ReliaEn 1.0.0 User Manual · Chapter 6.21

Multi-user database — one CMMS database, several users

Menu: every editing window of the CMMS menu (here: CMMS ▸ Work Orders...)

Part 1 — What the function does

What it does. Maintenance records are worked on by many people at once: planners raise and release work orders, the storekeeper books receipts and issues, the reliability engineer approves interval changes. ReliaEn keeps all of it in one CMMS database and makes sure that people working on it at the same time cannot silently overwrite each other's work. Three rules hold for every user:

Rule	What ReliaEn does
A save on a record someone else has changed is refused	Each window remembers the version of every record it read. A save that would change a record someone else saved in between is refused by name, nothing of it is written, and the window reloads to show the record as it now is
Two writes at the very same moment on a CMMS file take turns	The second write waits up to 5 seconds for the first; if the file is still busy, ReliaEn shows `Another session is writing to this file; concurrent writers need PostgreSQL.` and writes nothing
A database is only opened by a ReliaEn that knows its layout	A database written by a later version of ReliaEn is refused unchanged; an older one is backed up and upgraded when it is opened

From which data. One CMMS database: a *.reliaen* file opened by every ReliaEn session on one computer, or a PostgreSQL database server for several computers (ReliaEn started with the option *--cmms* followed by the database's address).

When an engineer uses it. Whenever two people keep the same maintenance records - two planners on one plant, a planner beside the storekeeper, the technicians' phones beside the office. There is nothing to switch on: every save is checked.

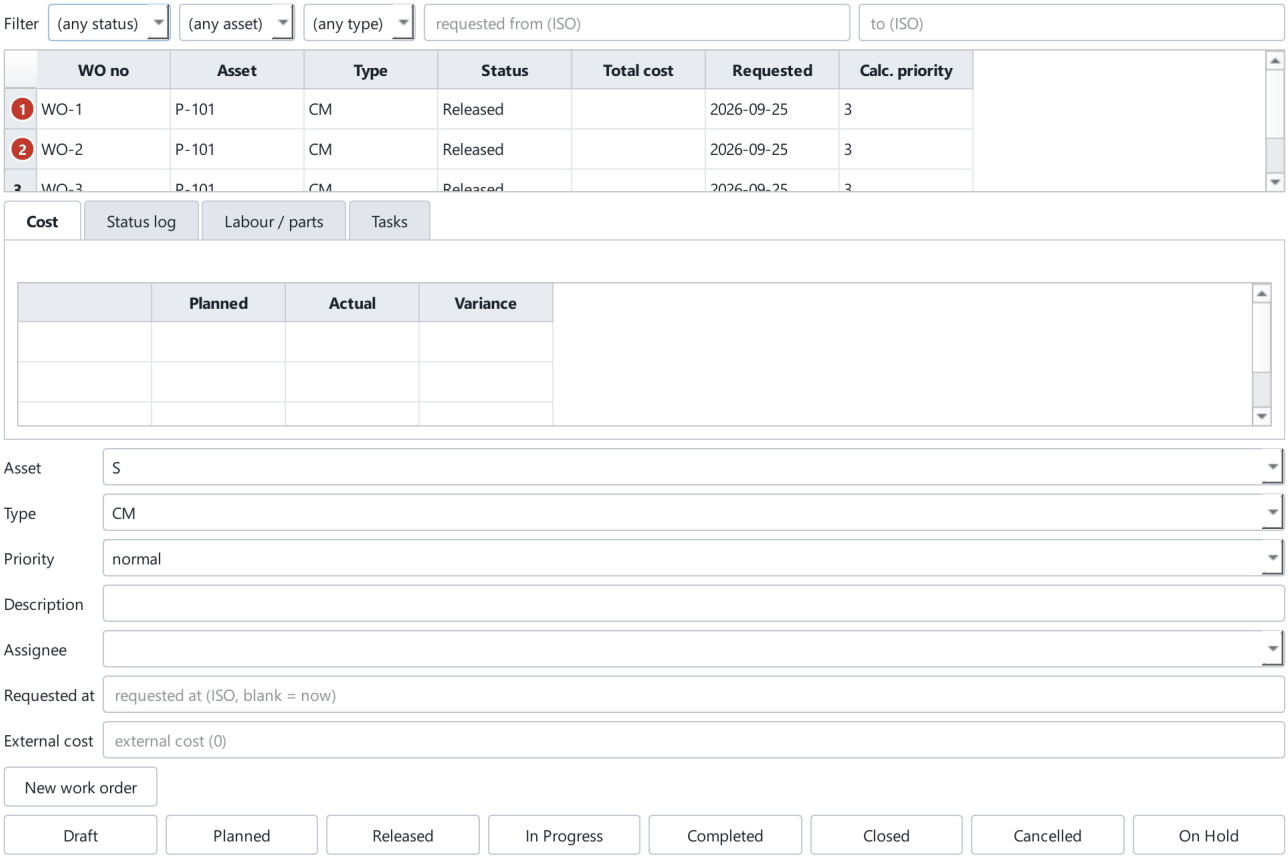
When not to use it.

Situation	Use instead
Several computers write at the same time	A PostgreSQL database server: a CMMS file lets writers take turns, it does not serve several computers at once
Technicians record their work in the field	The ReliaEn service and the technicians' phones - see the chapter *The technician web app*

Part 2 — The example's input data

Setting. Two planners keep the same plant. Both have CMMS ▸ Work Orders… open on the same CMMS file, with the work order WO-1 at Released. The other planner moves WO-1 to In Progress; a moment later you click In Progress too.

Input	Value
File in the worked-example zip	6-Assets/shared_plant.reliaen - the pump P-101 with the work orders WO-1, WO-2 and WO-3 at Released
The two planners	Two ReliaEn windows on the same computer, each with the same copy of the file open: the second window is the other planner



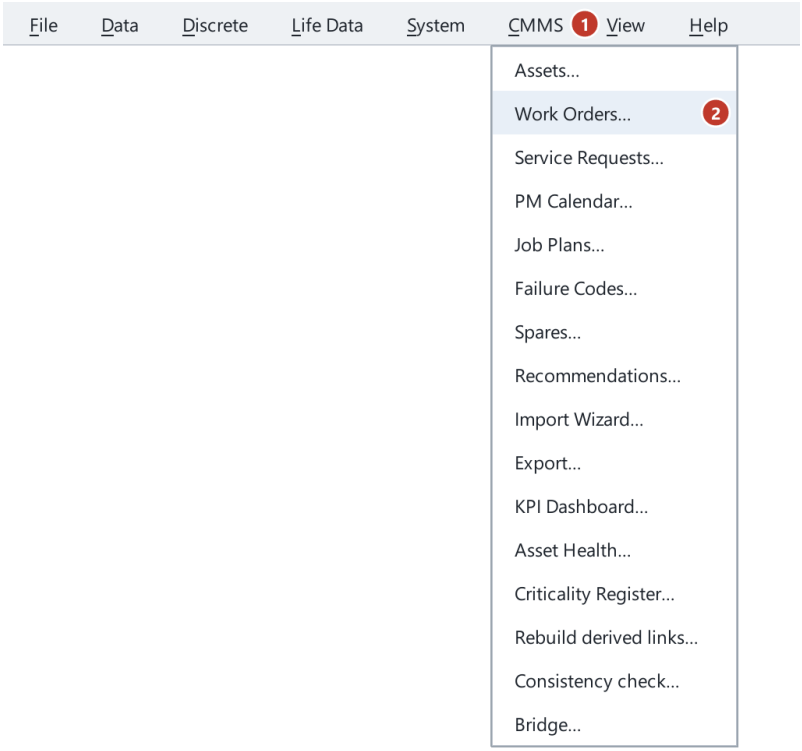
The example data: the work-order list as the window opens

- ① WO-1, at Released: the work order both planners will start.
- ② WO-2, at Released. WO-3, also at Released, is the next row, at the list's lower edge.

Part 3 — How to use it, step by step

Copy shared_plant.reliaen once, then open the copy in two ReliaEn windows: everything below is done in your window; the second window is the other planner's.

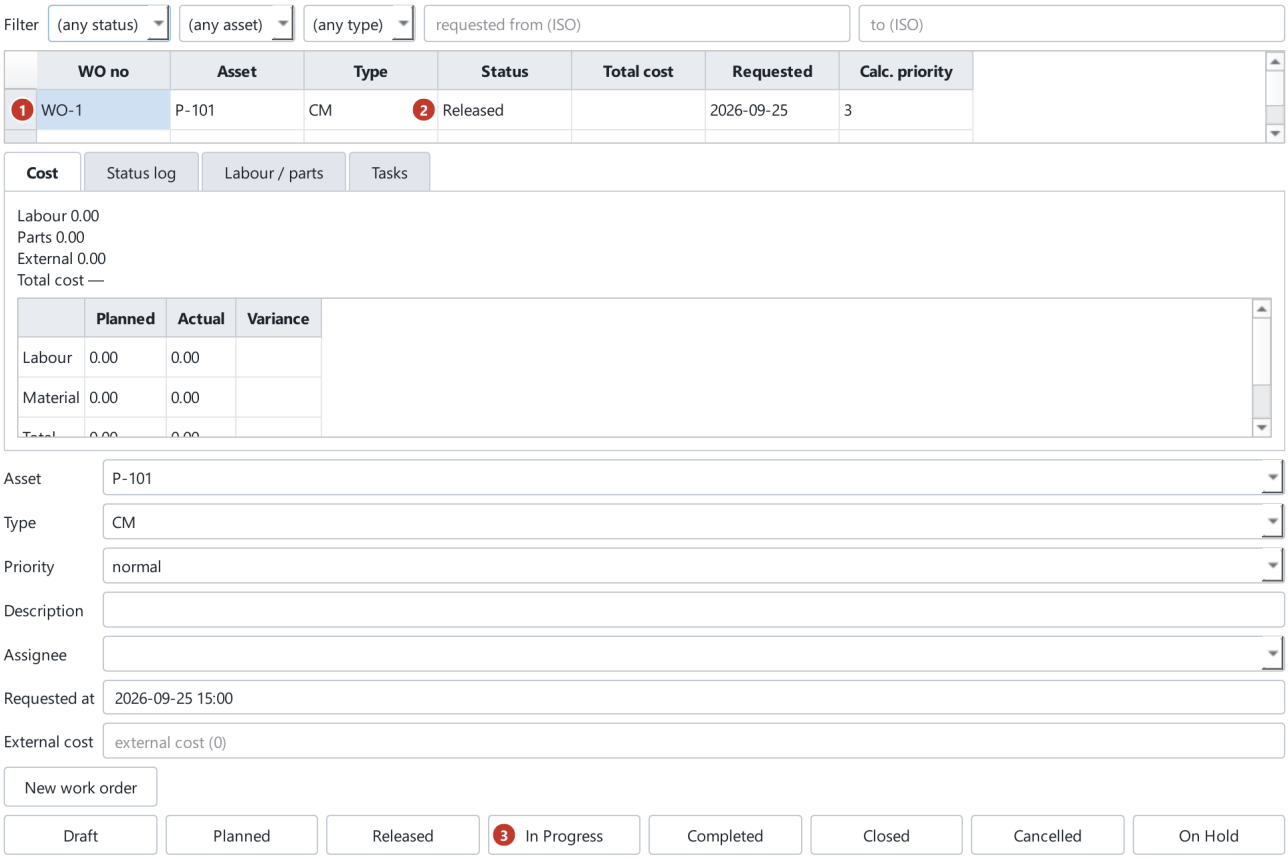
1. **Choose CMMS ▸ Work Orders…** in the menu bar. The first time in a session ReliaEn asks for the file in the box Open or create a CMMS file: choose your copy of shared_plant.reliaen. The work-order list opens.



Step 1 — the menu path

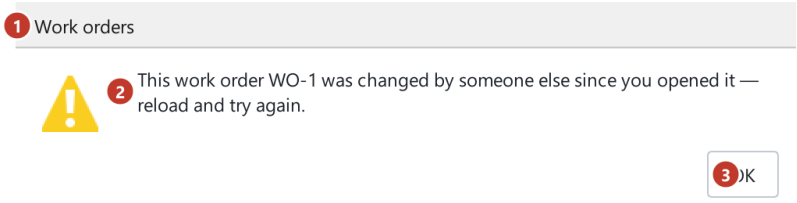
- ① CMMS: the menu.
- ② Work Orders…: the entry to click.

Steps 2 to 4 use the list and its state buttons, marked ① to ③ in the picture:



Steps 2 to 4 — WO-1 selected in your list

2. ① **Click the row WO-1** in the list.
3. ② **Check that its Status reads Released.** Now the other planner, in the second window, selects WO-1 and clicks In Progress. Your list still shows Released: it was read before that save.
4. ③ **Click In Progress.** ReliaEn refuses the save and shows a box.
5. **Read the box and click OK** (③ in the picture below). The list reloads.

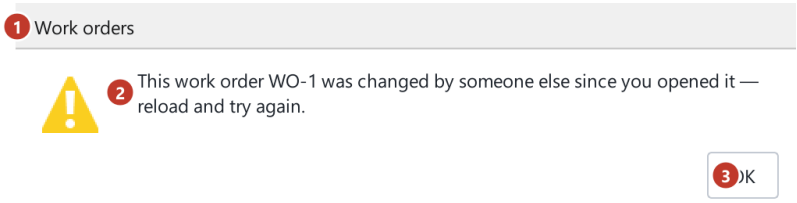


Step 5 — the box ReliaEn shows

- ① The box's title, Work orders.
- ② The message.
- ③ OK.

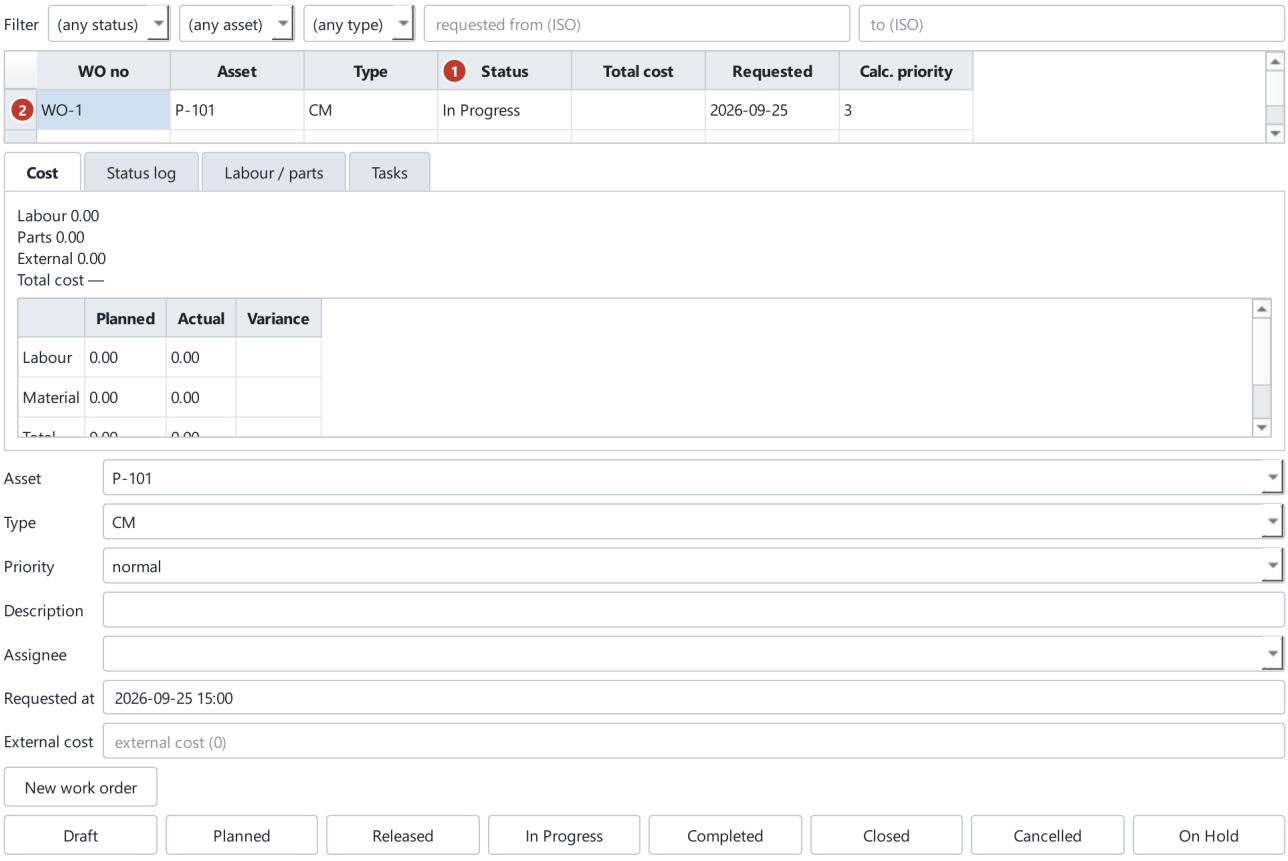
Part 4 — The result, picture by picture

This function makes no report: its result is the box and the reloaded list.



The refusal

- ① The title Work orders: the window whose save was refused.
- ② This work order WO-1 was changed by someone else since you opened it — reload and try again. The other planner moved WO-1 after your list read it; your click on In Progress was not written - nothing of it is in the database.
- ③ OK closes the box; the window then reloads.



The work-order list after the reload

- ① The column Status.
- ② The row WO-1: In Progress - the other planner's step, now shown in your list.

Part 5 — How to interpret the results

What the refusal means. Your save was refused because the record changed after your window read it. Nothing of your click was written, and your list now shows WO-1 as the other planner left it.

What to do next. Compare the reloaded record with what you meant to do, and repeat your change only if it is still right. Here there is nothing to repeat: WO-1 is already In Progress, which is what you meant to do. The work order's log carries one state change by one person; agree with the other planner who carries out the job.

Repeat, don't force. ReliaEn never merges two changes for you. The same refusal protects stock receipts, recommendation decisions and asset moves: the record named in the box is the one to look at, and the window already shows its current state.