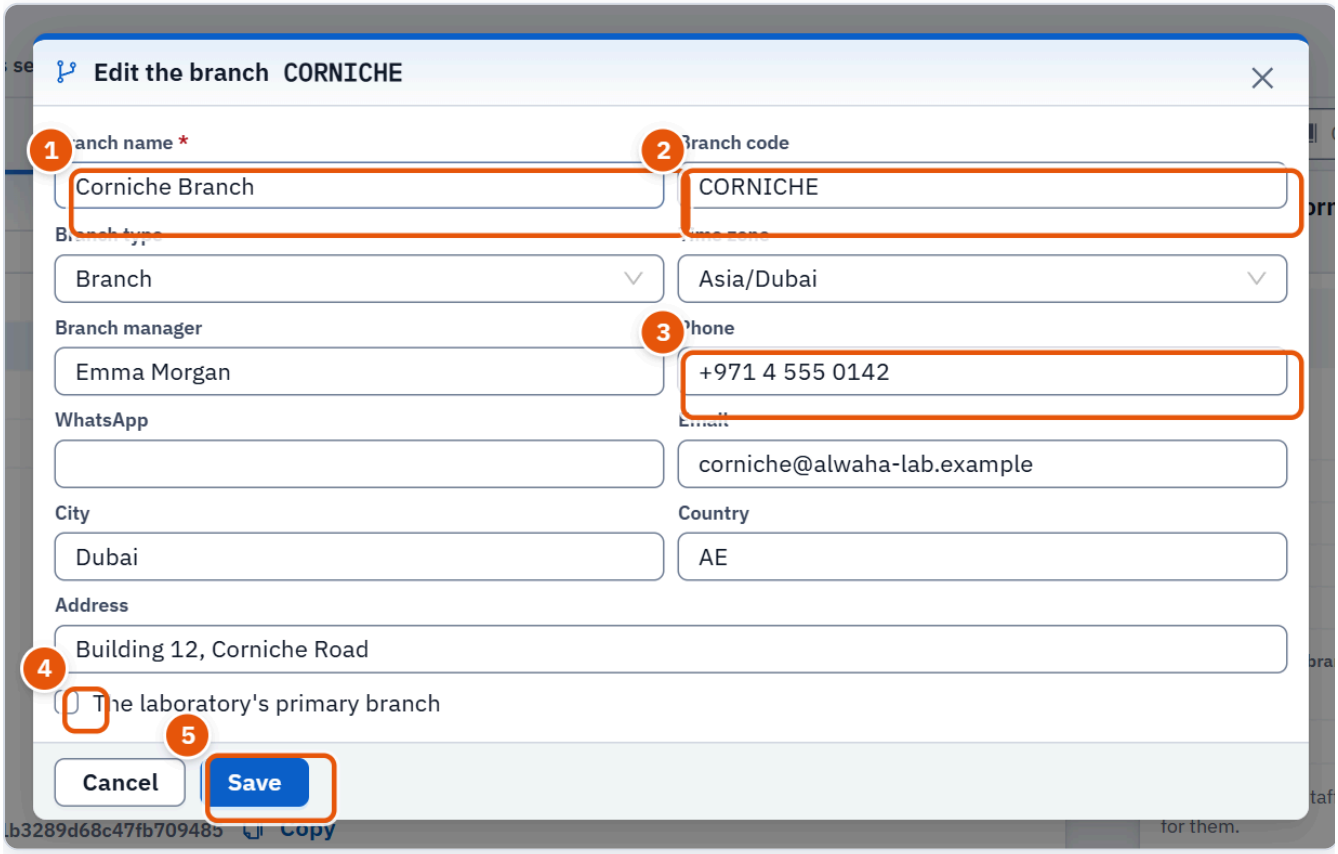


Figure 27-2: The branch form: 1 the name, 2 the code and type, 3 the contact details, 4 the primary-branch box, 5 Save.

27.4.4 The access window

Who reaches «...» lists every user with a box. A ticked user signs in and works at this branch, on all its devices, until you change it. An administrator reaches every branch anyway.

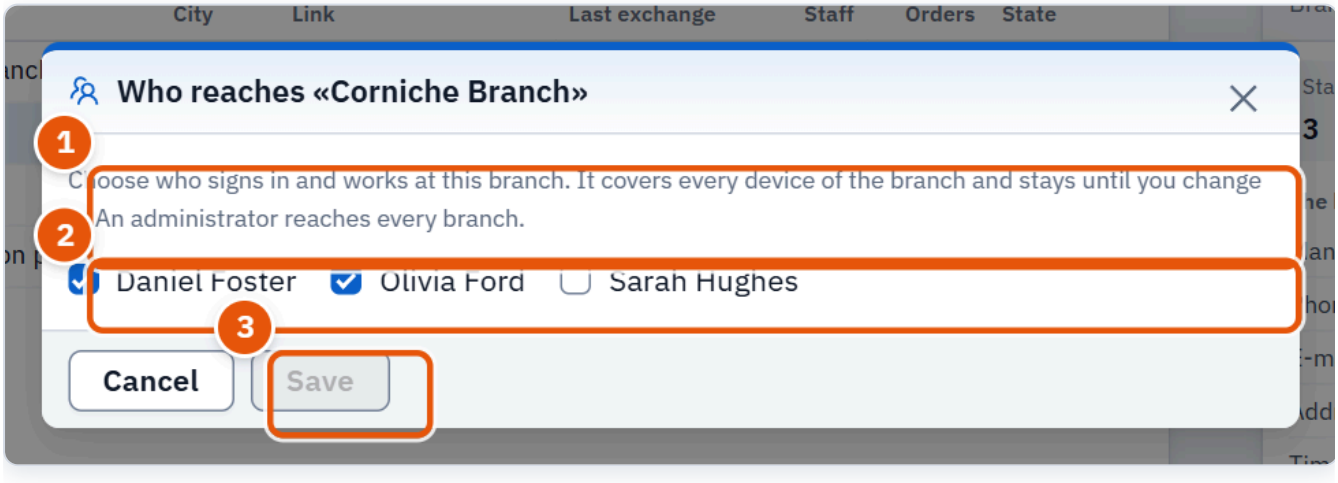


Figure 27-3: The access window: 1 the explanation, 2 the users' boxes, 3 Save.

27.5 The branch devices page

This page appears only when the server answers it. Its tab shows how many devices have joined.

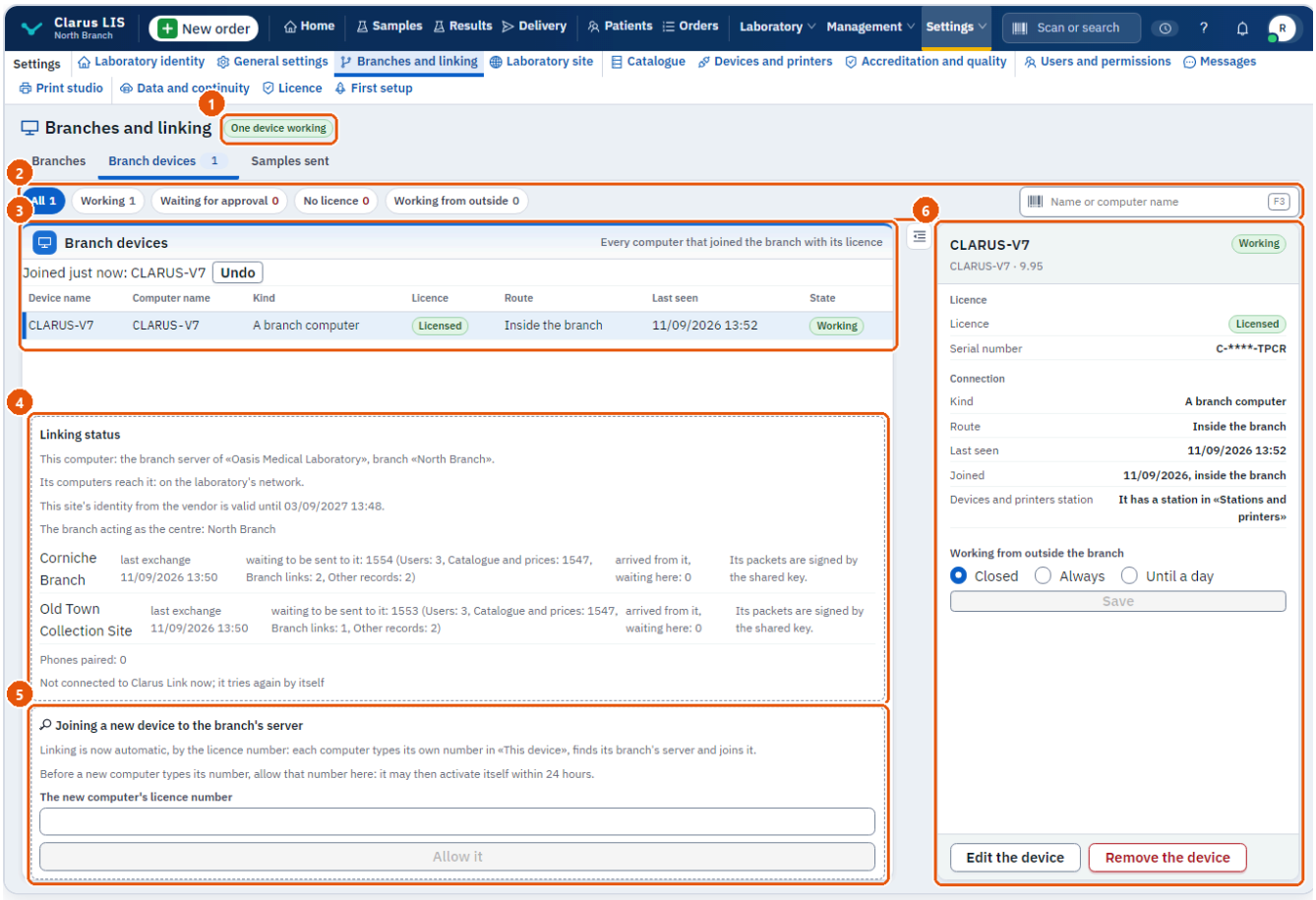


Figure 27-4: The branch devices page: 1 the counts, 2 the filters and search, 3 the list of devices, 4 the linking status, 5 how a new computer joins, 6 the chosen device.

27.5.1 The list

Element	What it does
Counts at the top	Devices working, waiting for approval and without a licence (the last two shown only when not zero).
Device state	**All**, **Working**, **Waiting for approval**, **No licence**, **Working from outside**.
Name or computer name	Searches by device name or computer name.
Columns	**Device name**, **Computer name**, **Kind**, **Licence**, **Route**, **Last seen**, **State**.
Joined just now:	A device that joined from inside the branch a moment ago, with **Undo** while it may be taken back.

27.5.2 The chosen device

Element	What it does
Approval	Shown while the device is **Waiting for approval**; approves its joining.

Element	What it does
Edit the device	Opens a window to change its name, its kind (**A branch computer** or **A personal device**) and **Another address it is reached at**.
Remove the device	Removes it after a confirmation. Its sessions end at once, and it does not work until it joins again with its licence number.
Licence	The licence state, the serial number (masked) and **Expires on**. A working device without a licence gets a warning to enter its serial number on its own «This device» screen.
Connection	Kind, route, another address, last seen, when and how it joined, and whether it has a station.
Working from outside the branch	For a working device: **Closed**, **Always** or **Until** a chosen day, then **Save**. A note repeats the condition for working from outside.
Trusted device: its signature is the second factor	A box offered only for a working device of the laboratory kind (**A branch computer**) that is allowed to work from outside right now (always, or until a day not yet past); never for a personal device.

27.5.3 Linking status, failed joins and joining a new device

Under the list, the page shows:

- **Linking status**: this computer's place in the chain, the road its computers reach it by, whether the vendor's identity for this site is valid, the branches it exchanges with (last exchange, what waits to be sent and to be applied, and whether the other site's clock agrees), and the phones paired. The program says in words what to do when a clock is off by two minutes or more.
- **Joins that failed (seven days)** (the last seven days): each failed join with its cause, what to do, the address it came from, the road and when. The program tells seven causes apart: too many attempts from one address (wait ten minutes); the computer does not hold this branch's number; the join was not signed with this branch's secret; the number is for another branch; the computer did not prove it holds its key; the computer had already joined (remove it here first to join it afresh); and any other failure.
- **Joining a new device to the branch's server**: joining is automatic by licence number. Each computer types its own number in «This device», finds its branch's server and joins. When the server is not yet open to the laboratory's computers, or Windows lacks the rule that lets them find it, the button **Open the server to the laboratory's computers** appears and opens it after a confirmation. To let a new computer activate itself, someone who holds the settings right types its number in **The new computer's licence number** and presses **Allow it**; the number may then activate itself within 24 hours.

27.6 The samples sent page

This page lists the tests this branch sent another branch to analyse, and those sent to it, at the transfer price fixed when each was sent.

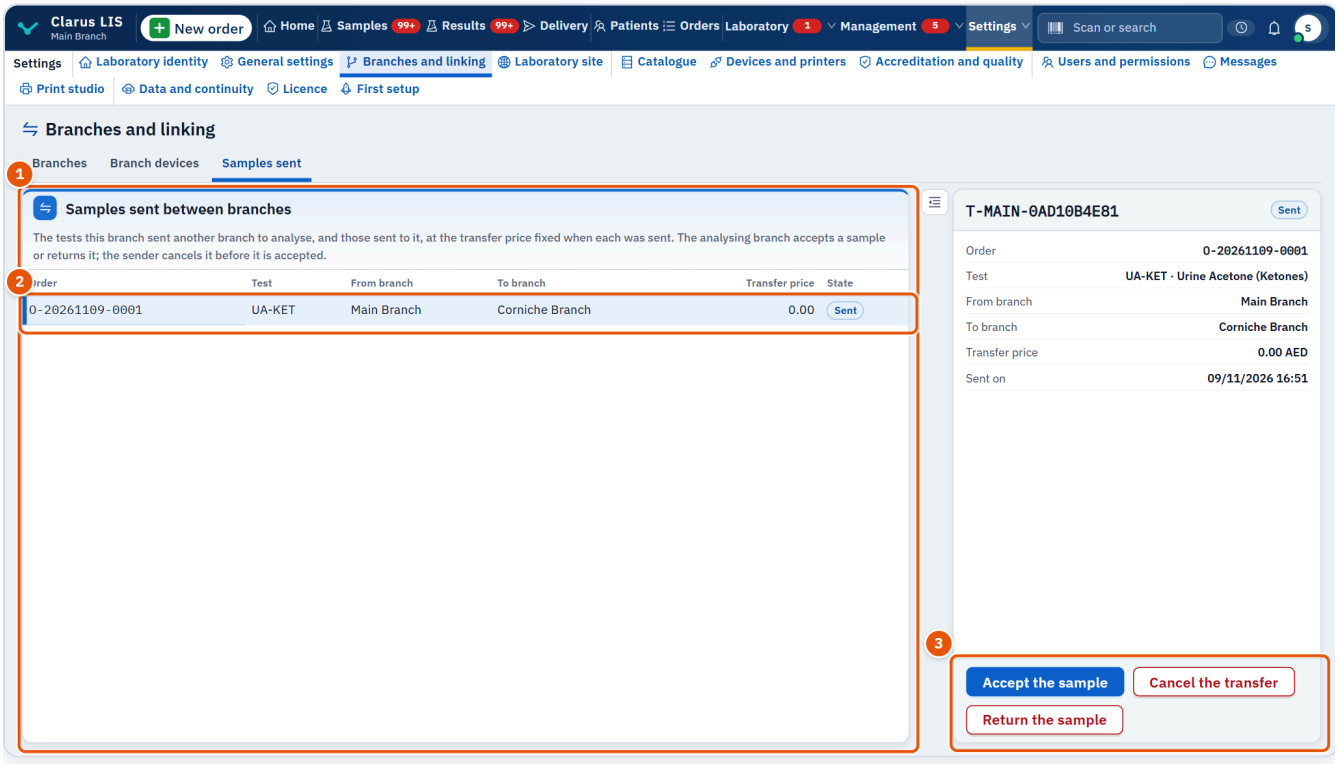


Figure 27-5: The samples sent page: 1 the list, 2 the chosen transfer, 3 the decision buttons.

Element	What it does
Columns	**Order**, **Test**, **From branch**, **To branch**, **Transfer price**, **State** (**Sent**, **Accepted**, **Returned**, **Cancelled**).
Accept the sample	The analysing branch accepts the sample; its transfer price is recorded as that branch's internal revenue.
Return the sample	The analysing branch returns the sample to the sender.
Cancel the transfer	The sender cancels before acceptance; the test comes back to the sender.

The buttons appear only for whoever holds **Create orders**, and only the ones the transfer's state allows. Each asks for a confirmation first: accepting says the transfer price is recorded as this branch's internal revenue; returning asks whether to return the sample to the branch that sent it; cancelling says the test comes back to this branch. Sending a test is not done here; it is done from the test itself, in the patient's file.

27.7 The linking tools under the list

These parts appear below the branches list, each to whoever holds the matching right.

27.7.1 The invitation box

Invite a branch to the chain appears only while an invitation made earlier is still open or waiting, and never otherwise; a new invitation cannot be made from it (see Chapter 28: Linking branches and computers). Each line shows the branch and a state tag: **Open** or **Waits for your approval**. For a branch waiting, **Approve** confirms its joining, after which it receives the chain's history. For an open invitation, **Withdraw the invitation** makes its key stop working.

27.7.2 The exchange line

Element	What it does
Exchange now	Exchanges with the linked branches now; through Clarus Link it can take a while. The result is said under the button.
Import a file	Takes in a file saved from another branch. A file that is not from a branch of this laboratory is refused.
This branch's Clarus Link code:	This branch's Clarus Link code, with **Copy**. Clarus Link joins two computers that cannot see each other through our server; the connection is encrypted between the two ends and our server reads nothing of it.
Service line	Says whether Clarus Link is provided, enabled or in trial, and until when. If Clarus Link refuses the connection, a warning gives the reason.

27.7.3 The link of a branch on another installation

Choose such a branch to see **The link**: **State** (**Linked**, **Paused**, **Link ended** or **Waiting for the key**), **Route**, **Its number in the chain** and **Last exchange**.

Button	When it appears and what it does
Save a file for the branch	While linked: saves a file of what waits, to carry to the other branch.
Pause the link / **Resume the link**	Pause shows while the link is not paused or ended; Resume shows when it is paused or ended.
End the link	Shown until the link is ended. After a confirmation, ends the link; nothing travels between the two until they are linked again.

27.7.4 The laboratory's network

The laboratory's network appears to whoever holds the settings right. It shows whether the program is open to the laboratory's devices. Opening and closing are done on the server computer itself; on another computer the line only tells you to open the page there.

State	What you see
Closed	The address to use (a choice, if the computer has several), a note that only the laboratory's network is opened and every connection is encrypted, and **Open it**. Without a network connection you are told to connect by cable or Wi-Fi and press **Check now**.
Waiting for Windows	A window appears on the server computer; choose Yes. The state is read again by itself, or press **Check now**.
Applied	A button to start the program again; the page then moves to its new address by itself.
Open	The address the devices type (by name, or by number), a link **Download the laboratory's certificate** to install once on each device, and **Close it** after a confirmation that says only this computer will reach the program afterwards. If Windows classes the network as public, **Make this network private** is offered; if the certificate names an old address, **Renew the certificate** is offered.

27.7.5 The IT authority

When the server serves a certificate, or one is already chosen, a line appears about the certificate authority the laboratory's IT gave the server. **Choose the authority's certificate** takes a certificate file (.crt, .pem or .cer), never its key; the program uses it only if that authority issued the certificate the server serves, and otherwise says so and gives the program's own authority. **Stop using it** stops giving it to the devices and the other branches, after a confirmation.

27.8 Tasks step by step

27.8.1 Task 1: Add a branch

1. Press **Add a branch**.
2. Type **Branch name** and fill the other fields you need.
3. Press **Save**. The message **The branch was added.** appears.

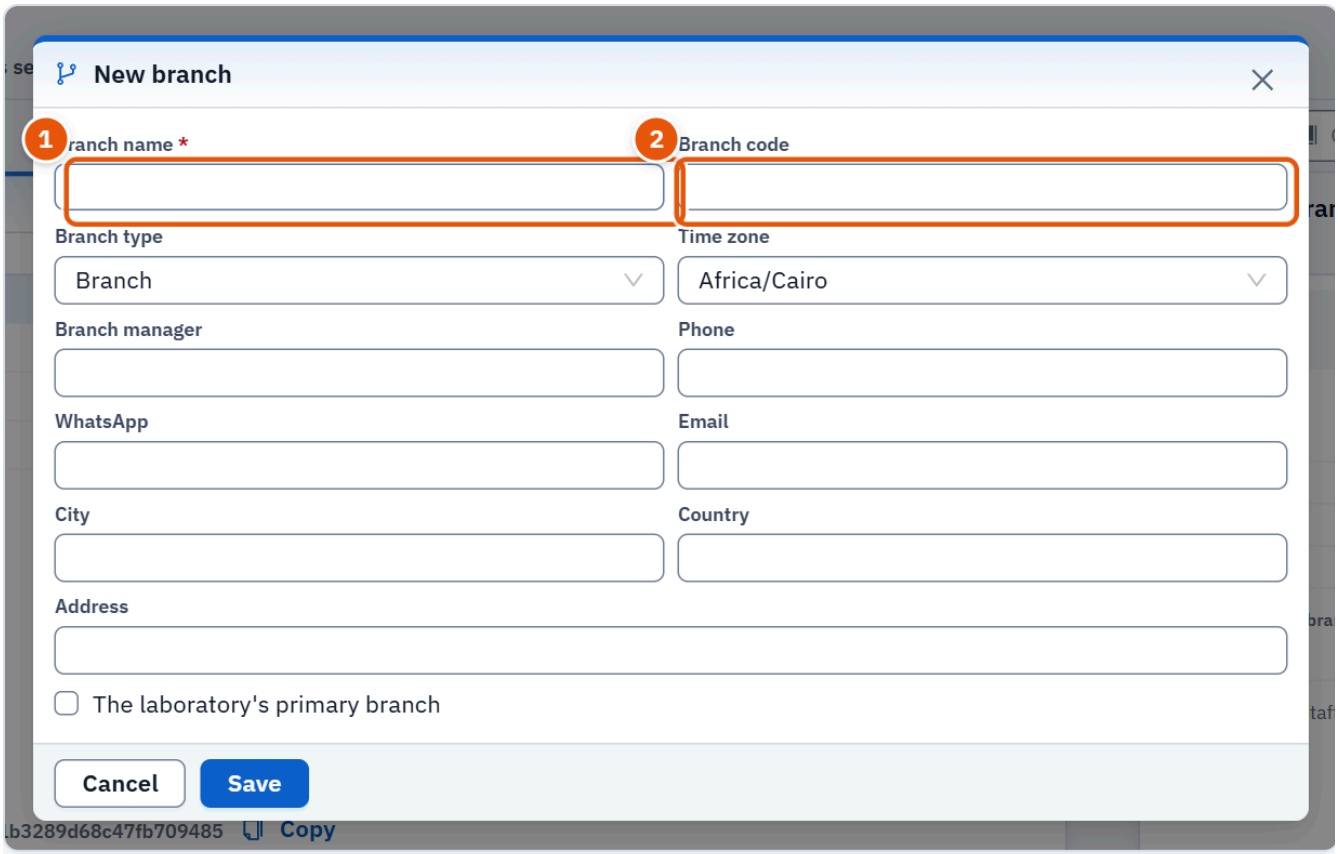


Figure 27-6: The branch form for a new branch.

27.8.2 Task 2: Decide who reaches a branch

1. Choose the branch in the list.
2. Press **Who reaches it**.
3. Tick the users who may sign in and work there, and untick the others.
4. Press **Save**. The page says how many users' access changed.

27.8.3 Task 3: Stop a branch and start it again

1. Choose the branch and press **Stop the branch**, then confirm. While it is stopped nobody signs in to it and no orders are recorded there.
2. To bring it back, choose it and press **Start the branch**.

27.8.4 Task 4: Approve a device that wants to join

1. Open the **Branch devices** tab.
2. Choose the **Waiting for approval** filter and choose the device.
3. Check its name and computer name, then press **Approval**.
4. If the device has no licence, ask its user to enter the serial number on «This device», or allow the number first as described above.

27.8.5 Task 5: Let a device work from outside the branch

1. Choose a working device in the **Branch devices** tab.
2. Under **Working from outside the branch**, choose **Always**, or **Until** and pick the day.
3. Press **Save**. The device must have a PIN or password and BitLocker, as the note says.

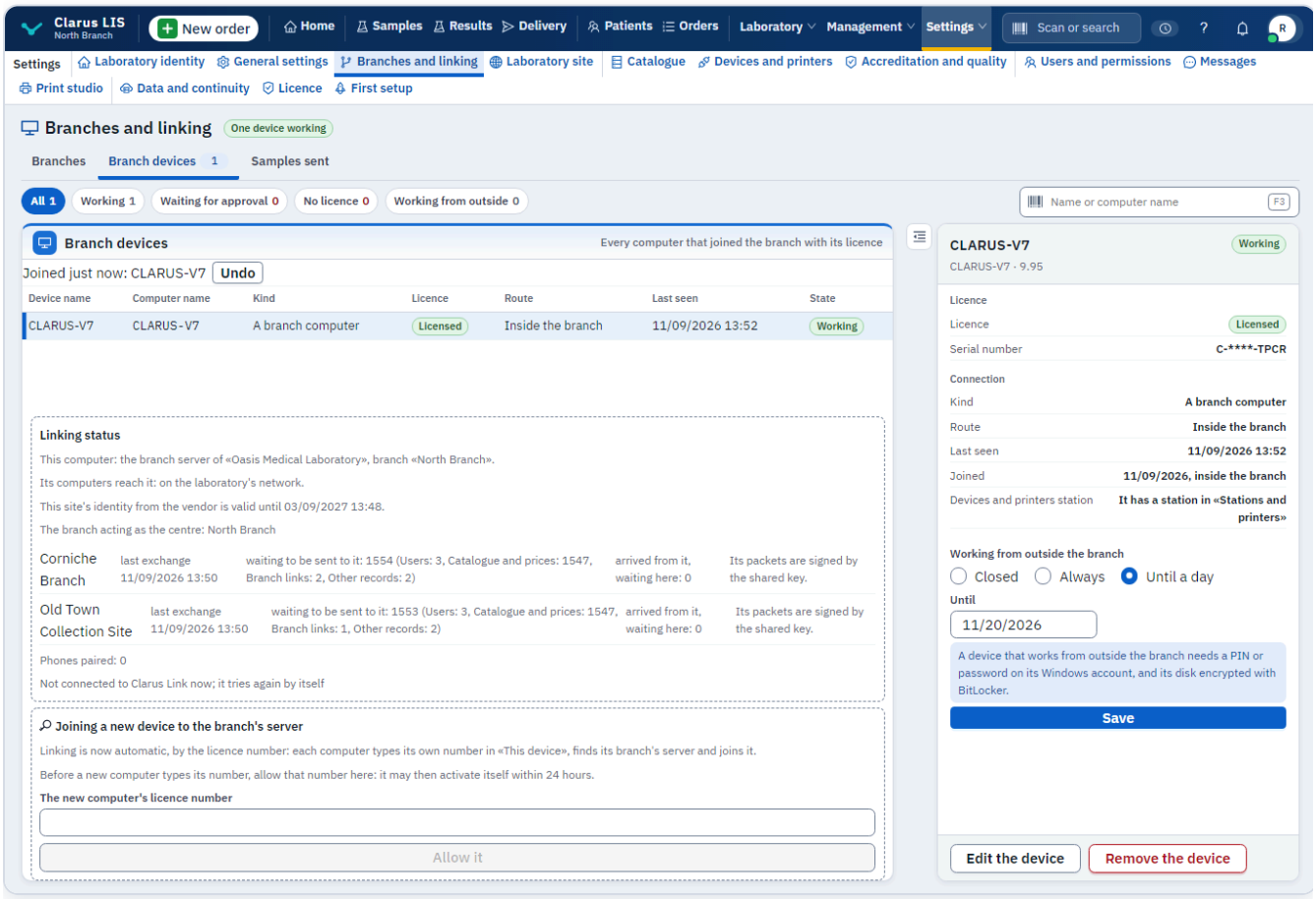


Figure 27-7: The outside-work choice on a device.

27.8.6 Task 6: Accept or return a sent sample

1. Open the **Samples sent** tab and choose the transfer.
2. Press **Accept the sample** or **Return the sample** and confirm.

27.8.7 Task 7: Approve or withdraw an invitation

1. In the invitation box, find the branch.
2. For one that **Waits for your approval**, press **Approve** and confirm.
3. For an open one you no longer want, press **Withdraw the invitation** and confirm.

27.8.8 Task 8: End a link with a branch

1. Choose the linked branch in the list.
2. Under **The link**, press **End the link** and confirm.

3. To link again later, press **Resume the link**, then read the state: while it waits for the key, there is nothing to type; the key of each link comes from the laboratory's signed list alone (see Chapter 28: Linking branches and computers).

27.8.9 Task 9: Open the laboratory's network to the devices

1. On the server computer, find **The laboratory's network**.
2. Press **Open it** and confirm.
3. When Windows asks on that computer, choose Yes.
4. If asked, start the program again and wait for the page to move to its new address.
5. Give each device the address shown, and install the laboratory's certificate once on each.

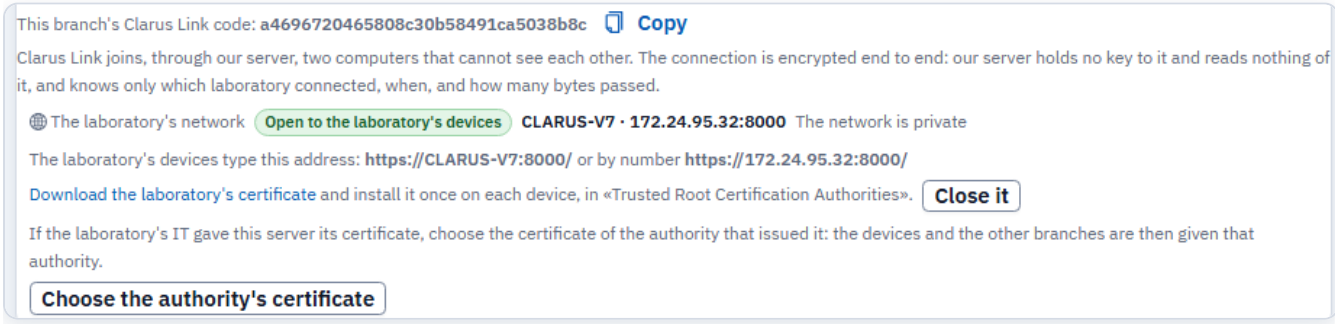


Figure 27-8: The laboratory's network line, open.

27.9 Messages and what to do

The screen says	Meaning	What to do
The current licence allows no more branches.	The licence allows no more branches.	Stop or reuse an existing branch, or ask about the licence.
The branches could not be loaded.	The list did not load.	Press the retry button on the list.
The branch could not be saved.	The branch was not saved.	Read the reason under the form and correct it.
This device does not work until it is licensed: enter its serial number on its «This device» screen.	The device is working but has no licence.	Enter its serial number on its own screen.
This file is not a file from another branch of the laboratory.	The imported file is not from this laboratory's branch.	Import the right file.

The screen says	Meaning	What to do
This computer is not connected to the laboratory's network. Connect it by cable or Wi-Fi, then check.	The server computer has no network.	Connect it, then press **Check now**.
Windows classes this network as public, so its firewall keeps the devices out. Make it private on this computer.	Windows classes the network as public.	Press **Make this network private**.
The certificate names an address this computer no longer has. Renew it, then start again; the devices keep trusting it.	The certificate names an address the computer no longer has.	Press **Renew the certificate**, then start again.
Clarus Link refused this branch's connection.	Clarus Link refused this branch.	Read the reason under it; it says what to do.
The authority's certificate could not be saved.	The authority's certificate was not saved.	Choose the authority's certificate again, not the key.

27.10 See also

- **Devices and printers**: the stations and printers of a device.
- **Patients**: the patient's file, from which a test is sent to another branch.

Chapter 28

Linking branches and computers

This chapter is about the procedure and the idea: how a computer joins its laboratory, how branches exchange work, and what to read when something does not connect. The branches screen itself, button by button, is in Chapter 27: Branches and linking.

28.1 What linking is for

A laboratory can run on one computer, or on several: more than one computer in a branch, and more than one branch. Linking is what lets those computers work as one laboratory. Computers of the same branch share the branch's records; branches exchange what each needs from the others, such as the patient's file and the tests sent from one branch to another.

Nobody types a key or an invitation to link. **The licence number is the identity.** Every computer has its own number, issued by the vendor, and the number tells the program the laboratory, the branch and the role of that computer. Linking follows from the number.

28.2 The words you will meet

Word	What it means for your computer
The laboratory	Everything issued to you under one laboratory account: its branches and its computers.
A branch	One place of the laboratory. It has one server and may have member computers.
The branch server (**the branch server**)	The computer that holds the branch's records. Its licence number is a server number.
A member (**a member computer**)	A computer that works on its branch server's records. Its licence number is a member number of that branch. It does not keep a database of its own.
The laboratory's centre (**the centre**)	A computer with a centre number. Branches send to it, and it passes what each branch sent to the others.
The relay ("Clarus Link")	Our server, which joins two computers that cannot see each other. The connection is encrypted between the two ends; our server reads nothing of it.

The screens show the role as **the branch server**, **a member computer** or **the centre**, together with the laboratory and the branch, in the first line of **Linking status**.

28.3 Before you start

- Each computer needs its own licence number, and it must be the right role: a server number for the branch server, a member number of that same branch for each member, a centre number for the centre. If you hold the wrong kind, ask for the right one; do not try the number on a computer of another role.
- The computers of a branch should be on the same network of the laboratory, with the branch server switched on. If they cannot be, the relay is the alternative described below.
- The branch server must be open to the laboratory's computers. That is a step on the server itself (28.4.3 Task 1 — Open the branch server to the laboratory's computers); installing the program does not do it for you. Setup only rewrites the firewall rules of a server that was already opened.

28.4 Linking the computers inside a branch

28.4.1 How a member finds its server

A member does not need the server's address. After its number is entered, it looks for its branch's server by itself. There are three ways, tried in this order of preference:

Way	When it is used
On the laboratory's network	The branch server announces itself on the network with its branch's code, and the member looks for exactly that branch. A change of the server's address is found again without anyone typing.
Through Clarus Link	When the member does not find its server on the network, it goes through the relay over the internet. It tries the network for about ten seconds in all before it takes the relay. While it works through the relay it tries the network again about every thirty seconds, and when the server answers there it goes back to it, because the road inside the branch wins.
An address typed	When the network does not announce the server (some routers block it), the window asks for the server's name or address with its port. This is the last way and not a condition.

All three ways check the same thing, the identity in the licence numbers, so a computer that merely poses as the server is not accepted.

28.4.2 Firewall and the network type

Windows classes each network as private or public. A server on a **public** network keeps the branch's computers out with its firewall. The program says so in words: on the server in **Linking status**, and on a member in its own window. The remedy is on the server: press **Make this network private** in the card **The laboratory's network**. Until then a member can still work through Clarus Link.

> **Note**
>
> A server opened to the laboratory's computers before its licence number was activated is not found on the network yet; **Linking status** says so, and the remedy is to open the server to the computers again and accept Windows' question.

28.4.3 Task 1 — Open the branch server to the laboratory's computers

1. On the branch server computer itself, open **Branches and linking**.
2. Find the card **The laboratory's network** and press **Open it**, then confirm.
3. When Windows asks on that computer, choose Yes.
4. If the program asks to start again, let it; the page moves to its new address by itself.
5. Check the line under the card: it shows the address the devices use.

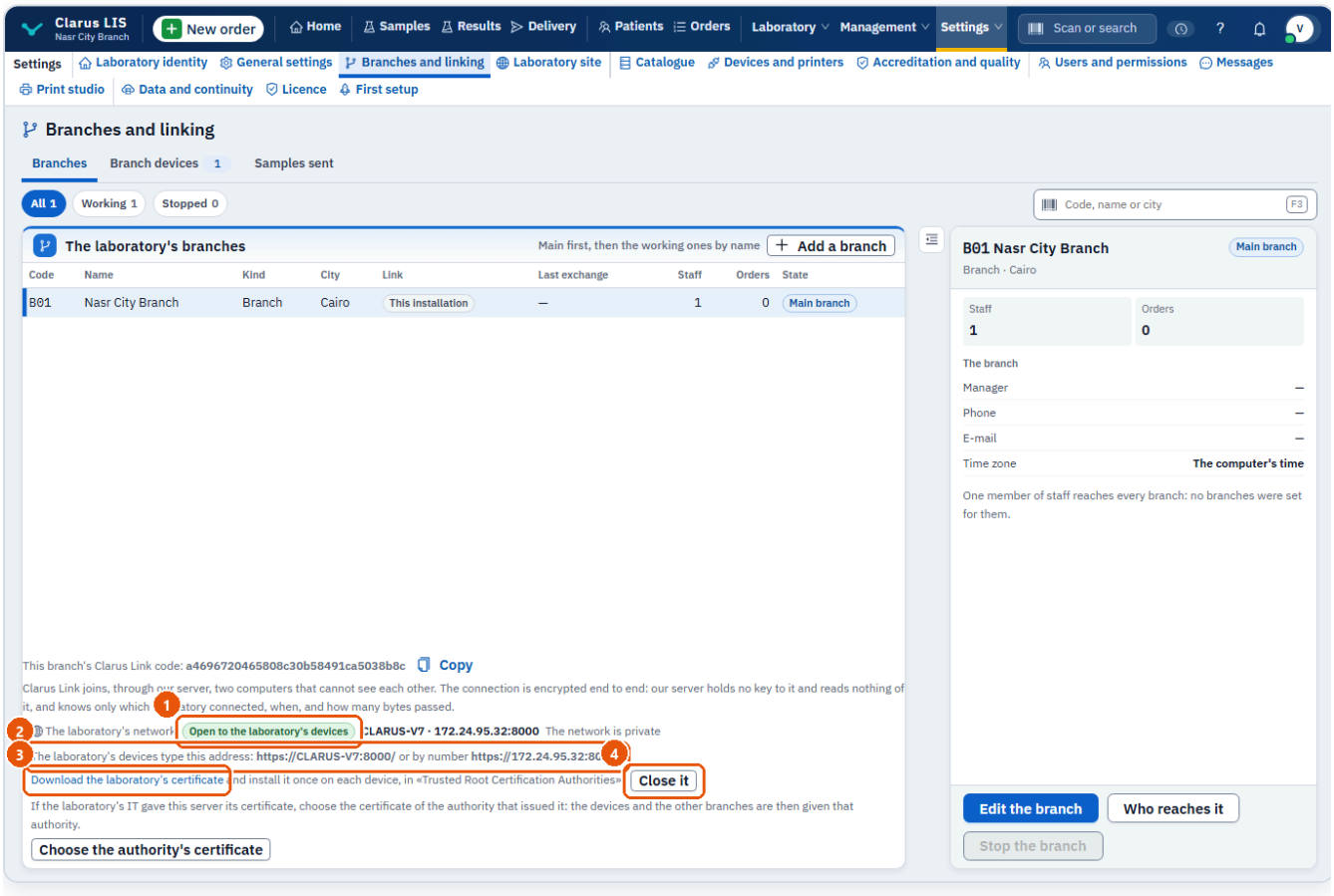


Figure 28-1: The laboratory's network card, open. 1 The state, 2 the address the devices use, 3 the certificate link, 4 the close button.

Opening and closing can only be done on the server computer. On another computer, the card tells you to open the page there.

28.4.4 Task 2 — Join a computer to its branch

1. On the new computer, start the program. When it is not yet a member, its window is **Join the branch**.

2. Type the computer's own number in **This computer's licence number** and press **Enter the number**. The button does not work until the number is readable in its right form. Without internet, use the activation by a file shown in the same window (**Activating with a file, without internet**): save the request file, send it to Clarus, then choose the licence file it sends back.
3. The window now says the branch the number belongs to, and the computer starts looking for the branch's server at once and by itself, with no press (**Looking for the branch's server**). Wait; the button stays for a second try.
4. If the server is not found on the network, the window asks for **The branch server's name or address**. Type its name, or its address with its port, for example `192.168.1.10:8000`, and press **Join**.
5. When the join succeeds, the window becomes **This device**. Press **Open the program** to work (the button is not shown while the device is still pending).

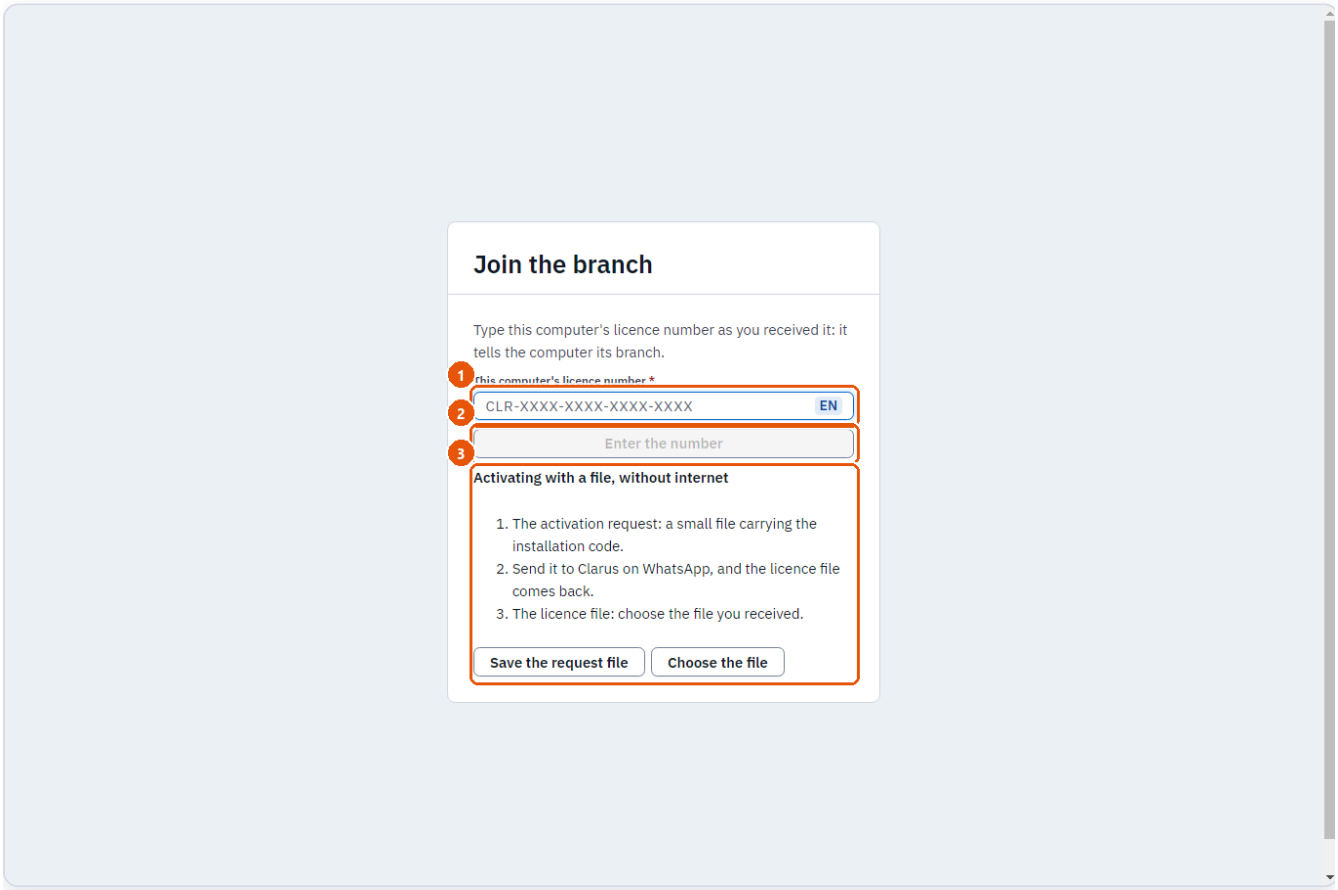


Figure 28-2: The join window of a member computer. 1 The licence number, 2 the button that enters it, 3 the offline activation.

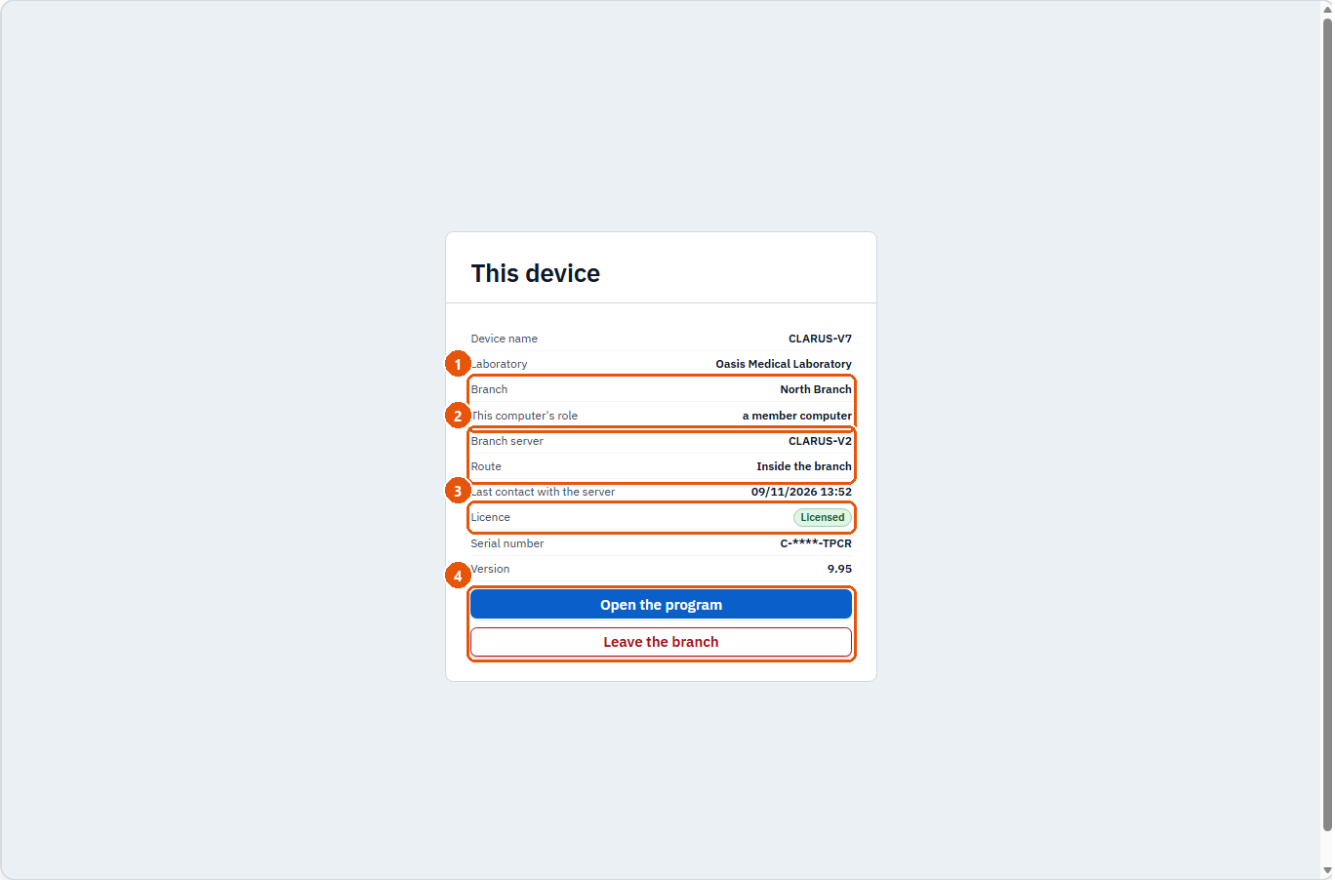


Figure 28-3: The window of a joined member computer. 1 The branch and the role, 2 the server and the route, 3 the licence, 4 the open and leave buttons.

A member whose licence is not yet received from the server is shown **Not heard from the server yet**. If the licence is missing, the window shows a box to enter the serial number or choose a licence file (**This device does not work until it is licensed: enter its serial number, or choose the licence file the laboratory received.**).

28.4.5 What a member shows

Line	What it says
Laboratory, **Branch**, **This computer's role**	Where this computer belongs, as its own number says.
Branch server	The branch server's name.
Route	**Inside the branch**, **Through Clarus Link** or **Through another address**.
Last contact with the server	When the server last answered.
Licence	The licence as the server heard it: **Licensed**, **Follows the trial**, **Read only**, **Licence expired** or **No licence**.

28.4.6 When the branch server is switched off

A member whose server cannot be reached by any road shows a page: «The branch's server could not be reached». It names the server's computer, tells you to switch it on or to restart the program on it, and tries again by itself every ten seconds. **No new work is recorded until the server is back.** When the server returns, the member returns to its work without anyone touching it.

28.4.7 Leaving the branch

On a member, **Leave the branch** stops the device until it joins again with its licence number. Confirm the question. The records of the branch are not on this computer, so nothing of them is lost by leaving.

28.5 Reading the linking status

On the branch server, the page **Branch devices** in **Branches and linking** carries **Linking status**. It answers the questions you would ask when something does not connect.

Line	What it tells you
This computer: role, laboratory, branch	What this computer is, from its number.
Its computers reach it:	The road its computers reach it by: **on the laboratory's network**, **through Clarus Link**, **by an address typed**, or **not reachable now**.
The identity from the vendor	Whether this site's identity is valid, and until when; the program asks again by itself when the computer is on the internet.
The branches this computer exchanges with	For each branch it exchanges with: the last exchange, what waits to be sent, what arrived and waits to be applied (by kind: patient files, orders, users, catalogue and prices, branch links, other records), and whether that site's clock agrees.
The clock	The difference between that site's clock and this computer's is said in words (ahead, behind, or agreeing); from two minutes up the remedy is added: set the date and time of the computer that is off to be set automatically from the internet.
Phones paired: ...	How many phones are paired.
Clarus Link	Whether Clarus Link is on for this laboratory.

Beside the title of **Branches and linking**, small tags say how many branches are linked, how many are late to exchange and how many links are failing.

28.5.1 Joins that failed

Joins that failed (seven days) lists each failed join of the last seven days (the newest twenty at most), with its cause and what to do.

The page says	What to do
Too many attempts came from this computer's address in a few minutes.	**Wait ten minutes, then join again from that computer.**
The computer does not hold this branch's number.	**On that computer, enter a member's licence number of this branch, then join.**
The join was not signed with this branch's secret.	**On that computer, enter its licence number again, then join.**
The computer's number is for another branch.	**Give that computer a member's number of this branch.**
The computer did not prove it holds the key it presented.	**Join again from that computer; if it repeats, contact support.**
This computer had already joined.	**Nothing to do; to join it afresh, remove it here first.**
The join failed.	**Join again from that computer; if it repeats, contact support.**

28.6 A trial computer that receives a number

A computer that has been used in trial follows the number typed on it. When the number is typed (in the licence screen, see Chapter 38: Licence), one window asks what to do with the trial's records and shows their count (patients and orders).

The number is...	The window offers	What happens
A branch server number	**Continue with the records** or **Start again**	The computer becomes the branch server. Starting again keeps a copy of the trial's records in the backups folder first, then starts on a new database.
A member number	**Save a copy of the trial's records** (chosen first) or **Ignore them**	The computer becomes a member. The saved copy is for the archive, or is restored on the server if the server is empty; it is never merged into the server's records.

Letting the records go (starting again, or ignoring them) asks a second time with a clear button, never by typing a word. A computer with a member number becomes a member **only once it has reached its branch's server**; until then it stays a trial computer and says that it will become a member, and tries again by itself.

28.7 Linking the branches

Branches link by themselves from the licence numbers. When a branch server or a centre is activated, it knows from its numbers who its brother branches are, and connects to them through Clarus Link: out from each server, encrypted between the two ends. There is no invitation and no key to type.

- **A star around the centre.** Each branch sends to the centre and the centre passes it to the rest.
- **When the laboratory has no centre number**, the server of branch B01 acts as the centre. **The branch acting as the centre:** says which branch does.
- **When a centre number is later issued**, the role moves from B01 to the centre once the centre has everything. **Linking status** follows the move: **The centre's role is moving from branch B01 to the laboratory's centre: ... of ... copied.** and, at the end, **The centre's role moved to the laboratory's centre on ....** B01 then works as a normal branch with its server whole, and nothing of its data is deleted.
- **If the internet is cut between branches**, each branch goes on working with its own server. What it changes waits in its outbox and is sent when the connection returns.

The invitation box in Chapter 27: Branches and linking appears for whoever may manage branches, and only while an invitation made earlier is open or waiting for your approval; with neither, nothing shows. The **The laboratory's network** card shows for whoever may change settings, and the **Branch devices** page needs that same permission. Older ways of linking by a key or an invitation are closed; the screen says that linking now happens by the licence number.

28.7.1 Pausing and resuming a link

For a branch linked from another installation, **Branches and linking** shows **Pause the link** under **The link** while the link runs; once it is paused or ended, **Resume the link** takes its place. **End the link** (it asks to confirm) stays visible until the link has ended. Reading the link and its buttons needs the permission to manage branches. Nothing travels between the two while the link is paused or ended. The steps are in Chapter 27: Branches and linking.

28.8 Messages and what to do

The screen says	Meaning	What to do
This device's state could not be read. Restart the program on it.	The member's window could not read the device's state.	Restart the program on that computer.
The number could not be entered.	The number could not be entered.	Type it as you received it, or use the offline activation.

The screen says	Meaning	What to do
Joining the branch failed.	Joining the branch failed.	Read the sentence under it; it names the cause.
«The branch's server was not found on the laboratory's network...» (the member's window)	The network did not answer.	Switch the server on, put both on the same network, make the server's network private, or type the server's address with its port.
«The branch's server could not be reached...»	No road reached the server.	Switch the server computer on or restart the program on it; the page tries again every ten seconds.
Windows on the branch server classes its network as public, so this computer cannot reach it inside the laboratory and works through Clarus Link, over the internet. On the server, make the network private from «The laboratory's network» card.	The server's network is public, so the member works through Clarus Link.	On the server, make the network private from **The laboratory's network**.
This server was opened to the computers before its number was activated, so the branch's computers cannot find it on the network yet.	The server was opened before its number was activated.	**Open the server to the computers again, and accept Windows' question.**
This site has not received an identity from the vendor yet; it asks again by itself whenever the computer is connected to the internet.	The site has no identity from the vendor yet.	Keep the computer connected to the internet; it asks again by itself.
Clarus Link refused this branch's connection.	Clarus Link refused this branch.	Read the reason under it; it says what to do.
Messages of results waiting for the server (the member's window)	Results wait on the member for the server.	Nothing: they go by themselves when the server answers.

28.9 See also

- Chapter 27: Branches and linking: the branches screen, its tabs, and the controls of a link.
- Chapter 38: Licence: the licence and its activation.
- Chapter 39: First setup: the first setup.
- Chapter 37: Data and continuity: where the data and the backups are.

Chapter 29

Laboratory site

Menu: **Laboratory site**. Address: `/setup/site`.

29.1 What this screen is for

This is where the laboratory builds its public website and decides how patients reach their results through it. You write the home page sections, the identity and contact details, the look and the languages; you decide whether and under what conditions a result opens from the site; and you choose the site's address and publish it.

Beside every page of settings there is a live preview of the site. Nothing you change reaches the published site until you press the publish button. The site is hosted on Clarus's server, so the laboratory's own computer is never opened to the internet.

29.2 Who sees it

Whoever holds **Manage settings**. The menu hides the screen from everyone else.

You can...	...if your role holds
Open the screen, edit all four pages, save, publish, take or change the address, and link a domain	Manage settings

29.3 The screen at a glance

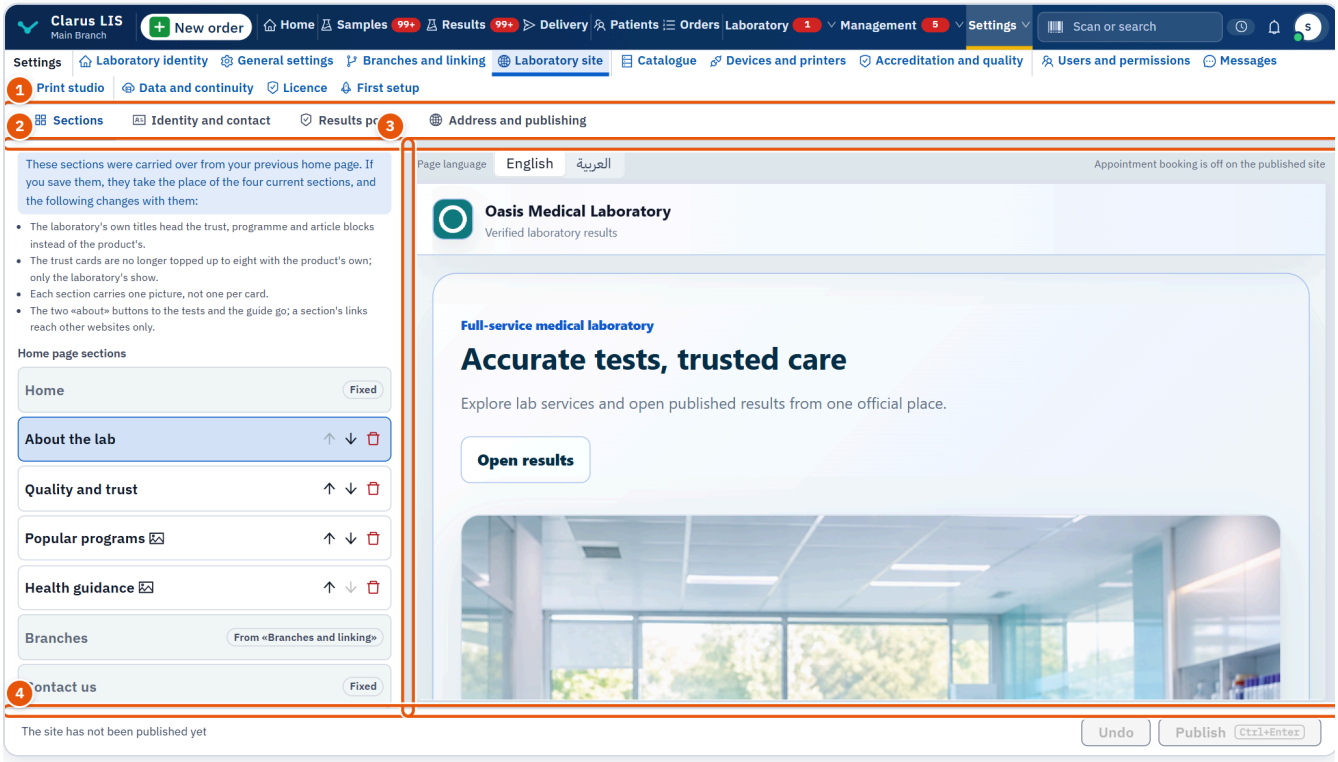


Figure 29-1: The Laboratory site screen: 1 the four pages, 2 the settings of the open page, 3 the preview of the site, 4 the foot with the save or publish button.

1. **The four pages**: **Sections**, **Identity and contact**, **Results portal** and **Address and publishing**. Beside them the site's address is shown, or **The site has no address yet**. A page with unsaved changes is marked.
2. **The settings** of the open page.
3. **The preview**: the site as it will be drawn. Above it you choose **Page language**. A note reminds you that **Appointment booking is off on the published site**.
4. **The foot**: while something has changed, the list of what has changed and not yet been saved; otherwise a status line (such as when the site was last published). Then the undo button and the main button: **Publish** once the site has an address, **Save** before that. Both are dim while nothing has changed.

29.4 Page 1: Sections

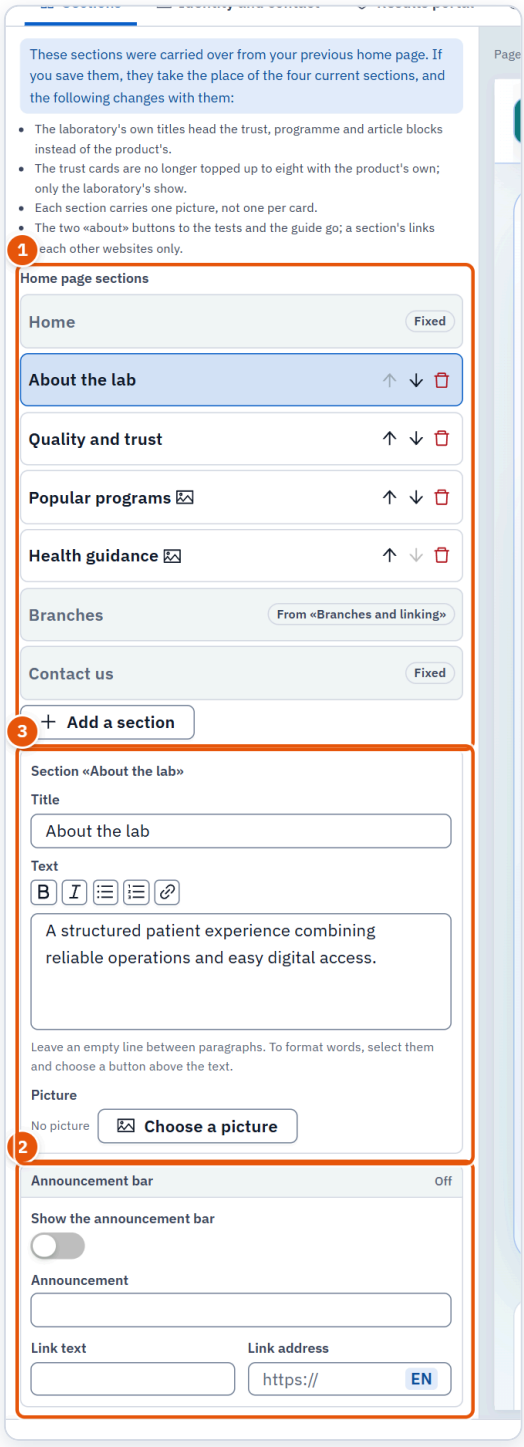


Figure 29-2: The Sections page: 1 the list of sections, 2 the announcement bar, 3 the open section's fields.

29.4.1 The list of sections

Under **Home page sections**, the home page is a list of blocks. Some are fixed (**Home**, **Branches** which comes from «Branches and linking», and **Contact us**) and carry the mark **Fixed**.

Element	What it does
A section's line	Opens it for editing. A section with no title shows **Untitled section**; one with an image shows **Has a picture**.
Move up / Move down	Changes the section's place. The first cannot go up and the last cannot go down.
Remove	Deletes the section from the page.
Add a section	Adds a section. At 24 sections it is dim and the screen says the maximum number of sections.

If the site was carried over from the previous home page, a notice explains that saving the carried sections replaces the four current ones and lists what changes with them.

29.4.2 The open section

Field	What it does
Title	The section's heading.
Text	The body. Leave an empty line between paragraphs. The formatting buttons above the text apply to the words you select.
Picture	**Choose a picture**, then **Change the picture** or **Remove the picture**. A picture larger than 1.5 MB is refused.

29.4.3 Formatting the text

Select the words, then press a button in **Text formatting**.

Button	What it does
Bold	Makes the selected words bold.
Italic	Makes them italic.
Link	Turns them into a link.
Bulleted list	Makes the selected lines a bulleted list.
Numbered list	Makes them a numbered list.

29.4.4 The announcement bar

Announcement bar is a strip shown on the site; its state reads **On** or **Off**.

Field	What it does
Show the announcement bar	Turns the bar on or off.
Announcement	The message.
Link text	The words of the link at the end of the message.
Link address	Where the link goes.

29.5 Page 2: Identity and contact

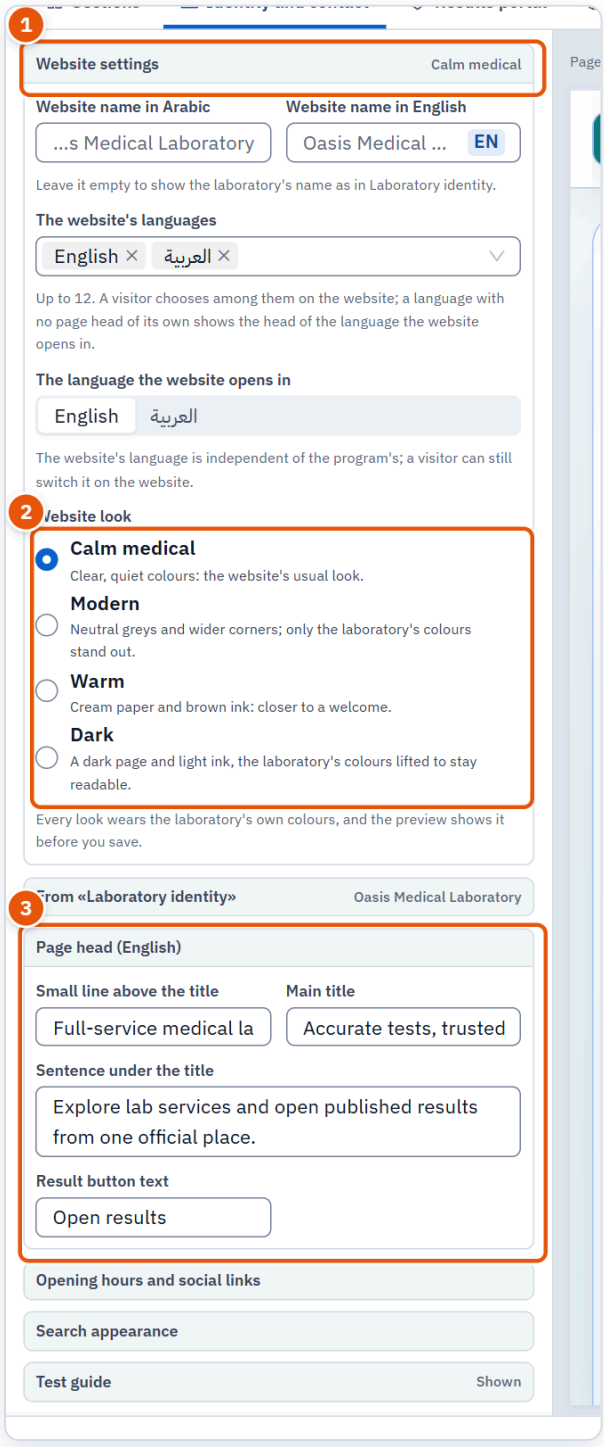


Figure 29-3: The Identity and contact page: 1 website settings, 2 the look, 3 the page head.

Group	Element	What it does
Website settings	**Website name in Arabic**, **Website name in English**	The website's name. Empty means the laboratory's name from «Laboratory identity».

Group	Element	What it does
	The website's languages	The languages the site offers, up to 12. A language with no page head of its own shows the head of the opening language.
	The language the website opens in	The language the site opens in. It is independent of the program's language.
	Website look	**Calm medical**, **Warm**, **Modern** or **Dark**. Each wears the laboratory's own colours, and the preview shows it before you save.
From «Laboratory identity»	**Name**, **Tagline**, **Phone**, **WhatsApp**, **E-mail**, **Address**	Shown for reading only: they are written in «Laboratory identity» so that the site, reports and receipts agree. **Open laboratory identity** goes there.
Page head (...)	**Small line above the title**, **Main title**, **Sentence under the title**, **Result button text**	The top of the home page, written for the language being previewed.
Opening hours and social links	**Opening hours**, **Facebook**, **Instagram**, **LinkedIn**, **Location on the map**	Opening hours and the links to the laboratory's pages.
Search appearance	**Page title in search results**, **Page description in search results**	How the site appears in search engines. Left empty, both are written from the laboratory's name and the page head when you publish.
Test guide	**Show the test guide**, **Show prices in the guide**	Shows the test guide, built from the laboratory's active tests at every publish. The prices switch is dim while the guide is off.

29.6 Page 3: Results portal

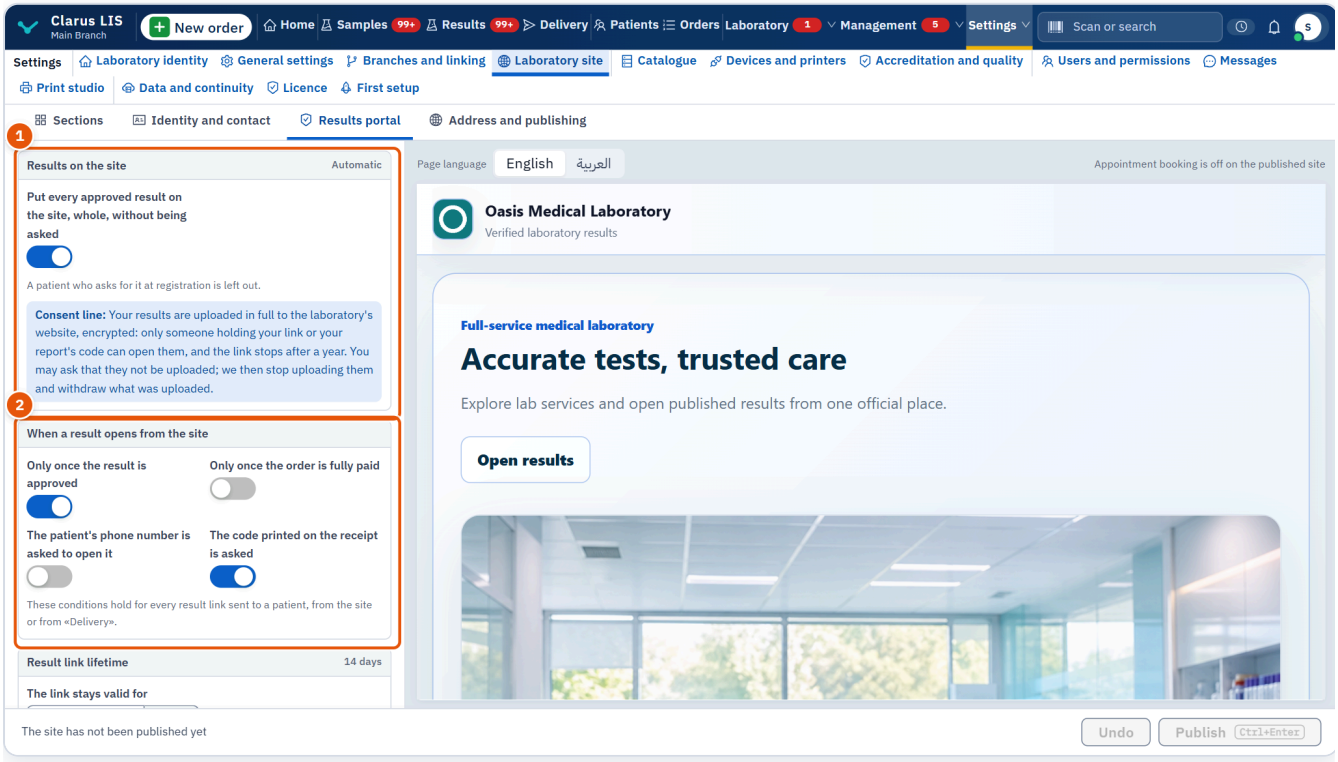


Figure 29-4: The Results portal page: 1 results on the site, 2 when a result opens.

Element	What it does
Results on the site	The state reads **Automatic** or **On request**. The switch **Put every approved result on the site, whole, without being asked** chooses between them. A patient who asked at registration not to have it is left out. The consent line the program uses is shown beneath.
When a result opens from the site	The conditions a result link must meet: **The patient's phone number is asked to open it**, **The code printed on the receipt is asked**, **Only once the order is fully paid**, **Only once the result is approved**. They hold for every result link sent to a patient, from the site or from «Delivery».
Result link lifetime	**The link stays valid for**: after this the link no longer opens, and a new one is sent when needed. At most 90 days.

29.7 Page 4: Address and publishing

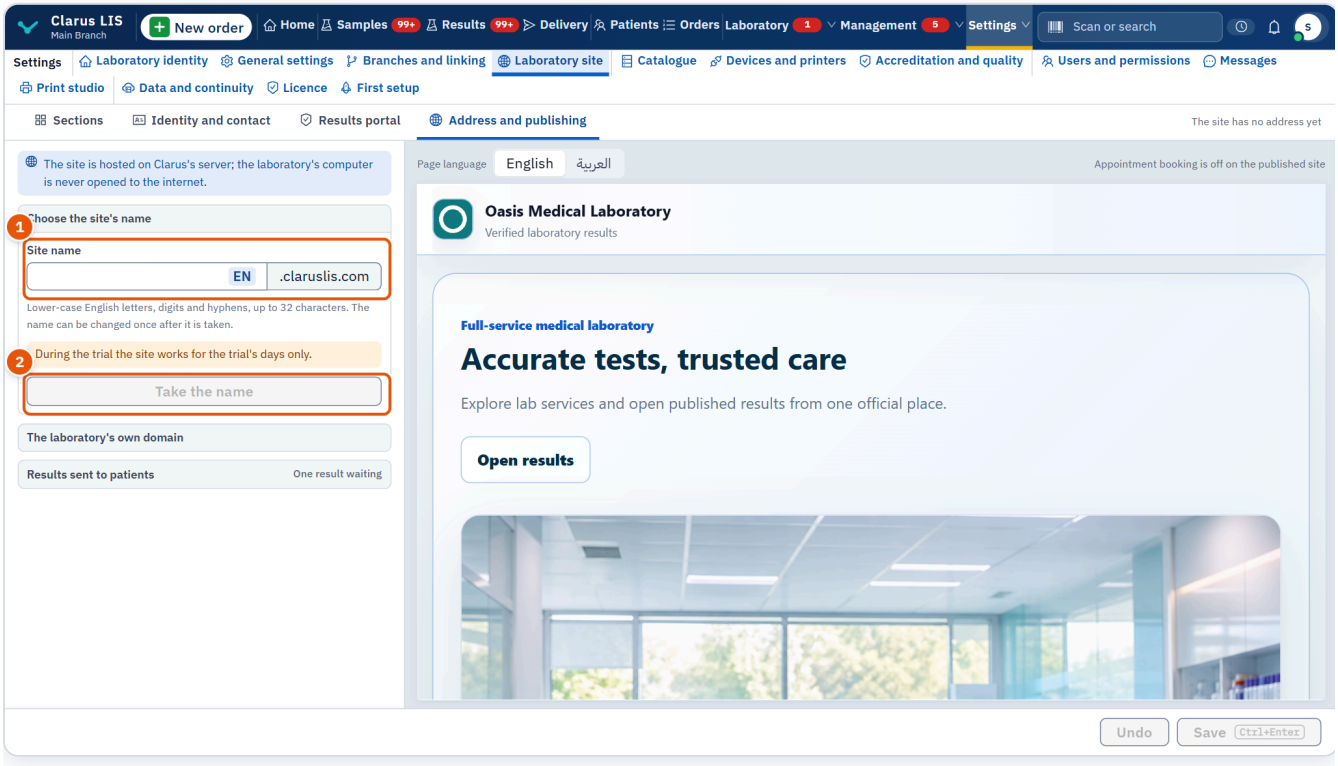


Figure 29-5: The Address and publishing page before a name is taken: 1 the name field, 2 the Take the name button.

A note says the site is hosted on Clarus's server. Then the page shows what applies to the laboratory now.

29.7.1 Before the site has an address

Under **Choose the site's name**:

Element	What it does
Site name	Lower-case English letters, digits and hyphens, up to 32 characters, followed by `.claruslis.com`. A suggestion is filled in.
Take the name	Takes the name. It is dim while the field is empty.

During the trial the site works for the trial's days only. If a name was not taken automatically, the screen says why.

29.7.2 After the site has an address

Under **The site** (marked **Not published** when it is not live):

Element	What it shows or does
Address	The site's address, as a link.

Element	What it shows or does
Address on claruslis.com	The address on claruslis.com.
Last published	The last publish, or **Not published yet**.
Renews on	The renewal date. The site is free for its first year, then renewed a year at a time.
Publish now	Publishes the site as it is saved.
Change the name	Opens the rename window. Shown only when the site has a name and has not been renamed before.

If the website service is not reached, the page says that what it shows is what this computer knows.

29.7.3 If the website service no longer has the site

Sometimes the website service no longer holds a site that was given to this computer. The page then does not show the site as taken: it shows **Choose the site's name** again, with the name this computer held already filled in, and **Change the name** is gone. Press **Take the name** to create the site again under the same name, then publish (29.8.4 Task 4 — Publish). Nothing on this computer is deleted meanwhile: the pages you wrote stay saved. If you press **Publish** or try to change the name before creating the site again, the screen refuses with the sentence in the table of messages below.

29.7.4 The laboratory's own domain

Shown only when the website host serves laboratories' own domains (it does in this version). Under **The laboratory's own domain**, whose state reads **Linked** or **Not checked**:

Element	What it does
Domain	The domain the laboratory bought, for example `alnour-lab.com`.
Save the domain	Saves it. Dim while the field equals the saved domain.
Check the link	Checks that the domain points at the website host. Dim until the typed domain is the saved one.
The records table	The two records (**Type**, **Name**, **Value**) to type where the domain was bought. **Copy** copies a value. `@` means the domain itself.

29.7.5 Results sent to patients

Shown when the program has the results figures. Under **Results sent to patients**: how many results are **Waiting to arrive** and how many **Could not be sent**, with the last error if there is one. When a patient says they scanned the code and found no result, start here.

29.8 Tasks step by step

29.8.1 Task 1 — Write and preview a section

1. Open **Sections**.
2. Press **Add a section**, or select an existing section.
3. Fill **Title** and **Text**. Select words and use the formatting buttons.
4. Optionally **Choose a picture**.
5. Look at the preview. Change **Page language** to see another language.

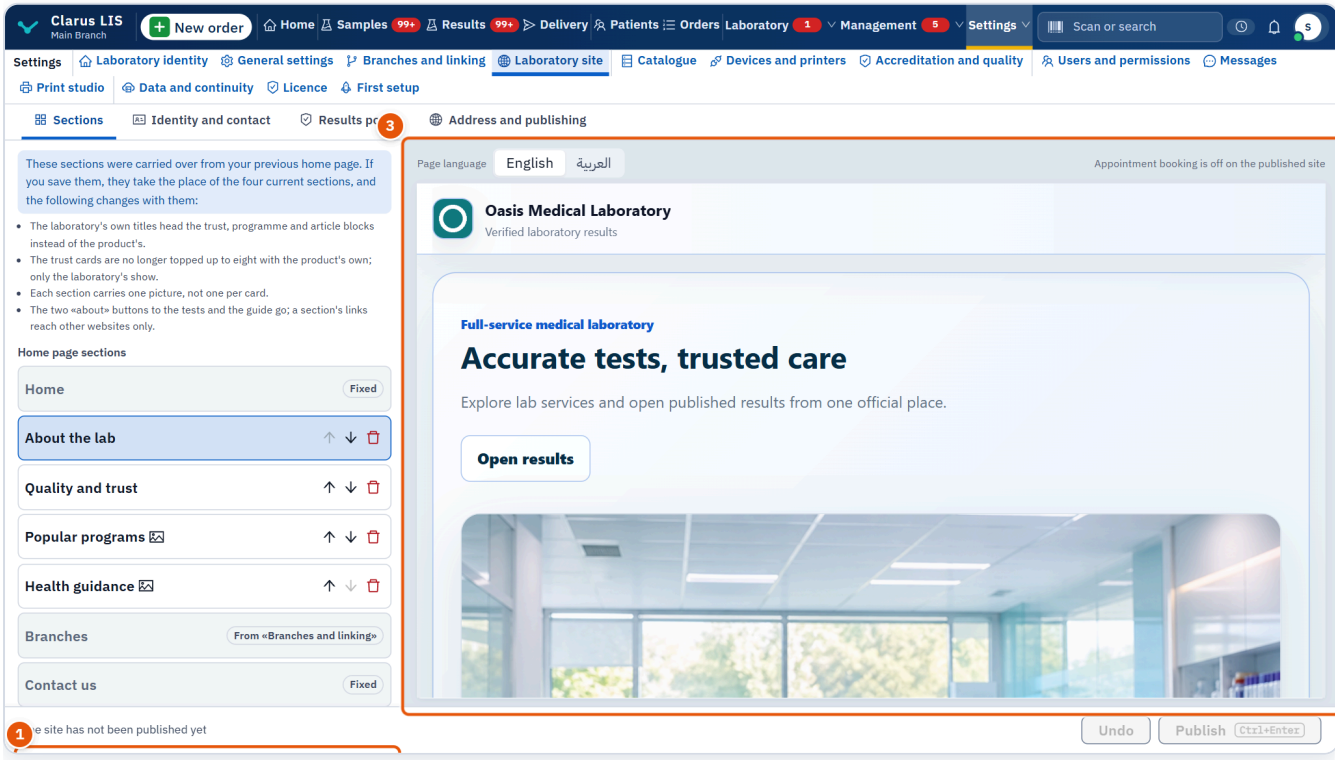


Figure 29-6: Editing a section with the preview beside it: 1 the section, 2 its text with the formatting buttons, 3 the preview.

29.8.2 Task 2 — Show an announcement

1. In **Sections**, find **Announcement bar**.
2. Turn on **Show the announcement bar**.
3. Type **Announcement**, and if you want a link, **Link text** and **Link address**.
4. Publish (29.8.4 Task 4 — Publish).

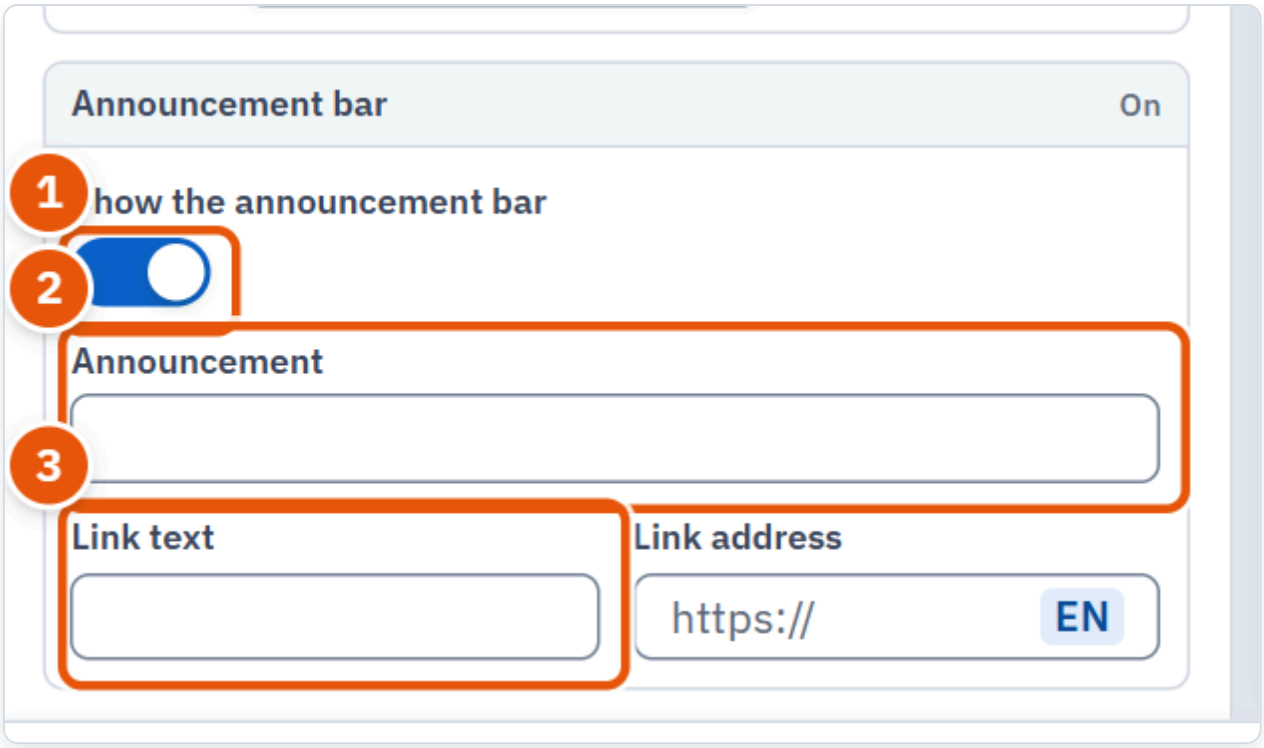


Figure 29-7: The announcement bar group: 1 the switch, 2 the text, 3 the link fields.

29.8.3 Task 3 — Take the site's address

1. Open **Address and publishing**.
2. Type the name in **Site name**, or keep the suggestion.
3. Press **Take the name**. The screen confirms the address.

If you press **Save** before taking a name, your changes are saved and the screen moves you to this page.

29.8.4 Task 4 — Publish

1. Make your changes on any page.
2. Press **Publish** at the foot. It saves what changed and publishes the site; the screen confirms with the address.
3. Or, with nothing changed, press **Publish now** on **Address and publishing**.

Publishing is not photographed in this manual, because it changes the live site.

29.8.5 Task 5 — Change the site's name

The name can be changed only once.

1. Open **Address and publishing** and press **Change the name**.
2. In **Change the site's name**, type **New name**. The site, its pictures and its results move to the new name, and the old name keeps pointing at it.
3. Press **Change the name**, or **Back** to leave.

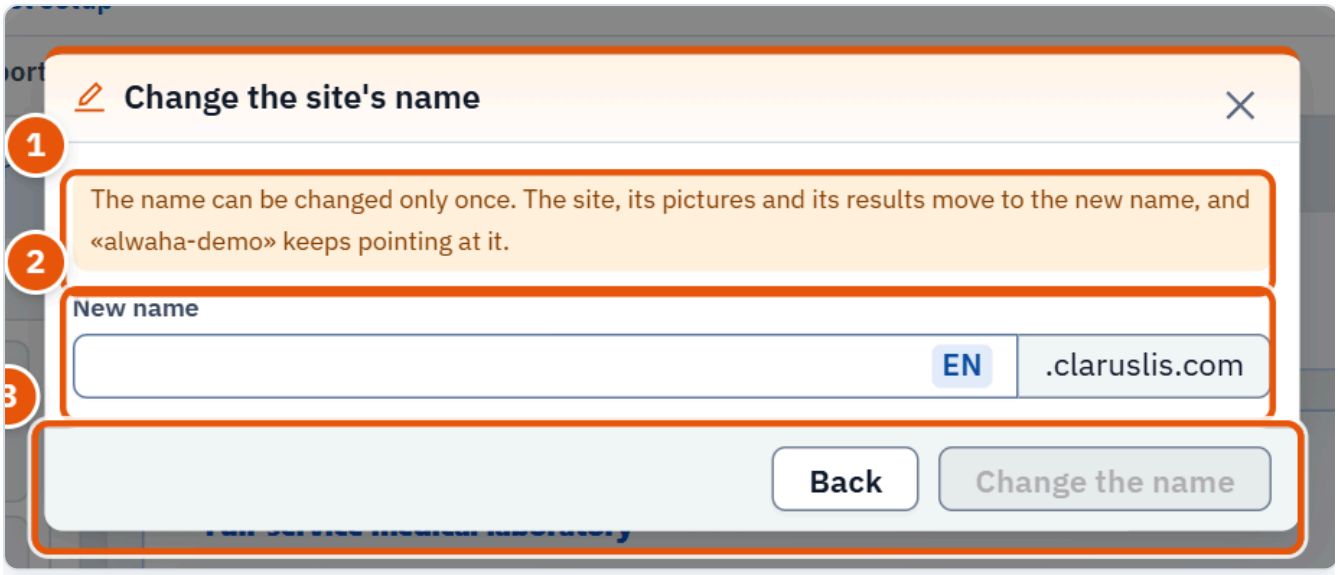


Figure 29-8: The rename window: 1 the warning that it happens once, 2 the new name, 3 the buttons.

29.8.6 Task 6 — Link the laboratory's own domain

1. Open **Address and publishing** and find **The laboratory's own domain**.
2. Type the domain in **Domain** and press **Save the domain**.
3. Where you bought the domain, type the two records from the table. Use **Copy** for each value. They can take a few hours to appear.
4. Press **Check the link**. The state becomes **Linked** when the domain points at the website host.

Verification is not photographed, because it depends on a real domain.

29.9 Messages and what to do

The screen says	Meaning	What to do
The laboratory site could not be loaded.	The data did not arrive.	Press the retry button.
Changes saved. Choose an address for the site to publish it.	Saved, but there is no address yet.	Take a name on **Address and publishing**.
The site is published at …	The publish succeeded.	Open the address to check.
Could not save or publish.	The save or publish failed.	Read any reason shown beside it and try again.
The picture is larger than 1.5 MB.	The picture is refused.	Choose a smaller one.
The name could not be taken.	The name is unavailable or invalid.	Choose another name.

The screen says	Meaning	What to do
The website service no longer has this website. Create it again from the website settings, under the same name.	Publishing or renaming was refused: the website service no longer holds this site.	Open **Address and publishing**, check the name offered and press **Take the name**.
The domain could not be found.	The check found no such domain.	Check its spelling and its records.
The domain does not point at the website host yet.	The records are missing or not yet visible.	Type the records, wait, and check again.
The preview could not be drawn.	The preview failed.	Press its retry button.

29.10 See also

- **Laboratory site** depends on the laboratory's name and phones, written in «Laboratory identity».
- Result links sent from «Delivery» follow the conditions on **Results portal**.

Chapter 30

Catalogue

Menu: **Catalogue**. Address: `/setup/catalogue`.

30.1 What this screen is for

This is the laboratory's list of everything it can test: each test with its code, names, department, specimen, price and reference intervals, the panels and packages that group tests, the consent forms linked to tests, and the referring doctors. The order screens read from here, so what is written here is what the reception and the result screens offer.

The chapter describes how you read and maintain this list. It does not suggest changing the catalogue the program ships with: that stays as it is, and the screen is used for the laboratory's own settings around it (prices, intervals the laboratory sets, new tests it writes, panels it builds).

30.2 Who sees it

You can...	...if your role holds
Open the screen and see its filters and the details of a test; change a test, its intervals and its external laboratories; switch a test on or off; export, import, write a new test, add from the master library; tick tests and act on many at once	**Manage settings**
Press **New panel or package**, and open a panel from the Packages page to edit it	**Manage the test catalogue** (on top of the permission above, which the screen itself needs)
Type a price in the list or in the panel window	**Manage prices, contracts and commissions**

Without **Manage settings** the test window is read-only: the definition is shown as plain lines and no edit buttons appear. The bulk tick boxes, the top buttons and the **Stop the test** switch are absent (not greyed) without it. Without **Manage prices, contracts and commissions** the price in the list is plain text, and the price field is absent from the panel window. Without **Manage the test catalogue** the **New panel or package** button is absent and a row on the Packages page does not open. Saving reference bands and importing are for the laboratory's administrator; otherwise the screen says so.

30.3 The screen at a glance

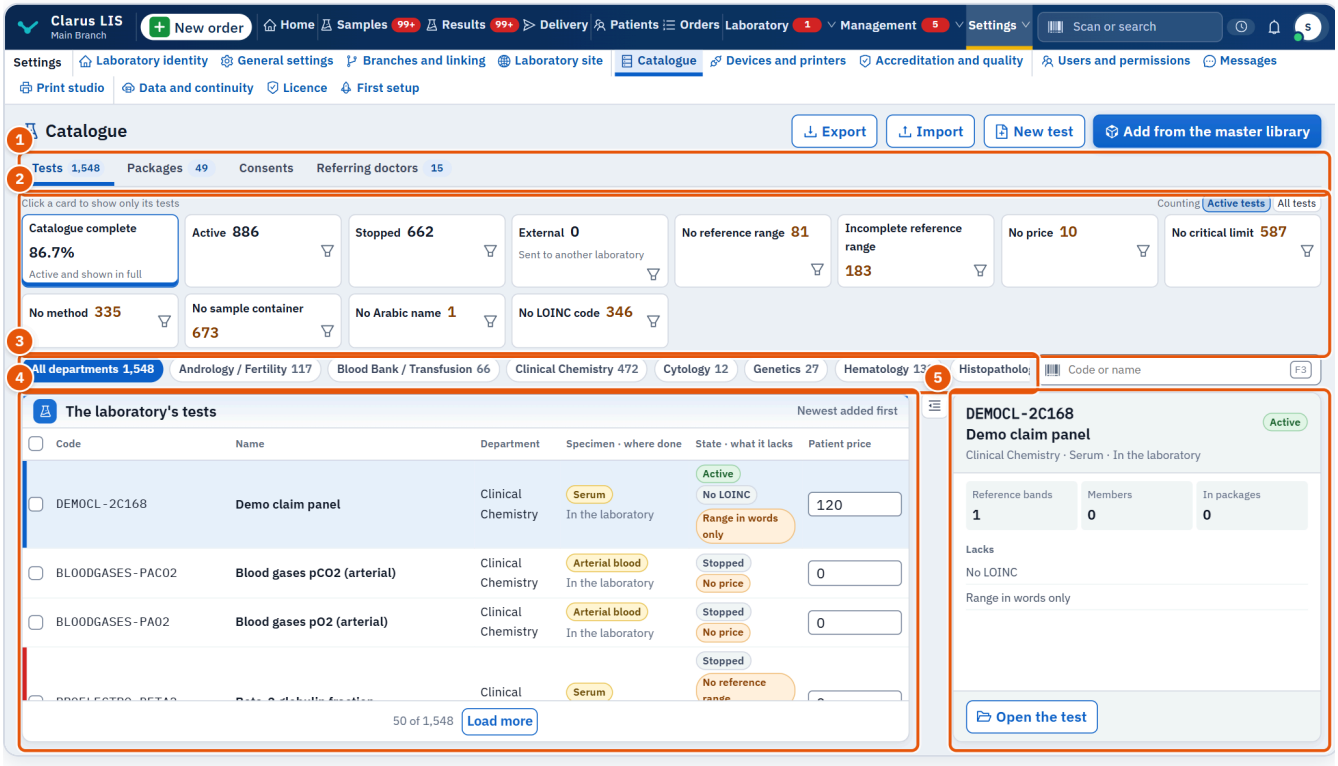


Figure 30-1: The Catalogue screen: 1 the pages, 2 the health cards, 3 the filters and search, 4 the list, 5 the chosen test.

1. **The pages**: **Tests**, **Packages**, **Consents**, **Referring doctors**.
2. **The health cards**: figures about the catalogue; a click on a card shows only its tests.
3. **The filters and search**: departments, the search box, and the filter in force.
4. **The list**: **The laboratory's tests**, newest added first.
5. **The chosen test**: its details beside the list.

30.4 The Tests page

30.4.1 The buttons at the top

Button	What it does
Export	Downloads the catalogue as a file.
Import	Opens the import window.
New test	Opens the window for writing a new test.
Add from the master library	Opens the master library window.

They appear only to whoever holds **Manage settings**.

30.4.2 The health cards

The cards count the catalogue: **Catalogue complete** (**Active and shown in full**), **Active**, **External** (**Sent to another laboratory**), and cards for what is missing. **Click a card to show only its tests**. **Counting** chooses whether the figures count **Active tests** or **All tests**.

The filters the cards offer:

Filter	Shows
In use / **Stopped** / **All**	Tests by their state.
Sent out	Tests sent to another laboratory.
No reference range / **Incomplete reference range** / **Ages to set**	Tests with no interval, an incomplete one, or a band whose ages are still to be set.
No critical limit	Tests with no critical limit.
No price	Tests with no price.
No specimen type / **No sample container**	Tests with no specimen type or no sample container.
No Arabic name / **No LOINC code** / **No method** / **No turnaround time**	Tests with no Arabic name, LOINC code, method or turnaround time.
A choice with no options	A choice test with no options.
A panel with no members / **A panel with a stopped member**	A panel with no members, or one with a stopped member.

All departments and the department chips limit the list to one department. The line **Showing: …** names the filter in force, with **Clear the filter**; **Clear the filters** clears everything. If nothing matches the screen says so (**No tests in this choice.**).

30.4.3 The list

Column	Meaning
Code	The test's code.
Name	Its name.
Department	Its department.
Specimen · where done	The specimen and whether it is done here or sent out.

Column	Meaning
State · what it lacks	Its state and what it still lacks (for example **No price** or **No reference range**).
Patient price	The patient's price; whoever holds **Manage prices, contracts and commissions** can type it in the cell and it is saved at once; for others it is plain text.

The tick beside a line (and **Choose all shown**) chooses it for a bulk change. Choosing a line shows **The chosen test** beside the list: its reference bands, members and the packages that hold it; **Open the test** opens the test window. For a test inside a panel, the switch **Ordered on its own** says whether it can be ordered on its own; if off it is ordered only inside its panel.

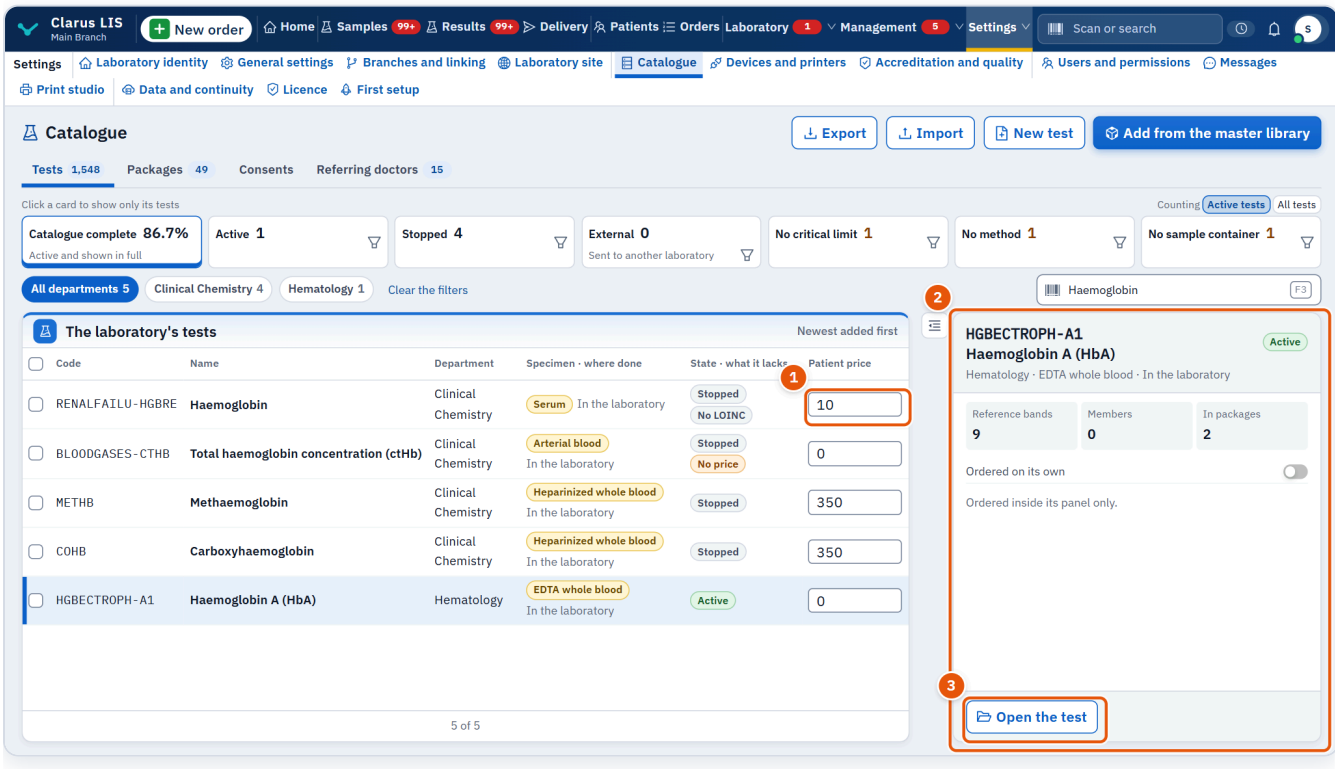


Figure 30-2: The list with a test chosen: 1 the price cell, 2 the details beside the list, 3 **Open the test**.

30.5 The Packages page

Lists the panels and packages: **Code**, **Name**, **Kind**, **Members**, **Specimen** and **State**. **Kinds of package** chooses **All**, **Panels** or **Packages**. **New panel or package** opens the panel window.

30.6 The Consents page

Lists the consent forms: code or name, **Kind** (general, genetic, HIV, informed consent, research) and **Tests linked**. It is for reading and searching. With none, the page says «**No consent forms yet.**».

30.7 The Referring doctors page

Lists **Doctor**, **Specialty**, **Organisation** and **Phone**; the search box finds by any of them. It is for reading. With none, the page says «**No referring doctors yet.**».

30.8 The test window

Press **Open the test** on a test. The head shows its code, name and whether it is **Active** or **Stopped**; whoever may edit has **Stop the test** or **Start the test** there. A stopped test leaves the order list and keeps its history. The tabs:

Tab	What it holds
Definition	The test's fields (below).
Reference intervals	The reference bands, with a count.
External laboratories	The laboratories it is sent to. Always shown to whoever may edit; to others only if the test is sent out or lists one.
Members	The tests it is made of; shown only for a panel.
Packages that hold it	The packages that hold this test; shown only when there are some.
Consents	The consents linked to it, each marked mandatory or optional; shown only when there are some.
Doctor's interpretation	The doctor's interpretation, when the test has one.

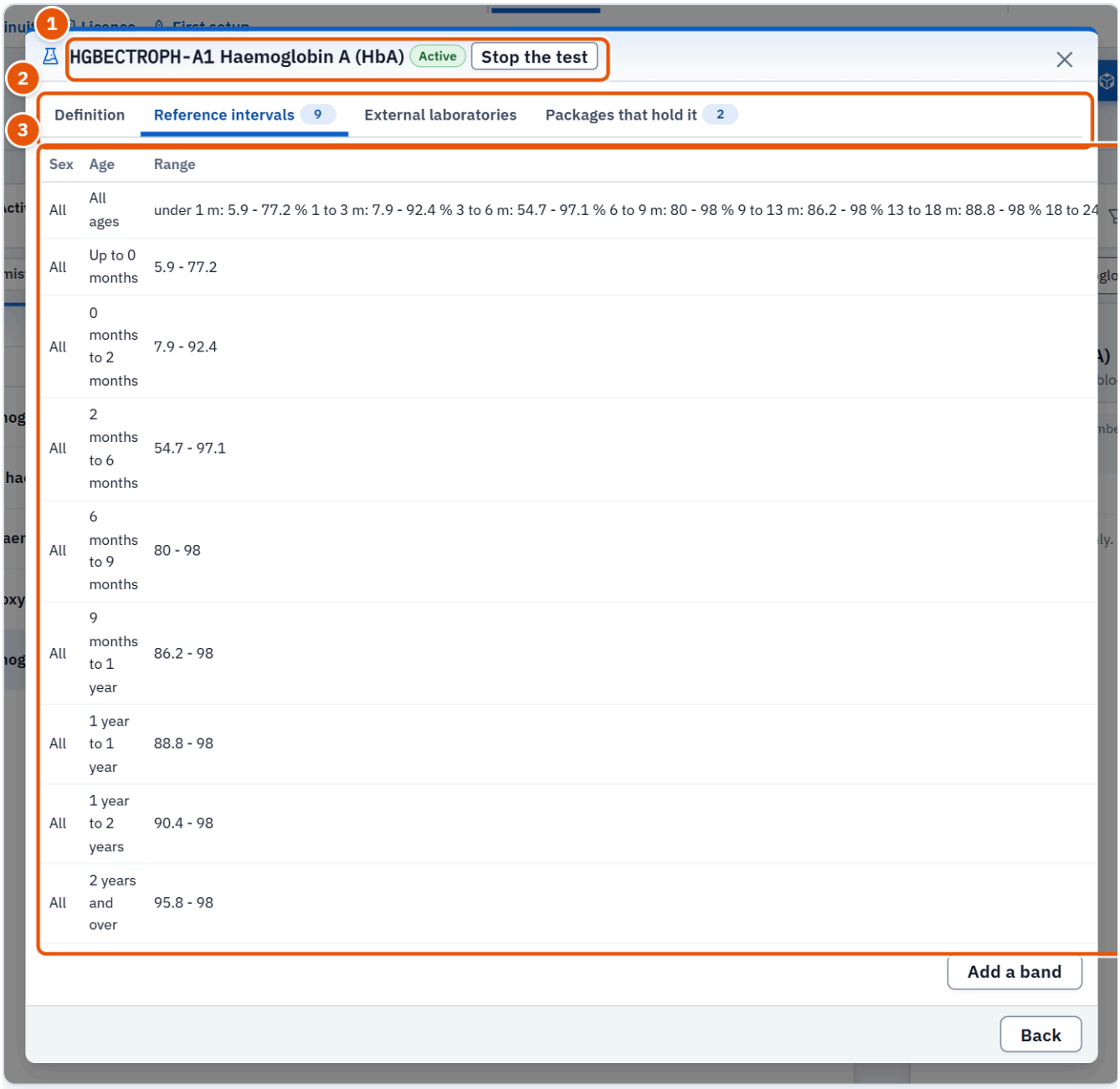


Figure 30-3: The test window: 1 the state and its switch, 2 the tabs, 3 the reference bands.

30.8.1 The Definition tab

Field	What it holds
English name, **Arabic name**	The names. The English name and the sample are required. If the Arabic name is left empty, the catalogue's own Arabic name is shown.
Other names it is found by	Other names the test can be found by.
Department	Its department (or **No department**).
Method	The method.

Field	What it holds
Price, **Largest discount**	The patient's price and the largest discount allowed.
Turnaround	The time to a result, in minutes.
Sample volume	The sample volume.
Needs fasting	Whether fasting is needed.
LOINC code, **CPT code**	The LOINC and CPT codes.
Its group in the report	The heading it prints under in the report.
Clinical significance, **Processing instructions**, **Reasons a sample is rejected**	Clinical significance, processing instructions, and reasons to reject a sample.

Press **Save the test**; it is enabled only when something has changed.

30.8.2 The External laboratories tab

For a test sent out. Choose a laboratory from **Add a laboratory from the list** (or **Add a new laboratory**), and for each give **Laboratory's cost**, **Turnaround in hours** and **The test's code at that laboratory**; mark one as **Default laboratory**, or **Remove** one. **The cost is what the laboratory charges us; the patient's price does not change with it.** Then **Save the laboratories**. A sent-out test with no laboratory leaves its orders waiting until one is chosen.

30.9 The reference-range window

Open it from the **Reference intervals** tab with **Add a band**, or **Edit** on a band. A band whose ages are still to be set shows **Needs review: set the ages**; its chip opens the band.

Field	What it holds
Sex	All, female or male.
From age, **To age**	The ages, each with a unit: days, months or years.
Low limit, **High limit**	The reference limits.
Critical below, **Critical above**	The critical limits.
Unit	The unit.
Condition	**No condition**, fasting, cycle phase or pregnant.
Normal result's words (for a text result)	The normal result's words, for a text result.

Press **Save the band**. The window refuses a first age above the second, a low limit above the high one, a critical-below that is not lower than critical-above, and a band with no limit, words or critical limit at all.

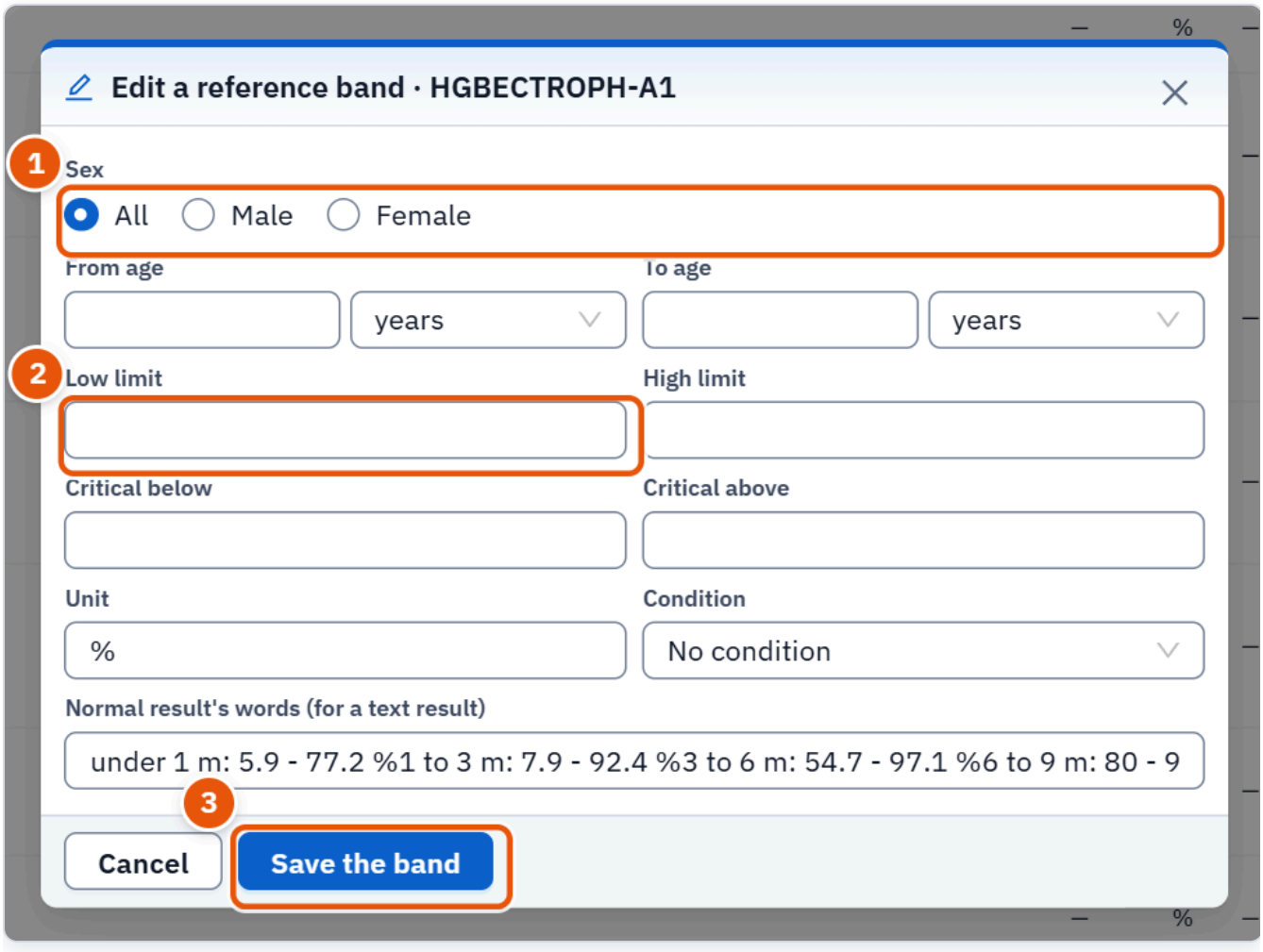


Figure 30-4: The reference-range window: 1 sex and ages, 2 the limits, 3 **Save the band**.

30.10 Tasks, step by step

30.10.1 Task 1 — Find the tests that lack something

1. Click a health card, for example the one for «**No price**». The list shows only those tests.
2. Narrow by department or type in the search box.
3. Choose a line and press **Open the test** to complete it.
4. Press **Clear the filter** when done.

30.10.2 Task 2 — Write a new test

The window **A test the laboratory writes** has four steps and a preview.

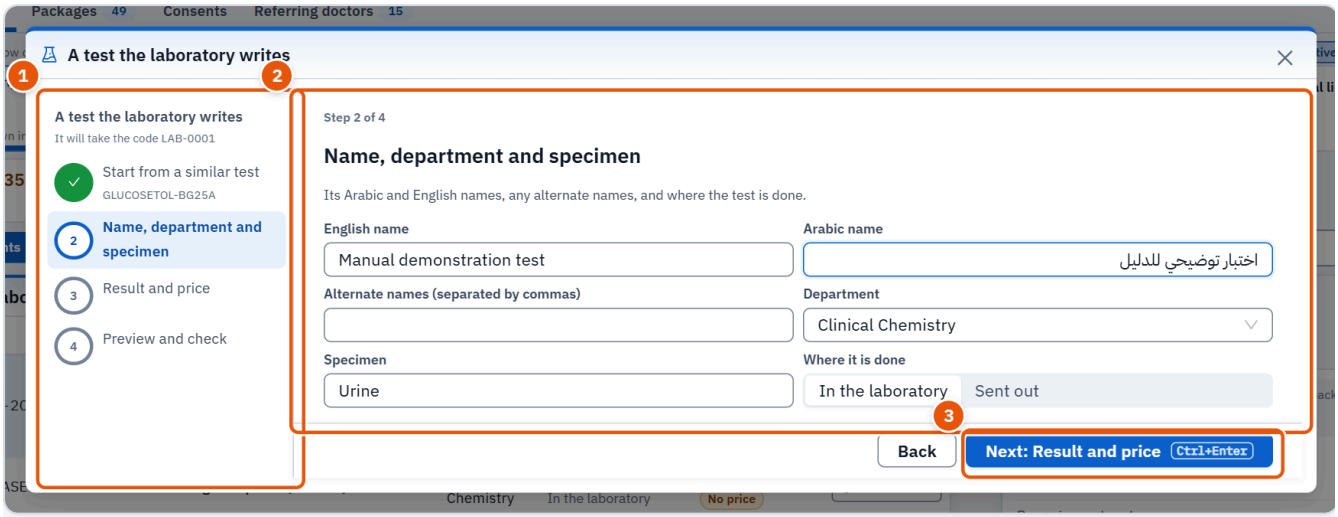


Figure 30-5: The new-test window: 1 the steps, 2 the fields, 3 the next button.

1. Press **New test**.
2. **Start from a similar test**: search a similar test by name or code. Its department, specimen, unit, turnaround and reference ranges come with it, never its name or price; if the unit differs the ranges are not copied. Or skip it: the test then starts empty.
3. **Name, department and specimen**: the English and Arabic names (both must be written before the next button works), alternate names, department, specimen and **Where it is done** (**In the laboratory** or **Sent out**; it starts as **In the laboratory**). The specimen is required only when the window was opened from a partner's printed line.
4. **Result and price**: **Kind of result** (**Number**, **From a list** or **Text**), the unit, or the values to choose from, one a line or separated by commas; the turnaround; the base price (neither can be below zero); the report heading; and whether fasting is required.
5. **Preview and check**: **Print preview** shows how the result prints, and **The catalogue's rules** lists what the server checked. The window says when nothing blocks.
6. Press **Save the test**. It works only after the check has finished and no blocker is listed. The window shows the code the test will take, and the screen confirms the save. If the server refuses, its reason is shown in the window.

The step titles can be clicked to go back, and a back button is offered except while saving. A blocker (for example a name already used by another test) stops the save until it is fixed; a warning is only shown.

30.10.3 Task 3 — Set a reference band

1. Open the test and its **Reference intervals** tab.
2. Press **Add a band**, or **Edit** on a band.
3. Fill the sex, ages, limits, unit and condition as the table above says.
4. Press **Save the band**.

30.10.4 Task 4 — Build a panel or a package

The panel window needs **Manage the test catalogue**.

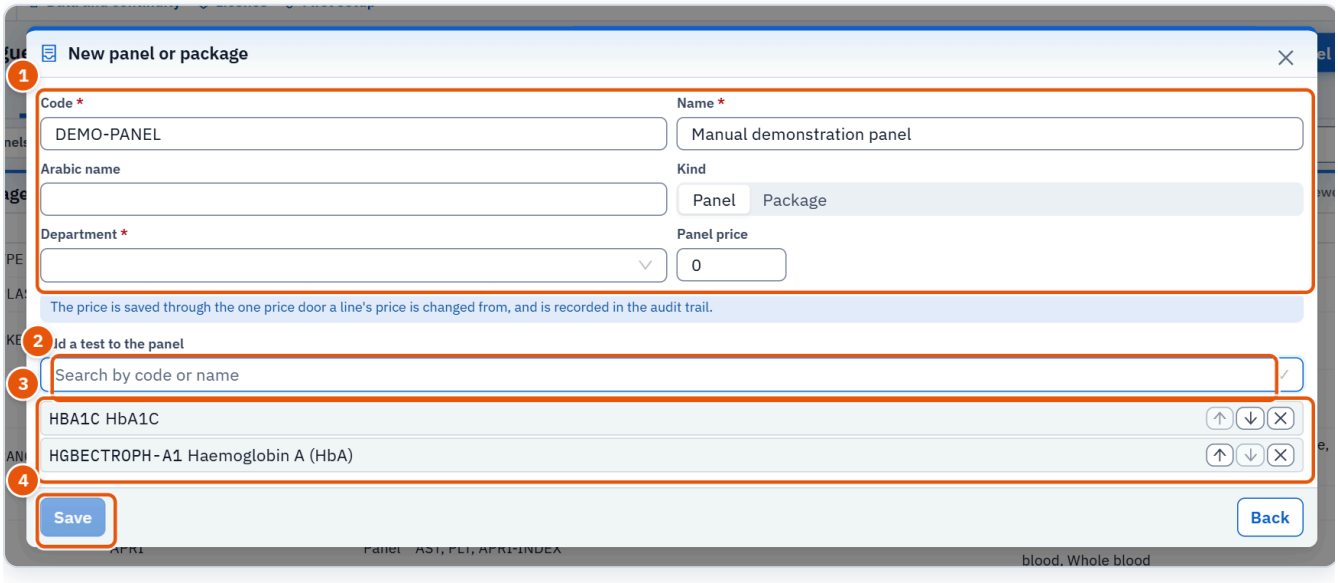


Figure 30-6: The panel window: 1 the code and names, 2 adding a member, 3 the members' order, 4 **Save**.

1. On the Packages page press **New panel or package**.
2. Type the **Code** (Latin letters and digits), the **Name** and the **Arabic name** (Arabic letters), choose the **Kind** (**Panel** or **Package**) and the **Department**.
3. Under **Add a test to the panel** search by code or name (two letters at least) and choose each test. Use the move-up and move-down buttons to order them and the remove button to take one out. The search offers only active tests that are not panels and not already in the list, so a panel inside a panel cannot be chosen.
4. Optionally set the **Panel price** (shown only to whoever holds **Manage prices, contracts and commissions**); it is saved through the same price path as a line's price and recorded in the audit trail.
5. Press **Save**. It is blocked, with the reason as a tooltip, until the code, name, department and at least one member are present, the Arabic name (if written) has Arabic letters, and no other test already has the name.

The code is turned to capitals, its spaces to hyphens, and is limited to 40 characters. Only a row of kind panel opens for editing; a package row does not. When editing an existing panel the code and English name cannot be changed from here (the Arabic name can), and **Stop the panel** or **Restart the panel** switches it.

30.10.5 Task 5 — Change many tests at once

1. Tick the tests, or press **Choose all shown**. The bar appears with **... chosen**.
2. Under **Action** choose one: **Switch on**, **Switch off**, **Move to a department**, **Where it is done** or **Change the specimen**, and give the department, place or specimen the action needs.

3. Press **Apply** and confirm: the action reaches all the chosen tests at once. The button is greyed until the department, place or specimen is given (for the three actions that need one), and while the action is running.
4. **Clear the choice** drops the choice without applying.

When it succeeds the screen says how many tests it was applied to. If it fails, the screen shows the server's reason, or the message in the table below; the program applies it to all or none.

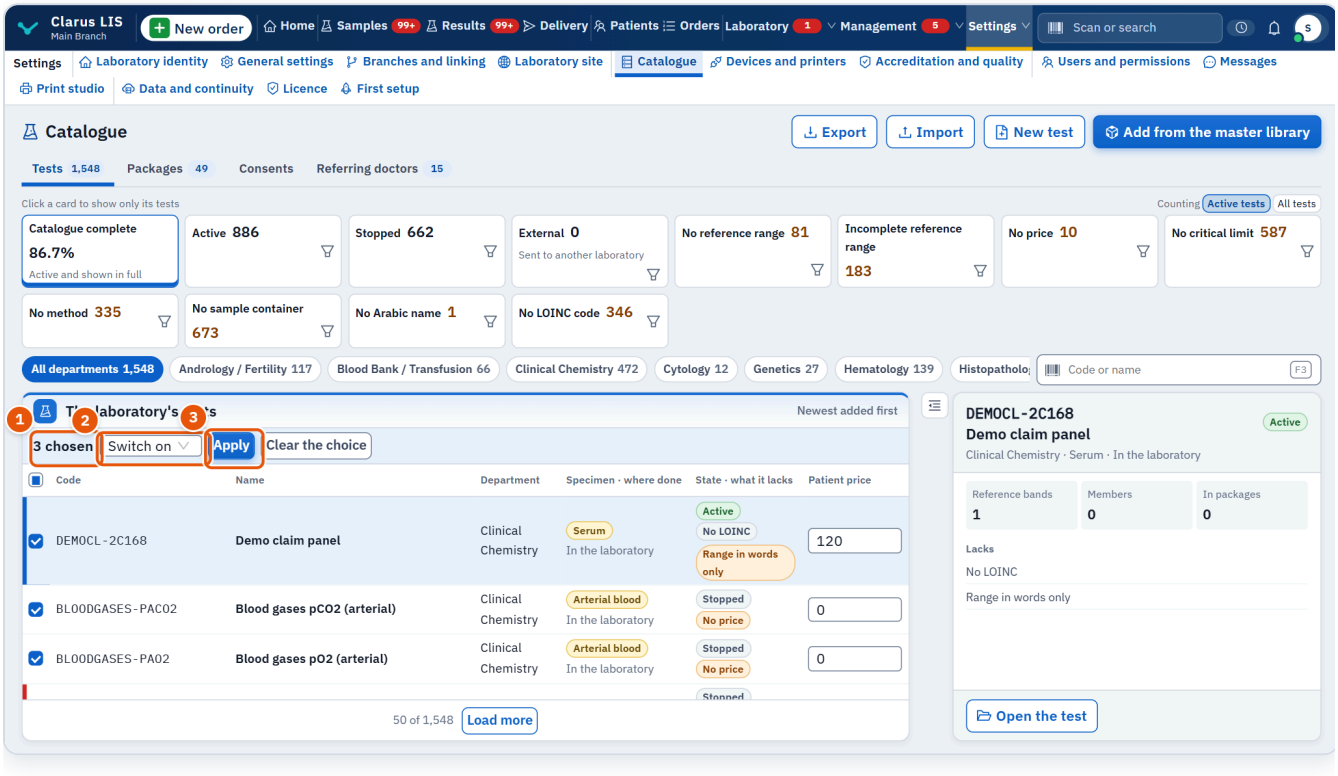


Figure 30-7: The bulk bar: 1 the count, 2 the action, 3 **Apply**.

30.10.6 Task 6 — Export and import

1. Press **Export** to download the catalogue (the button is greyed while the file is being prepared).
2. To import, press **Import**. The window explains the file: a CSV with the template's columns, each line a test created or updated by its code.
3. Press **Download the template** to get the template, fill it, then **Choose a CSV file**. The window says how many test lines it read.
4. Note the warning: a line whose code matches an existing test updates it. Then press **Import**; it is greyed until a file with at least one test line is chosen, and it disappears once the result is shown.
5. The result reports how many were created, updated and refused; each refused line is named with its number and code (the first 20 are listed). If the import fails, the window says so and nothing is shown as imported.

30.10.7 Task 7 — Add a test from the master library

1. Press **Add from the master library**.
2. Type two letters at least in **Search by code or name**.
3. Press **Add it** on the test. A test already there shows **In your catalogue**. If adding fails, a message appears beside that test.

A test is added with its whole template: unit, specimen and reference bands.

30.11 Messages and what to do

The screen says	Meaning	What to do
This server does not show the catalogue yet...	The server is older than the screen	Update the program.
The catalogue could not be loaded.	A connection fault	Check the connection and reload.
The action could not be applied. Nothing was changed.	A bulk change failed	Try again, or check the connection.
Only the laboratory's administrator imports.	Your role may not import	Ask the administrator.
Only the laboratory's administrator saves reference bands.	Your role may not save bands	Ask the administrator.
The server did not accept this band. Check its values.	A limit or age is not valid	Read the red line under the field.
The panel was saved, but ... members were not accepted	A member does not exist or is itself a panel	Reopen the panel and fix its members.
The panel was saved, but its price was not changed.	The price path refused	Read the reason given with it.

30.12 See also

Prices and contracts for price lists, **Results** where the intervals are applied, and **Orders** where these tests are ordered.

Chapter 31

Devices and printers

Menu: **Devices and printers**. Address: `/setup/devices`.

31.1 What this screen is for

This is where the laboratory tells the program which analyzers it owns, how each one talks to the computer, and which of the analyzer's test codes mean which of the laboratory's tests. It is also where the stations (the computers that serve an analyzer or a printer) are paired, and where each station is told which printer to use for labels, receipts and reports.

The screen has four pages, chosen by the bar **The devices' pages**: **Analyzers**, **Test codes**, **Stations and printers** and **Library**. The most important result of getting this screen right is simple: a result an analyzer sends lands on the right tube and the right test, with nobody retyping it.

> **Note**
>
> This chapter is for the laboratory's own users. The deep technical set-up of a link (cables, networks, the analyzer's own menus, certificates) belongs to the service manual and is not repeated here.

31.2 Who sees it

You can...	...if your role holds
Open the screen and use all four pages	**Manage devices**
See the analyzer's messages in full, with the patient's data (otherwise they are shown with the data hidden)	**Read patient files**

The menu hides the screen from everyone else. The **Test message** command under **More** is offered only to Clarus's own support engineer; no laboratory role holds that right, so you will not see it.

31.3 The screen in a glance

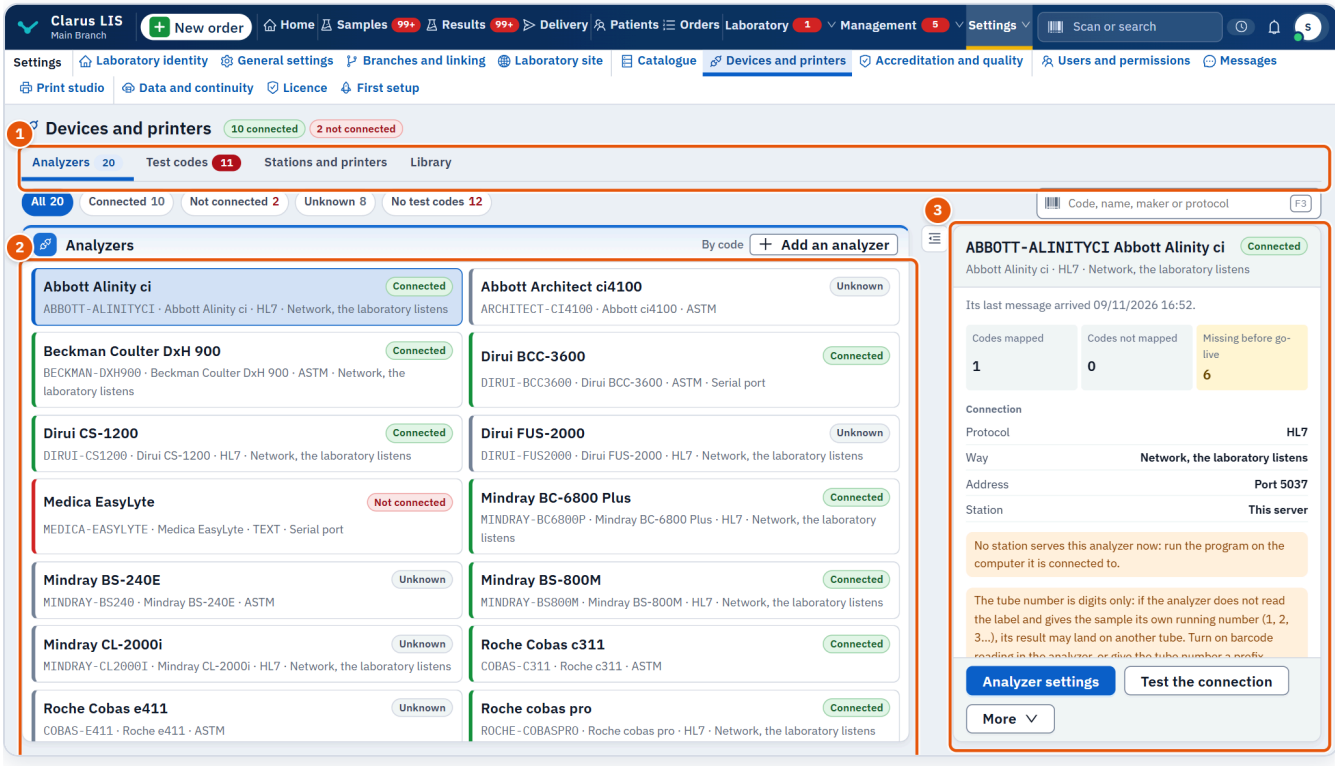


Figure 31-1: The Analyzers page: 1 the pages bar, 2 the fleet of analyzer cards, 3 the chosen analyzer's details.

1. **The pages bar** and, beside the title, how many analyzers are **Connected** and how many are not.
2. **The fleet**: one card per analyzer, with the state filters and a search box.
3. **The chosen analyzer**: its buttons, its link now, its figures, its connection, its work orders and flags, and its codes.

About the analyzers in the pictures. The analyzers shown in this manual's pictures are examples, from several makers and of several kinds. Any analyzer that speaks ASTM or HL7, or that exports its results as files, is linked the same way: you choose its way of connecting on its card.

31.4 The Analyzers page

31.4.1 The list

Element	What it does
Search box	Finds an analyzer by its code, name, maker, protocol or connection.
Devices' state	**All**, connected, not connected, or **No test codes**.
Add an analyzer	Opens a blank **Analyzer settings** window.

Element	What it does
A card	The analyzer's name and code, the maker and the way it connects, and a tag: **Connected**, **Not connected** or **Unknown**. Press it to choose it.

If the laboratory has no analyzer yet the page says so: **No analyzer is registered in this laboratory yet.**.

31.4.2 The chosen analyzer

Element	What it does
Analyzer settings	Opens the settings window (see 31.9.1 Task 1 — Add an analyzer).
Test the connection	Asks the analyzer's station to try to reach the analyzer and shows what it found (see 31.9.4 Task 4 — Test the connection).
More	**Save the link file**, **Open a link file**, and **Test message** (Clarus support engineer only).
The sentence under the buttons	Why the link is called connected or not: when its last message arrived, or that the station is up but the analyzer itself has sent nothing, or that nothing has arrived yet.
Codes mapped, **Codes not mapped**, **Missing before go-live**	Three figures. A figure that needs attention is marked.
Connection	**Protocol**, **Way**, **Address**, the analyzer's own address when there is one, and **Station**: **A paired gateway station** or **This server**.
Missing before go-live	What still stands between this analyzer and going live (for example **Test codes mapped**, **Validation on site**, **A rollback plan**). **Complete what is missing in «Analyzer setup»** opens the settings.
The device's mapped codes and **Codes that arrived unmapped**	The first twelve of each.

Below these the page may show more sections, depending on the analyzer: **Work orders** (what was sent to it and what came back), **Analyzer flags**, **Device lists** (only for a POCT1-A analyzer), **Results files** (only for an analyzer that writes a file) and **Rack positions**.

31.5 The link: what the analyzer sends

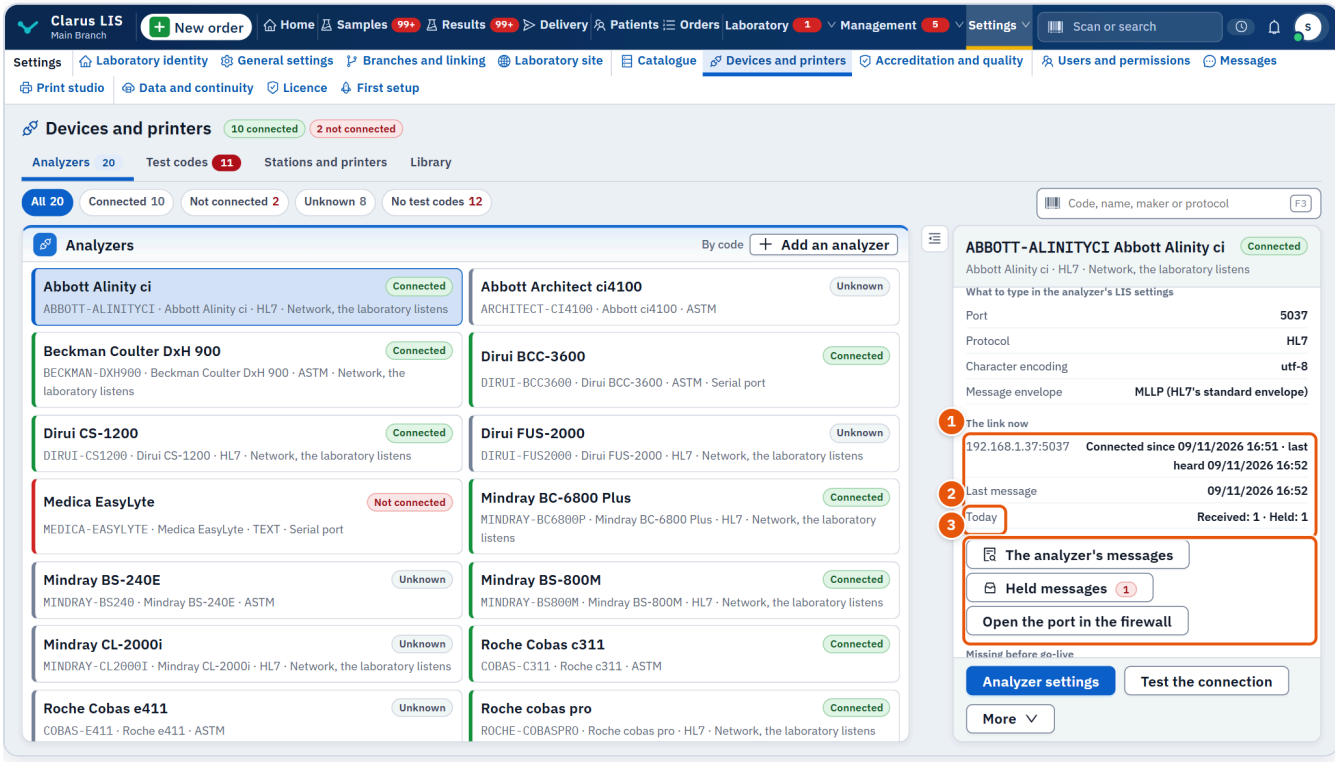


Figure 31-2: The link card: 1 the link now, 2 the day's counts, 3 the messages and the held messages.

Under the connection the card **The link now** shows whether a link is open. With one open it says **Connected since … · last heard …**; with none, **No link open now**. It also shows **Last message**, **Today** (received and held counts), **The station serving it**, and **What to type in the analyzer's LIS settings**: the address and port, or the serial settings, to type in the analyzer's own LIS menu.

Element	What it does
Link log	The latest eight events of the link, in words: **Connected**, **Disconnected**, **Started listening**, **The analyzer could not be reached**, **The port is taken**, **The folder is missing**, **Files filed**, and so on.
The analyzer's messages	What the analyzer sent and what was sent to it (**Received** or **Sent**). **View** chooses **Patient data hidden** or **Complete**; without the right to read patient files only the first is available.
Held messages	Rows the analyzer sent that could not be filed, each with its reason. Choose rows, fix the cause, then **Process again**.
Keep the value typed by hand	For a held row whose value someone has since typed by hand: keeps the typed value and settles the row.
Open the port in the firewall	Asks Windows to open the analyzer's port on the computer serving it. Shown only for an analyzer that connects to the program (the program listens).

31.5.1 Why a message is held

A message is held when the program could not tell which tube or which test it belongs to: a code nobody mapped, or a sample number that matches no tube. Nothing is lost; the row waits. Map the code on the **Test codes** page, or correct the sample number in the settings, then choose the rows and press **Process again**. The result **Filed: … · Still held: …** tells you how many were filed and how many are still held.

31.6 The Test codes page

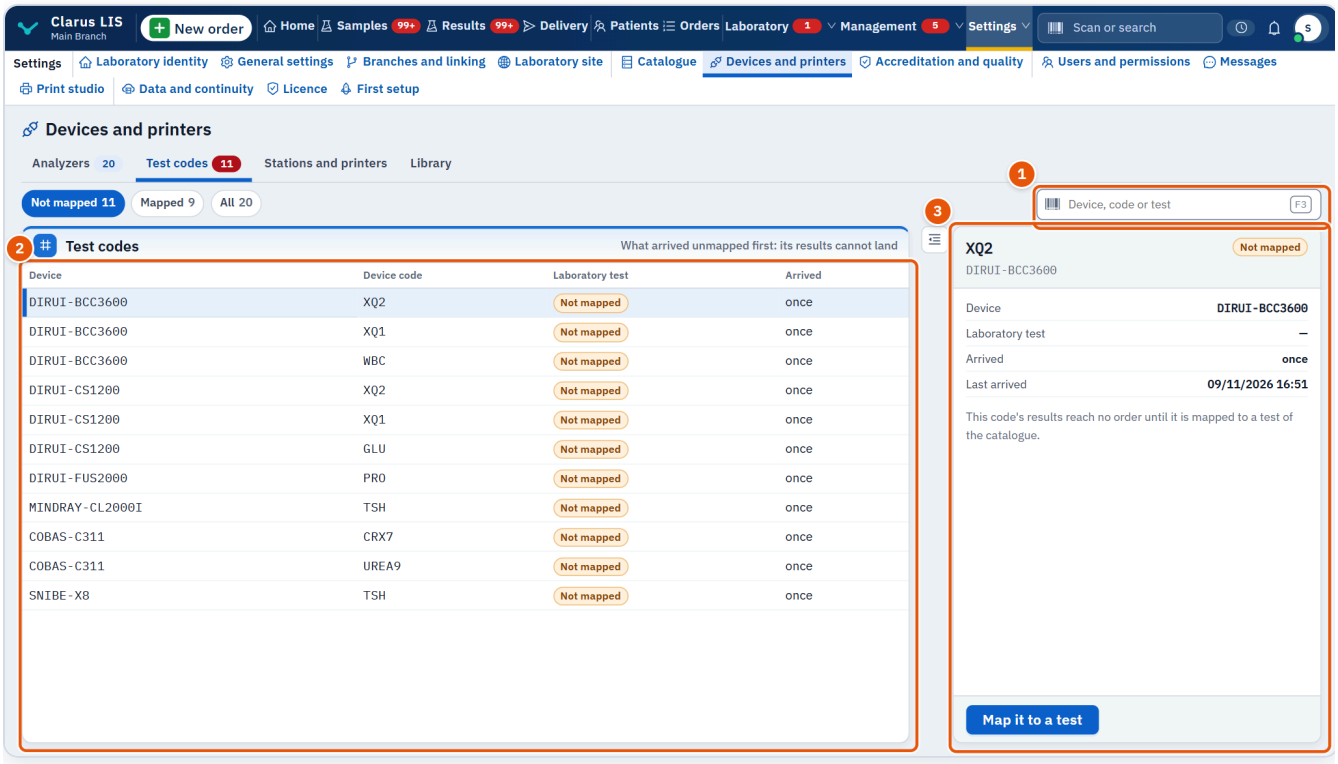


Figure 31-3: The Test codes page: 1 the filter and search, 2 the codes, 3 the chosen code.

An analyzer names its tests with its own codes. This page lists every code that arrived, with **Device**, **Device code**, **Laboratory test** and **Arrived**. The page opens on the **Not mapped** filter, because codes that arrived without a mapping cannot land their results.

Element	What it does
Codes' state	**Not mapped** (the one the page opens on), **Mapped** or **All**.
Search box	By device, code or test.
The chosen code	The chosen code, with **Last arrived** (when there is one). For an unmapped code it explains that its results reach no order until it is mapped.
Map it to a test / **Change the test**	In the details of the chosen code: the first for an unmapped code, the second for a mapped one. Opens the mapping window (31.9.3 Task 3 — Map a code to a test).

Element	What it does
Remove the mapping	Removes the mapping, after asking: its results land on no test afterwards.

31.7 The Stations and printers page

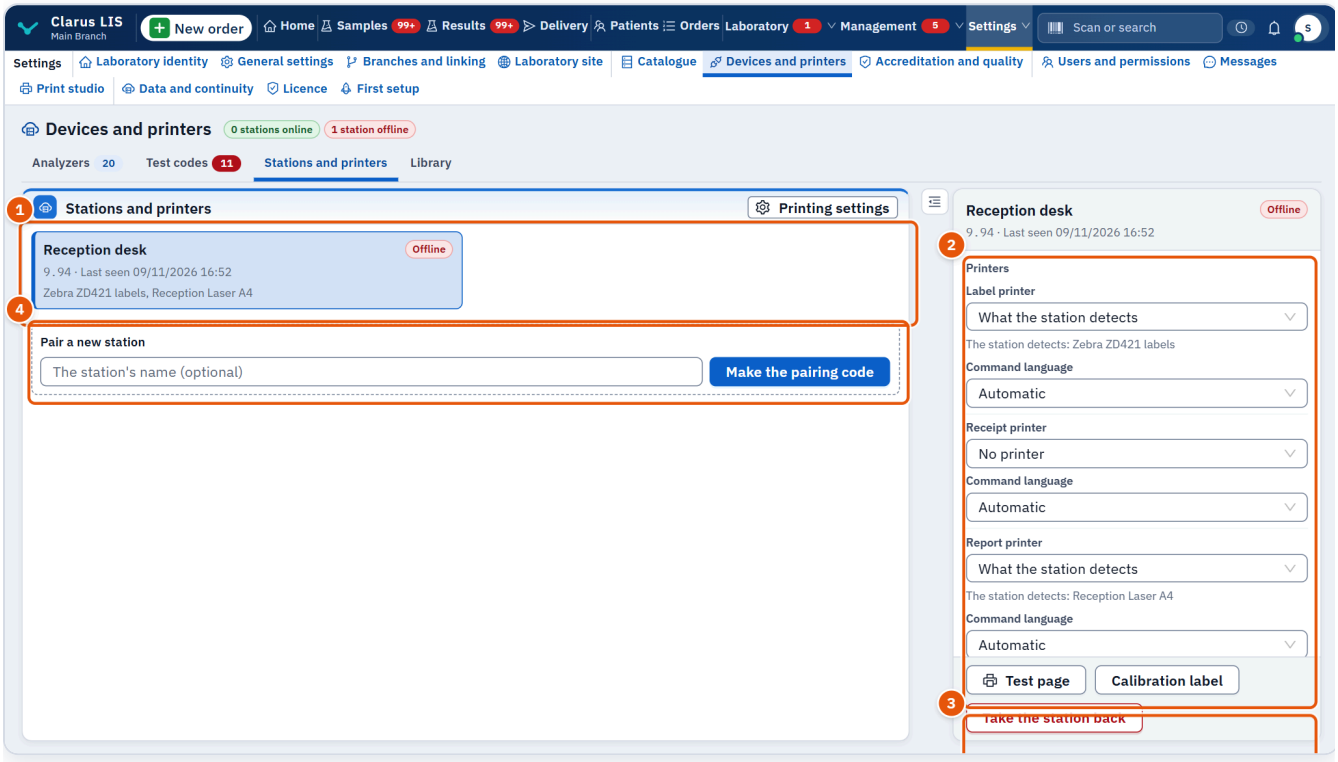


Figure 31-4: The Stations page: 1 the stations, 2 the chosen station's printers, 3 the analyzers cabled to it, 4 pairing a new station.

A station is the program running on a computer that has an analyzer cabled to it or a printer. The page counts the stations online and offline and names the latest version of the station program. A station that has been taken back is no longer listed.

Element	What it does
A station's card	Its name and its state: **Online**, **Offline**, **Updating** or **Unknown**; when it was last seen; how many messages wait in its queue.
Printers	One choice for each role: **Label printer**, **Receipt printer**, **Report printer**. Beside each, **What the station detects** lists what the station sees, and **Command language** chooses the printer's command language (**Automatic** or **Windows driver**). **Save the printers** saves (it is dim until something is changed). If the station sees no printer, the section says so and offers nothing to choose.
Test page	Sends a test page to the printers chosen. Dim while the station sees no printer.

Element	What it does
Calibration label	Prints a calibration label that shows the label's real edges; dim until the station has a label printer, chosen or detected.
Analyzers cabled to this station	Tick the analyzers cabled to this station's computer; an analyzer belongs to one station, so ticking it here takes it from any other. **Save the analyzers** saves.
Latest jobs	The latest jobs sent to the station and their state: **Waiting**, **At the station**, **Done**, **Failed** or **Timed out**.
Take the station back	Takes the station back, after asking.
Printing settings	Opens the printing settings (see 31.9.7 Task 7 — Choose a station's printers and test them).
Pair a new station	Makes a pairing code for a new station (see 31.9.6 Task 6 — Pair a new station).

31.8 The Library page

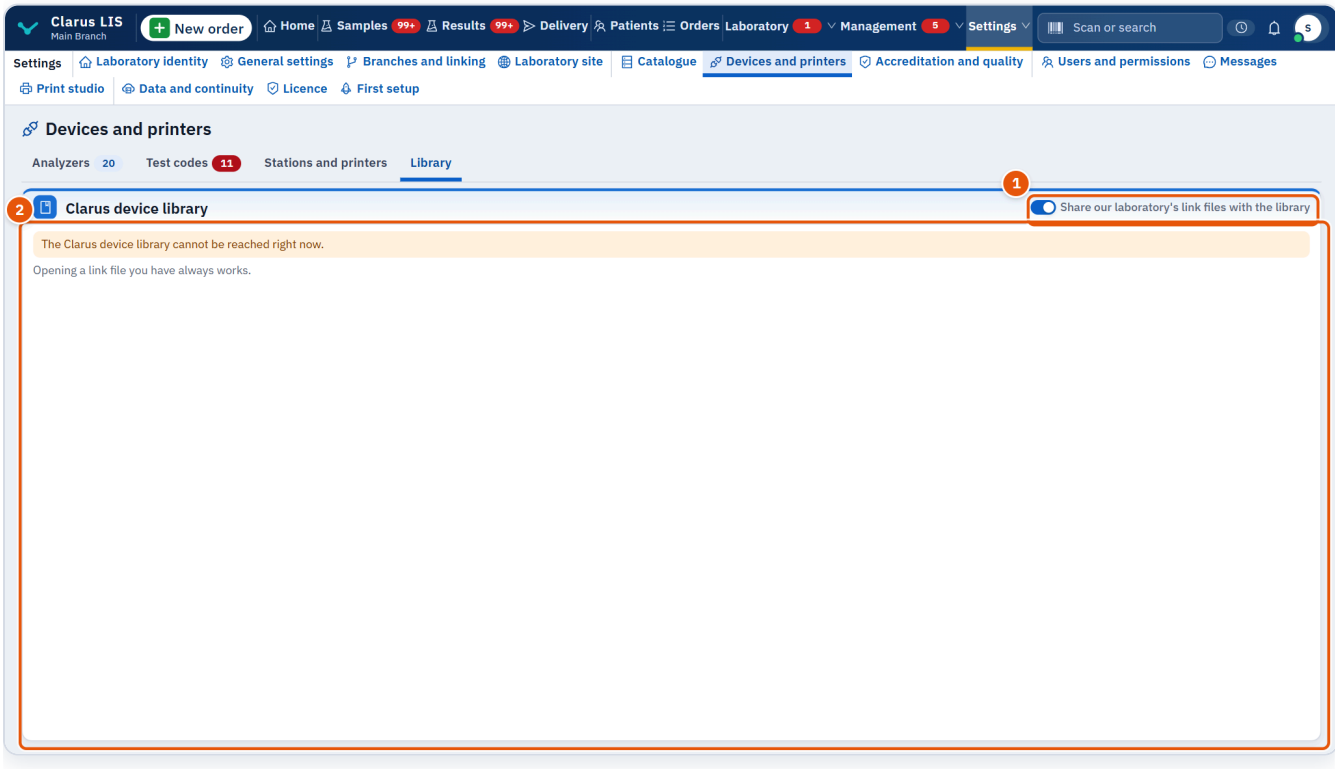


Figure 31-5: The Library page: 1 the sharing choice, 2 the link files by maker.

Clarus device library offers link files that Clarus has prepared for common analyzers: the codes an analyzer uses and the tests they mean. A file is marked **Tried on a real analyzer** when it was tried on a real

analyzer, or **Written from a document — review it** when it was prepared from the maker's document and must be reviewed.

Element	What it does
Share our laboratory's link files with the library	A switch: whether this laboratory's own link files may be shared with the library.
Take it	Opens a window for the file (see 31.9.10 Task 10 — Use a link file, from the library or from a file): first the choice of analyzer and the button **Review what it would change**.
Review what it would change	Shows what the file would change on the device: new codes, codes that already mean another test, codes naming tests the laboratory does not have (not applied), codes already the same.
Apply these codes	Writes the codes; dim when there is nothing new or changed. Nothing is written before this button.

If the library is closed to this copy or cannot be reached, the page says why instead of the list. Opening a link file you already hold always works, even when the library cannot be reached (**Opening a link file you have always works.**).

31.9 Tasks, step by step

31.9.1 Task 1 — Add an analyzer

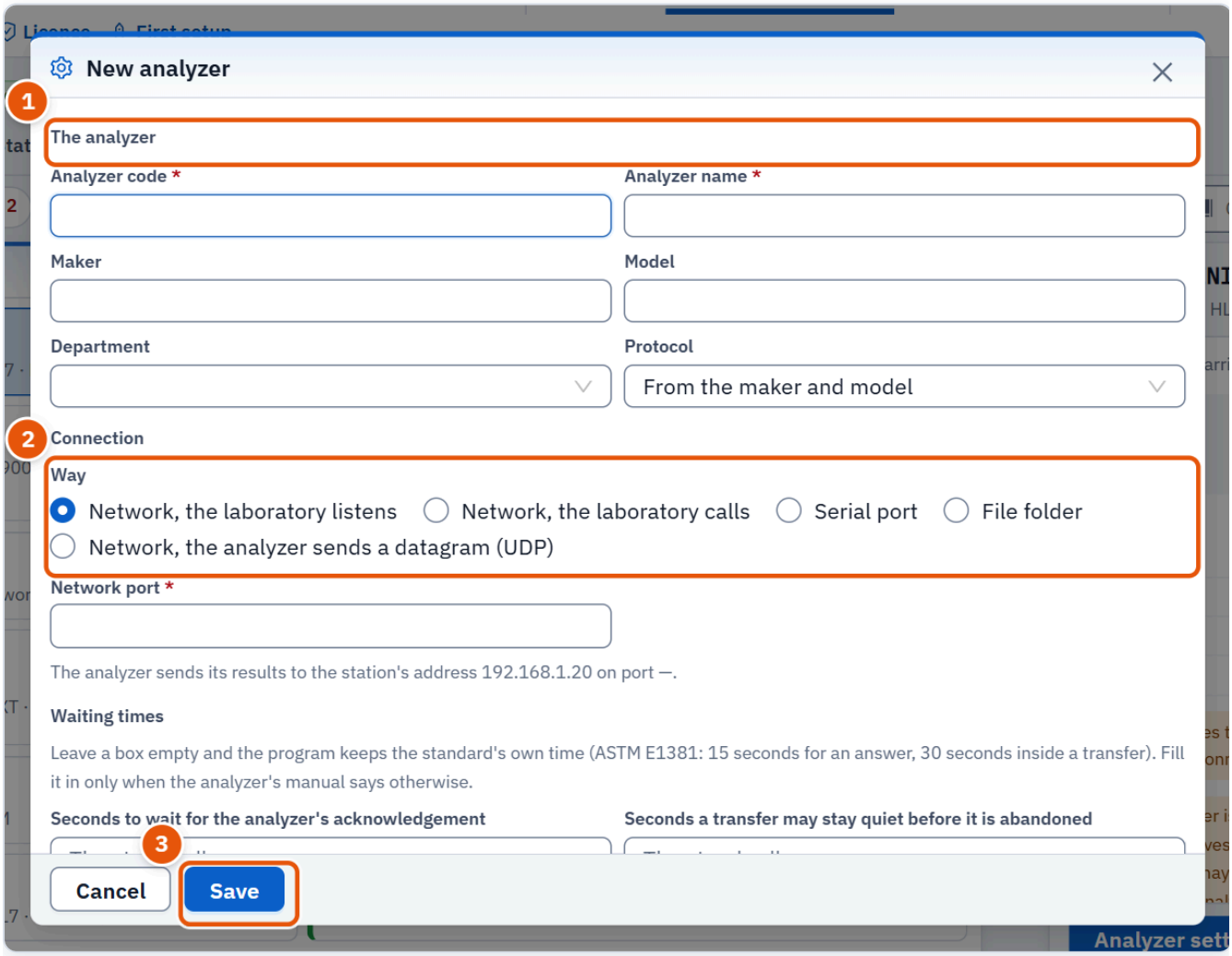


Figure 31-6: The new analyzer window: 1 the identity, 2 the way it connects, 3 Save.

1. On the Analyzers page press **Add an analyzer**. The window **New analyzer** opens.
2. Under **The analyzer** fill **Analyzer code** and **Analyzer name**, then **Maker**, **Model** and **Department**. The protocol is taken from the maker and model (**From the maker and model**).
3. Choose the way it connects. The choices are **Network, the laboratory listens**, **Network, the laboratory calls**, **Serial port**, **File folder** and, for some, **Network, the analyzer sends a datagram (UDP)**. The window then asks only for what that way needs: a **Network port** (network ways; the **The analyzer's network address** only when the program connects out to the analyzer, and a UDP port for UDP), the **Serial port** with its **Line speed**, **Data bits**, **Parity** and **Stop bits**, or the **The folder the analyzer exports its results to**.
4. A required field left empty shows **This field is required.**; a wrong port shows **Type a port number between 1 and 65535.**.
5. Press **Save**. The page says «The settings of … were saved».

For a network analyzer the window tells you what to type in the analyzer's own menu (**The analyzer sends its results to the station's address … on port ….**). For a serial analyzer the list of ports comes from the stations; if it is empty the window says **No station has reported a serial port yet. Plug the cable into the station's computer, then open this window again.**.

31.9.2 Task 2 — Set up how the link reads the analyzer

The same window has more groups. Most laboratories change few of them; follow the analyzer's guide (**The analyzer's guide: what to set in its menus**, with **Where a link usually stumbles** and **How to check once it is set**) when one is shown.

Group	What it holds
Reading	**Character encoding**, **Message envelope**, **The analyzer's network address**, **Where the sample number is in the message**, **Where the specimen sits in HL7 messages**, **Codes the analyzer sends that are not filed**, **A prefix the analyzer puts before the sample number** and **The analyzer adds zeros before the sample number**.
Two-way work	**Both directions**: **How the analyzer asks about a tube**, and **Send work orders to the analyzer automatically as tubes arrive** with **Work-order message**.
Waiting times	Waiting times. Leave them empty unless the analyzer's manual says otherwise.
Microbiology	For analyzers that send organisms and susceptibilities.
Alert	**Minutes of silence before the alert while work waits (0 switches it off)**.
Results	**This analyzer's results are approved automatically when they pass every approval check**, and **Send quality-control results to the quality module**.
On-site validation and go-live	The records that complete «Missing before go-live»: the date and the person who validated, the document, the owners, the network, the rollback plan, and **Go-live approval: the analyzer was validated on site, and its results may be approved automatically**.
The analyzer's graphs on the report	Which of the analyzer's graphs print on the report, and their size.
Message template (JSON)	A template that tells the program where in a message the results are. **Try it on the last message** tries it on the last message and says how many results it read.

> **Caution**
>
> Automatic approval does not start until **Go-live approval: the analyzer was validated on site, and its results may be approved automatically** is given. Until then the analyzer's results wait for a person to approve them (**Automatic approval is on for this analyzer and will not work until «Go-live approval» is given under «Analyzer setup → On-site validation and go-live». Until then its results wait for a person to approve them.**).

31.9.3 Task 3 — Map a code to a test

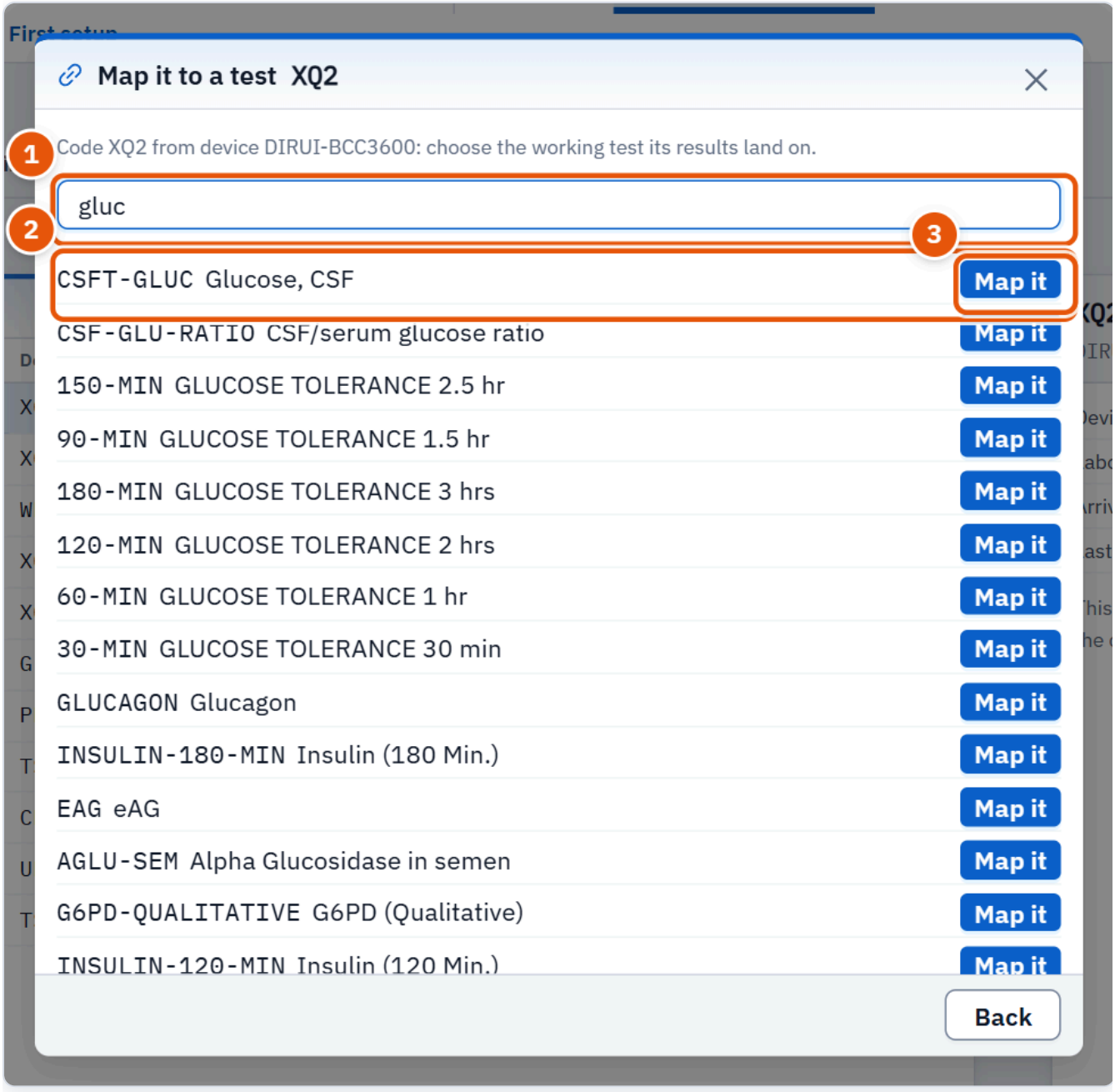


Figure 31-7: Mapping a code: 1 the search box, 2 a test found, 3 Map it.

1. Open the **Test codes** page and choose a code marked **Not mapped**. (The list **Codes that arrived unmapped** on the Analyzers page only shows codes; it cannot be pressed.)
2. Press **Map it to a test** (or **Change the test** for an already mapped code). In the search box type at least two letters of the test's code or name.
3. Press **Map it** on the test found (the window offers it only after two letters are typed); if the code was already mapped, this replaces its earlier test. To keep the earlier test, press **Add it too** instead (offered only for an already mapped code); the result then lands on whichever the tube carries.
4. The page says «Code … is mapped to …». If nothing matches, it says that no working test matches your search.

5. To undo, choose the code and press **Remove the mapping**, then confirm.

Then go back to the analyzer's held messages and process the rows again.

31.9.4 Task 4 — Test the connection

1. Choose the analyzer and press **Test the connection**.
2. The station serving it tries to reach the analyzer; the page says **The station is testing the connection to the analyzer**.
3. The answer appears: **Station «...» reached the analyzer: ...** or **Station «...» did not reach the analyzer: ...**, with the detail the station found.

If the button is dim, the reason is written under the buttons: no station serves the analyzer, or no station is marked as cabled to it (**No station has been marked as cabled to this analyzer yet: tick it on its station in «Stations and printers».**), or the station is no longer paired. If the station does not answer within a minute: **The station did not answer within a minute. Make sure it is running, then test again.**

31.9.5 Task 5 — The firewall step and what a person sees when a link is down

When the laboratory listens for the analyzer, Windows Firewall on the serving computer must let the analyzer in.

1. Choose the analyzer and look at the link log.
2. If it says **Waiting for the firewall rule**, press **Open the port in the firewall**.
3. Within two minutes accept Windows' request on the computer that serves the analyzer (**Opening the port was asked: accept Windows' request on the computer serving the analyzer within two minutes.**). If the permission was refused or lapsed the log says so; press the button again.

The program never opens a port to public networks. If the computer is on a network Windows calls Public, the card warns you and explains that the network must be made Private by that computer's administrator.

What a person sees when a link is down:

- the analyzer's card shows **Not connected** and the count at the top shows it;
- the sentence under the buttons says when the last message arrived, or that nothing has;
- the log names the cause, such as **Disconnected**, **The analyzer could not be reached**, **The port is taken** or **The folder is missing**;
- warnings on the card give the likely fix, for example that no station serves the analyzer now, or that the file format is not set;
- results stop arriving, but nothing already received is lost, and any row that could not be filed waits among the held messages.

31.9.6 Task 6 — Pair a new station

1. Open the **Stations and printers** page.
2. In **Pair a new station** type the station's name if you wish (**The station's name (optional)**) and press **Make the pairing code**.
3. The code appears with the time until which it is valid. Press **Copy**.
4. Type the code into the station's program when it is installed on the other computer.

The code is valid only until the time shown, and is not shown again once the page is closed. Then choose the new station and set its printers and its cabled analyzers.

31.9.7 Task 7 — Choose a station's printers and test them

1. On the Stations page choose the station.
2. Under **Printers** choose a printer for each role, then press **Save the printers**.
3. Press **Test page**. The page says to how many printers a test page was sent.
4. For the label printer, press **Calibration label** to see the label's real edges; then in **Printing settings** adjust the offsets if the print sits off.

Printing settings holds **How the program prints**: **Silent printing through the stations** (each station prints on its chosen printer with no dialog; a role with no printer chosen opens the browser's dialog) or **The browser's print dialog**. It also holds the label's **Label printer resolution** and **Print direction**, and offsets and sizes for the label, the receipt and the report. These corrections apply on paper only and never change the PDF a patient receives.

31.9.8 Task 8 — Cable an analyzer to a station

1. Choose the station.
2. Under **Analyzers cabled to this station** tick the analyzers cabled to that computer.
3. Press **Save the analyzers**.

31.9.9 Task 9 — Take a station back

1. Choose the station and press **Take the station back**.
2. Read the question and confirm. The station will not print or receive from analyzers until it is paired again.

31.9.10 Task 10 — Use a link file, from the library or from a file

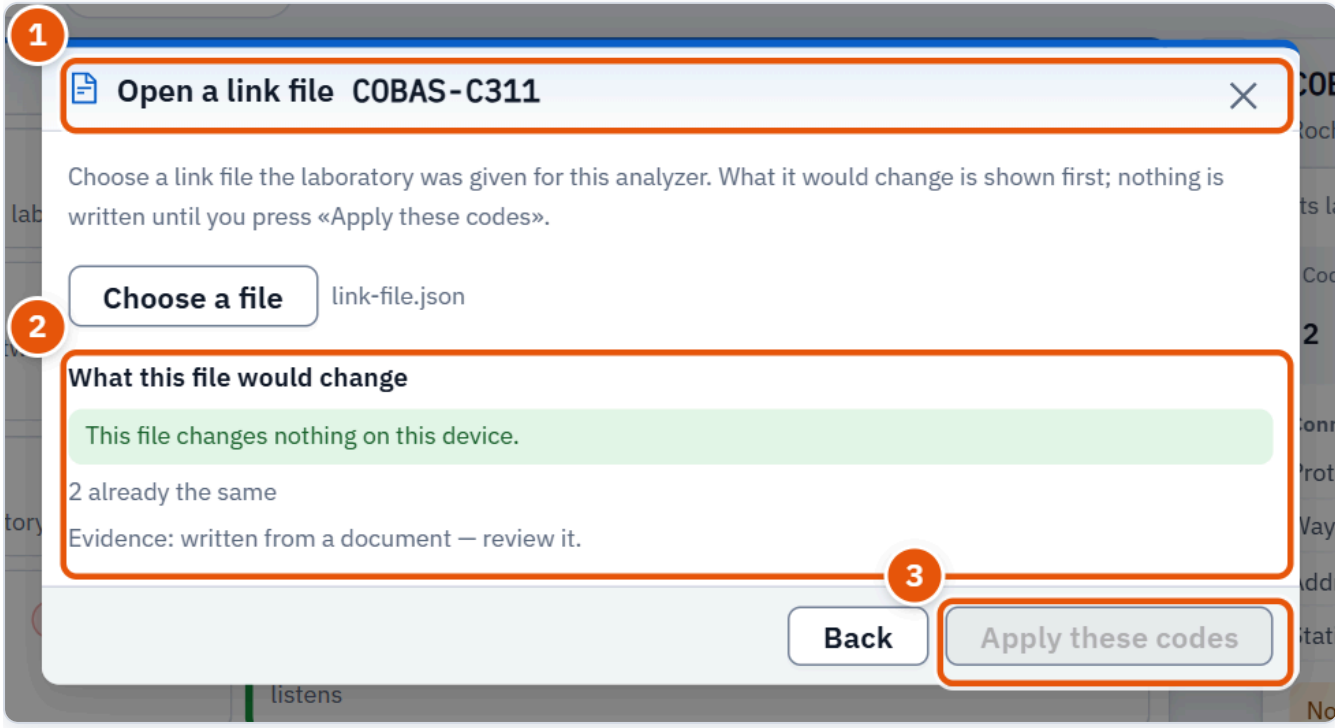


Figure 31-8: Reviewing a link file: 1 the device, 2 what it would change, 3 Apply these codes.

1. On the Library page press **Take it** on a file, or, on an analyzer, press **More** then **Open a link file** and **Choose a file**.
2. If asked **For which of your devices?**, choose the analyzer. If the laboratory has none, add it first (**Add the device first, then take its link file from the library.**).
3. Press **Review what it would change** and read **What this file would change**. Codes can differ between laboratories, so check the list against your own analyzer.
4. Press **Apply these codes**. Press **Back** to leave without changing anything.

To keep this laboratory's own codes as a file, press **More** then **Save the link file**.

31.10 Messages and what to do

The screen says	It means	What to do
No analyzer is registered in this laboratory yet.	No analyzer has been added.	Press **Add an analyzer**.
No link open now	The analyzer is not connected at this moment.	Check the cable or network, then **Test the connection**.

The screen says	It means	What to do
The analyzer has sent no messages yet.	Nothing has arrived from the analyzer yet.	Send a test from the analyzer, or check the settings it was given.
This code's results reach no order until it is mapped to a test of the catalogue.	The code is not mapped.	Map it (31.9.3 Task 3 — Map a code to a test).
No station serves this analyzer to test the connection: run the program on the computer it is connected to.	No station serves this analyzer.	Run the program on the computer it is connected to.
No station has been marked as cabled to this analyzer yet: tick it on its station in «Stations and printers».	No station is marked as cabled to it.	Tick it on its station (31.9.8 Task 8 — Cable an analyzer to a station).
The computer that serves this analyzer is on a network Windows classes as Public, so Windows Firewall keeps the analyzer out and its results do not arrive. How a network is classed is a security setting for the computer's owner, and the program does not change it: if this is the laboratory's trusted network, make it Private with an administrator's account: Settings > Network & internet > network properties > Private network; or ask the computer's administrator. The program does not open the analyzer's port to public networks: it would then be open on every network the computer joins.	The serving computer is on a Public network.	Ask the computer's administrator to make it Private.
This analyzer's file format is not set yet, so its files will not be read: set it under «Results files» below the card.	The analyzer's file format is not set.	Set it under **Results files**.
The tube number is digits only: if the analyzer does not read the label and gives the sample its own running number (1, 2, 3…), its result may land on another tube. Turn on barcode reading in the analyzer, or give the tube number a prefix.	The tube number is digits only and the analyzer may number samples itself.	Turn on barcode reading in the analyzer, or give the tube number a prefix.
The file could not be taken: either the library cannot be reached now, or the file does not carry the Clarus signature and was refused. Nothing was changed.	The library could not be reached, or the file lacks the Clarus signature.	Nothing changed; try again later or use a file you hold.

The screen says	It means	What to do
No gateway station is paired with this laboratory.	No station is paired.	Pair one (31.9.6 Task 6 — Pair a new station).
No printer is bound on this station yet — choose one for each role first.	No printer is chosen on the station.	Choose one for each role first.
Every attempt to update the station failed: install the newest version on it by hand.	Every attempt to update the station failed.	Install the newest version on it by hand.

31.11 See also

- **Results**: where the results an analyzer sends are checked and approved.
- **Samples**: the tubes a result lands on.

Chapter 32

Accreditation and quality

Menu: **Accreditation and quality**. Address: `/setup/accreditation`.

32.1 What this screen is for

This screen answers one question: how ready is the laboratory to be examined against an accreditation standard? It lists the standards the laboratory follows, breaks each into items (the clauses a surveyor will ask about), and shows for every item whether the program supplies the evidence from its own records, supplies part of it, or leaves it to the laboratory (policies, training, the facility).

It also keeps the laboratory's own judgement of each item (met, partly met, not met, not applicable, with its evidence), the quality registers (non-conformities, complaints and the like), the switches of the program's quality functions, and, for a laboratory that follows a QC rule pack, the limits for internal control and external assessment. Everything it shows is a self-assessment and does not replace an audit.

32.2 Who sees it

The screen opens for whoever holds **Enter results**, **Verify results** or **Manage settings**. Inside it:

You can...	...if your role holds
Choose which standards the laboratory follows; bring standards from the library	Manage settings
Switch a function on or off (a switch of the program)	Manage settings
Switch a register or the QC hold on or off	Switch the quality functions on or off, together with Manage settings
Judge an item; open, edit, close or void a register entry	Verify results
Read the pages, export or print the report	Any of the three above

What happens to a control you may not use depends on the control. **Standards**, **From the library**, the judge button and the register buttons (new, edit, close, void) are absent. A function switch is dim, with a line beside it: «Changed by whoever holds the settings permission» for a switch of the program, or «Only the laboratory's manager switches it on or off» for a register or the QC hold. The two report buttons are dim only while no standard is on screen (or while the workbook is being prepared). The register buttons are also absent while the register itself is switched off, whatever your role.

32.3 The screen at a glance

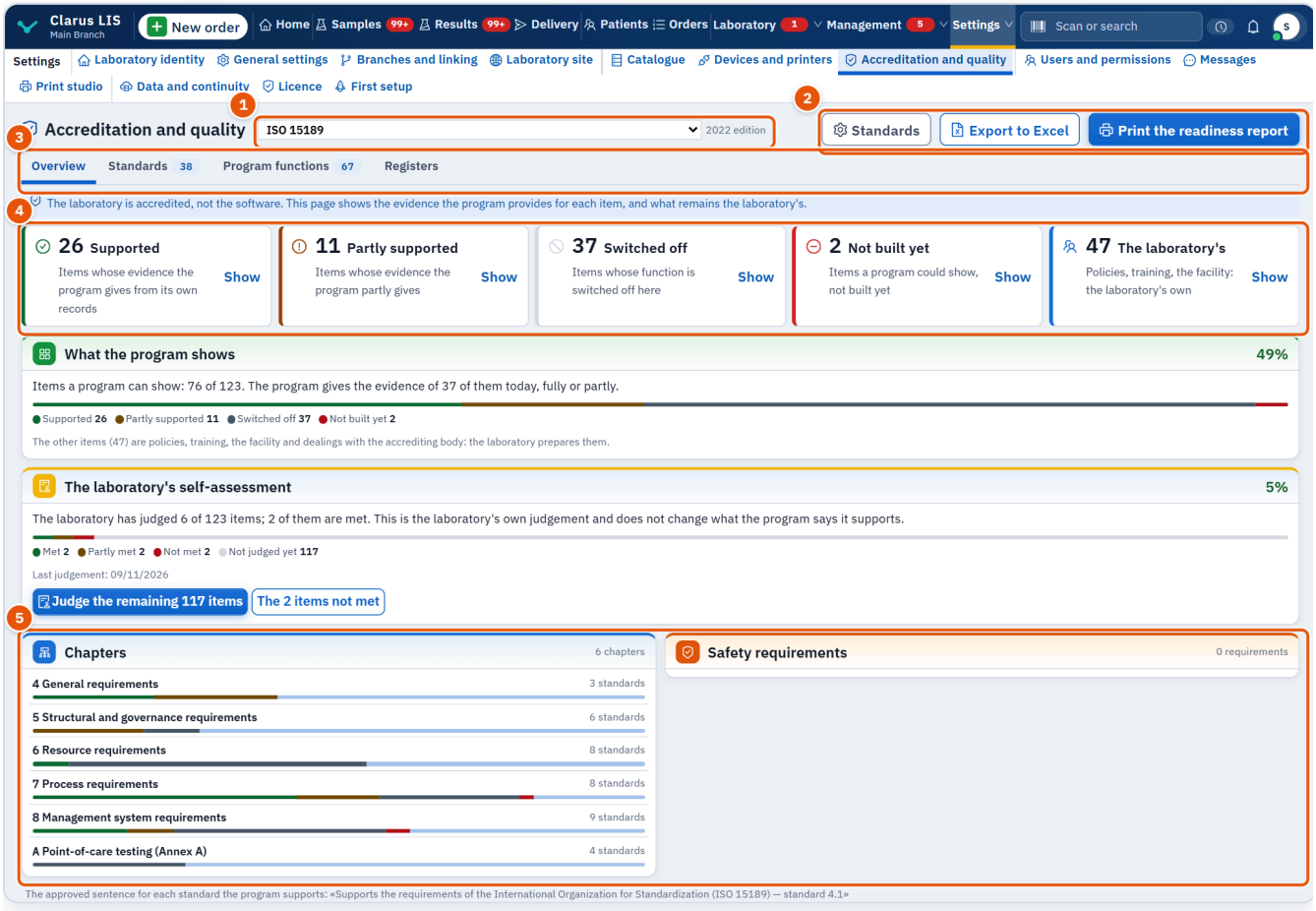


Figure 32-1: The Accreditation and quality screen: 1 the standard on screen and its edition, 2 the report and standards buttons, 3 the page tabs, 4 the state tiles, 5 the cards.

1. **The head**: the name of the standard on screen with its edition; with more than one standard followed it is a list to pick from (**The standard on screen**).
2. **The buttons**: **Standards**, **Export to Excel** and **Print the readiness report**.
3. **The tabs**: **Overview**, **Standards**, **Program functions**, **Registers**, and **QC limits** only when the laboratory follows a QC rule pack.
4. **The tiles and cards** of the overview.

Beside the name you may see these marks: **Not followed** (the laboratory has not chosen this standard), **Partial pack** (the pack does not cover the whole standard) and a link **Applied over ...** (the standard is applied over a base standard; the link goes to the base).

32.4 Choosing the standards

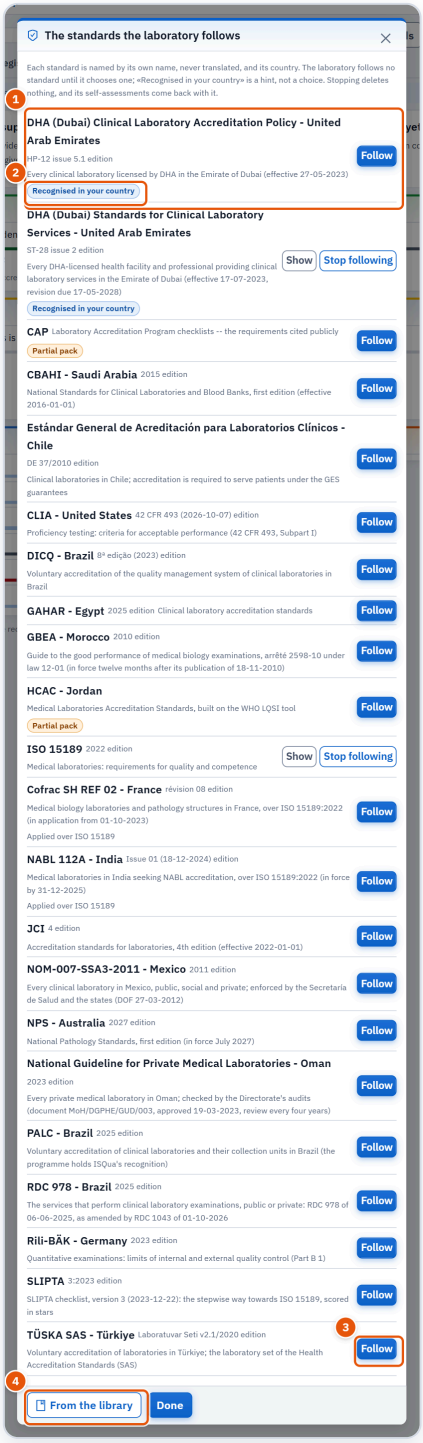


Figure 32-2: The standards window: 1 one standard, 2 the hint for your country, 3 the button that follows or stops, 4 From the library.

The laboratory follows no standard until it chooses one. The mark **Recognised in your country** is a hint, not a choice.

Element	What it does
A row per standard	Its own name (never translated), its edition, its scope and its country. Further marks: **Partial pack**, **Not shown on this page yet** (the pages cannot show it yet) and **Applied over ...**.
Follow / **Stop following**	Starts or stops following the standard. A reason is asked; see 32.11.1 Task 1 — Choose the standards the laboratory follows.
Show	For a followed standard: puts it on screen and closes the window.
From the library	Opens the standards library. Shown only to whoever may manage standards.
Done	Closes the window.

32.5 The overview

Element	What it shows
The note at the top	The notice that this is a self-assessment; and, for a partial pack, what the pack lacks.
Stars: ... of ... — ... % (... of ... points)	The laboratory's stars from the checklist's own rules, and how many questions are not judged yet (**Questions not judged yet: ...; they count for no points.**). It is not an audit.
Five tiles	**Supported**, **Partly supported**, **Switched off**, **Not built yet**, **The laboratory's**: the number of items in each state, with its explanation. **Show** opens the Standards tab filtered to that state.
What the program shows	The share of items a program can show that this one shows today, fully or partly, with a coloured bar; and a line saying the rest is the laboratory's own.
The laboratory's self-assessment	How many items the laboratory has judged and how many are met, a bar of verdicts, and the date of the last judgement. The buttons take you to the items not yet judged (**Judge the remaining ... items**) and the items not met (**The ... items not met**).
Chapters	One row per chapter with its number of standards and a state bar. A click opens the Standards tab limited to that chapter.
Safety requirements	The standards marked as safety requirements, each with its state bar. A click opens that standard.
The approved sentence for each standard the program supports:	The approved sentence the laboratory may quote about a supported standard.

32.6 The Standards tab

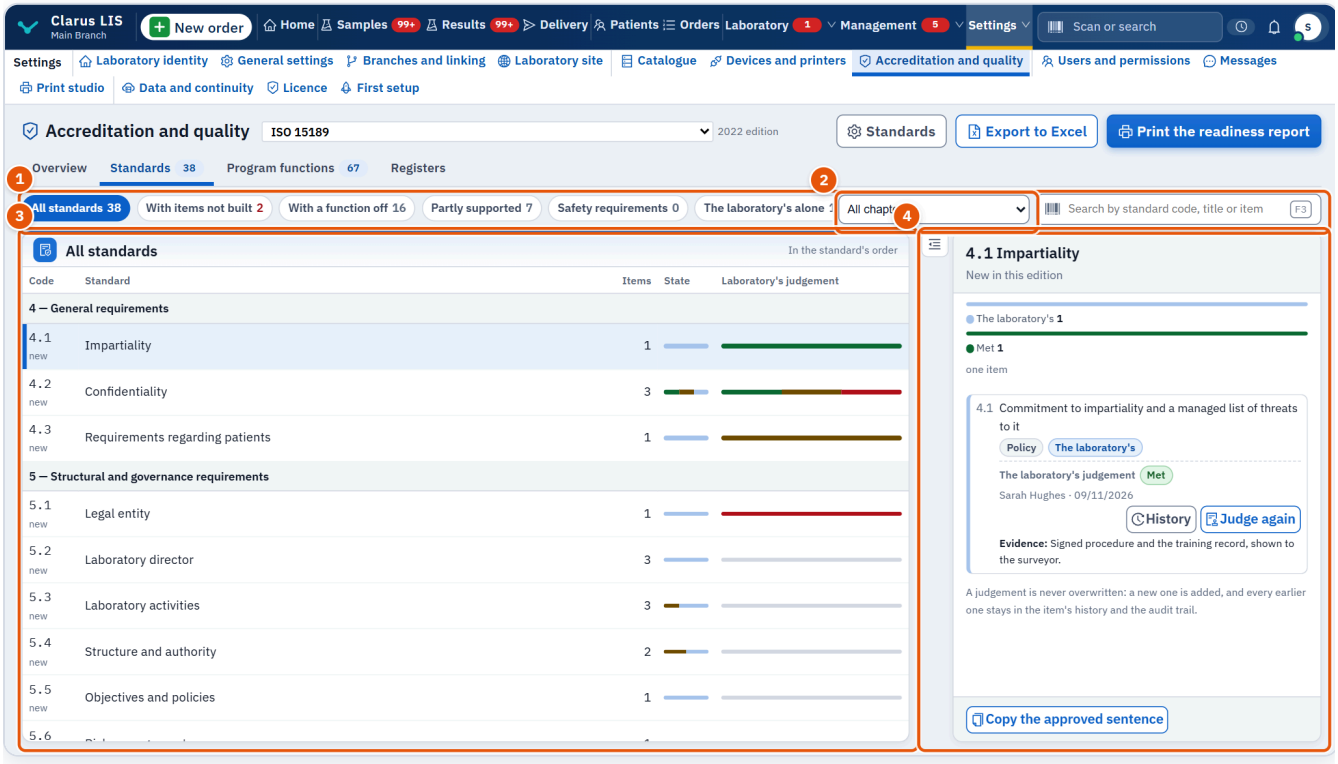


Figure 32-3: The Standards tab: 1 the filters, 2 the chapter list, 3 the list of standards, 4 the open standard and its items.

Element	What it does
Filters	**All standards**, **Partly supported**, **With a function off**, **With items not built**, **The laboratory's alone**, **Safety requirements**, **With items not judged**, **With items not met**, and **With items to review** (shown only when there are some). Each shows its count.
Chapter	Limits the list to one chapter (**All chapters**).
Search	Matches the standard's code, an earlier code, its title or the text of its items.
Table	**Code** (a standard new in this edition says **new**), **Standard**, **Items**, **State** (what the program supports) and **Laboratory's judgement** (the laboratory's own verdicts).
Copy the approved sentence	Copies the approved sentence for this standard to the clipboard.

The open standard lists its items one by one. Under each item:

Element	What it is
Item text	In the language of the screen. **The standard's own text** opens the standard's own wording where the pack carries it.

Element	What it is
Chips	The kind of evidence (for example **Program**, **Policy**, **Facility**, **Staff**, **Register**), the state, the points, and the ISO 15189 clause. A mark says when the item is new in this edition or its text changed since it was judged (**The text that was judged** shows the old text).
Function links	Open the **Program functions** tab at the function that supplies the evidence.
The laboratory's judgement	The latest verdict, who gave it and when, with its evidence and note. **Judge** (or **Judge again**) is shown only to whoever may judge. **History** lists all earlier verdicts.

Items the laboratory judged and a newer version of the standard removed stay at the foot for reading only.

32.7 The Functions tab

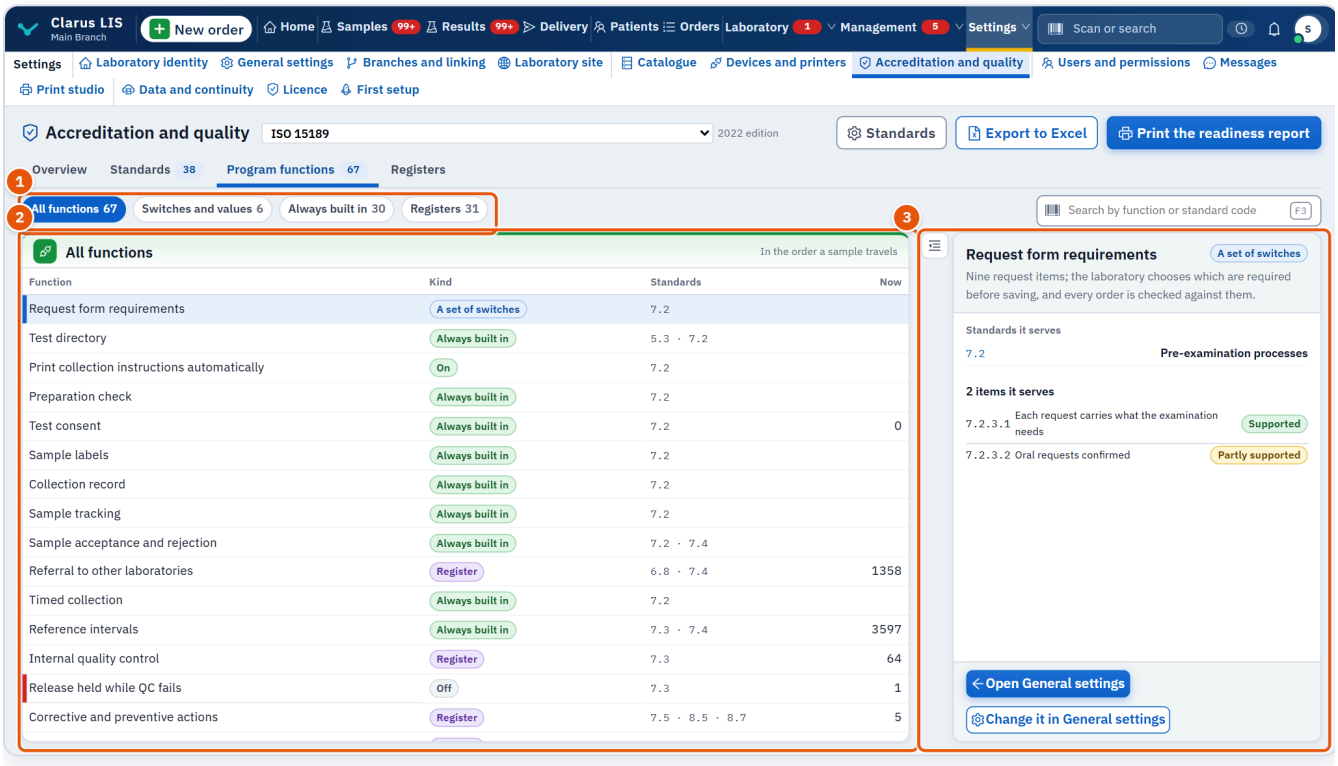


Figure 32-4: The Functions tab: 1 the kind filter, 2 the list in the order a sample travels, 3 the details with the switch.

Each row is a function of the program that gives evidence for standards. Columns: **Function**, **Kind**, **Standards**, **Now**. The filter **Filter the functions** offers **All functions**, **Always built in**, **Registers** and **Switches and values**; the search takes a function name or a standard code.

Choosing a row shows its details: what it does, a switch (on or off) where it has one, the current figures, the standards and items it serves, and a button to the place where it works (**Open the register** or **Open ...**). A value or a set of switches is changed elsewhere: **Change it in General settings**. A function that is always built in cannot be switched off.

32.8 The Registers tab

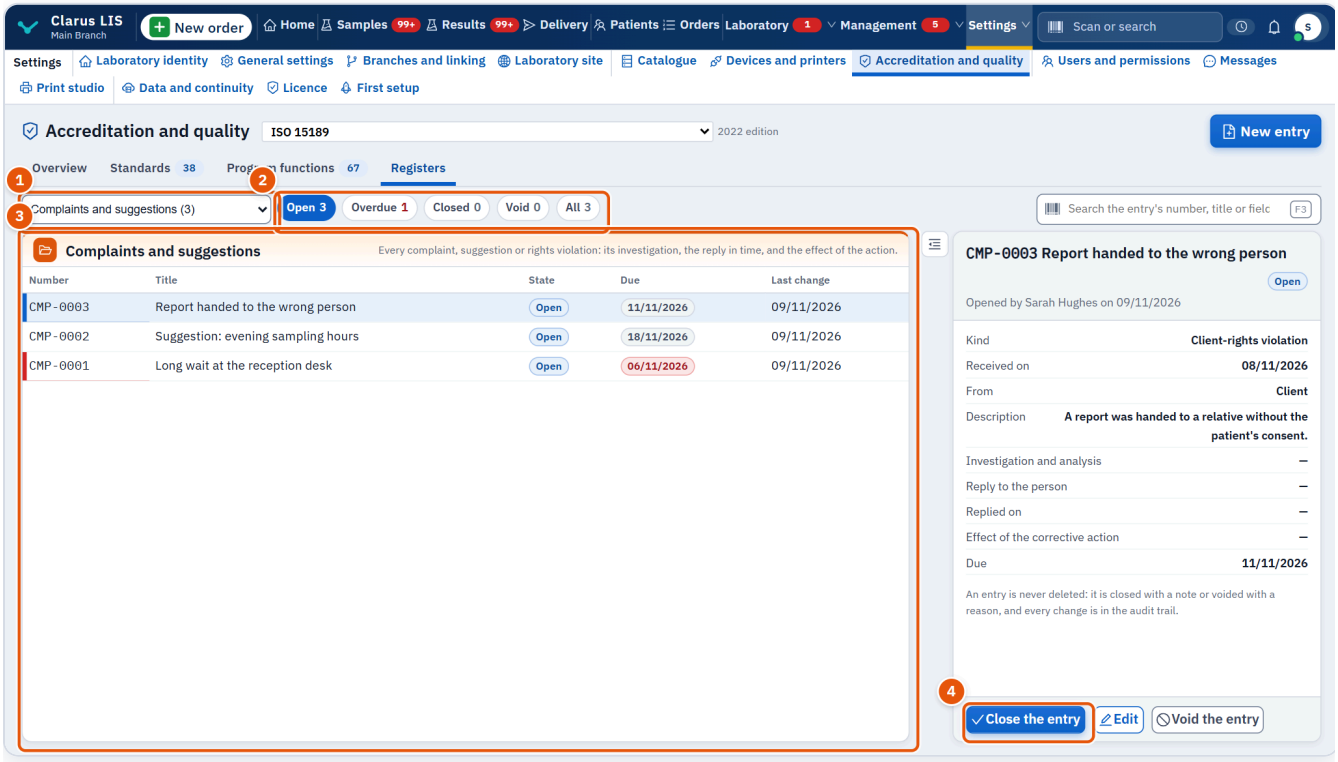


Figure 32-5: The Registers tab: 1 the register list, 2 the filters, 3 the entries, 4 the open entry and its buttons.

Element	What it does
Register	Chooses the register; beside its name the number of open entries.
Filters	**Open** (the default), **Overdue**, **Closed**, **Void**, **All**.
Search	The number, title or fields of an entry.
Table	**Number**, **Title**, **State**, **Due** (red when late) and **Last change**.
New entry	Opens a new entry in the chosen register. Shown to whoever may write in registers.
Details	The entry's fields, who opened it and when, and, once closed or voided, the note and who closed it.
Close the entry, **Edit**, **Void the entry**	Shown on an open entry, to whoever may write in registers.

A register that is switched off keeps its entries readable and accepts no new one and no change. An entry is never deleted: it is closed with a note or voided with a reason, and every change is in the audit trail.

32.9 The QC limits tab

This tab appears only when the laboratory follows a QC rule pack. **Rule pack** and **Month** choose the pack and the month. The table lists the measurands with **Internal QC limit**, **EQA limit**, **Our tests** (the laboratory's own tests bound to the measurand) and **This month** (**Within the limit** or **Beyond the limit**). The filters are **All**, **Bound to our tests**, **Not bound** and **Beyond the limit this month**. Choosing a row shows the standard's criterion and note, the bands, and each control lot of the month with its result.

32.10 The report

Two buttons in the head give the readiness report of the standard on screen: **Export to Excel** downloads a workbook, and **Print the readiness report** opens the printable report. Both are dim until a standard is on screen. If the workbook fails, the screen says: «**The workbook could not be exported.**».

32.11 Tasks

32.11.1 Task 1 — Choose the standards the laboratory follows

1. Press **Standards**.
2. On the row of the standard, press **Follow** (or **Stop following**).
3. Write the reason in the box that opens. The window shows the standard before and after, and tells you the audit trail keeps your name, your reason and the list before and after.
4. Confirm. Stopping deletes nothing: the self-assessments return if the standard is followed again.
5. Press **Show** on a followed standard to read it, or **Done**.

32.11.2 Task 2 — Judge an item

1. Open the **Standards** tab and choose a standard.
2. Under the item press **Judge**.
3. Choose the **Verdict**: **Met**, **Partly met**, **Not met** or **Not applicable**.
4. Fill **Evidence** (required when the item is met: what a surveyor would be shown) or **Note** (required for every other verdict: why it is not fully met or does not apply).
5. Save. The new verdict is added; earlier ones stay in **History** and in the audit trail.

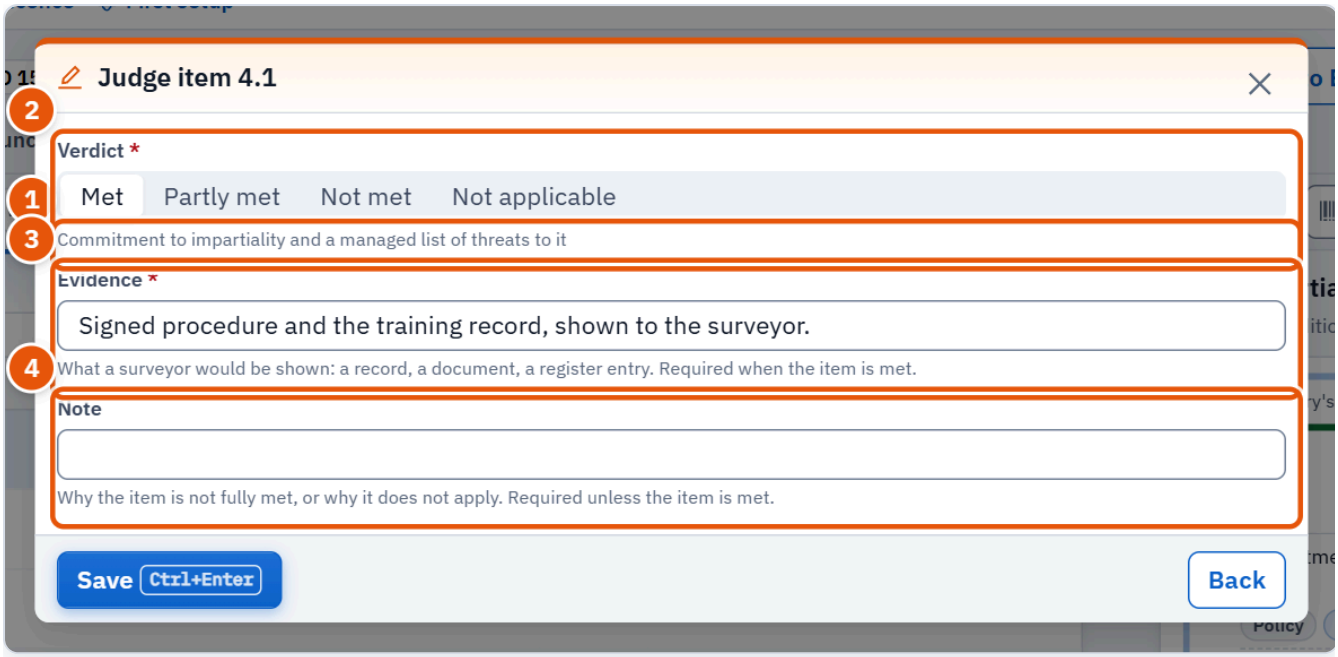


Figure 32-6: The judge window: 1 the item text, 2 the verdict, 3 the evidence, 4 the note.

32.11.3 Task 3 — Bring a standard from the library

1. In the standards window press **From the library**.
2. The window lists **The standards this program has** (with their source: with the program, from the library or from a file) and **What the library offers**.
3. On an offered standard press **Show**. For a file press **Import from a file** and choose it. If the library cannot be reached the window says so and a file can still be imported.
4. The preview shows the version change, the numbers of new, rewritten and removed items, and the judgements kept. An update changes nothing the laboratory entered; judged items whose text changed stay judged and are marked for review.
5. Press **Apply**, or **Back** to leave without changing anything. A new standard is not followed until you choose it (see 32.11.1 Task 1 — Choose the standards the laboratory follows).
6. To return a library standard to the version shipped with the program, press **Remove the library's version** on it and confirm; no judgement is deleted.



Figure 32-7: The library: 1 installed standards, 2 what the library offers, 3 the preview of a version.

32.11.4 Task 4 — Open a register entry

1. Open the **Registers** tab and choose the register in **Register**.
2. Press **New entry**.
3. Fill the title, the register's own fields (those marked required must be filled) and, if you wish, the due date.
4. Save. The entry opens in the details with its number.

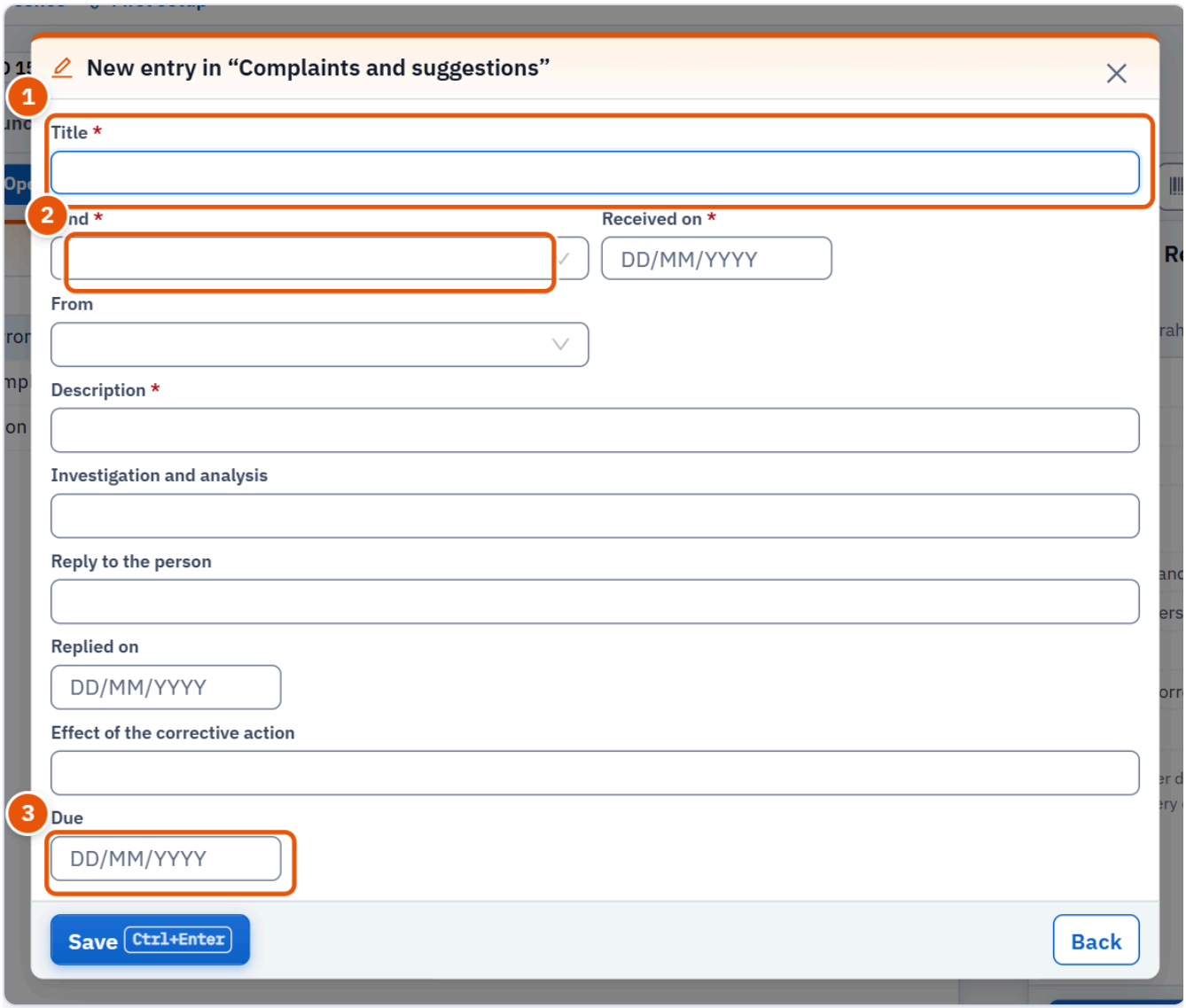


Figure 32-8: The new entry window: 1 the title, 2 the register's fields, 3 the due date.

32.11.5 Task 5 — Edit, close or void an entry

1. Choose the entry in the table (use **All** to find a closed one; closed and void entries have no buttons).
2. To change it press **Edit**; the state may be set to open or in progress.
3. To finish it press **Close the entry** and write **How the entry was closed**.
4. To cancel an entry made by mistake press **Void the entry** and write **Why it is void**.

32.11.6 Task 6 — Switch a function on or off

1. Open the **Program functions** tab and choose the function.
2. Move its switch. A reason is asked, with the standards the change applies to.
3. Confirm. The change applies at once and no record is deleted; switching off stops the enforcement only.

32.11.7 Task 7 — Export the report

1. Choose the standard on screen.
2. Press **Export to Excel** for a workbook or **Print the readiness report** for the printable report.

32.12 Messages and what to do

The screen says	Meaning	What to do
The standard could not be read.	The standard could not be read.	Use the retry button; if it persists, check the connection to the server.
The change could not be saved.	The change of standards was not saved.	Try again; the list stays as it was.
The change could not be saved.	The function switch was not saved.	Try again, or ask the person who holds the right.
The workbook could not be exported.	The workbook did not download.	Press the button again.
This register is switched off in this laboratory: its entries stay readable, and none is added or changed.	The register is off.	Switch it on from the Functions tab if you may.
The library cannot be reached now.	The library cannot be reached.	Import the standard from a file.
The history could not be read.	The history of an item did not load.	Close and open it again.

32.13 See also

- **General settings**: where values and sets of switches are changed.

Chapter 33

Users and permissions

Menu: **Users and permissions**. Address: `/setup/users`.

33.1 What this screen is for

This is where the laboratory decides who can sign in and what each person may do. You create an account, give it a role, and the role carries a set of permissions. When one person needs a little more or a little less than their role gives, you grant or withdraw a single permission for that person in one branch, without changing the role for everyone.

The screen also holds the payment policy of each role (how large a discount, how small an upfront payment), and the page where the manager's phone app is switched on and the program's screens are named.

33.2 Who sees it

The screen opens for whoever holds **Manage user accounts** or **Manage settings**. It has two faces.

You are…	…what you see
The general manager (holds **Manage settings**)	Five tabs: **Users**, **Roles and permissions**, **Exceptions**, **Payment policy** and, with **Manage user accounts**, **Phones and screens**. You create and edit accounts. **Roles and permissions** and **Payment policy** need **Manage settings**; a person with only **Manage user accounts** sees **Users** (without the **New user** button) and **Phones and screens**.
A branch manager (named by the general manager)	Two tabs only: **My branch's staff** and **My branch's exceptions**. A badge shows your branches. You grant and withdraw only what you hold yourself, for your branch's staff alone; accounts and roles are not yours to change.

If you run more than one branch, a row of branch buttons appears above the tabs. Choose a branch there and the changes column, the exceptions and the user window all speak about that branch.

33.3 The screen at a glance

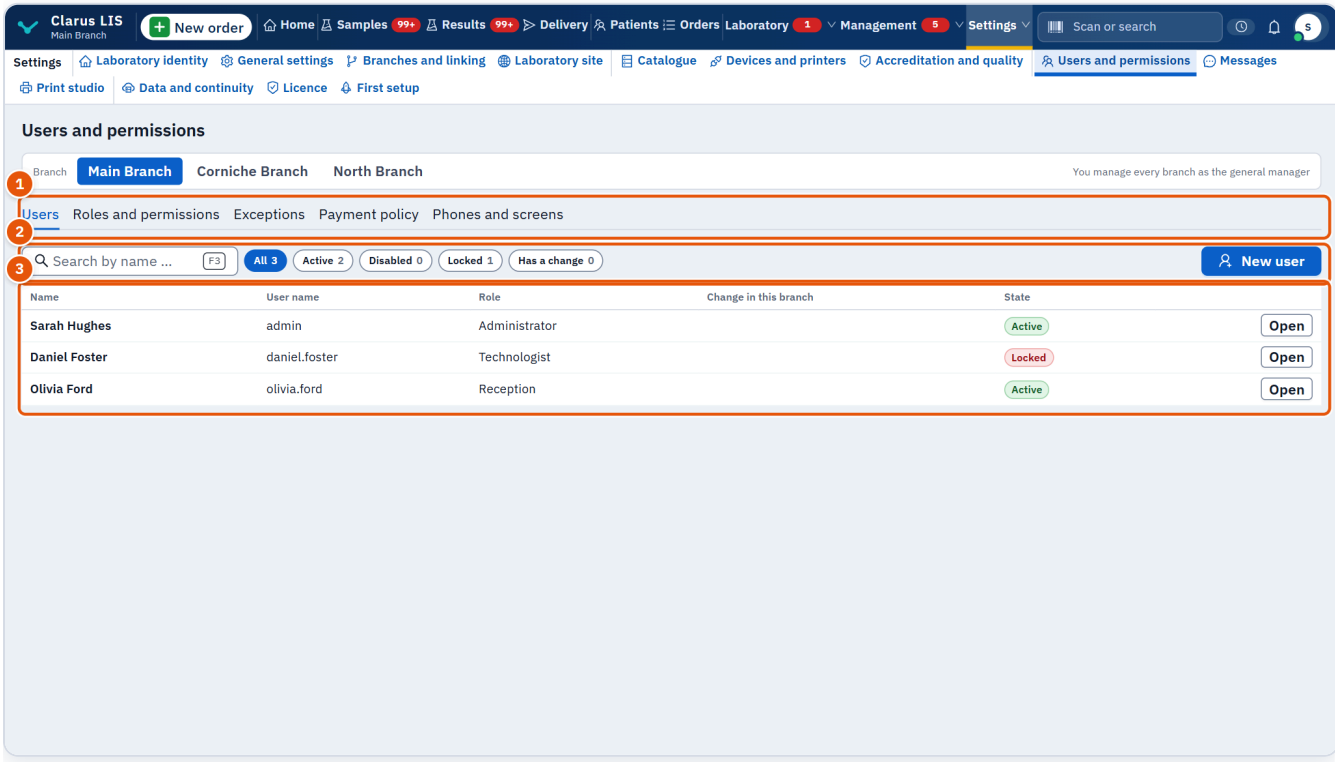


Figure 33-1: The Users and permissions screen: 1 the tabs, 2 the search box and the filters, 3 the staff table.

1. **The tabs**, as listed above.
2. **The search box and the filters**, with the **New user** button.
3. **The staff table**, one line per account, with the **Open** button.

33.4 The tab Users

Item	What it does
Search by name or user name (key **F3** jumps here)	Finds accounts by name or user name. Marks on Arabic letters are ignored.
Filters **All**, **Active**, **Disabled**, **Locked**	Narrow the table by account state; each shows how many it holds. A branch manager sees **All** only.
Has a change	Shown when the branch's exceptions are available: keeps the people who have a grant or a withdrawal in the chosen branch.
New user	Opens the user window for a new account. Only the general manager has it.
Column **Name**, **User name**, **Role**	The person, how they sign in, and their role.
Column **Change in this branch**	A green badge **+n** for permissions granted to this person in the branch, an orange badge **−n** for permissions withdrawn.

Item	What it does
Column **State**	**Active**, **Disabled** or **Locked**. Not shown to a branch manager.
Open	Opens the user window for that line.

When nothing matches, the table says «No user matches.».

33.5 The tab Roles and permissions

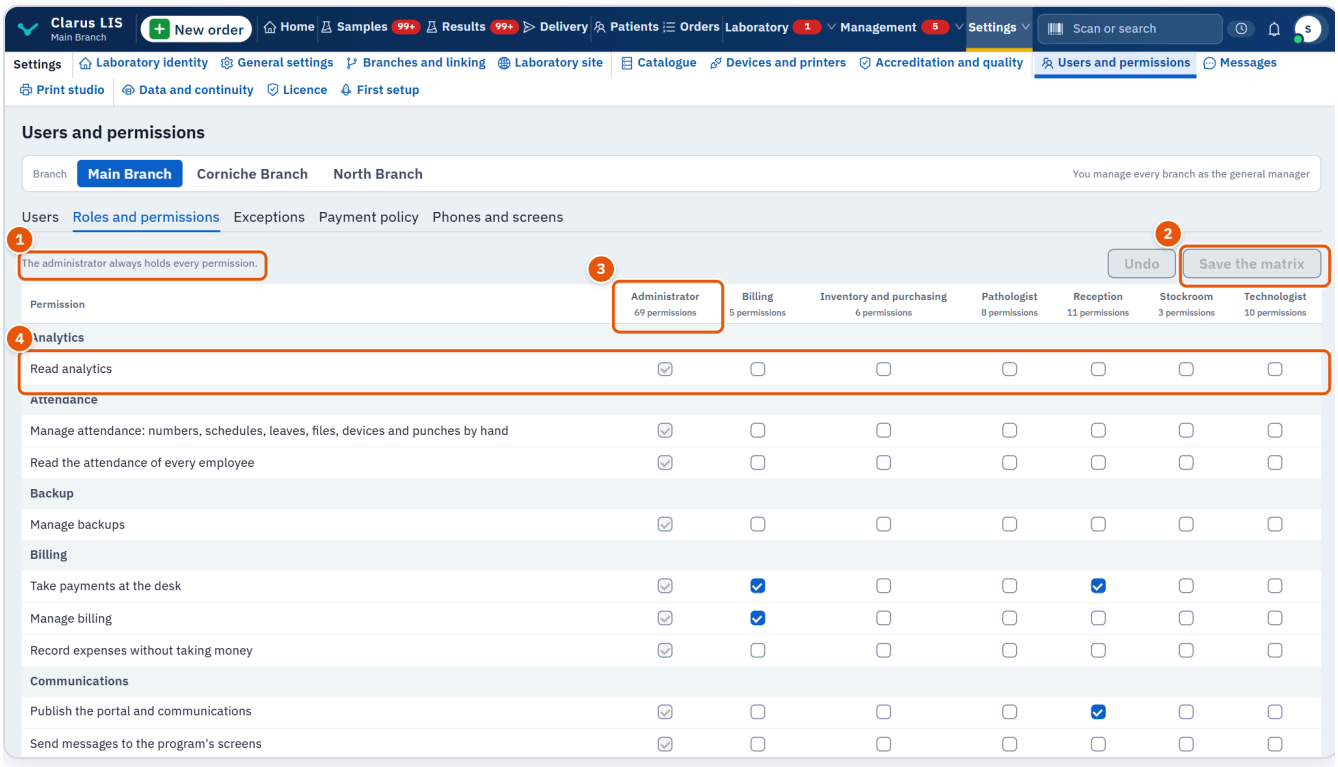


Figure 33-2: The roles matrix: 1 the note about the administrator, 2 the Undo and Save buttons, 3 one role's column, 4 a permission's row.

A table with every permission down the side, grouped by its module (Results, Billing, and so on), and every role across the top. A role's heading shows how many permissions it holds. A tick means the role holds that permission.

Item	What it does
Tick boxes	Give or take a permission from a role. This changes it for everyone who holds the role.
Administrator column	Always on and locked. The administrator holds every permission, whatever is saved.
Orange tag	Names the roles you have changed and not yet saved.
Undo	Throws away all unsaved changes. Dim until a role has changed.

Item	What it does
Save the matrix	Saves the roles you changed, one after another; roles you left alone are not touched. Dim until a role has changed.

33.6 The tab Exceptions

A list of every grant and withdrawal made for single people in the chosen branch: **User**, **Permission**, **Type** (**Grant** or **Withdrawal**), **Branch**, **Changed by** and **When**. A line in grey, marked «Not in force: its giver no longer holds it», is kept for the record but has no effect. With no exceptions the tab says «No exception: every member of staff has the role's permissions.». For a branch manager the same list is called **My branch's exceptions**.

33.7 The tab Payment policy

One line per role. Each line saves alone.

Item	What it does
Largest discount	The largest discount, in percent, a person with this role may give.
Least upfront	The least a patient must pay up front, in percent.
May override the discount	Lets the role go beyond the discount limit.
May override the upfront	Lets the role go below the upfront minimum.
Note	A free note about the role's policy.
Save	Saves that line. It is dim until something on the line has changed.

33.8 The tab Phones and screens

Needs **Manage user accounts**. It has three cards.

Card and item	What it does
The manager's app: **The app is on**	Switches the manager's app on or off. Saved at once.
How phones reach the laboratory	**Directly**, **Clarus Link** or **Both**. Saved at once.

Card and item	What it does
A silent phone, and an unnamed screen, is removed after	The number of days (1 to 365) after which a silent phone and an unnamed screen are removed. Saved when you leave the box.
Paired phones	The paired phones, with their owner and device name. **Remove** deletes one. With none paired the card says how many people may carry the app.
The program's screens	The browsers the program was opened in. Shows **This screen** first, then **Named screens** with **Screen name**, **Branch**, **Last signed in**, **Device** and **Last seen**. Unnamed screens are counted, and **Show the most recently seen** lists them (more load in pages; **Hide them** folds them away).

Which permissions the phone app grants to a role is set in the roles matrix (the Manager app group), not here.

33.9 The user window

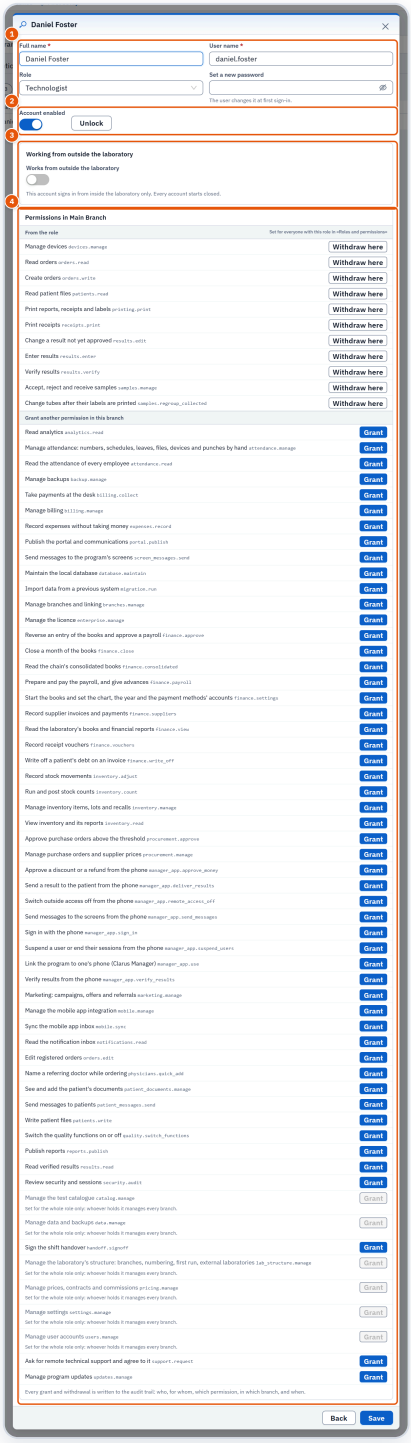


Figure 33-3: The user window: 1 the account fields, 2 the enabled switch and Unlock, 3 working from outside, 4 the permissions in the branch.

Opens from **Open** or **New user**. The account part is shown to the general manager only; a branch manager sees just the permissions part.

Item	What it does
Full name, **User name**	Both required.

Item	What it does
Role	Choose a role; typing filters the list by the role's name.
Password (new account) / **Set a new password** (existing)	Required for a new account; for an existing one, fill it only to change the password. The person changes it at first sign-in.
Account enabled	Enables or disables the account. Applied at once.
Unlock	Appears only while the account is locked. Applied at once.
Save	Saves the account (and the new password, if you typed one) and closes the window. Dim until name and user name are filled (and a password, for a new account).
Back	Closes the window.

33.9.1 Working from outside the laboratory

Shown for an existing account, when the server supports it. Every account starts closed.

Item	What it does
Works from outside the laboratory	Lets the account sign in from outside. Applied at once.
Second factor when signing in from outside	**The Clarus Manager app** (the default), **An authenticator app** or **The trusted device**. A note below says what the chosen factor still needs: a phone to pair, an authenticator to set up, or a trusted branch device.

33.9.2 The permissions in a branch

Under **Permissions in ...** three groups appear. Every grant and withdrawal is written to the audit trail: who, for whom, which permission, which branch, and when.

Group	Buttons
From the role (set for everyone with the role)	**Withdraw here** withdraws it from this person in this branch. A withdrawn one is struck through and tagged **Withdrawn here**, with **Restore**.
Granted above the role in this branch	**Cancel the grant**.
Grant another permission in this branch	**Grant**.

A button the server does not allow you to use is dim, with the reason beside it: one set only for the whole role («Set for the whole role only: whoever holds it manages every branch.»), or one you do not hold yourself («You do not hold it...»).

33.10 Tasks step by step

33.10.1 Task 1 — Create a user

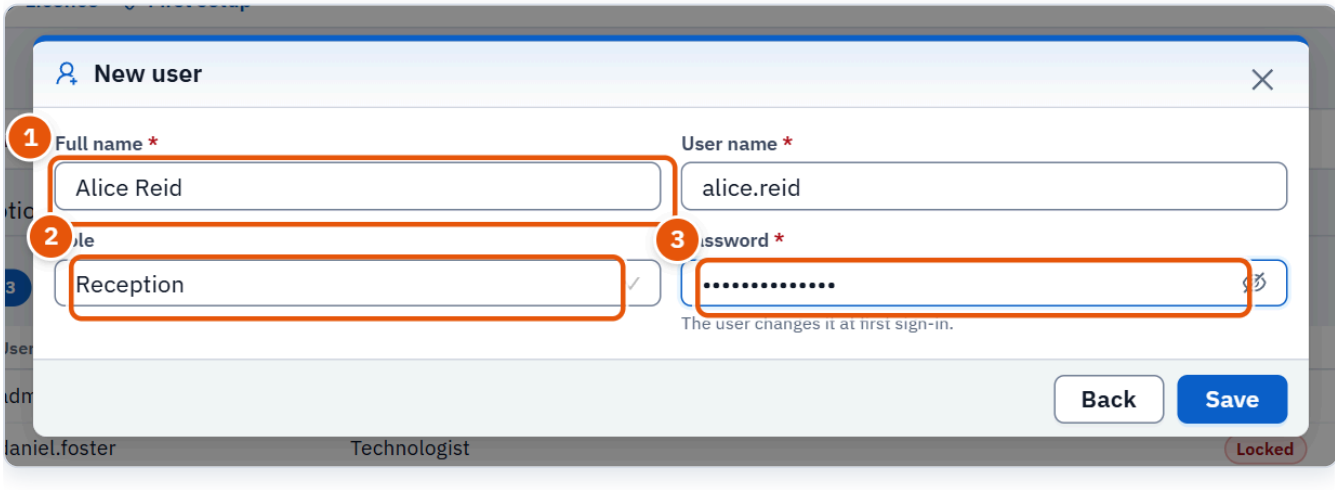


Figure 33-4: The new user window, filled in and not yet saved.

1. Open **Users and permissions**, tab **Users**.
2. Press **New user**.
3. Fill **Full name** and **User name**, choose the **Role**, and type a first **Password**.
4. Press **Save**. The program says «User created.».

> **Tip**
>
> Give the person a temporary password and tell them privately. They change it at first sign-in.

33.10.2 Task 2 — Edit a user, unlock or disable

1. Find the person with the search box or a filter, and press **Open**.
2. Change the name, user name or role, or type a new password in **Set a new password**, then press **Save**.
3. To stop the account working, switch off **Account enabled**.
4. If the state is **Locked**, press **Unlock**. The program says «Unlocked.».

33.10.3 Task 3 — Grant or withdraw a permission for one person



Figure 33-5: The permissions part of the user window, with a grant and a withdrawal.

1. Choose the branch if you run several, open the person.
2. To take a role permission from this person here, press **Withdraw here**. To give it back, press **Restore**.
3. To add one the role lacks, find it under **Grant another permission in this branch** and press **Grant**. To cancel such a grant, press **Cancel the grant**.
4. Each press is applied at once. The change shows in the table's **Change in this branch** column and in the **Exceptions** tab.

33.10.4 Task 4 — Change what a role may do

1. Open the tab **Roles and permissions**.
2. Tick or untick the boxes in the role's column. The orange tag names the role as changed.
3. Press **Save the matrix**. The program says «The matrix was saved.». Press **Undo** instead to drop the changes.

> **Caution**
>
> A role's change applies to every person holding that role.

33.10.5 Task 5 — Set a role's payment policy

1. Open the tab **Payment policy**.
2. On the role's line set the two percentages (0 to 100), the two switches and the note.
3. Press **Save** on that line. The program says «The role's policy was saved.».

33.10.6 Task 6 — Name a screen

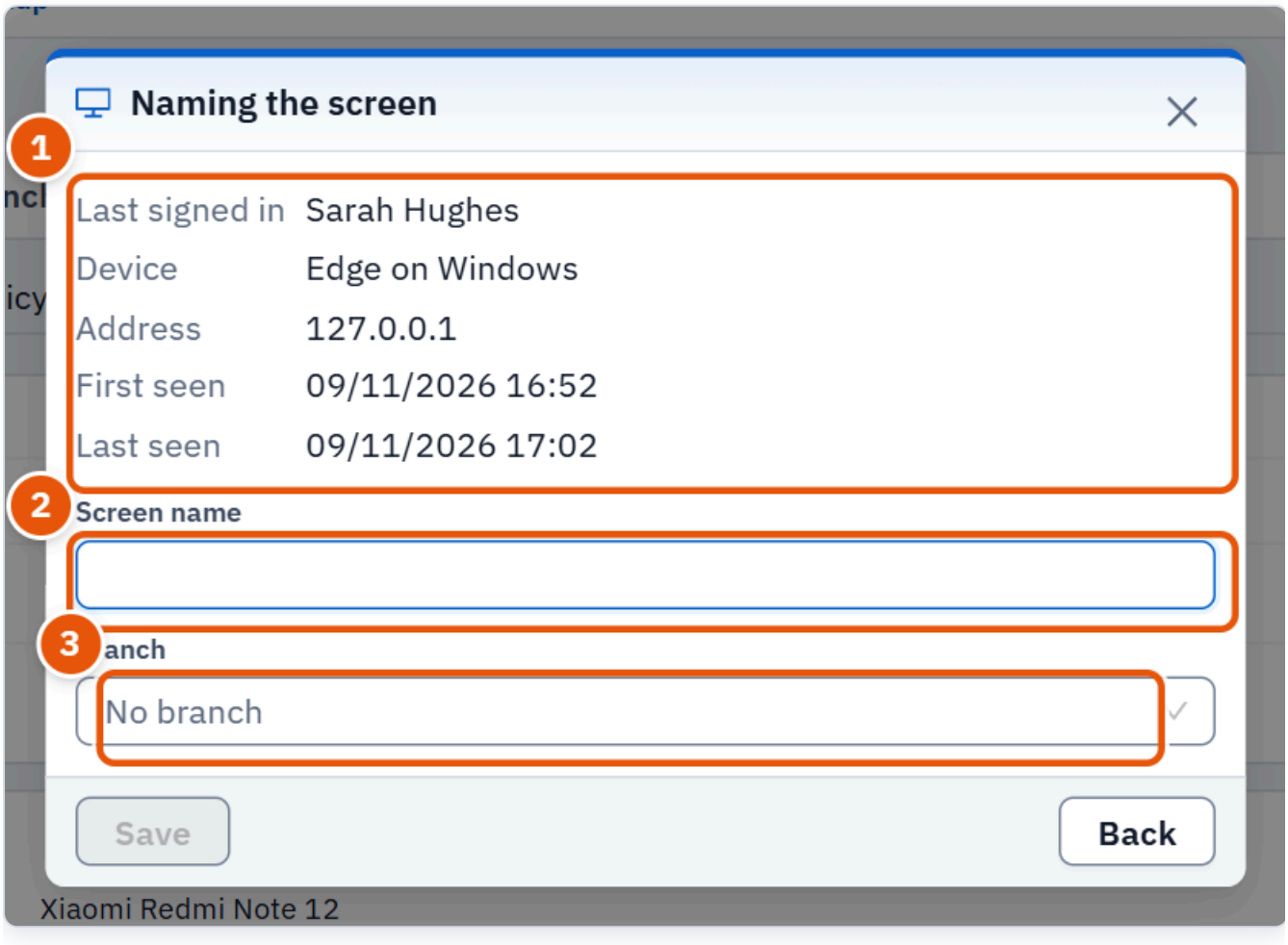


Figure 33-6: The window for naming a screen.

1. Open the tab **Phones and screens**. Under **The program's screens**, find the screen: **This screen** is the one you are on.
2. Press **Name it** (or **Edit** for a named one). The window **Naming the screen** shows who last signed in on it, its browser, address and times.
3. Type the **Screen name** (up to 80 characters) and, if you wish, choose its **Branch**.
4. Press **Save**. The program says «Screen name saved.». **Remove the screen** (asks first) takes a named screen off the list; it returns unnamed if the program is opened on it again.

You need not name every screen: name those in use.

33.11 Messages and what to do

The screen says	It means	What to do
Could not save. Try again.	The save did not reach the server and gave no reason.	Press the button again; if it repeats, check the connection.
Could not load.	The page's data did not arrive.	Use the retry button shown with it.
A red note at the top of a window (the server's own words)	The server refused: for example a user name already used.	Read it, correct the field, save again.
You do not hold it, so you cannot grant or withdraw it.	The permission is not yours to hand on.	Ask a manager who holds it.
Set for the whole role only…	This permission cannot be given for one branch.	Change it in the roles matrix, as general manager.
Not in force: its giver no longer holds it	The grant's giver lost the permission, so the grant stopped working.	Grant it again from someone who holds it.

33.12 See also

- **Security and audit** — the audit trail that records every grant and withdrawal.

Chapter 34

The manager's phone app

Menu: **Users and permissions**, tab **Phones and screens**; and the window **My account**. The app itself runs on an Android phone.

34.1 What this app is for

Clarus LIS Manager is a small app for the person who runs the laboratory. On the phone the manager follows the laboratory's figures branch by branch, receives its alerts, and can decide a few things without going to the computer: approve results, approve a discount or a refund, suspend an account, switch outside access off, send a message to the program's screens, and send a result to a patient. The same phone can also stand in for a verification code when someone signs in to the program from outside the laboratory.

The app speaks only to the laboratory's own program. It does not use Google services, does not track the person and does not read the phone's contacts or location. A notification never names a patient. The app is for Android only; there is no iPhone version.

The laboratory decides everything about it. The administrator switches the app on, chooses how phones reach the laboratory, and decides in the roles matrix who may carry it and what each phone may do. A phone can never do what its person may not do at the bench.

34.2 Who can use it

You can...	...if your role holds
Pair your own phone and use the app's Branches, Alerts and Settings tabs	**Link the program to one's phone (Clarus Manager)**
Use the phone only to sign in (the code and the approval)	**Sign in with the phone**
Switch the app on or off, choose the road, set the days of absence, and remove anyone's phone (from inside the laboratory)	**Manage user accounts**
Change which roles hold the app's permissions	**Manage settings**

The permissions of the group **Manager app** are ticked in the tab **Roles and permissions** of the screen Chapter 33: Users and permissions. The administrator's role holds all of them; no other role holds any until it is ticked.

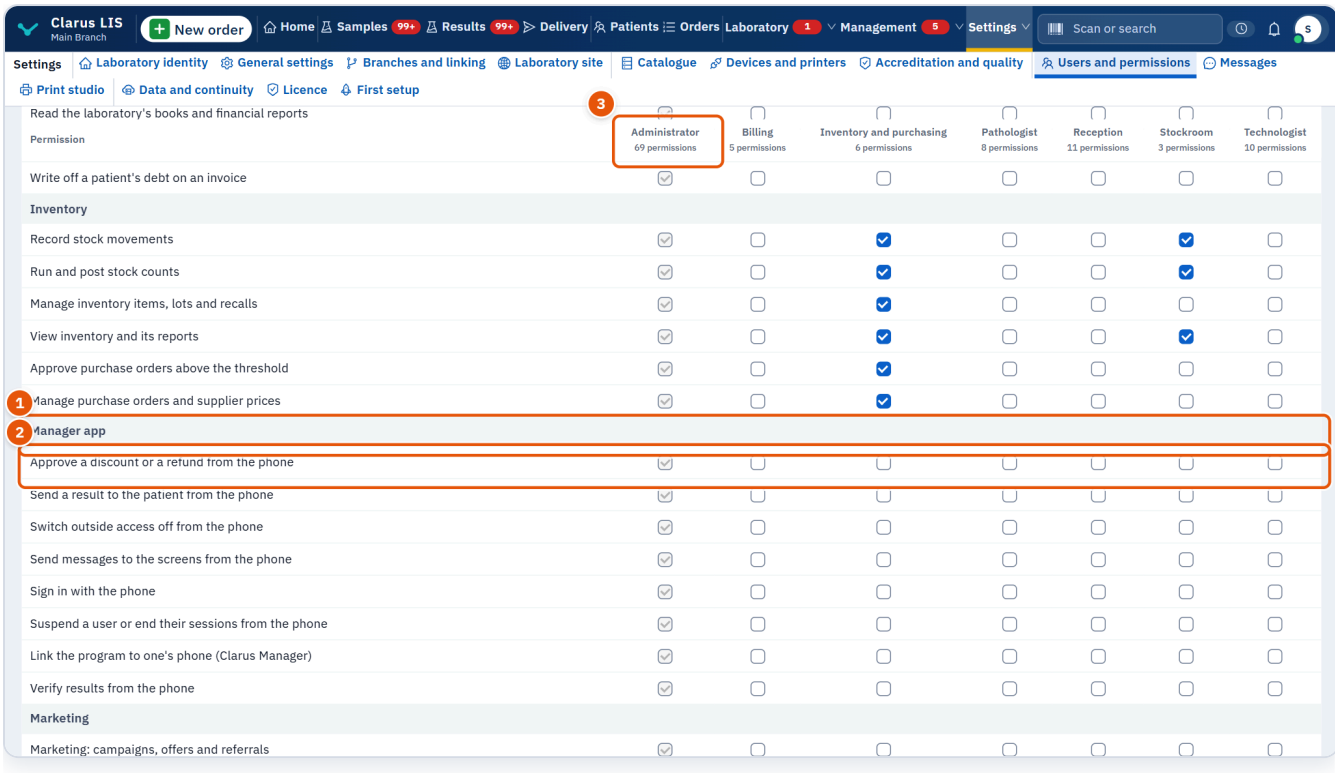


Figure 34-1: The roles matrix, at the group Manager app: 1 the group's heading, 2 one of its permissions, 3 a role's column.

1. **The group Manager app**.
2. **A permission**: each of the group's permissions has a line of its own.
3. **A role's column**. Tick a line to give that role the permission.

Each action on the phone needs two things together: the phone permission below and the program permission behind it.

Phone permission	What it opens in the app	The program permission it also needs
Send messages to the screens from the phone	The tab **Messages**	**Send messages to the program's screens**
Verify results from the phone	**Actions**, the section for results waiting for approval	**Verify results**
Approve a discount or a refund from the phone	**Actions**, the section for discounts and refunds	**Manage billing**
Suspend a user or end their sessions from the phone	**Actions**, the section for users	**Manage user accounts**
Switch outside access off from the phone	**Actions**, the switch for access from outside	**Manage settings**

Phone permission	What it opens in the app	The program permission it also needs
Send a result to the patient from the phone	The button that sends a result to the patient, on an order's page	**Publish the portal and communications**

The tab **Actions** appears when at least one of its four sections is allowed. The search for a patient in the app follows **Read patient files**, and the money figures follow the same rule as the program's statistics.

34.3 Install and pair

The app is downloaded straight from the vendor's website, not from an app store, and it is installed from the file. Once installed it offers its own updates, signed by the vendor; nothing is installed without the person's tap.

The pairing window shows everything you need. It opens from **My account**, which you reach by pressing your name in the bar (see Chapter 2: Getting started). Pairing is done from inside the laboratory only.



Figure 34-2: The pairing window: 1 the code to download the app, 2 the pairing code, 3 the line that says the program is waiting for the phone.

1. **1. Download the app**: a code for the phone's camera. It leads to the app's page on the vendor's site.
2. **2. Pair the phone**: the pairing code. It works once and for ten minutes.
3. **The waiting line**: **Waiting for the phone**, then **The phone is paired.** when the phone has taken the code.

The first screen of the app, before it is paired, is the welcome screen.

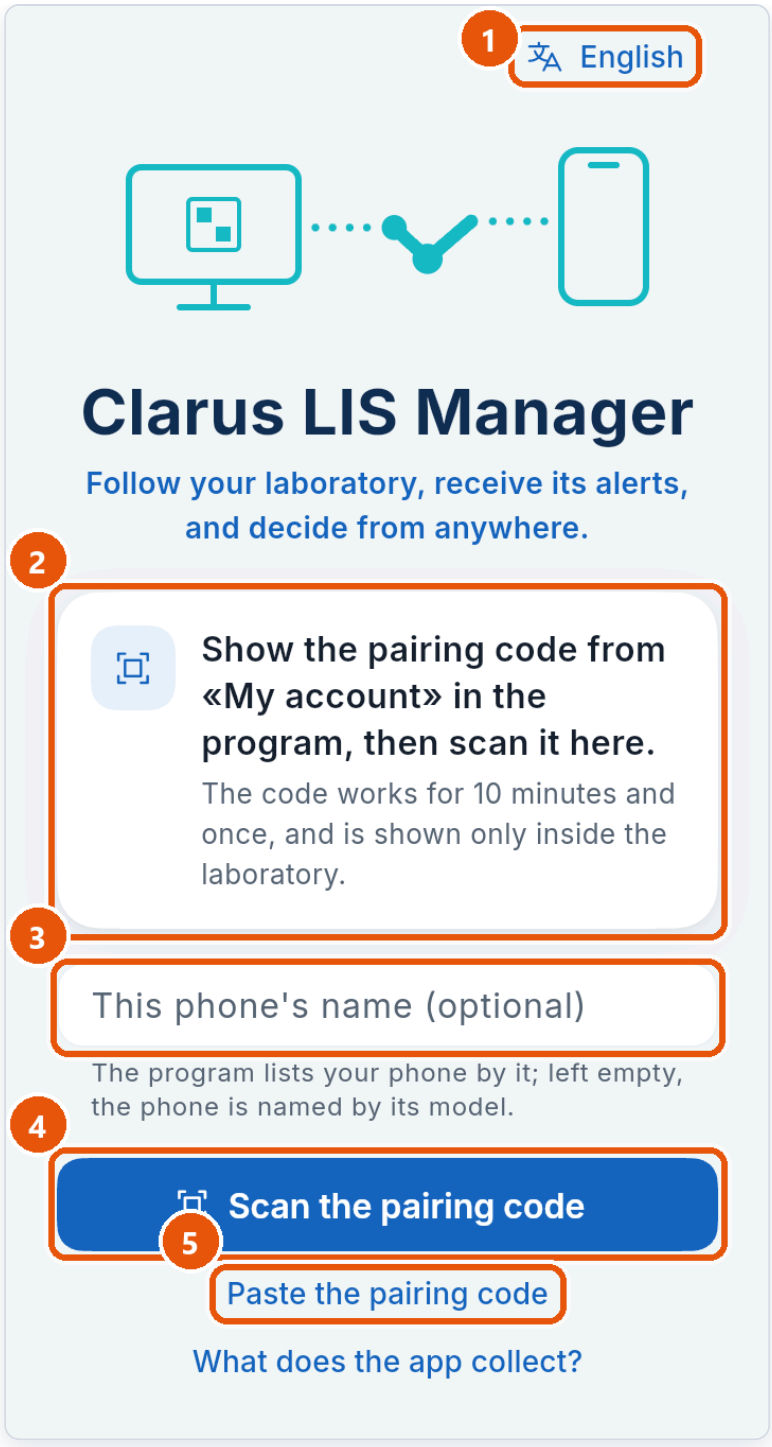


Figure 34-3: The app's welcome screen: 1 the language button, 2 the line that says what the app is for and what to do, 3 the phone's name, 4 the button that scans the pairing code, 5 the button that pastes it instead.

1. **The language button.** The app opens in the phone's language when it is one of the program's eleven; the person changes it here or later in the settings.
2. **What the app is for, and what to do.** It says to show the pairing code from **My account** in the program and scan it. The code is valid for ten minutes and once.
3. **The phone's name** (optional). It is the name by which the laboratory lists this phone; left empty, the phone's model is used.
4. **Scan the pairing code**, the main button.

5. **Paste the pairing code**, for a phone whose camera cannot read a screen.

34.3.1 Task 1 — Pair a phone

You need your own computer inside the laboratory and the phone in your hand.

1. In the program, press your name in the bar. In **My account**, under **My phone**, press **Pair a phone**.
2. On the phone, point the camera at the first code and open the page it leads to. Download the file, open it and install it. Android may ask you to allow your browser to install apps: allow it.
3. Open the app. Its first screen is the welcome screen, described above.
4. Type a name for the phone if you wish, press **Scan the pairing code** and point the camera at the second code in the program's window. If the camera cannot read a screen, press **Paste the pairing code** and paste the code's text.
5. The program says **The phone is paired.** and the app opens. The phone's own screen lock opens it (see below). The first time, the app explains why a small icon stays in the notification bar and asks for the notifications and for the exemption from battery saving. Allow both: without them the phone may stop the app and the alerts do not arrive.

The code works once, for ten minutes. If it has expired or was already used, close the window and open it again for a new one. The window may also say that a phone cannot reach this computer yet; open the server to the laboratory's network in Chapter 27: Branches and linking or turn on the intermediary server, then try again.

34.4 The road from the phone to the laboratory

The code carries the roads the phone may use, and the phone tries them in turn.

The road	What it needs
Directly, inside the laboratory	The server opened to the laboratory's network in Chapter 27: Branches and linking, and the phone on that network
Directly, from outside	A fixed secure address the laboratory declares, or a private network such as Tailscale
Clarus Link	The laboratory's program reaching the vendor's server. The vendor's server only joins the two ends and reads nothing

The administrator chooses among **Directly**, **Clarus Link** and **Both**, and **Both** is the choice until the laboratory chooses. While a phone is on **Clarus Link** it tries the direct roads again about every minute, so it comes back to the direct road when its person returns to the laboratory. In the app's settings, the row **Reached through** says which road is in use, and a red line says why **Clarus Link** refuses, when it does.

34.5 The phone's lock and its permanent icon

The app has no password of its own. When it opens it asks for the phone's own screen lock, fingerprint or code, and it locks again after five minutes away. A phone with no screen lock cannot open it. The small icon in the notification bar is the app following the laboratory; it keeps one question open to the laboratory, and that is how an alert reaches the phone without any push service. Do not switch it off.

34.6 The tabs of the app

The bottom bar shows five tabs at most, and a person sees only those the roles matrix allows. If the person follows two or more branches, a button at the top of the tabs chooses the branch, and urgent alerts keep arriving from all of them.

34.6.1 Branches

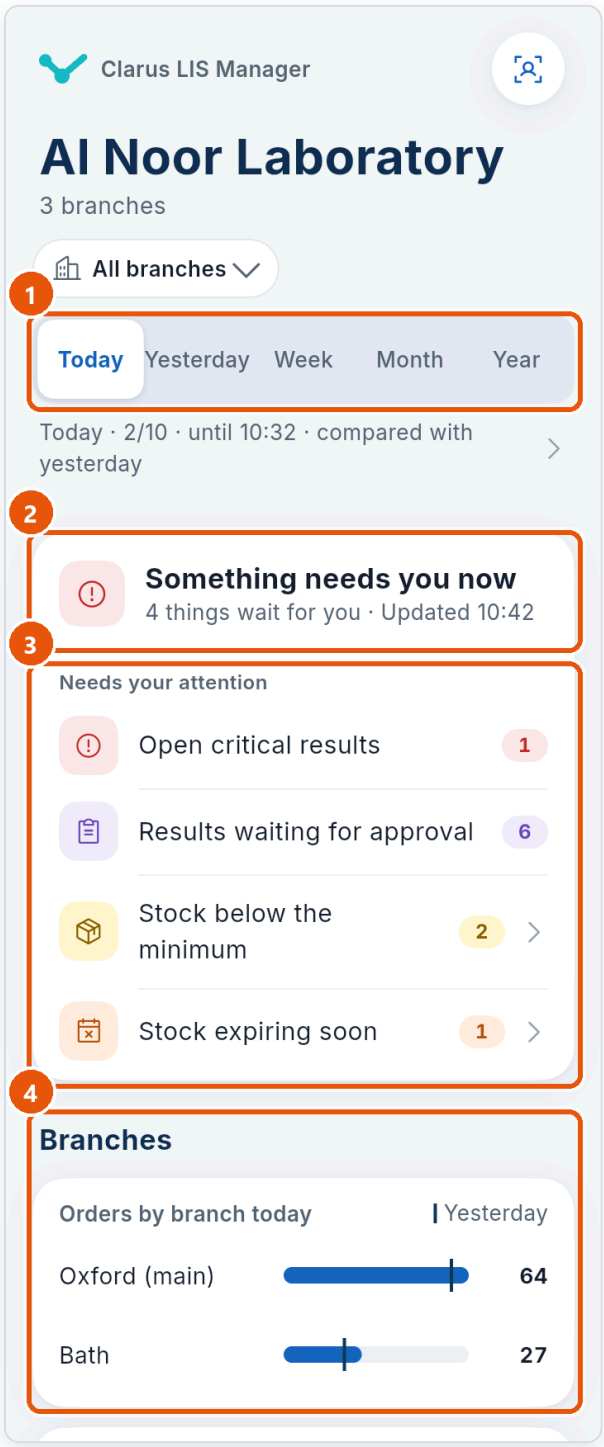


Figure 34-4: The Branches tab: 1 the period, 2 the headline card, 3 the things that need attention, 4 the comparison of the branches.

1. **The period**: Today, Yesterday, Week, Month or Year, compared with the previous one. The choice is remembered.
2. **The headline card**: one sentence says whether something needs attention now, whether things are waiting, or whether all runs smoothly.

3. **Things that need attention**: open critical results, results waiting for approval, discounts or refunds waiting for a decision, stopped analyzers, open quality control, and stock. A tap goes to the right tab, or says that the matter is handled in the program.
4. **The branches**: when the person follows several branches and has not chosen one, a chart compares their requests today and each branch has a line of its own with its figures. Further down come the main figures (requests, patients, results released, those on time, the median turnaround and rejected samples), the money figures for a person who may see money, with a button that hides them, and the work waiting now.

34.6.2 Alerts

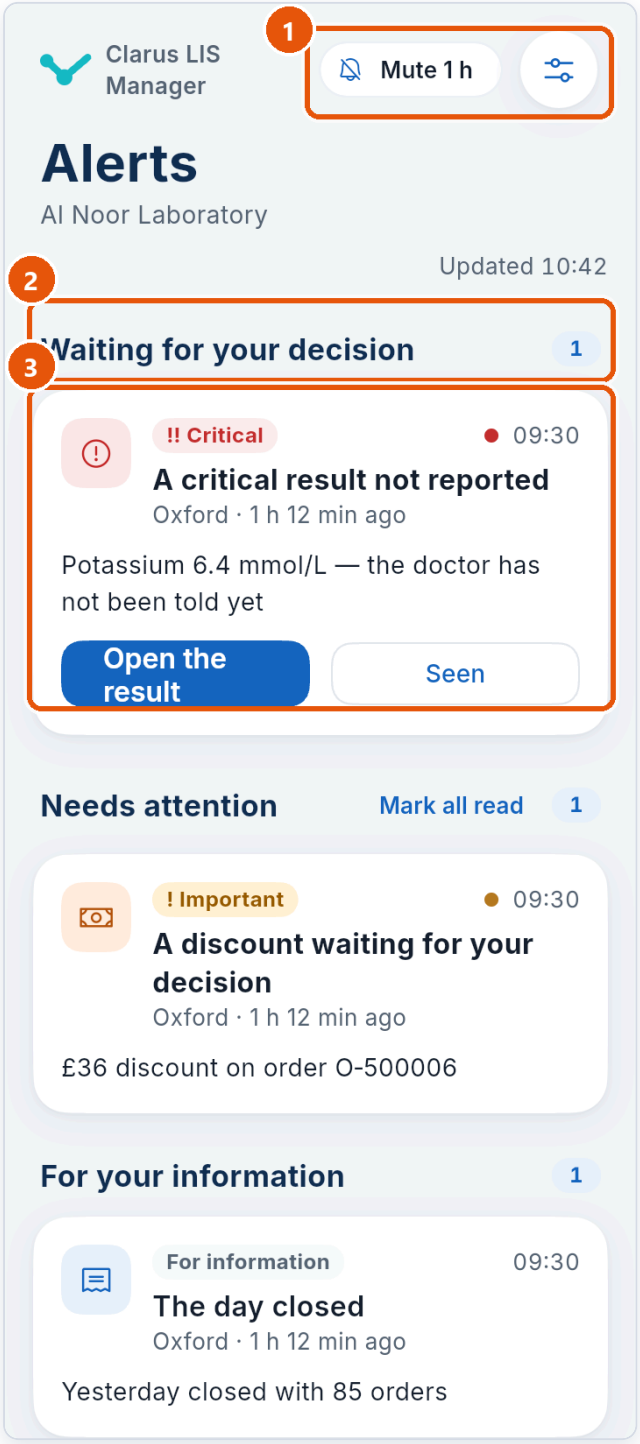


Figure 34-5: The Alerts tab: 1 the button that mutes sounds for an hour, 2 the sections, 3 an alert that asks for a decision.

1. **Mute for one hour**, and beside it the button **Alerts I receive**, where the person chooses which kinds reach the phone and sets quiet hours.
2. **The sections**: waiting for your decision, critical and open, needs attention, and for your information.
3. **An alert**: its severity, its time, its branch and a few lines that never name a patient. A critical result offers **Open the result** and **Seen**.

A critical result rings with its own sound and repeats until it is opened. The alerts the person can receive follow the roles matrix and the person's own switches. If the phone has not heard from the laboratory for a while, a red banner says so, with a button that checks whether alerts can reach the phone.

34.6.3 Actions

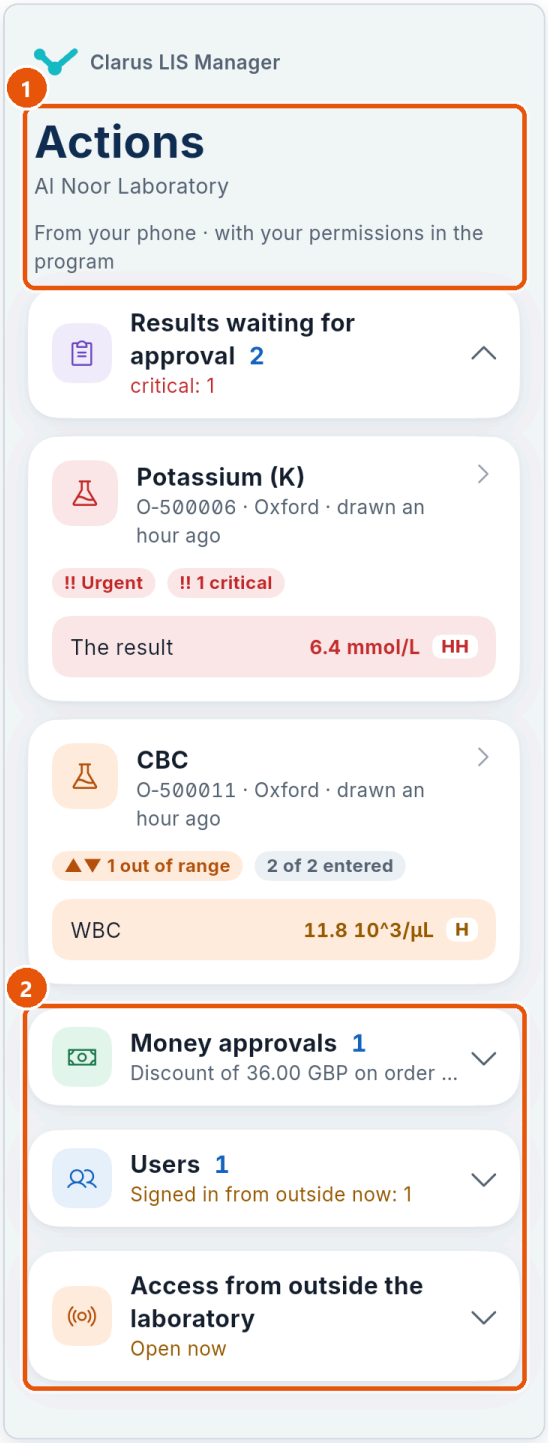


Figure 34-6: The Actions tab: 1 the header, with the line that says the phone acts with the person's permissions in the program, 2 the sections still closed, each opened on its own.

1. **The header**: the laboratory's name and the line that says the phone acts with the person's own permissions in the program.
2. **The other sections**, closed here, shown only for the permissions the person holds: results waiting for approval, money approvals, users, and access from outside the laboratory.

Approving a result is one decision at a time: the phone shows the result and its flags, offers an approval note (printed in the report or kept for the laboratory), and has no bulk approval. A discount or a refund is approved or declined, and a decline needs a written reason. Suspending a person's account, or ending their sessions, also needs a written reason, which is recorded under the manager's name. The switch for access from outside the laboratory is shown only when access is open, and it asks before it acts.

34.6.4 Messages

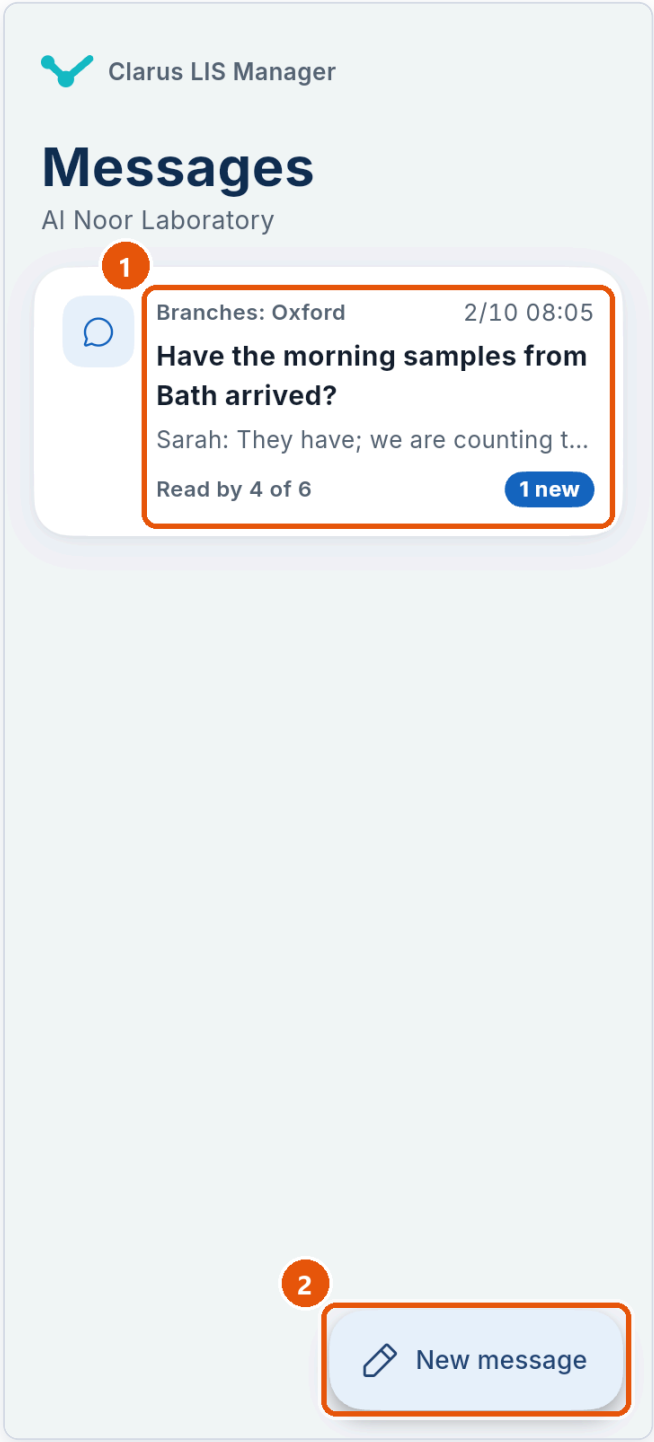


Figure 34-7: The Messages tab: 1 the conversations, 2 the button for a new message.

1. **The conversations**: what the person sent to the program's screens and what the program wrote to the management, with who has read each.
2. **New message**: choose how it appears (a notice, a band or an urgent message), to whom (branches, people or devices), write it and choose how long it is shown. An urgent message stays on the screen until it is marked read or answered.

34.6.5 Settings

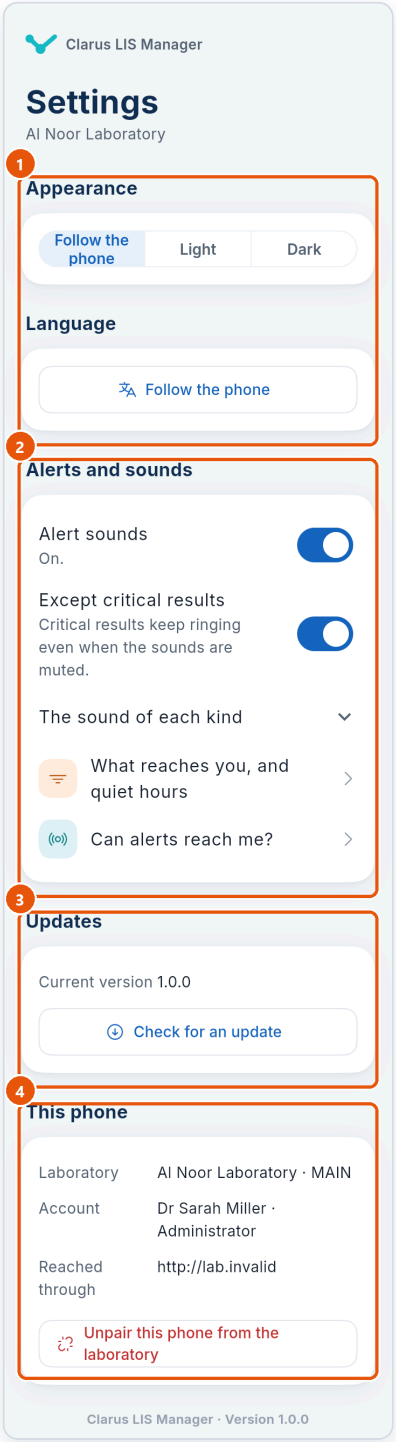


Figure 34-8: The Settings tab: 1 appearance, 2 alerts and sounds, 3 updates, 4 this phone and the button that unpairs it.

1. **Appearance**: light, dark or as the phone; and below it the app's own language.
2. **Alerts and sounds**: mute, the sound of each kind, quiet hours, and a check that tells whether alerts can reach the phone.
3. **Updates**: the version in use and the button that looks for a newer one.
4. **This phone**: the laboratory, the account, the road in use, and the red button that unpairs the phone.

A person who may use the sign-in code or the scan also sees a section **Sign-in with this phone** with those two rows, which are described below.

34.7 Signing in with the phone

A phone whose person holds **Sign in with the phone** can help sign in to the program from outside the laboratory.

- **The code.** The app shows a six-digit code that changes every thirty seconds. Type it when the program asks for the verification code. The laboratory hands the secret over only from inside the laboratory, and the app asks for it while the phone is on the laboratory's network.
- **The approval.** When someone signs in from outside, an alert reaches the phone and rings whatever the sound settings are. Choose the number the computer shows. The request lasts about a minute. **Not me** refuses it and tells the laboratory's managers.
- **The scan.** The app can scan the code on the program's sign-in page and confirm the sign-in after asking.

A person who holds only the sign-in permission sees just two tabs, the code and the settings.

34.8 Removing a phone

- **From the phone.** In the settings, press the red button that unpairs the phone and confirm. The phone forgets the laboratory and returns to the welcome screen. If the laboratory cannot be reached, the phone is forgotten anyway and the administrator can remove its entry.
- **From your account.** In **My account**, under **My phone**, press **Remove** beside your own phone.
- **By the administrator.** In the tab **Phones and screens** of Chapter 33: Users and permissions, the card **Paired phones** lists the paired phones with their owner and device name, and **Remove** removes one.
- **By the program.** A phone that is not heard from for more than the number of days set in the same tab is removed (30 by default). Nobody is told; the person finds out when the app says that the phone was removed from the laboratory and must be paired again. A person who loses both app permissions loses all their phones.

A removed phone is refused at its next request, and to use it again its person pairs it again with a new code.

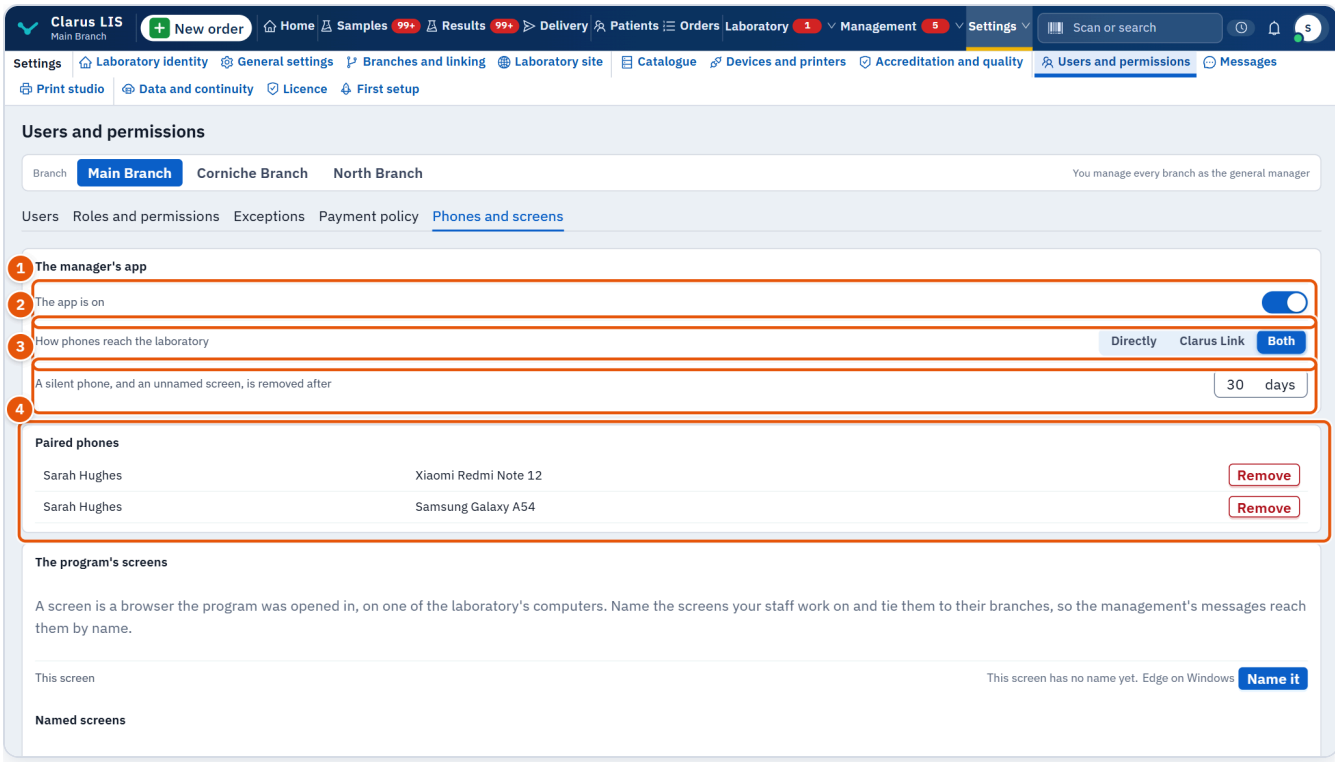


Figure 34-9: The tab Phones and screens: 1 the switch that turns the app on, 2 the road, 3 the days after which a silent phone is removed, 4 the paired phones.

1. **The app is on**: off, every phone is stopped and no new code can be made.
2. **How phones reach the laboratory**.
3. **The days of absence**, for a phone and for a screen with no name.
4. **Paired phones**, with a remove button for each.

All of this is saved at once, and only from inside the laboratory.

34.9 Keeping the app up to date

When a newer signed version exists, a blue strip appears above the tabs and the settings offer the update. Nothing downloads without a tap, and Android always asks the person to confirm the installation. If the laboratory no longer accepts an old version, the whole app is replaced by a screen that asks for the update.

34.10 Messages and what to do

The app or the program says	What it means	What to do
The pairing code has expired, or was already used	The code works once and for ten minutes	Close the pairing window and open it again
A phone cannot reach this computer yet	The code carries no road the phone can use	Open the server to the laboratory's network in Chapter 27: Branches and linking, or turn on the intermediary server
The laboratory could not be reached	The phone is not on a road that reaches the laboratory	Check the phone's connection, and the program's computer
This phone was removed from the laboratory	An administrator, the person or the days of absence removed it	Pair the phone again from **My account**
The manager app is switched off for this laboratory	The switch in the tab **Phones and screens** is off	The administrator switches it on
Update the app	The laboratory no longer accepts this version	Install the newer version
Last contact with the laboratory… alerts may not reach you	The phone has not heard from the laboratory for over a minute	Press the check button and follow what it says

34.11 See also

Chapter 33: Users and permissions, Chapter 27: Branches and linking, Chapter 2: Getting started, Chapter 28: Linking branches and computers, Chapter 41: Questions and problems

Chapter 35

Messages

Menu: **Messages**. Address: `/setup/messages`.

35.1 What this screen is for

This is where the laboratory decides how its messages leave and what they say. It holds three things: the **channels** (email, SMS and WhatsApp, each with the provider that carries it), the **switch for messages to patients**, and the **wording** of every message the program writes by itself or that the desk chooses from.

Nothing here sends a message by itself. The screen sets the road and the words; the messages are produced by the work of the laboratory (a result ready, a payment required, a message written at the desk).

35.2 Who sees it

You can...	...if your role holds
Open the screen, set channels, open or close patients' messages, edit templates and ready messages, decide on waiting messages	**Manage settings**

35.3 The screen at a glance

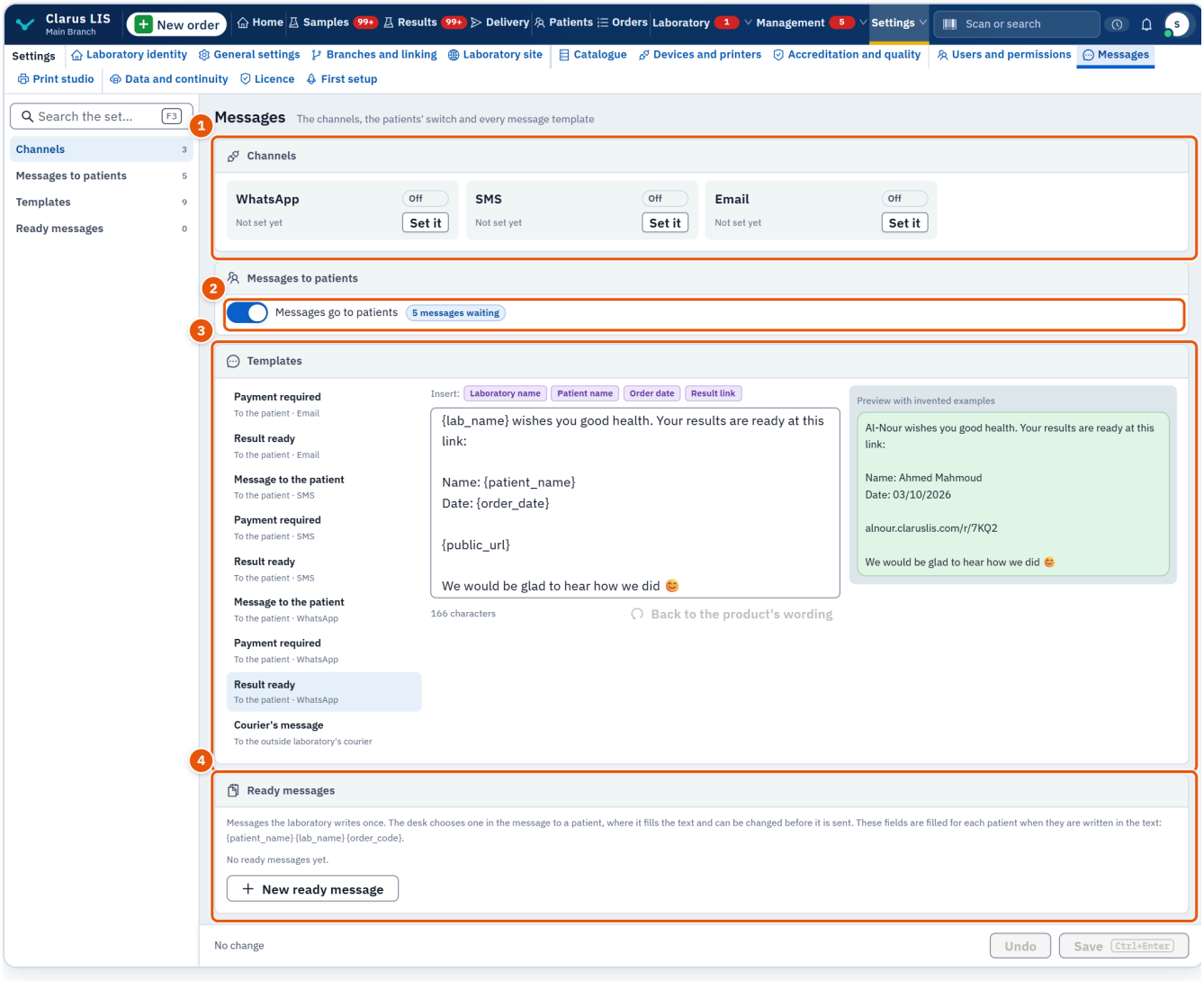


Figure 35-1: The Messages screen: 1 the Channels section, 2 the patients' switch, 3 the Templates section, 4 the Ready messages section.

The screen has four sections, each with a count beside its name:

1. **Channels**: the three channels and their state.
2. **Messages to patients**: the switch, and any message held for review.
3. **Templates**: the wording of each message.
4. **Ready messages**: the laboratory's own messages.

If part of what was saved could not be read, a note above the sections says which part was not shown and that everything else is as saved. A change in the templates is saved with the page's save button; the channel and ready-message windows save on their own.

35.4 Channels

Each channel (email, SMS, WhatsApp) shows its name, a tag, and the provider's name. The tag shows how the channel works (for example **A mail server (SMTP)**) when it is enabled and not switched off, otherwise **Off**. A channel with no provider says **Not set yet**. The button **Set it** opens its window.

35.4.1 The provider window

Field	What it does
Provider	The provider's name.
How it works	How the channel works. Email offers **Off**, **A mail server (SMTP)**, **Trial without sending** and **Local simulator**. SMS offers **Off**, **An HTTP service**, **A web address that receives them**, **Trial without sending** and **Local simulator**. WhatsApp offers those too, and also **WhatsApp Business (Cloud API)**.
Address	The service address.
From address (email) or **Sender name** (SMS and WhatsApp)	The sender the recipient sees.
Reference to the secret kept on the server	The name under which the server keeps the secret, never the secret itself: the program does not accept a secret typed here. Once one is kept, the window says so.
Limit per minute	How many messages may leave in a minute (from 1 to 1000).
Enabled	Turns the channel on or off.

> **Note**
>
> **Trial without sending** and **Local simulator** are for trying the road; their names say they are not a real delivery.

35.5 Messages to patients

The switch **Patients' messages switch** says in words what it does: **Messages go to patients** or **No message goes to patients until you open it**. Beside it a tag counts the messages waiting. Messages to patients stay in the queue while the switch is closed.

35.5.1 Messages that gathered before opening

If messages waited while the switch was closed, opening it does not send them. A window titled **Messages that gathered before opening** appears, states how many waited, and says that none leaves

before you choose.

Button	What it does
Review them first	Holds the waiting messages for your review.
Send them all	Sends them all.
Delete them from the queue	Removes them from the queue.

Each choice also opens the switch. If you close the window without choosing, the switch stays closed, the messages stay waiting and none leaves. The window cannot be closed, and its buttons are dim, while a choice is being saved.

35.5.2 Messages held for review

After **Review them first**, the section lists the held messages under the switch, with the time, the recipient and the start of the text. None leaves until you decide. If there are many, only the first ones are shown and the note says how many.

Button	What it does
Send them all	Sends every held message.
Delete them all	Deletes every held message.
Send (on a line)	Sends that message.
Delete (on a line)	Deletes that message.

35.6 Templates

The editor lists each message to a patient, named by its purpose and its channel, and the message to the outside laboratory's courier. A dot beside a name means it holds a change not yet saved.

Element	What it does
The text box	The wording of the chosen template. Its direction follows the language it is written in.
Insert:	One button per field this message knows (for example **Patient name**, **Order number**, **Result link**). Pressing it puts the field at the cursor.
The length line	The number of characters, and for the courier's message the limit too.
Back to the product's wording	Puts the product's own wording back. Dim when the text is already that wording.

Element	What it does
Preview with invented examples	The text with every field filled by an invented example.

35.7 Ready messages

Ready messages are written once by the laboratory. The desk chooses one in the message to a patient; it fills the text, and the desk can change it before sending. The screen lists the fields that are filled for each patient when written in the text.

Element	What it does
The list	Each ready message with its name, channel and text. If there are none, the screen says so.
Edit	Opens the message for change.
Delete	Asks for confirmation, then deletes it.
New ready message	Opens an empty window.

The window has **Name** and **Text**, both required, and **Channel**. The save button stays dim until the name and the text are filled.

35.8 Tasks

35.8.1 Task 1 — Set up a channel

1. Press **Set it** beside the channel.
2. Choose **How it works**.
3. Fill **Provider**, **Address** and the sender (**From address** for email).
4. Write the name of the server-kept secret in **Reference to the secret kept on the server**.
5. Turn on **Enabled** and press **Save**. The screen answers «Channel saved.»

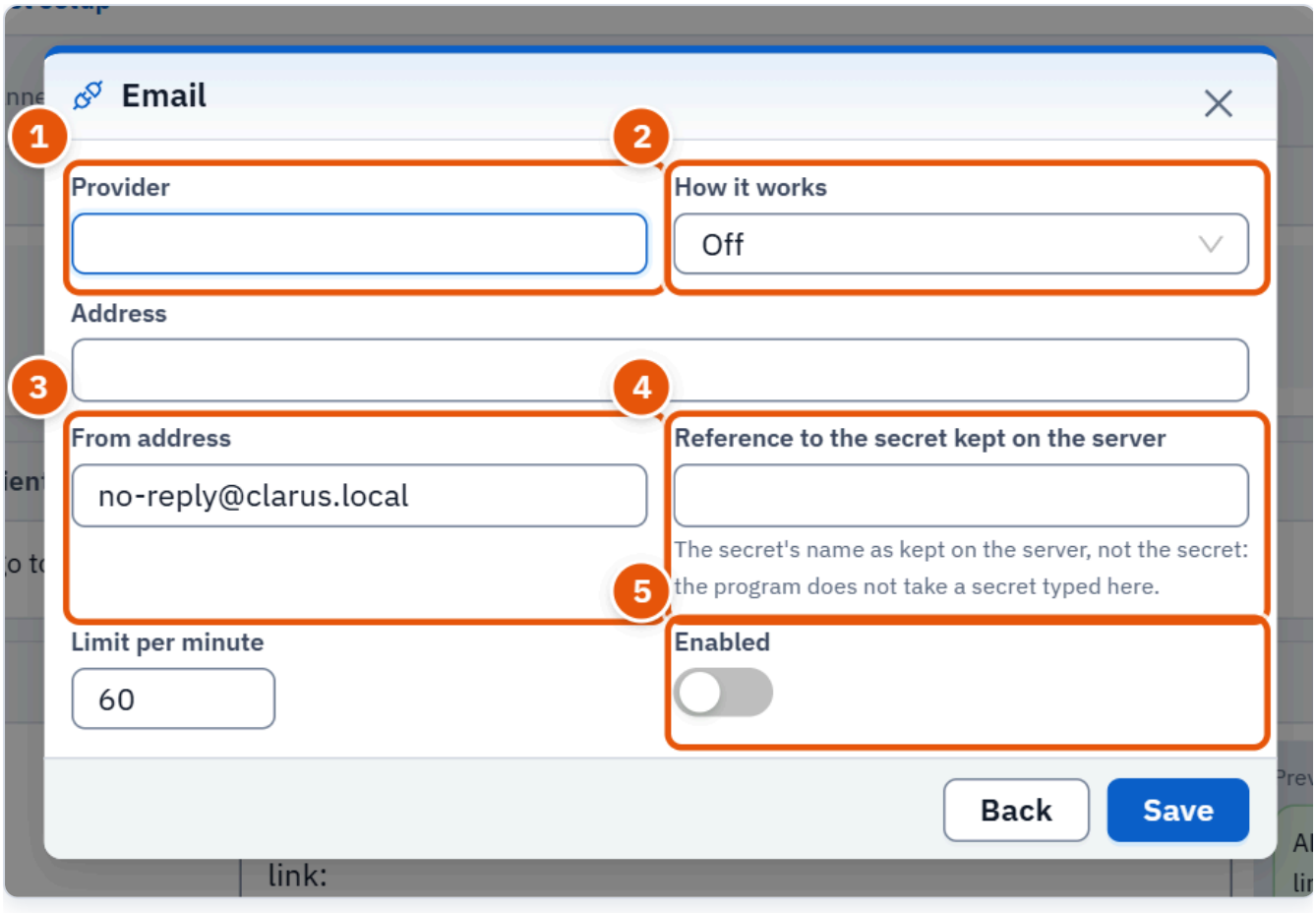


Figure 35-2: The provider window: 1 the provider, 2 how it works, 3 the address, 4 the secret reference, 5 enabled.

35.8.2 Task 2 — Edit a template

1. Open **Templates** and pick the template from the list.
2. Change the text; use **Insert:** for fields.
3. Check **Preview with invented examples**.
4. Save with the page's save button. The screen answers «Templates saved.»

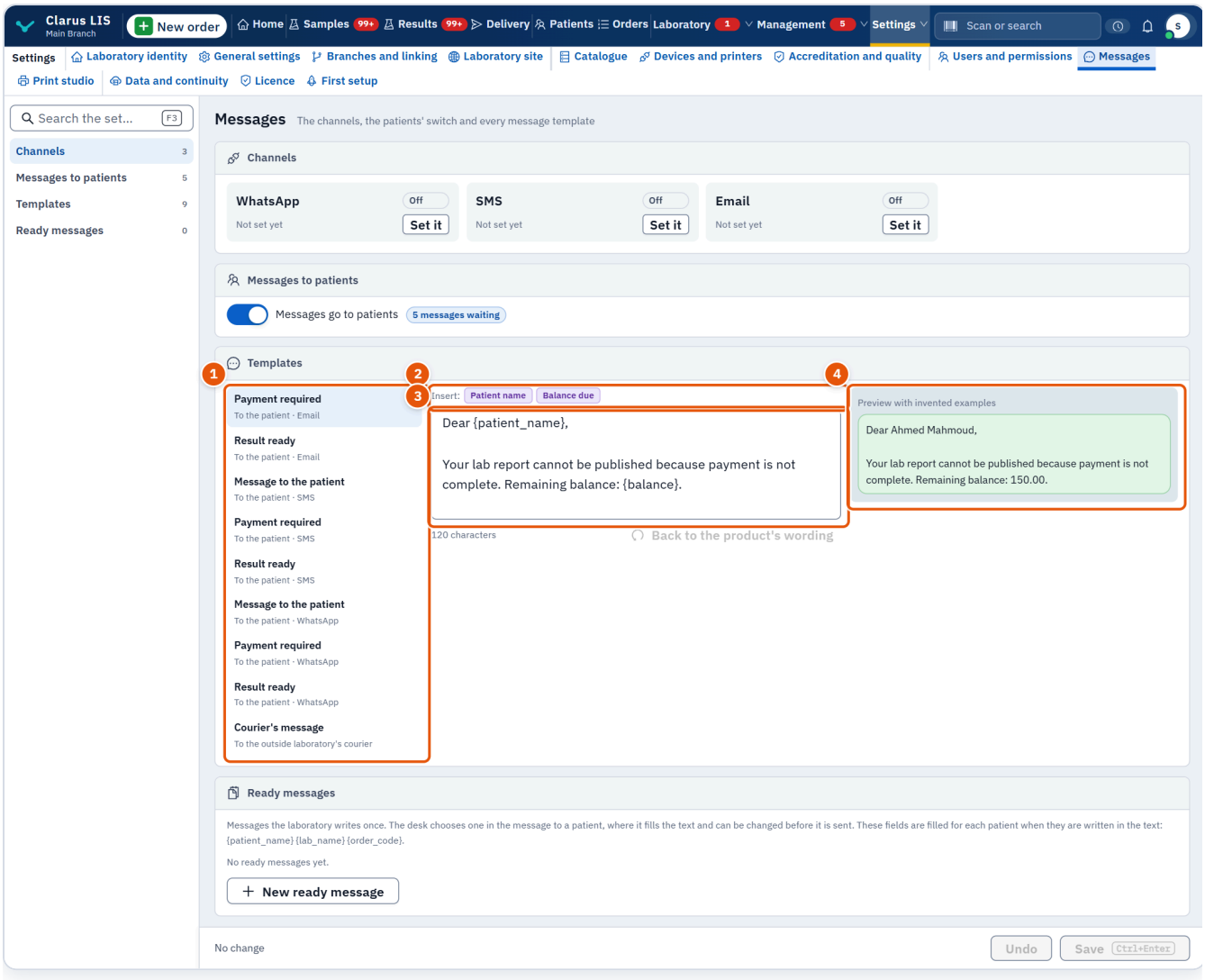


Figure 35-3: The template editor: 1 the list, 2 the field buttons, 3 the text, 4 the preview.

35.8.3 Task 3 — Add, edit and delete a ready message

1. In **Ready messages** press **New ready message**.
2. Fill **Name**, choose **Channel**, write **Text**.
3. Press **Save**. To change one later, press **Edit** on its line.
4. To delete, press **Delete** on the line, then **Delete** again in the confirmation, or **Back** to keep it.

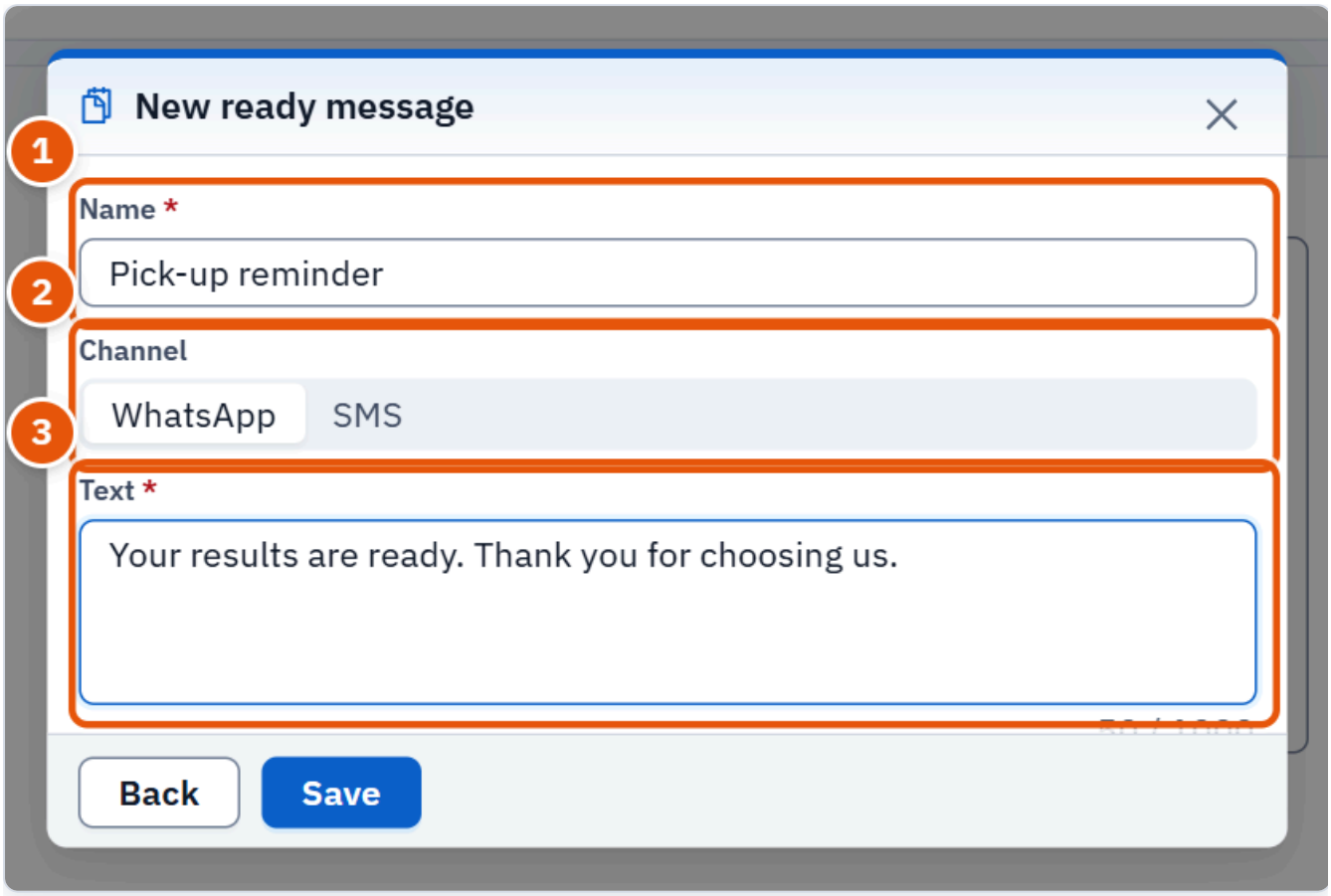


Figure 35-4: The ready message window: 1 the name, 2 the channel, 3 the text.

35.8.4 Task 4 — Open patients' messages when some are waiting

1. Turn on the switch **Patients' messages switch**.
2. In the window **Messages that gathered before opening** choose **Review them first**, **Send them all** or **Delete them from the queue**.
3. If you chose review, go through the held lines and press **Send** or **Delete** on each, or act on all at once.

Sending is described here in words only; the manual's pictures never show a message being sent.

35.9 Messages and what to do

The screen says	Meaning	What to do
The settings could not be loaded.	The settings did not load.	Use the retry button.
The settings could not be saved. Try again.	The save failed.	Try again; if the server gave a reason, read it.
The secret's name as kept on the server, not the secret: the program does not take a secret typed here.	No secret is kept yet.	Type the name of the secret kept on the server.

The screen says	Meaning	What to do
None of them leaves before you choose.	Nothing leaves before your choice.	Choose one of the three buttons.

35.10 See also

- **Patients**

Chapter 36

Print studio

Menu: **Print studio** (in the setup group). Address: `/setup/studio`.

36.1 What this screen is for

This is where the laboratory designs what it prints: the result report, the payment receipt, the sample label, and the settings of the report engine that decides which parts a report draws. Each design is its own document, so each tab has its own save, and a change in one tab never saves another.

Next to the settings there is always a preview, drawn by the same server that prints. What you see is what the printer receives with the settings you have typed, even before you save them.

36.2 Who sees it

Whoever holds **Manage settings**. The menu hides the screen from everyone else.

You can...	...if your role holds
Open the four tabs, change the designs and save them	Manage settings

36.3 The screen at a glance

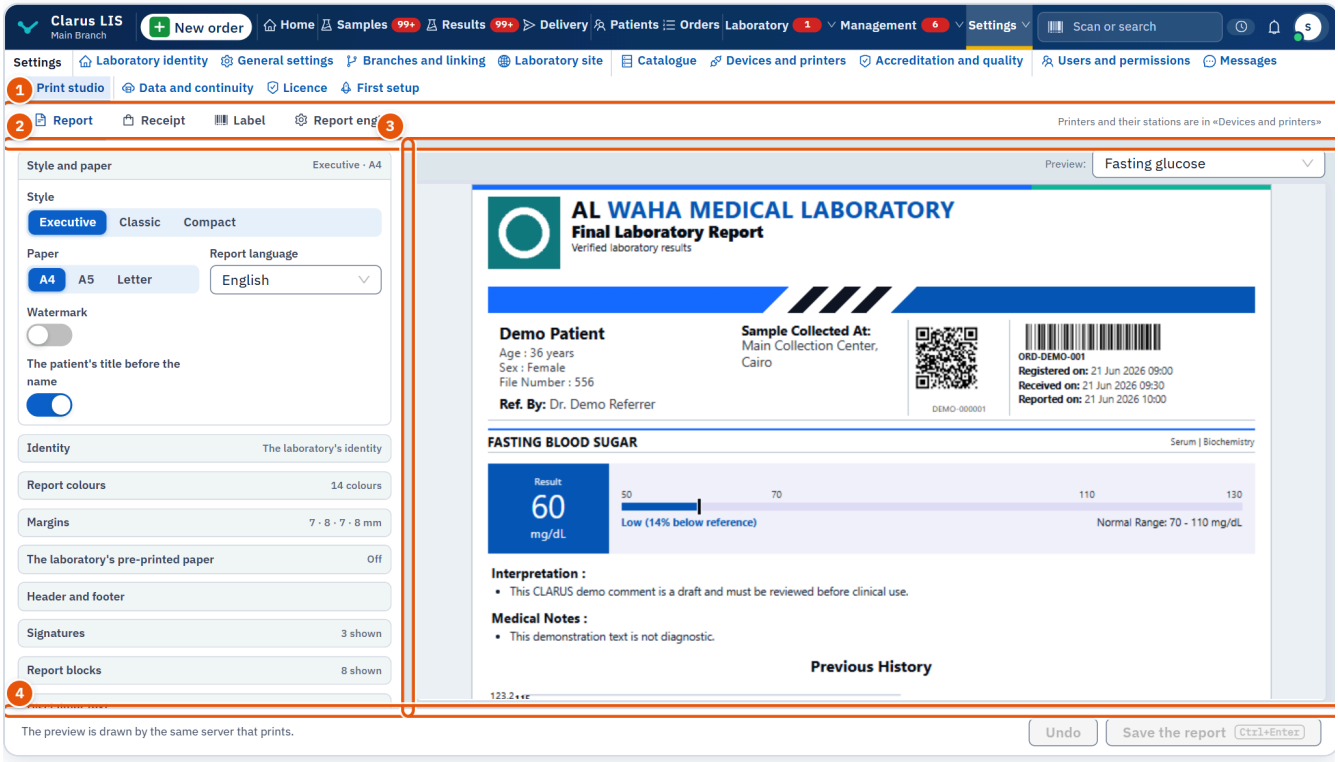


Figure 36-1: The Print studio: 1 the four tabs, 2 the settings of the open tab, 3 the preview, 4 the bar with Undo and Save.

1. **The tabs**: **Report**, **Receipt**, **Label** and **Report engine**. A small dot on a tab says it holds a change not yet saved. Switching tabs keeps every draft. Beside the tabs, a line reminds you that «**Printers and their stations are in «Devices and printers»**».
2. **The settings**: groups of controls for the open tab.
3. **The preview**: the design as it prints.
4. **The bar**: the changes waiting, **Undo**, and the save button of the open tab.

36.3.1 The bar, the preview and saving

Element	What it does
The changed-fields list	Names the fields you changed in the open tab and how many changes are unsaved.
Undo	Throws away the unsaved changes of the open tab only. Dim when there is nothing to undo.
The save button	**Save the report**, **Save the receipt**, **Save the label** or **Save the engine**, according to the tab. It also answers to `Ctrl+Enter`, even while the cursor is in a field, but only when the tab holds a change. Dim when the tab holds no change.
The preview	Follows your typing after a short pause. While it is being drawn: «**The server is drawing the preview**». If it cannot be drawn: «**The preview could not be drawn.**» with a retry.

Element	What it does
Preview: (report and engine tabs)	A choice of sample report to draw: **Fasting glucose**, **Lipid profile**, **Liver function**, **Kidney function**, **Urine culture**, **Critical notice**.

After a successful save a message says that the design was saved. If the server refuses, the reason appears in a red note in the bar and nothing is lost: the draft stays. Before the design loads the screen says «**Loading the design**»; if it cannot load: «**The design could not be loaded.**».

36.4 The report tab

The tab **Report** designs the printed result report.

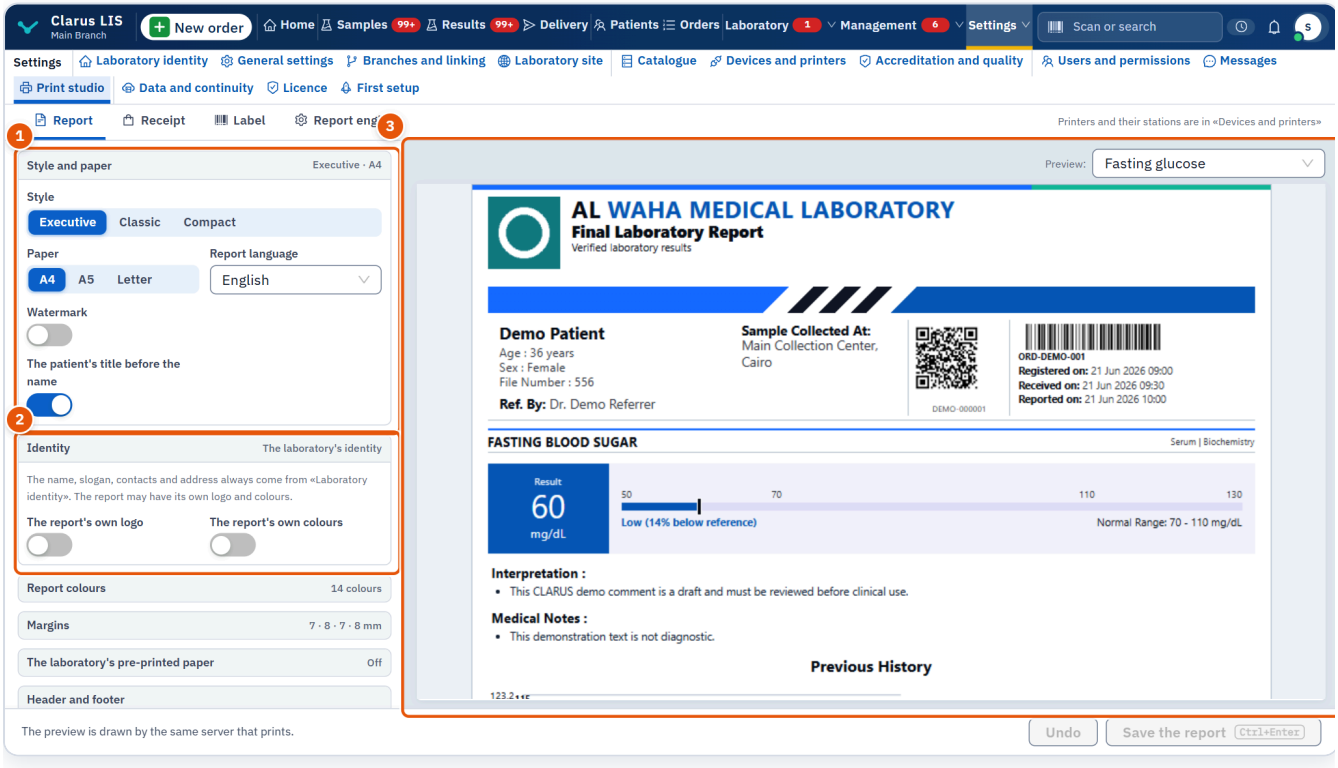


Figure 36-2: The report tab: 1 the style and paper group, 2 the identity group, 3 the preview of a sample report.

36.4.1 Style and paper, identity, colours

Element	What it does
Style	**Executive**, **Classic** or **Compact**.
Paper	A4, A5 or Letter.
Report language	The language the report prints in.
Watermark	A switch. When on, a field **The watermark's text** appears; left empty, the laboratory's name is printed.

Element	What it does
The patient's title before the name	A switch.
The report's own logo / **The report's own colours**	The name, slogan, contacts and address always come from **Laboratory identity**. These two switches let the report have its own logo and colours. With colours on, **Primary colour** and **Accent colour** appear.
Black and white for printing	The report prints without colours; the PDF that is sent stays in colour.
Colour fields under **Report colours**	Fourteen colours: **Highlight**, **Header text**, **Secondary text**, **Borders**, **Paper**, **Section background**, **Table header**, **Low result**, **Normal result**, **High result**, **Critical result**, **Reference range track**, **Earlier results line**, **Footer**.

36.4.2 Margins, header and footer

Element	What it does
Margins	**Top**, **Bottom**, **Right**, **Left**, in mm, from 0 to 45.
Header height (0 to 80 mm), **Header alignment**	The header's height and alignment (**Left**, **Centre**, **Right**).
Logo in the header, **Contacts in the header**	Switches for the header.
Footer height (0 to 60 mm), **Footer alignment**	The footer's height and alignment.
Signature in the footer, **Disclaimer in the footer**	Switches for the footer.
Disclaimer text	The text printed as the disclaimer.

36.4.3 The laboratory's pre-printed paper

The group **The laboratory's pre-printed paper** appears when the program offers it. Switch on **Print on the laboratory's pre-printed paper** and the report leaves out its own head and foot, because the paper carries them; the patient's details and the approver's signature stay. Then give the space the paper's head takes (**Space taken by the paper's head**) and its foot (**Space taken by the paper's foot**) in cm. The two spaces together may not pass a limit that the screen shows, split any way, zero allowed; a line shows how much is left. A note under the fields tells you how many result lines the page body holds compared with the program's own header, and warns in red if the page would have no room for the results.

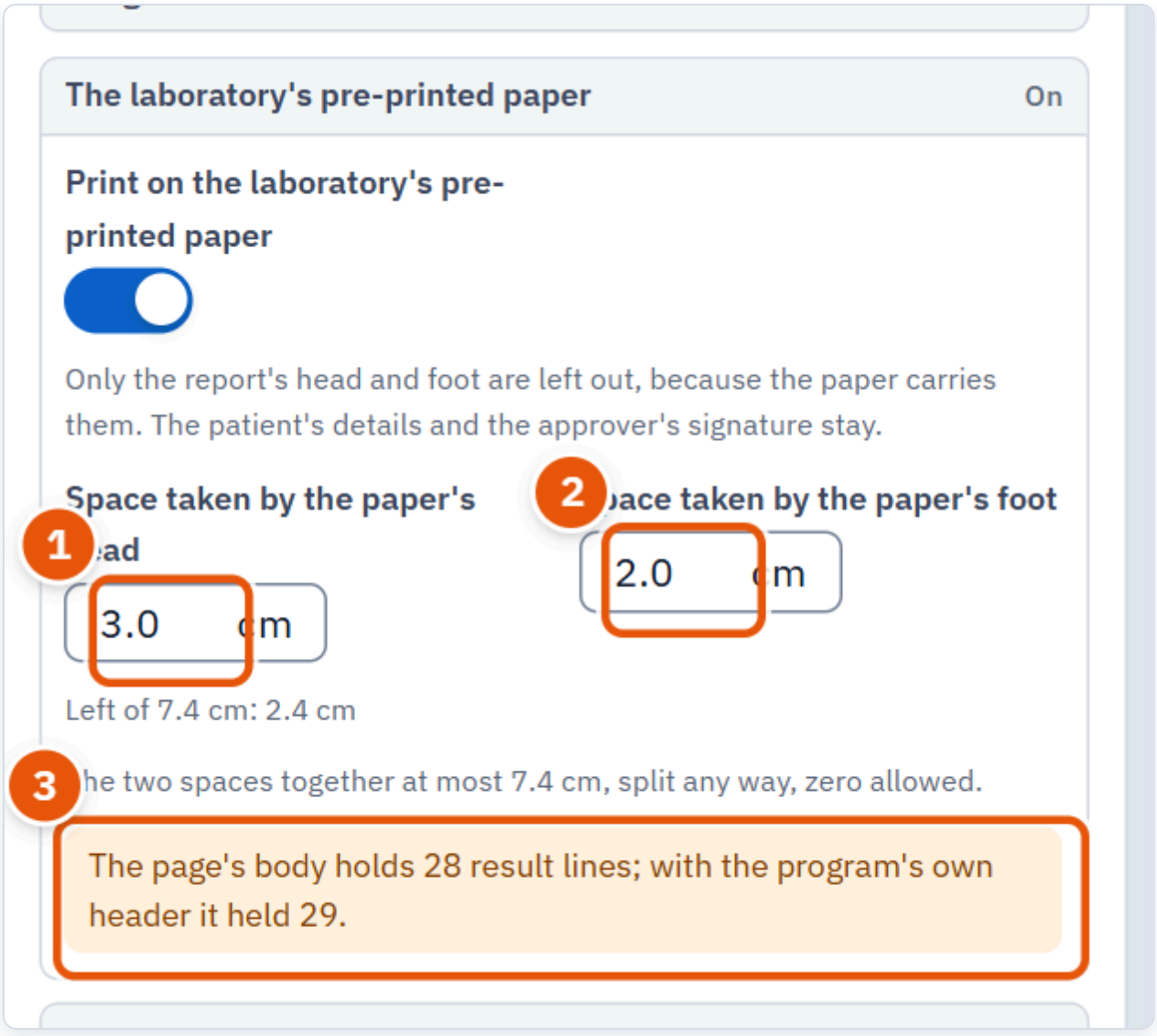


Figure 36-3: The pre-printed paper group with its two spaces and the note about room for results.

36.4.4 Signatures

The group **Signatures** lists three signatories: **Authorised signatory**, **Clinical pathologist** and **Medical lab technician**.

Element	What it does
The switch of each signatory	Shows or hides that signature. With it off, that signatory's name, job-title and picture controls are dim.
The name and job-title fields, each in Arabic and in English	Each line prints in the report's language. A line written in one language only prints on both reports.
Upload the signature's picture	Takes a PNG or JPEG picture up to 700 KB, on a transparent or white background, wider than tall. Then **Replace the picture** and **Remove the picture**. A picture that is too big, or not PNG or JPEG, is refused in words.

Element	What it does
Signature picture height	From 6 to 12.7 mm; the most is twice the old size, which is the default. The picture takes the space above the footer, so the results lose no room.

36.4.5 Blocks

Under **Report blocks** each block of the report has a switch: **Laboratory identity**, **Patient details**, **Order details**, **Sample summary**, **Report status**, **Clinical notes**, **Authorised signature**, **Disclaimer**. The **Result table** has no switch: a report always prints its results.

36.5 The receipt tab

The tab **Receipt** designs the payment receipt. The preview is the receipt as it prints.

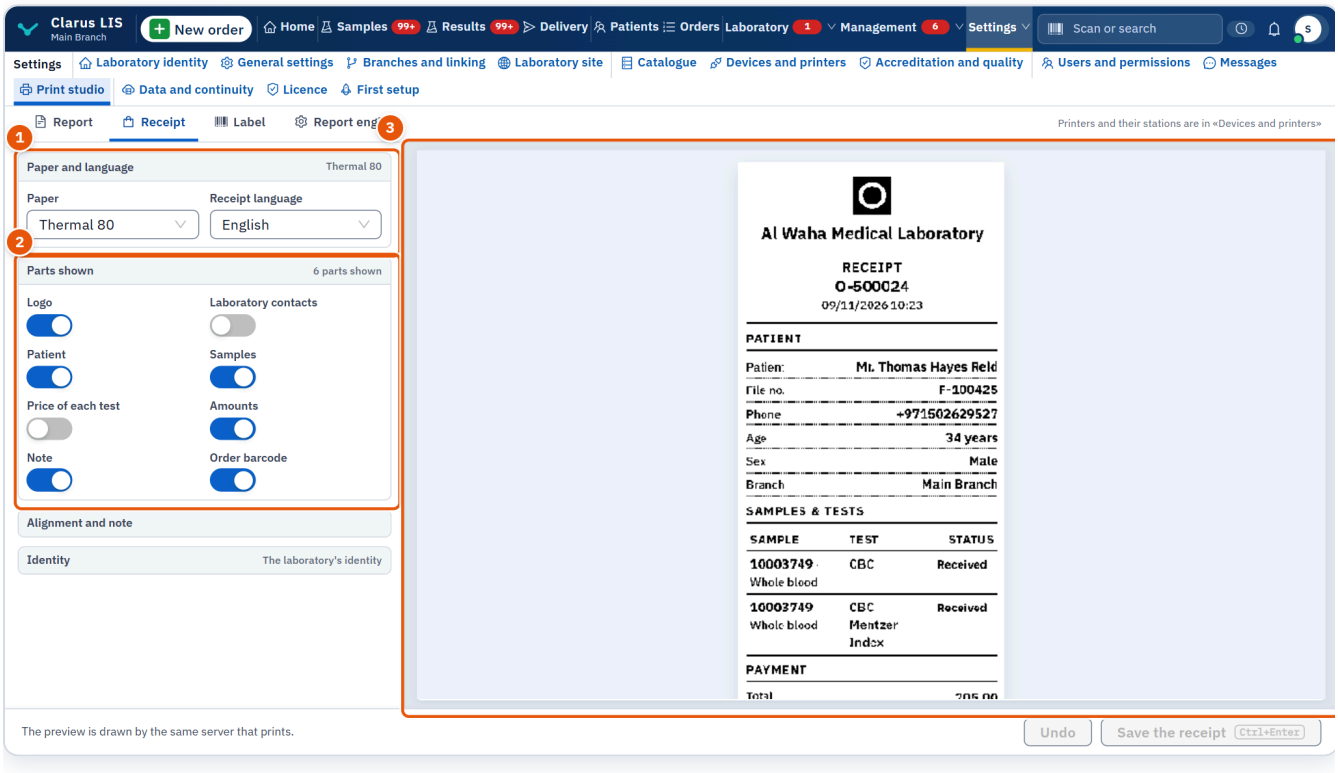


Figure 36-4: The receipt tab: 1 paper and language, 2 the parts shown, 3 the preview.

Element	What it does
A4, **A5**, **Thermal 80**, **Thermal 58** under **Paper**	The receipt's paper.
Receipt language	The receipt's language.
Parts shown	Switches: **Logo**, **Laboratory contacts**, **Patient**, **Samples**, **Price of each test**, **Amounts**, **Order barcode**, **Note**. The group's summary counts the parts shown.

Element	What it does
Alignment and note	**Header alignment** and **Note alignment** (line start, centre, line end), the **Note title** and the **Default note** text.
Identity	**The receipt's own logo** and **The receipt's own colour**; with the colour on, **Accent colour** appears. The name and contacts still come from **Laboratory identity**.

36.6 The label tab

The tab **Label** designs the sample label. The preview shows the label at its real size and printing resolution, as the printer receives it.

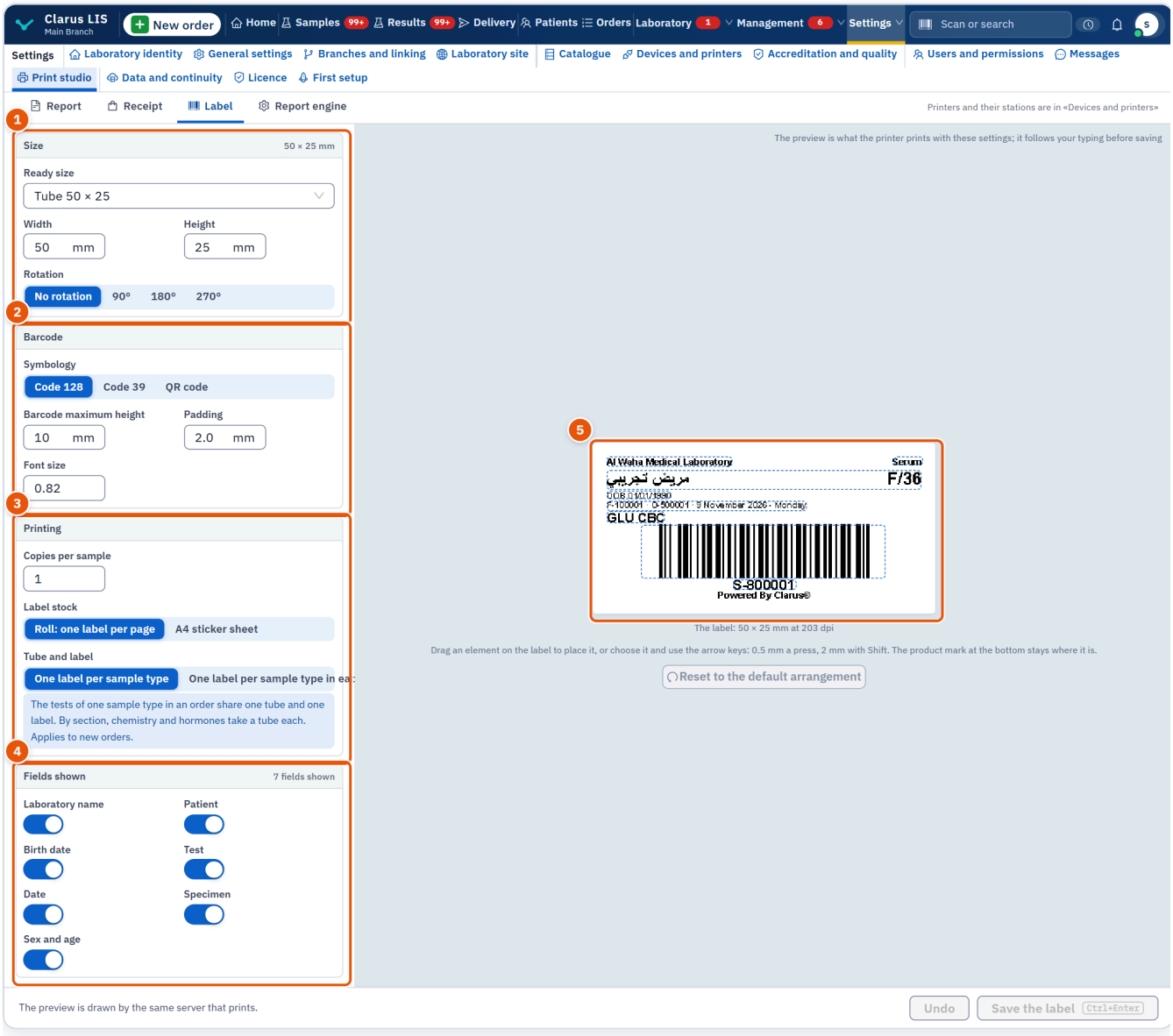


Figure 36-5: The label tab: 1 size, 2 barcode, 3 printing, 4 fields shown, 5 the label on the stage.

Group	Controls
Size	**Ready size** (tube and slide sizes, or a custom size when you type your own), **Width** (20 to 110 mm), **Height** (10 to 80 mm), **Rotation** (none, 90, 180 or 270 degrees).
Barcode	**Symbology** (**Code 128**, **Code 39**, **QR code**), **Barcode maximum height** (4 to 40 mm), **Padding** (0.5 to 6 mm), **Font size** (0.55 to 1.35).
Printing	**Copies per sample** (1 to 10); **Label stock**: **Roll: one label per page** or **A4 sticker sheet**; **Tube and label**: one label per sample type, or per sample type in each section (it applies to new orders). With the A4 sheet three more fields appear: **Sheet columns** (1 to 8), **Gap between labels** and **Page margin**.
Fields shown	Switches: **Laboratory name**, **Patient**, **Birth date**, **Test**, **Date**, **Specimen**, **Sex and age**.

36.6.1 Arranging the elements on the label

The preview is also a stage. Drag any element to place it, or choose it and move it with the arrow keys: half a millimetre a press, 2 mm with `Shift`. The product mark at the bottom stays where it is. If two elements cover each other the screen names them and asks you to move one. **Reset to the default arrangement** returns the default arrangement; it is dim while no element has been placed by hand. There is no "restore the shipped design" button on this screen.

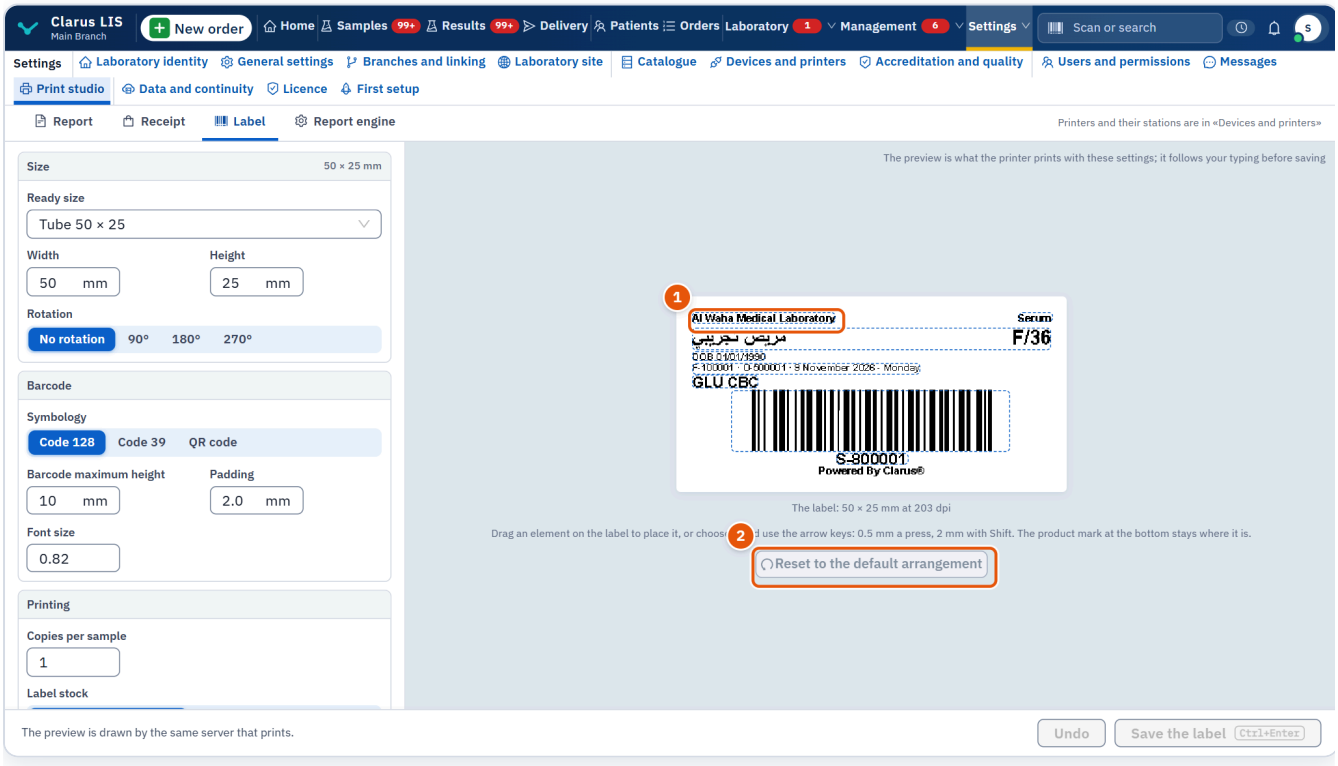


Figure 36-6: The label stage: 1 an element being arranged, 2 the reset button.

36.7 The engine tab

The tab **Report engine** does not draw a design: it decides which parts the report engine draws. Its preview is the report's own, drawn with these settings and with the report tab's current draft, and you can pick the sample report as in the report tab.

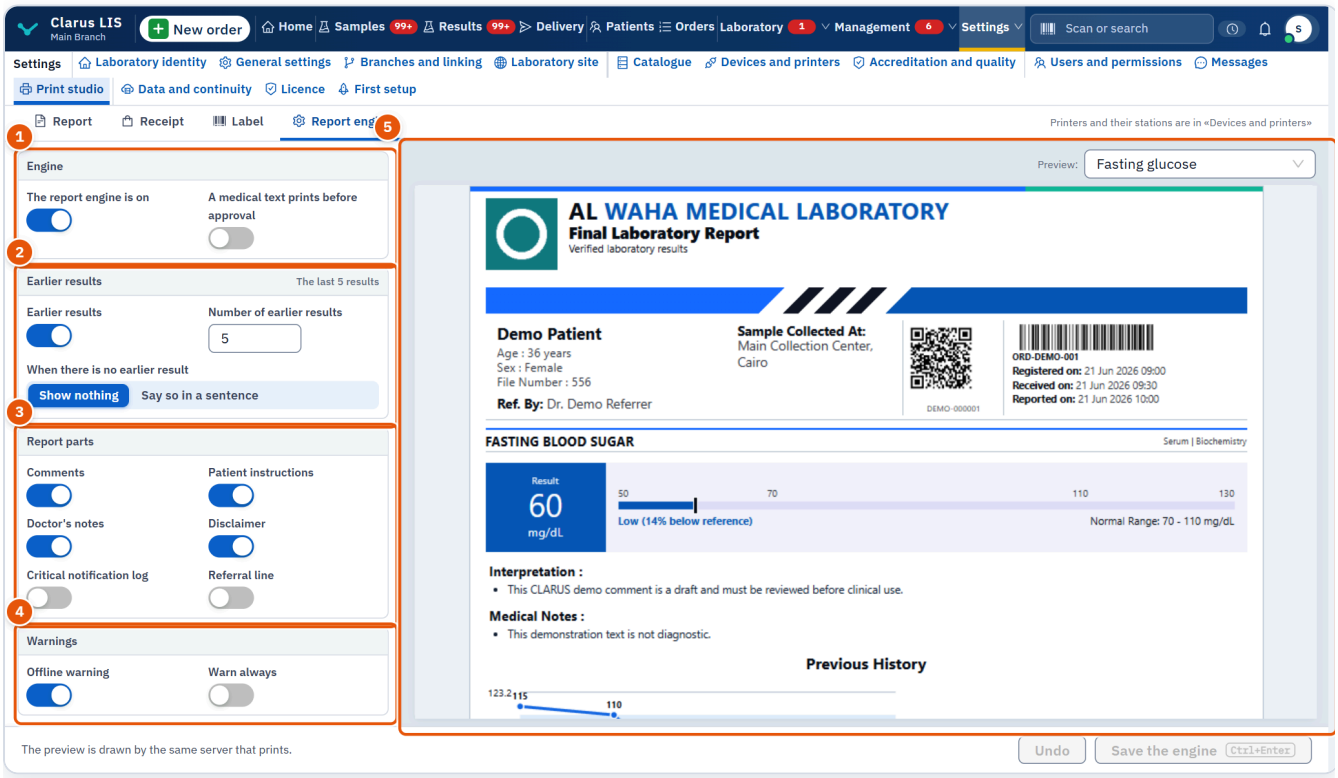


Figure 36-7: The engine tab: 1 engine, 2 earlier results, 3 report parts, 4 warnings, 5 the report preview.

Group	Controls
Engine	**The report engine is on**; **A medical text prints before approval**.
Earlier results	**Earlier results** (the summary says «The last N results» or «Not shown»); **Number of earlier results** (1 to 10, dim when earlier results are off); **When there is no earlier result**: **Show nothing** or **Say so in a sentence**.
Report parts	Switches: **Comments**, **Patient instructions**, **Doctor's notes**, **Disclaimer**, **Critical notification log**, **Referral line**.
Warnings	**Offline warning**; **Warn always**.

36.8 Tasks

36.8.1 Task 1 — Change the report's style and save it

1. Open **Print studio**; the **Report** tab is the first.

2. In **Style and paper** choose a **Style**.
3. Pick a sample report from **Preview:** and look at the preview.
4. Press **Save the report** (or `Ctrl+Enter`).

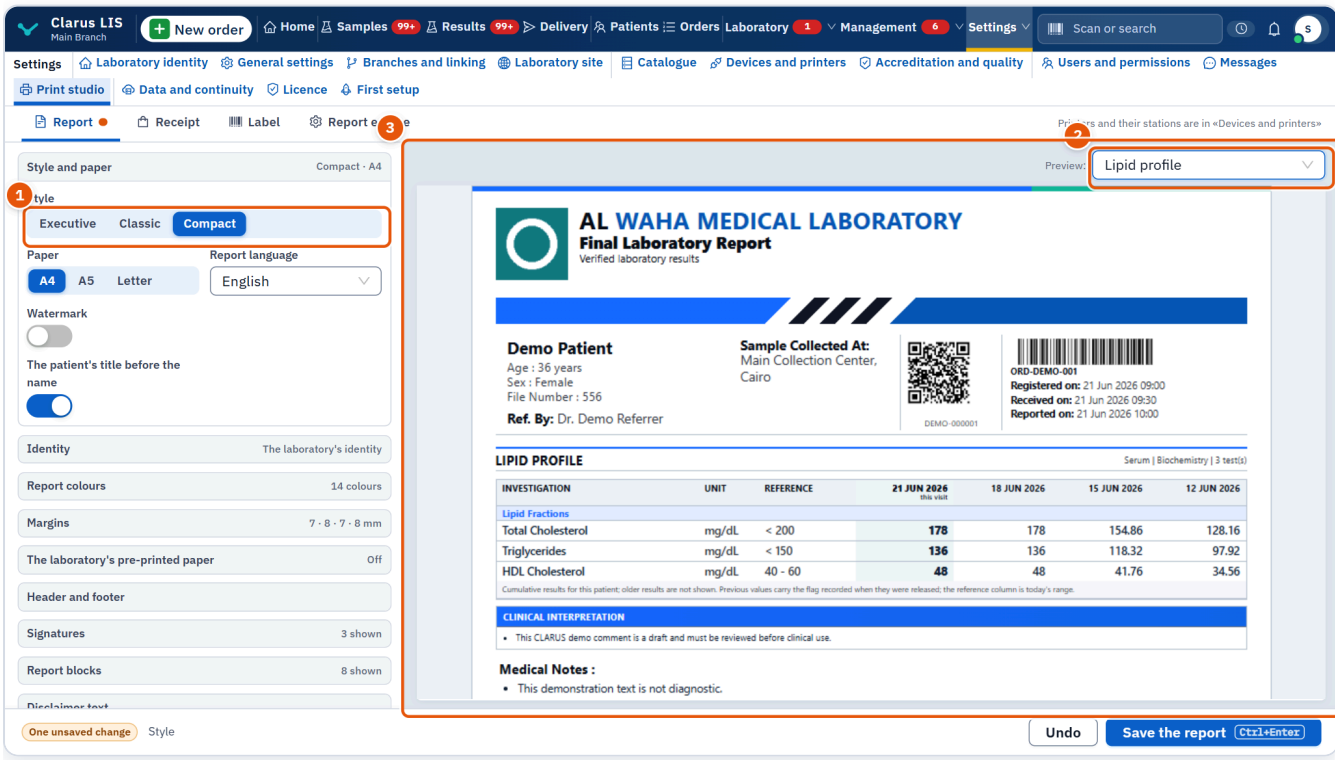


Figure 36-8: Choosing the style and checking the preview.

36.8.2 Task 2 — Print on the laboratory's pre-printed paper

1. In the report tab open **The laboratory's pre-printed paper** and switch on **Print on the laboratory's pre-printed paper**.
2. Measure the head and foot already printed on the paper and type them in **Space taken by the paper's head** and **Space taken by the paper's foot**, in cm.
3. Read the note about room: if it is red, reduce the two spaces.
4. Press **Save the report**.

36.8.3 Task 3 — Add a signatory's picture

1. In **Signatures** switch on the signatory.
2. Press **Upload the signature's picture** and choose a PNG or JPEG file under 700 KB.
3. Adjust **Signature picture height** if needed, then press **Save the report**.

36.8.4 Task 4 — Choose a label size and arrange it

1. Open the **Label** tab and choose a **Ready size**, or type the width and height.
2. Switch the **Fields shown** you want.

3. Drag the elements on the stage until nothing covers anything.
4. Press **Save the label**.

36.8.5 Task 5 — Show the patient's earlier results

1. Open the **Report engine** tab.
2. Switch on **Earlier results** and set **Number of earlier results**.
3. Choose what to do when there is no earlier result.
4. Press **Save the engine**.

36.9 Messages and what to do

The screen says	Meaning	What to do
The design could not be loaded.	The design did not load.	Press the retry button; if it keeps failing, check the connection to the server.
The preview could not be drawn.	The server could not draw the preview.	Press the retry button, or undo your last change.
The picture is larger than 700 KB. Make it smaller, then upload it.	The picture is too big.	Make it smaller and upload it again.
Only a PNG or JPEG picture is taken.	The file is not a PNG or JPEG.	Convert it.
These elements cover each other on the label: …. Move one of them so that everything reads clearly.	Two elements cover each other on the label.	Drag one away.
The page has no room for the results if the two spaces together exceed … cm.	The two spaces leave no room for results.	Reduce the spaces.
The settings could not be saved. Try again.	The save failed.	Try again; the draft is kept.

36.10 See also

- Printers and their stations: **Devices and printers**.
- The name, logo and contacts printed on every design: **Laboratory identity**.

Chapter 37

Data and continuity

Menu: **Data and continuity**. Address: `/setup/data`.

37.1 What this screen is for

This screen keeps the laboratory's work safe and lets it start from, or carry on after, something else. It holds five pages as tabs: the backups, the migration from RealLab, the migration from Lab2000, the migration from any other system, and the downtime record.

It is the laboratory's own view. The technician's procedures (installing, moving the program to another computer, repairing a database) are in the service manual; here is only what the screen itself offers. The page opens on **Backups**. Opened from the first setup, it opens on **Migration from RealLab**; a page can also be asked for by name in the address (`?page=lab2000`).

37.2 Who sees it

Whoever holds **Import data from a previous system** or **Manage settings**. The menu hides the screen from everyone else.

You can…	…if your role holds
See all five pages and use them	Import data from a previous system, or Manage settings

Inside the screen no button is tied to a separate permission: whoever may open it may press everything on it, including the restore and delete buttons.

37.3 The screen at a glance

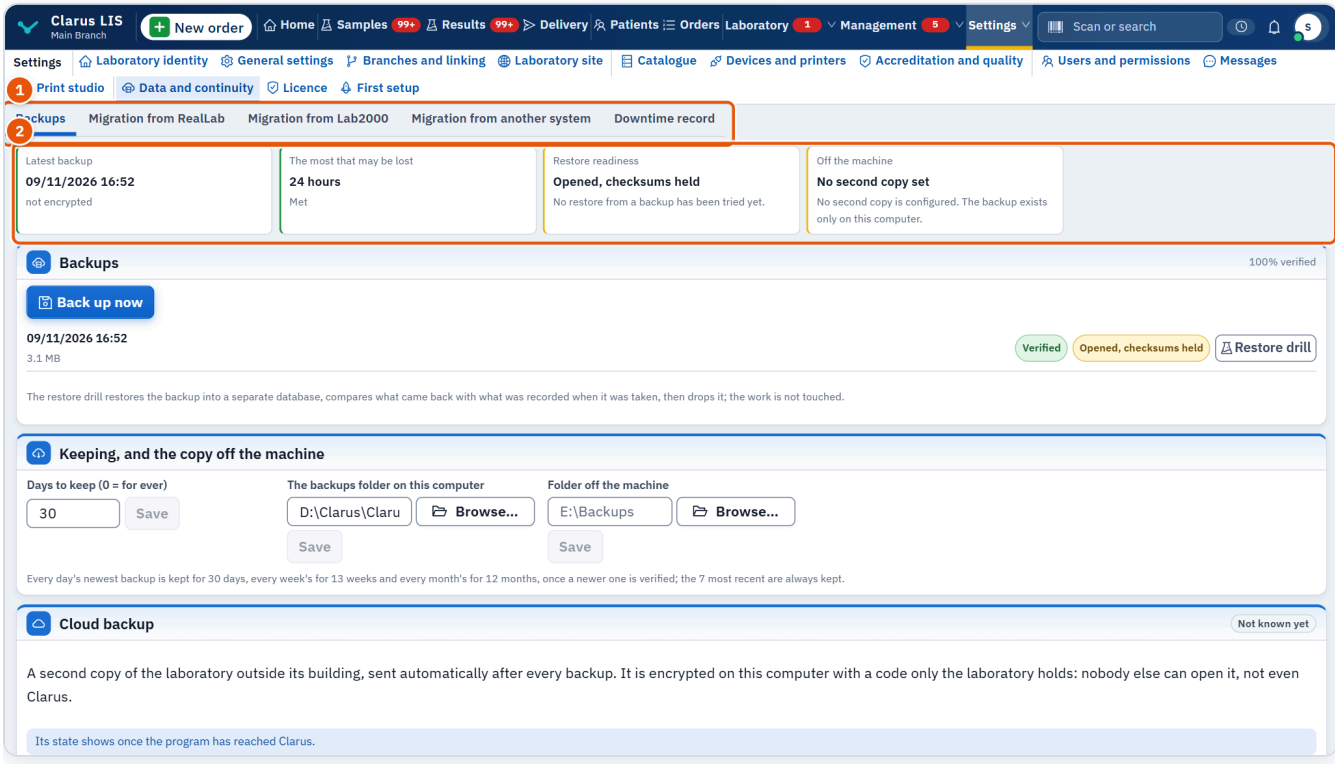


Figure 37-1: The Data and continuity screen: 1 the five page tabs, 2 the open page.

1. **The tabs** (**Data and continuity pages**): **Backups**, **Migration from RealLab**, **Migration from Lab2000**, **Migration from another system**, **Downtime record**.
2. **The open page**.

37.4 Page 1 — Backups

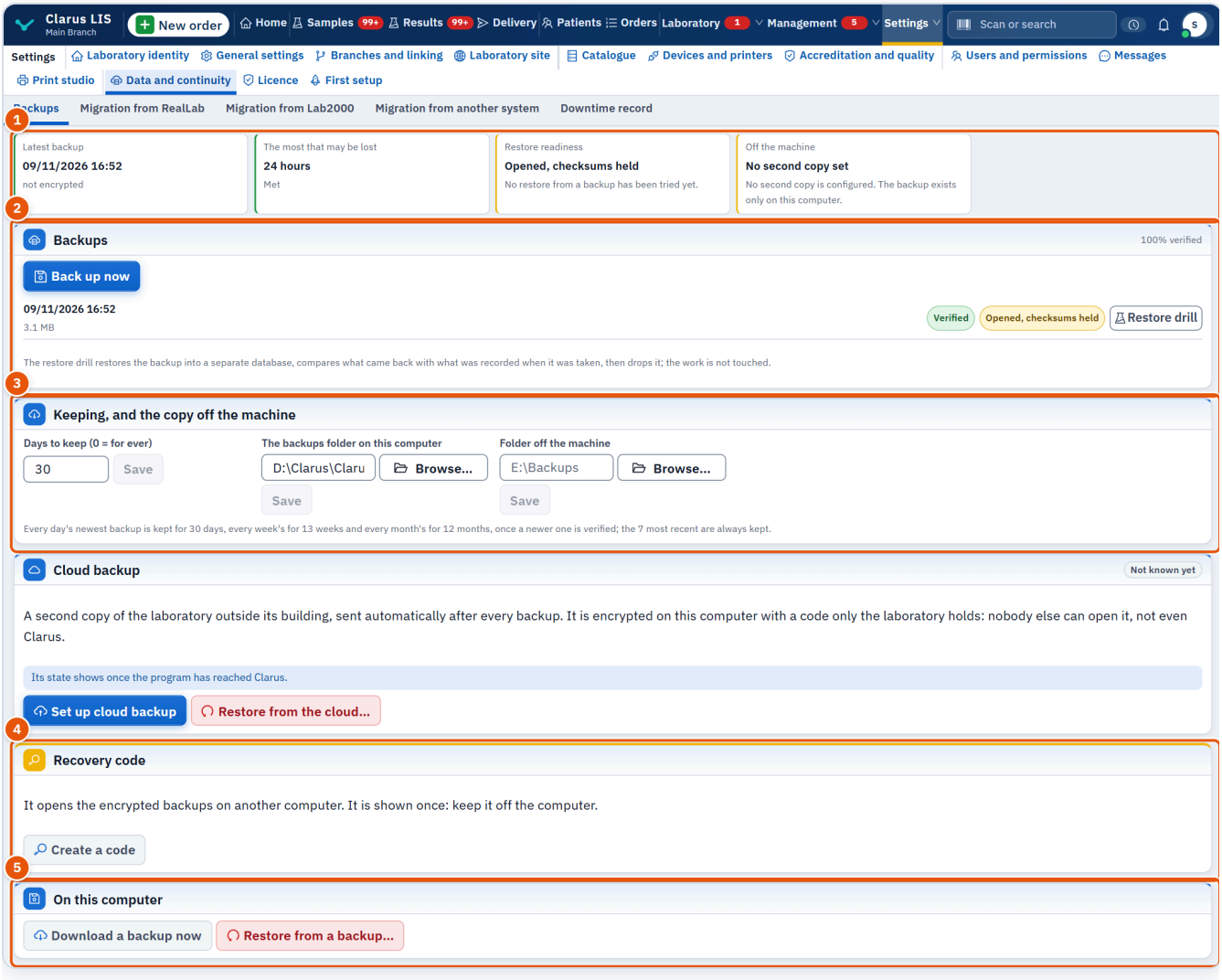


Figure 37-2: The backups page: 1 the facts at the top, 2 the list of backups, 3 keeping and the copy off the machine, 4 the recovery code, 5 this computer.

At the top, the page states the facts: **Latest backup** (or **No backup yet**), **The most that may be lost** in hours, with its state (**Met**, **Needs attention**, **Not met: no recent backup** or **Unknown**), **Restore readiness** and **Off the machine** (or **No second copy set**).

37.4.1 The backups

Element	What it does
Backups	The list of the latest twelve backups. Each shows whether it is **encrypted** and whether it is **Verified**, **Not verified** or **Verification failed**; a run that failed is marked as failed and has no buttons. The heading also shows the share verified.
Back up now	Takes a backup at once. Shown only when the laboratory has a backup job.

Element	What it does
Verify it	Checks that a backup is whole. Shown on a successful backup that is not yet verified.
Restore drill	On every successful backup. Restores the backup into a separate database, compares what came back with what was recorded when it was taken, then drops it. The work is not touched. The result is **Restore drill passed** or **Restore drill failed**.

37.4.2 Keeping, and the copy off the machine

Element	What it does
Days to keep (0 = for ever)	How long to keep backups, from 0 to 3650 days; 0 keeps them for ever. Press **Save** (it stays dim until you change the number).
The backups folder on this computer	Where backups are written on this computer; you can change it and save. Shown only when a backup job exists.
Folder off the machine	A second place, such as an external drive or a network folder; save it to set it. **Copy the latest backup there now** sends the latest backup there and appears only once a second place is set.

37.4.3 Recovery code

Recovery code opens the encrypted backups on another computer. It is shown once and the program does not keep it: write it down and keep it off the computer, then press **I have kept it**. The card has a button that makes the code (**Create a code**); a laboratory that already has one sees **A code exists** and the button becomes **Create a new code**.

37.4.4 On this computer

Download a backup now makes a backup and downloads it as a file you can keep or carry. **Restore from a backup** opens the restore window (37.9.1 Task 5 — Restore from a backup).

37.4.5 Cloud backup

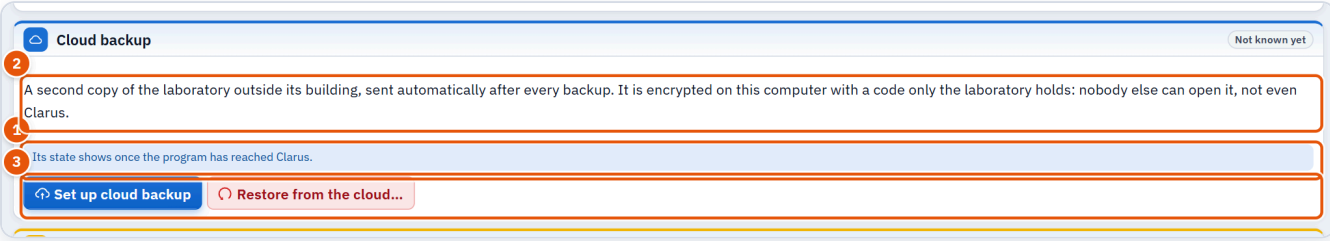


Figure 37-3: The cloud backup card: 1 the service's state, 2 the last cloud copy and the space, 3 the buttons.

Cloud backup is a second copy outside the building, sent after every backup. It is encrypted on this computer with a code only the laboratory holds, so nobody else can open it, not even Clarus. The card

shows the service's state (**Its state shows once the program has reached Clarus.** until the program has reached Clarus, then when it ends, with **Buy the service**), the copies kept by day, week and month, **Last cloud copy**, **Copies in the cloud**, the space used, and **Restore drill from the cloud**. The last three facts appear only once the cloud copy is on. Which buttons show depends on the state: before it is on, the set-up button (it reads **Finish setting up** if set-up was left half done) and the restore button; once on, send, check, refresh, show code and stop; the delete button appears once the copy has been set up, whether on or off.

Element	What it does
Set up cloud backup	Opens **Set up cloud backup**: you read what leaves this computer, the legal note about health data, and the warning that the code is the only key; tick **I have read this and I agree** (the button stays dim until you do); the program shows the cloud code, which you keep (or **Save the code as a file**) and confirm by typing its last group; **Switch cloud backup on** stays dim until something is typed.
Send now	Sends the newest backup now. If the last attempt failed the card says why and when the program tries again.
Restore drill from the cloud	Brings a copy back and checks it.
Refresh the list	Reads the list of cloud copies again.
Show the code	Shows the code again, in **The laboratory's cloud code**.
Stop sending	Stops sending. Copies already in the cloud stay until their time ends.
Restore from the cloud	Opens the cloud restore window (37.9.2 Task 6 — Restore from the cloud).
Delete all cloud copies	Opens the window that deletes every cloud copy for good (the backups on this computer are not touched). Press **Delete for good**.

> **Caution**
>
> If the cloud code is lost together with this computer, nobody can open the cloud copies and Clarus cannot recover it.

37.5 Page 2 — Migration from RealLab

Nothing is written before your consent, and the transfer is all or nothing: if it stops for any reason, a fault or your own stop, nothing of it is kept and the laboratory is as it was. The page walks through eight steps.

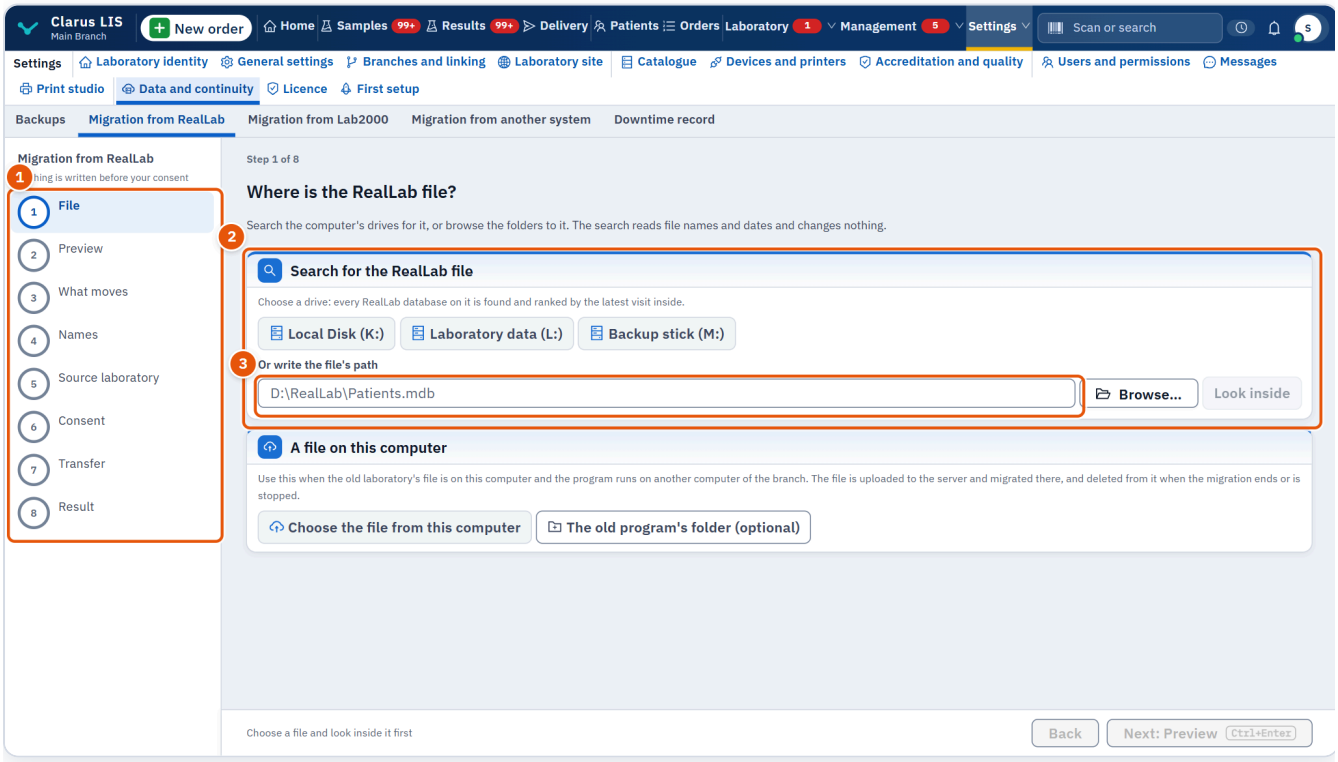


Figure 37-4: The RealLab migration: 1 the eight steps, 2 the file search, 3 the path box.

Step	What happens
File	Find the RealLab file: **Search for the ... file** by choosing a drive (it stops by itself after about two minutes, or when you stop it), or **Write the file's path**. Then **Look inside**. The search reads names and dates and changes nothing. If the file is on this computer but the program runs on another, use **A file on this computer**, which takes a .mdb, .accdb or .bak file and, if you wish, the old program's folder; the copy sent is deleted when the migration ends or is stopped.
Preview	The numbers in your file: patients, visits, requested tests, tests, reference ranges, packages and price lists. Compare them with what you know. Notices may appear: the old program's folder, pictures, one file per person, "See Report" lines, tests your laboratory changed, tables not read, and the date order.
What moves	Choose what moves: **Patient files**, **The test catalogue and prices**, **Visits and their results**, **Panel results**, and **Visits from the year**. Everything moves if you leave it. The visits cannot move without the patient files and the catalogue, and the panel results cannot move without the visits: unticking a part unticks those that depend on it. The year choice appears only when the visits are ticked and the file spans more than one year; every patient file still moves, and visits whose date cannot be read are kept. You cannot go on with nothing ticked.

Step	What happens
Names	For each test the catalogue does not know, say **The same as ours** or **Another test**. If there is no such test the step is skipped.
Source laboratory	Whose file this is: **A continuation of this laboratory**, **Another laboratory or a branch** or **A new laboratory**. For another laboratory you choose one the program already knows or write a new name; you cannot go on with neither.
Consent	A last check; nothing is written until you press the button. The button stays dim until you tick the confirmation; if CLARUS already holds this laboratory's own patients or visits, a second box (importing beside that work) must be ticked too.
Transfer	The transfer. You may leave the screen, but do not switch the computer off. **Stop the migration** stops it, and nothing is kept.
Result	What was brought across, left by your choice, and not brought, and why.

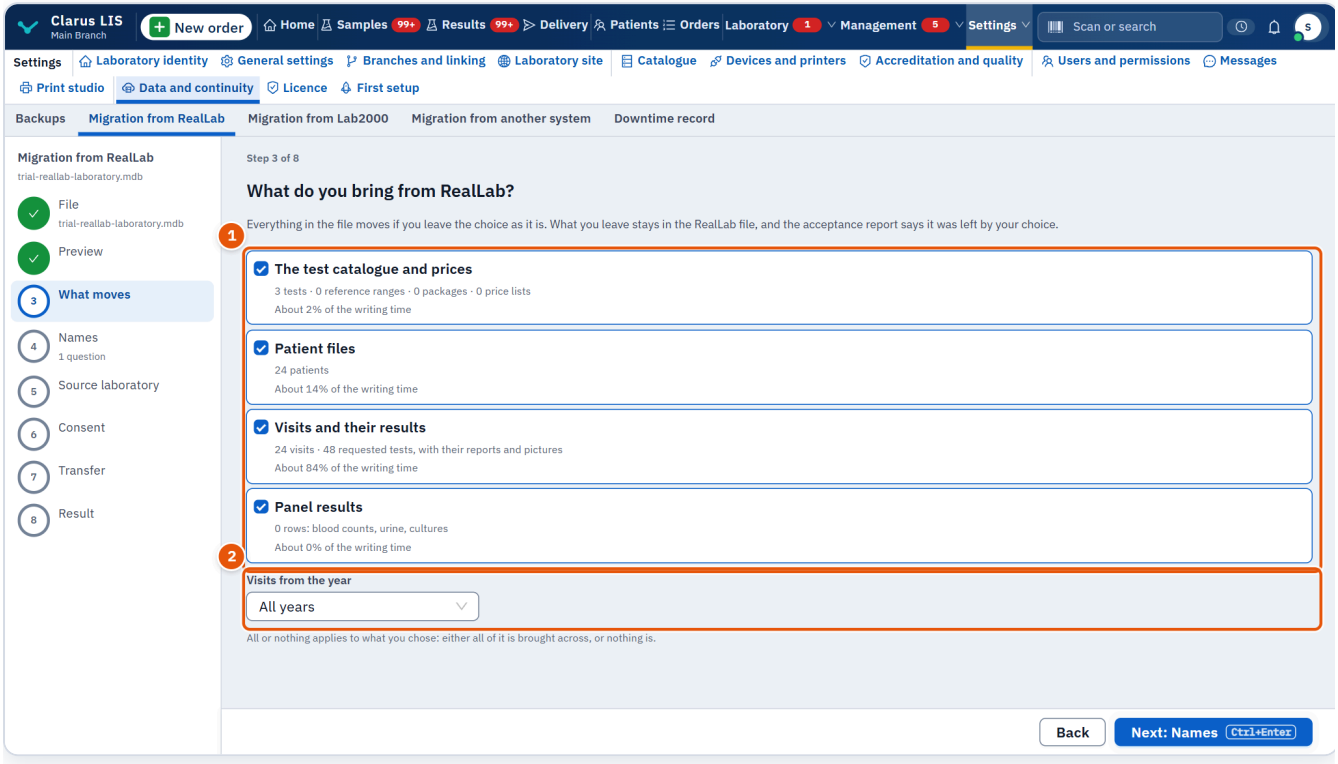


Figure 37-5: Choosing what moves: 1 the parts, 2 the year from which visits move.

37.5.1 Task 1 — Bring a RealLab laboratory across

1. Open **Migration from RealLab**.
2. In **File**, search the drive or write the path, then press **Look inside**.
3. Check the numbers in **Preview**. A file nothing could be read from cannot be brought across.
4. In **What moves**, keep the choice or untick what you leave.
5. Answer the questions in **Names** only for what you are sure of.

6. Say whose file it is in **Source laboratory**.
7. In **Consent**, read the summary and start.
8. When it ends, read the result, then **Print the acceptance report** and **Save the diagnostic file** if support asks. Open a patient and print an old report: that is the check that matters.

If you return while an import is running, the page opens at the transfer; if it has ended, at the result. A migration that was cut is undone whole; opened from the first setup, the last button returns you to the setup instead of offering another file.

37.5.2 Imports already brought in

Imports already brought in appears on the file step, only when there are earlier imports, and lists them; the undo button is on completed imports. An import can be undone while nothing has been done on CLARUS with what it brought; there is no time limit, only that condition. **Undo this import** counts what it brought, asks you to tick that these rows will be deleted and cannot be brought back (the delete button stays dim until you do), and deletes them; what it added to the catalogue stays. If work was done since, the screen lists the reasons and the import cannot be undone.

> **Danger**
>
> Undoing deletes rows for good. Read the counts before you agree.

37.6 Page 3 — Migration from Lab2000

The same kind of wizard, for a Lab2000 database file (AnaLab.mdb or a backup of it). The file step searches a drive for the Lab2000 file or takes a written path; it has no upload from another computer and no choice of parts or year. It has seven steps: **The file**, **What is in it**, **The names**, **The laboratory**, **The consent**, **The transfer**, **The result**. The file is read on this computer and nothing is sent to the vendor. The result counts every kind in the file, as read, and in Clarus, and says where the numbers differ. A migrator built from only one laboratory's file is marked experimental: check the result's numbers before you work on the migrated records.

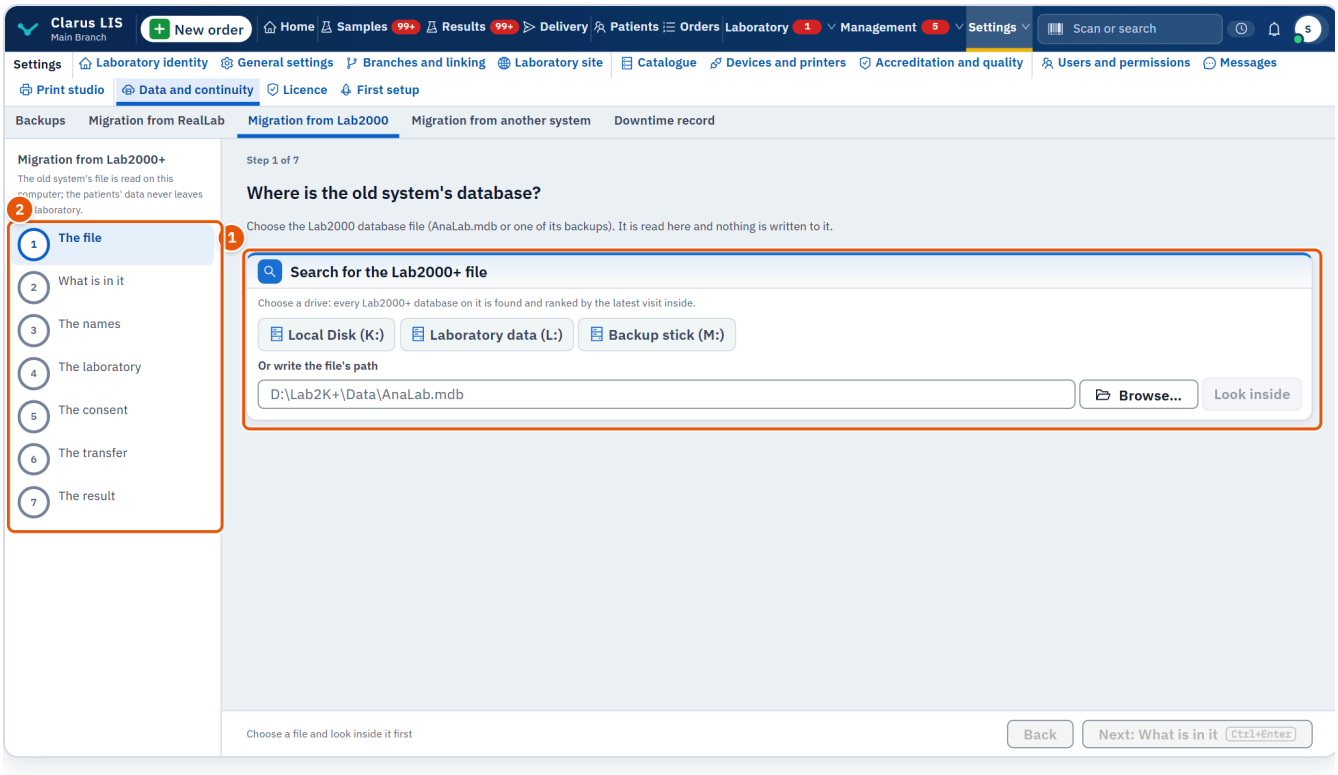


Figure 37-6: The Lab2000 migration: 1 the file step, 2 the steps.

37.6.1 Task 2 — Migrate from Lab2000

1. Open **Migration from Lab2000** and choose the database file.
2. Read what the migrator found.
3. Answer the names, say whose file it is, tick the confirmation and press **Bring my data across**.
4. Read the result. **Bring in another file** brings in a further file; **Open patients** opens the patients.

37.7 Page 4 — Migration from another system

For a system that has no migrator yet. The screen describes the old database's structure, never its data, and the laboratory sends the file itself.

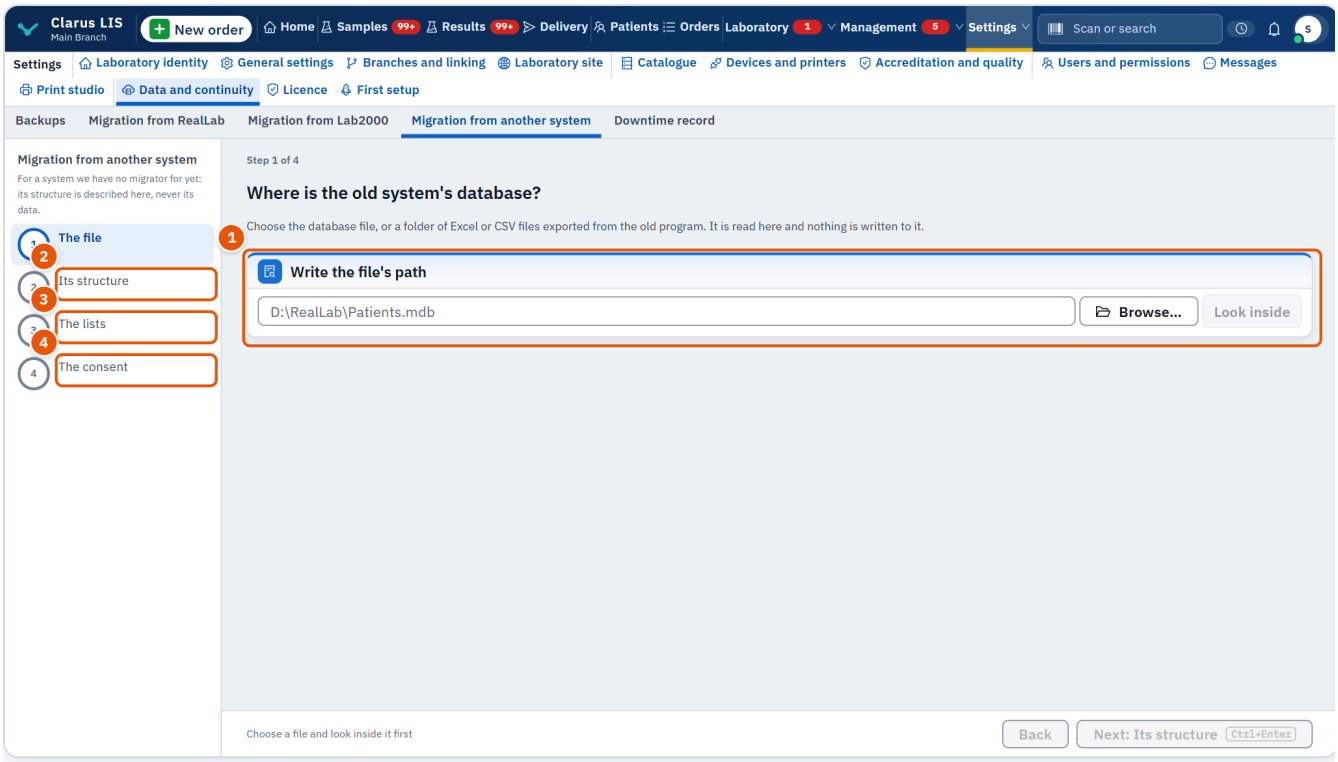


Figure 37-7: The fingerprint page: 1 the file, 2 the structure, 3 the lists, 4 the consent.

Step	What happens
The file	Write the path of the database file, or of a folder of Excel or CSV files exported from the old program (there is no search here). It is read here and nothing is written to it. If the system already has its own migrator, the screen says so and **Open its migration**, and the next step stays dim until you do.
Its structure	Tables, columns and row counts, and the shape of the values; each value is replaced by its shape.
The lists	Only lists that hold no person (test names, units, sample types). Tick the ones you agree to send; only the first twelve values of each list are shown.
The consent	You may fill in **The old system's name (as you know it)** and **Its version, if you know it** (neither is required by the screen); tick that you reviewed the file, which **Save the file** and **Send it to the vendor now** both need. **Send it to the vendor now** sends exactly that file, once; if the computer is offline, save it and send it yourself by e-mail or WhatsApp.

37.7.1 Task 3 — Send a fingerprint

1. Open **Migration from another system**, choose the file.
2. Review the structure and tick the lists you agree to.
3. Write the system's name, tick the agreement and press **Save the file**.
4. Send it. The saved fingerprint is shown.

37.7.2 The anonymised copy

If the structure is not enough (values hidden inside fields, a closed format), **An anonymised copy instead** opens **An anonymised copy, for a closed system**.

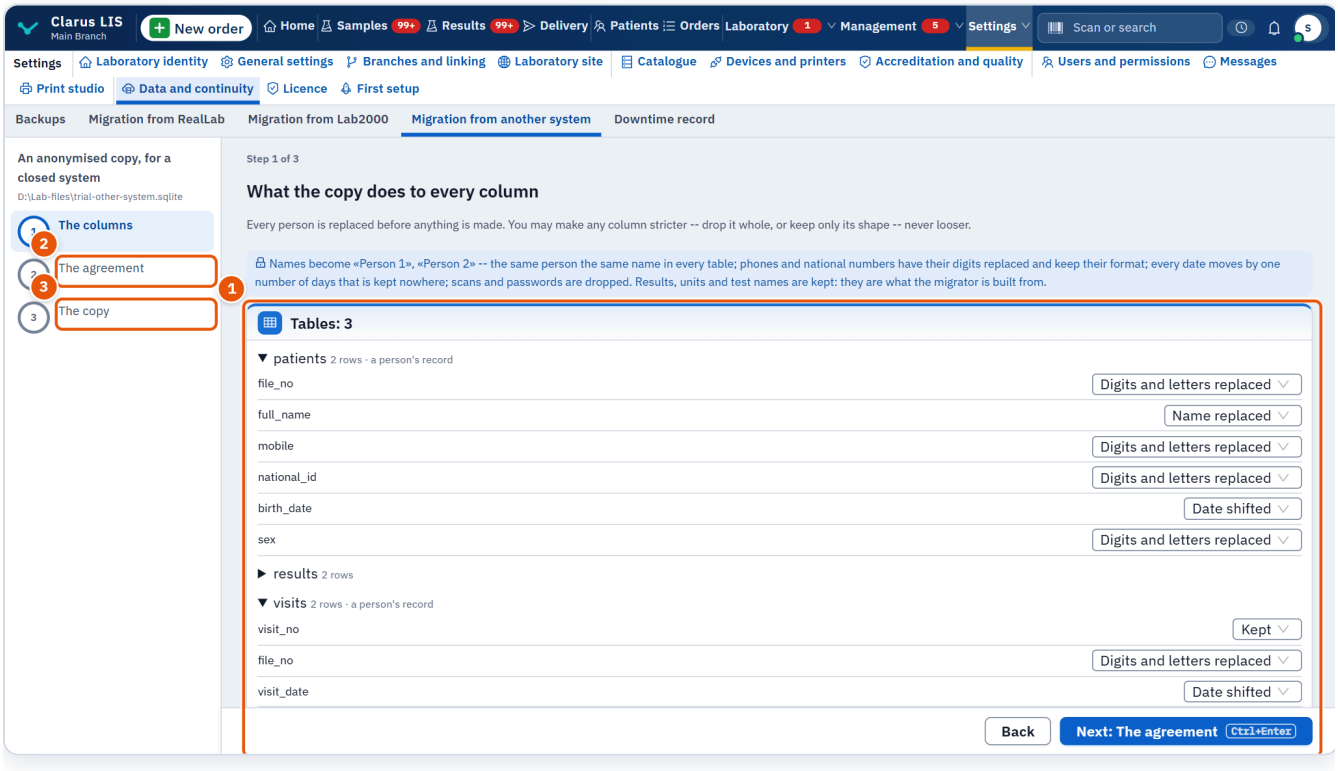


Figure 37-8: The anonymised copy: 1 the columns, 2 the agreement, 3 the copy.

1. **The columns**: names become «Person 1», «Person 2» and so on; phones and national numbers keep their shape; dates move by one number of days that is kept nowhere; scans and passwords are dropped. Each column shows what the copy does. You may make a column stricter (**Dropped whole** or **Only its shape**), never looser.
2. **The agreement**: the copy is made only after you give **The signed agreement's reference (its number or date)**, tick **This laboratory has signed this data-processing agreement with the vendor.** and tick your consent. Both are recorded with who confirmed them and when.
3. **The copy**: **Make the copy and save it**. The copy is sealed for the vendor alone and not even this computer can open it again. Send the saved file to the vendor yourself.

If the program carries no intake key, or no agreement exists for the laboratory's country, the copy cannot be offered and the screen tells you to send the fingerprint instead.

37.8 Page 5 — Downtime record

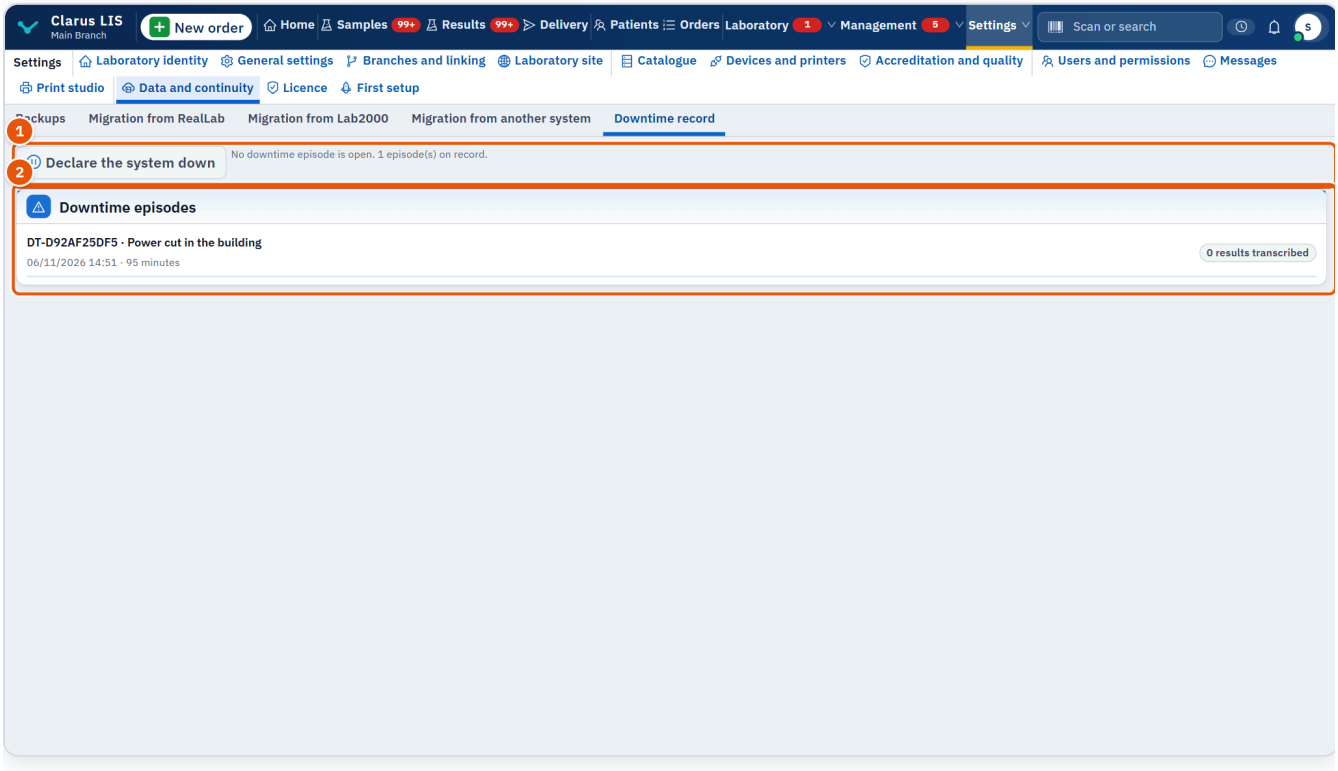


Figure 37-9: The downtime record: 1 the buttons, 2 the episodes.

The laboratory works on paper until the system is back. Afterwards the paper results are transcribed and each episode keeps how many.

Element	What it does
Declare the system down	Shown only when no episode is open. Opens a window: **Reason** (required: the button stays dim while it is empty), **Started at** and **Notes**.
The system is back	Shown while an episode is open, in place of the declare button, so only one episode can be open at a time. Closing it records **Back at**, then reminds you to transcribe the paper results.
Downtime episodes	The episodes, each with its length, whether it is **still open**, and the number of results transcribed.

37.8.1 Task 4 — Declare and close a downtime

1. Press **Declare the system down**, write the **Reason**, adjust **Started at** if needed and save.
2. Work on paper.
3. When the system is back, press **The system is back**, check **Back at** and save.
4. Transcribe the paper results, each with the time it was really produced.

37.9 Restore windows

37.9.1 Task 5 — Restore from a backup

> **Danger**
> Restoring replaces all of the laboratory's current data with the backup's. The program saves a copy of the current data first.

1. On **Backups**, press **Restore from a backup**.
2. **Choose the backup file**. Choose the file ending in .clarus-backup.zip to restore attachments too.
3. Type the laboratory's name as shown. If it has none, write it first in the laboratory identity.
4. **Restore** stays dim until a file is chosen and the name matches. Press it and do not close the program.
5. Read the result. An old backup may be read by salvage: the screen lists what did not come back. The pairing of analysers and branch devices, and the licence activation, do not travel to another computer and are done again.

37.9.2 Task 6 — Restore from the cloud

1. Press **Restore from the cloud**.
2. Type the cloud code, or **Use this computer's code**, and press **Show the copies**.
3. **Choose the copy to restore**.
4. Type the laboratory's name as in 37.9.1 Task 5 — Restore from a backup; **Restore** stays dim until a copy is chosen and the name matches. Press it.

37.10 Messages and what to do

The screen says	Meaning	What to do
No backup has been taken yet. Take one now.	No backup yet	Press **Back up now**
Not met: no recent backup	No recent backup	Take one now
The database is back, but the file you chose carries no attachments (pictures and documents). To restore them, choose the backup file whose name ends in .clarus-backup.zip.	The file chosen has no attachments	Choose the .clarus-backup.zip file
We could not read this file.	The file is damaged or half copied	Try another copy
The migration was cut and nothing of it was written.	The program closed during the transfer	Start again

The screen says	Meaning	What to do
Tick the consent first.	The consent is not ticked	Tick it

37.11 See also

Laboratory identity (used to confirm a restore), **Patients** (to check migrated patients).

Chapter 38

Licence

Menu: **Licence**. Address: `/setup/licence`.

38.1 What this screen is for

This is the one page for the licence of this computer and for the program's updates. It tells you whether the licence is working, when it was activated, when it ends and how many days are left, and it gives you the installation code that your supplier asks for. From here you can check the licence again, move it to another computer, activate it, and look for a newer version.

A laboratory that has not yet activated the program also finds here the ways to do it: with the card number over the internet, with a file when there is no internet, and a card to report a payment made by InstaPay. A copy that already holds a working paid licence is not offered these cards at all. Nothing is paid from the program itself: sales are on WhatsApp.

38.2 Who sees it

Whoever holds **Manage the licence**. The menu hides the screen from everyone else.

You can...	...if your role holds
See the licence, check it, activate it, report a payment, look for an update and move the licence	Manage the licence

38.3 The screen at a glance

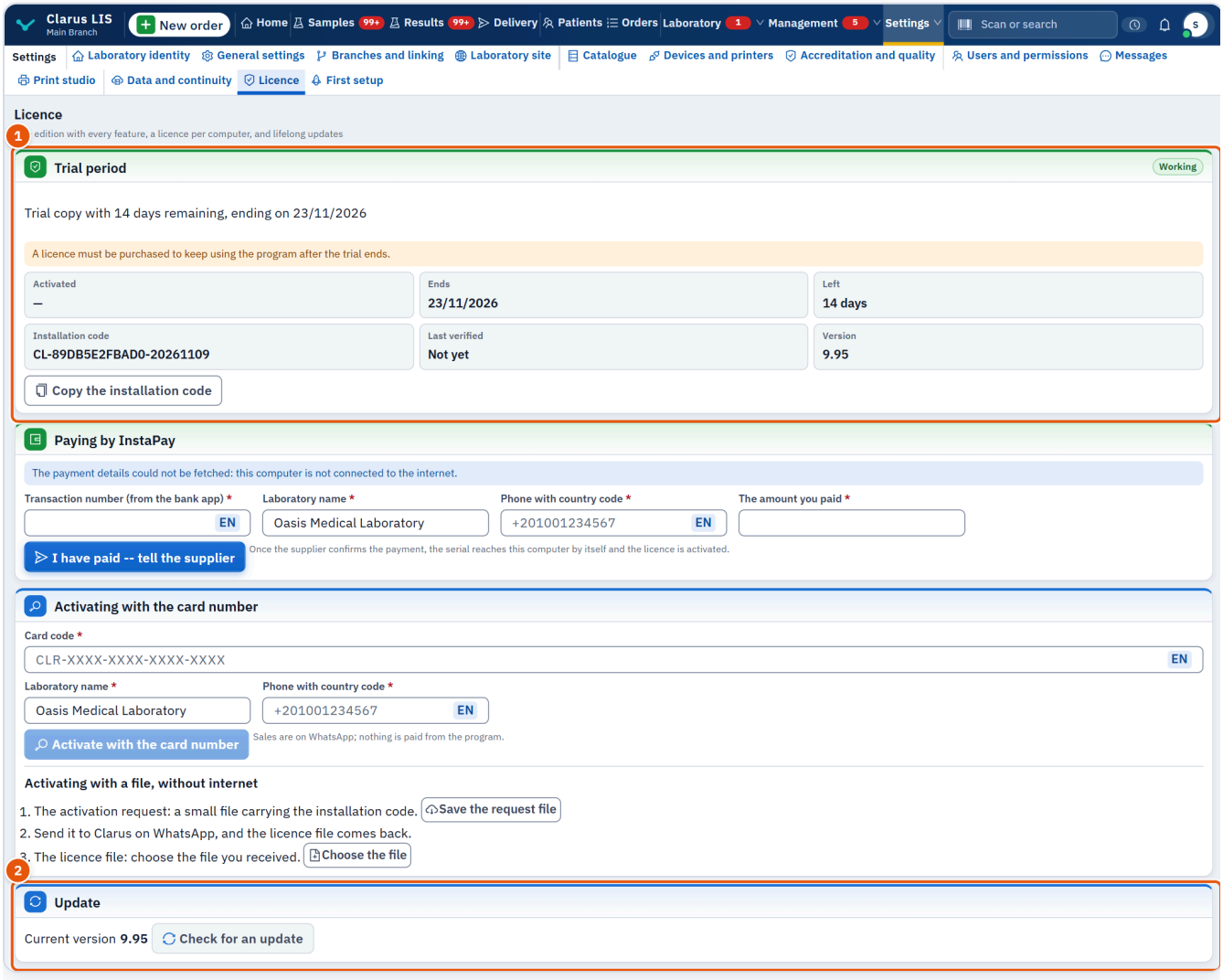


Figure 38-1: The Licence screen: 1 the licence card, 2 the update card.

From the top:

1. **The licence card**: its state, the facts about the licence, and its buttons.
2. **The payment card, then the activation card**: each is shown only when this copy is still offered it; the program decides this for each card separately.
3. **The update card**: the current version and the button to look for a newer one. When the check has found a version that has not been downloaded yet, the card also offers to download and prepare it.
4. **The licence record**: the serial numbers applied before, shown only if there are any.

38.4 The licence card

The card's title says the state of the licence, and a tag beside it says **Working** or **Stopped**. Under it the program states the licence in a sentence, with a warning line when something needs your attention.

Item	What it shows
Activated	The date the licence was activated.
Ends	The date it ends (for a trial, the end of the trial).
Left	The days remaining, as **N days**.
Installation code	The code that identifies this installation. Give it to your supplier when asked.
Last verified	When the licence was last verified, or **Not yet**.
Version	The version of the program.
Copy the installation code	Copies the installation code. It appears when the code exists.
Check the licence now	Asks the activation site to sign the licence again. Shown when the licence is working and is not a trial.
Move it to another computer	Opens the window that moves the licence away. Shown under the same condition.
Hand-back code	Appears with a note, instead of nothing, when the licence of this computer was already handed back. It is the code your supplier asks for.

38.5 Activating

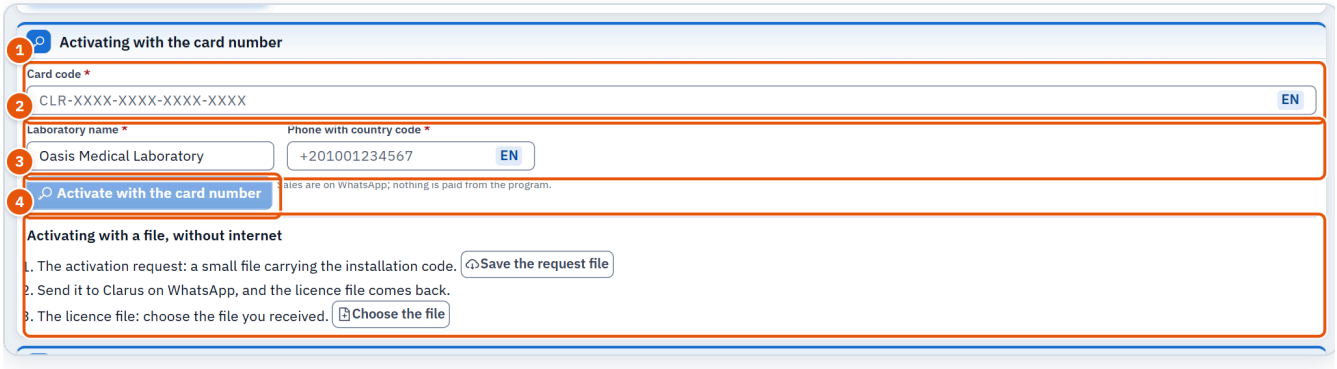


Figure 38-2: The activation card: 1 the card code, 2 the laboratory name and phone, 3 the activation button, 4 the offline steps.

The card **Activating with the card number** has these controls.

Control	What it does
Card code	The number printed on the card. The program reads it and checks its last character before sending.

Control	What it does
Laboratory name	The laboratory's name; it starts as the name already stored for the laboratory. Required.
Phone with country code	A phone number with the country code. Required.
Activate with the card number	Sends the activation. It stays dim until the card code reads correctly.
Save the request file	Saves a small file that carries the installation code.
Choose the file	Lets you choose the licence file you received.

38.5.1 Task 1 — Activate with the card number

1. Open **Licence**.
2. Type the card number in **Card code**.
3. Check **Laboratory name**, and type **Phone with country code** with the country code.
4. Press **Activate with the card number**.
5. A message says the licence was activated. The cards on the page update by themselves.

> **Note**
> If this computer was a trial computer and the number opens a window asking what becomes of its records, read it and answer there before activation completes. If Windows then asks your permission so that the branch's computers can find this server on the network, allow it.

38.5.2 Task 2 — Activate with a file, without internet

1. In the part **Activating with a file, without internet**, press **Save the request file** and keep the file the program saves.
2. Send that file to Clarus on WhatsApp. The licence file comes back to you.
3. Press **Choose the file** and pick the file you received.
4. A message says the licence was activated.

If the file is not a valid activation file, the screen says so and nothing changes.

38.6 Paying

The card **Paying by InstaPay** reports to the supplier a payment you made from your bank's InstaPay application. The program sends no money.

Item	What it does
InstaPay address: and **Wallet number:**	Where to pay, with the code to scan. They are shown only when the supplier has published them; otherwise the card says that the details are not available now.
Open in InstaPay	Opens InstaPay, when a link is published.
Copy the message / **Open it in WhatsApp**	Copies a ready message for whoever pays, or opens it in WhatsApp.
Transaction number (from the bank app)	The transaction number as the bank application shows it. Required.
Laboratory name and **Phone with country code**	As in activation. Required.
The amount you paid	The amount you paid, as a number above zero. Required.
I have paid -- tell the supplier	Sends the notice to the supplier.

38.6.1 Task 3 — Report a payment

1. Pay from your bank's InstaPay application to the address shown, or scan the code.
2. Write the transaction number in **Transaction number (from the bank app)**.
3. Check the laboratory name and the phone, and write the amount you paid in **The amount you paid**.
4. Press **I have paid -- tell the supplier**.
5. After the supplier confirms the payment, the serial reaches this computer by itself and the licence is activated.

38.7 Checking the licence and the update

38.7.1 Task 4 — Check the licence now

1. Press **Check the licence now** on the licence card.
2. Read the note that appears under the buttons, and the date in **Last verified**.

38.7.2 Task 5 — Look for an update

1. On the update card, read **Current version**.
2. Press **Check for an update**.
3. The card answers that a newer version was found, that this is the latest version, or that the update service could not be reached.

4. When the check found a version that has not been downloaded, a note under the answer says that the version is available to download and has not been downloaded yet, and shows what the vendor wrote about the release, if anything.
5. If you hold **Manage program updates**, the note carries **Download and prepare**. Press it: the program downloads the version and verifies it without installing it, and the button reads «Downloading and verifying…» meanwhile. If it cannot, the card gives the reason or says «The update could not be downloaded and prepared.»
6. When the version is prepared, the card shows a tag with its number and says it is ready; it is installed from the update window at the head of the program, whenever you choose, not from this card.

38.7.3 The notice of a found update

Besides the card, the program tells the manager once. For whoever holds **Manage program updates**, a message appears in the bottom corner of the screen: «An update was found: version …», with the line «Open the Licence screen, then the update card, and press “Download and prepare”; install it when you choose.» It stays until you close it. Closing it silences that version only: a newer version is announced again. It does not appear once a version is prepared, nor while a required update is counting down, because the update window speaks then.

38.8 Installing an update, and a required update

An update is installed in the update window at the head of the program, not on the Licence screen. The window opens by itself, for whoever holds **Manage program updates**, when an update is prepared or when the vendor has made one required. Once an update is prepared it shows **Installed now** and **Will become**, then **What this update changes** (or says that the release did not say what it changes) and a warning that installing closes the program and opens it again. Its buttons are **Update now**, **Later** and, while nothing is prepared yet, **Download and prepare**. **Update now** downloads and prepares the version if that is not done yet, then installs it: the screen says that the program is closing and will reopen on its own, and that the computer must not be turned off, and the page reloads when the program is back. **Later** closes the window for this session; after the deadline of a required update it is not offered.

38.8.1 A required update

The vendor can require a copy to reach a minimum version before a deadline. The window is then titled **A required update**: it says that CLARUS must be updated to that version before the deadline, and it counts down **Time left**. Until the deadline the program works as usual, and **Later** hides the window for the session.

After the deadline the program opens only to update. Everything that reads stays open, and so does what the day's work needs to finish: verified results can still be read, printed and delivered, you can sign in and out, take a backup, open the Licence screen and update. New work is refused: a new patient cannot be created, for example, and the program answers «This laboratory must update CLARUS to version … before

it continues working. Results already verified can still be printed and delivered. Open the update window and update now.»

If a required update was tried and failed, the program keeps working, says so, and tells the supplier's support. Someone who may not update is told «Ask the laboratory's system administrator to update it.»

38.9 The licence record

The card **Licence record** lists, newest first and at most ten, the serial numbers applied to this computer: each with its kind (**Annual**, **Five years**, **Perpetual** or **Trial**), the serial with part of it hidden, and the date. It does not appear when nothing has been applied.

38.10 Moving the licence to another computer

> **Danger**
>
> The program stops on this computer as soon as the licence is moved. Its data stays kept on it. Do this only when the other computer is ready to take over.

38.10.1 Task 6 — Move the licence

1. If the new computer will work with the current data, first copy the data from **Data and continuity**.
2. On the licence card press **Move it to another computer**.
3. In the window **Move the licence to another computer**, type the laboratory's name exactly as the window shows it.
4. Press **Move the licence**. It stays dim until the name matches. **Back** closes the window without moving anything.
5. The window **The licence has left this computer** shows the hand-back code. Press **Copy the code** and keep the code before you press **Done**; that button reloads the page.
6. Give the code to your supplier. Then activate the same number on the new computer.

If the laboratory has no name in **Laboratory identity**, the box stays disabled: write the name there first. The code also stays on the licence card under **Hand-back code**, in case you closed the window.

38.11 Messages and what to do

The screen says	Meaning	What to do
This is not a valid activation file.	The chosen file is not an activation file.	Choose the file Clarus sent back.

The screen says	Meaning	What to do
We could not read that file. Please check it and try again.	The file was refused.	Check that it is the right and whole file, and try again.
The request could not be completed. Please try again.	Activation by number failed without a more specific reason.	Check the connection and the card code, and try again; use the file way if there is no internet.
The request file could not be made.	The request file was not saved.	Try again.
The licence could not be checked.	The check did not complete.	Try again later.
The update service could not be reached.	No answer from the update service.	Check the connection and try again.
The required update's deadline has passed. The program now opens only to update; verified results can still be read, printed and delivered.	The vendor's deadline for a required update has passed.	Update from the update window; reading, printing and delivering verified results still work.
This laboratory must update CLARUS to version … before it continues working.	New work was refused after the deadline of a required update.	Open the update window and press **Update now**.
The update could not be downloaded and prepared.	The download or its verification failed.	Check the connection and press **Download and prepare** again.
The notice could not be sent.	The payment notice did not reach the supplier.	Check the connection and try again.
Write the transaction number as the bank app shows it.	The transaction number is missing or too short.	Copy it from the bank application.
The licence could not be moved.	The move failed and nothing was handed back.	Try again; the program keeps working.

38.12 See also

- **Data and continuity**: copy the data before moving the licence.
- **Laboratory identity**: the laboratory's name, which the move asks you to type.

Chapter 39

First setup

Menu: **First setup** (in the group **Settings**). Address: `/setup/first-run`.

39.1 What this screen is for

This is the step-by-step reference of the wizard that prepares a new laboratory. The chapter «Getting started» introduces it in a few lines; here every one of the eleven steps is described with its fields, what it saves and where the work continues. The wizard's title is **Laboratory setup**.

Three of the steps write on the wizard itself: the identity, the region and the main branch. The others (users, printing, prices, reference ranges, the public site) show where things stand and open the page that does the work. The wizard keeps its place on the server, so leaving for another page and coming back finds the same step.

39.2 Who sees it

Whoever holds **Manage the laboratory's structure: branches, numbering, first run, external laboratories**. The menu hides the screen from everyone else. One more control depends on a second permission:

You can…	…if your role holds
Open the wizard and write its steps	Manage the laboratory's structure
Have the wizard notice that the history already came from RealLab (the origin step then says so and takes **From RealLab** as the choice)	Run the migration

The button **Open the migration from RealLab** is tied to that same permission: it is shown only to a role that may Import data from a previous system, when **Bring my history from RealLab** is chosen and the wizard has not found a finished import. A role without it leaves the migration to one that has it, in **Data and continuity**.

39.3 The screen at a glance

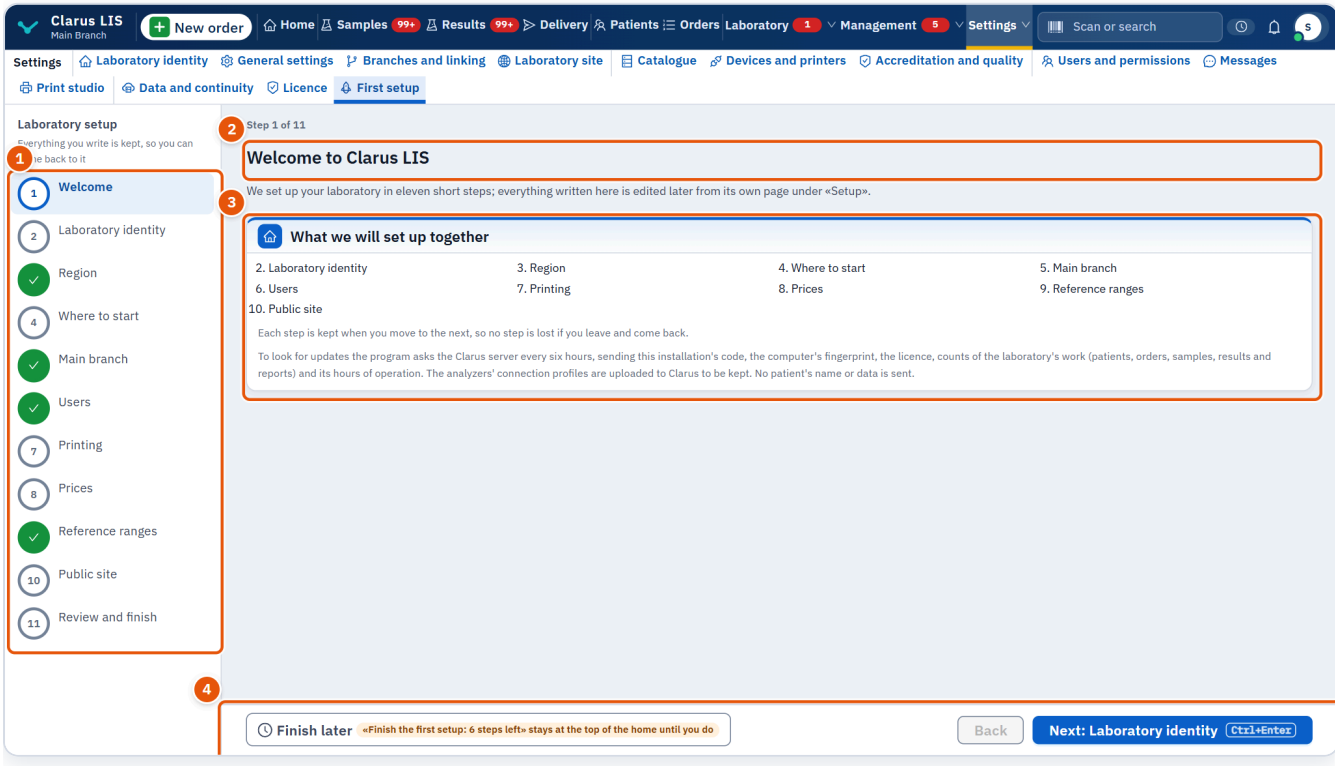


Figure 39-1: The first setup: 1 the list of steps, 2 the step's heading and text, 3 the step's fields or card, 4 the foot with finish later and the next button.

1. **The steps**: the eleven steps in order, each marked as the current one, done, passed without being finished, or still to do. A step may carry a small note under its name.
2. **The step's heading and text**: what the step is for.
3. **The step's body**: fields to write, choices to make, or a card that opens another page.
4. **The foot**: **Finish later** (absent once the setup is finished), a button to go back, and the button to go on, which reads **Next: ...** with the next step's name and on the last step **Finish the setup**.

You may press any step in the list to go straight to it. Going on from a step first saves what you wrote in it. If the save is refused the step stays as it was and the reason is shown (**The save failed, so the step stays as it was.** when the server gives none).

39.4 The steps

39.4.1 Welcome

The step **Welcome** opens a card titled **What we will set up together** that lists the steps to come, and states that each step is kept when you move on. It also repeats what leaves this computer when the program looks for updates, in the same words as General settings. Depending on how you arrive it adds a

line: **You finished the first setup before, and can review any step.** if the setup was finished before, or **You are back where you left the setup.** if you put it off.

> **Note**
>
> On a branch server of a chain the wizard has three steps only: **Welcome**, **Printing** and **Review and finish**. The laboratory's identity, prices, reference ranges and public site are set at the centre and reach the branch from there.

39.4.2 Identity

The step **Laboratory identity** writes the name and contacts as the report and the receipt print them.

Field	What it holds
Display name	The laboratory's name at the head of the report and receipt. If it is empty the step warns that the printed report carries no name.
Display name in English	The same name in English.
Legal name	The legal name.
Phone	The phone a patient sees. Written left to right.
WhatsApp	The WhatsApp number. Written left to right.
Address	The laboratory's address.
I agree to send the laboratory's name and phone number to the supplier	The agreement to send the laboratory's name and phone number to the supplier. It is off until you tick it and is kept in the settings as well.

39.4.3 Region

The step **Region** sets how every page and paper writes its dates and amounts.

Field	What it holds
Country	The laboratory's country.
Time zone	The time zone.
Currency	The currency of the standard price list. No amount is converted.
Language	The laboratory's language.
Date format	How dates are written.
First day of the week	The first day of the week.

For a new laboratory still on the language the installation wrote, the step proposes the language you are working in. It is only a proposal: choose another if the laboratory works in another language. The page redraws when the date format changes; the wizard stays on the same step.

39.4.4 Where to start

The step **Where to start** offers three choices. Each is a card; the one you pressed carries the mark **Chosen** and a line under **What your choice changes:** says what the choice changes.

Choice	What it means	What it changes
Bring my history from RealLab	Patients, visits, tests and prices come from the RealLab file.	Prices and reference ranges become a review of what arrived. The button **Open the migration from RealLab** opens the migration, in **Data and continuity**; it is shown only to a role that may Import data from a previous system, while this choice is made and no finished import is found.
Start a new laboratory	The whole Clarus catalogue.	You review your prices, fill in what is missing, and review the reference ranges in their steps.
Join an existing chain	It links by its licence number through Clarus Link, and the catalogue and the users come from the centre.	Their steps are reviewed, not written. The button **Open branches and linking** opens **Branches and linking**.

If the history has already come from RealLab the step says so (**Your laboratory's history came from RealLab, so prices and reference ranges are a review of what arrived.**) and the choice is taken as **From RealLab** unless you chose otherwise. The choice is saved with the wizard's draft; the other steps show it as a small note on the step.

39.4.5 Main branch

The step **Main branch** writes the branch in which orders are registered first.

Field	What it holds
Branch name	The branch's name, shown as well as stored.
City	The city.
Branch phone	The branch's phone, written left to right.
Address	The address.

If the laboratory already has other working branches, a line says how many. Other branches are added later from **Branches and linking**.

39.4.6 Users

The step **Users** shows a card with the number of working users and the first eight of them, each with the role. If you are the only one it warns (**You are alone in the laboratory now. Add an account for everyone who works with you.**). **Open users** opens **Users and permissions**, where the accounts are added.

39.4.7 Printing

The step **Printing** is a card that says printers are chosen and given their papers in **Devices and printers**. **Open devices and printers** opens that page. This is also the step a branch server of a chain keeps.

39.4.8 Prices and reference ranges

The steps **Prices** and **Reference ranges** have the same shape: a card, a count of what is missing, and a button that opens the page of the work.

Element	What it does
The text	Says where the work is done: prices in **Prices and contracts**, ranges in each test's card in **Catalogue**. If the history came from RealLab it changes to a review of what arrived and the step carries the note **From the RealLab file**.
The count	Says how many active tests have no price or no reference range, out of the active tests; or that every one has. On an older server it counts the whole catalogue instead and says so.
Open prices / **Open the catalogue**	Opens the page of the work.
Reviewed	Shown on the prices step (and the public-site step) only while it is not done: records that you looked at it (**The review is recorded.**).

39.4.9 Public site

The step **Public site** is a card for the page where a patient sees the laboratory and receives a result. **Open the laboratory site** opens **Laboratory site**, where the sections, head and results portal are written and published when you choose. While the step is not done, **Reviewed** records the review.

39.4.10 Review and finish

The step **Review and finish** lists every step between the welcome and itself with a mark: done or still open (a page step is done when the server finds its work in place; the origin step, once you have passed it). Press a step's name to go back to it. The card's title says how many steps are left (**... steps left**) or **Everything is set up**. If the laboratory still has no written name, the step warns and offers **Write the name**. If steps are open, a note says you can finish now and complete the rest from its page.

39.5 Tasks

39.5.1 Task 1 — Set up a new laboratory

1. Open **First setup**.
2. On **Laboratory identity** write the name in **Display name** and the contacts, then press the next button.
3. On **Region** check the country, time zone, currency and language, then go on.
4. On **Where to start** press **Start a new laboratory**.
5. On **Main branch** write the branch's name, city, phone and address.
6. On each of the page steps press its open button, do the work, return, and go on.
7. On the last step press **Finish the setup**. The screen says **The first setup is finished.**.

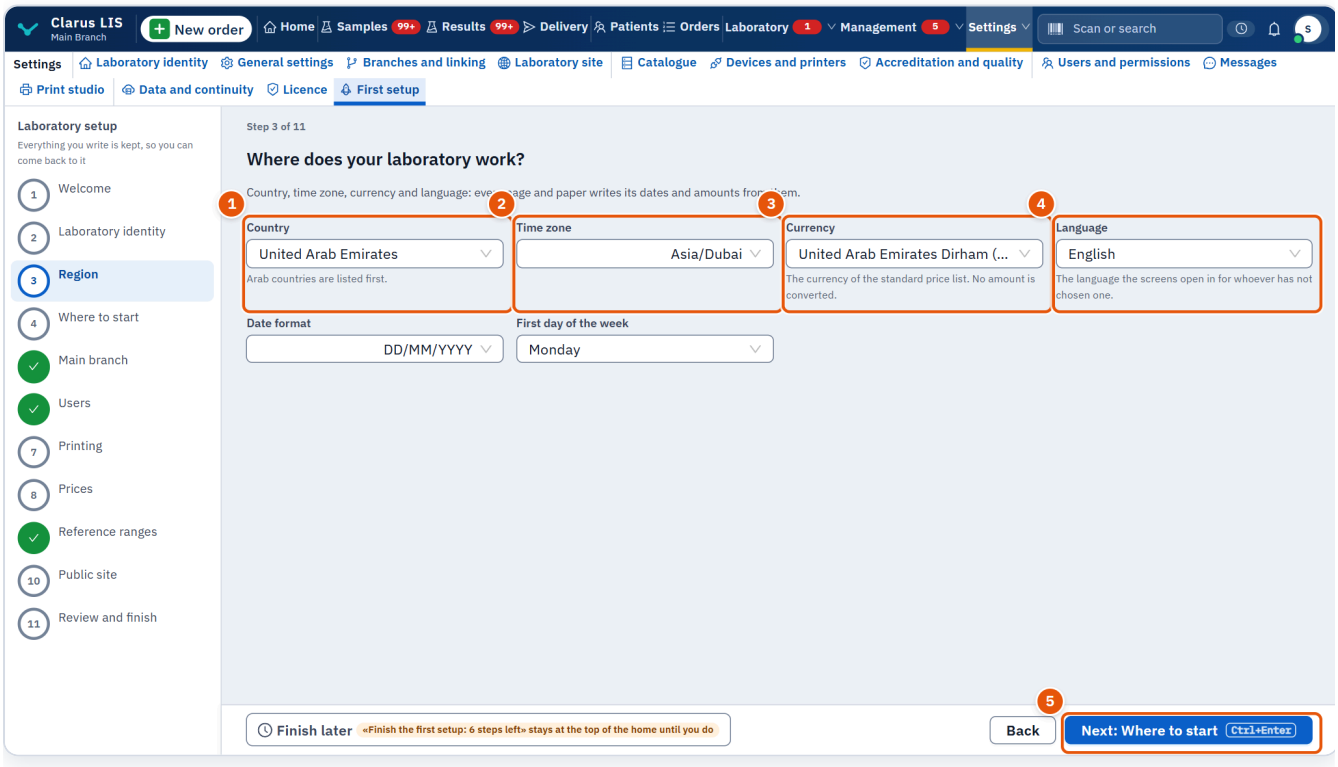


Figure 39-2: The region step: 1 the country, 2 the time zone, 3 the currency, 4 the language, 5 the next button.

39.5.2 Task 2 — Bring the history from RealLab

1. On **Where to start** press **Bring my history from RealLab**.
2. Press **Open the migration from RealLab** and run the migration in **Data and continuity**.
3. Return to the wizard. The origin step now says the history came from RealLab.
4. On **Prices** and **Reference ranges** review what arrived, and complete only what is missing.

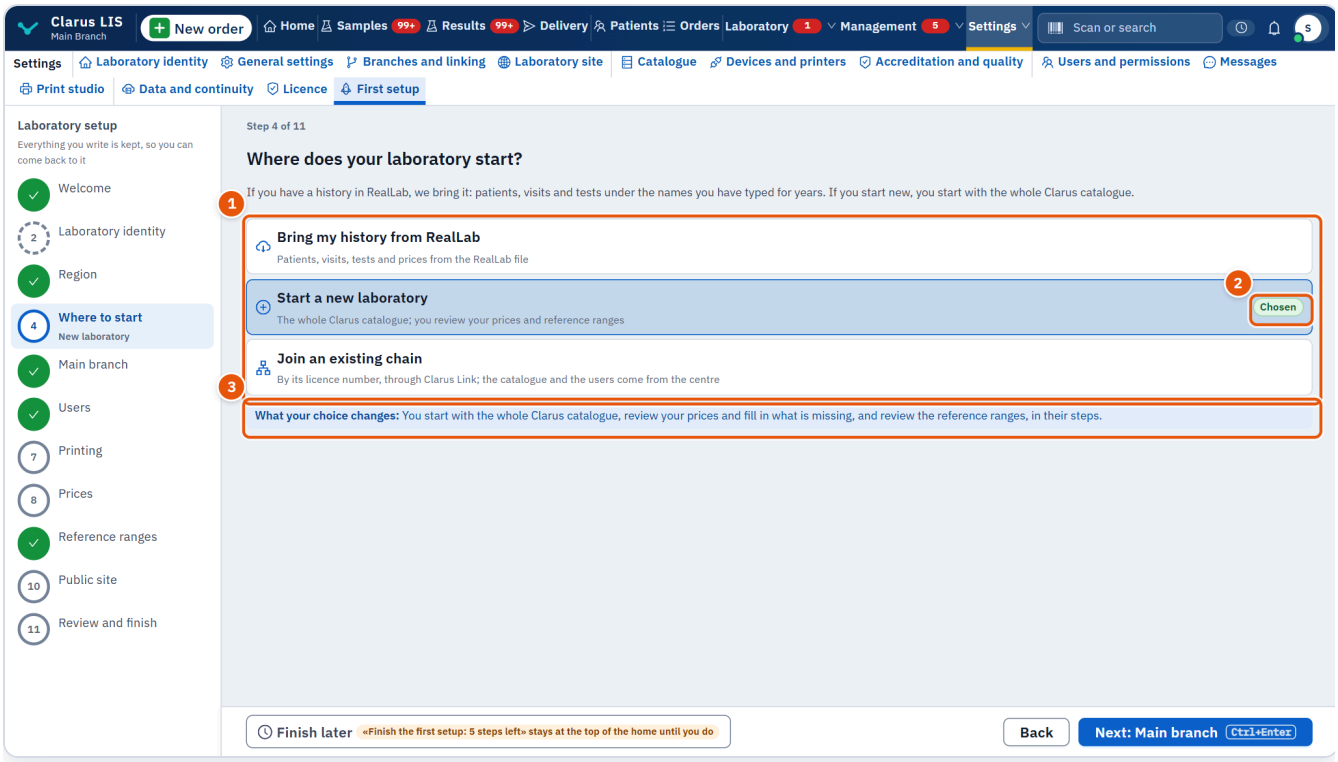


Figure 39-3: The origin step: 1 the three choices, 2 the chosen mark, 3 what the choice changes.

39.5.3 Task 3 — Finish later

1. In any step press **Finish later**.
2. The wizard saves your place and takes you to the home, which keeps a line at its top reminding you how many steps are left (**«Finish the first setup: … steps left» stays at the top of the home until you do**).
3. To come back, open **First setup**: it opens where you left it.

39.5.4 Task 4 — Mark a step reviewed and finish

1. On the prices or the public-site step, open the page, look at what is there and return.
2. Press **Reviewed**. The screen says **The review is recorded.** and the step turns done.
3. On the last step check the list, then press **Finish the setup**.

> **Note**
>
> You may finish with steps open. What is left can be completed later from its page. After the setup is finished the wizard stays in the menu and opens on its last step, so you can review any step.

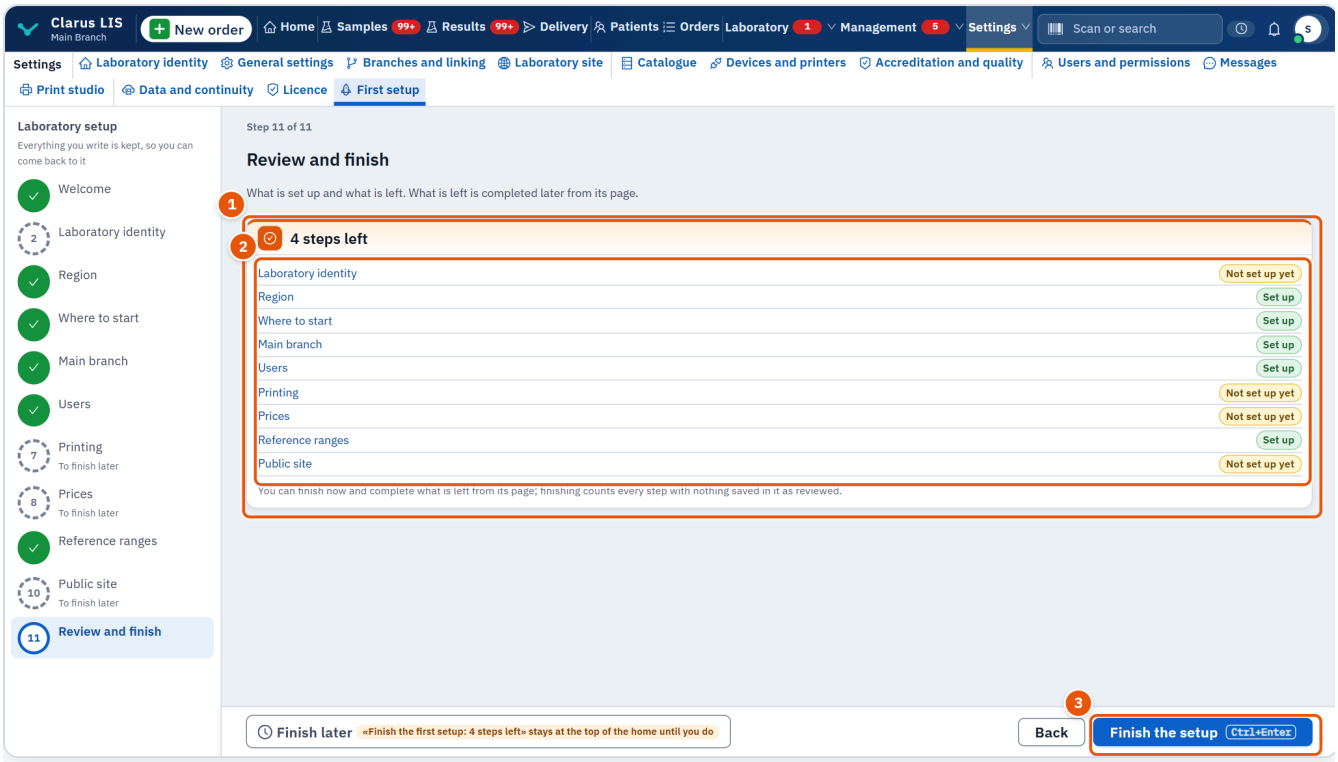


Figure 39-4: The last step: 1 the card with the number of steps left, 2 the steps, each with its mark, 3 the finish button.

39.6 Messages and what to do

The screen says	Meaning	What to do
The first setup could not be loaded.	The setup could not be loaded.	Press the retry button; check the server is running.
The save failed, so the step stays as it was.	The step could not be saved.	The step stays as it was; try again.
The laboratory's name is not written yet, so the printed report carries no name until it is.	No name is written.	Write **Display name** in the identity step.
You are alone in the laboratory now. Add an account for everyone who works with you.	Only one working account.	Open the users page and add the others.
The review is recorded.	The review was recorded.	Nothing; go on.
The first setup is finished.	The setup is finished.	Nothing; you return to the home.

39.7 See also

- **Home**: where the line about steps left is kept.
- **Data and continuity**: the migration from RealLab.
- **Branches and linking**: other branches and linking to a chain.
- **Users and permissions**, **Devices and printers**, **Prices and contracts**, **Catalogue**, **Laboratory site**: the pages the steps open.

Chapter 40

Printing

Menu: none of its own; printing starts from the screens named below. Setting printing up: **Print studio** and **Devices and printers**.

40.1 What this chapter is for

Printing in Clarus is not one screen. Each paper is printed from the screen where it is needed: the report from delivery, the receipt and the labels from the order and the orders list, the worksheet from the orders list, the statement from claims. This chapter is the map: what can be printed, where the button is, which permission it asks for, which printer it goes to, and what to do when something does not print as expected.

40.2 Who may print

You can...	...if your role holds
Preview a report on the results screen	**Print reports, receipts and labels** (without it the preview button is not shown)
Print or hand over a report on the delivery screen, and print the receipt there	**Publish reports** (it opens the screen itself)
Print the receipt, labels and worksheet of an order from the orders list	**Read orders** (it opens the screen; these three buttons have no further check on the screen)
Print the receipt, barcodes and collection instructions after saving an order	**Create orders** (it opens the order screen)
Print the tube labels in the samples screen	**Read orders** or **Accept, reject and receive samples** (it opens the screen; the print buttons have no further check)
Print a statement of claims	**Manage billing** (it opens the screen)
Design the report, receipt and label	**Manage settings**

Whether a button you may not use is dim or hidden depends on the screen; the chapter of each screen says which.

40.3 What can be printed

Paper	Where	Button
The result report	**Delivery**	**Print the report**, or **Print** beside one test; **The visit's reports** for all the visit's reports
A preview of the report	**Results**	**Preview report**
The payment receipt	The order screen after saving; the orders list; delivery	**Receipt**; **Receipt**; **Receipt**
The order's barcodes	The order screen after saving	**Barcodes**
The collection instructions	The order screen after saving	**Collection notes**
The tube labels of an order	**Orders**	**Labels**, which opens the window **The order's labels**
Tube labels in the samples screen	**Samples**	**Print today's unprinted labels**, **Last 200 labels**, **Label** (reads **Print the label again** once printed) and **Print their labels**
The worksheet	**Orders**	**Worksheet**
A statement of claims	**Claims**, page **Statements of claims**	**Print**, with **Save as PDF** beside it

On the order screen the receipt, barcodes and instructions buttons are dim until the order is saved. **Receipt** in the orders list is hidden while the order awaits a price: no receipt is printed until the missing price is written.

40.4 The report

1. Open **Delivery**, choose the order.
2. Press **Print the report**. In the print window choose **The whole order** or **One test**, the **Report language**, and if wished **Each family on a page of its own**.
3. Check **The report as it will print** and press **Print**.

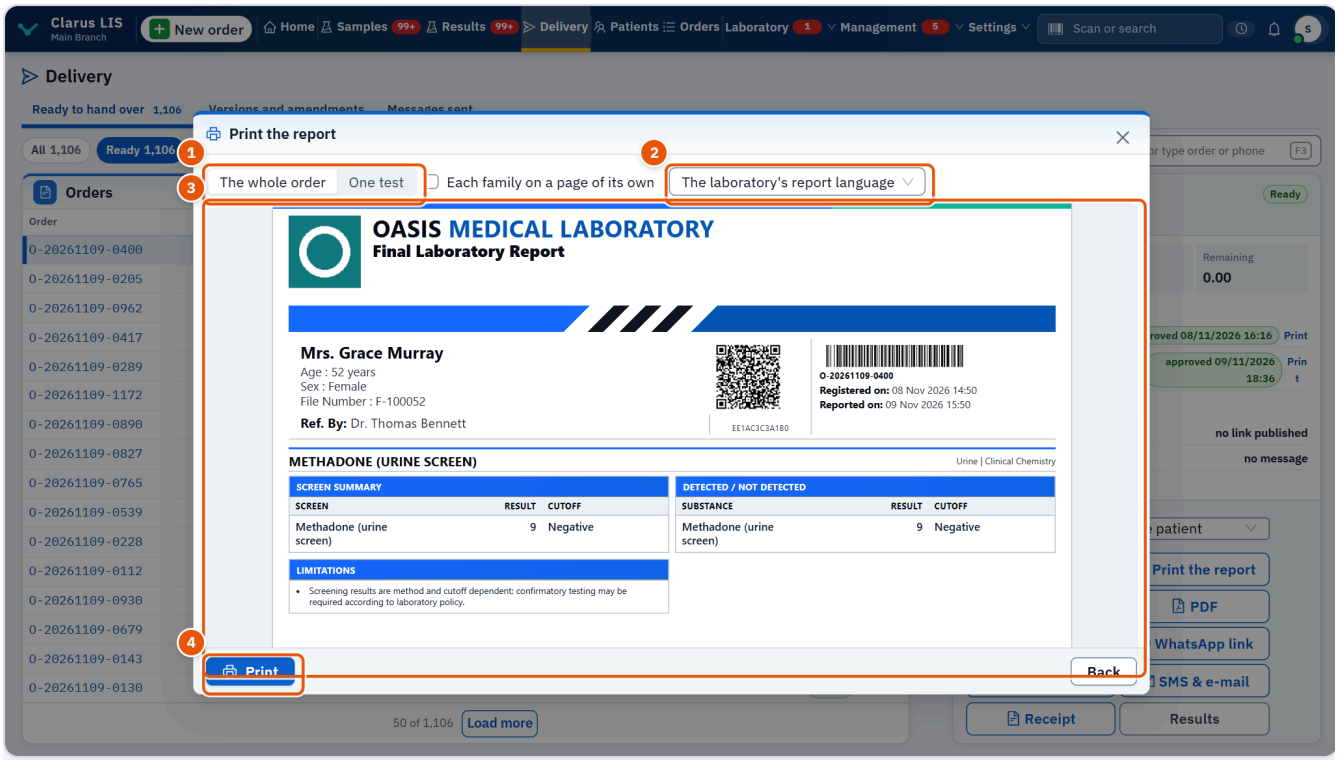


Figure 40-1: The print window: 1 the whole order or one test, 2 the report language, 3 the preview, 4 Print.

If the preview cannot be prepared the window says so and the report can still be printed. While the order is held, **Print the report** and **The visit's reports** are dim with a note that explains, and **Print** is not shown; the receipt button stays available.

40.4.1 Draft and amended reports

- A report in which any result is not yet approved carries «DRAFT — NOT APPROVED». Values typed and not yet saved appear in the preview as a draft that is never stored.
- When an approved result is withdrawn and approved again, its report prints headed **Amended Report**.
- The setting **Report PDF export** in the general settings writes each released report to a folder as a PDF; an amended report is a new file and the earlier one is never deleted.

40.5 Labels

The order's tubes each have one label with all their tests. In the window **The order's labels** the tubes are listed with a tick and whether each label is printed: print the ticked ones or all, press **The order's envelope label** for the envelope, and set **Copies for this print**, or **As in the label designer** to keep the number set in the label design.

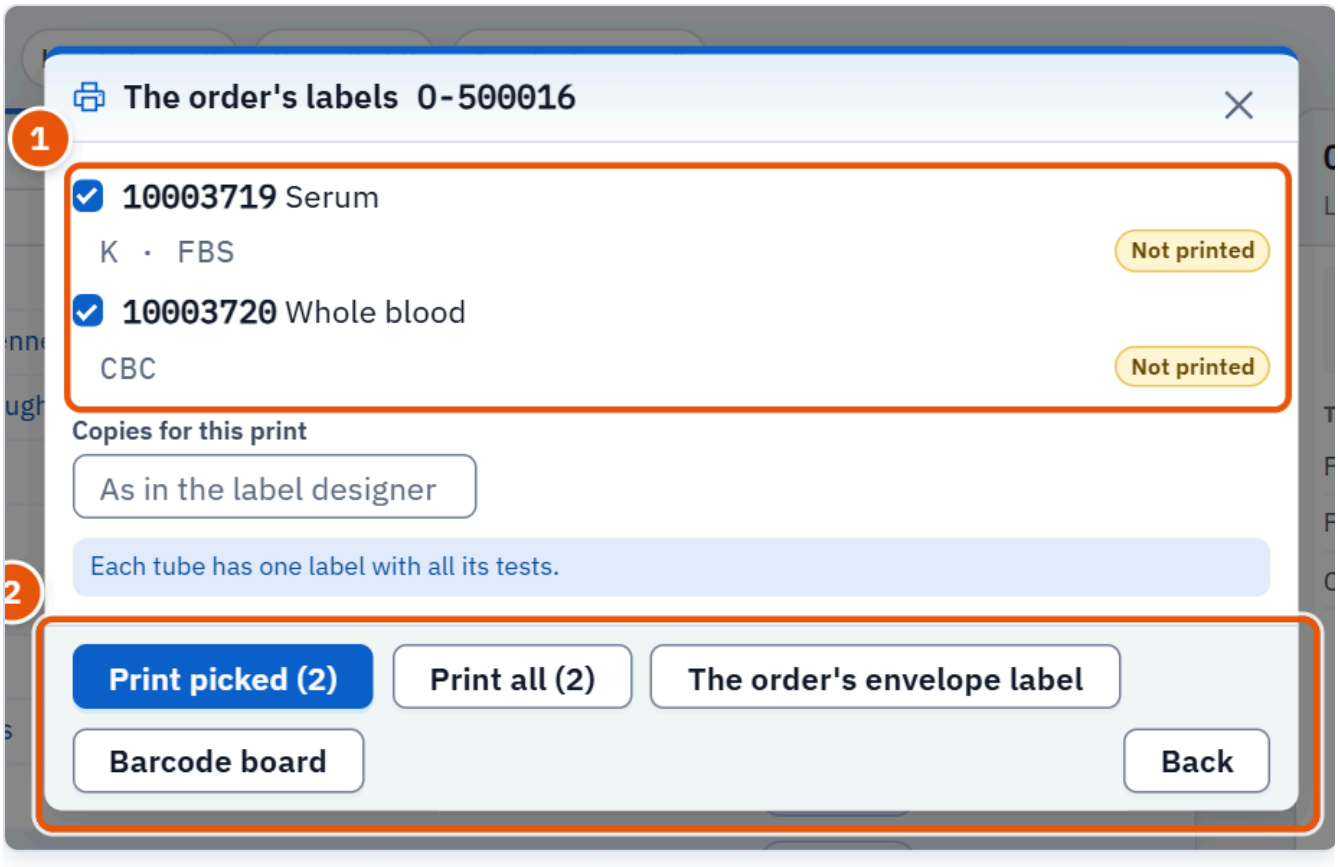


Figure 40-2: The order's labels: 1 the tubes and their ticks, 2 the print buttons.

If tubes were changed on the barcode board, the screen tells you which; press **Print them again**.

40.6 The receipt and the barcodes after saving

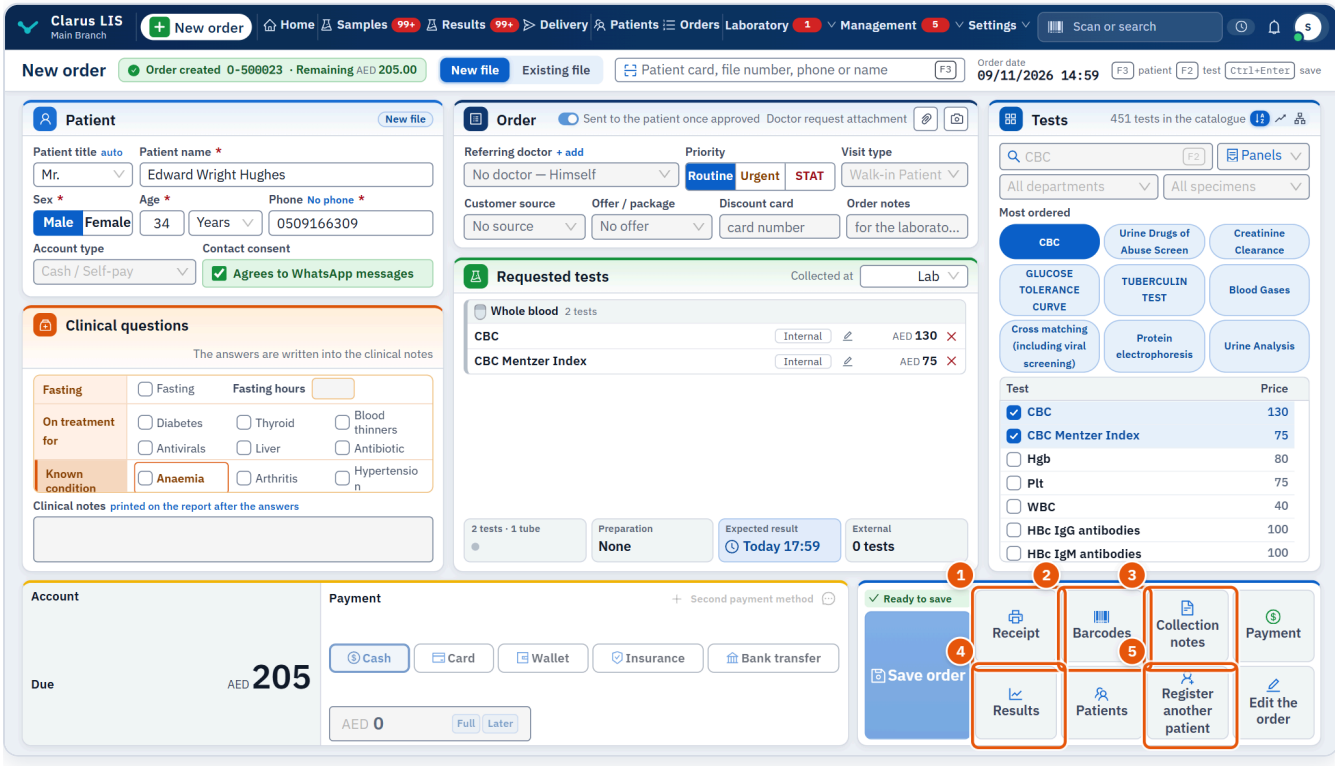


Figure 40-3: After saving: 1 the receipt, 2 the barcodes, 3 the collection notes, 4 the results, 5 the next patient.

After an order is saved, **Receipt**, **Barcodes** and **Collection notes** are offered; before saving they are dim. **Barcodes** opens the window **The order's labels** described above. When the order is paid from the payment window, the receipt is sent to print if the window's print option was chosen.

40.7 Which printer it goes to

Each station (a computer with a printer or an analyzer) has one printer for each role: labels, receipts and reports. They are chosen in **Devices and printers**, page **Stations and printers**. In **Silent printing through the stations** mode each station prints on its chosen printer without a dialog; a role with no printer chosen opens the browser's print dialog. The other mode is **The browser's print dialog**.

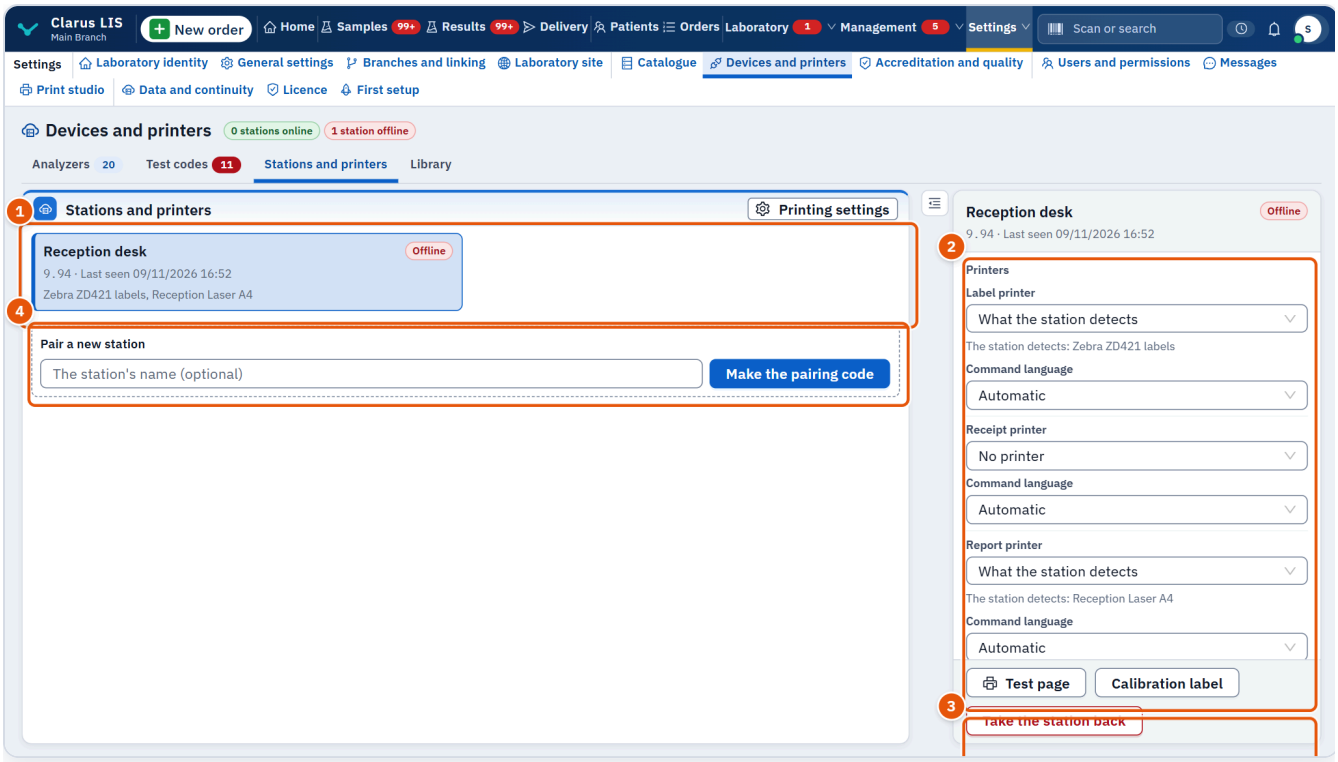


Figure 40-4: The Stations page: 1 the stations, 2 the chosen station's printers, 3 the analyzers cabled to it, 4 pairing a new station.

40.8 Who sets printing up

What	Where
The look of the report, the receipt and the label, and what the report engine draws	**Print studio**
The name, logo and contacts printed on every design	**Laboratory identity**
The report, notes, receipt and result-message languages	the general settings
The station's printers, the test page, label calibration, offsets	**Devices and printers**

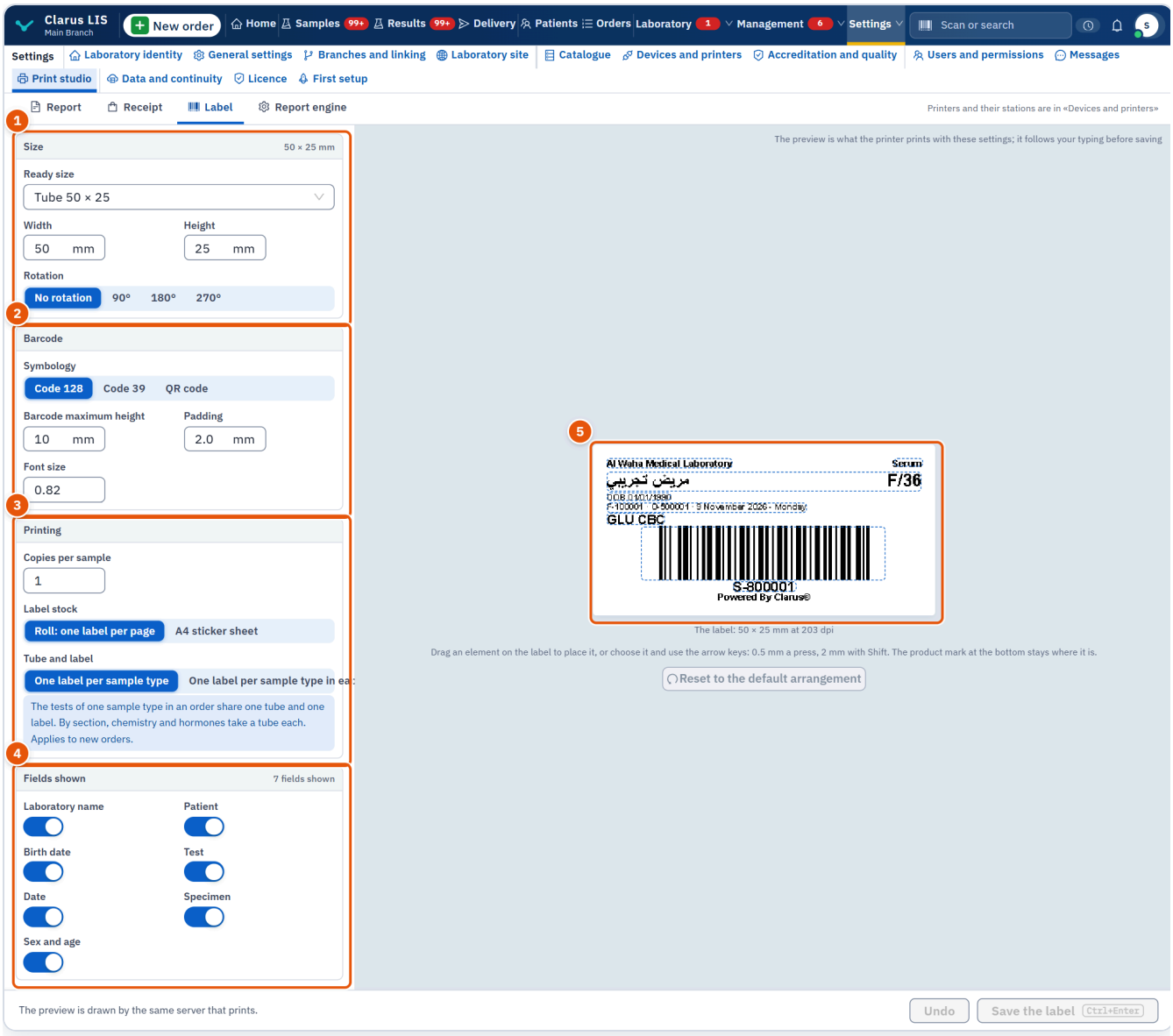


Figure 40-5: The label design: 1 size, 2 barcode, 3 printing, 4 fields shown, 5 the label on the stage.

40.9 Printing trouble

What you see	Meaning	What to do
No printer is bound on this station yet — choose one for each role first.	No printer is chosen on the station.	Choose one for each role in **Devices and printers**.
Print sits off the label or paper	The paper is not aligned.	In **Test page** check the printers; press **Calibration label** to see the label's real edges; adjust the offsets in **Printing settings**. These corrections never change the PDF a patient receives.
Report print buttons are dim	The order is held.	Read the note under the order; the print buttons come back when the hold is lifted.

What you see	Meaning	What to do
The report's PDF could not be downloaded.	The PDF could not be downloaded.	Try again.
The numbering barcode does not fit the label	The numbering format is too long.	Shorten it in the general settings.
Two elements cover each other on the label	The design is crowded.	Drag one away in **Print studio**.

40.10 See also

- **Print studio**: designing the report, receipt and label.
- **Devices and printers**: stations and their printers.
- **Delivery**, **Samples**, **Results**: where the papers are printed.

Chapter 41

Questions and problems

This part gathers what the screens say when something is wrong, from the chapters of this manual as they now stand, so that a message can be found in one place. Each row names the chapter it comes from; the full detail is there.

41.1 Messages by area

Rows that two chapters share appear once, with both chapters named.

41.1.1 Signing in and the first screens

The screen says	Meaning	What to do	Chapter
The sign-in did not succeed.	The server refused the sign-in.	Check the user name and password, and try again.	Getting started
The sign-in was not completed.	The second step could not be completed.	Press **Back** and sign in again.	Getting started
The request on the phone ended. Type the code, or sign in again.	The phone's request timed out.	Type the code, or sign in again.	Getting started
The two passwords do not match.	The two passwords differ.	Type them again.	Getting started
The password could not be set.	The recovery code or the user name was not accepted.	Check them, or ask the administrator.	Getting started
This language could not be loaded from the server, so the screen keeps its language. Check that the server is running, then try again.	The language could not be loaded from the server.	Check the server is running and try again.	Getting started
Nothing found. Press Enter to look for a patient by this on the order screen.	The search found nothing.	Press `Enter` to look for a patient by that text on the order screen.	Getting started
The save failed, so the step stays as it was.	The step could not be saved.	It stays as it was; try again.	Getting started

41.1.2 Home and the management figures

The screen says	Meaning	What to do	Chapter
The list could not be loaded.	The list could not be fetched from the server	Reload the page; if it persists check the connection	**Home**
The overview could not be read. It will be asked again in a few minutes.	The overview could not be read; it asks again after a few minutes	Wait, or reload	**Home**
The money of these branches is left out, because no exchange rate is written for its currency in that month: .... Write it in «Rates of exchange».	A branch's money is left out because no exchange rate is written for its currency in that month	Write the rate in Rates of exchange	**Home**
The services cannot be read right now.	The services could not be read	Reload later	**Home**
This card cannot be read right now.	One card cannot be read	Try again later	**Home**
Nothing waits for your decision now.	Nothing needs your decision	Nothing	**Home**

41.1.3 Orders and patients

The screen says	Meaning	What to do	Chapter
Cannot save: ...	Something is missing	Read the reason given with it	**New order**
The order was not saved	The server refused the order	Read the reason shown, correct and save again	**New order**
The price could not be calculated: ...	The price could not be worked out	Press **Try again**	**New order**
No test has the code or name «...»; nothing was added.	No test has that code or name	Check the spelling	**New order**
The test ... (...) is in the catalogue but is not switched on in this laboratory; nothing was added.	The test is off in this laboratory	Open the catalogue if you may, or ask whoever manages it	**New order**
This phone number is one digit repeated: write the patient's real number, or choose «No phone»	The phone is one digit repeated	Write the real number or choose **No phone**	**New order**

The screen says	Meaning	What to do	Chapter
This is not a phone number in the laboratory's country; a foreign number is written with + and its country code	The number is not valid in the laboratory's country	Fix it; a foreign number needs + and its country code	**New order**
The member or card number is required for this account type.	The account type needs a member number	Write it in the coverage details	**New order**
Nothing in the order changed to be saved.	The edit changed nothing	Nothing to save	**New order**
Some sample statuses were not applied.	Some samples were not updated	Check the samples screen	**New order**
The patient directory could not be loaded.	A connection or server fault	Reload; check the connection	**Patients**
No file matches «...».	Nothing has this text	Check spelling; choose All in the files' state	**Patients**
This patient may be registered already.	A file with the same details exists	Open that file, or save anyway if it is another person	**Patients**
The file could not be saved.	The server refused the save	Read the field notes and correct	**Patients**
The file is saved; the consent to marketing messages could not be.	The file saved but the consent did not	Open the file again and record the consent	**Patients**
The merge failed. Nothing was changed.	The server refused the merge	Check the two files and try again	**Patients**
The message could not be sent.	A fault in sending	Try again	**Patients**
The documents could not be read.	A connection fault	Reopen the tab	**Patients**
The file is larger than 10 MB.	The document is too large	Attach a smaller copy	**Patients**
Reading the orders...	The list is loading	Wait	**Orders**
The orders could not be read.	A fault reading the list	Use the retry control and check the connection	**Orders**
No order matches «...».	The search found nothing	Check the spelling, or clear the search	**Orders**
No order yet. / No order today. / No order in progress.	Nothing in that filter	Choose another filter	**Orders**

The screen says	Meaning	What to do	Chapter
Choose an order from the list.	None is chosen	Click an order	**Orders**
No price — needs pricing	A test has no price	See 10.7.4 Task 4 — Price an order that waits for a price	**Orders**

41.1.4 Samples

The screen says	Meaning	What to do	Chapter
No sample with the code …	The code was mistyped, or no such sample exists	Scan again, or search by the order's number	**Samples**
The code could not be read.	The scan failed	Scan again	**Samples**
That could not be saved.	The server refused the step	Read the reason shown, correct and repeat	**Samples**
The samples could not be read.	A connection fault	Check the connection and retry	**Samples**
… stored samples are past their retention	Samples kept longer than the retention time	Dispose of them (6.7.1 Task 1 — Follow a sample from receipt to storage)	**Samples**
The move could not be made.	The board refused the move	Look at the tubes and try again	**Samples**
Write the time as 2026-10-03 10:52	The collection time is not in the expected form (shown under the field)	Write it as in the example	**Samples**
Rejection is final; the server opens a re-draw by itself.	A notice before rejecting	Be sure, then reject	**Samples**

41.1.5 Results and approval

The screen says	Meaning	What to do	Chapter
No sample or order has the number …	The code was mistyped, or belongs to another branch	Scan again; check the branch filter	**Results and approval**
Not everything typed was saved	The server refused some values	Read the refusal beside each; correct and save	**Results and approval**

The screen says	Meaning	What to do	Chapter
The approval failed; nothing was approved	A connection fault	Check the connection and try again	**Results and approval**
The server refused to approve some tests	A check failed on the server	See the red marks in the foot	**Results and approval**
The value … is above the most the analyzer measures	Beyond the measuring range	Confirm, or dilute and rerun	**Results and approval**
The previous one was zero, so no percent can be taken	Delta by percent impossible	Review the value by eye	**Results and approval**
needs permission to read patient files	Your role cannot see **Previous**	Ask the administrator if you need it	**Results and approval**

41.1.6 Quality control, microbiology, clinical AI and accreditation

The screen says	Meaning	What to do	Chapter
Quality control could not be loaded.	A fault reading the screen's data	Retry; check the connection	**Daily QC**
No active control lots. Add one from Lots.	No active lot	Add a lot (12.7.4 Task 4 — Manage the control lots)	**Daily QC**
The action failed. Try again.	The server refused a step	Read the reason in red and try again	**Daily QC**
Open violation: … results … are held in Results until it is resolved with a written action.	A failed run holds that device	Resolve it (12.7.3 Task 3 — Resolve a violation)	**Daily QC**
This lot expires … Prepare the next one.	Expiry within 45 days	Add the next lot (12.7.4 Task 4 — Manage the control lots)	**Daily QC**
Unreadable range: …	A stored measuring range cannot be read	Open the rule and write the range again (12.7.5 Task 5 — Set the automatic release rules per test)	**Daily QC**
The replay failed.	The replay could not run	Narrow the period and try again	**Daily QC**
The replay reached its limit of results	Too many results in the period	Narrow the period	**Daily QC**
The rules could not be read.	A fault reading the rules	Close and reopen the window	**Daily QC**

The screen says	Meaning	What to do	Chapter
The controls could not be read.	A fault reading the mappings	Close and reopen the window	**Daily QC**
It could not be saved.	The server refused the save	Check the fields and try again	**Daily QC**
The cultures could not be loaded.	The list did not arrive.	Use the retry offered under the list.	**Microbiology**
No cultures waiting to start.	Every ordered culture has been started.	Nothing to do.	**Microbiology**
The action failed. Try again.	The server refused or did not answer; when the server gives its own reason, that is shown instead.	Press the button again; if it persists, tell the administrator.	**Microbiology**
Susceptibility is shown from the laboratory's newest results only, until the server returns the whole culture.	The culture's full record has not arrived yet.	Wait a moment; the full table replaces it.	**Microbiology**
The assistant read no susceptibility results from this file.	The file had nothing the assistant could read.	Try the text, or add the results by hand (13.6.2 Task 2 — Add susceptibility results).	**Microbiology**
No cultures here.	The list is empty, so there is nothing to show in the details.	Change the tag or the search.	**Microbiology**
Choose a culture to see its growth and susceptibility.	Rows exist but none is chosen (the screen normally chooses the first one).	Press a row.	**Microbiology**
The service is not switched on yet	The service is off in this laboratory.	A manager can switch it on in **Settings**.	**Clinical AI**
The drafts could not be loaded.	The drafts could not be loaded.	Press the retry button on the list.	**Clinical AI**
The action failed. Try again.	An approve, reject or remove did not go through.	Try again.	**Clinical AI**
Choose a draft to review.	No draft is selected.	Select a row.	**Clinical AI**

The screen says	Meaning	What to do	Chapter
No drafts here.	The filter has no drafts.	Choose another chip.	**Clinical AI**
No movement of the balance yet.	The balance has not moved.	Nothing to do.	**Clinical AI**
The standard could not be read.	The standard could not be read.	Use the retry button; if it persists, check the connection to the server.	**Accreditation and quality**
The change could not be saved.	The change of standards was not saved.	Try again; the list stays as it was.	**Accreditation and quality**
The change could not be saved.	The function switch was not saved.	Try again, or ask the person who holds the right.	**Accreditation and quality**
The workbook could not be exported.	The workbook did not download.	Press the button again.	**Accreditation and quality**
This register is switched off in this laboratory: its entries stay readable, and none is added or changed.	The register is off.	Switch it on from the Functions tab if you may.	**Accreditation and quality**
The library cannot be reached now.	The library cannot be reached.	Import the standard from a file.	**Accreditation and quality**
The history could not be read.	The history of an item did not load.	Close and open it again.	**Accreditation and quality**

41.1.7 Delivery

The screen says	Meaning	What to do	Chapter
The orders ready to hand over could not be read.	The list could not be read	Press retry; check the connection	**Delivery**
This order's release is held (...): it is not published or sent until the person who approves results lifts it.	A release hold is on the order	Wait until the hold is lifted	**Delivery**
The laboratory's setting lets only a billing manager hand over a report with money left	The setting reserves this to billing managers	Collect the remainder, or ask a billing manager	**Delivery**
Write the receiver's name, and where the doctor works when he receives it.	No receiver is written	Write the name	**Delivery**

The screen says	Meaning	What to do	Chapter
The hand-over could not be recorded.	The hand-over was not recorded	Try again	**Delivery**
This server does not record hand-overs yet; nothing was recorded.	This server cannot record hand-overs	Nothing was recorded; contact support	**Delivery**
Nothing was sent: the patient's file has no phone number and no e-mail.	The file has no phone and no e-mail	Complete the patient's file	**Delivery**
This patient's phone number needs confirming: it may now belong to someone else. Open the patient's file, confirm or correct the number, and send again.	The number may belong to someone else now	Confirm it in the patient's file, then send	**Delivery**
The patient has no WhatsApp number on file.	No WhatsApp number	Add it to the patient's file	**Delivery**
No link a patient can open exists yet. Send «WhatsApp with the file» so the report arrives as a file, or publish the laboratory's website.	No link exists yet	Send the file instead, or publish the link first	**Delivery**
The report's PDF is saved and the chat is open: drag the saved file into the chat, then press Send in WhatsApp.	The chat is open but the file is not attached	Drag the saved file in and press Send	**Delivery**
The report could not be published.	The link was not published	Try again	**Delivery**
The result link could not be stopped.	The link was not stopped	Try again	**Delivery**
The version could not be signed.	A version was not signed	Try again	**Delivery**
That could not be done.	The action on messages failed	Try again	**Delivery**

41.1.8 Finance: treasury, prices and claims

The screen says	Meaning	What to do	Chapter
The books are not started yet	No finance page can read anything	Ask whoever holds the finance settings to start the books	**Treasury**

The screen says	Meaning	What to do	Chapter
It cannot close now	A shift, a recurring expense or a document blocks the month	Clear the reason listed, then close again	**Treasury**
Cash from the drawer needs an open shift	The expense was taken from the drawer with no shift open	Open a shift, or choose another method	**Treasury**
This is your request, so another manager decides it	You cannot decide what you asked	Ask another manager	**Treasury**
The consolidation is shown once the missing rates are written	A branch's currency has no rate for the month	Write the rate under Rates of exchange	**Treasury**
It could not be saved. Try again.	The server refused or the connection failed	Check the fields and the connection and try again	**Treasury**
The prices could not be loaded.	The prices could not be read	Check the connection and press retry	**Prices and contracts**
This field is required.	A required field is empty	Fill it	**Prices and contracts**
Coverage and patient share together must make 100%.	Coverage and patient share given together do not make 100%	Correct one, or give one alone	**Prices and contracts**
The end date is before the start date.	The dates are reversed	Correct them	**Prices and contracts**
Enter the amount above which pre-authorisation is needed.	Pre-authorisation above an amount without the amount	Type the amount	**Prices and contracts**
An offer's percent cannot exceed 100%.	An offer in percent is above 100	Lower it	**Prices and contracts**
Could not save.	The server refused the save	Read the reason that follows and correct	**Prices and contracts**
The library cannot be reached now.	The library cannot be reached	Import from a file instead	**Prices and contracts**
The library is closed to this copy now.	The library is closed to this copy	Import from a file instead	**Prices and contracts**
The claims could not be loaded.	The list did not arrive.	Use the retry button, then check the connection.	**Claims**
The claim cannot be staged until what it lacks is completed.	The order is missing something from the list.	Complete each item, then save again.	**Claims**

The screen says	Meaning	What to do	Chapter
This claim was already staged; it was not created twice.	The order already has this claim.	Find it in the queue.	**Claims**
The payer's channel did not take the claim; the reason is kept on it.	The send failed.	Read **Last error**, correct, send again or export.	**Claims**
This write-off or adjustment is your decision, so someone else approves it.	You recorded it.	Ask another person to review it.	**Claims**
Enter the amount transferred or the adjustment.	The transfer window has neither.	Type one.	**Claims**
Write the reason for the hold or deferral.	The hold has no reason.	Write it.	**Claims**
The file cannot be marked sent while evidence is missing.	The appeal lacks papers.	Tick the papers in hand, or keep the file as a draft.	**Claims**
The address starts with https://...	A channel address does not.	Type the full address as the payer gave it.	**Claims**
Resolve the blocking checks first	The stage is blocked.	Clear its blocking checks.	**Claims**

41.1.9 Send-outs

The screen says	Meaning	What to do	Chapter
WhatsApp did not open: no usable courier number, or the browser blocked the window.	The call was recorded but WhatsApp did not open: no usable courier number, or the browser blocked the window.	Allow pop-ups or use **Copy the text**.	**Send-outs**
The message is written; send it another way. “Courier called” is recorded only once WhatsApp is opened.	The laboratory has no courier number, so there is no WhatsApp button and the call is not recorded.	Send the text another way.	**Send-outs**
This laboratory is switched off: switch it on, then assign tests to it.	The laboratory is stopped.	Activate it first.	**Send-outs**
No active laboratory yet. Add one in the «External laboratories» tab.	No active laboratory.	Add one in the laboratories page.	**Send-outs**
The laboratory can be changed while the sample is in the building; once it has left, it cannot.	Too late to change.	Contact the laboratory.	**Send-outs**

The screen says	Meaning	What to do	Chapter
Choose at least a test, a payer or a branch.	A rule needs a scope.	Choose a test, payer or branch.	**Send-outs**

41.1.10 Attendance, follow-up, inventory, quality, marketing and the Market

The screen says	Meaning	What to do	Chapter
The device could not be reached.	The device did not answer.	Check its address, port and that it is on; test again.	**Attendance**
The device's clock is ... minutes away from the server's: set it on the device.	The device's clock differs from the server's.	Set the clock on the device.	**Attendance**
This device has not called yet.	A pushing device has not called yet.	Set the server's address in the device.	**Attendance**
Set the working days first	The employee has no schedule.	Give a schedule on **Employees and schedules**.	**Attendance**
Could not save.	The change was not saved.	Try again; read the message shown with it.	**Attendance**
No expense recorded in the period.	No expense is recorded in the chosen period.	Nothing is wrong; choose another period if you expected expenses.	**Follow-up**
Store purchases are not counted in one branch's report: a purchase order carries no branch. They are counted for the whole laboratory.	A single branch's report leaves out store purchases, because a purchase order carries no branch.	Choose **The whole laboratory** to see them counted.	**Follow-up**
The file could not be downloaded. Please try again.	The Excel file did not download.	Press **Export to Excel** again; if it persists, check the connection to the server.	**Follow-up**
Not enough stock: ... only.	A movement takes more than is in the store.	Lower the quantity or check the store.	**Inventory**
A transfer needs two different stores.	From and to are the same.	Choose two stores.	**Inventory**
Choose the category or store to count.	A count by category or store needs its scope.	Fill the category or store.	**Inventory**

The screen says	Meaning	What to do	Chapter
Enter the lot of «...».	A received line has no lot.	Write the lot.	**Inventory**
«...» exceeds what was ordered beyond the over-receipt limit.	The quantity received is too high.	Lower it to the allowed level.	**Inventory**
Approved by someone with procurement approval who neither created nor sent it.	You may not approve your own order.	Ask another approver.	**Inventory**
Write the reason.	Cancel, close, refuse, quarantine and recall need a reason.	Type it.	**Inventory**
The tests linked to this item could not be read...	The item's test list failed to load.	Reopen the window.	**Inventory**
The import failed. Try again.	The file could not be imported.	Check the file and repeat.	**Inventory**
The records could not be read.	The records could not be read.	Press retry; if it persists, check the connection and your permissions.	**Quality**
Write the resolution before closing.	The close window was saved empty.	Write the resolution.	**Quality**
Without the assigned value and the standard deviation the result is not evaluated.	The assigned value or the deviation is missing.	Enter both if you want the round evaluated.	**Quality**
Choose a record from the list to see its details.	No record is chosen.	Choose one in the list.	**Quality**
Reading... / Could not be read.	The list is loading, or the server refused.	Wait, or press «Try again» beside the message, and check your connection.	**Marketing**
Nothing matches «...».	The search found nothing.	Change the words, or choose «All».	**Marketing**
No approved template for this channel	The channel has no approved template.	Approve one in the Messages page of the settings.	**Marketing**
Name the send / Choose the template / Enter the test code	The button is dim for this reason.	Fill the named field.	**Marketing**

The screen says	Meaning	What to do	Chapter
A package has at least two tests.	A package was set with fewer.	Add tests.	**Marketing**
A package cannot cost more than its tests in the catalogue	The price is above the total of the tests.	Lower the price.	**Marketing**
The send failed.	The server refused the send.	Read the reason shown above the button and try again.	**Marketing**
3 messages handed over for sending	The send was accepted.	Nothing; read the count of those without a number or who withdrew.	**Marketing**
This release does not carry the Market's content key yet, so no document is accepted until an update brings it.	This release cannot yet accept documents.	Wait for an update that brings the key.	**Clarus Market**
Clarus has published nothing in the Market yet: there is nothing to install for now, and your connection is working.	Nothing to install now.	Nothing; try later.	**Clarus Market**
The request could not be completed.	The request did not complete.	Check the connection and try again.	**Clarus Market**
Nothing of this list was applied.	No row of this list was applied.	Nothing.	**Clarus Market**

41.1.11 Devices and analyzers

The screen says	Meaning	What to do	Chapter
No analyzer is registered in this laboratory yet.	No analyzer has been added.	Press **Add an analyzer**.	**Devices and printers**
No link open now	The analyzer is not connected at this moment.	Check the cable or network, then **Test the connection**.	**Devices and printers**

The screen says	Meaning	What to do	Chapter
The analyzer has sent no messages yet.	Nothing has arrived from the analyzer yet.	Send a test from the analyzer, or check the settings it was given.	**Devices and printers**
This code's results reach no order until it is mapped to a test of the catalogue.	The code is not mapped.	Map it (31.9.3 Task 3 — Map a code to a test).	**Devices and printers**
No station serves this analyzer to test the connection: run the program on the computer it is connected to.	No station serves this analyzer.	Run the program on the computer it is connected to.	**Devices and printers**
No station has been marked as cabled to this analyzer yet: tick it on its station in «Stations and printers».	No station is marked as cabled to it.	Tick it on its station (31.9.8 Task 8 — Cable an analyzer to a station).	**Devices and printers**
The computer that serves this analyzer is on a network Windows classes as Public, so Windows Firewall keeps the analyzer out and its results do not arrive. How a network is classed is a security setting for the computer's owner, and the program does not change it: if this is the laboratory's trusted network, make it Private with an administrator's account: Settings > Network & internet > network properties > Private network; or ask the computer's administrator. The program does not open the analyzer's port to public networks: it would then be open on every network the computer joins.	The serving computer is on a Public network.	Ask the computer's administrator to make it Private.	**Devices and printers**
This analyzer's file format is not set yet, so its files will not be read: set it under «Results files» below the card.	The analyzer's file format is not set.	Set it under **Results files**.	**Devices and printers**
The tube number is digits only: if the analyzer does not read the label and gives the sample its own running number (1, 2, 3…), its result may land on another tube. Turn on barcode reading in the analyzer, or give the tube number a prefix.	The tube number is digits only and the analyzer may number samples itself.	Turn on barcode reading in the analyzer, or give the tube number a prefix.	**Devices and printers**

The screen says	Meaning	What to do	Chapter
The file could not be taken: either the library cannot be reached now, or the file does not carry the Clarus signature and was refused. Nothing was changed.	The library could not be reached, or the file lacks the Clarus signature.	Nothing changed; try again later or use a file you hold.	**Devices and printers**
No gateway station is paired with this laboratory.	No station is paired.	Pair one (31.9.6 Task 6 — Pair a new station).	**Devices and printers**
No printer is bound on this station yet — choose one for each role first.	No printer is chosen on the station.	Choose one for each role first.	**Devices and printers**
Every attempt to update the station failed: install the newest version on it by hand.	Every attempt to update the station failed.	Install the newest version on it by hand.	**Devices and printers**

41.1.12 Settings, users and setup

The screen says	Meaning	What to do	Chapter
The picture is larger than 512 KB once it is stored. Choose a smaller one.	The chosen picture is over 512 KB.	Choose a smaller picture.	**Laboratory identity**
Settings saved.	The identity was saved.	Nothing.	**Laboratory identity**
The settings could not be saved. Try again.	The save failed.	Try again. If the server gave a reason, read it (in Laboratory identity it is shown under the save bar); in the Print studio the draft is kept.	**Laboratory identity**, **Messages**, **Print studio**
The settings could not be loaded.	The screen could not read the current identity, or the settings did not load.	Retry (use the retry button).	**Laboratory identity**, **Messages**
The settings could not be loaded.	The server did not answer.	Press the retry button.	**General settings**
The settings could not be saved. Try again.	The save failed.	Try again; if it repeats, check the connection.	**General settings**

The screen says	Meaning	What to do	Chapter
Settings saved.	All pending changes were kept.	Nothing.	**General settings**
An example does not give its expected value. Do not sign; contact support.	A calculation check failed.	Do not sign; contact support.	**General settings**
This number's barcode does not fit the label: shorten the format.	The numbering format is too long to print as a barcode.	Shorten the mask or the digits.	**General settings**
The title was switched off, not deleted.	Patients wear the title.	Nothing; it stays for them.	**General settings**
In these branches fewer than two people may release a result…	Turning on separate release would block those branches.	Give a second person the right first.	**General settings**
The language library cannot be reached now.	No internet.	Import a language file.	**General settings**
The current licence allows no more branches.	The licence allows no more branches.	Stop or reuse an existing branch, or ask about the licence.	**Branches and linking**
The branches could not be loaded.	The list did not load.	Press the retry button on the list.	**Branches and linking**
The branch could not be saved.	The branch was not saved.	Read the reason under the form and correct it.	**Branches and linking**
This device does not work until it is licensed: enter its serial number on its «This device» screen.	The device is working but has no licence.	Enter its serial number on its own screen.	**Branches and linking**
This file is not a file from another branch of the laboratory.	The imported file is not from this laboratory's branch.	Import the right file.	**Branches and linking**
This computer is not connected to the laboratory's network. Connect it by cable or Wi-Fi, then check.	The server computer has no network.	Connect it, then press **Check now**.	**Branches and linking**

The screen says	Meaning	What to do	Chapter
Windows classes this network as public, so its firewall keeps the devices out. Make it private on this computer.	Windows classes the network as public.	Press **Make this network private**.	**Branches and linking**
The certificate names an address this computer no longer has. Renew it, then start again; the devices keep trusting it.	The certificate names an address the computer no longer has.	Press **Renew the certificate**, then start again.	**Branches and linking**
Clarus Link refused this branch's connection.	Clarus Link refused this branch.	Read the reason under it; it says what to do.	**Branches and linking**
The authority's certificate could not be saved.	The authority's certificate was not saved.	Choose the authority's certificate again, not the key.	**Branches and linking**
The laboratory site could not be loaded.	The data did not arrive.	Press the retry button.	**Laboratory site**
Changes saved. Choose an address for the site to publish it.	Saved, but there is no address yet.	Take a name on **Address and publishing**.	**Laboratory site**
The site is published at …	The publish succeeded.	Open the address to check.	**Laboratory site**
Could not save or publish.	The save or publish failed.	Read any reason shown beside it and try again.	**Laboratory site**
The picture is larger than 1.5 MB.	The picture is refused.	Choose a smaller one.	**Laboratory site**
The name could not be taken.	The name is unavailable or invalid.	Choose another name.	**Laboratory site**
The domain could not be found.	The check found no such domain.	Check its spelling and its records.	**Laboratory site**
The domain does not point at the website host yet.	The records are missing or not yet visible.	Type the records, wait, and check again.	**Laboratory site**
The preview could not be drawn.	The preview failed.	Press its retry button.	**Laboratory site**

The screen says	Meaning	What to do	Chapter
This server does not show the catalogue yet...	The server is older than the screen	Update the program.	**Catalogue**
The catalogue could not be loaded.	A connection fault	Check the connection and reload.	**Catalogue**
The action could not be applied. Nothing was changed.	A bulk change failed	Try again, or check the connection.	**Catalogue**
Only the laboratory's administrator imports.	Your role may not import	Ask the administrator.	**Catalogue**
Only the laboratory's administrator saves reference bands.	Your role may not save bands	Ask the administrator.	**Catalogue**
The server did not accept this band. Check its values.	A limit or age is not valid	Read the red line under the field.	**Catalogue**
The panel was saved, but ... members were not accepted	A member does not exist or is itself a panel	Reopen the panel and fix its members.	**Catalogue**
The panel was saved, but its price was not changed.	The price path refused	Read the reason given with it.	**Catalogue**
Could not save. Try again.	The save did not reach the server and gave no reason.	Press the button again; if it repeats, check the connection.	**Users and permissions**
Could not load.	The page's data did not arrive.	Use the retry button shown with it.	**Users and permissions**
A red note at the top of a window (the server's own words)	The server refused: for example a user name already used.	Read it, correct the field, save again.	**Users and permissions**
You do not hold it, so you cannot grant or withdraw it.	The permission is not yours to hand on.	Ask a manager who holds it.	**Users and permissions**
Set for the whole role only...	This permission cannot be given for one branch.	Change it in the roles matrix, as general manager.	**Users and permissions**
Not in force: its giver no longer holds it	The grant's giver lost the permission, so the grant stopped working.	Grant it again from someone who holds it.	**Users and permissions**

The screen says	Meaning	What to do	Chapter
The secret's name as kept on the server, not the secret: the program does not take a secret typed here.	No secret is kept yet.	Type the name of the secret kept on the server.	**Messages**
None of them leaves before you choose.	Nothing leaves before your choice.	Choose one of the three buttons.	**Messages**
The design could not be loaded.	The design did not load.	Press the retry button; if it keeps failing, check the connection to the server.	**Print studio**
The preview could not be drawn.	The server could not draw the preview.	Press the retry button, or undo your last change.	**Print studio**
The picture is larger than 700 KB. Make it smaller, then upload it.	The picture is too big.	Make it smaller and upload it again.	**Print studio**
Only a PNG or JPEG picture is taken.	The file is not a PNG or JPEG.	Convert it.	**Print studio**
These elements cover each other on the label: .... Move one of them so that everything reads clearly.	Two elements cover each other on the label.	Drag one away.	**Print studio**
The page has no room for the results if the two spaces together exceed ... cm.	The two spaces leave no room for results.	Reduce the spaces.	**Print studio**
The first setup could not be loaded.	The setup could not be loaded.	Press the retry button; check the server is running.	**First setup**
The save failed, so the step stays as it was.	The step could not be saved.	The step stays as it was; try again.	**First setup**
The laboratory's name is not written yet, so the printed report carries no name until it is.	No name is written.	Write **Display name** in the identity step.	**First setup**
You are alone in the laboratory now. Add an account for everyone who works with you.	Only one working account.	Open the users page and add the others.	**First setup**

The screen says	Meaning	What to do	Chapter
The review is recorded.	The review was recorded.	Nothing; go on.	**First setup**
The first setup is finished.	The setup is finished.	Nothing; you return to the home.	**First setup**

41.1.13 Data, backups, security and audit

The screen says	Meaning	What to do	Chapter
Could not load the audit trail.	The list or the box could not be loaded.	Use the retry button on the list; if it persists, check the program is running.	**Security and audit**
No entries match the filters.	No trail entry matches the filters.	Widen the filters or clear the search.	**Security and audit**
No active sessions.	No session is active.	Choose **All** to see ended ones.	**Security and audit**
No matching events.	No access event matches.	Widen the filters.	**Security and audit**
Export failed.	The export did not complete.	Try again; narrow the filters if the span is large.	**Security and audit**
The access-event chain is broken: contact support	The access events no longer form an unbroken chain.	Do not ignore it; contact support.	**Security and audit**
Choose an entry from the trail to see its details.	No row is chosen.	Click a row.	**Security and audit**
No backup has been taken yet. Take one now.	No backup yet	Press **Back up now**	**Data and continuity**
Not met: no recent backup	No recent backup	Take one now	**Data and continuity**
The database is back, but the file you chose carries no attachments (pictures and documents). To restore them, choose the backup file whose name ends in .clarus-backup.zip.	The file chosen has no attachments	Choose the .clarus-backup.zip file	**Data and continuity**

The screen says	Meaning	What to do	Chapter
We could not read this file.	The file is damaged or half copied	Try another copy	**Data and continuity**
The migration was cut and nothing of it was written.	The program closed during the transfer	Start again	**Data and continuity**
Tick the consent first.	The consent is not ticked	Tick it	**Data and continuity**

41.1.14 Licence

The screen says	Meaning	What to do	Chapter
This is not a valid activation file.	The chosen file is not an activation file.	Choose the file Clarus sent back.	**Licence**
We could not read that file. Please check it and try again.	The file was refused.	Check that it is the right and whole file, and try again.	**Licence**
The request could not be completed. Please try again.	Activation by number failed without a more specific reason.	Check the connection and the card code, and try again; use the file way if there is no internet.	**Licence**
The request file could not be made.	The request file was not saved.	Try again.	**Licence**
The licence could not be checked.	The check did not complete.	Try again later.	**Licence**
The update service could not be reached.	No answer from the update service.	Check the connection and try again.	**Licence**
The notice could not be sent.	The payment notice did not reach the supplier.	Check the connection and try again.	**Licence**
Write the transaction number as the bank app shows it.	The transaction number is missing or too short.	Copy it from the bank application.	**Licence**
The licence could not be moved.	The move failed and nothing was handed back.	Try again; the program keeps working.	**Licence**

41.1.15 Printing

The screen says	Meaning	What to do	Chapter
No printer is bound on this station yet — choose one for each role first.	No printer is chosen on the station.	Choose one for each role in **Devices and printers**.	Printing
Print sits off the label or paper	The paper is not aligned.	In **Test page** check the printers; press **Calibration label** to see the label's real edges; adjust the offsets in **Printing settings**. These corrections never change the PDF a patient receives.	Printing
Report print buttons are dim	The order is held.	Read the note under the order; the print buttons come back when the hold is lifted.	Printing
The report's PDF could not be downloaded.	The PDF could not be downloaded.	Try again.	Printing
The numbering barcode does not fit the label	The numbering format is too long.	Shorten it in the general settings.	Printing
Two elements cover each other on the label	The design is crowded.	Drag one away in **Print studio**.	Printing

41.2 Questions people ask

Each answer only restates what the chapter named in it says.

41.2.1 Reception

- **The order will not save.** The screen shows **Cannot save: …** with the reason, or **The order was not saved** when the server refused the order: read the reason shown, correct it and save again. See Chapter 5: New order.
- **The phone number is refused.** A number that is one digit repeated is refused, and so is a number not valid in the laboratory's country. Write the real number, choose **No phone**, or write a foreign number with + and its country code. See Chapter 5: New order.
- **A test is not found, or is found but stopped.** No test has that code or name: check the spelling. A test that is off in this laboratory: open the catalogue if you may, or ask whoever manages it. See Chapter 5: New order and Chapter 30: Catalogue.
- **The screen says the patient may be registered already.** On saving a new file, if a file matches strongly the window **A file already matches this patient** appears: **Use the existing file** cancels the save and **Open a new file anyway** goes on and saves. If only the phone matches, the window **This**

phone number is on another file offers **New file: a family member sharing the number** and **New file: the number moved to someone else**. See Chapter 5: New order.

41.2.2 Technologist

- **A scanned code finds no sample.** The code was mistyped, or it belongs to another branch: scan again, search by the order's number, and check the branch filter. See **Samples** and **Results and approval**.
- **A value is above the most the analyzer measures.** Confirm it, or dilute and rerun. See **Results and approval**.
- **Results of a device are held in Results.** A failed run holds that device until the violation is resolved with a written action. See Chapter 12: Daily QC.
- **The column of the patient's last result is empty.** Your role cannot read patient files; ask the administrator if you need it. See **Results and approval**.

41.2.3 Approver

- **The approval was refused.** If the screen says nothing was approved, it is a connection fault: check it and try again. If the server refused some tests, a check failed there; see the red marks in the foot. See **Results and approval**.
- **An order shows a release hold in Delivery.** The print buttons stay dim until the hold is lifted: wait, and read the note under the order. A quality-control hold on a device's results is lifted when its violation is resolved with a written action in Daily QC. See **Delivery** and **Daily QC**.
- **A critical or doubtful value needs a decision.** Approving, calling a critical value and withdrawing an approval belong to the role that holds **Verify results**; amending an approved result also needs **Change a result not yet approved**. See **Results and approval**.

41.2.4 Manager

- **A branch's money is left out of the overview or the consolidation.** No exchange rate is written for its currency in that month: write the rate in Rates of exchange. See **Home** and **Treasury**.
- **A month cannot be closed.** A shift, a recurring expense or a document blocks it: clear the reason listed, then close again. See Chapter 15: Treasury and accounts.
- **I cannot decide my own request or purchase order.** Another manager decides what you asked, and a purchase order you created or sent is approved by someone else who holds procurement approval. See Chapter 15: Treasury and accounts and Chapter 20: Inventory.
- **An order is held back in Delivery because money is left.** Collect the remainder, or ask a billing manager. See **Delivery**.

41.2.5 Administrator

- **A new branch cannot be added.** The licence allows no more branches: stop or reuse an existing branch, or ask about the licence. See Chapter 27: Branches and linking and Chapter 38: Licence.
- **A user cannot grant a permission.** A permission can be granted or withdrawn only by someone who holds it. A grant stops working when its giver loses the permission. See Chapter 33: Users and permissions.
- **An analyzer sends nothing.** Check the cable or network and run the probe; confirm that a station serves it and is marked as cabled to it. See Chapter 31: Devices and printers.
- **The screen says there is no recent backup.** Take one now. See Chapter 37: Data and continuity.
- **An activation file is refused.** Choose the file Clarus sent back, and check that it is the right and whole file. See Chapter 38: Licence.

41.3 When a button is dim or missing

A button or a function that is dim or missing almost always means that your role does not hold the permission it needs. The table gives the permission as each chapter names it, and, in the last column, what the chapter says happens to the control without it: it is **removed** from view, or it stays but **dim**. This differs from screen to screen. Where a chapter does not say, the cell is empty. A role holds permissions as the administrator set them in **Users and permissions**; ask the administrator, and do not look for a way around.

What you want to do	What your role must hold	Chapter	Removed or dim
See the critical button in the top bar (it also needs open critical values)	**Verify results**	Getting started	removed
Use the quick buttons **New patient**, **New order**, **Receive a sample**	**Write patient files** for the first; **Create orders** for the other two	**Home**	
See the cards **To draw** and **To receive** (not on the approving physician's Home)	**Read orders**	**Home**	
See the cards **To enter** and the one for results to approve, and the list of your pending results	**Enter results**	**Home**	
See the critical values by name	**Verify results** together with **Enter results**	**Home**	
See **The laboratory at a glance** (the figures of the laboratory)	**Read analytics**	**Home**	

What you want to do	What your role must hold	Chapter	Removed or dim
See the panel **Waiting by department**	**Enter results**	**Home**	
See **Waiting for my decision**, **Today so far** and **Clarus services**	**Manage settings** (Today so far also needs **Read analytics**)	**Home**	
See the money-requests card in **Waiting for my decision**	**Manage billing** together with **Approve a discount or a refund from the phone**	**Home**	
See the card **Awaiting a price** (on the managers' and reception Homes)	**Read orders** together with **Edit registered orders**	**Home**	
See the line to finish the first setup	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**	**Home**	
Open the order screen and save an order	**Create orders**	**New order**	removed (the menu hides the screen)
Search for existing patient files and see the matching files (duplicate suggestions)	**Read patient files**	**New order**	removed (the duplicate suggestions)
Change the price of a test inside the basket	**Manage prices, contracts and commissions**	**New order**	removed (the price pencil)
Change an external laboratory's cost, make one the test's default, add or register a laboratory	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**	**New order**	
See the patient's documents strip (existing file only)	**See and add the patient's documents**	**New order**	removed
Attach the doctor's request	**Enter results**	**New order**	dim (the attachment buttons, with a tooltip saying why)
Add a doctor from the order (**+ add**)	**Name a referring doctor while ordering**	**New order**	removed (the link)

What you want to do	What your role must hold	Chapter	Removed or dim
Take payment: the payment controls and the **Payment** button	**Take payments at the desk** or **Manage billing**	**New order**	dim (with a tooltip saying why; without the right the order is saved with no payment)
Give a manual discount	**Take payments at the desk** or **Manage billing**	**New order**	removed (the button)
Open a saved order for editing, right after saving it	**Edit registered orders**	**New order**	removed (the **Edit the order** button; the cancel button stays in its place)
Open the results of the saved order (**Results**)	**Enter results** or **Verify results**	**New order**	dim (with a tooltip saying why)
Open the barcode board (change which tube holds a test)	**Create orders**	**Samples**	removed (its button)
See the screen and the list of samples	**Read orders** or **Accept, reject and receive samples**	**Samples**	
Open the screen	**Enter results** or **Verify results**	**Results and approval**	removed (the menu hides the screen)
Type and save values	**Enter results**	**Results and approval**	dim (with a tooltip saying why)
Change a value already saved but not yet approved	**Enter results** and **Change a result not yet approved**	**Results and approval**	dim (with a tooltip saying why)
Approve; call a critical value; approve the plain ones together	**Verify results**	**Results and approval**	dim (with a tooltip saying why)
Withdraw the approval of a result	**Verify results**	**Results and approval**	removed
Amend an approved result	**Verify results** and **Change a result not yet approved**	**Results and approval**	removed
Set a test's delta limit	**Manage settings**	**Results and approval**	removed (the fields)
Share a saved view with a role	**Manage settings**	**Results and approval**	removed
See the list of results approved today	**Publish reports** or **Verify results**	**Results and approval**	

What you want to do	What your role must hold	Chapter	Removed or dim
See the **Previous** column (the patient's last result)	**Read patient files**	**Results and approval**	the column says so instead of showing a value
Preview the report	**Print reports, receipts and labels**	**Results and approval**	removed
Open the screen and the page **Ready to hand over**; hand over, print, publish or stop a link	**Publish reports**	**Delivery**	removed (a page you may not use is not shown)
Open the page **Versions and amendments** and sign versions	**Publish reports**	**Delivery**	removed (the page)
See the page **Messages sent** and use its two buttons	**Publish the portal and communications**	**Delivery**	removed (the page)
Collect the remainder from this screen	**Take payments at the desk** or **Manage billing**	**Delivery**	
Hand over when the laboratory's setting requires full payment	**Manage billing**	**Delivery**	dim (the tooltip reads «**The laboratory's setting lets only a billing manager hand over a report with money left**»)
See the directory and read the file's overview	**Read patient files**	**Patients**	
Create, edit, archive or restore a file; issue a card	**Write patient files**	**Patients**	removed (the buttons)
Open a new order for the patient; stop or resume uploading the patient's results to the website; send a test to another branch; record the patient's consent to marketing messages	**Create orders**	**Patients**	removed (the buttons)
Tick the box that marks a file sensitive	The administrator role	**Patients**	
Merge a duplicate into a file	**Manage settings**	**Patients**	removed (the button)
See the **Visits** and **Attachments** tabs	**Read orders**	**Patients**	

What you want to do	What your role must hold	Chapter	Removed or dim
See the **Results** tab	**Enter results** or **Verify results** or **Publish reports** or **Print reports, receipts and labels**	**Patients**	
See the **Reports** tab	**Publish reports** or **Print reports, receipts and labels**	**Patients**	
See the **Money** tab, the **Open balance** figure and the **Balance** column of the directory	**Take payments at the desk** or **Manage billing**	**Patients**	
See the **Samples** tab	**Read orders** or **Accept, reject and receive samples**	**Patients**	
See the **Activity** tab	**Manage settings**	**Patients**	
See and add documents in the **Documents** tab	**See and add the patient's documents**	**Patients**	
Send a message (and tick files in the directory for one)	**Send messages to patients**	**Patients**	removed (the buttons)
Print a report from the file (**Print**, **Print all the patient's reports**)	**Print reports, receipts and labels**	**Patients**	removed (the buttons)
Use **Send** in the **Reports** tab, which opens **Delivery**	**Publish reports**	**Patients**	removed (the button)
Open the list and see the chosen order	**Read orders**	**Orders**	
Press **New order**	**Create orders**	**Orders**	removed (the button)
Press **Edit the order**	**Edit registered orders**	**Orders**	removed (the button)
Press **Hand over**	**Publish reports** or **Print reports, receipts and labels**	**Orders**	removed (the button; it opens the delivery screen, which only a role that publishes reports can enter)
Press **Results**	**Enter results** or **Verify results**	**Orders**	removed (the button)
Open the screen, the queue and the batches (the **Waiting for a laboratory** window too)	**Read orders**	**Send-outs**	

What you want to do	What your role must hold	Chapter	Removed or dim
Record that a laboratory received a batch	**Create orders**	**Send-outs**	removed
Enter the returned results; attach the external laboratory's report	**Enter results**	**Send-outs**	removed
Print the batch's manifest again	**Print reports, receipts and labels**	**Send-outs**	removed
Open the accounts page	**Manage billing** or **Read analytics**	**Send-outs**	removed
Record or void a payment; export the accounts; open the statement of samples sent	**Manage billing**	**Send-outs**	removed
Print a laboratory's month statement	**Manage billing** and **Print reports, receipts and labels**	**Send-outs**	removed
Open the **External laboratories** page; add, edit, stop or delete laboratories; assign tests; edit price-list lines and routing rules	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**	**Send-outs**	removed (the tab is not there)
Add a price-list line to the catalogue as a new test	**Manage the laboratory's structure: branches, numbering, first run, external laboratories** and **Manage settings**	**Send-outs**	removed
Open the screen and use everything on it (nothing on it is tied to another permission)	**Enter results**	**Daily QC**	removed (the menu hides the screen)
See the cultures, start one, add susceptibility results, finalize, use the assistant	**Enter results**	**Microbiology**	removed (the menu hides the screen)
Open the screen, read the drafts, approve, edit, reject, and remove an approved case report	**Verify results**	**Clinical AI**	removed (the buttons)
Open the **Settings** window and the **Top up** window	**Manage settings**	**Clinical AI**	removed (the buttons)
Open the **Ledger** window	**Manage settings** or **Manage billing**	**Clinical AI**	removed (the button)

What you want to do	What your role must hold	Chapter	Removed or dim
Open the screen	**Take payments at the desk** or **Manage billing**	**Treasury**	
See the invoices, print a receipt, ask for a refund or for the credit to be handed back, pay an expense recorded as owed	**Take payments at the desk**	**Treasury**	removed (a button you may not use is not drawn at all)
Change or void an expense, and manage recurring expenses	**Manage billing**	**Treasury**	removed
See **Approval requests**	**Manage billing** and **Approve a discount or a refund from the phone**	**Treasury**	removed (a page you do not hold is not in the row of pages)
See **Shifts** and **Cash to the centre**	**Manage billing**	**Treasury**	removed
Write off a patient's debt on an invoice	**Write off a patient's debt on an invoice**	**Treasury**	removed
See **Reports**	**Read the laboratory's books and financial reports**	**Treasury**	removed
See **The books**	**Read the laboratory's books and financial reports** or **Start the books and set the chart, the year and the payment methods' accounts** or **Close a month of the books**	**Treasury**	removed
Start the books, link payment methods to accounts, add or edit tax types	**Start the books and set the chart, the year and the payment methods' accounts**	**Treasury**	removed
Close a month	**Close a month of the books**	**Treasury**	removed (the section is absent from the page)
See **Receipt vouchers**, **Bank** and **Doctors' commissions**	**Record receipt vouchers**	**Treasury**	removed
See **Payroll**, and add employees, prepare and pay a payroll	**Prepare and pay the payroll, and give advances**	**Treasury**	removed
Approve a payroll	**Reverse an entry of the books and approve a payroll**	**Treasury**	removed (the button is absent)

What you want to do	What your role must hold	Chapter	Removed or dim
See **Suppliers**	**Record supplier invoices and payments**	**Treasury**	removed
See **Consolidated** and write exchange rates	**Read the chain's consolidated books**	**Treasury**	removed
Open the screen and use the pages: tests, lists, payers, contracts, plans, commissions, types, and the payers' printed lists	**Manage settings**	**Prices and contracts**	removed (the menu hides the screen)
Add, change or remove a branch's own price on the page **Branch prices**	**Manage prices, contracts and commissions**	**Prices and contracts**	removed (the buttons are not offered)
Open the **Payer list library** (the button on the page **Payers' printed lists**)	**Manage prices, contracts and commissions**	**Prices and contracts**	removed (the button is not offered)
Open the screen; use the queue, stage a claim, export, record answers and transfers, work the statements	**Manage billing**	**Claims**	removed (the menu hides the screen)
Open **Health information exchange** for a claim's order	**Publish reports**	**Claims**	removed (absent, not dim)
Open **Payer setup**	**Manage settings**	**Claims**	removed (the button is not shown, and the address `?page=setup` simply opens the queue)
Open the screen and read the pages Today, Month, Employees and schedules, Holidays and leave, and Punches without an employee	**Read the attendance of every employee**	**Attendance**	
Punch by hand, void a punch or a leave, link a number to an employee, save a schedule, add a holiday or a leave, open the Fingerprint devices and Import a file pages	**Manage attendance: numbers, schedules, leaves, files, devices and punches by hand**	**Attendance**	removed (the two pages are not offered and the buttons that change anything are absent)

What you want to do	What your role must hold	Chapter	Removed or dim
Open the screen, read the figures and export them	**Read analytics**	**Follow-up**	removed (the menu hides the screen)
Choose the whole laboratory instead of one branch (also: not held to particular branches)	**Read analytics**	**Follow-up**	removed (the choice **The whole laboratory** is not offered)
Open the screen and see every page and the reports	**View inventory and its reports**	**Inventory**	removed (the menu hides the screen)
Create or edit items, import items, change lots (quarantine, recall, release), manage suppliers and their prices, manage consumption recipes	**Manage inventory items, lots and recalls**	**Inventory**	removed (a button you may not use is not shown)
Record a stock movement	**Record stock movements**	**Inventory**	removed
Start, enter, send for review, post or cancel a stock count	**Run and post stock counts**	**Inventory**	removed
Write purchase orders, send them for approval, receive, close or cancel them; order from the reorder recommendations	**Manage purchase orders and supplier prices**	**Inventory**	removed
Approve or refuse a purchase order above the threshold	**Approve purchase orders above the threshold**	**Inventory**	removed (also not offered for an order you created or sent yourself)
Read all four pages	**Enter results** or **Verify results**	**Quality**	
Open, change and close a corrective action; record a competency assessment; add a round and record its result	**Verify results**	**Quality**	removed (these buttons do not appear)
Open the screen; read the three pages; export the trail; end another person's session; turn access from outside on or off	**Manage settings**	**Security and audit**	removed (the menu hides the screen)
Open the six pages; create and edit leads, campaigns, offers and sources; issue and stop discount cards	**Marketing: campaigns, offers and referrals**	**Marketing**	removed (the menu hides the screen)

What you want to do	What your role must hold	Chapter	Removed or dim
See the **Bulk sending** tab, prepare a send and hand it over for sending	**Manage settings** together with **Marketing: campaigns, offers and referrals**	**Marketing**	removed (the tab is not shown)
See the screen and its documents	**View inventory and its reports** or **Manage billing** or **Manage settings** or **Manage purchase orders and supplier prices**	**Clarus Market**	
Update the Market, install from a file, switch the offers on or off	**Manage settings**	**Clarus Market**	
Apply rows of a price list, and take them back	**Manage settings** or **Manage purchase orders and supplier prices**	**Clarus Market**	
Open the screen, change the identity and save it	**Manage settings**	**Laboratory identity**	removed (the menu hides the screen)
Open the screen and change the settings	**Manage settings**	**General settings**	removed (the menu hides the screen)
Open the screen and read the branches; add a branch, edit it, set who reaches it, stop or start it	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**	**Branches and linking**	
Open the laboratory's network to the devices, and give a certificate authority	**Manage settings**	**Branches and linking**	
See the **Branch devices** page and allow a new computer's licence number	**Manage settings**	**Branches and linking**	
See the invitation box, the exchange line and the link controls of a branch on another installation	**Manage branches and linking**	**Branches and linking**	removed (they appear only to someone who holds it)
See the **Samples sent** page	**Read orders**	**Branches and linking**	
Accept, return or cancel a sent sample	**Create orders**	**Branches and linking**	

What you want to do	What your role must hold	Chapter	Removed or dim
Open the screen, edit all four pages, save, publish, take or change the address, and link a domain	**Manage settings**	**Laboratory site**	removed (the menu hides the screen)
Open the screen and see its filters and the details of a test	**Manage settings**	**Catalogue**	
Change a test, its intervals and its external laboratories; switch a test on or off; export, import, write a new test, add from the master library; tick tests and act on many at once	**Manage settings**	**Catalogue**	removed (the test window is read-only; the bulk tick boxes, the top buttons and the **Stop the test** switch are absent)
Press **New panel or package**, and open a panel from the Packages page to edit it	**Manage the test catalogue** together with **Manage settings**	**Catalogue**	removed (the button is absent and a row on the Packages page does not open)
Type a price in the list or in the panel window	**Manage prices, contracts and commissions**	**Catalogue**	removed (the price field is absent from the panel window; in the list the price is plain text)
Open the screen and use all four pages	**Manage devices**	**Devices and printers**	removed (the menu hides the screen)
See the analyzer's messages in full, with the patient's data	**Read patient files**	**Devices and printers**	without it the messages are shown with the data hidden
Open the screen	**Enter results** or **Verify results** or **Manage settings**	**Accreditation and quality**	
Choose which standards the laboratory follows (**Standards**); bring standards from the library (**From the library**)	**Manage settings**	**Accreditation and quality**	removed (the buttons are absent)
Switch a function of the program on or off	**Manage settings**	**Accreditation and quality**	dim (with a line beside it: «Changed by whoever holds the settings permission»)

What you want to do	What your role must hold	Chapter	Removed or dim
Switch a register or the QC hold on or off	**Switch the quality functions on or off** together with **Manage settings**	**Accreditation and quality**	dim (with a line beside it: «Only the laboratory's manager switches it on or off»)
Judge an item; open, edit, close or void a register entry	**Verify results**	**Accreditation and quality**	removed (the judge button and the register buttons are absent; the register buttons are also absent while the register is switched off, whatever your role)
Open the screen	**Manage user accounts** or **Manage settings**	**Users and permissions**	
Press **New user**	**Manage settings**	**Users and permissions**	removed (a person with only **Manage user accounts** sees **Users** without this button)
Open the screen, set channels, open or close patients' messages, edit templates and ready messages, decide on waiting messages	**Manage settings**	**Messages**	
Open the four tabs, change the designs and save them	**Manage settings**	**Print studio**	removed (the menu hides the screen)
Open the screen, see all five pages and use them (no button on it is tied to a separate permission)	**Import data from a previous system** or **Manage settings**	**Data and continuity**	removed (the menu hides the screen)
Open the screen; see the licence, check it, activate it, report a payment, look for an update and move the licence	**Manage the licence**	**Licence**	removed (the menu hides the screen)
Open the wizard and write its steps	**Manage the laboratory's structure: branches, numbering, first run, external laboratories**	**First setup**	removed (the menu hides the screen)

What you want to do	What your role must hold	Chapter	Removed or dim
Have the wizard notice that the history already came from RealLab	**Import data from a previous system**	**First setup**	without it the wizard cannot look, so it always finds none
Preview a report on the results screen	**Print reports, receipts and labels**	Printing	removed (the preview button is not shown)
Design the report, receipt and label	**Manage settings**	Printing	

41.4 See also

Users and permissions, **Devices and printers**, **Data and continuity**, **Licence**.

Appendix A

Glossary

This appendix explains the words the program and this manual use, as the program itself uses them. Each term points to the chapter where it is described in full.

A.1 Terms

Term	Meaning in the program	Chapter
Order	The request registered for a patient with its tests. The Orders screen lists every order the laboratory has registered.	New order; Orders
Sample	What is drawn from the patient and followed on the Samples screen: received, moved one step at a time, until it is disposed of.	Samples
Tube	The container of a sample. A tube holds one or more tests of an order, and the barcode board changes which tube holds a test.	Samples; Results and approval
Panel	A group of tests ordered together from the catalogue. It is picked in the new order beside the packages.	New order; Catalogue
Package	A group of tests offered together, picked in the new order beside the panels.	New order; Catalogue
Reference interval	The range shown for the patient's age and sex, against which the program checks each value.	Results and approval; Catalogue
Flag	The mark in the Flag column of a result: low, high, critical, or the flag the analyzer sent.	Results and approval
Critical value	A value that is held until it is called to the physician and read back. Before approval, the call and the read-back are recorded.	Results and approval
Delta check	A comparison with the patient's last approved result. If the value moved more than the test's delta limit within the look-back days, approval holds it until you review it.	Results and approval
Approval	The step after which a result may reach a printed report, a message or a referring physician. Nothing leaves the laboratory before it.	Results and approval
Amendment	A correction of an approved result with a written reason. The result returns to review and whoever received the report is told.	Results and approval
Withdrawal	Taking back an approved result, with a written reason.	Results and approval

Term	Meaning in the program	Chapter
Delivery	Handing an approved report to its receiver on paper, as a PDF file, on WhatsApp or as a link; every hand-over is logged.	Delivery
STAT	An order priority, beside routine and urgent. The Results queue puts STAT orders first.	New order; Results and approval
Daily QC	Running a control lot of known target value and judging each value by the Westgard rules. A failed run holds the approval of results.	Daily QC
Levey-Jennings chart	The chart on a control lot that shows how the lot has behaved over time.	Daily QC
Westgard rules	The rules by which the program judges each control value.	Daily QC
Send-out	A test sent to another laboratory. The Send-outs screen has the queue, the batches, the accounts and the laboratories.	Send-outs
Shift	The period you open from the top bar when you start work and close at the end of the day. A shift of an earlier day that was never closed is reported.	A day's work in order
Susceptibility table	The table of a culture's antibiotics with MIC, breakpoint and interpretation.	Microbiology
CAPA	A corrective action: a problem followed until it is closed with a written decision.	Quality
EQA	An outside round of tests (external quality assessment) whose result is recorded and judged.	Quality; Accreditation and quality

A.2 Abbreviations

Only abbreviations whose expansion the chapters or the screens state are expanded. For the others the column says so.

Abbreviation	Expansion	Use in the program	Chapter
QC	Quality control	The daily control runs and their screen.	Daily QC
EQA	External quality assessment	Outside rounds of proficiency testing.	Quality
CAPA	Corrective action (the screen names the tab Corrective actions)	The list of problems followed to closure.	Quality
MIC	Not stated in the chapters	A column of the susceptibility table.	Microbiology

Abbreviation	Expansion	Use in the program	Chapter
S, I, R	Susceptible, Intermediate, Resistant	The interpretation of a susceptibility result.	Microbiology
STAT	Not stated in the chapters	An order priority.	New order
LOINC	Not stated in the chapters	A code on a test; the Catalogue lists tests that lack one.	Catalogue
LIS	Not stated in the chapters	Appears only in the name of the phone app «Clarus LIS Manager».	Getting started