

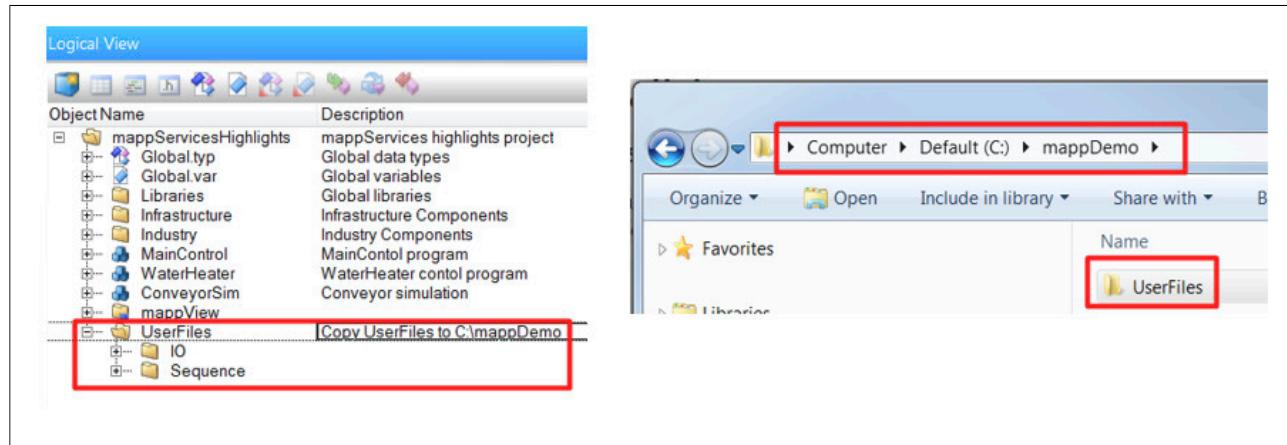
mappServicesHighlights guide

This document explains how to open and use the mappServicesHighlights project for a customer demonstration. This sample program simulates a coffee machine in a mapp View HMI application through the use of mapp components.

On the basis of this project, the customer can be shown different applications that can be solved with mapp components.

These include alarm management, which shows how to resolve an alarm using media, as well as possibilities for the end customer to modify the machine at runtime. It also explains how to change the hardware configuration at runtime with a single click – and much, much more!

To use the demo project, folder "UserFiles" in the project must be copied to C:\mappDemo!



Start page

From the start page of the demo project, you can navigate to all mapp components. The user can log in via the login button. Both the username and password are "admin".

Advantages

- **B&R provides a complete user management system, which allows users to set expiration dates for passwords or define a length of time after which the user will be logged out automatically.**

mapp Coffee

Begin by navigating to the mapp Coffee page. Here, you can choose between different types of coffee. Then press the "Start" button to begin preparation of the desired type. "mapp PackML" can be used to check the current PackML state of the machine. "mapp Energy" can be used to check the current energy consumption of the coffee machine.

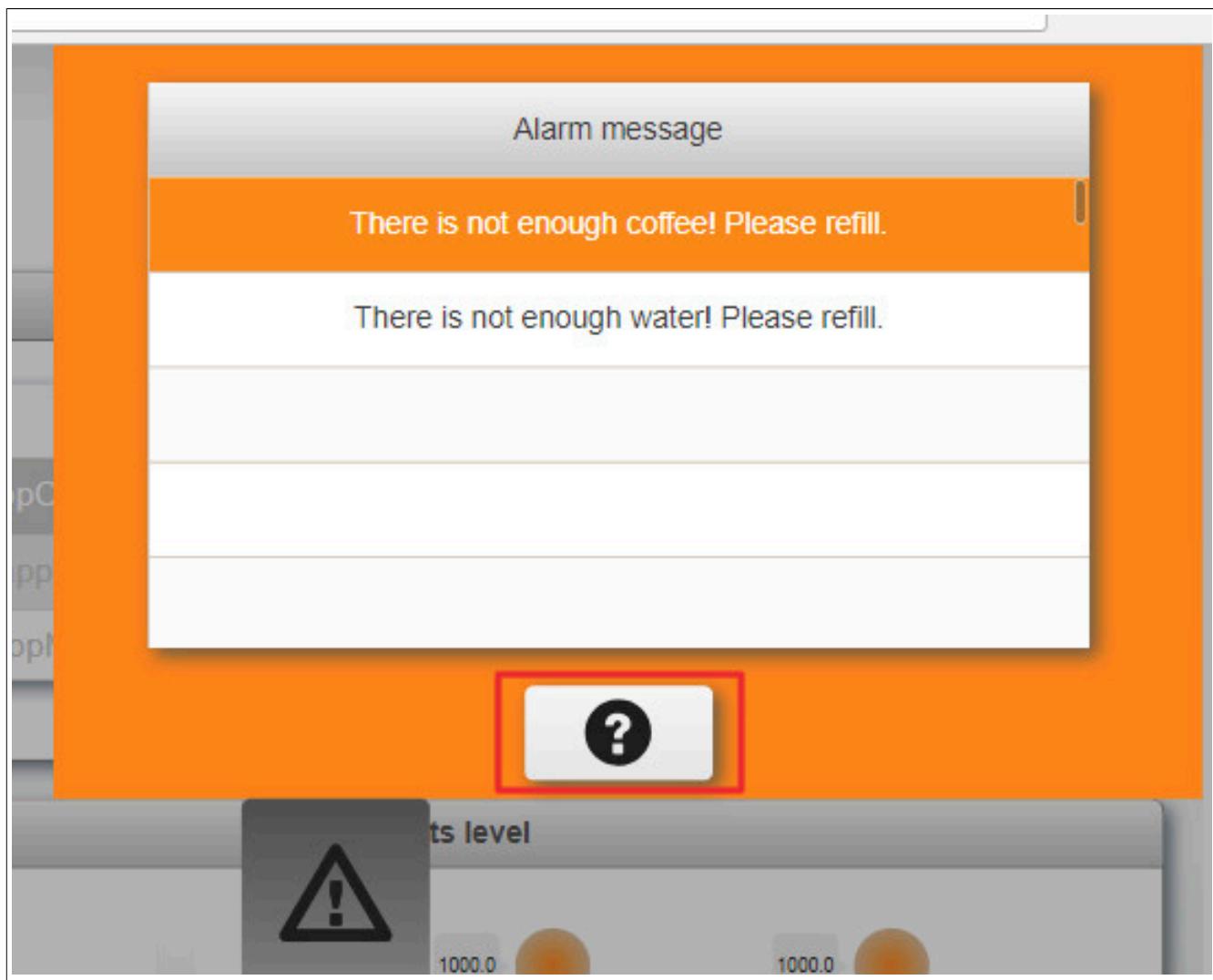
Advantages

- **mapp PackML can be used to configure the PackML state of the machine and display it graphically.**
- **mapp Energy can be used to calculate energy consumption and display it graphically.**

The fill levels of the ingredients get lower with each coffee prepared. Manually set two of the ingredient levels (e.g. water level and coffee level) to 0 in order to trigger alarms. The alarms appear in the upper menu bar of the HMI application:

The screenshot shows a mobile application interface. At the top right, there is a red-bordered warning icon with an exclamation mark. To its right, the word "Wednes" is partially visible. Below this, a grey header bar contains the text "Coffee selection". The main content area is divided into two sections. The left section, titled "Coffee", lists three XML files: "mappCappuccino.xml", "mappEspresso.xml", and "mappMilkCoffee.xml". The right section, titled "Ingredients level", displays three vertical sliders for "Water level", "Coffee level", and "Milk level". The "Water level" slider has a value of "0.0" and is highlighted with a red border. The "Coffee level" slider has a value of "0.0". The "Milk level" slider has a value of "1000.0" and its circular knob is orange. A small grey box next to the "Milk level" slider also displays the value "1000.0".

Clicking on the alarm icon opens a flyout menu that lists the alarms. Clicking on the button marked red below switches to the mapp AlarmX page.



mapp AlarmX

On the mapp AlarmX page, you can find additional information about the alarms. Do this by selecting an alarm and clicking on the magnifying glass icon. A popup will appear, allowing you to open a video or a PDF. These explain which steps are necessary to acknowledge the alarm.

The sorting and filtering functions can then be tested. It is possible to sort the alarms in ascending or descending order of occurrence or to filter for specific alarm names:

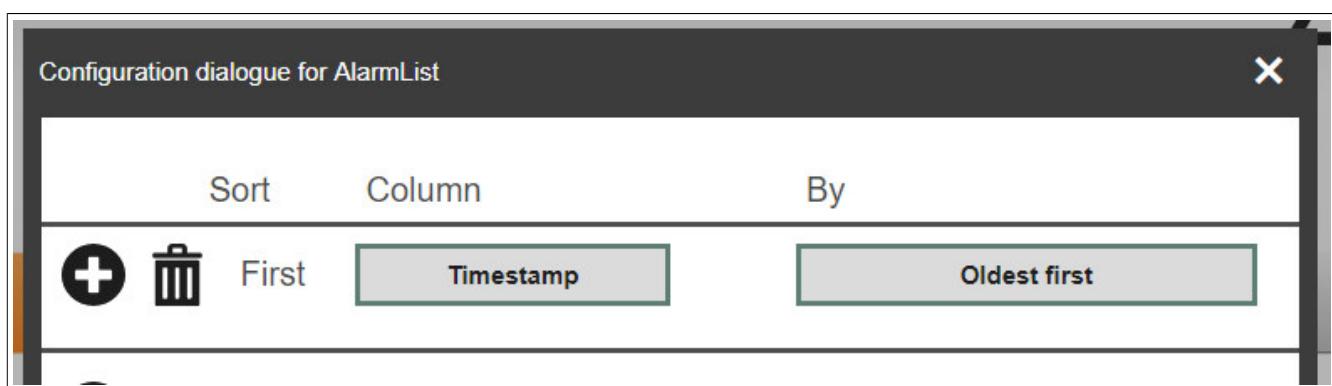


Figure 1: Sort dialog box

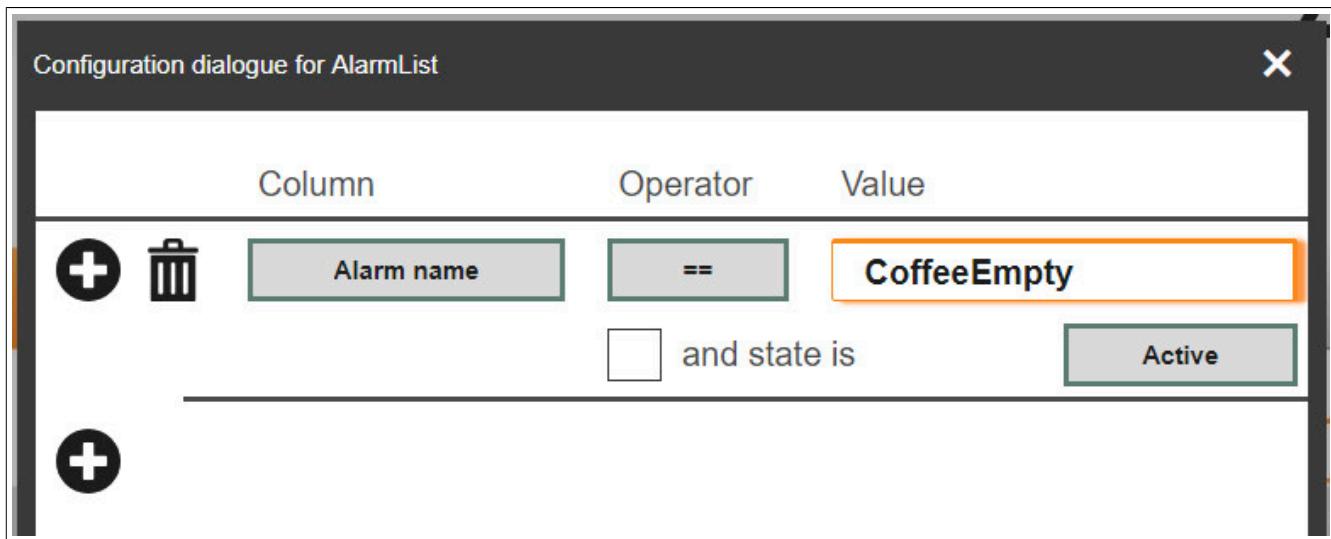


Figure 2: Filter dialog box

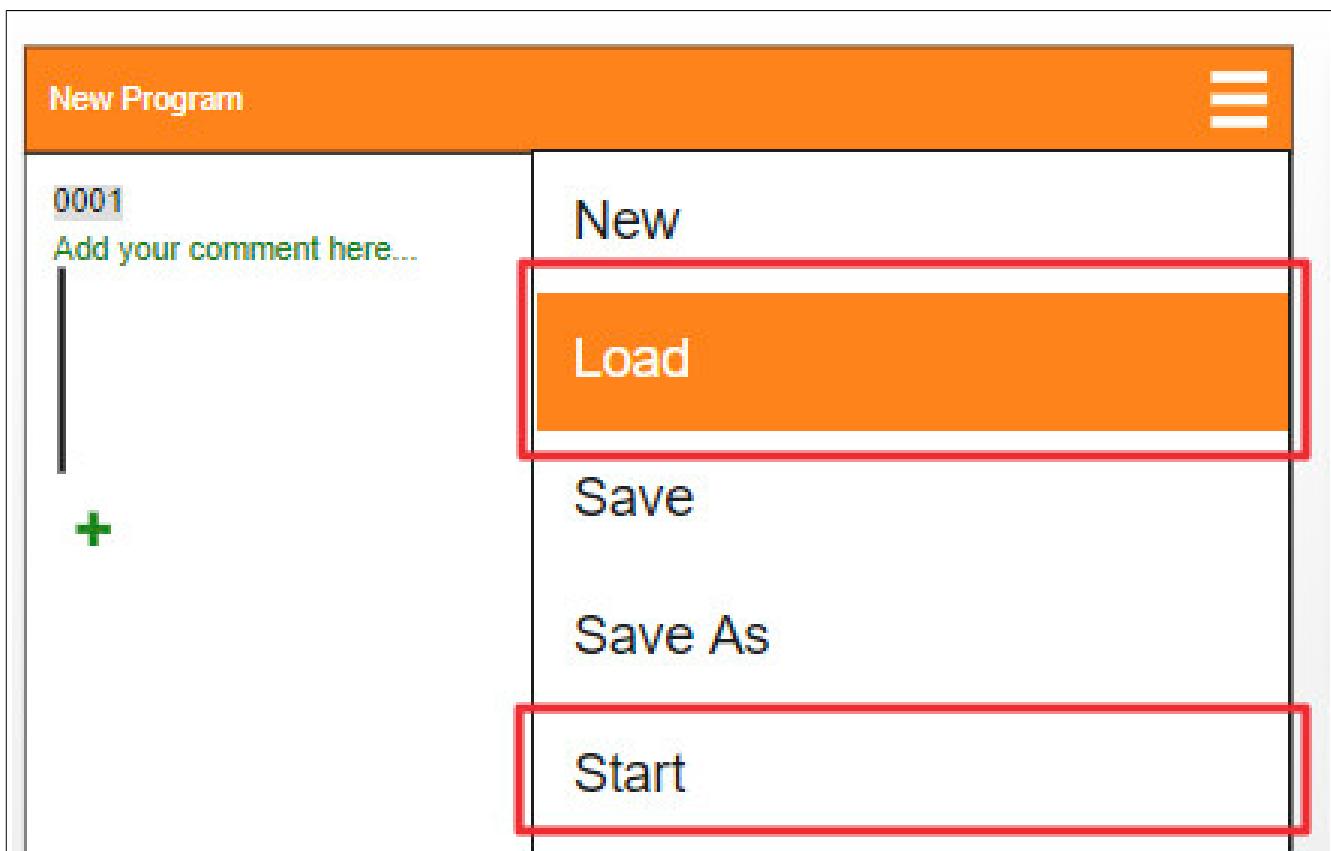
Finally, switch to the alarm history page. There you can also use the sort and filter functions as well as the export function. The alarm history is saved as a CSV file under "C:\mappDemo".

Advantages

- User alarms can be freely configured and it is possible to add additional information such as PDF or media files.
- The sort and filter functions can be used to search for specific alarms.
- The collected alarm history can be exported to a USB flash drive at the push of a button.

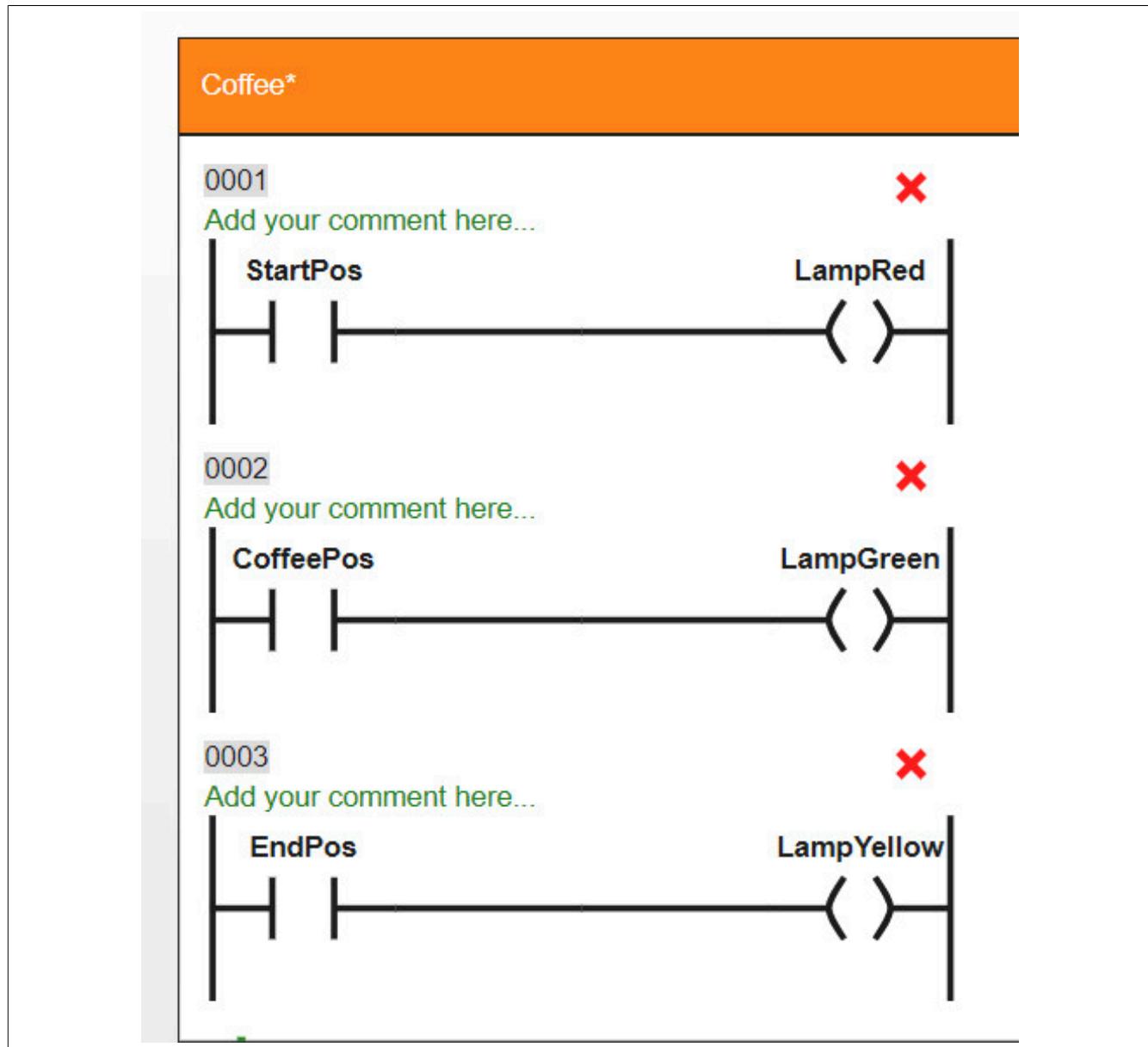
mapp CodeBox

After explaining the functions of mapp AlarmX, you can switch to the mapp CodeBox page. The mapp CodeBox page is used to adapt the machine application during runtime. A program can be loaded via the mapp CodeBox menu bar. Select the program named "Coffee". Use the menu bar to run the program.



To demonstrate how the machine application has changed, use the "Start coffee machine" button to begin coffee preparation. The LEDs on the coffee machine will now light up to indicate progress: once when the coffee cup is in the starting position and once when it reaches the coffee position. Selecting "Start Powerflow" allows the current program to be diagnosed in the browser.

Finally, stop the program using the menu bar and modify it. Add an additional network so that an LED lights up at the end position. Save the new program and then restart it.



Advantages

- Existing machines can be adapted quickly and flexibly as required.
- The program can be diagnosed directly in the browser using a Powerflow.
- Machine functions can be added and edited without any additional engineering tool.

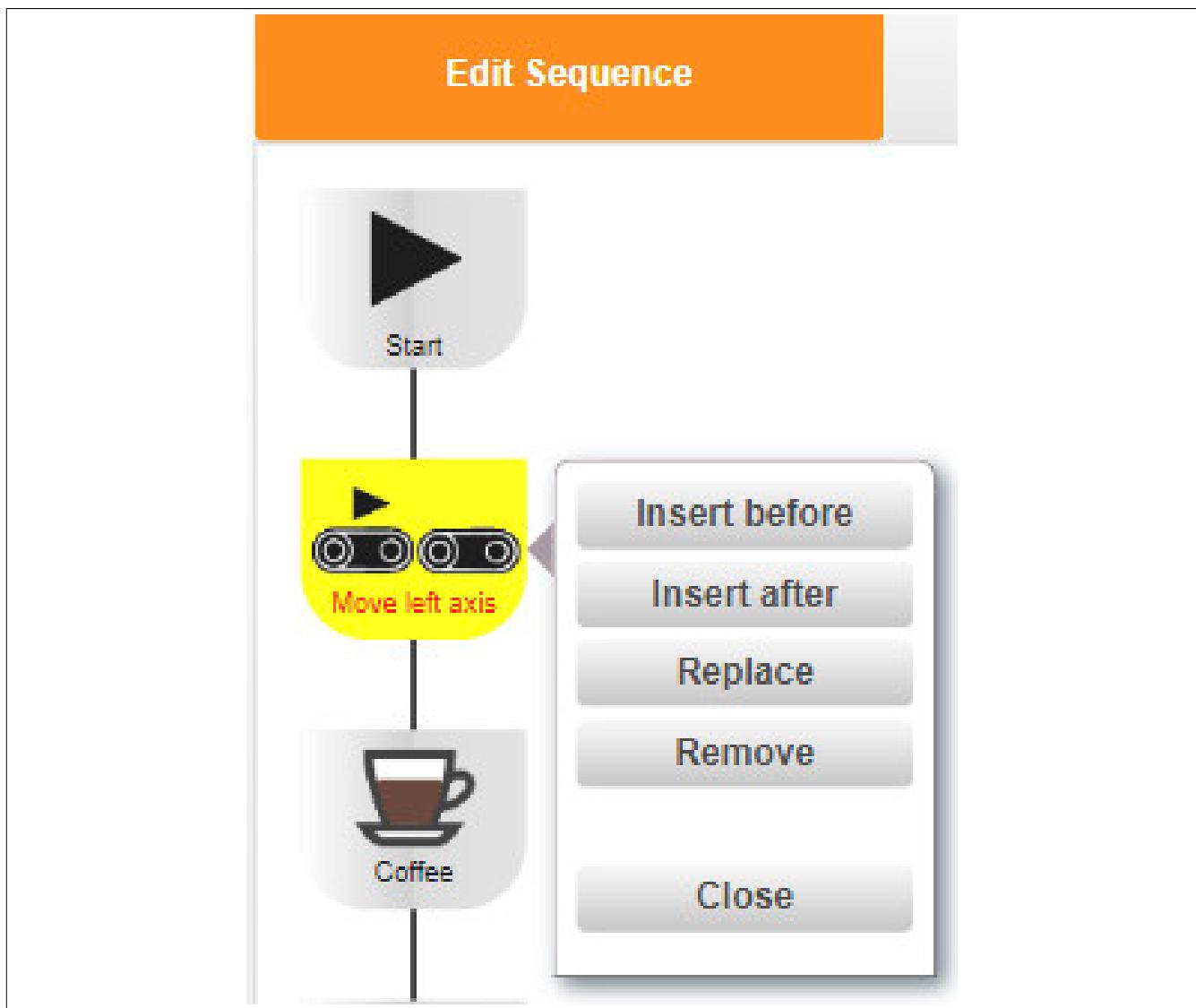
mapp Sequence

mapp Sequence can be used to change the production sequence of the coffee machine. The modified sequence is only displayed on the mapp Sequence page, not on the mapp Coffee page.

View the current sequence by selecting "Edit sequence". This can be changed as desired. An additional step can be selected via "Slot machine". Delays or conveyor belt movements can be used, for example. What we want to do is prepare a coffee before the first conveyor belt moves, so we select the "Coffee" step.



Then this step can be added to the sequence. When you select an existing step in the sequence, a menu appears where you can decide how to add the new step. Insert the "Coffee" step before the "Move left axis" step.



Save the modified sequence in the "Commands" box and then start it. The new sequence is displayed in the coffee machine graphic. The active steps of the currently executed sequence can be viewed under "Monitor sequence".

Advantages

- **mapp Sequence can be used to make any process dynamic: whether the process is an entire machine – like in the injection molding industry – or simply the sequence for processing a certain workpiece.**

mapp IO

After you have edited the coffee machine sequence, the next step is to change the hardware configuration of the coffee machine. To do this, navigate to the settings page.



SDM can be used to view the current hardware configuration. To do this, simply navigate to "Hardware". "Advanced configuration" is enabled by default.

Click on "Basic configuration" to enable the basic configuration instead. The controller will be restarted. In SDM, you can navigate back to "Hardware" to check whether the new hardware configuration is being used.

Advantages

- The hardware configuration can be changed with just one click. This makes it possible to implement different machine types.
- All machine-relevant data is displayed via SDM. This can easily be embedded in a mapp View HMI application.

mapp Recipe / mapp Audit

After the hardware configuration has been changed, you can navigate to the mapp Recipe page. This page provides an overview of the coffee recipes. Existing recipes can be edited or deleted, and new recipes can be created. The ingredients of the coffee are displayed in section "Ingredients". The recipe can be edited in section "Edit recipe". The desired recipe is selected, and the edit button is clicked.

Name	Size
mappCappuccino.xml	694.0
mappCoffee.xml	693.0
mappEspresso.xml	692.0
mappMilkCoffee.xml	693.0
mappRegular.xml	692.0

If the recipe has been modified, the save button must be clicked. The recipe is saved and automatically reloaded. If the recipe is stored incorrectly (e.g. incorrectly data type), an alarm is displayed in mapp AlarmX. To acknowledge the alarm, the faulty recipe is corrected and saved again.

All changes to the recipe system are logged by mapp Audit. The events are listed on the mapp Audit page. The sort and filter functions can be used to search for specific events. The export function saves the event list as a PDF file under "C:\mappDemo".

Advantages

- This type of combination is what sets mapp apart from similar software products. Recipe management and audit trail functions do a fine job on their own, but combining the two opens up entirely new possibilities!
- Information is exchanged automatically between mapp Recipe and mapp Audit via the mapp Link.
- Furthermore, it is possible to export the entire event list to a USB flash drive at the push of a button.

mapp Report

Based on the recipe selected on the mapp Recipe page, a PDF report can be created via the mapp Report page. The report is generated in German or English, depending on which language is used in the coffee machine. The language can be changed on the mapp Report page.

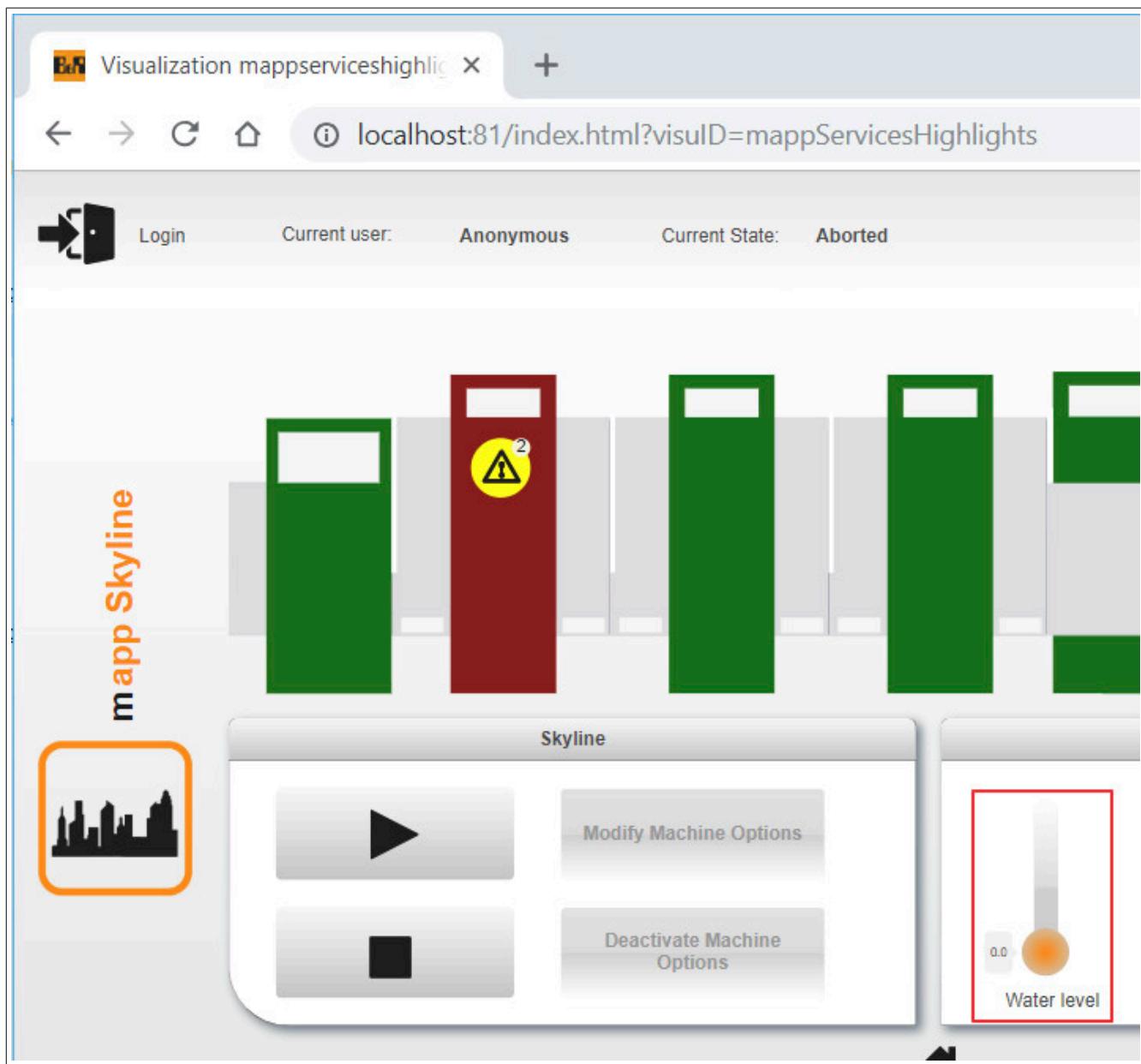
Advantages

- mapp Report can be used to design and configure reports as required. The reports can even be adapted to the user's corporate design.
- The language and the system of units can be defined individually for each report.

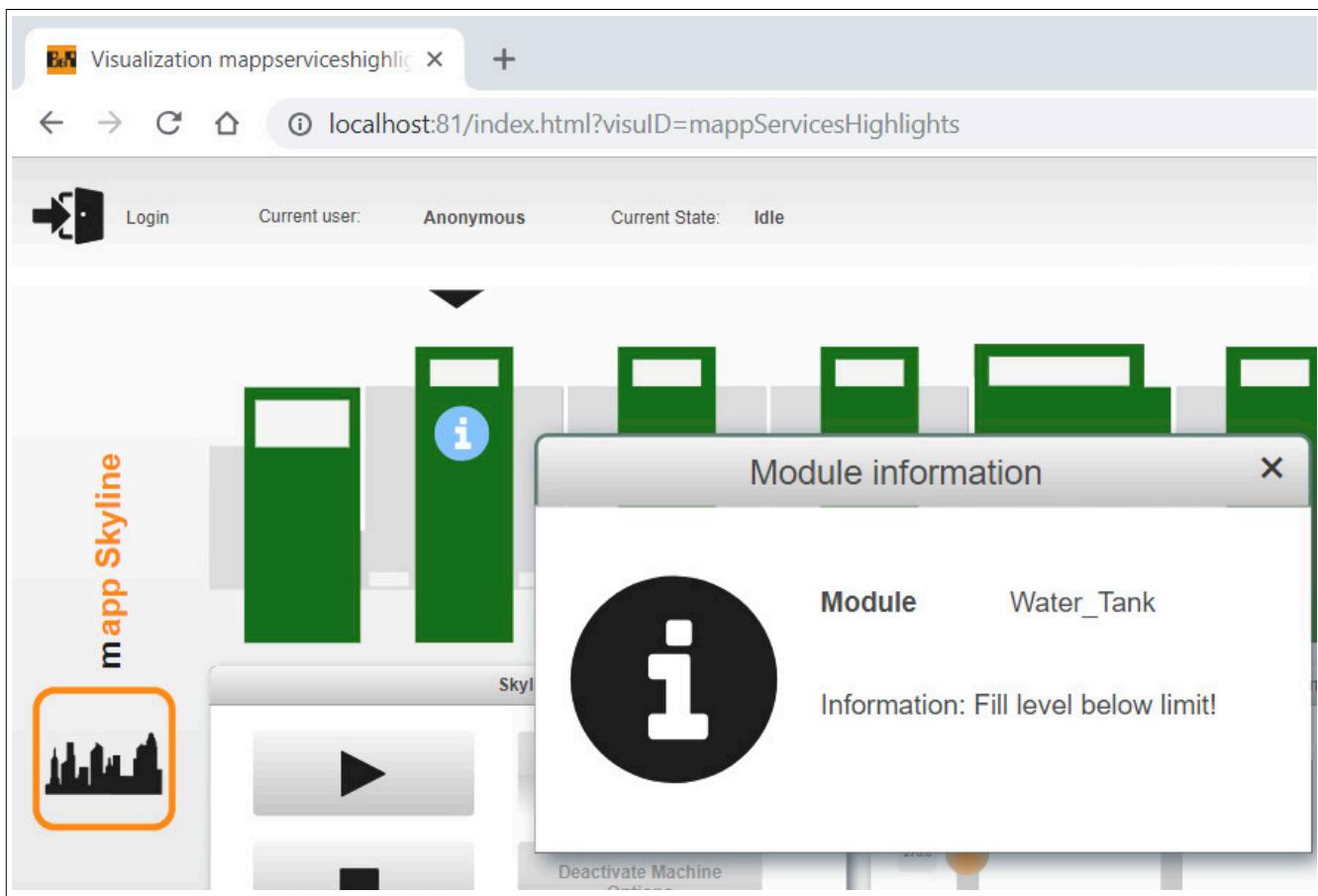
mapp Skyline

mapp Skyline provides a visual representation of the machine line. If the machine line is in the disabled state (modules are displayed in gray), various options can be enabled using button "Modify machine options". A dialog box appears where the desired options can be selected. The desired options are set by clicking on "Set machine options".

The line is enabled using the start button. The modules are enabled step by step and displayed in green. The filling level of the water can then be set to 0. An alarm appears, which is also displayed on the machine line:



Additional information about it can be displayed by clicking on the red module. To disable and acknowledge the alarm, the fill level is set to greater than 0 but less than 500. The mapp AlarmX page is navigated to and the error is acknowledged. The alarm is now no longer visible on the skyline, but an information is displayed (if the fill level < 500) that the level is below half. To display this information, the module must be clicked again.



If the fill level is set greater than 500, the information notification is no longer displayed. Options can be disabled with button "Deactivate machine options" and no longer displayed. The skyline is switched off using the stop button. The modules are displayed in gray step by step.

Advantages

- **Visual display of a machine line with only one widget!**
- **Display notifications per module graphically and textually.**
- **Enable and disable various machine options.**