

Quick start guide

iX Scheduler Online Editor

SER0034 - Add possibility to edit Scheduler settings in Runtime



1 Function and area of use

This document explains how to include the edit Scheduler settings in runtime mode, for X2 series HMI devices and iX PC RT (iX Runtime) utilizing two additional XML files that are written to the “Project Files” folder of the application.

2 About this document

This quick start document should not be considered as a complete manual. It is an aid to be able to startup a normal application quickly and easily.

Copyright © Beijer Electronics, 2021

This documentation (below referred to as ‘the material’) is the property of Beijer Electronics. The holder or user has a non-exclusive right to use the material. The holder is not allowed to distribute the material to anyone outside his/ her organization except in cases where the material is part of a system that is supplied by the holder to his/ her customer. The material may only be used with products or software supplied by Beijer Electronics. Beijer Electronics assumes no responsibility for any defects in the material, or for any consequences that might arise from the use of the material. It is the responsibility of the holder to ensure that any systems, for whatever applications, which is based on or includes the material (whether in its entirety or in parts), meets the expected properties or functional requirements. Beijer Electronics has no obligation to supply the holder with updated versions.

Use the following hardware, software, drivers and utilities in order to obtain a stable application:

In this document we have used following software and hardware

- iX Developer 2.40 SP4 / SP5
- X2 series devices and iX PC RT (iX runtime)

For further information refer to

- iX Developer Reference Manual (MAxx831)
- iX Developer User's Guide (MAxx832)
- [Beijer Electronics knowledge database, HelpOnline](#)

This document and other quick start documents can be obtained from our homepage. Please use the address support.europe@beijerelectronics.com for feedback.

3 Table of Contents

- 1 Function and area of use.....2
- 2 About this document.....2
- 3 Table of Contents.....3
- 4 Scheduler Online Editor Functionality4
- 5 Adding the Scheduler Online Editor Functionality5
 - 5.1 Import the project parts5
 - 5.2 Inserting the Scheduler functionality5
 - 5.3 Configuration of the Setpoints6
- 6 Operation7
 - 6.1 Save / Clear the Configuration Table7
 - 6.2 Handling / Settings for the Setpoints8
 - 6.3 Settings Daily / Once.....8
 - 6.4 Prioritization8
 - 6.5 Plausibility check of the switching periods8
- 7 About Beijer Electronics9
 - 7.1 Contact us9
 - Global offices and distributors9

4 Scheduler Online Editor Functionality

The iX-script module and the SchedulerEditor screen extend the iX functionality with the possibility to change Scheduler settings in Runtime mode.



The script module reads out an additional XML file “Config.xml” that stores all Setpoints and times/time ranges.

Additionally, it translates the “Config.xml” to another file “Intervals.xml” that contains the calculated intervals (start day, start hour, start minute and duration) that have to be set.

The XML files are created inside the folder “Project Files” of the project. If you want to prepare your Setpoints and time channels in simulation mode on PC, you have to copy both files from the folder “Project Files” of your runtime to the folder “Project Files” of the main project.

The Runtime is generated inside the subfolder “\Temp\Output” of your project.

iX_Scheduler_Online_Editor_V1_0_0 > Temp > Output > Project Files

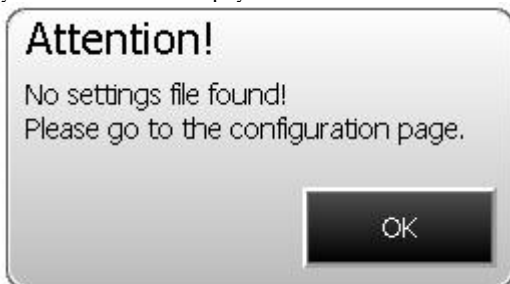
Name	Date modified	Type
 Config.xml	09.02.2021 10:39	XML File
 Intervals.xml	09.02.2021 10:39	XML File

So, you have to copy those files to:

iX_Scheduler_Online_Editor_V1_0_0 > Project Files

Name	Date modified	Type
 Config.xml	09.02.2021 10:39	XML File
 Intervals.xml	09.02.2021 10:39	XML File

If you don't prepare time channels for your Setpoints then the application starts with a hint that you have to set up your time channels.



This example works well for X2 series devices and iX PC RT.

Please follow below guidelines how to install into your application.

5 Adding the Scheduler Online Editor Functionality

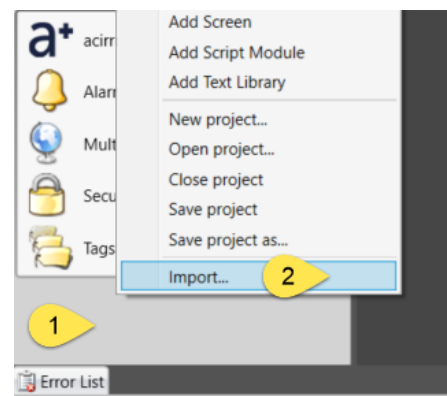
Implementation

1. Import the script module (SchedulerUtils) to your present iX application.
 - o Open your iX application (or make a working copy) and import.
2. Import “SchedulerEditor”, see example project (iX_Scheduler_Online_Editor_V1_0_1).
3. Adjust your Scheduler Jobs according to the settings described in chapter 6.
4. Run the application.

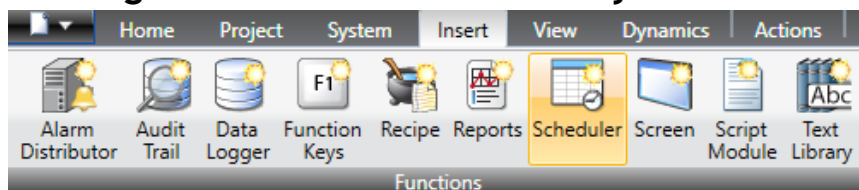
5.1 Import the project parts

Follow the steps to add the enclosed screens and the script module to your iX project:

1. Unpack the enclosed example ZIP-file to a temporary folder.
2. Start iX Developer and open your project.
3. In the Project Explorer, right-click in the lower left corner (1. in the picture)
4. In the list, select Import... (2. in the picture)
5. Navigate to the temporary folder, where you unpacked the ZIP-file and select SchedulerEditor.neoxaml, click [Open].
6. Select SchedulerUtils.neo, click [Open].
7. Answer Yes to the following questions.

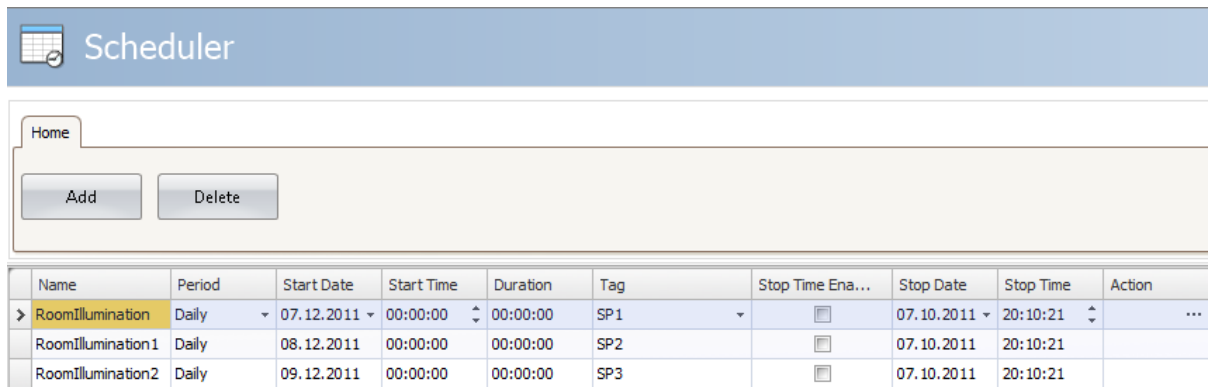


5.2 Inserting the Scheduler functionality



The Scheduler functionality provides possibilities to set one-time or repeating Setpoints to trigger actions, set Tags etc.

5.3 Configuration of the Setpoints



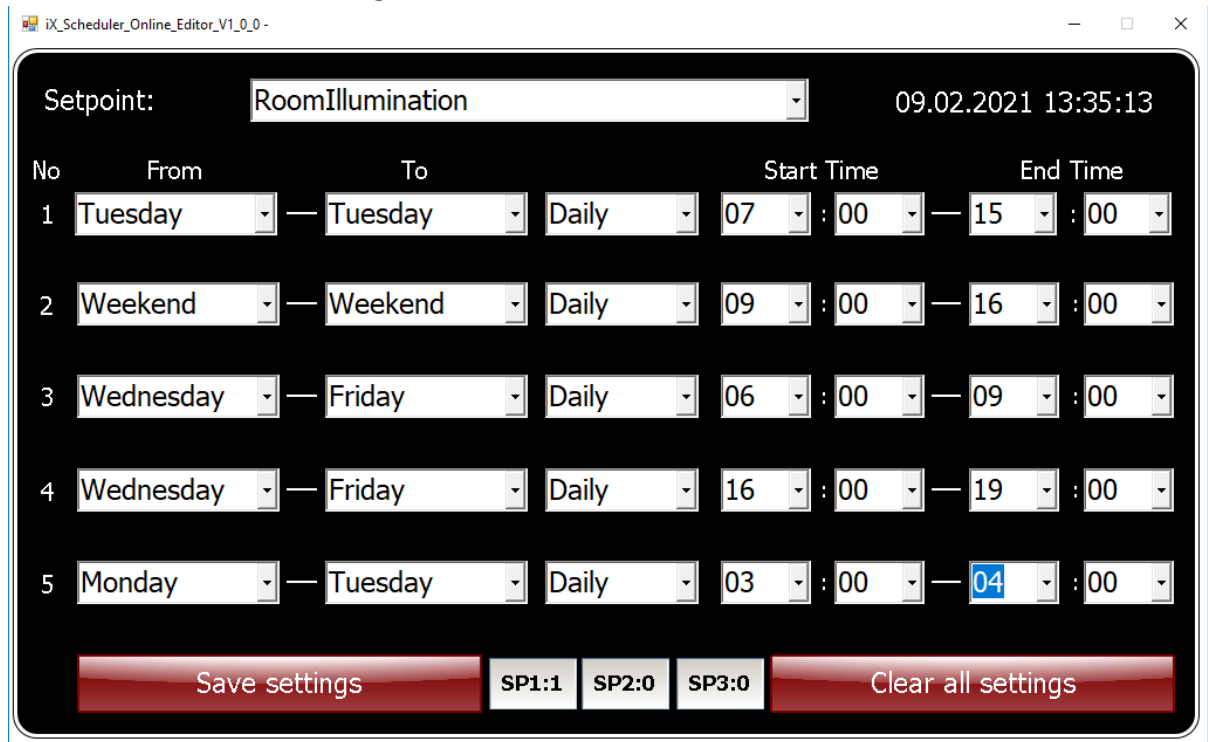
1. Name: Configure Name for the Setpoint.
2. Period: MUST be set to “Daily”.
3. Start Date: Leave default.
4. Start Time: MUST be set to “00:00:00”.
5. Duration: MUST be set to “00:00:00”.
6. Tag: Link between Setpoint and iX tag.
7. Leave the rest of the column default.

The switching times for the different Setpoints are set Online in your application later on (see chapter 6 Operation).

In the example project 3 Setpoints are configured. Surely those Setpoints can be edited freely and further Setpoints can be added to your application.

6 Operation

6.1 Save / Clear the Configuration Table



In Runtime:

The desired switching times for each Setpoint are configured on the “SchedulerEditor” page. The combo box at the top of the screen fills automatically with the iX Scheduler stored Setpoints.

The settings of the switching times are kept internally in a configuration table, which is saved by pressing the button "Save settings". In order to keep the configuration of the switching times non-volatile, the table is saved in the “Config.xml” file in the “Project Files” directory. By pressing the "Save settings" button, the configuration table additionally is "translated" into an Interval table. This table is also non-volatile saved as "Intervals.xml" in the "Project Files" directory.

The button "Clear all settings" deletes all settings of the selected Setpoint.

The XML files are created inside the folder “Project Files” of the project. If you want to prepare your Setpoints and time channels in simulation mode on PC, you have to copy both files from the folder “Project Files” of your Runtime to the folder “Project Files” of the main project (see chapter 4).

6.2 Handling / Settings for the Setpoints

In the Combo Boxes “FromDay” and “ToDay”, the days of the week Monday to Sunday can be selected. In addition to the days of the week, there is a "Weekend" setting. Via “Weekend”, “Saturday” and “Sunday” are covered with one setting.

6.3 Settings Daily / Once

The behaviour (Daily / Once) can be configured for each of the 5 switching times.

Wednesday — Friday Daily 06 : 00 — 09 : 00

The above example with the configuration "Daily" means that it will be switched on Wednesday at 6:00 am and is switched off at 9 o'clock. Also Thursday 6-9 a.m. and Friday 6-9 a.m.

Monday — Tuesday Once 03 : 00 — 04 : 00

The above example with the configuration "Once" means that it will be switched on Monday at 3:00 am and is only switched off again on Tuesday at 4 a.m. When configuring a single day, for example: "Weekend" the Setting “once” makes no sense and might be used automatically reset by the plausibility check (see 6.5).

6.4 Prioritization

With cyclic processing, the interval table is processed “from top to bottom”. As soon as a valid switching period (current time within the switching period) for a Setpoint is found, processing for the other switching periods of this Setpoint are aborted.

6.5 Plausibility check of the switching periods

When the switching times are saved, the switching times are checked for incorrect entries (e.g. Switch-off time smaller than switch-on time, etc.). If an error is detected, a corresponding Message Box is shown.

However, the check cannot intercept all possible operating errors – of course the responsibility still rests with the plant operator.

7 About Beijer Electronics

Beijer Electronics is a multinational, cross-industry innovator that connects people and technologies to optimize processes for business-critical applications. Our offer includes operator communication, automation solutions, digitalization, display solutions and support. As experts in user-friendly software, hardware

and services for the Industrial Internet of Things, we empower you to meet your challenges through leading-edge solutions.

Beijer Electronics is a Beijer Group company. Beijer Group has a sale over 1.6 billion SEK in 2019 and is listed on the NASDAQ OMX Nordic Stockholm Small Cap list under the ticker BELE. www.beijergroup.com

China

Shanghai

NORWAY

Drammen

TAIWAN

Taipei

DENMARK

Roskilde

SOUTH KOREA

Seoul

TURKEY

Istanbul

FRANCE

Paris

SWEDEN

Göteborg
Malmö
Stockholm

UNITED KINGDOM

Nottingham

GERMANY

Nürtingen

USA

Salt Lake City

7.1 Contact us

[Global offices and distributors](#)