Ignition Installation & Setup

Think Automation and beyond...
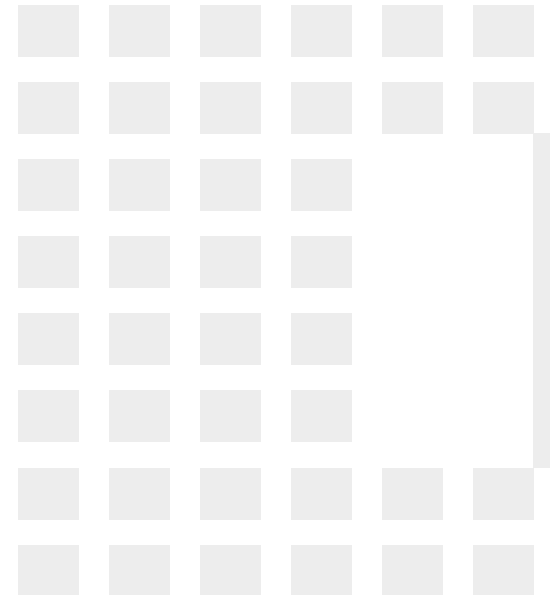
Download and Install Ignition

IDEC

- Download the Ignition executable here.
  - https://inductiveautomation.com/downloads/ignition
- Download the file for the platform you are using.
- See here for installation instructions.
  - https://docs.inductiveautomation.com/display/DOC81/Installing+and+Upgrading+Ignition
- For non-Windows operating systems, there are instruction links for Linux and macOS, respectively.

Install Ignition

1. Download an installer from our Downloads page.
2. Run the installer and follow the steps in the installation wizard.
   - Click here if you're installing on Linux...
   - Click here if you're installing on macOS...

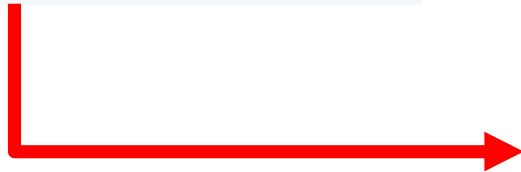# Setup Instructions for using MQTT/Sparkplug B with Ignition

Logging in Ignition

- After installation, enter this URL in a browser to access port 8088 on the computer running Ignition.
- http://localhost:8088/
- Follow the steps and click "Finish Setup".
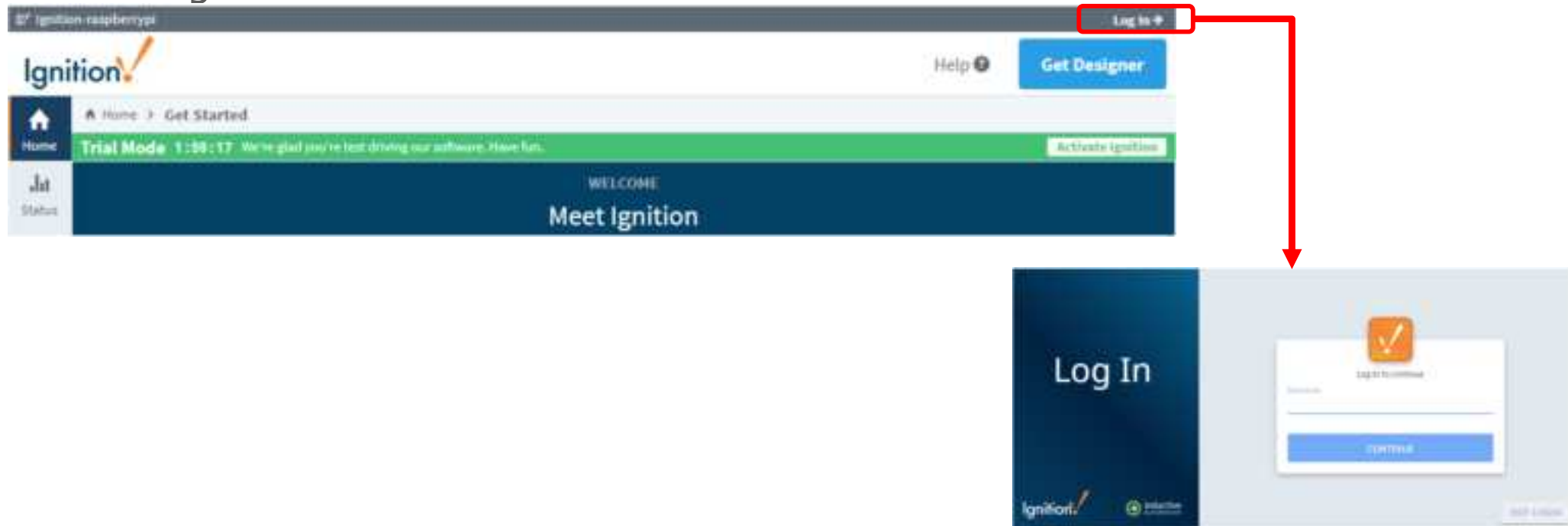
Logging in Ignition

■ Next, this will bring up the initial Ignition screen as shown below.

Logging in Ignition

![IDEC]

- When the initial screen appears, click the "Log In" button in the upper right corner to log in.
- The username and password used to log in are the same as those during the Ignition installation.

Using MQTT/Sparkplug B with Ignition
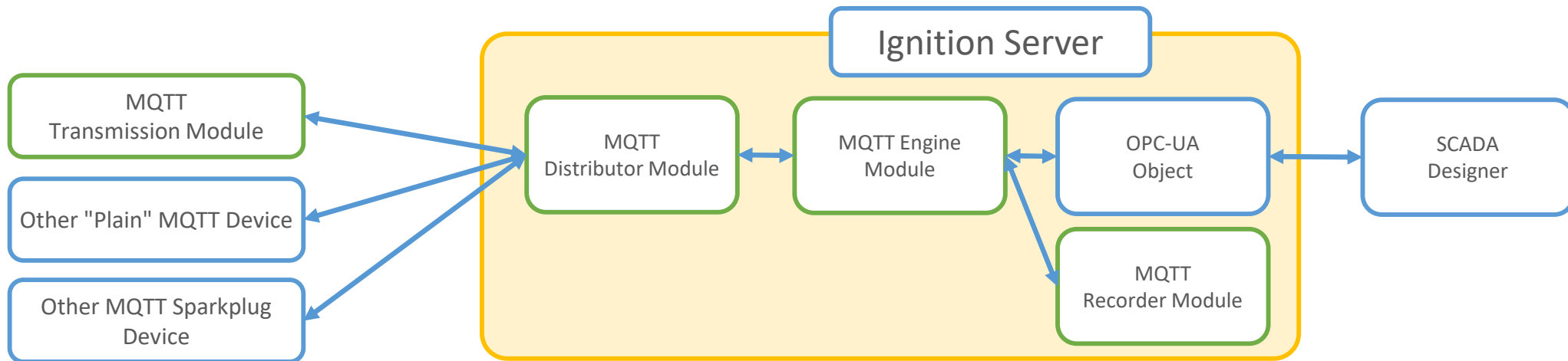
Using MQTT/SparkPlugB with Ignition

- Ignition does not support MQTT or SparkPlug in its initial state (immediately after installation).
- MQTT/SparkPlug can be supported by installing an additional MQTT module.
  - The MQTT module can be downloaded here.
    - https://inductiveautomation.com/downloads/third-party-modules/

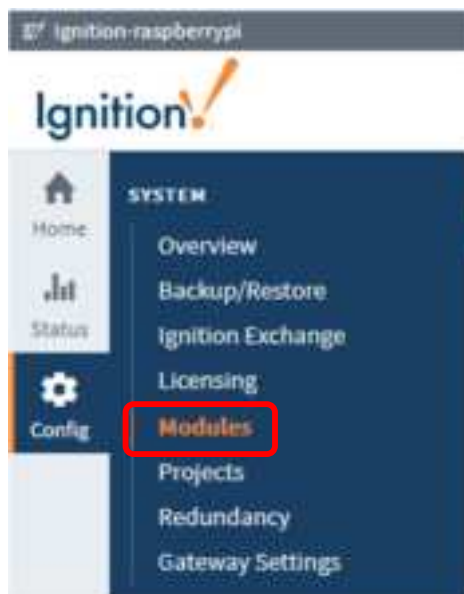| Cirrus Link Solutions MQTT Modules for Ignition	Version	Checksum
See the release notes and usage documentation for all Cirrus Link modules here.		
MQTT Distributor Module (34.0 MB)	4.0.16	sha-256
MQTT Engine Module (36.0 MB)	4.0.16	sha-256
MQTT Transmission Module (32.1 MB)	4.0.16	sha-256
MQTT Recorder Module (32.4 MB)	4.0.16	sha-256

Using MQTT/SparkPlugB with Ignition

- There are four MQTT modules provided by Ignition.
  - The Distributor Module and Engine Module must be installed.

- (Required) MQTT Distributor Module
  - Add MQTT broker functionality to Ignition.
- (Required) MQTT Engine Module
  - Add the ability to connect the MQTT broker (Distributor Module) and Ignition
- (Optional) MQTT Transmission Module
  - Add MQTT node (Publisher/Subscriber) functionality.
  - If Ignition is used as SCADA, it will work without it (required if on the device side)
- (Optional) MQTT Recorder Module
  - Install if you want to create a history of data communicated by MQTT Sparkplug.

Ignition Server

MQTT Transmission Module	MQTT Distributor Module	MQTT Engine Module	OPC-UA Object	SCADA Designer

Other "Plain" MQTT Device

Other MQTT Sparkplug Device

MQTT Recorder Module

9

- For the MQTT module, open Ignition's "Config" -> "SYSTEM" -> "Modules".
- Click "Install or Upgrade a Module...". Click "Install or Upgrade a Module...".

Using MQTT/SparkPlugB with Ignition

■ Select the downloaded module and press the "Install" button to begin installation.

Using MQTT/SparkPlugB with Ignition

■ When the installation is complete, the Module Configuration screen displays the installed modules.

Cirrus Link Solutions LLC

View Certificate

Name	Version	Description	License	State		
MQTT Distributor	4.0.16 (b2023041422)	An MQTT server	Trial	Running	More ▾	restart
MQTT Engine	4.0.16 (b2023041422)	An MQTT connector to multiple MQTT servers	Trial	Running	More ▾	restart
MQTT Recorder	4.0.16 (b2023041422)	Stores MQTT/Sparkplug Records in a database	Trial	Running	More ▾	restart
MQTT Transmission	4.0.16 (b2023041422)	An Ignition Tag to MQTT Bridge	Trial	Running	More ▾	restart

Using MQTT/SparkPlugB with Ignition

■ After installing MQTT-related modules, the OPC-UA server configuration must be changed and reset. (because MQTT is treated as an object of OPC-UA)

■ To reset the OPC-UA server, select "Config", "OPC UA", "Server Settings" and check the "Show advanced properties" checkbox.

■ Next, turn on the "Expose Tag Providers" checkbox.
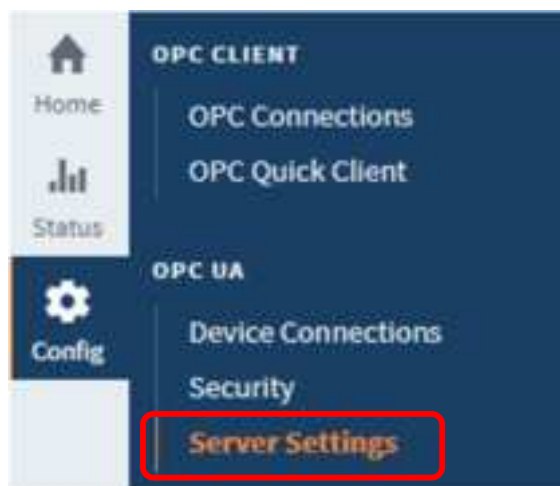
Using MQTT/SparkPlugB with Ignition

- Reset the OPC-UA server after changing the settings. To reset, open "Config" -> "SYSTEM" -> "Modules
- Press the "restart" button to the right of "OPC-UA.
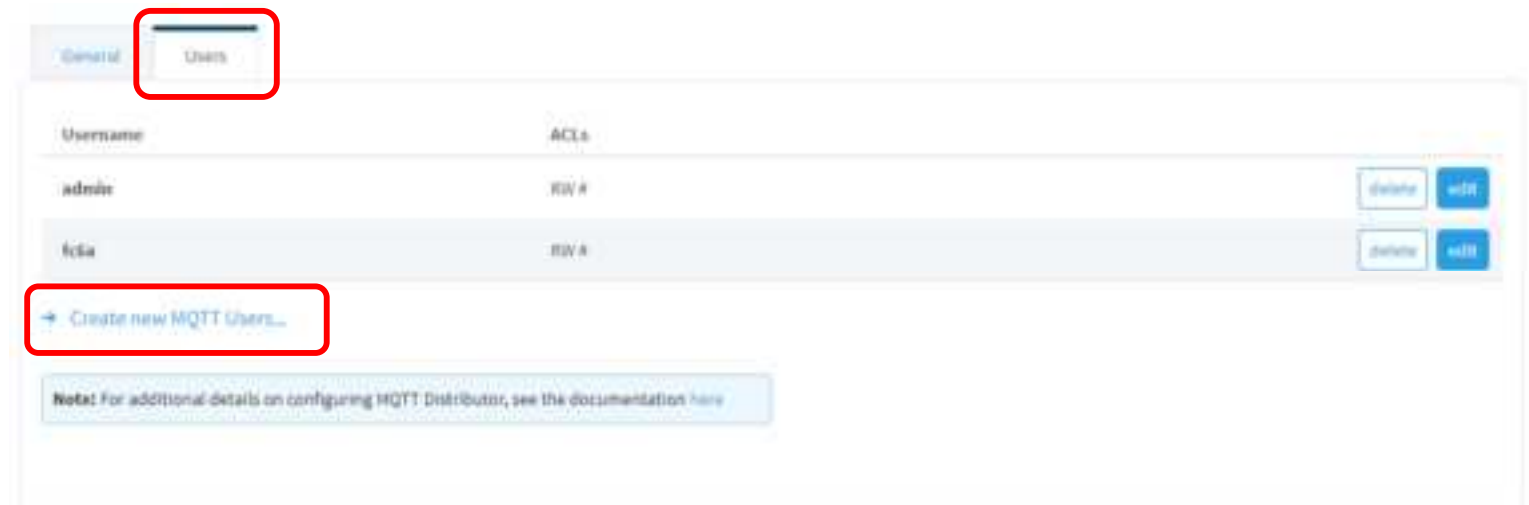
Using MQTT/SparkPlugB with Ignition

- Initially, data can be sent from the MQTT node (device side) to the Ignition, but not in the reverse direction (Ignition to MQTT node).
- This can be deactivated by setting To do this, open "Config"->"MQTT ENGINE"->"Settings" and uncheck "Block Node Commands" (for Nodes) and "Block Device Commands" (for Devices) in "Command Settings.
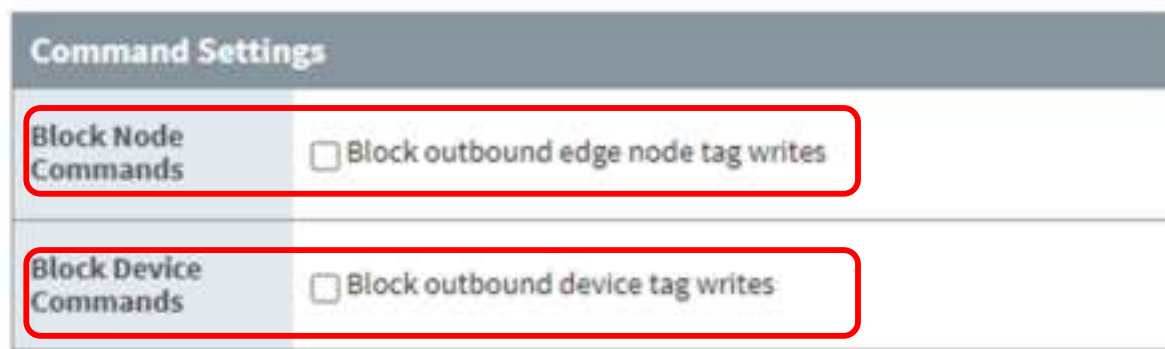
Using MQTT/SparkPlugB with Ignition

- The MQTT Distributor module plays the role of an MQTT broker, but when accessed from an MQTT node (device), authentication is performed with a user name and password.
- This user name and password are set from "Config" -> "MQTT DISTRIBUTOR" -> "Settings" -> "Users".
- To create a new user, click "Create new MQTT Users..." on this screen. Click "Create new MQTT Users..." on this screen to create a new user.

Using MQTT/SparkPlugB with Ignition

- When you create a new user, you set the username and password, but you also set the privileges (ACLs) for this user.
- To allow read/write access to all topics for the user account you are setting up, set "RW #".

How to check the MQTT communication?

How to check the MQTT communication?

- After the installation of MQTT-related modules and the configuration of OPC-UA are completed, you will be able to check MQTT-related parameters as objects of OPC-UA.
- Open "Config" -> "OPC CLIENT" -> "OPC Quick Client",
- Expand the tree in the order of "Ignition OPC UA Server" > "Tag Providers" > "MQTT Engine".
- Nodes connected by Sparkplug are displayed under "MQTT Engine".

END