



OCTOBER 2019

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Webinar – Competence Center Europe – Smart Buildings

Thorsten Reibel, Jürgen Schilder, Stefan Grosse, Martin Wichary & Ilija Zivadinovic

---

# Agenda

System overview and main applications in a building

Device features “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

Operating and displaying with Web user interface “IoT Dashboard”

Practical demonstration of commissioning

---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

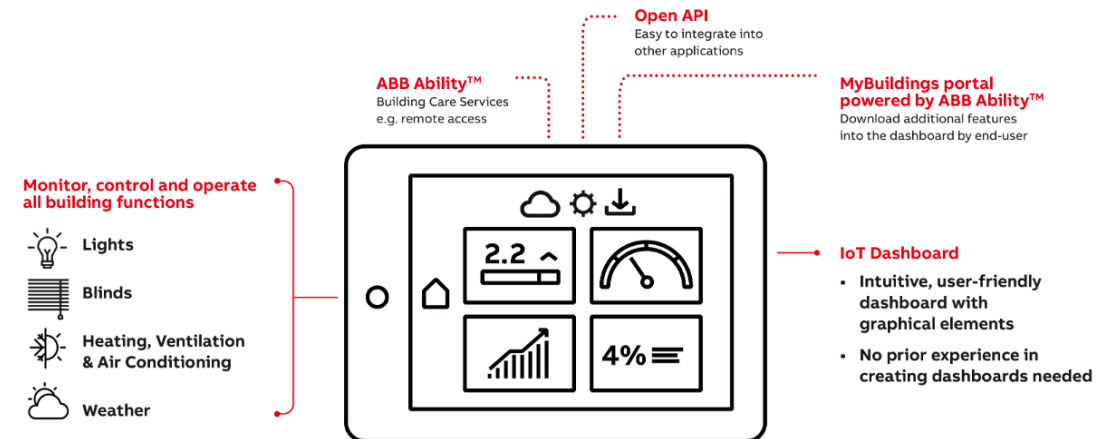
System overview and main applications in a building

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

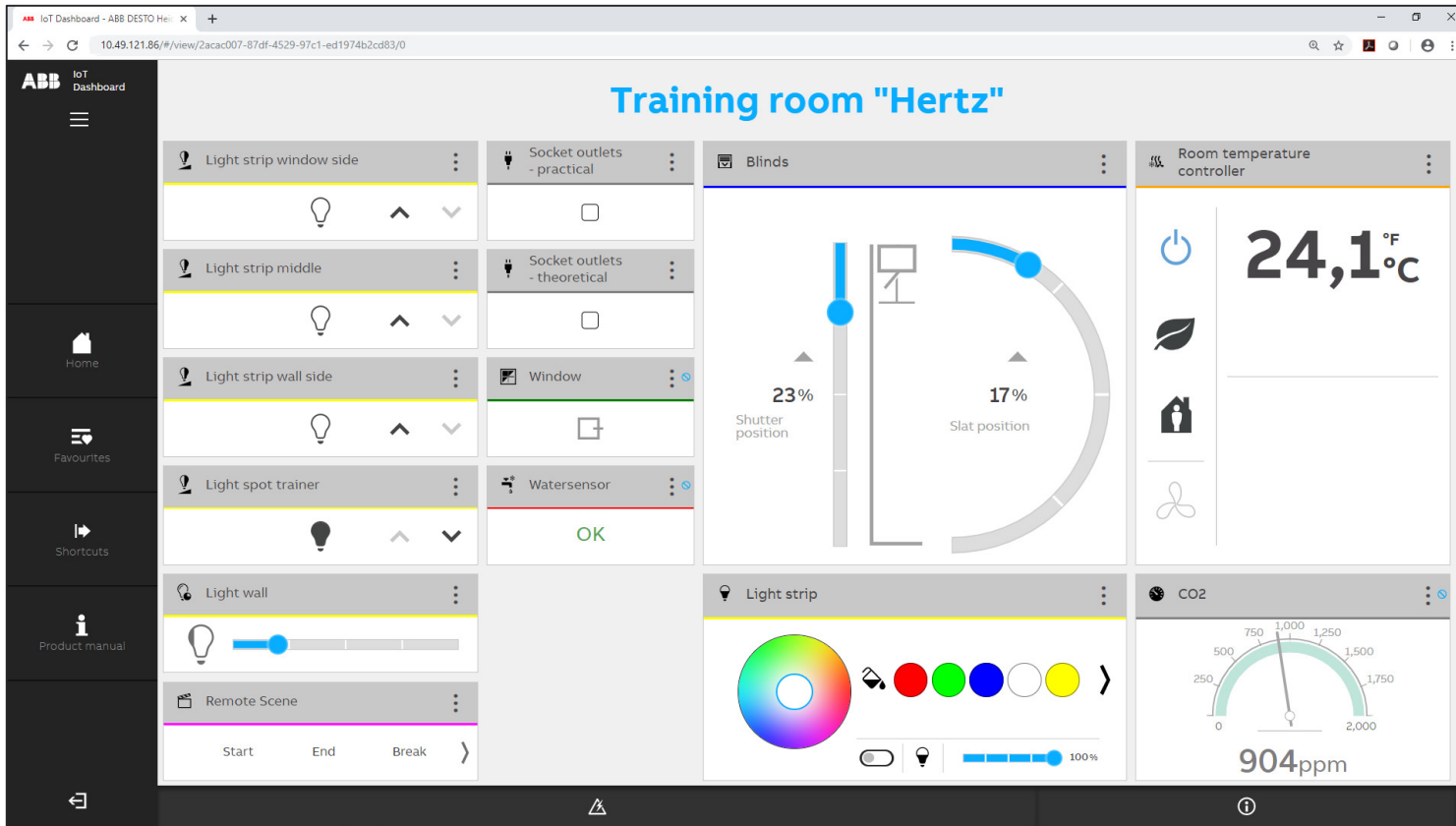
## Control all building functions with the new IoT Dashboard

- It is a way to control Smart Buildings from any device, anywhere and at any time
  - User-friendly dashboard to make life easier for electrical installers and end users
  - The dashboard is user-friendly and easy to use, giving electrical installers with no pre-knowledge of dashboards or visualization a simple route into the Smart Building market
  - The new IoT Dashboard comes with pre-programmed frames and allows strong control and monitoring of all automated building functions
  - It helps end users (e.g. facility managers) to monitor and control their building automation solutions
- Intuitive way: no experience with dashboards or visualization needed



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Targeting mid-size commercial buildings

## Offices, schools



## Hospitality

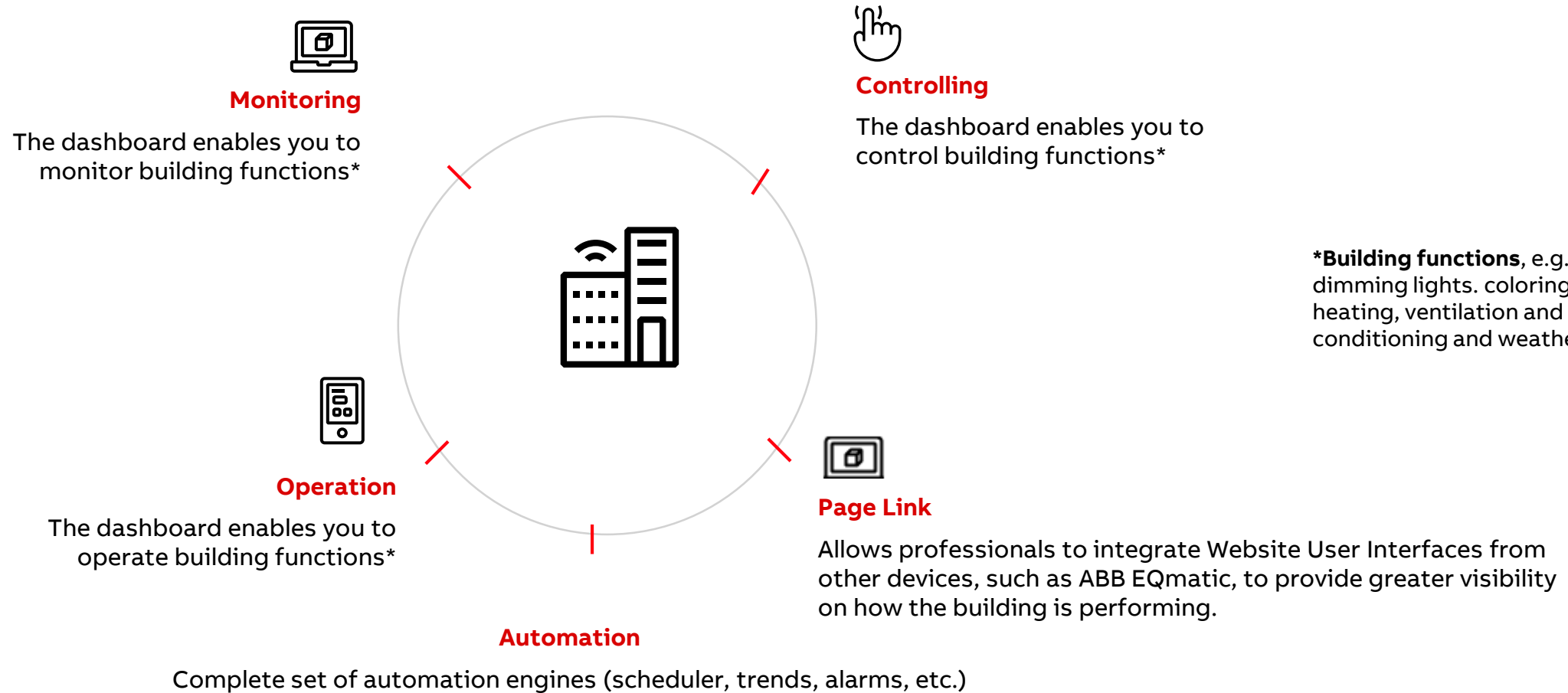


## Public buildings, Shops



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Applications



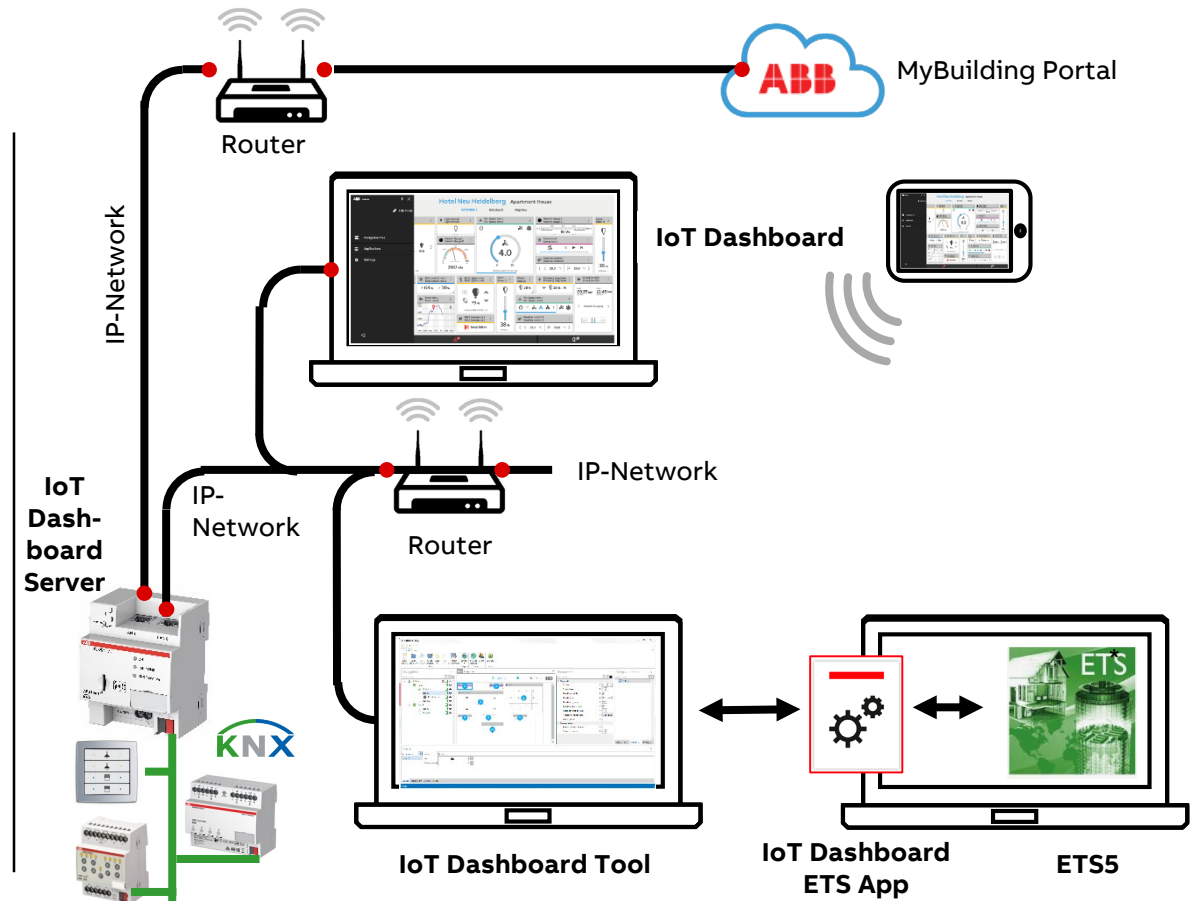
**\*Building functions**, e.g. switching or dimming lights, coloring light, blinds, heating, ventilation and air conditioning and weather data

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## Overview

- The **IoT Dashboard Server** is the connection between the IP Building Network, ABB Ability™ and KNX
- **IoT Dashboard** is the User-Interface (UI) between the commercial building and the user. Cloud connectivity for remote access.
- **IoT Dashboard Tool** is a software for the Electrical installer to create the IoT Dashboard. It includes predefined modules and controls.
- **IoT Dashboard ETS App** is the interface between the ETS and the IoT Dashboard Tool (free of charge) to synchronize data
- **ETS5 product file** (\*.knxprod) for calculating filter table
- Additionally Facility Manager is able to download features (**IoT Dashboard App**, e.g. DALI Manager) from the MyBuildings Portal





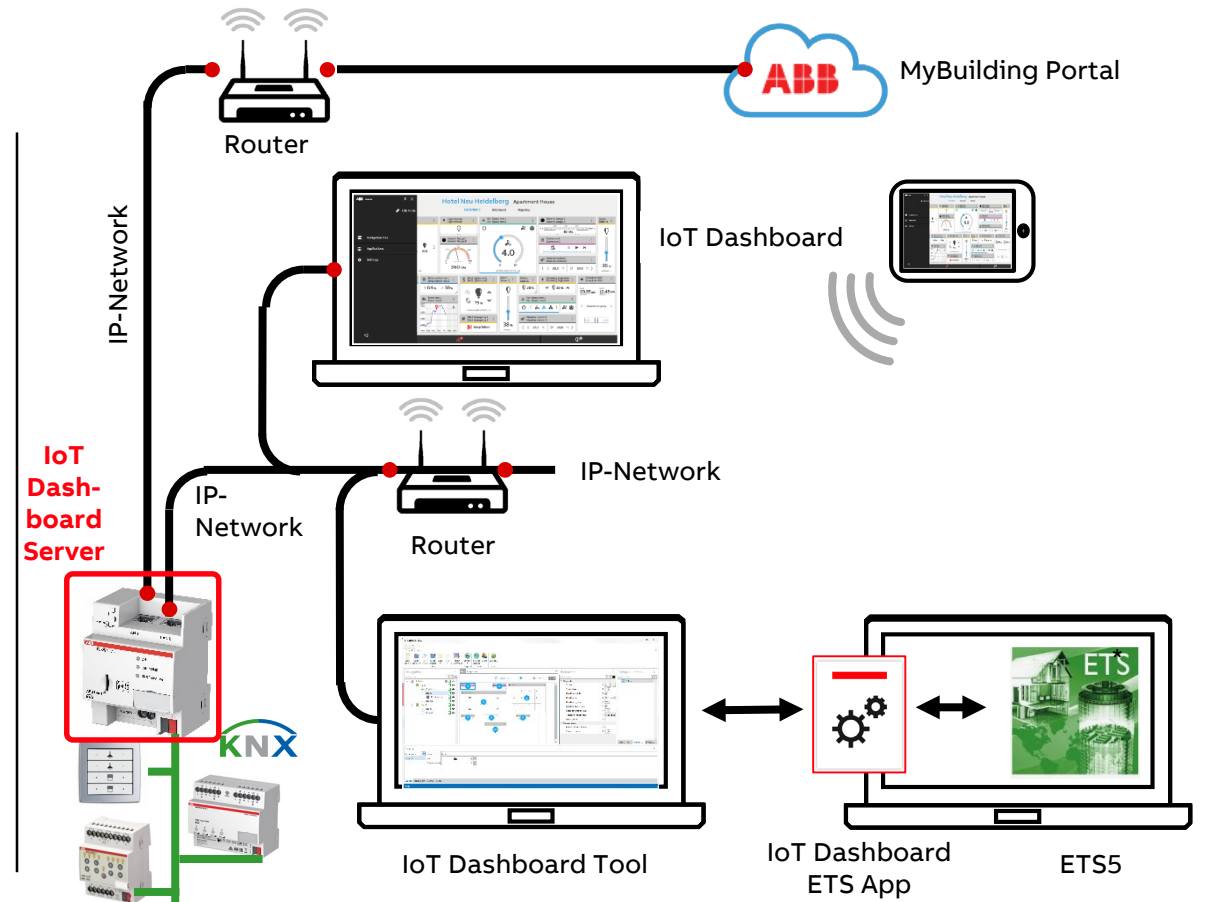
# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## IoT Dashboard Server

– Hardware to connect the world between

- MyBuildings portal
- IP Building Network
- KNXnet/IP Routing or KNX TP

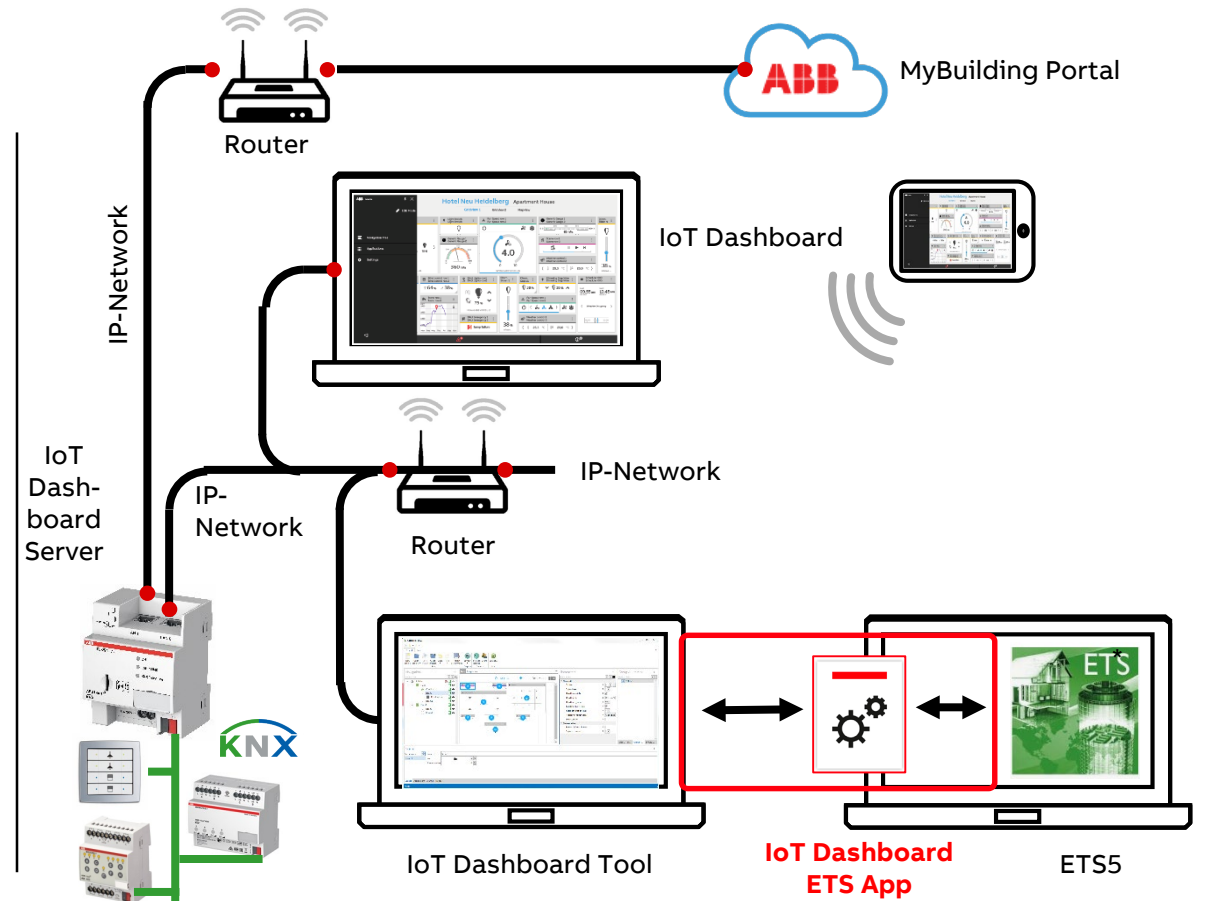


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## IoT Dashboard ETS App

- IoT Dashboard ETS App allows the connection between the IoT Dashboard Tool and ETS
- ETS App is the interface between the ETS and the IoT Dashboard Tool to **synchronize** the “Building view” and “Group addresses”  
→ no export/import!
- When a group address or room is added in the IoT Dashboard Tool, the changes can be synchronized with the ETS

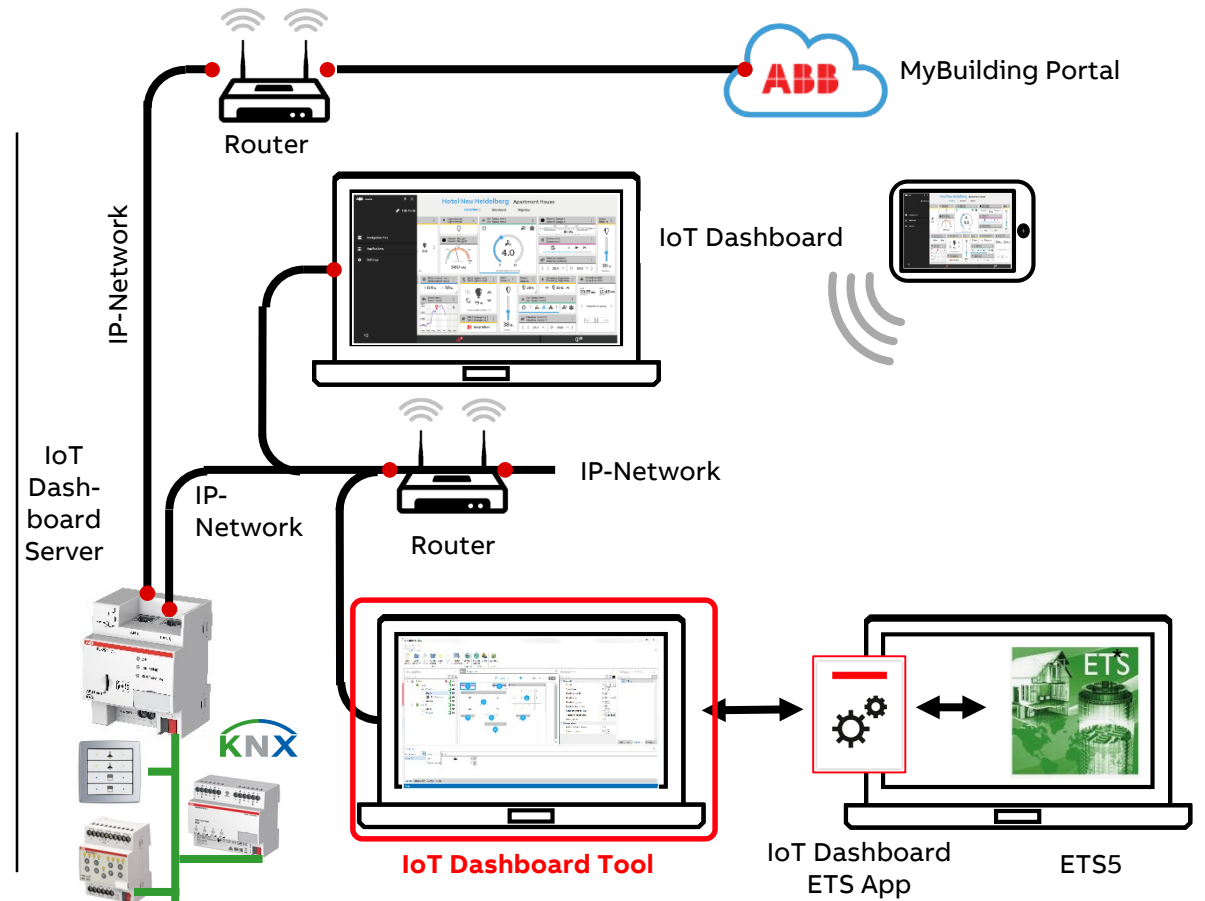


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## IoT Dashboard Tool

- Software for Electrical installer
  - Creating the IoT Dashboard
  - Include predefined controls
  - Include predefined modules

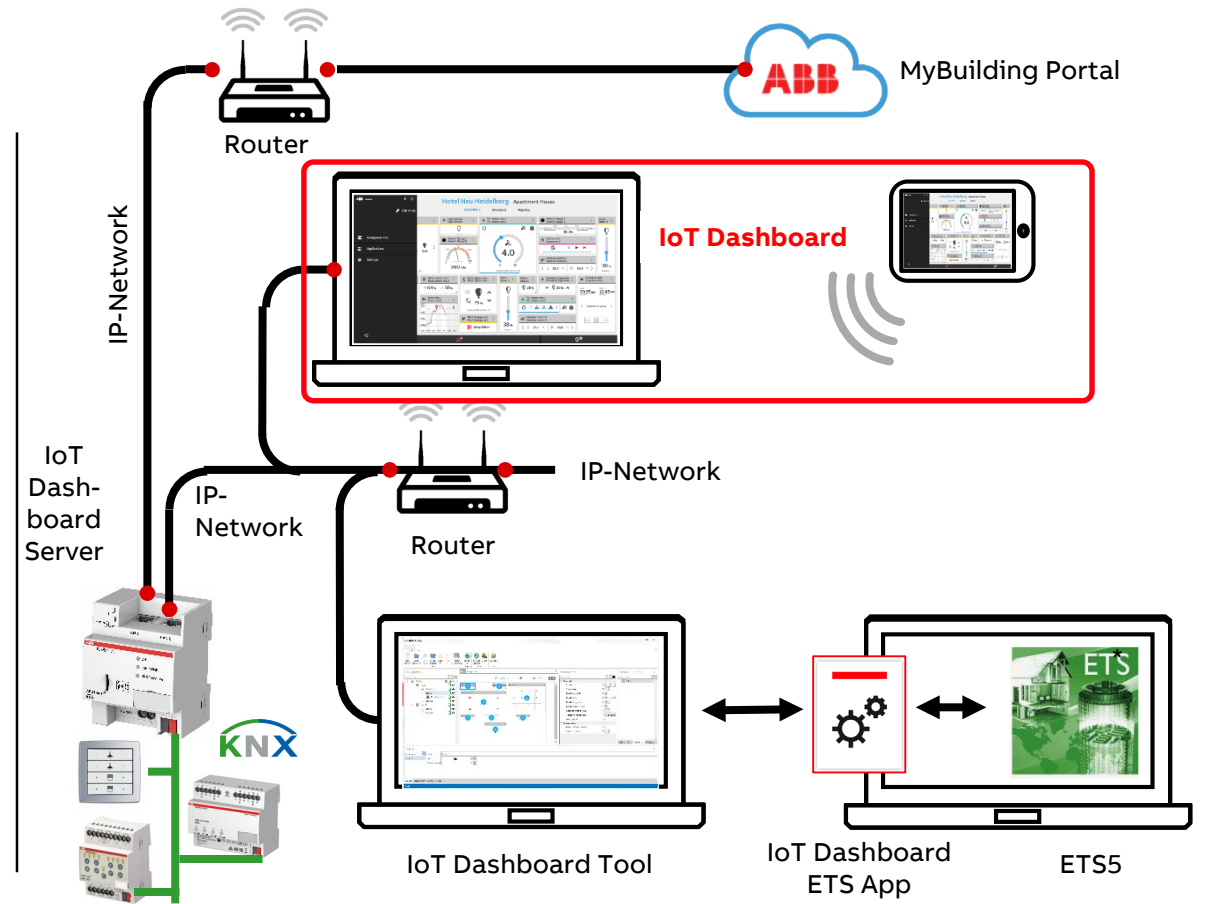


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## IoT Dashboard

- Software for Facility Manager / End user
  - User-Interface (UI) between building and user

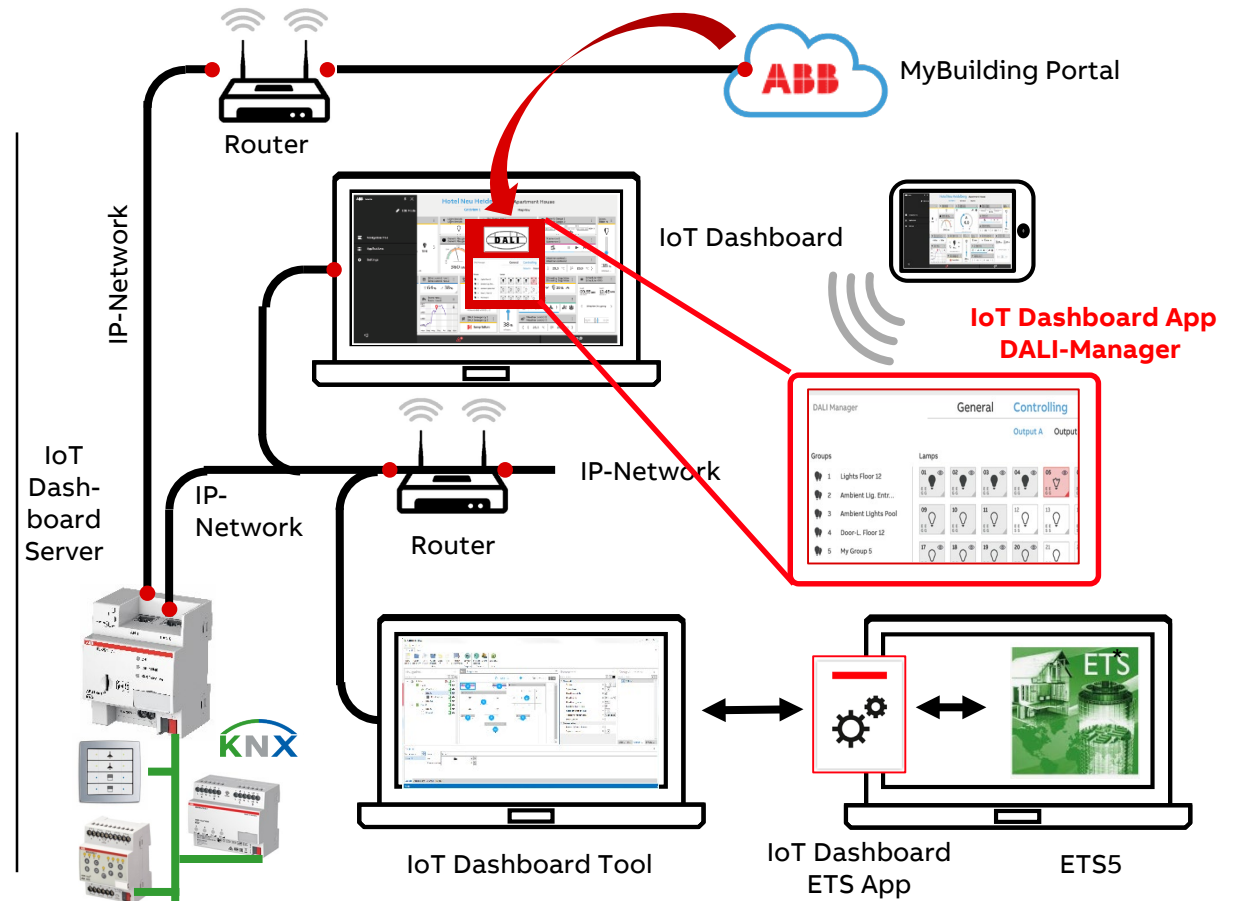


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## IoT Dashboard App

- Possibility to download features from MyBuildings portal to extend the functionality after the commissioning
  - The IoT Dashboard App “DALI-Manager” as an example



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## Benefits for End User

---

- Get access with standard internet browser
- IoT Dashboard easy useable
- Control building function
  - Only access to the work area
  - Possibility to control lamps, blinds, temperature, etc.



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## Benefits for Electrical Installer

---

- Older KNX projects can be integrated
- Easy to use
- Synchronization of existing data between ETS and Dashboard
- Worldwide availability and most interoperable building automation standard KNX
- No visualization knowledge needed → fast results!
- Remote access to the Commercial Building
- Interoperable due to the possibility to integrate Web-UI from other devices,  
e.g. ABB EQmatic Energy Analyzer QA/S



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## Benefits for Facility Manger

---

- More flexibility and future-proof
- Additional functions can be bought afterwards without electrical installer in the ABB webshop
- Independent of using any device (e.g. mobile or PC) and browser
- Easy access to several facilities from everywhere
- Get alarm information (heating pump failure)
- Get notification information (meeting room lamp failure)
- Control the complete building
  - All lamps turn off
  - All blinds up
  - Set different value for trends
  - Data analyzing
  - Set value for scheduler





---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

System overview and main applications in a building

## Benefits for Investor

---

- Future-proof sustainability is important for all future investments
- Ensures latest cyber security level



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

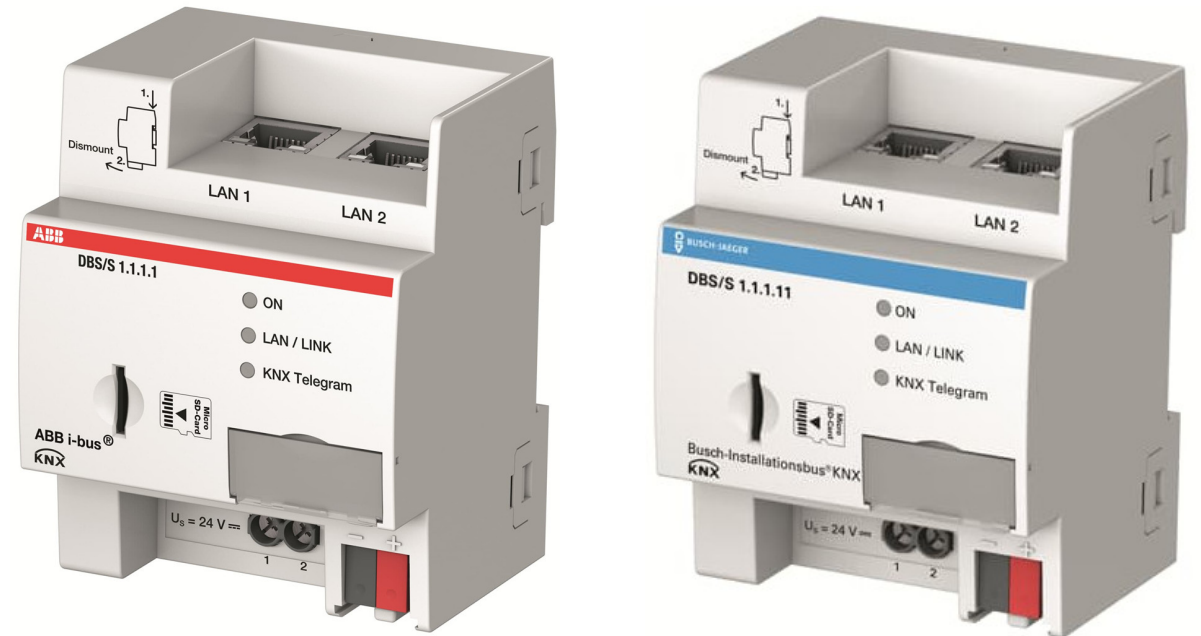
Device features “IoT Dashboard Server DBS/S 1.1.1.1”

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1.1”

## General information

Type	Order Code	List Price
DBS/S 1.1.1.1 (ABB)	2CKA008110A0120	1,600 € (excl. VAT)
DBS/S 1.1.1.11 (Busch-Jaeger)	2CKA008110A0121	1,600 € (excl. VAT)

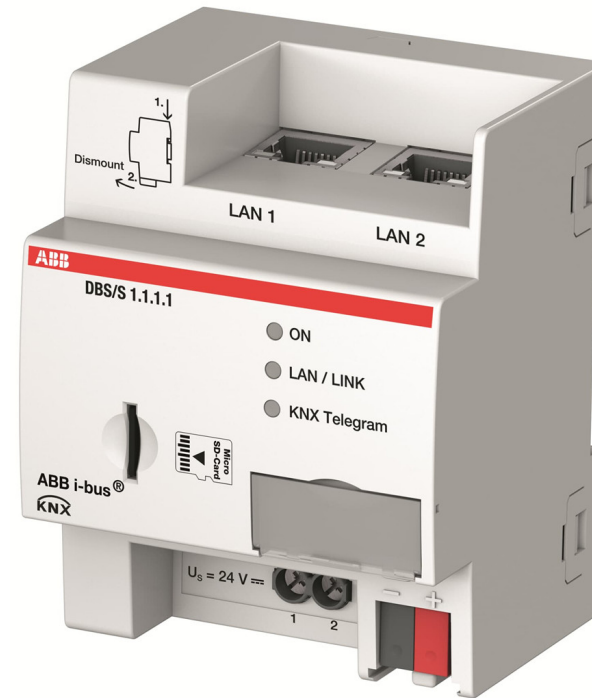


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1.1”

## Scope of delivery

- IoT Dashboard Server DBS/S 1.1.1.1 with web-based user interface “IoT Dashboard”
- Installation and operating instructions
  - DE, EN, NL
  - SV, NO, FI
  - ES, FR, IT
  - PL, RU, CN
- Label carrier
- Labeling field for label carrier
- KNX connection cover cap

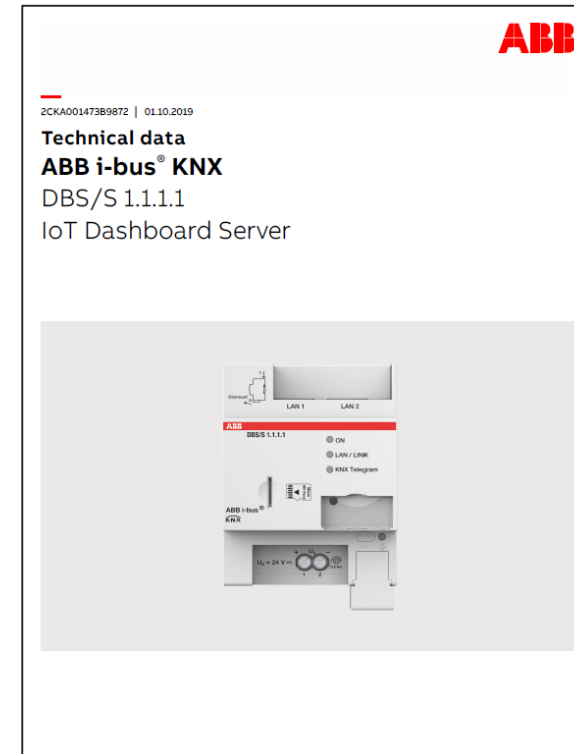


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Device features “IoT Dashboard Server DBS/S 1.1.1.1”

### Technical Data

<b>Power Supply</b>	9 ... 36 V DC Standard 24 V DC	SELV
<b>Power consumption</b>	Device	5 W max.
<b>KNX</b>	Current consumption	< 10 mA
<b>LAN 1</b>	10/100/1.000 BaseT IEEE 802.3	RJ45 Plug
<b>LAN 2</b>	10/100 BaseT IEEE 802.3	RJ45 Plug
<b>Dimensions</b>	70 x 90 x 64.5 mm (H x W x D)	Modular installation device (MDRC) Mounting width: 4 space units
<b>Micro SD-Card</b>	microSD, microSDHC, microSDXC	Not included in the delivery, store data, update function

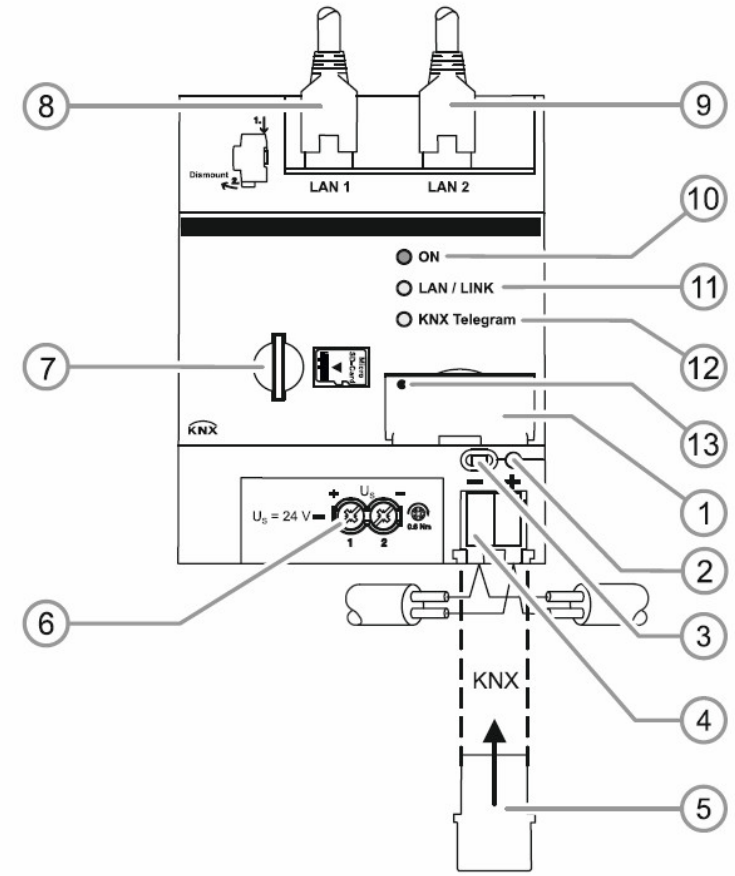


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Device features “IoT Dashboard Server DBS/S 1.1.1.1”

### Connection diagram




- (1) Label carrier
- (2) KNX Programming LED
- (3) KNX Programming button
- (4) KNX connection
- (5) Cover cap
- (6) Power supply connection  $U_s$
- (7) SD card slot
- (8) Ethernet/LAN 1 connection
- (9) Ethernet/LAN 2 connection
- (10) ON LED (green)
- (11) LAN/LINK LED (yellow)
- (12) KNX telegram LED (yellow)
- (13) Reset Button

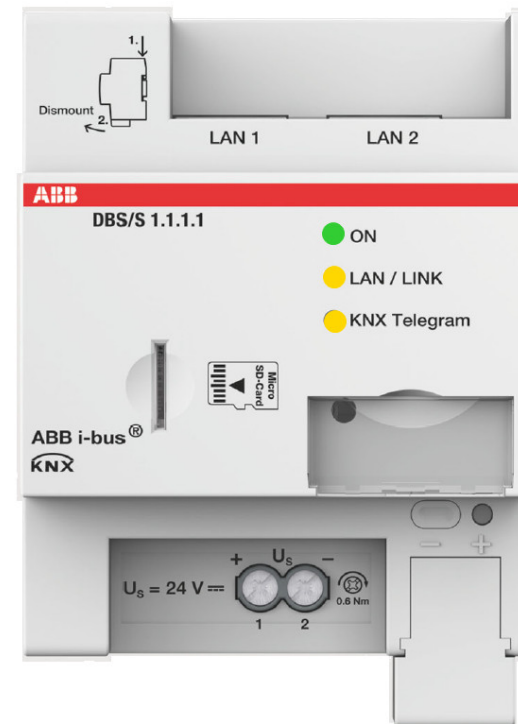


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Device features “IoT Dashboard Server DBS/S 1.1.1.1”

### Display elements

LED	Description
<b>ON</b> 	<ul style="list-style-type: none"><li>Off when there is no power supply</li><li>Flashes slowly during the startup of the system (1 Hz)</li><li>Lights up permanently when the startup of the system was successful</li><li>Flashes fast during the startup of the device (4 Hz)</li><li>Flashes during the reset of the IP address (3 Hz)</li><li>Flashes during resetting to the factory settings (10 Hz)</li></ul>
<b>LAN/Link</b> 	<ul style="list-style-type: none"><li>Off when there is no power supply or the LAN ports are not connected with the IP router/switch</li><li>Lights up permanently when the device is ready for operation and one of the LAN ports is connected with an IP router/switch</li><li>Flickers during traffic on the LAN ports</li><li>Flashes during the reset of the IP address (3 Hz)</li><li>Flashes during resetting to the factory settings (10 Hz)</li></ul>
<b>KNX Telegram</b> 	<ul style="list-style-type: none"><li>Off when there is no power supply or no connection to the KNX/TP bus</li><li>Lights up permanently when the device is ready for operation and connected with the KNX/TP bus</li><li>Flickers during traffic on the KNX/TP bus</li><li>Flashes during resetting to the factory settings (10 Hz)</li></ul>

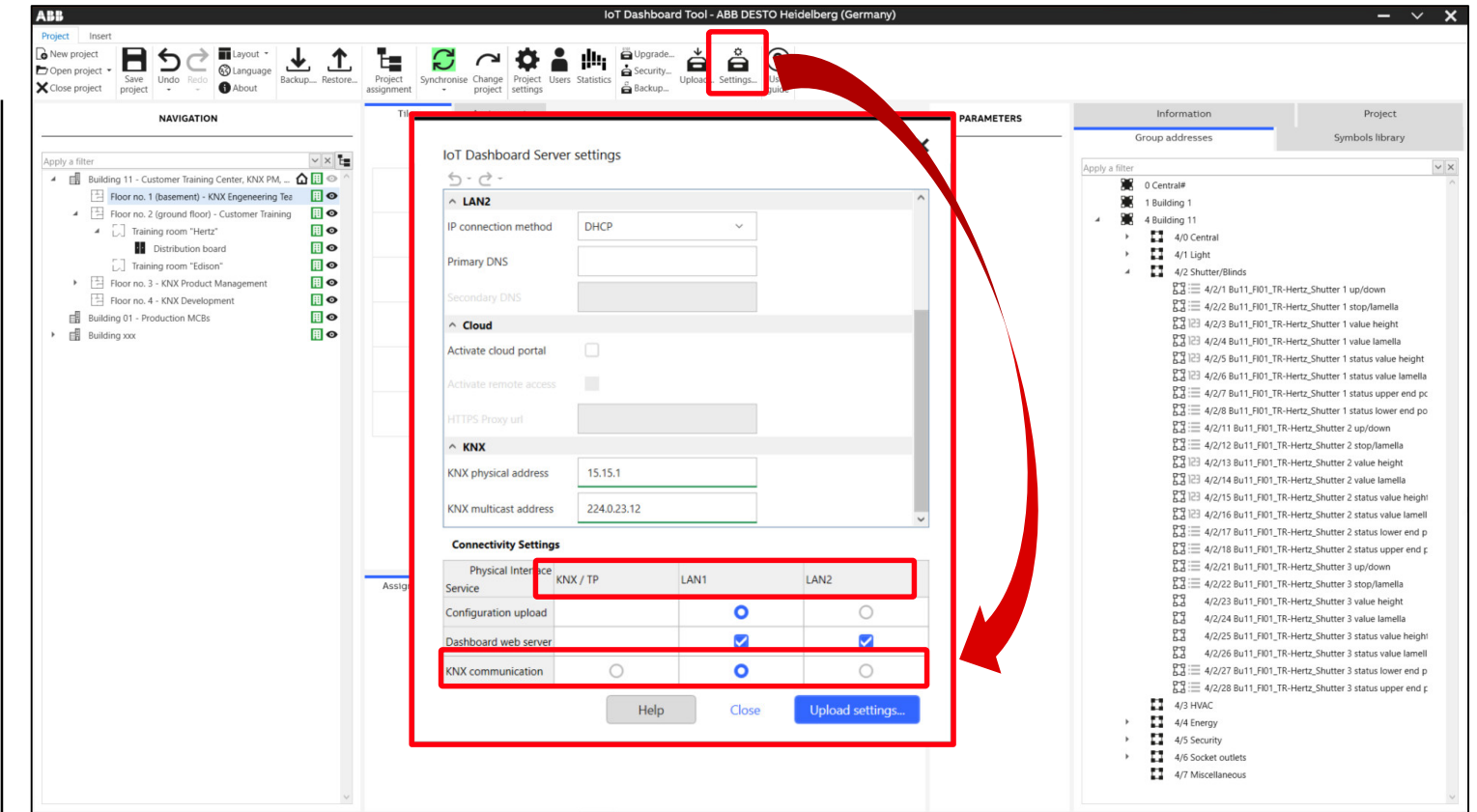


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Device features “IoT Dashboard Server DBS/S 1.1.1.1”

### Connection to KNX

- The IoT Dashboard Server can communicate with KNX via either
  - Twisted pair (TP) or
  - KNXnet/IP Routing LAN1 or
  - KNXnet/IP Routing LAN2
- The ETS automatically creates the filter table entries

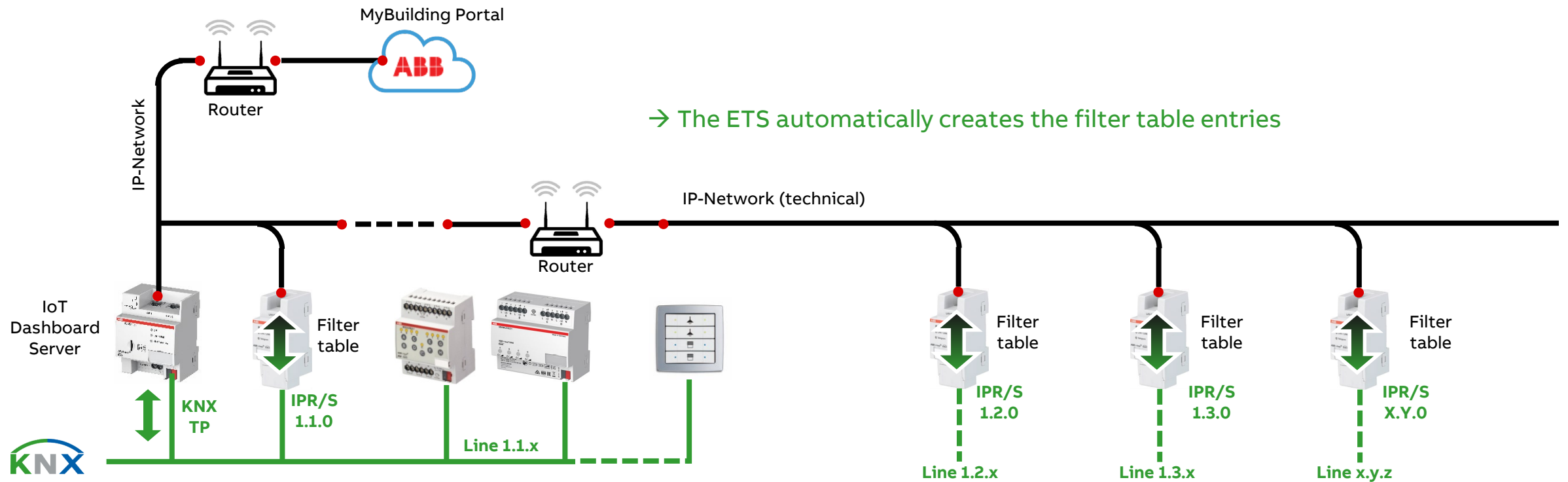




# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1”

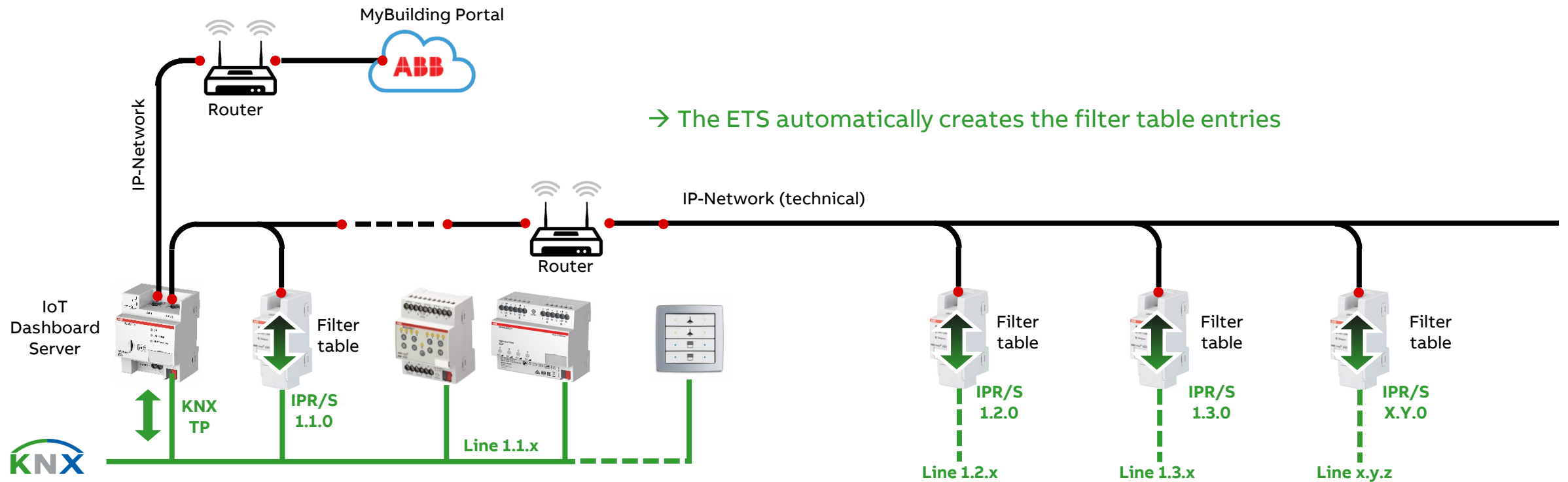
## Connection to KNX: Twisted pair (TP)



# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1”

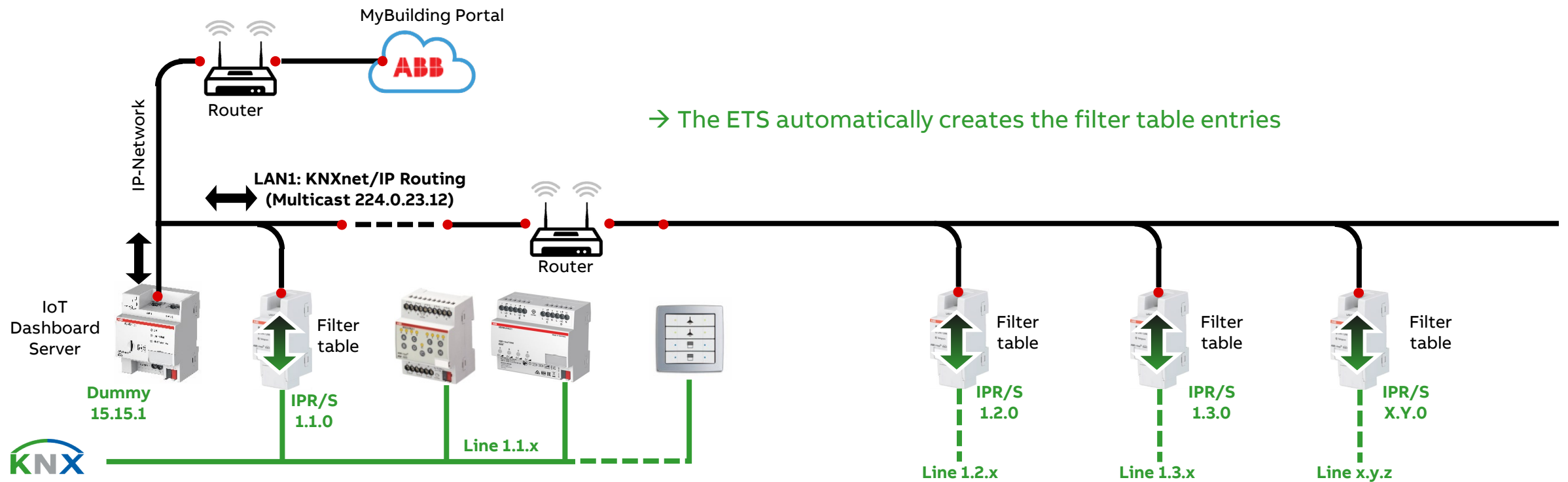
## Connection to KNX: Twisted pair (TP)



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1.1”

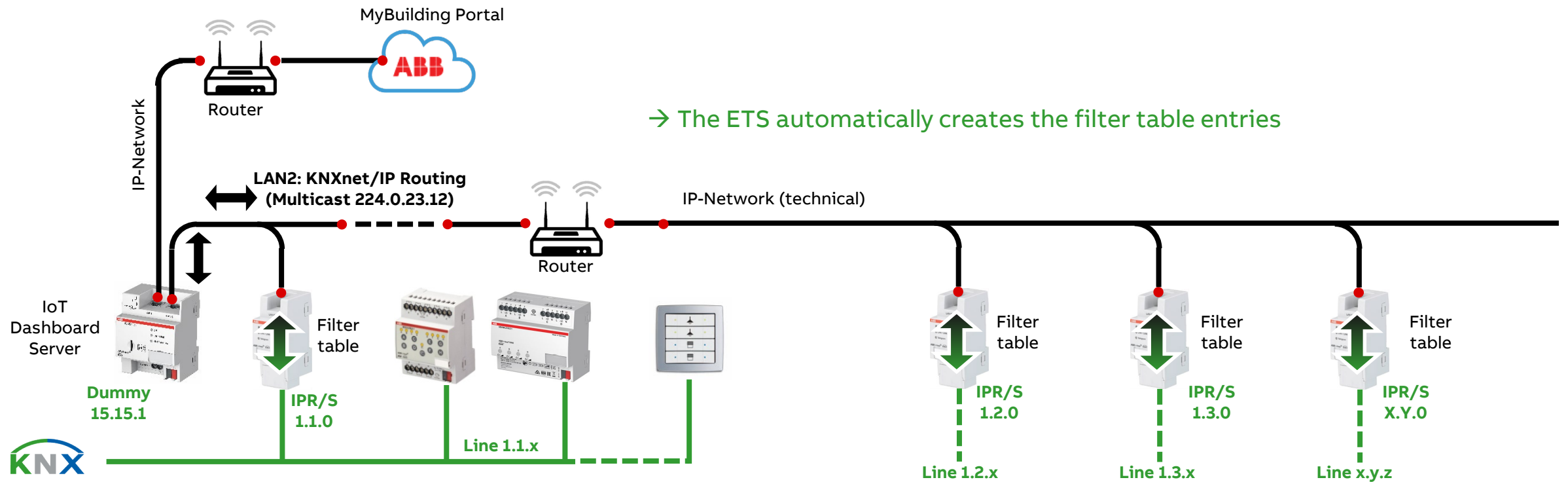
## Connection to KNX: KNXnet/IP Routing LAN1



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Device features “IoT Dashboard Server DBS/S 1.1.1.1”

## Connection to KNX: KNXnet/IP Routing LAN2



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

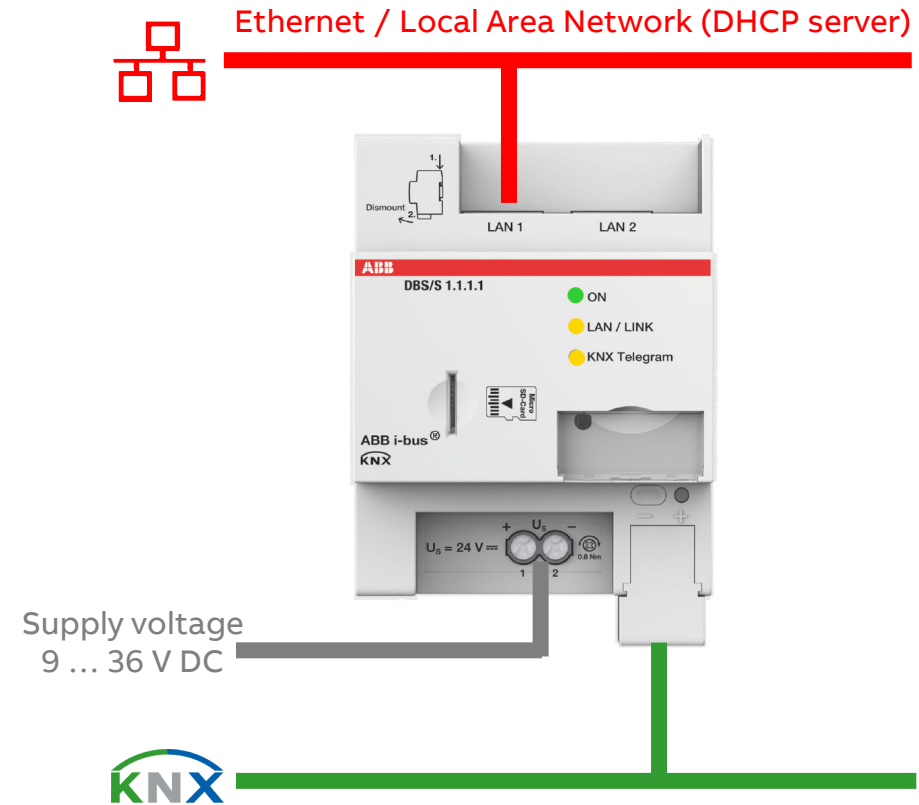
Commissioning with “IoT Dashboard Tool” and “ETS”

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Installation steps

- Connecting the supply voltage, KNX and IP network (one of the LAN connections on the device)
  - In the state of delivery both LAN connections are configured in the DHCP mode (DHCP server is required)
  - To read the IP address, the PC/laptop and the IoT Dashboard Server must be in the same network
  - The operating system starts and the green “ON” LED flashes
  - When the operating system has finished loading, the green “ON” stops flashing and lights up continuously
  - The connection to the IP network is indicated by the illumination of the “LAN/Link” LED
  - If KNX bus voltage is present, the “KNX” LED lights up permanently
- The initialization process is complete and the device is ready for operation and can be put into operation



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

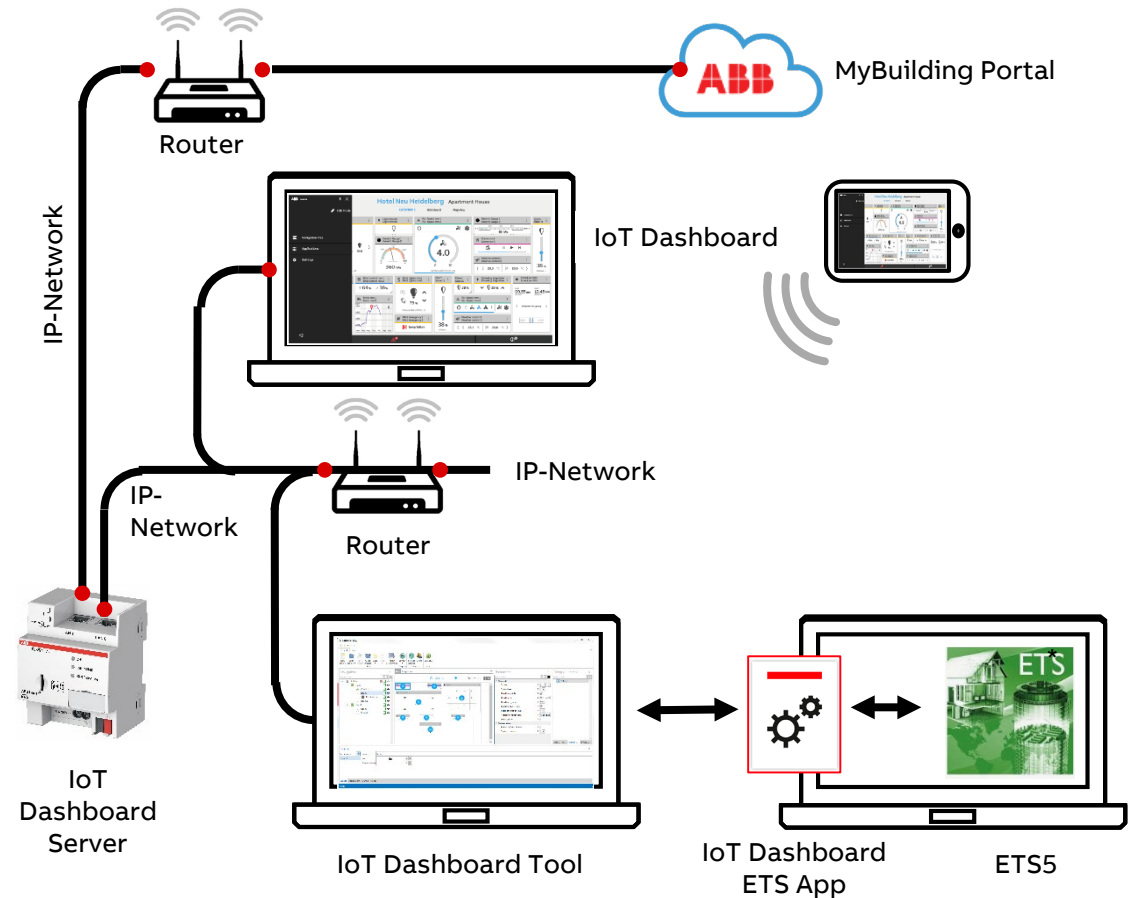
## How-to-create the IoT Dashboard

### Prerequisites

- PC/laptop with operating systems Windows 10, Internet browser (Chrome, Firefox or Safari / Internet Explorer is not supported) and LAN/WLAN network connection
- IoT Dashboard Server DBS/S 1.1.1.1 with web-based user interface “IoT Dashboard” (device is ready for operation)
- IoT Dashboard Tool
  - Software to creates the system configuration for the IoT Dashboard DBS/S

### Recommended prerequisites

- ETS5 and ETS application of IoT Dashboard Server DBS/S (knxprod-file)
- IoT Dashboard ETS App
  - To synchronize data between ETS and IoT Dashboard Tool



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 1: Configuration in ETS

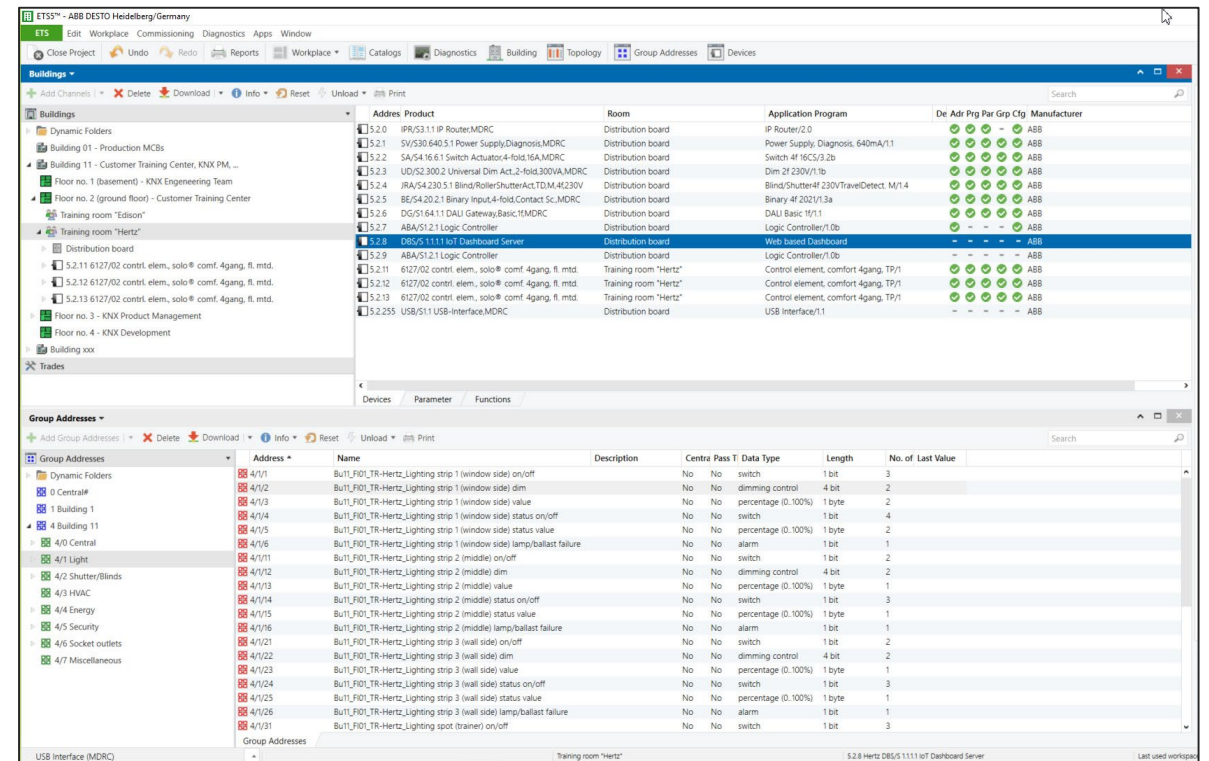
– Open existing ETS-project (e.g. KNX devices are already in operation)

or

– Create a new ETS-project

- Add building structure (building parts, floors, rooms, DBs, ...)
- Add devices (Switch Actuators, Shutter Actuators, Control Elements, Logic Controller, Presence Detectors, ...)
- Set parameter
- Add group addresses and link group objects of devices
- Download individual addresses and applications
- Add IoT Dashboard Server for creating the filter tables entries (device is not programmed)

→ Configure the project in the ETS like usual

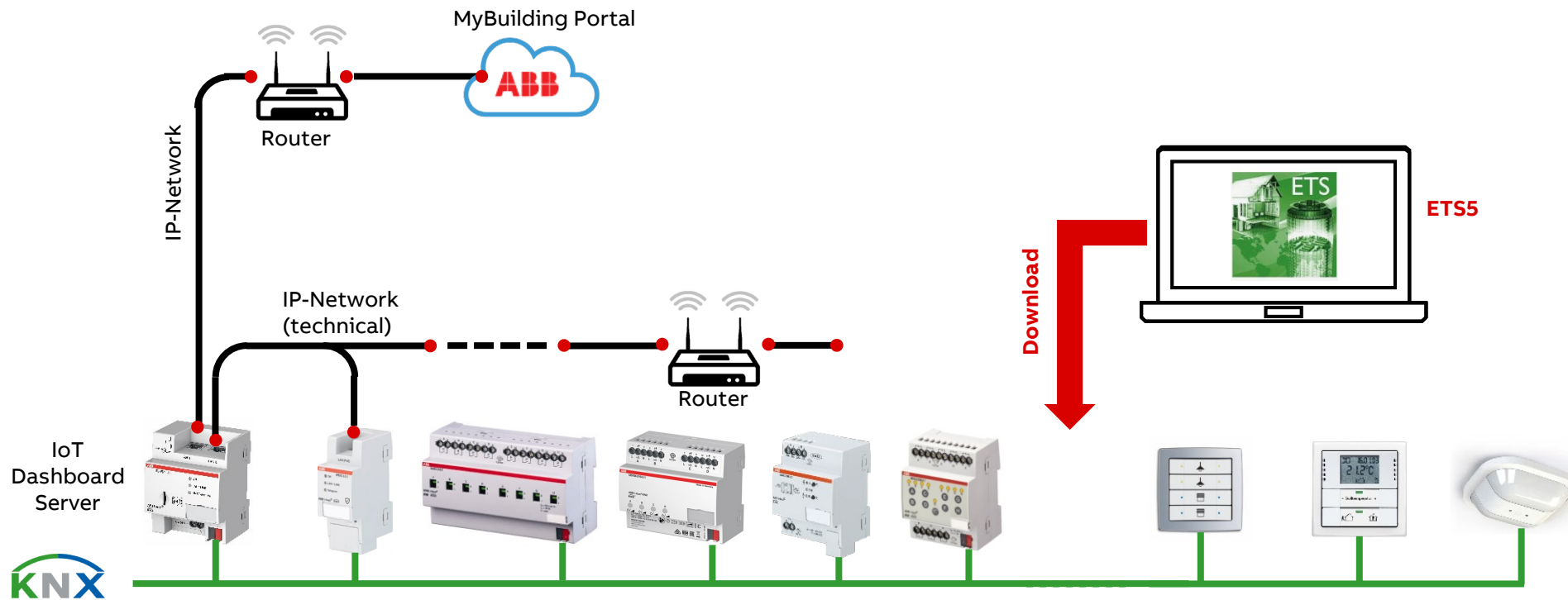




# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 1: Configuration in ETS

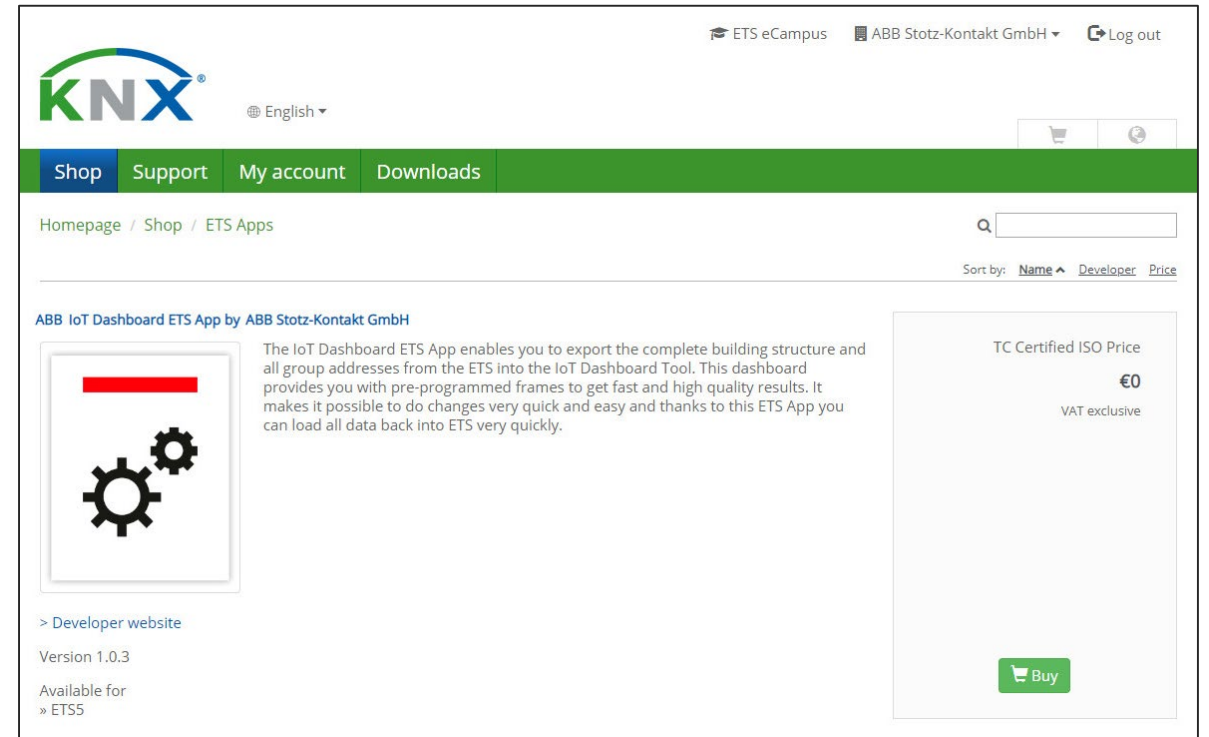


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 2: IoT Dashboard ETS App

- ETS App is the interface between the ETS and the IoT Dashboard Tool to **synchronize** the “Building view” and “Group addresses”  
→ no export/import!
- The installation is optional and is for synchronization
- Download and install “IoT Dashboard ETS App”
  - Go to “myKNX” → Shop → ETS Apps
  - “Buy” the IoT Dashboard ETS App  
The order is free of charge, therefore no payment is required
  - Download app software (\*.etsapp)
  - Download license key (\*.lic)



The screenshot displays the myKNX website interface. At the top, there is a navigation bar with the KNX logo, a language selector set to English, and user account options including 'ETS eCampus', 'ABB Stotz-Kontakt GmbH', and 'Log out'. Below this is a green navigation menu with 'Shop', 'Support', 'My account', and 'Downloads'. The main content area shows the breadcrumb 'Homepage / Shop / ETS Apps' and a search bar. The product listing for 'ABB IoT Dashboard ETS App by ABB Stotz-Kontakt GmbH' is visible, featuring a placeholder image with a red bar and two gears. The description states: 'The IoT Dashboard ETS App enables you to export the complete building structure and all group addresses from the ETS into the IoT Dashboard Tool. This dashboard provides you with pre-programmed frames to get fast and high quality results. It makes it possible to do changes very quick and easy and thanks to this ETS App you can load all data back into ETS very quickly.' The price is listed as 'TC Certified ISO Price €0 VAT exclusive'. A 'Buy' button is present at the bottom right of the product card. Additional details include a link to the 'Developer website', 'Version 1.0.3', and 'Available for » ETS5'.

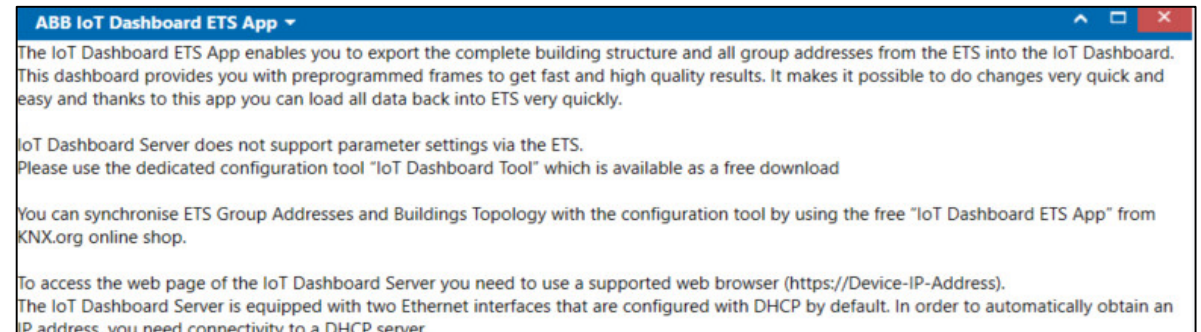
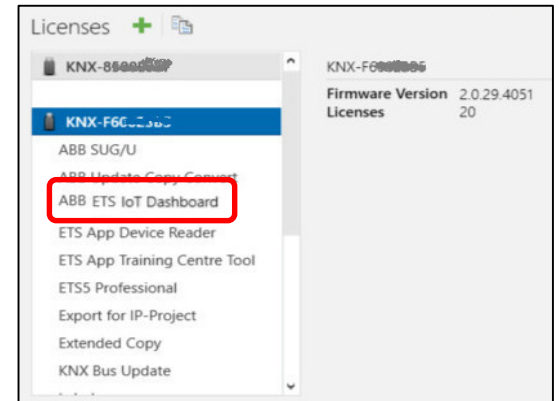
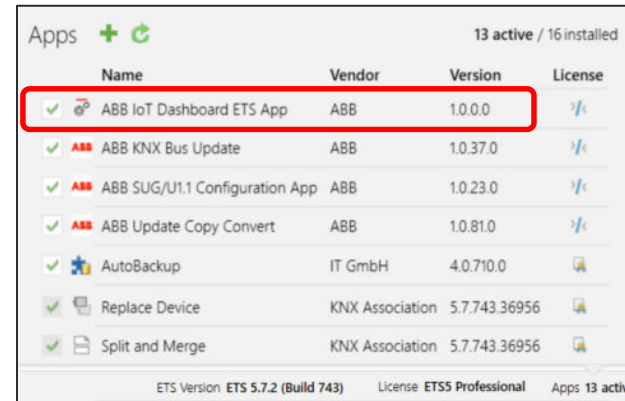
# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 2: IoT Dashboard ETS App

– ETS5

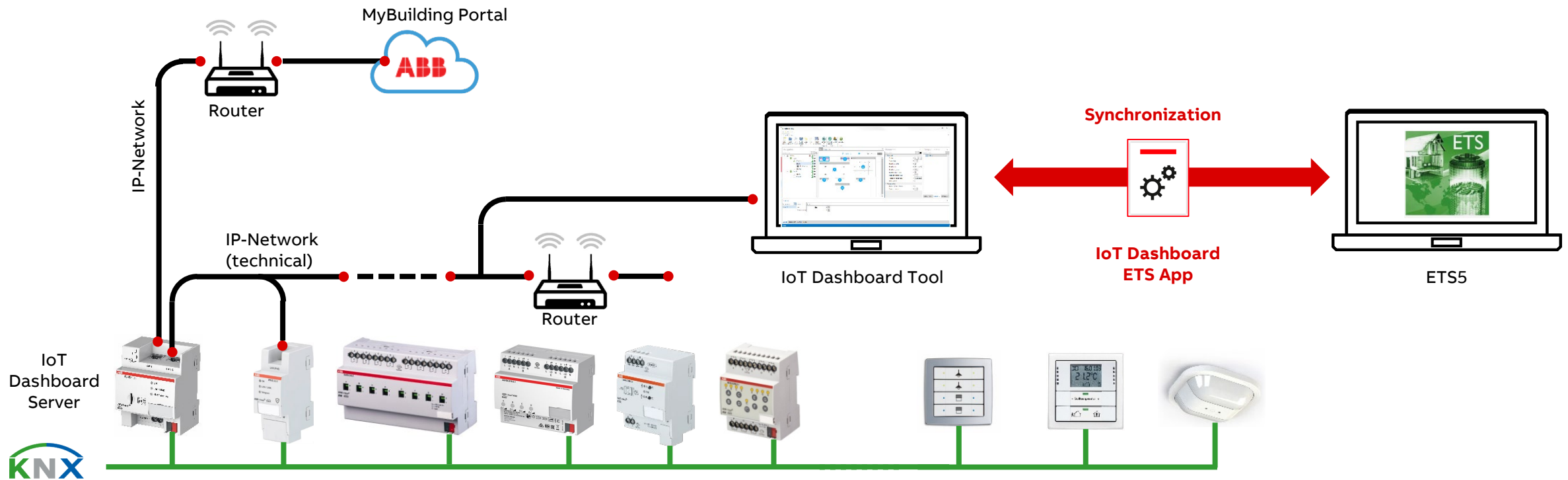
- Install ETS app
- Add license
- No further settings are made in the ETS App



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 2: IoT Dashboard ETS App

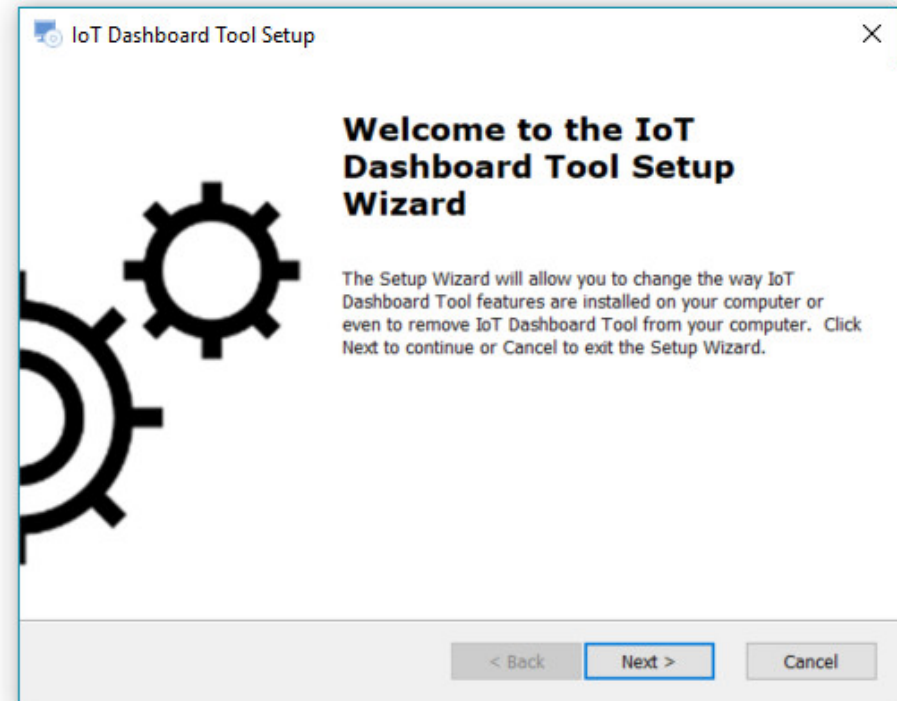


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 3: IoT Dashboard Tool

- The IoT Dashboard Tool creates the system configuration (all building settings) for the IoT Dashboard Server DBS/S
- It is possible to deploy the IoT Dashboard with an click
- If the IoT Dashboard ETS App is installed (recommended), the data can be **synchronized** between ETS and IoT Dashboard Tool
- Download and install “IoT Dashboard Tool”
  - The IoT Dashboard Tool software is available for downloading without charge at [www.abb.com/knx](http://www.abb.com/knx)
  - The IoT Dashboard Tool is installed via the "IoT Dashboard Tool Setup Wizard“
  - Start the install wizard by double clicking the “\*.exe” file
  - Follow the instructions of the install wizard

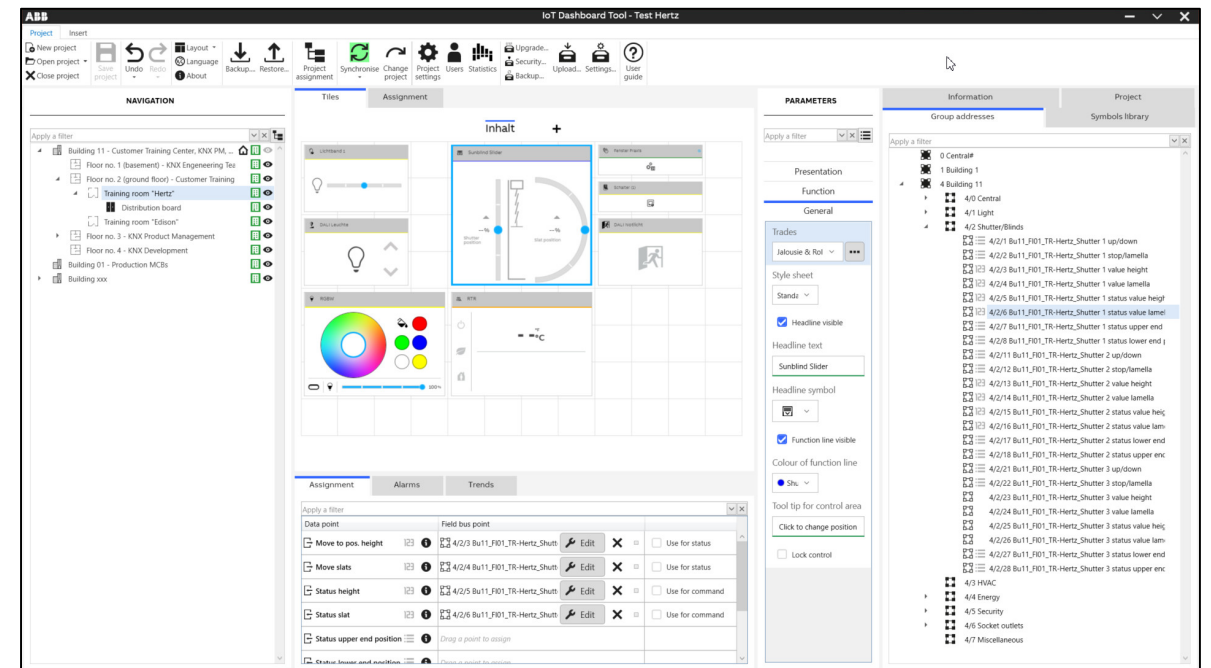


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Commissioning with “IoT Dashboard Tool” and “ETS”

### Step 3: IoT Dashboard Tool

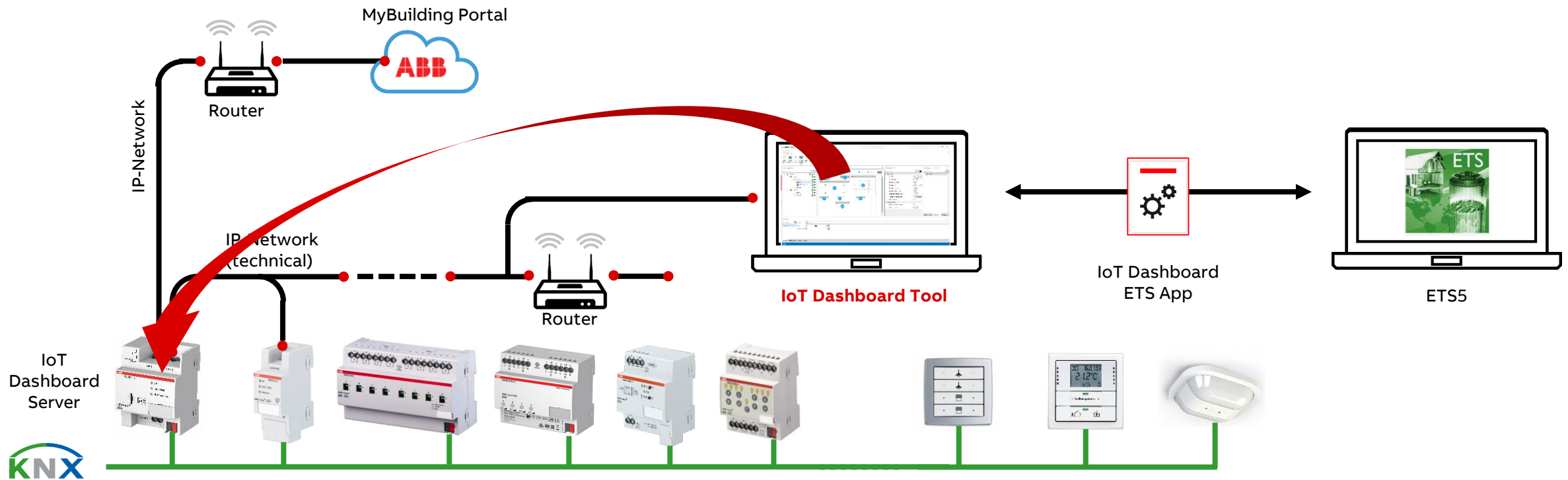
- The IoT Dashboard Tool is a software for the Electrical installer to create the IoT Dashboard
- The IoT Dashboard is created according to individual requirements and loaded into the IoT Dashboard Server
- It includes predefined modules, controls, ...
- Essential tasks during project configuration:
  - Synchronization of the Building Structure with the ETS, e.g. floors and rooms
  - Synchronization of Group Addresses with the ETS
  - Configuration of pages, e.g. arrangement of controls
  - Configuration and parameterization of controls
  - Link controls with group addresses
  - Specifying settings, e.g. user rights
  - Upload project to the IoT Dashboard Server



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 3: IoT Dashboard Tool

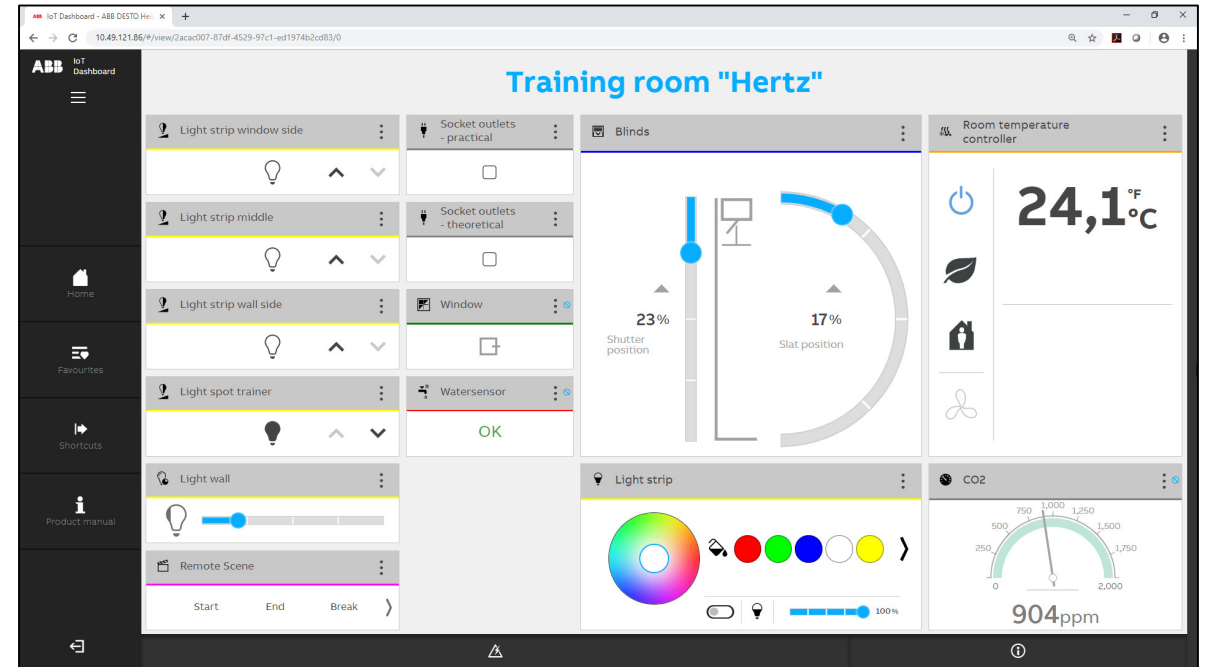


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 4: IoT Dashboard

- The operation of the IoT Dashboard takes place following the upload of the project to the IoT Dashboard Server
- The user can operate the IoT Dashboard via a browser (PC, laptop or tablet)
- For the operation, the IP address of the IoT Dashboard Server and a login is required
- To log in, a username and password is required and the language can still be selected
- Depending on their user rights, users have access to the areas and can perform functions
  - Operate and display value and states
  - Scheduler
  - Trend viewer
  - Alarm center
  - ...

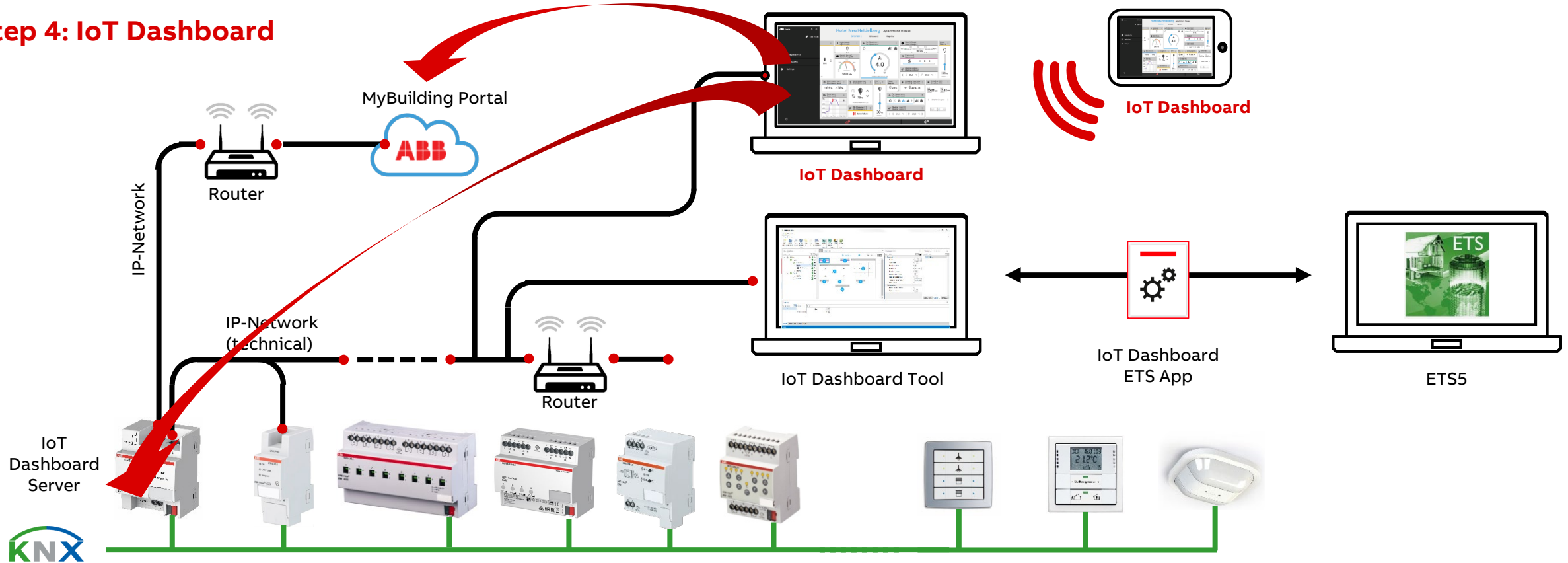




# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Commissioning with “IoT Dashboard Tool” and “ETS”

## Step 4: IoT Dashboard



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

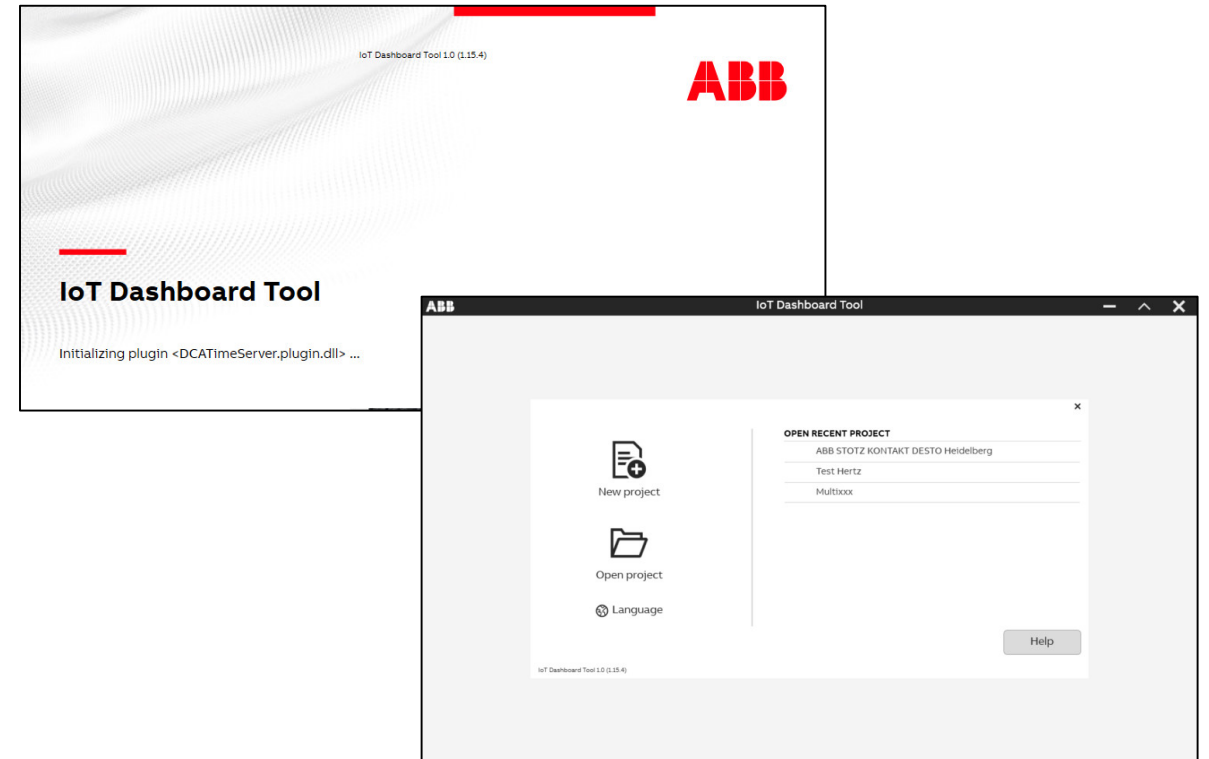
IoT Dashboard Tool

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Start

- Start the IoT Dashboard Tool
- Click on the "Language" button to start the software in the desired language (German or English)
- Select whether to create a new project or open an existing one



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Create a new project

- Click on the “New project” button
- Assign a project name under “Name” and under “Path” specify the memory path under which the project is to be saved
- Then select whether you have an existing ETS project whose data you wish to synchronize between ETS and IoT Dashboard Tool
  - If you do not have an existing ETS project for synchronization, select the option “I do not have an ETS project” and specify in how many levels your group addresses are to be subdivided (“Two levels” or “Three levels”)
  - If you wish to synchronize data, select the option “Synchronize with ETS project”, select the desired project (The ETS project must already be open in the ETS!), IoT Dashboard Server in the project and synchronize the data

New project

Name  
ABB DESTO Heidelberg (Germany)

Path  
C:\Users\DEU121986\Documents\ABB\Dashboard IoT Server\Projects\AB

ETS project to synchronise with

I have no ETS project

ETS group address style

Two level  Three level

Note: you can synchronize your ETS project in a later stage

Synchronise with ETS project

ABB DESTO Heidelberg/Germany

Note: If your project is not present in the list, you must open it in the ETS and make sure the IoT Dashboard ETS App is installed.

Help Cancel Create

ETS synchronisation - IoT Dashboard Server warning

Several IoT Dashboard Server were found inside the ETS project.  
Please select a device you want to use for the project.

DBS/S 1.1.1.1 IoT Dashboard Server 6.6.86

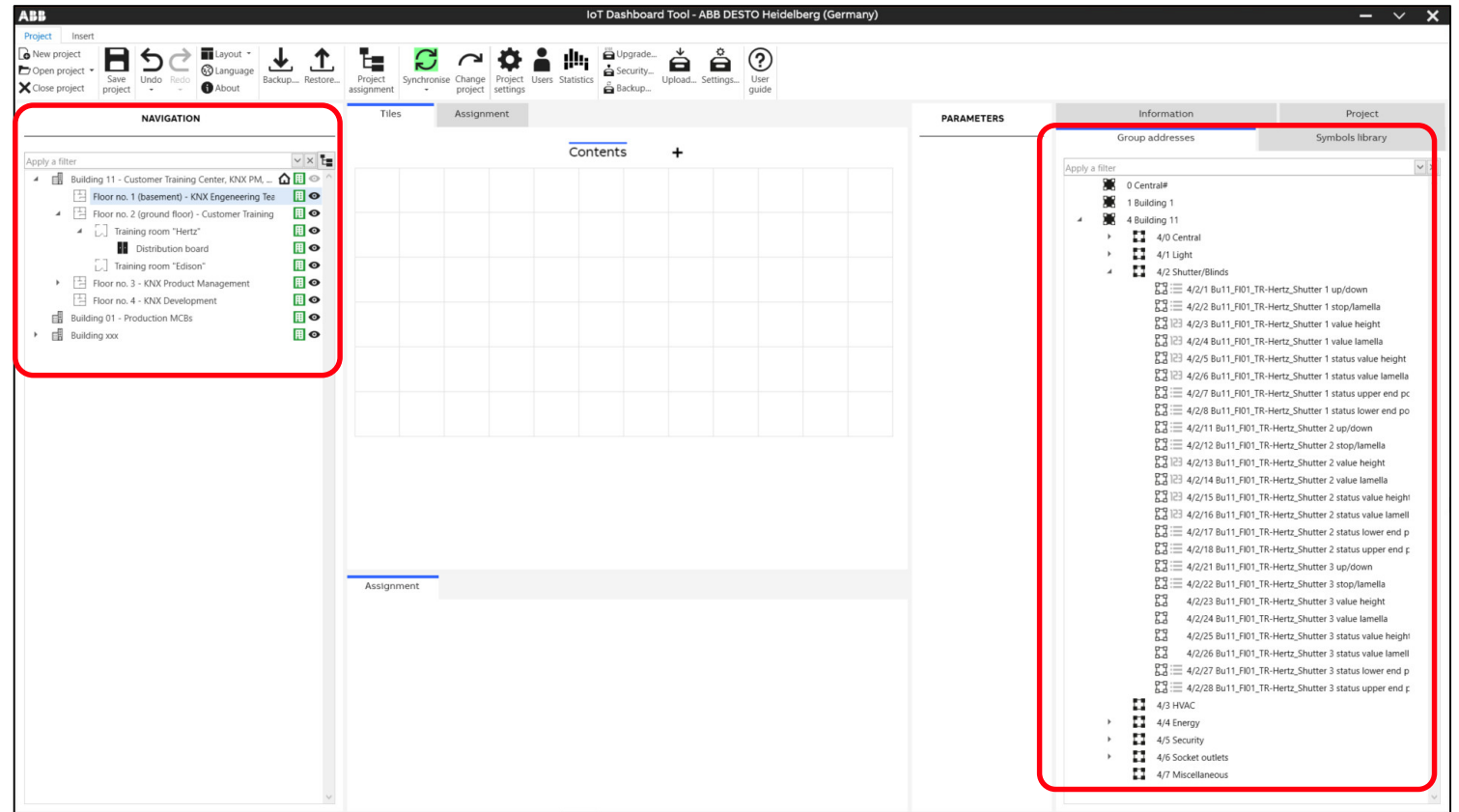
Help Back Next

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Create a new project

- The IoT Dashboard Tool creates a new project
- The building view and the group addresses were synchronized with the ETS

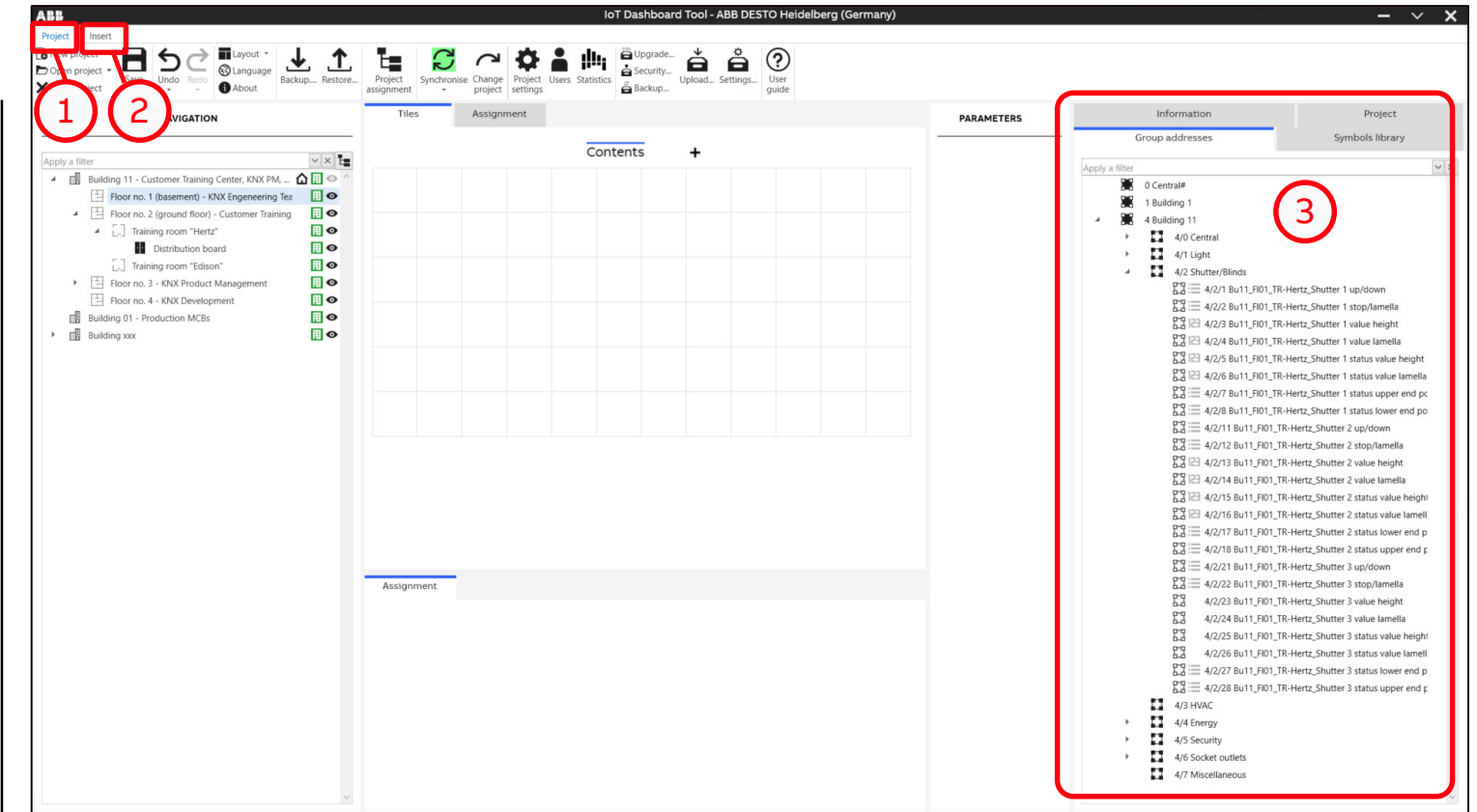


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Screen areas of the IoT Dashboard Tool

1. “Project” tab  
Access to the various project functions, e.g. New project, Open project, Save project, Layout, User, Settings, etc.
2. “Insert” tab  
Comprises the available controls
3. This area comprises the different tabs
  - “Information” tab
  - “Project” tab
  - “Group addresses” tab
  - “Symbols library” tab
  - “Parameter” area

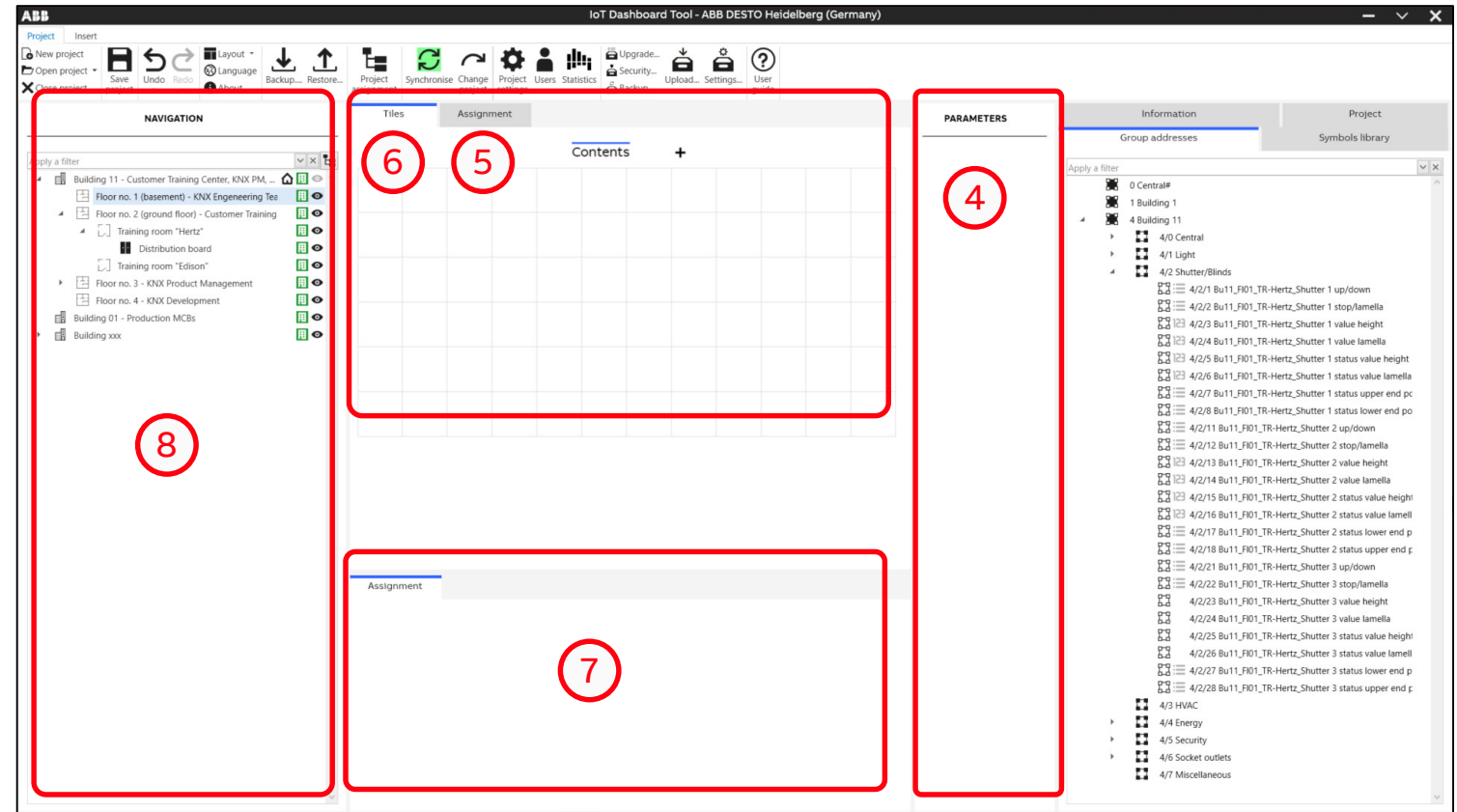


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Screen areas of the IoT Dashboard Tool

4. "Parameter" area
  - “General” tab
  - “Representation” tab
  - “Behavior” tab
  - “Function” tab
5. "Assignment" tab
6. "Tiles" tab
7. This area comprises the different tabs.
  - “Assignment” tab
  - “Alarms” tab
  - “Trends” tab
  - “Scenes” tab
  - “Values” tab
8. “Navigation” tab

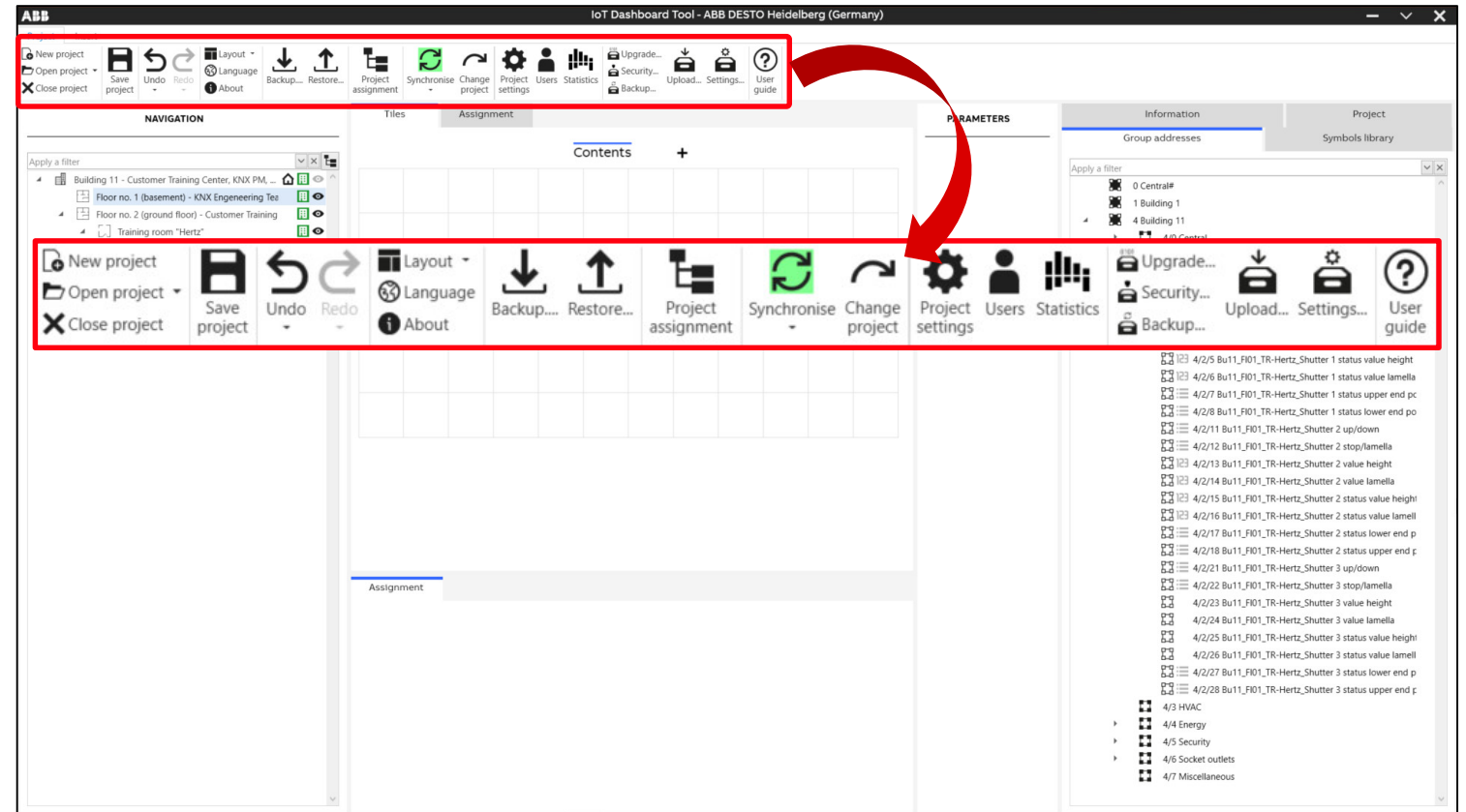


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Ribbon bar

- Open, create, save, close, backup or restore projects
- Synchronization of data between IoT Dashboard Tool and ETS
- Project settings (date, time, language, ...)
- User rights management
- IoT Dashboard Server settings (LAN ports, Cloud, KNX physical address, ...)
- Upload configuration to IoT Dashboard Server
- Security settings
- Backup or restore configuration
- Product manual
- ...



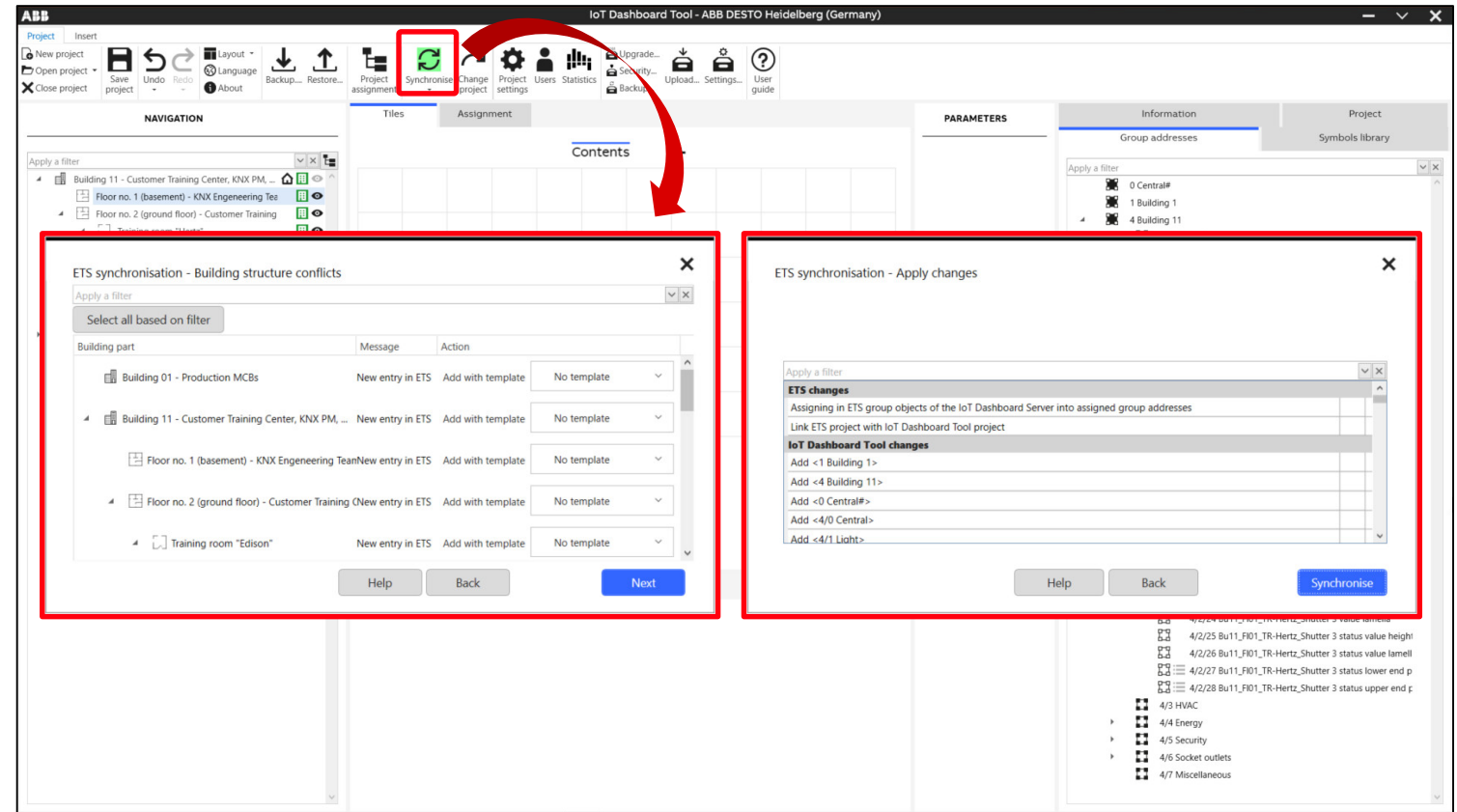


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Synchronize project

- The building view and group addresses between IoT Dashboard Tool and ETS can be synchronized
- The ETS project can be selected when creating the IoT Dashboard Tool project or later
- The IoT Dashboard ETS App must be installed and the ETS project must be open
- Two options are available
  - “Constantly wait for confirmation before changes are applied”  
The changes you made are only applied when confirmed
  - “Wait for confirmation only when conflicts are detected”  
The changes you made require confirmation only when there are conflicts with other settings



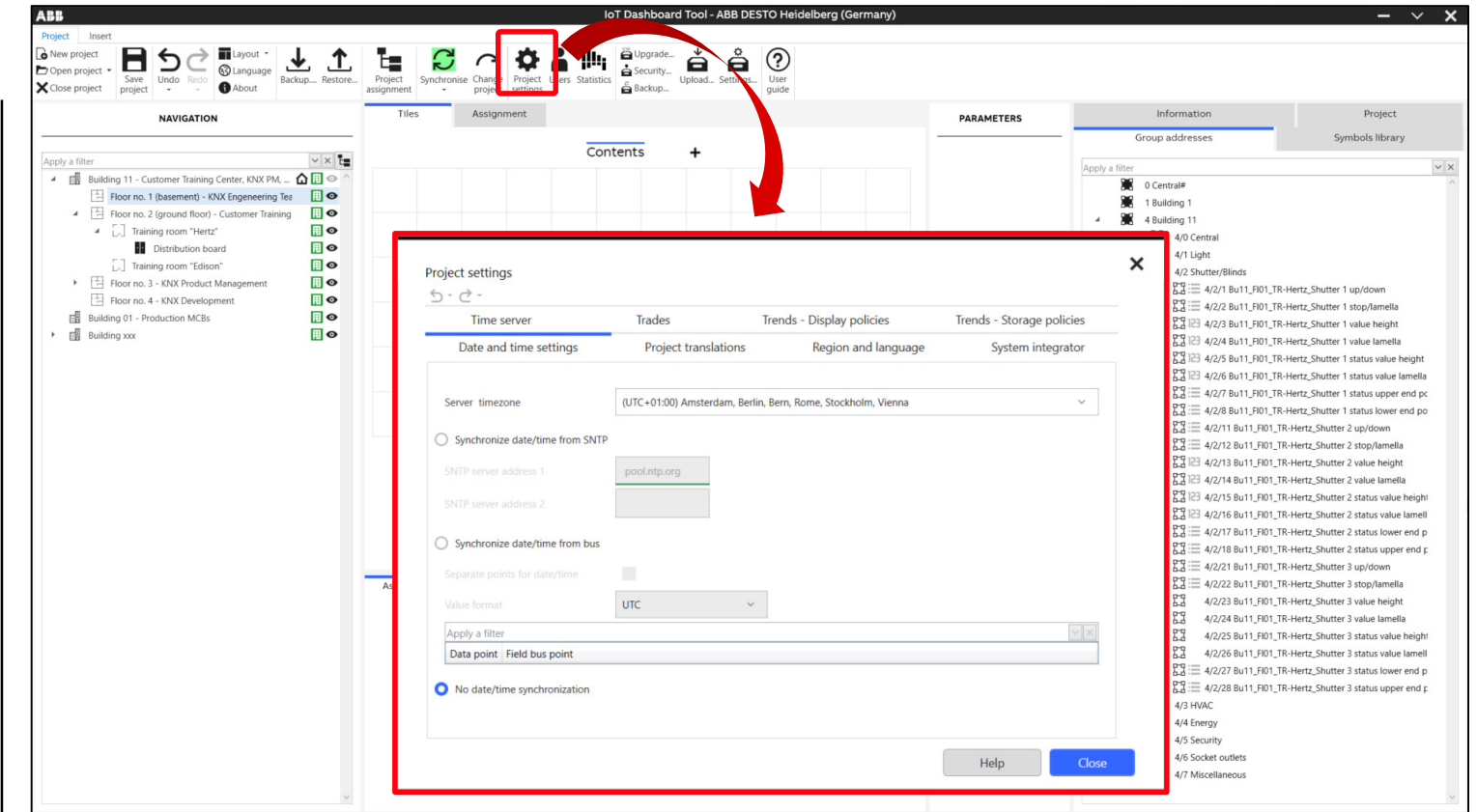
# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Project Settings

The project settings include the

- Time server
- Trades
- Trends - Display policies
- Trends - Storage policies
- Date and time
- Project translations
- Region and language
- System integrator

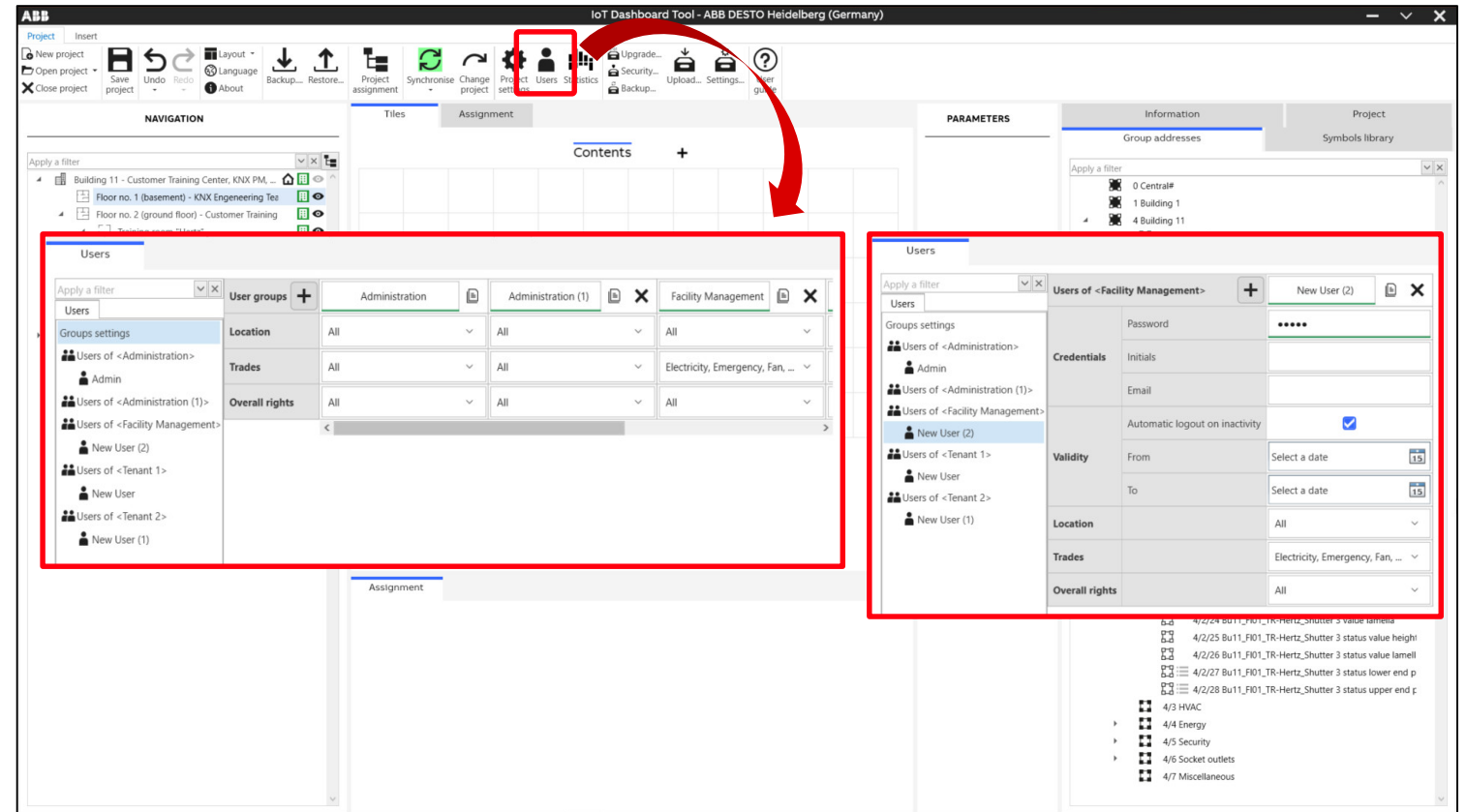


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### User rights

- User groups and corresponding users can be created in the "Project" tab under "Users“
- All users and user groups can be assigned individual user rights
- The following user groups and user rights are available as standard:
  - Administration
  - Facility Management
  - Tenant 1
  - Tenant 2

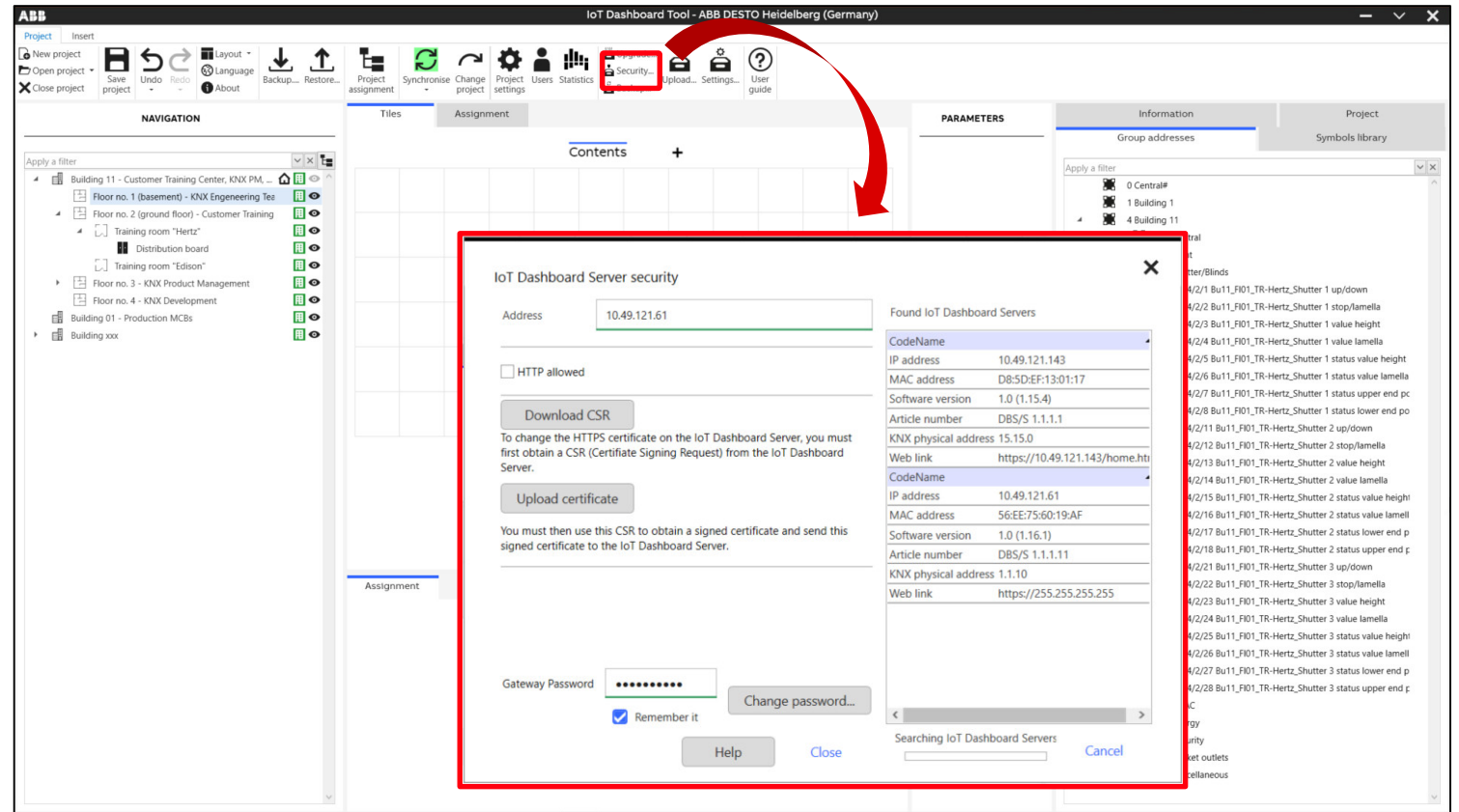


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Security settings

- To ensure a secure transmission of data the IoT Dashboard is delivered from the factory with “https” enabled
- The security certificate can be changed in the security settings of the IoT Dashboard.
- In addition, the data transmission can be activated via the unencrypted “http”
- If the “http” is enabled, both the “https” and the “http” will be used
- The “Scan” function can be used to search for IoT Dashboard Server in the network and upload/download the changes

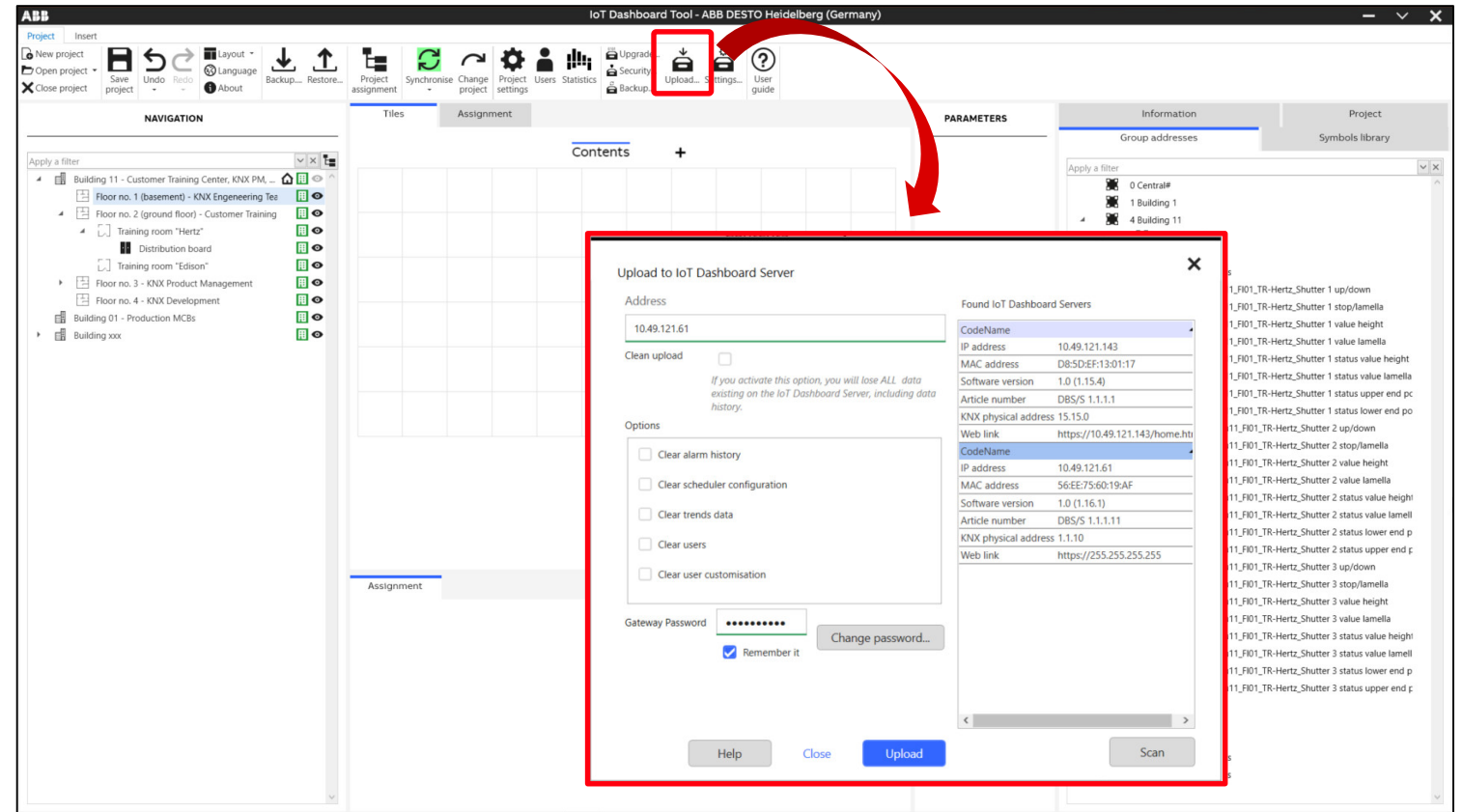


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Uploading a project configuration

- The project configuration is uploaded to the IoT Dashboard Server
- The project configuration in the IoT Dashboard Server can be overwritten completely or depending on the selection
- If a project configuration is uploaded to the IoT Dashboard Server for the first time or if the IoT Dashboard Server has previously been reset to the delivery state, an upload password must be specified
- This password must be entered during every future upload (can be saved)
- The “Scan” function can be used to search for IoT Dashboard Server in the network

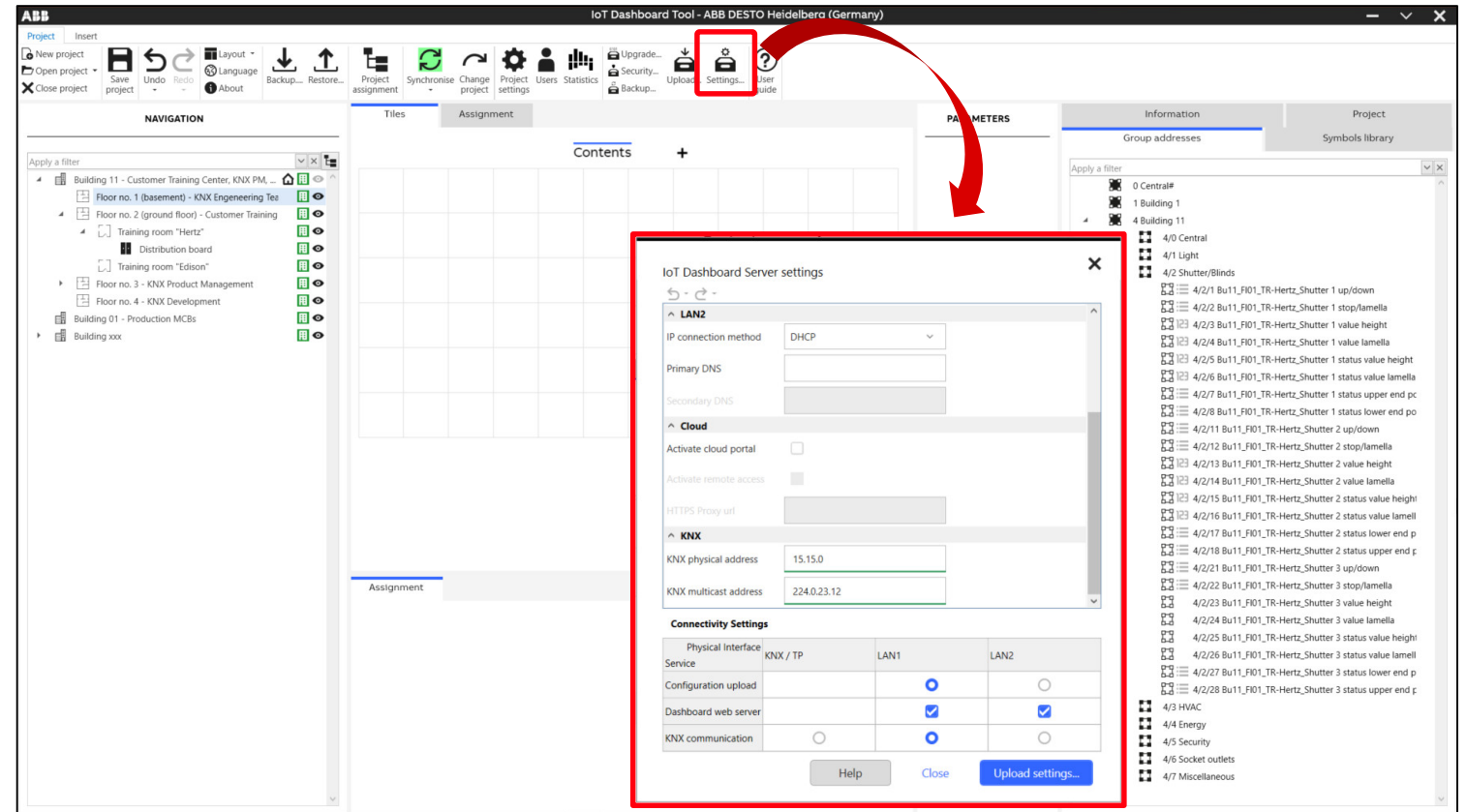


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Settings

- A device name can be assigned
- The IP settings for the two network connections LAN1 and LAN2 are set
  - DHCP (default)
  - Manual (static IP address)
- The Cloud Portal can be activated
- The physical KNX address and KNX multicast address can be set
  - Twisted pair or
  - LAN1 or
  - LAN2

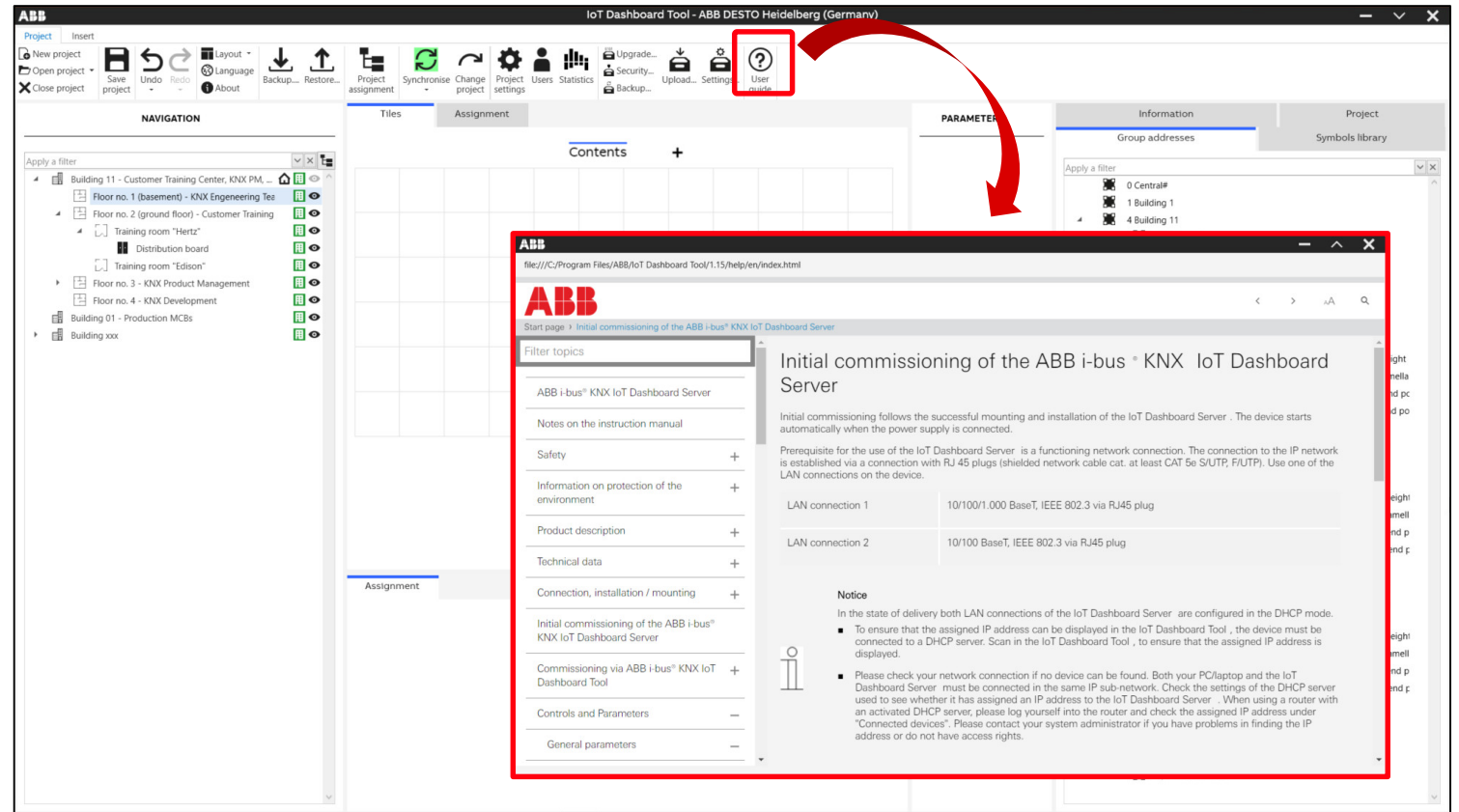


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### User guide

- The product manual will be launched in a new browser window

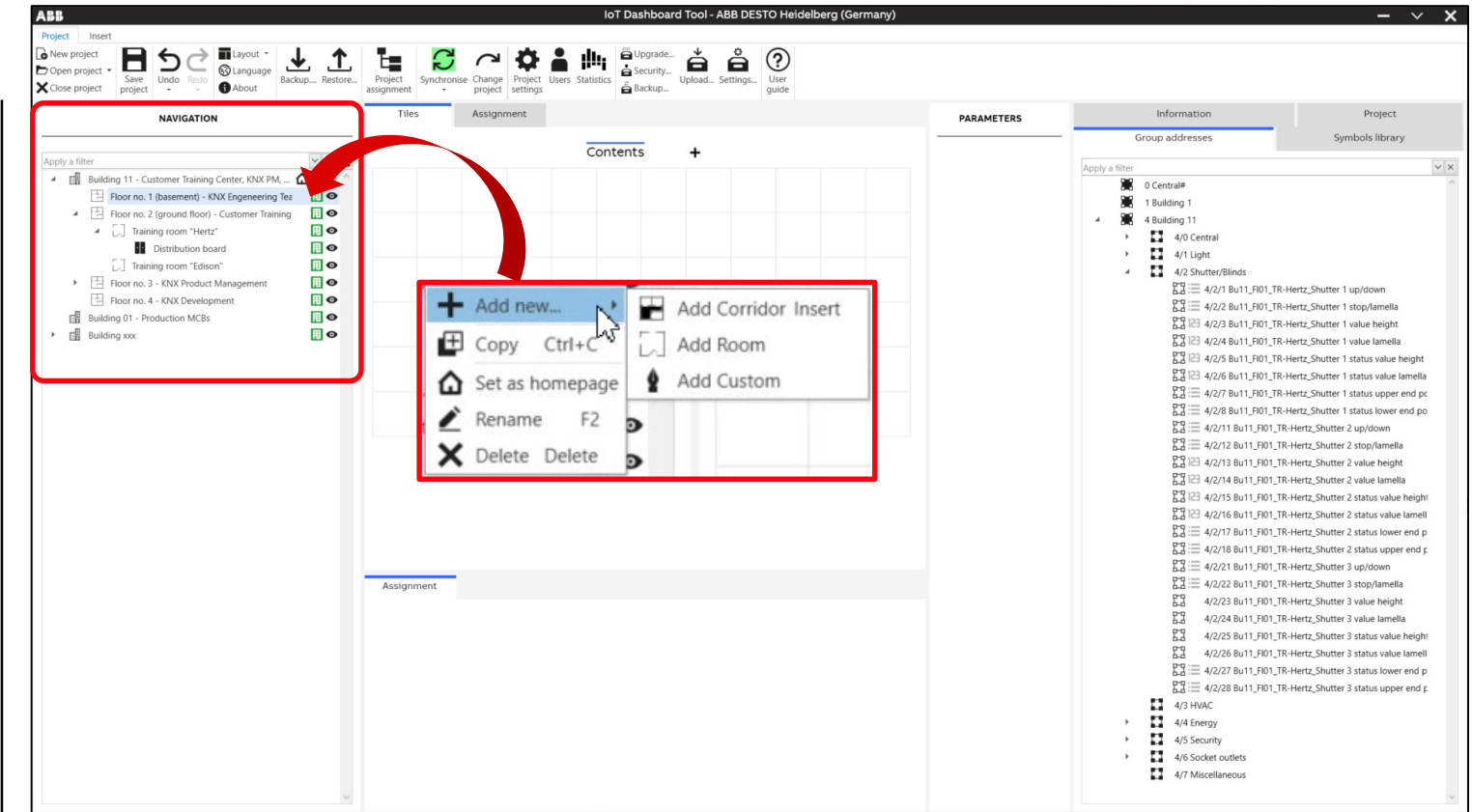


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Navigation structure

- The navigation structure completely represents the building view
- The building view can be synchronized with the ETS or manually created
- The building is subdivided into building, building parts, floors, corridors, staircases and rooms
- Each element of the building structure is displayed as independent operating page
- In addition, distribution cabinets can be positioned in the individual operating pages of the navigation structure



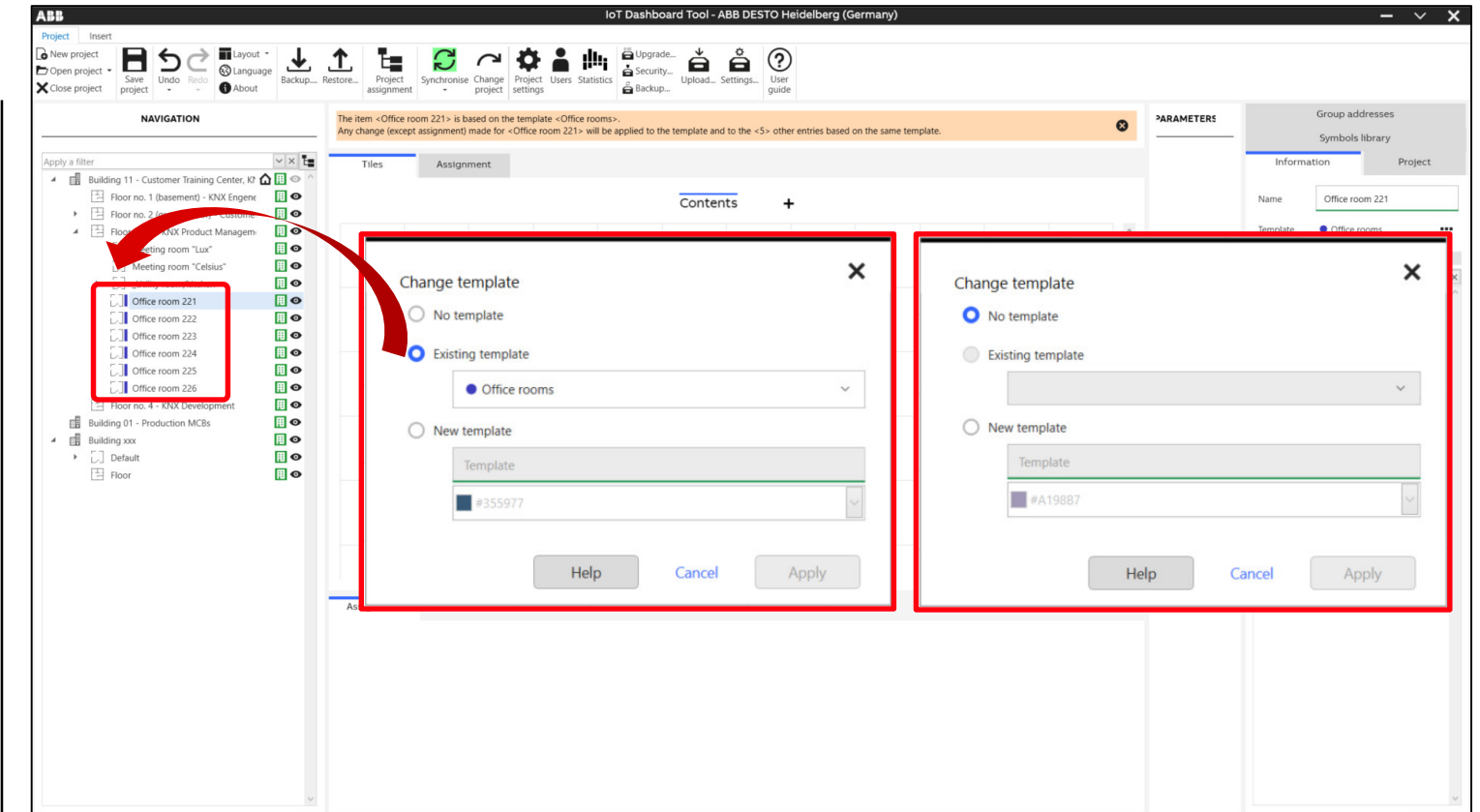


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Project templates

- If a new element is added to the building structure, an new or an existing template can be added to it
- All changes that are made to an element which is based on a template, also have an effect on all others that are linked with the building parts
- The “Office room 221” is based on the template “Office rooms”. Any changes made for “Office room 221” will be applied to the template and to the other rooms based on the same template
- During the creation of the navigation structure, templates can be added to the building and to the different elements

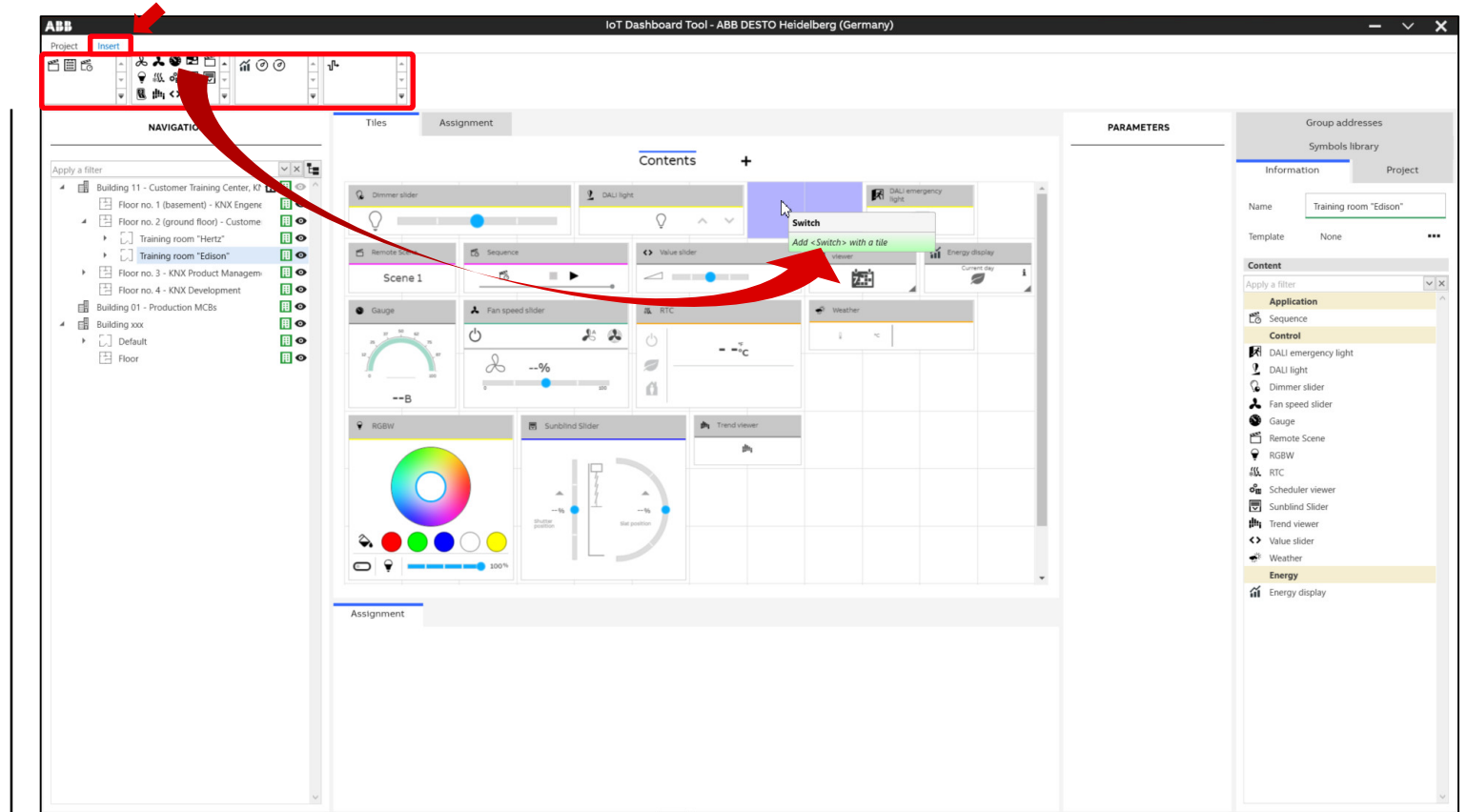


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Configuration of the operating page

- After creating the navigation structure, different controls can be added to the individual operating pages
- For this the available controls are pulled out of the selection window (“Insert” tab) to the operating page via drag and drop
- The individual controls are represented as tiles
- The size of the tiles is adjusted via the grid in the page viewer by pulling
- Some controls require more space in the grid, while the maximum height and width is predetermined for each control

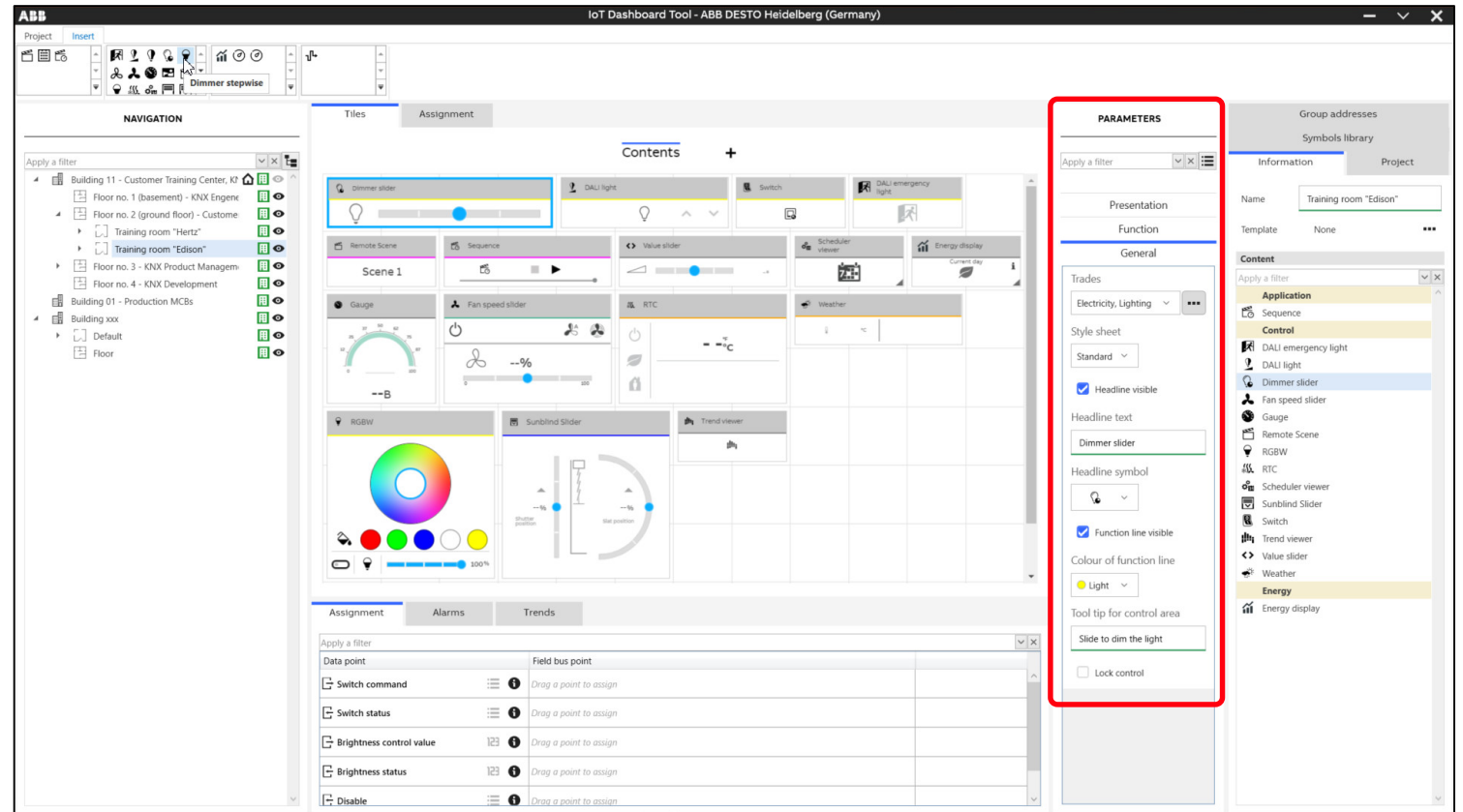


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Configuration of the operating page

- The parameter window shows information about the individual controls
- The controls serve as control areas with which the user later operates the various functions in the web-based IoT Dashboard
- They are used to fulfil the basic functions such as “Switching”, “Dimming”, “Blinds” and “Scenes”
- For their individual appearance, as well as individual operation, the controls will be parameterized
- For this the different parameters are available in the selection area on the right

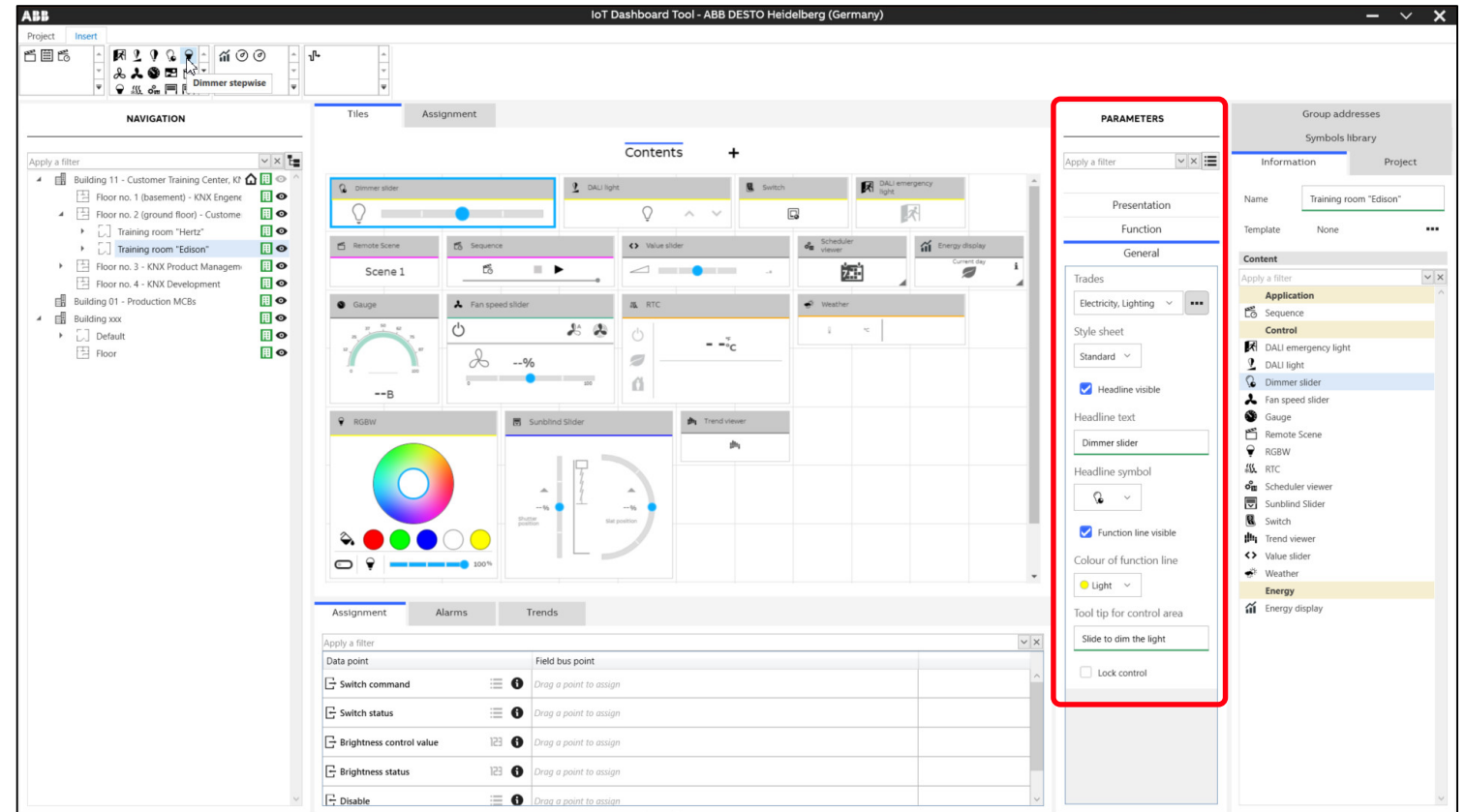


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Configuration of the operating page

- The parameter window shows information about the individual controls
- The controls serve as control areas with which the user later operates the various functions in the web-based IoT Dashboard
- They are used to fulfil the basic functions such as “Switching”, “Dimming”, “Blinds” and “Scenes”
- For their individual appearance, as well as individual operation, the controls will be parameterized
- For this the different parameters are available in the selection area “Parameters” (general, presentation and function) on the right

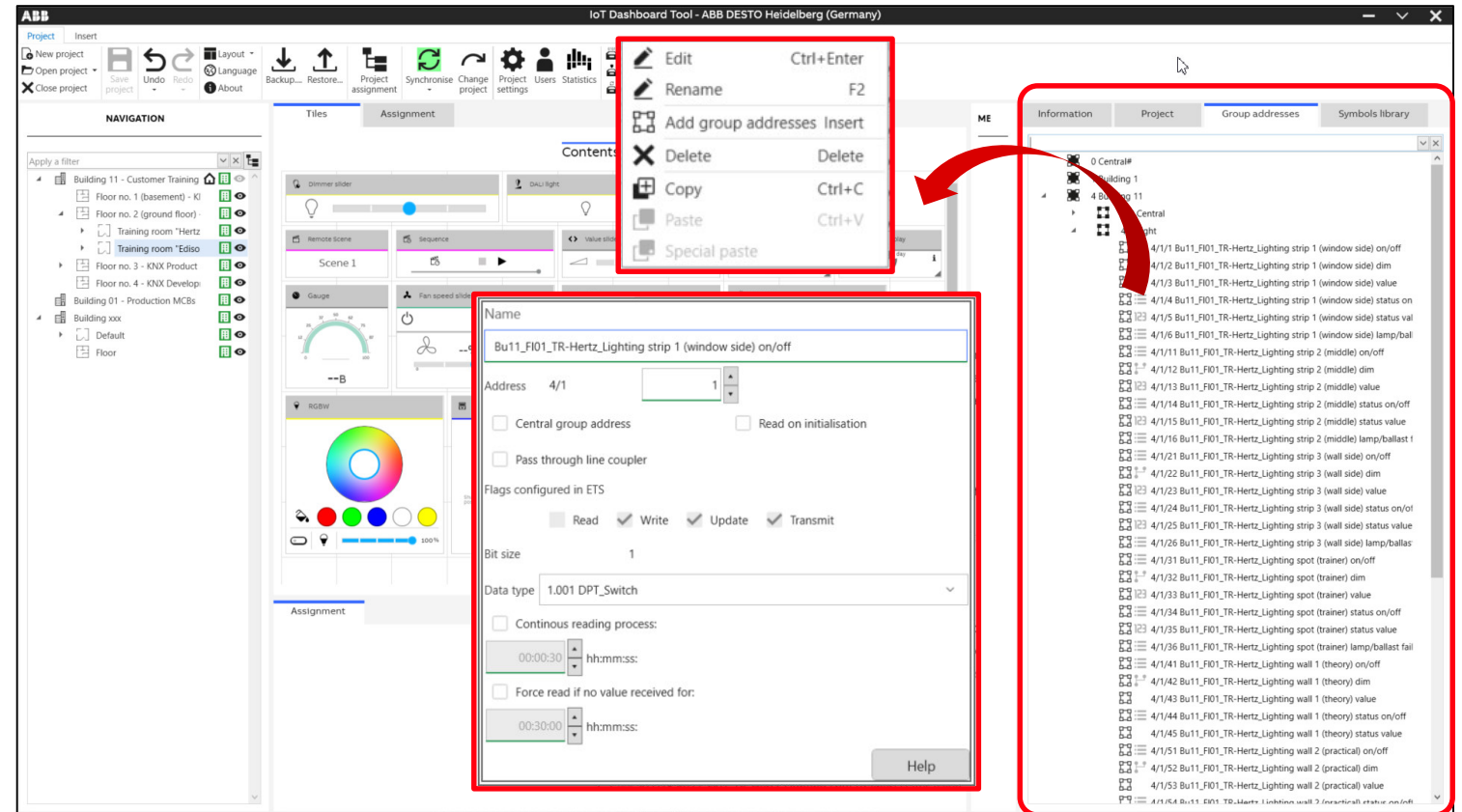


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Group addresses

- Group addresses are created and managed in the "Group addresses" tab in the right area of the screen
- The group addresses can be synchronized with the ETS or manually created

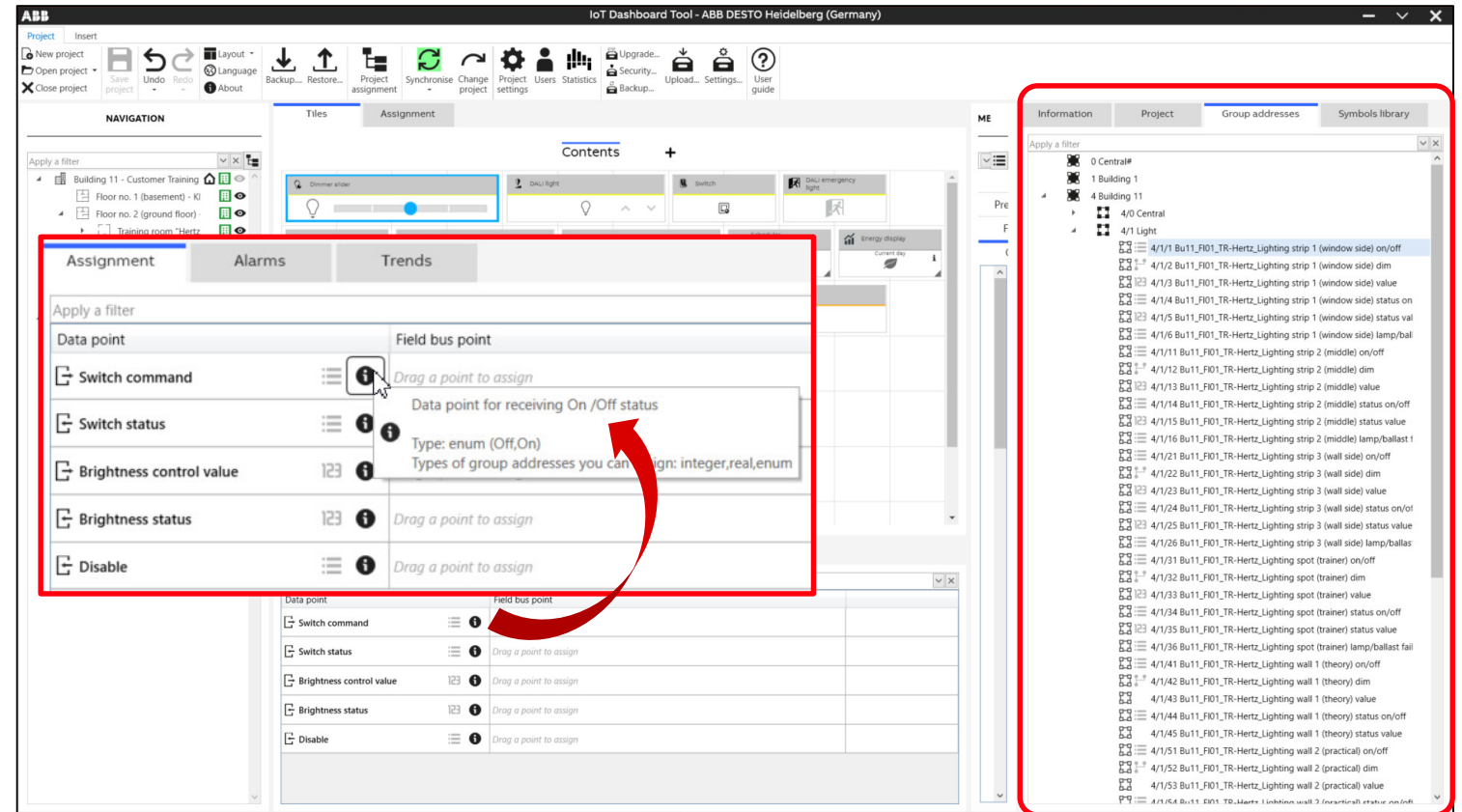


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Assignment of group addresses

- Group addresses are assigned to the data points of the control via the "Assignment" function
- Data points can only send telegrams to or receive telegrams from the KNX bus after the assignment
- To allow you to assign a group address to a data point, the native data type of the data point and the group address must match
- Data types are displayed via a symbol on the right next to their respective data point

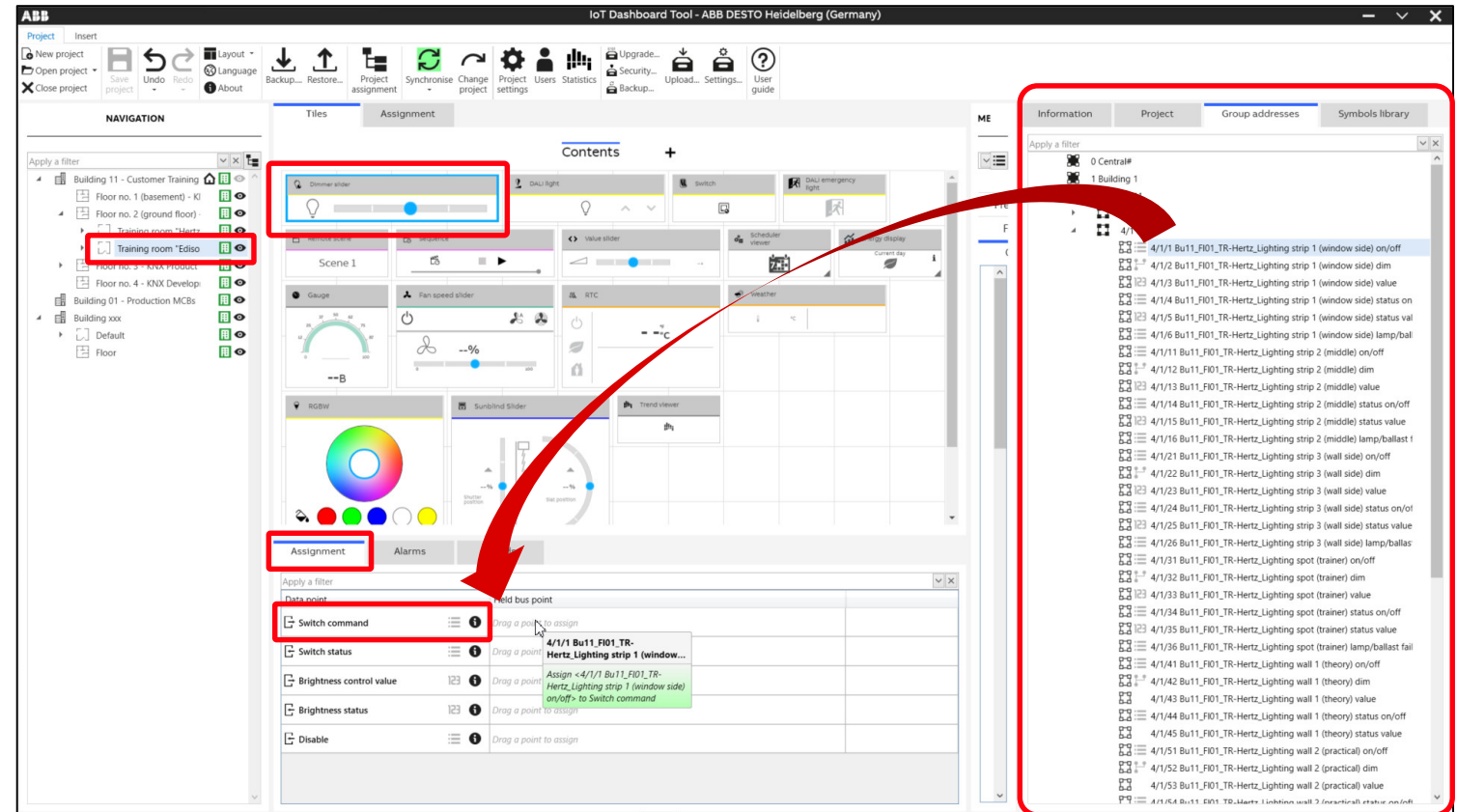


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Assignment of group addresses

- Select any building view element (Training room Edison) in the navigation tree
- Then, in the tiles view, click on the control (dimmer slider) whose assignment you want to make
- Open the "Assignment" tab below the tiles
- All data points of the control are displayed in the assignment tab
- Open the "Group addresses" tab parallel in the right area of the screen
- Pull the group address via drag and drop onto any data point in the "Assignment" tab



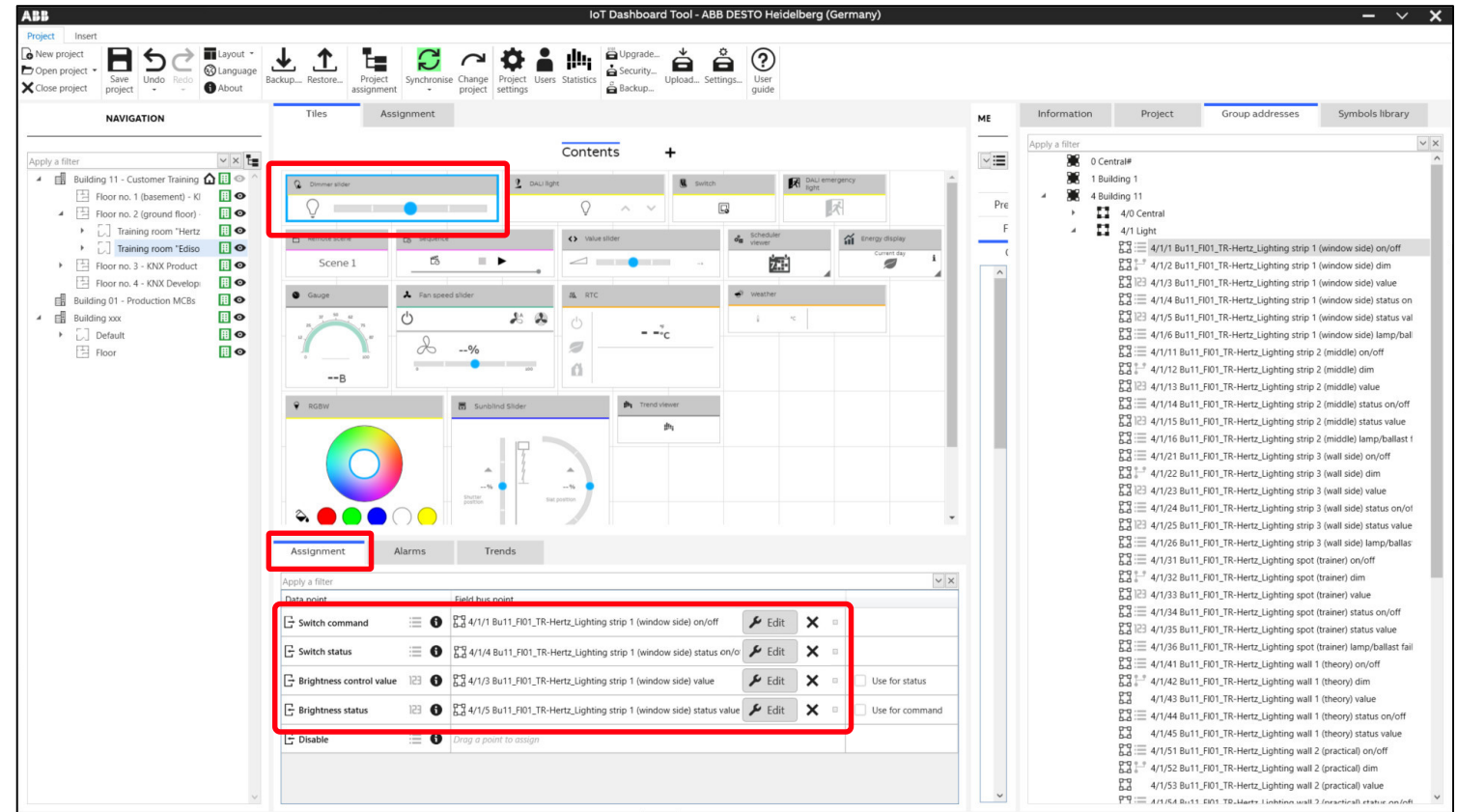
# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Assignment of group addresses

– Associated group addresses of a “Dimmer Slider” element

- Switch command
- Switch status
- Brightness control value
- Brightness status





# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Assignment of group addresses

– Associated group addresses of a “Sunblind Slider” element

- Move to pos. height
- Move slats
- Status height
- Status slat
- Status upper end position
- Status lower end position

The screenshot displays the ABB IoT Dashboard Tool interface. The main window shows a dashboard with various widgets, including a 'Sunblind Slider' widget highlighted with a red box. Below the dashboard, the 'Assignment' tab is active, showing a table of data points and their corresponding field bus points. The table is also highlighted with a red box.

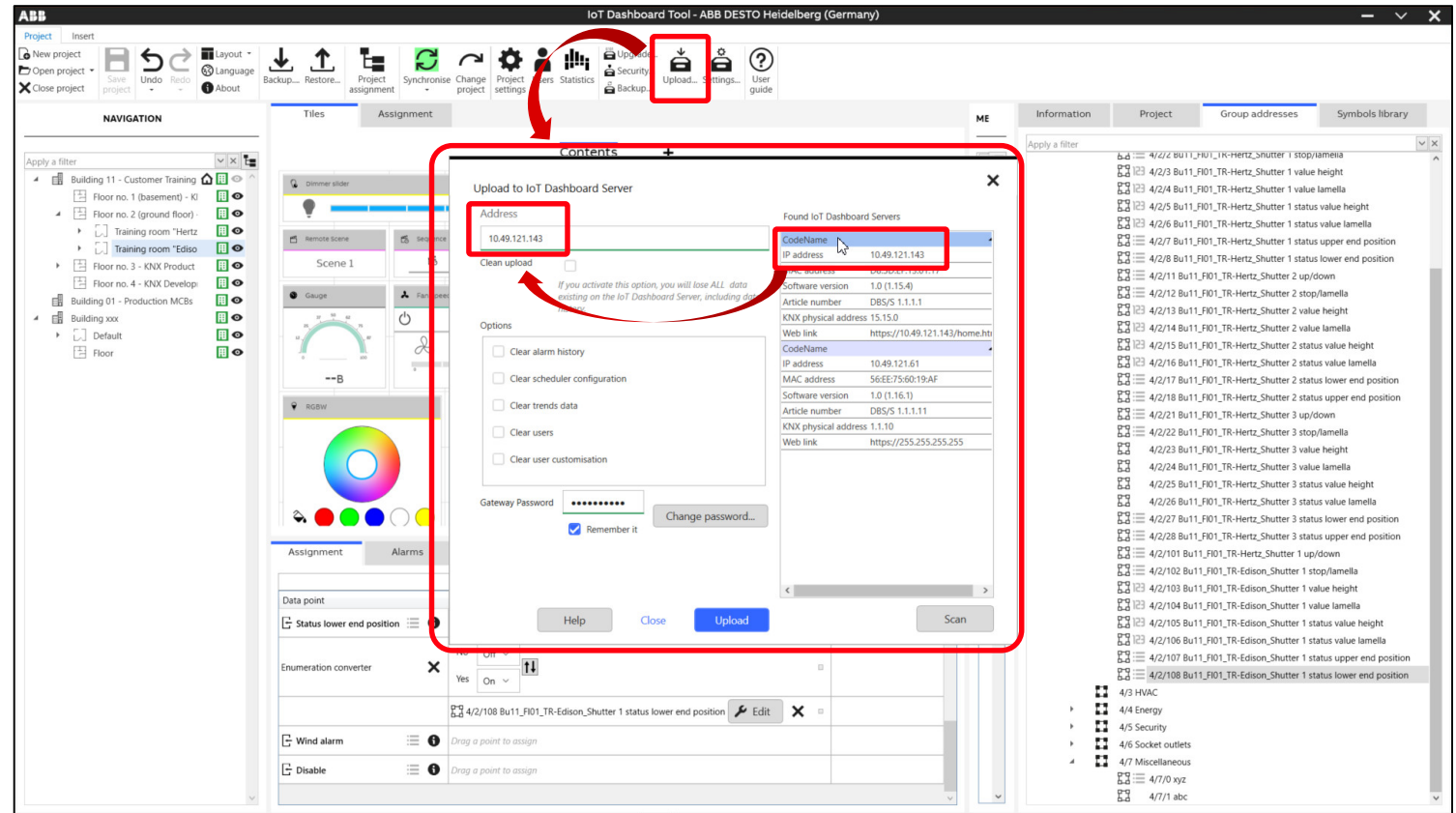
Data point	Field bus point	Use for status
Move to pos. height	4/2/103 Bu11_F01_TR-Edison_Shutter 1 value height	Use for status
Move slats	4/2/104 Bu11_F01_TR-Edison_Shutter 1 value lamella	Use for status
Status height	4/2/105 Bu11_F01_TR-Edison_Shutter 1 status value height	Use for command
Status slat	4/2/106 Bu11_F01_TR-Edison_Shutter 1 status value lamella	Use for command
Status upper end position	4/2/107 Bu11_F01_TR-Edison_Shutter 1 status upper end position	
Status lower end position	4/2/108 Bu11_F01_TR-Edison_Shutter 1 status lower end position	

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### Upload the configuration

- When the building view has been created and the necessary parameters configured, the project configuration can be imported into the IoT Dashboard Server
- Open the "Upload..." option in the "Project" tab
- Enter the IP address under "Address" under which the IoT Dashboard Server can be reached
- Set a tick under "Overwrite data during upload" if all existing data on the IoT Dashboard Server are to be overwritten
- If you do not want to overwrite all data during the upload, select all options to be overwritten
- Click on the "Upload" button to upload the configuration into the IoT Dashboard Server



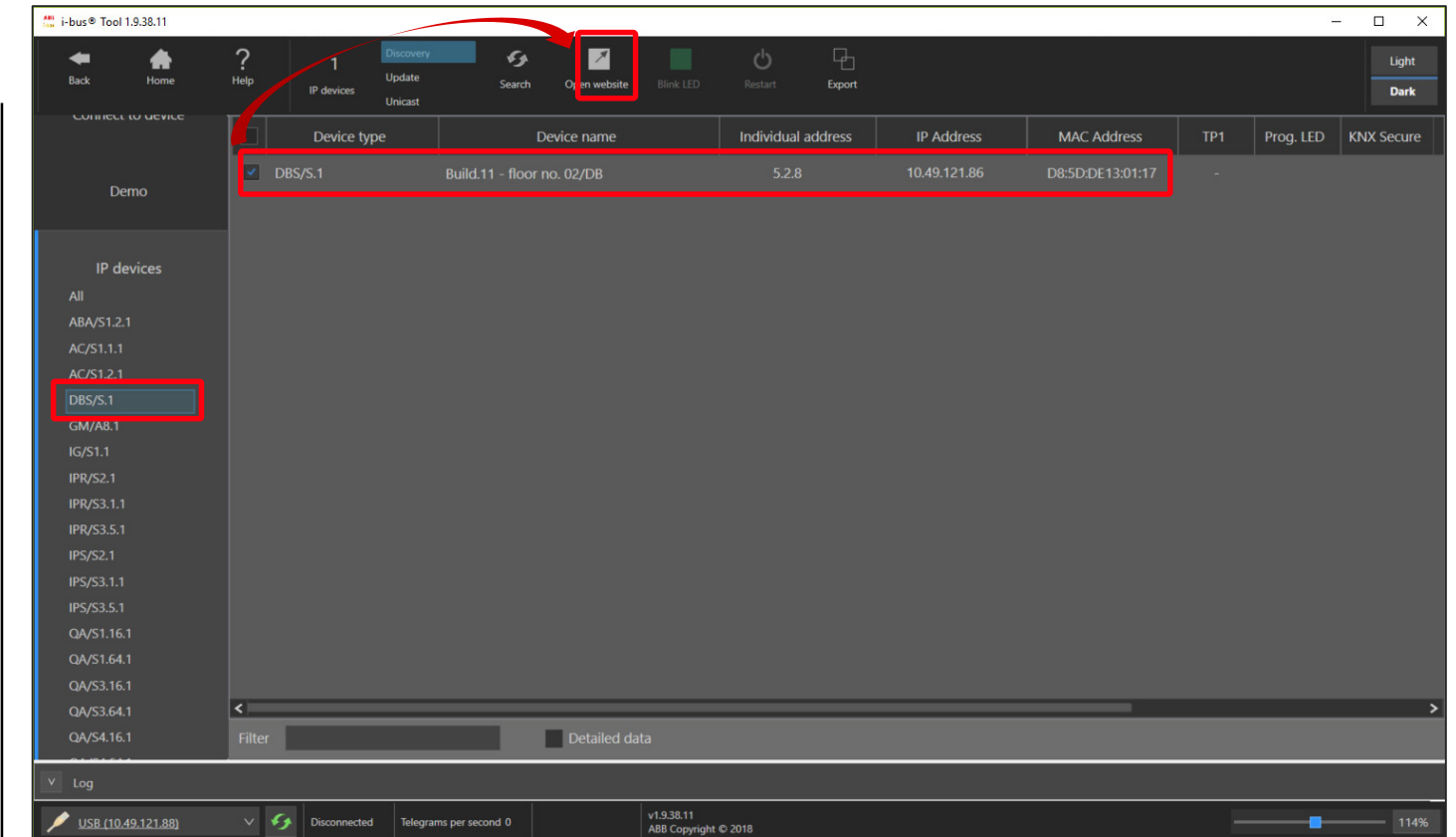
# Webinar “IoT Dashboard Server DBS/S 1.1.1”

## IoT Dashboard Tool

### IP address of the IoT Dashboard Server

To access the device, the IP address is required  
Reading the IP address of the IoT Dashboard Server:

- IoT Dashboard Tool
  - “Scan” function in the menu “Upload”
- ABB i-bus® Tool
  - In the list all found IP devices are displayed
  - When a device is checked and the “Open website” button is pressed, the default browser will open with the IoT Dashboard website

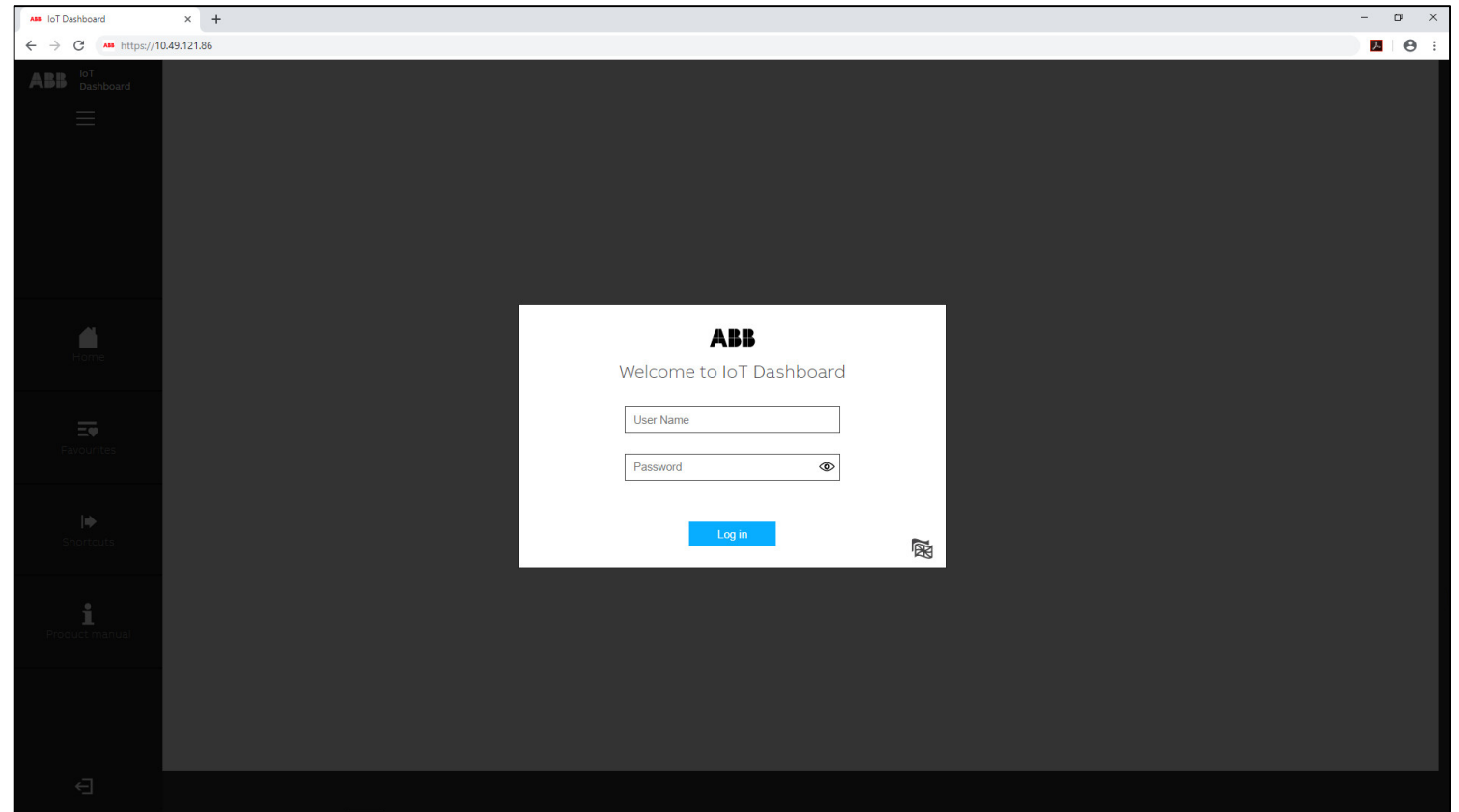


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### IoT Dashboard: Operating and displaying

- Start a browser
- Enter the IP address of the IoT Dashboard Server
- Enter the user name and password

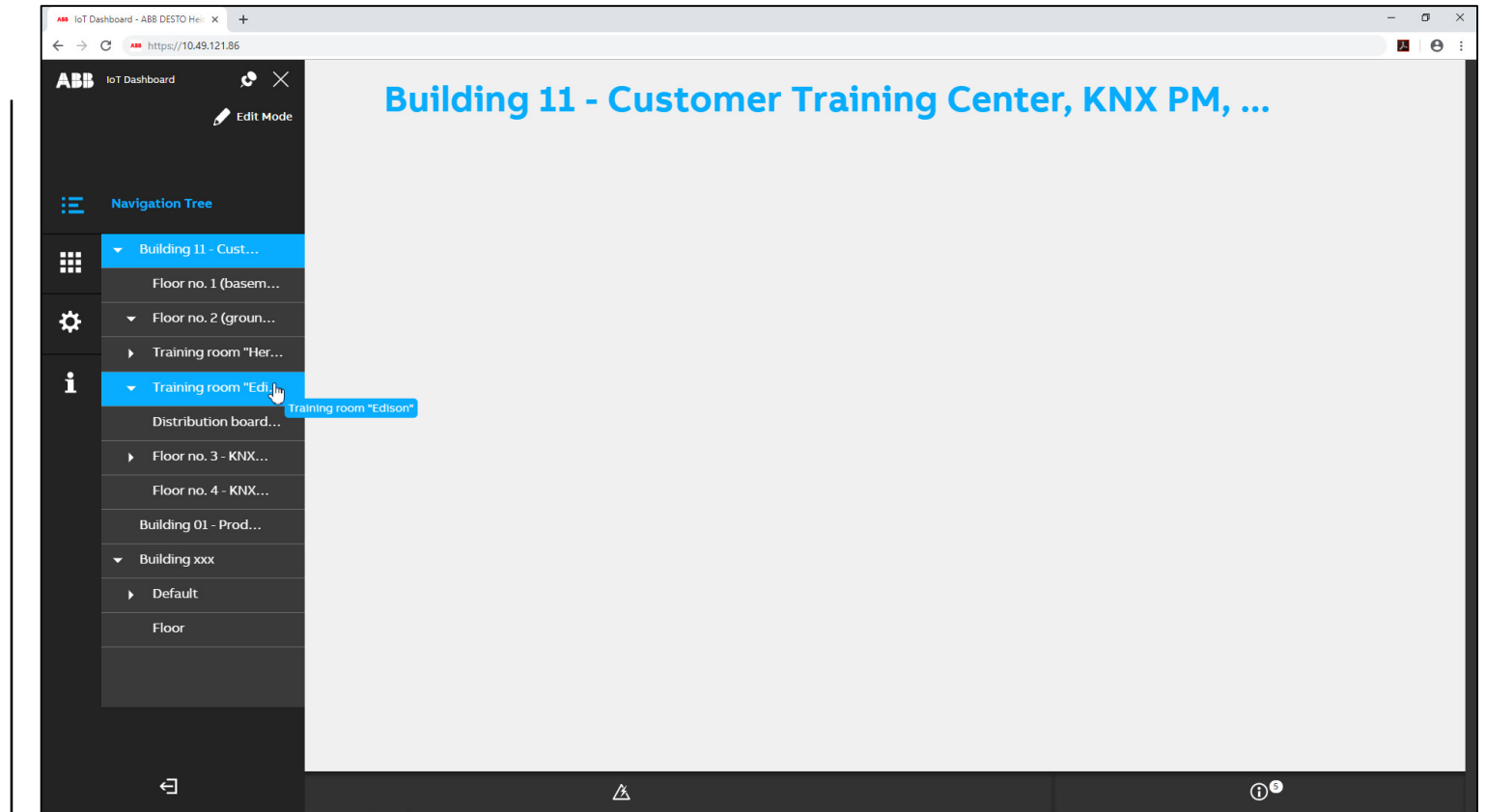


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## IoT Dashboard Tool

### IoT Dashboard: Operating and displaying

- After successful login, the user can navigate through the building view, depending on his user rights

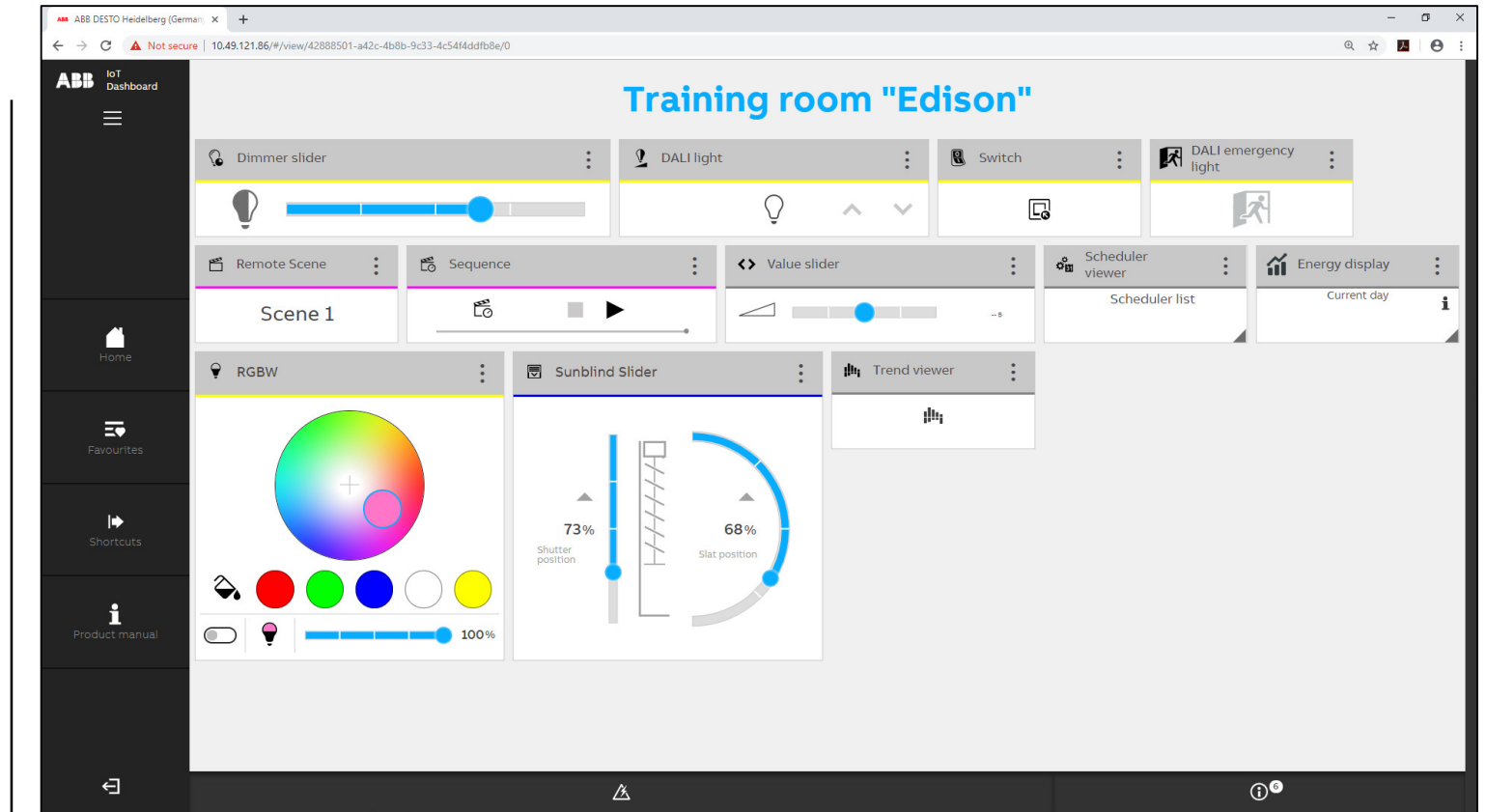


# Webinar “IoT Dashboard Server DBS/S 1.1.1”

## IoT Dashboard Tool

### IoT Dashboard: Operating and displaying

- The user can operate the IoT Dashboard for executing functions, ...



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

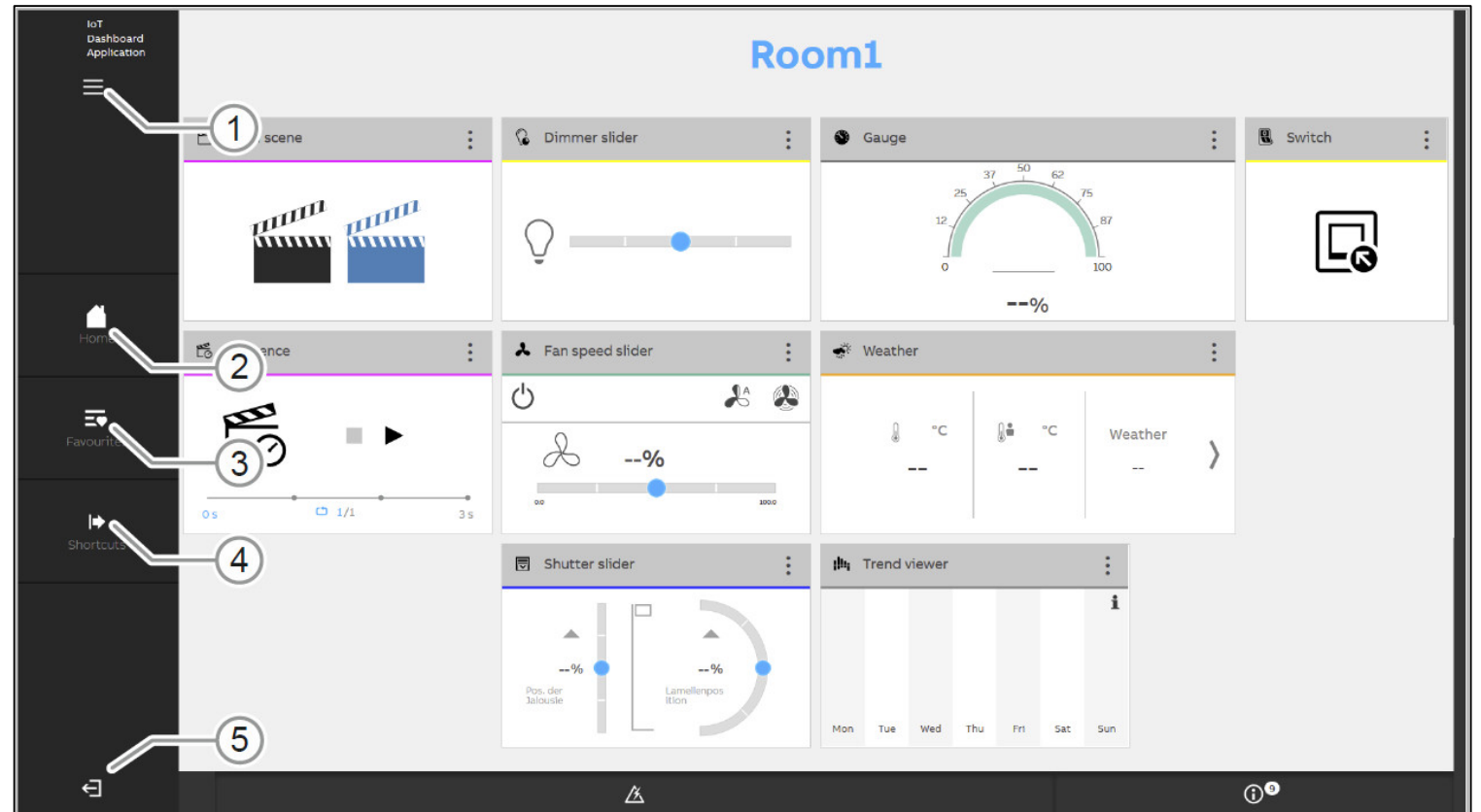
Operating and displaying with Web user interface “IoT Dashboard”

## Main view

After the successful login the user can operate the IoT Dashboard for executing functions

The IoT Dashboard is subdivided into several areas from which the project can be operated

- 1) Burger menu for opening the ribbon bar to access the building architecture and all other functions of the IoT Dashboard
- 2) Quick access to the homepage specified beforehand in the building architecture
- 3) Quick access to the favorite controls of the different operating pages
- 4) Quick access to custom links to different operating pages of the IoT Dashboard.
- 5) User logout to exit the IoT Dashboard





# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

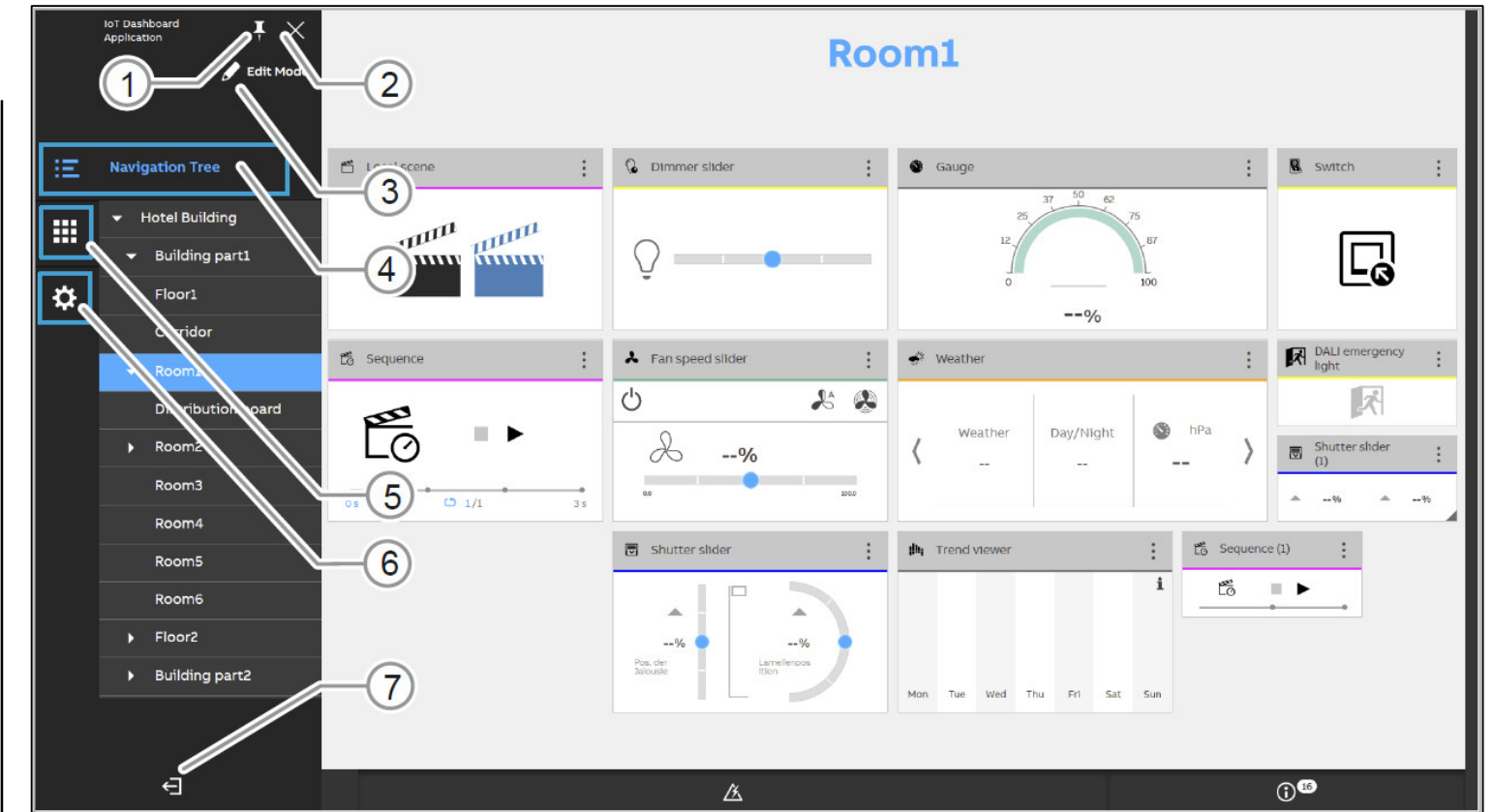
Operating and displaying with Web user interface “IoT Dashboard”

## Ribbon bar

Different functions are grouped in the ribbon bar

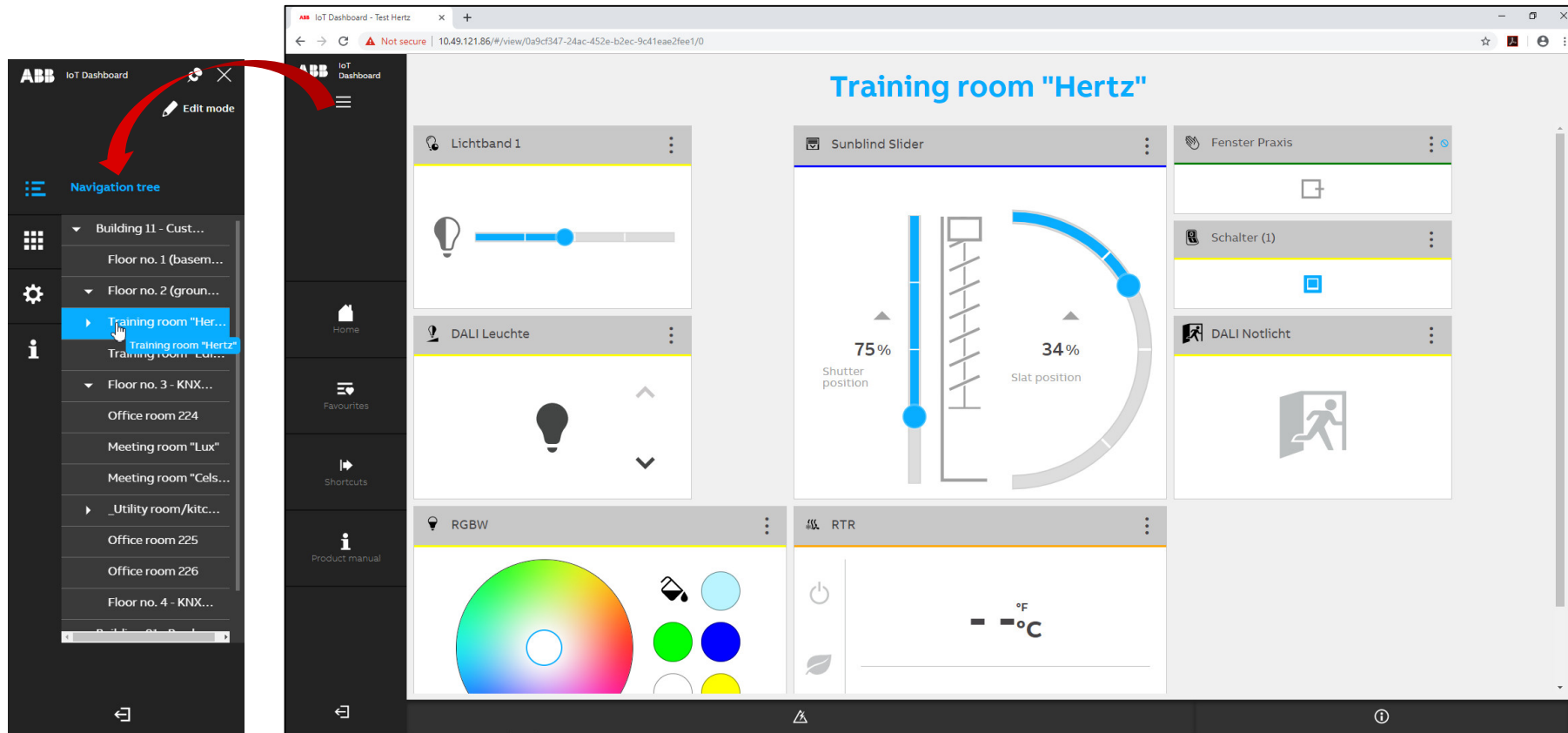
Open the ribbon bar to access these functions:

- 1) Fix the folded-out ribbon bar at the left edge of the screen
- 2) Close the folded-out ribbon bar
- 3) Editing of controls in the operating pages
- 4) Access to the navigation tree with the building architecture
- 5) Access to available applications
- 6) Access to the settings for the IoT Dashboard
- 7) Exiting the IoT Dashboard



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

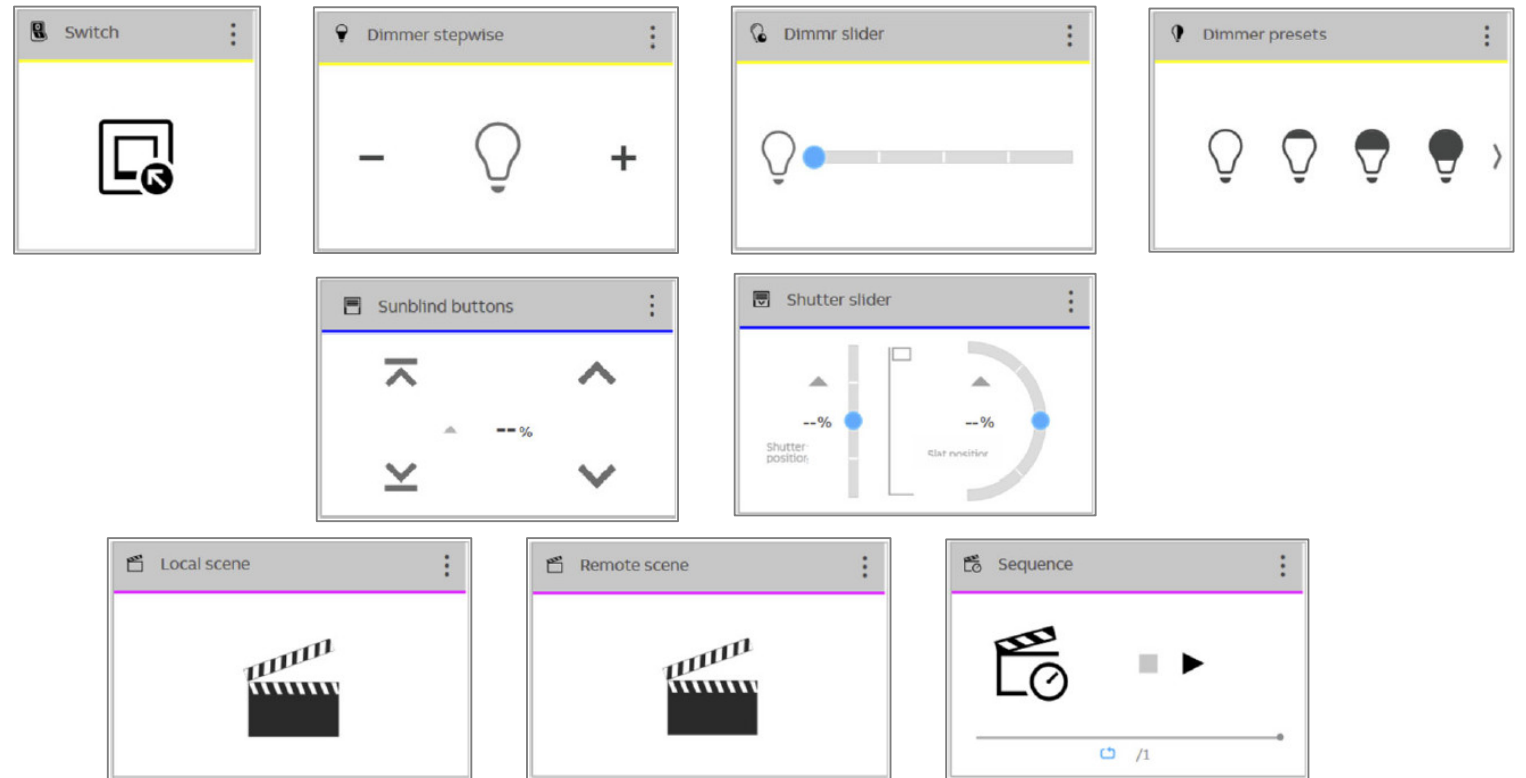


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Controls - Overview

- Switch
  - Dimmer stepwise
  - Dimmer slider
  - Dimmer preset values
- Blind
  - Blind button
  - Blind slider
- Scene
  - Local scene
  - Remote scene
  - Sequence

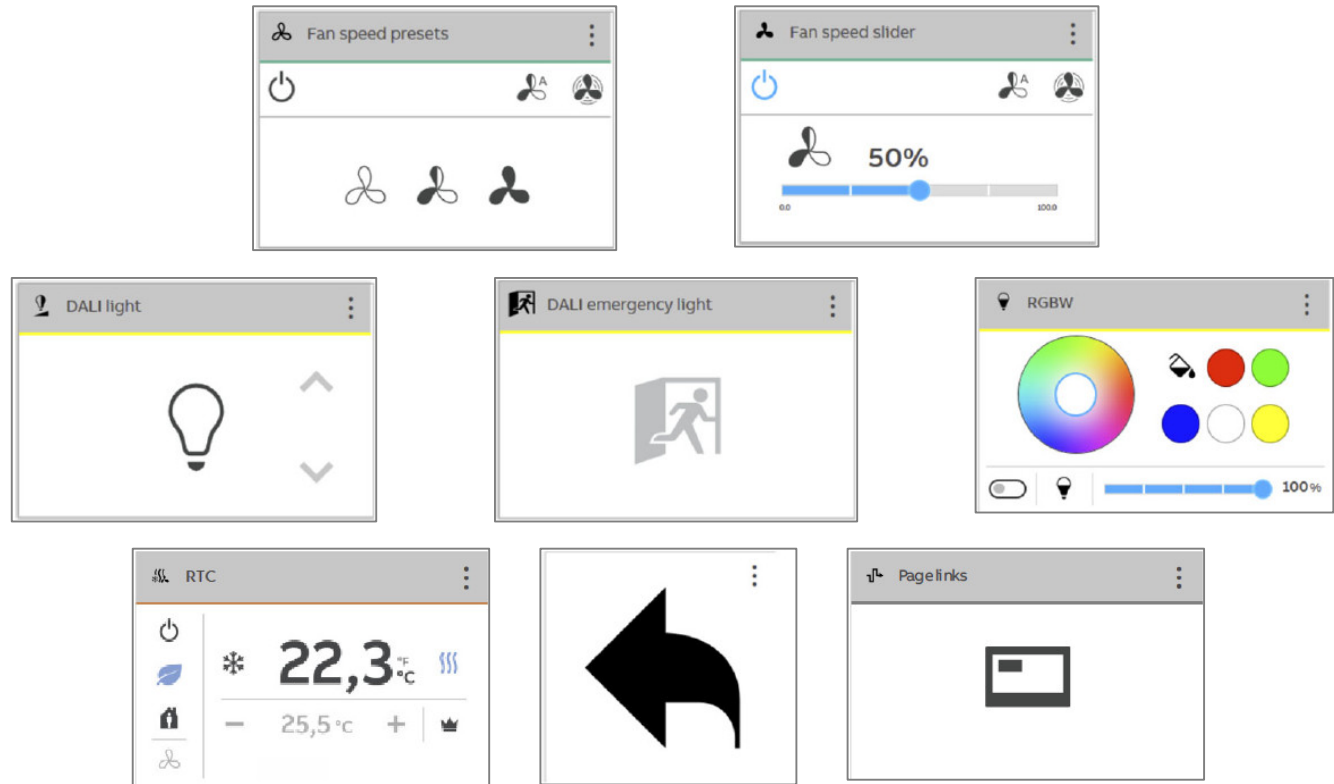


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Controls - Overview

- Fan switch
  - Fan speed preset values
  - Fan speed slider
- DALI
  - DALI light
  - DALI emergency light
- RGBW
- Room temperature controller
- Linkages
  - Page links
  - Image

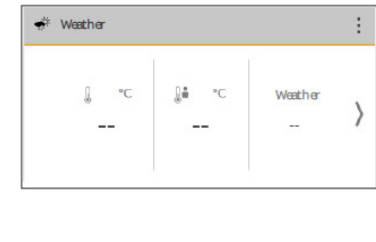
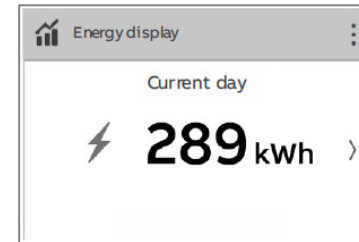
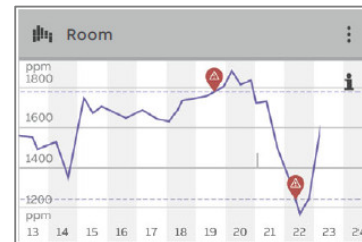
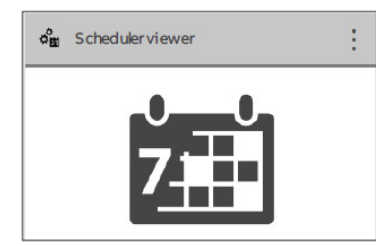
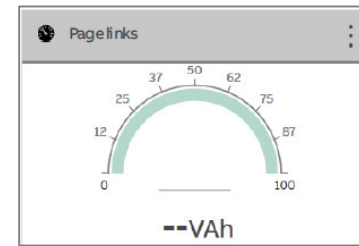
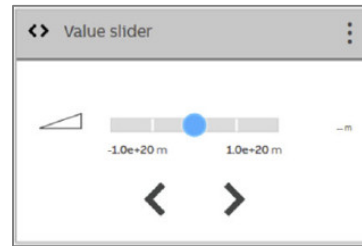


# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Controls - Overview

- Value display elements / value sending elements
  - Value for slider
  - Gauge
  - Scheduler viewer
  - Trend viewer
  - Energy display
  - Weather



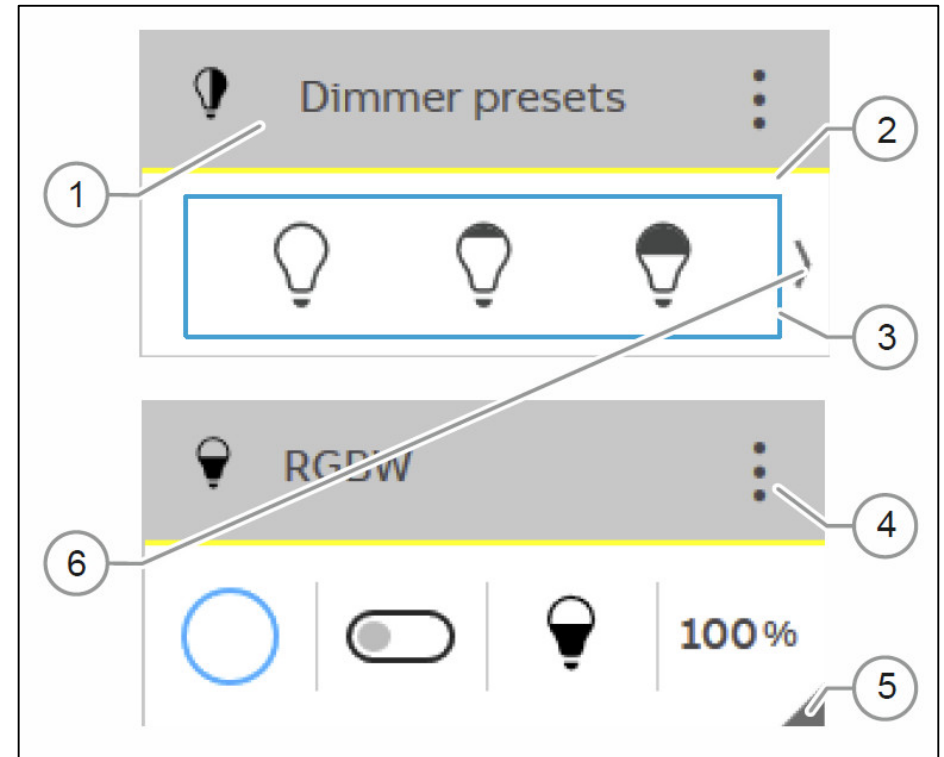
# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Controls - Basic structures

Controls are used to fulfil the basic functions such as "Switching", "Dimming", "Blinds", "Scenes" and "RTC", as well as functions

- 1) The headline shows a series of different primary functions, such as the names of the controls
- 2) The function line marks the function group to which the control belongs
- 3) The buttons are displayed in the form of different symbols. Black buttons can be clicked, grey buttons are disabled. The degree of details can vary depending on the size of the control.
- 4) The options menu can be opened with a click on the three points in the top right corner of the control (displays alarms)
- 5) A triangular symbol is displayed in a series of controls when they can be enlarged.
- 6) Arrow buttons are displayed in some controls with which one can switch through the different functions in the control (e.g. stepwise dimming from 0% - 25% - 50%)



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Controls - Options menu

- Each control has its own dropdown options menu
- Secondary functions (e.g. linkages to schedulers, trends, etc.) as well as active alarms are listed
- Click on the three points in the top right corner of the headline of a control
- The dropdown options menu of the control opens
  - If you have opened the dropdown options menu, you can view the different functions and designations of functions including the function-specific symbols
  - Current messages are displayed by means of a warning symbol in signal colour
  - A click on the symbol opens the alarm center

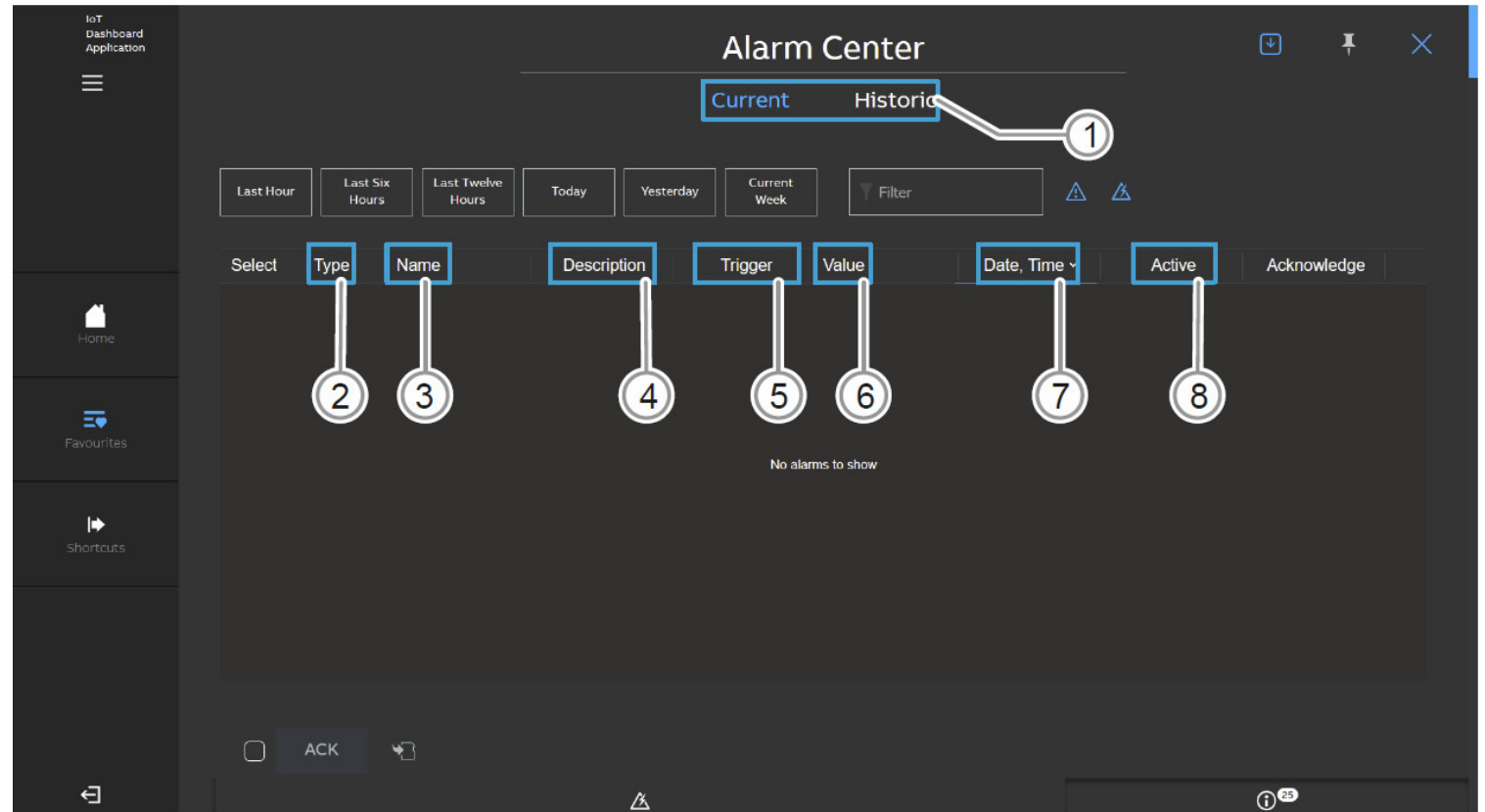


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Alarm Center

- The alarm center can be opened with a click on the corresponding symbol at the bottom edge of the screen from almost all areas of the IoT Dashboard
- All messages are listed in a list view
- In addition, for each message there are details about type and name, a description of the alarm, the trigger, the time of triggering, as well as the current status
- Current and historical messages ("Current" and "Historic") can be seen in the overview



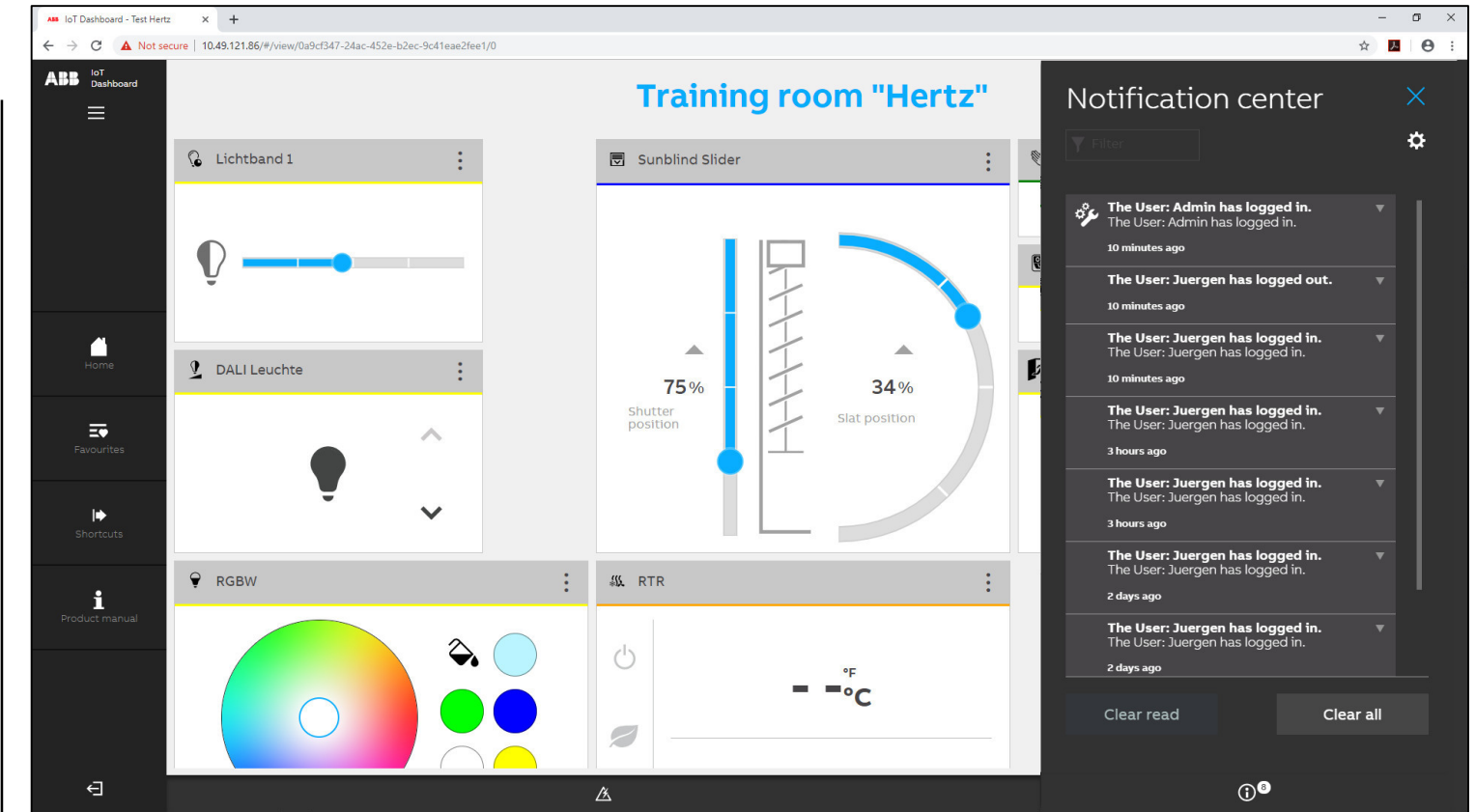


# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Notification center

- This list superimpose other areas of the IoT Dashboard
- The notification center can be opened from almost all areas of the IoT Dashboard and displayed as information symbol at the bottom right edge of the screen
- The notifications about alarms, system information and updates are displayed in the notification center
- E-mail trigger can be defined to receive e-mail notifications



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Schedulers

- The "Scheduler" application can be opened in the IoT Dashboard via the ribbon bar
- Events or event sequences can be executed automatically via schedulers at the specified times
- Events are displayed in the different views on the timeline as function symbol
- The configured value (e.g. dimming value) is displayed above the symbol
- Events can be moved along on the timeline
- The values of individual elements can also be adjusted
- Users can make changes (change or add events, enable/disable schedulers) only if they have the corresponding rights

The screenshot shows the 'Scheduler list' interface in the IoT Dashboard. The navigation tree on the left is expanded to show 'Room1' selected. The main area displays a table of schedulers for Room1.

Room schedulers	Dependency	Parent scheduler	Active	Open
Scheduler	☒		☑	📅
Scheduler	☒		☑	📅

# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Schedulers

### Scheduler Room1

Scheduler list Today Weekly Exceptions  Active schedule

**Active period**

Start Any day of the month ▶ Any weekday ▶ Any month ▶ Any year ▶

End Any day of the month ▶ Any weekday ▶ Any month ▶ Any year ▶

**Notify me when**

...the schedule has been activated

...the schedule has been deactivated

...the schedule has been triggered

Save

### Scheduler Room5

Scheduler list Today **Weekly** Exceptions  Active schedule

Monday 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

DOWN 92%;58%

Add event

Create exception

Related schedulers ▼

Reset

Clear all

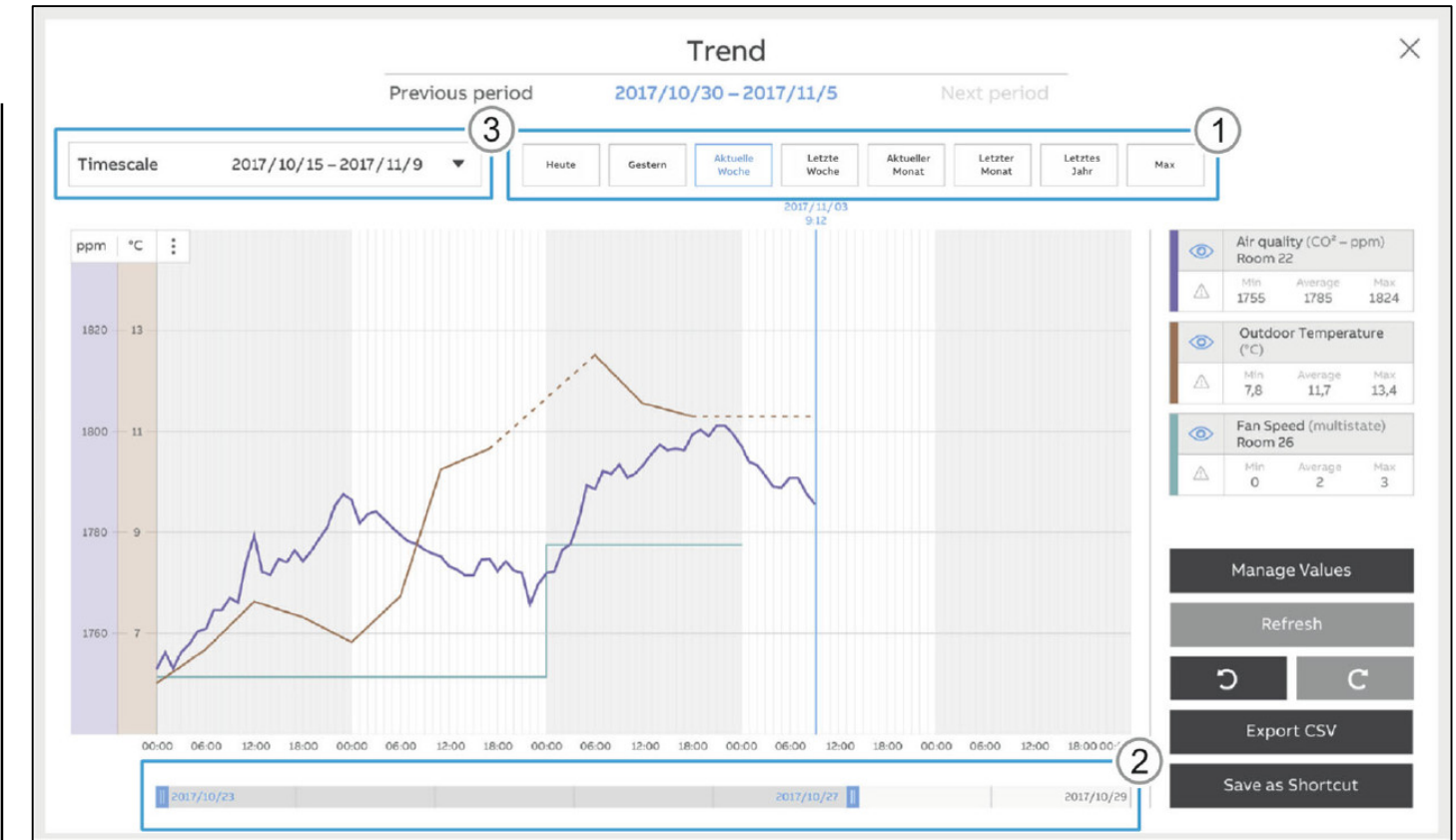
Save

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Trend viewer

- The trend viewer can be used to view different predefined values from a specific timescale in relation to each other in a graph
- The trend viewer can be accessed either via the "Trend viewer" control or the ribbon bar
- Create CSV Export
- Values can be exported from the trend viewer into a CSV file

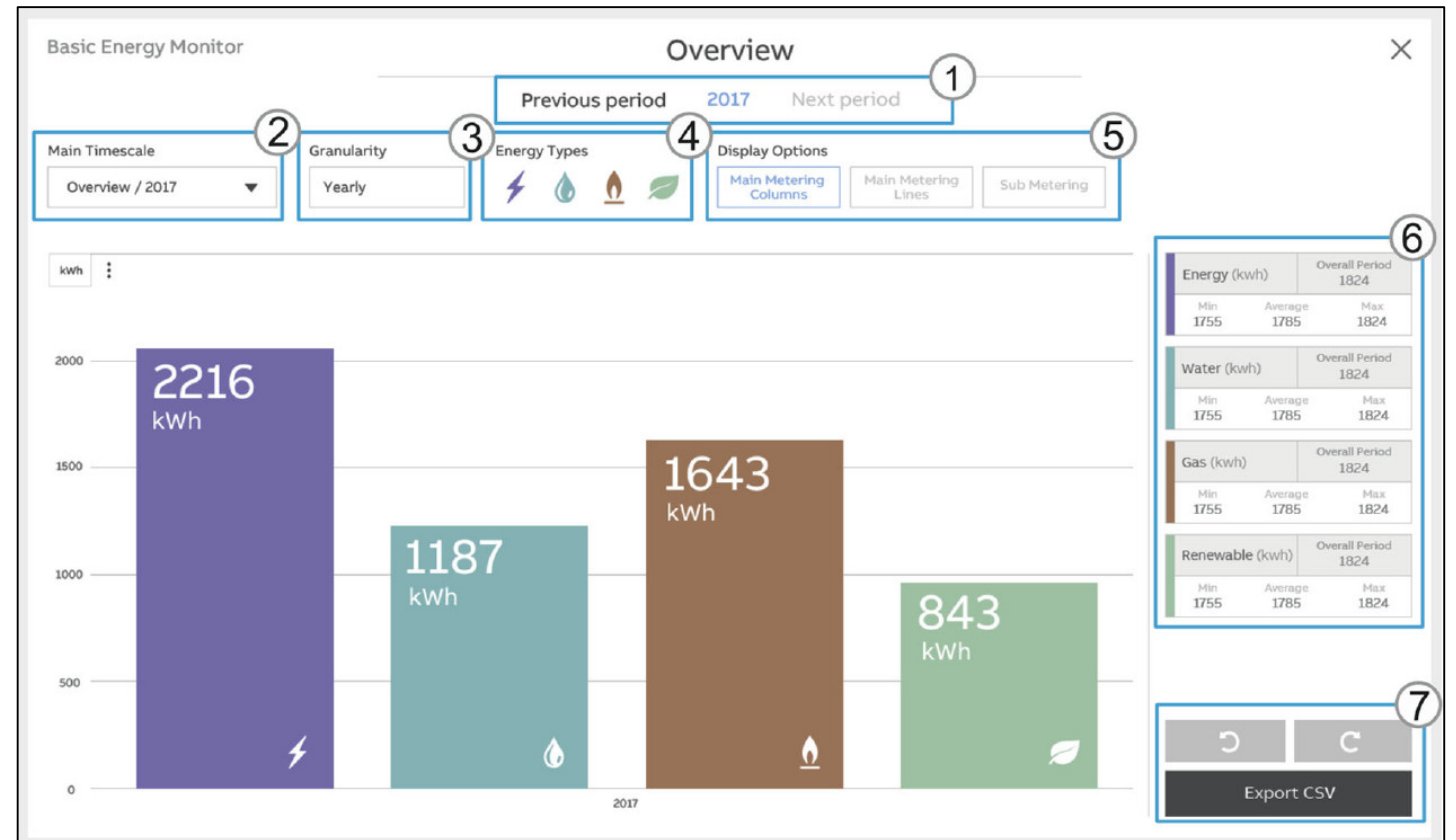


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## Energy display

- The consumption of energy can be monitored via the application
- The following four values can be monitored:
  - Electricity
  - Water
  - Gas
  - Consumption of renewable energy
- The viewed values are displayed respectively in the overview in an own graph
- Also associated sub meters can be viewed for each value



# Webinar “IoT Dashboard Server DBS/S 1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## DALI Manager (App application)

- The DALI manager is an application that needs to be acquired additionally at a charge
- General information is made available on page "General" of the DALI manager
- Also general settings can be made in addition

The screenshot displays the DALI Manager web interface with the following components:

- Lizenzstatus** (1): Shows "Inaktiv" and "Abonnement läuft aus in: Tage" with a "Lizenz" button.
- IoT Dashboard Server-Zustand** (2): Shows "DALI-Gateway Spannungsversorgung" (OK), "Manuelle Bedienung gesperrt" (Ja), and "Manuelle Bedienung läuft" (Nein).
- DALI Output-Statistiken** (3): A table with columns "Ausgang A" and "Ausgang B".

	Ausgang A	Ausgang B
DALI-Geräte	48	48
Wird überwacht	4	4
Konflikt	Nein	Ja
Leuchtenstörung	4	2
Leuchtenausfall	4	8
DALI-Störung	Nein	Nein
- KNX-Verbindung** (4): Shows "Refresh DALI Data Every" (10 Sek), "Physikalische Adresse" (001.165.342.008), "Anwendung" (ABB- DALI Basic), "Firmware / Revision" (Rev 2/001), "Device type" (ABB DG/S1.64.1.1), and a "Verbinden" button.
- DALI-Konfiguration** (5): Shows "Ausgewählter Helligkeitswert" (90) and "Abgewählter Helligkeitswert" (5), and "Verhalten der ausgewählten DALI-Geräte" (Schalten).

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Operating and displaying with Web user interface “IoT Dashboard”

## DALI Manager (App application)

**Groups**

- 1 Lights Floor 12
- 2 Ambient Lig. Entr...
- 3 Ambient Lights Pool
- 4 Door-L. Floor 12
- 5 My Group 5
- 6 My Group 6
- 7 My Group 7
- 8 My Group 8
- 9 My Group 9
- 10 My Group 10
- 11 My Group 11
- 12 My Group 12
- 13 My Group 13
- 14 My Group 14
- 15 My Group 15
- 16 My Group 16

**Lamps**

**Actions / Status**

- No Device selected
- Open Control
- Reset Selected Devices
- Detach Selected Devices
- Reset All Group Members
- Detach all Group Members
- Automatically DALI Addressing: No
- DALI Group Conflict: Yes
- Monitoring All DALI Member: Yes
- Member in Burn-in mode: No
- DALI Voltage Disturbance: No
- Group Overlapping: Yes
- DALI Member Overload (more than 64): No
- DALI Report

**Emergency**

Autotest

Device Numb.	Lighting Brightness	Auto. Test. possible	Battery Charge State	Time out	Lamp Fault	Converter Failure	Reset Mode	Inhibit Mode	Last test	Test results	Test	Action
03	60 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	No	No	15.03.18	-	Fuction Test	Running
09	100 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	No	08.03.18	OK	Fuction Test	Start
10	60 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	No	29.10.17	OK	Fuction Test	Start
11	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	Yes	29.10.17	OK	Duration Test	Start
12	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	-	No	29.10.17	OK	Fuction Test	Start
14	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	-	-	15.03.18	Bad	Fuction Test	Start
23	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	No	No	08.03.18	-	Battery Charge State Test	Start
24	85 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	No	11.02.18	OK	Fuction Test	Start
41	100 %	No	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	Yes	15.03.18	OK	Partial Duration Test	Start
42	60 %	No	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	-	No	15.03.18	OK	Partial Duration Test	Start
43	60 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	No	No	29.10.17	OK	Fuction Test	Start
44	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	No	-	29.10.17	OK	Fuction Test	Start
45	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	Yes	Yes	29.10.17	OK	Fuction Test	Start
23	80 %	Yes	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	●	●	●	-	-	08.03.18	-	Battery Charge State Test	Start

Generate Report | Autotest Settings

---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Practical demonstration of commissioning

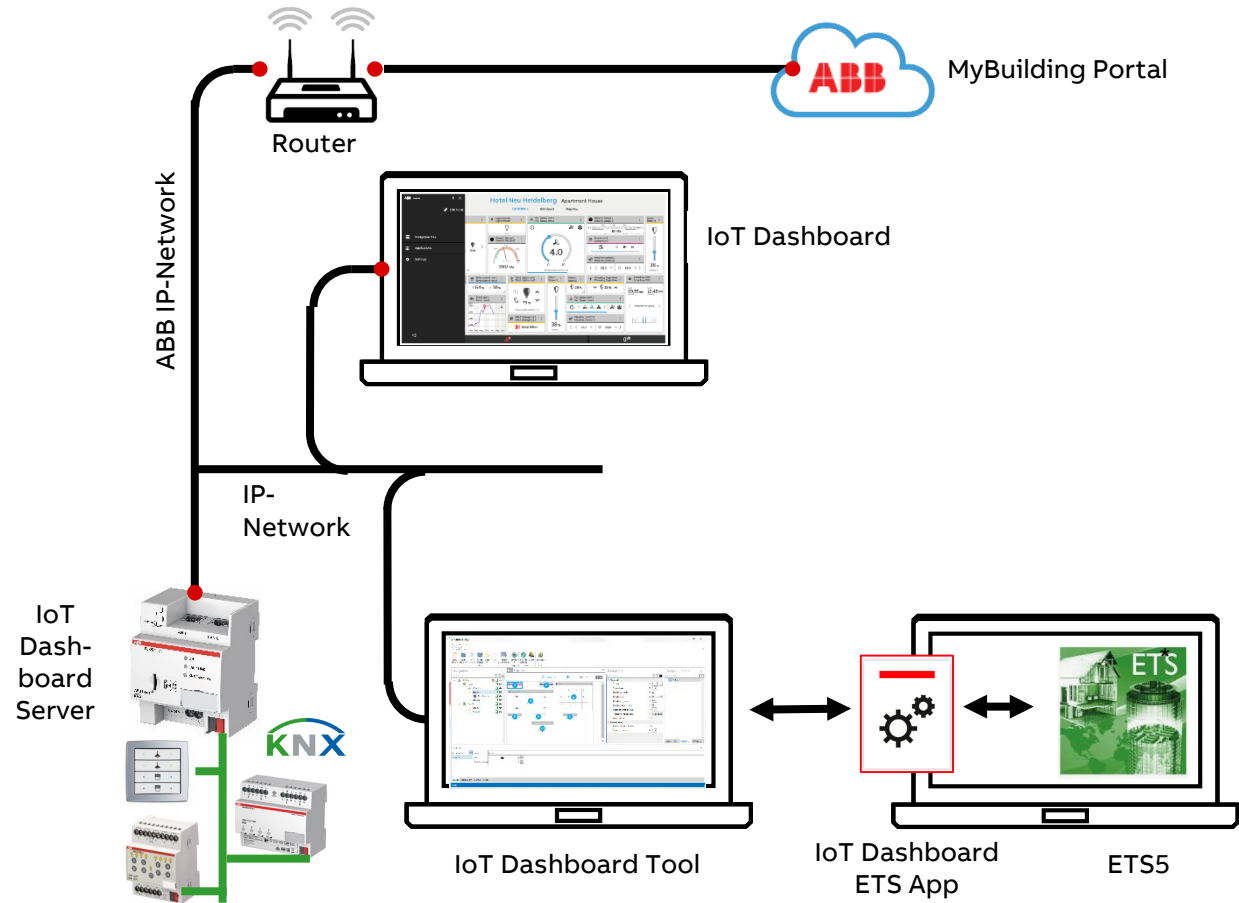


# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Practical demonstration of commissioning

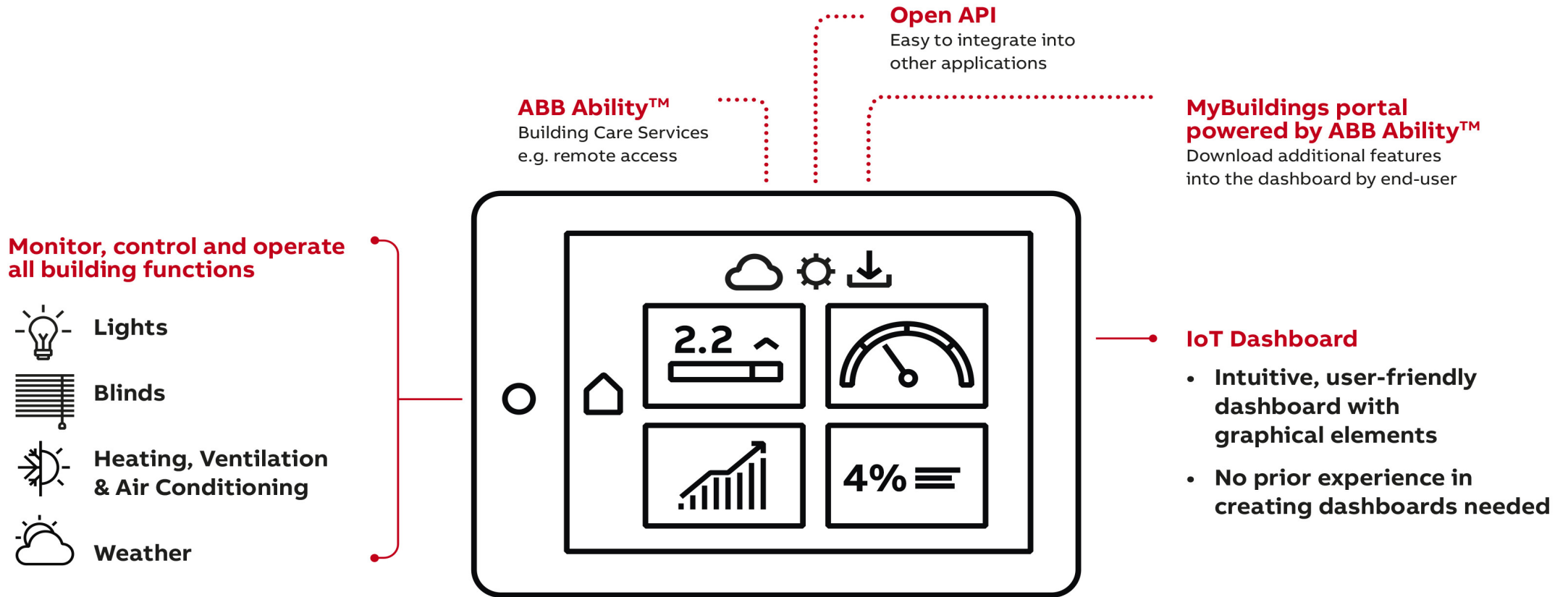
## Step by step

- The ETS project has been created, the KNX devices have been programmed and the system is in operation
- Create a new IoT Dashboard Tool project and synchronize the building view and the group addresses with the ETS
- Add controls to the individual operating pages, set parameters and link group addresses
- Upload the configuration into the IoT Dashboard Server
- Open a browser, enter the IP address of IoT Dashboard Server and log in
- Operate the IoT dashboard and execute functions ...



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

Are there any questions in the chat???



# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Training & Qualification Database

In this database you can find the complete online training portfolio for ABB Home and Building Automation

The database includes the following types of training content:

- Application Manuals
- E-Learnings
- Presentations
- Video tutorials
- Webinar slides and videos

[www.abb.com/knx](http://www.abb.com/knx) or <https://go.abb/ba-training>

→ Training and Qualification

→ Training Database

The screenshot displays the ABB Training & Qualification Database interface. At the top, the ABB logo and navigation links are visible. The main heading is "Training & Qualification Database". Below this, there is a large image of a man in a white shirt holding a tablet. The text below the image states: "In this database you can find the complete online training portfolio for ABB Home and Building Automation".

The database includes the following types of training content:

- **Application Manuals:** Give a general description of the correct implementation of individual technical functions
- **E-Learnings:** Learning modules to specific topics
- **Presentations:** Pdf files with learning content
- **Video tutorials:** Short instructional videos to specific topics
- **Webinar slides:** Slides of webinar sessions in pdf format
- **Webinar Videos:** Recording of webinar sessions

To search the database, select the required search criteria. To make multiple selections, press [Ctrl].

The search criteria are displayed in four dropdown menus:

- System:** All, Home KNX, free@home, Door Entry Systems
- Application:** All, Audio / Video, Access Control, Central Automation, Commissioning
- Training type:** Application Manual, E-Learning, Presentation, Video Tutorial, Webinar Slides, Webinar Videos
- Language:** All, English, French, German, Italian

A red arrow points from the "Webinar Videos" section to a video player showing a webinar titled "ClimaECO – BA-Controller KNX BAC/S Webinar – Competence Center Europe – Building Automation". The video player also shows the date "NOVEMBER 2018" and the names of the presenters: "Ilija Zivadinovic, Martin Wichary, Juergen Schilder, Thorsten Reibel, Stefan Grosse".

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Training & Qualification Calendar

In addition to the online modules and the traditional training programs offered by your local ABB sales team, we offer a variety of on-site trainings conducted by our specialists at different ABB training facilities

In this Training & Qualification Calendar you can find the educational events that are taking place during 2019

If you are interested in a training please click the training und you will be forwarded to register in “ABB MyLearning”

[www.abb.com/knx](http://www.abb.com/knx) or <https://go.abb/ba-training>

→ Training and Qualification

→ Training Calendar



**ABB** HOME • OFFERINGS • LOW VOLTAGE PRODUCTS • HOME AND BUILDING AUTOMATION • TRAINING AND QUALIFICATION • TRAINING & QUALIFICATION CALENDAR GLOBAL SITE

### Training & Qualification Calendar

In addition to the online modules and the traditional training programs offered by your local ABB sales team, we offer a variety of webinars and on-site trainings conducted by our specialists at different ABB Competence Centers.

In this Training & Qualification Calendar you can find the educational events that are taking place during 2018.

If you are interested in a training please [REGISTER HERE](#).

To search the Calendar, select the required search criteria. To make multiple selections press [Ctrl].

System	Date	Location
All	All	Webinar
Door Entry Systems	January 2018	Heidelberg, Germany
Free@home	February 2018	Lödenscheid, Germany
Fire Alarm Systems	March 2018	S. Palomba (Rome), Italy
I-bus KNX	April 2018	Virtuone (Milan), Italy

Content	Date	Location	Language
KNX for Commercial Building	05.04.2018 - 06.04.2018	Lödenscheid, Germany	EN
Building Automation Light + Building 2018	10.04.2018	Webinar	EN
KNX in Hotels	19.04.2018 - 20.04.2018	Heidelberg, Germany	EN
HVAC Automation	23.04.2018 - 24.04.2018	Heidelberg, Germany	EN

**ABB MyLearning**

HOME CATALOG PROFILE ADMINISTER REPORTS MY LEARNING

**CERTIFIED KNX BASIC COURSE**  
Code : 9CSC007151-GLB-EN-20190218\_22  
Certified KNX Basic Course at ABB in Heidelberg, Germany, 5 days  
★★★★★ | Share

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

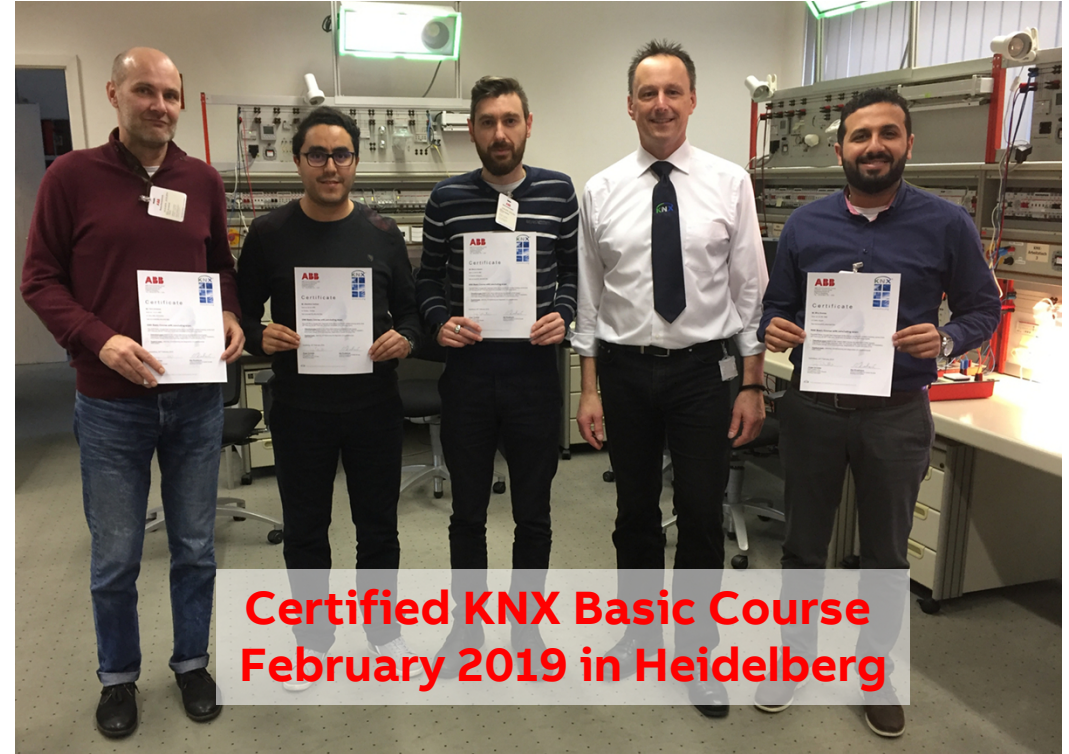
## KNX Certified Trainings 2019

Certified KNX Courses in Heidelberg

- Basic Course : 21<sup>st</sup> to 25<sup>th</sup> October
- Followed by two day application training

And many more training courses in the calendar  
“International Training Dates 2019”

[www.abb.com/knx](http://www.abb.com/knx) or <https://go.abb/ba-training>



---

# Webinar “IoT Dashboard Server DBS/S 1.1.1.1”

## Next Webinar

The topic will be announced ...

**Wednesday 06<sup>th</sup> November 2019**

- Morning 09:00 am Europe Time (Berlin, UTC + 1h)
- Afternoon 03:00 pm Europe Time (Berlin, UTC + 1h)



---

# Disclaimer

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

In no event shall ABB be liable for direct, indirect, special, incidental or consequential damages of any nature or kind arising from the use of this document, nor shall ABB be liable for incidental or consequential damages arising from use of any software or hardware described in this document.

© Copyright [2019] ABB. All rights reserved.

**ABB**