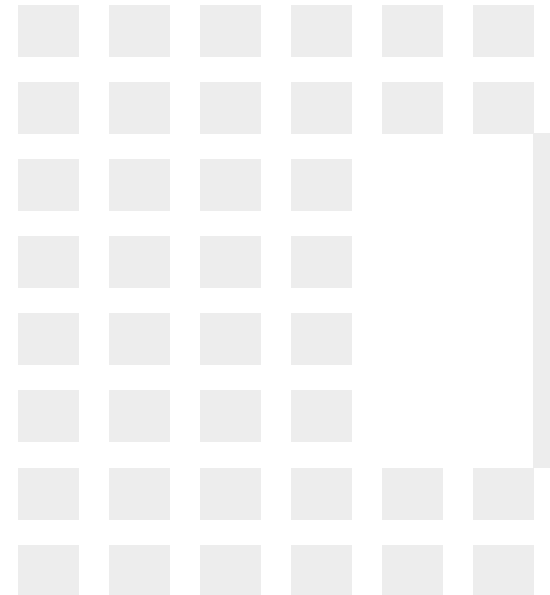




*Think Automation and beyond...*

CONFIDENTIAL

# Ignition Installation & Setup



# Download and Install Ignition



- 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



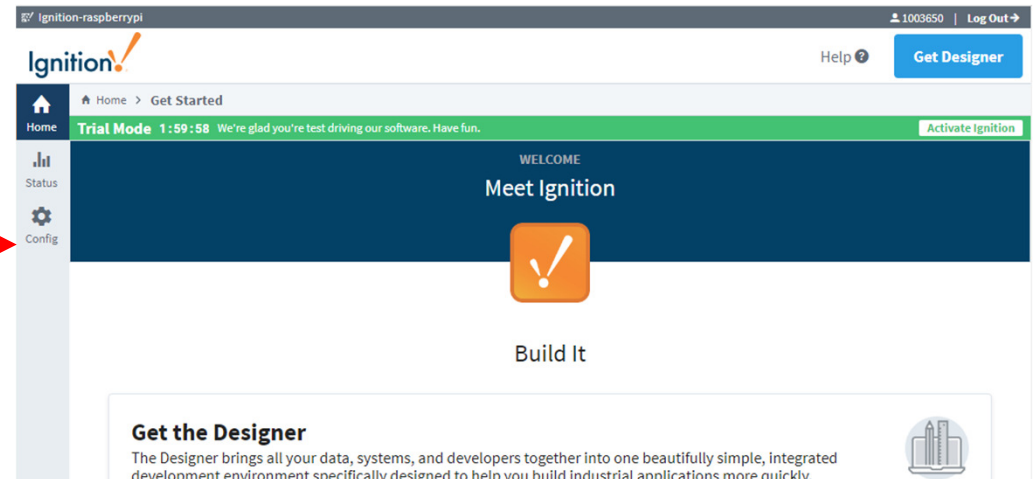
- After installation, enter this URL in a browser to access port 8088 on the computer running Ignition.
- <http://localhost:8088/>
- Follow the steps and click “Finish Setup”.

A screenshot of the Ignition software's configuration interface. The top of the window has a dark blue header with the "Ignition!" logo. Below the header, the title "Configure Ports" is displayed. A sub-header reads: "Configure which ports you would like the Ignition Gateway to bind to. If you're unsure, leave the defaults, they work well in the majority of situations." There are three input fields: "HTTP Port" with the value "8088" and "(default: 8088)" below it; "HTTPS Port" with the value "8043" and "(default: 8043)" below it; and "Gateway Network Port" with the value "8060" and "(default: 8060)" below it. At the bottom left, it says "Step 3 of 3". At the bottom right, there is a blue button labeled "Finish Setup" with a right-pointing arrow.

# Logging in Ignition



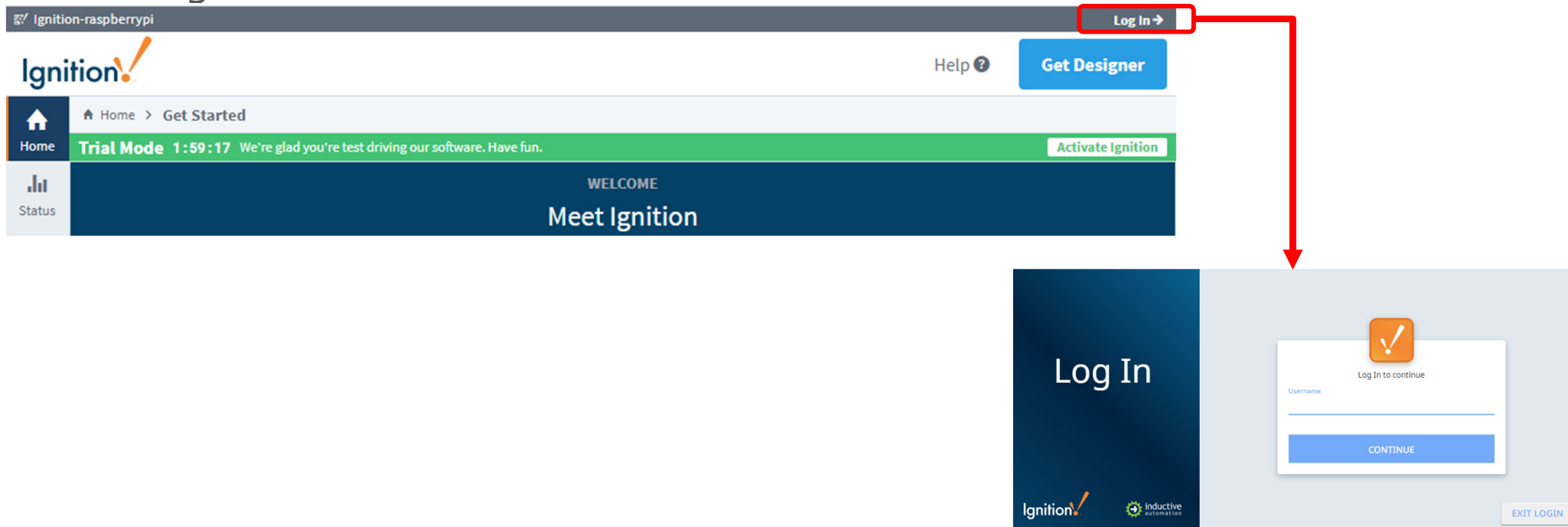
- Next, this will bring up the initial Ignition screen as shown below.



# Logging in Ignition



- 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/>

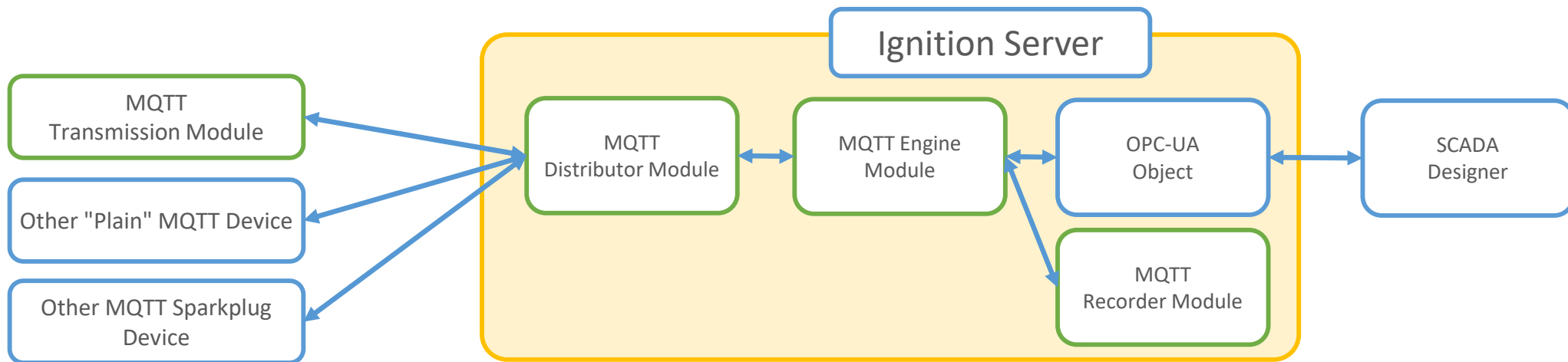
Cirrus Link Solutions MQTT Modules for Ignition	Version	Checksum
See the release notes and usage documentation for all Cirrus Link modules <a href="#">here</a> .		
<a href="#">MQTT Distributor Module (34.0 MB)</a>	4.0.16	<a href="#">sha-256</a>
<a href="#">MQTT Engine Module (36.0 MB)</a>	4.0.16	<a href="#">sha-256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



# Using MQTT/SparkPlugB with Ignition



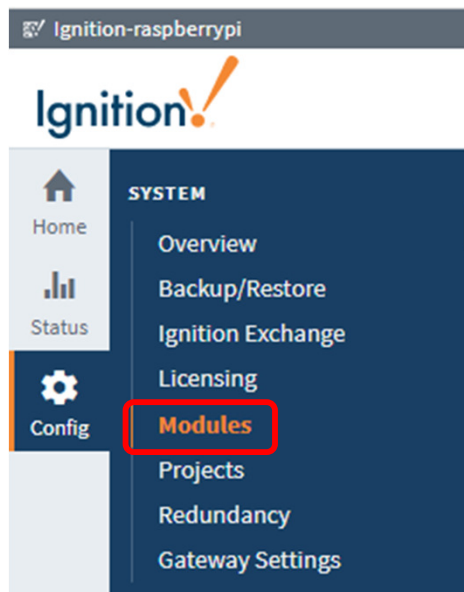
- There are four MQTT modules provided by Ignition.
  - The Distributor Module and Engine Module must be installed.
- (Required) MQTT Distributor Module
  - Add MQTT broker functionality to Ignition.
- (Required) MQTT Engine Module
  - Add the ability to connect the MQTT broker (Distributor Module) and 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.



# Using MQTT/SparkPlugB with Ignition



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



## Cirrus Link Solutions LLC

[View Certificate](#)

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

[→ Install or Upgrade a Module...](#)

**Note:** For details about a module's status, see the [Module Status](#) page.

# Using MQTT/SparkPlugB with Ignition



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



To **install** a module, choose its \*.mod1 file and press "Install".  
To **upgrade** a module, install the new version on top of the existing version.  
Modules can be **downloaded** from [our website](#).

Choose File No file chosen

Install

# Using MQTT/SparkPlugB with Ignition



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

## Cirrus Link Solutions LLC

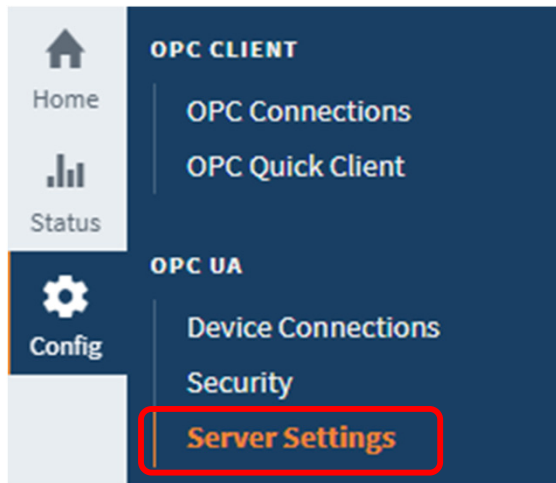
[View Certificate](#)

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

# 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."

Ignition-raspberrypi

Ignition!

Home

Status

Config

SYSTEM

- Overview
- Backup/Restore
- Ignition Exchange
- Licensing
- Modules**
- Projects
- Redundancy
- Gateway Settings

Inductive Automation

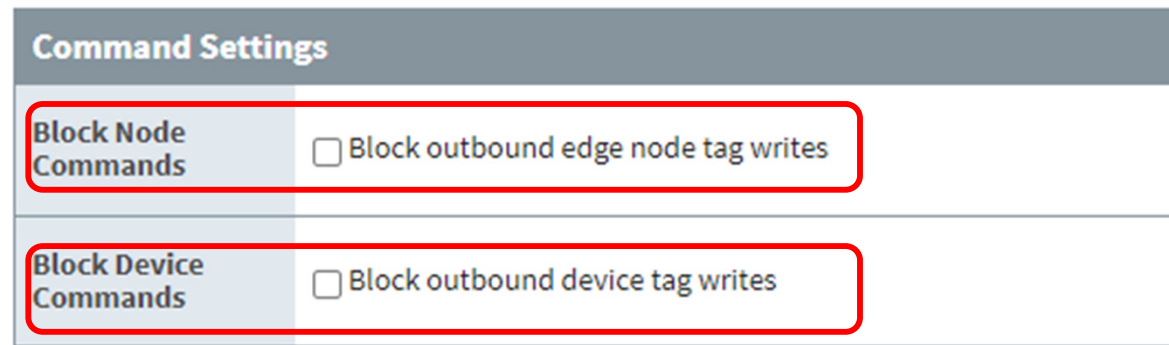
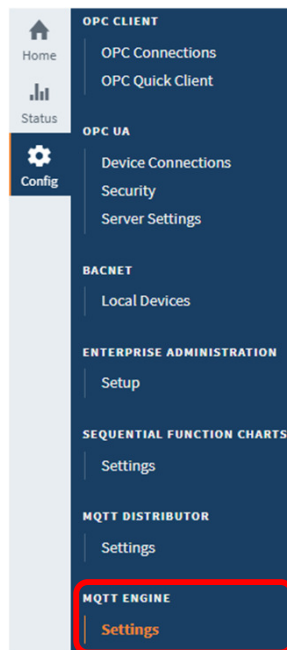
View Certificate

Name	Version	Description	License	State	More	restart
Alarm Notification	6.1.27 (b2023042509)	Provides alarm notifications via email.	Trial	Running	More	restart
Allen-Bradley Driver	6.1.27 (b2023042509)	Allen-Bradley driver suite for the OPC UA module.	Trial	Running	More	restart
BACnet Driver	2.1.27 (b2023042509)	A driver for communicating with devices via BACnet.	Trial	Running	More	restart
DNP3 Driver	4.1.27 (b2023042509)	A driver supporting DNP3 (Distributed Network Protocol) device.	Trial	Running	More	restart
Enterprise Administration	4.1.27 (b2023042509)	A remote Gateway administration system, allowing you to manage Gateways and automate tasks from a single controller.	Trial	Running	More	restart
Logix Driver	5.1.27 (b2023042509)	A driver for communicating with Allen-Bradley Logix5000 series PLCs, and includes firmware version 21 support.	Trial	Running	More	restart
Modbus Driver	7.1.27 (b2023042509)	A driver for communicating with devices via Modbus-TCP.	Trial	Running	More	restart
Omron Driver	4.1.27 (b2023042509)	Drivers for Omron PLCs.	Trial	Running	More	restart
OPC-UA	9.1.27 (b2023042509)	Provides Ignition's OPC UA client and server functionality.	Trial	Running	More	restart

# Using MQTT/SparkPlugB with Ignition



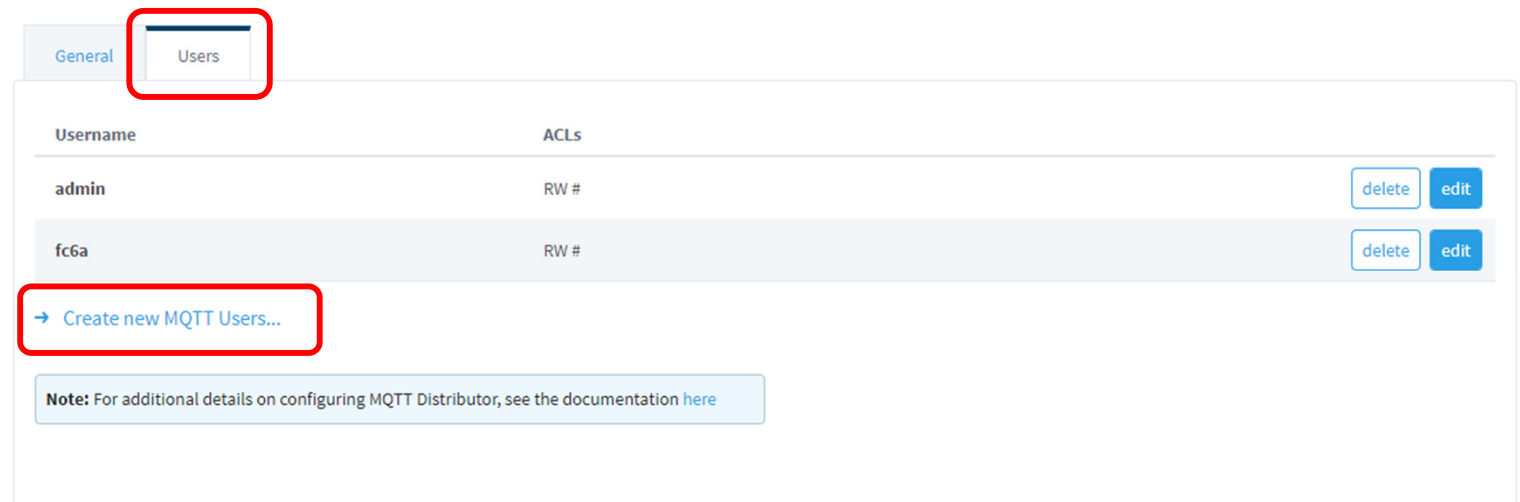
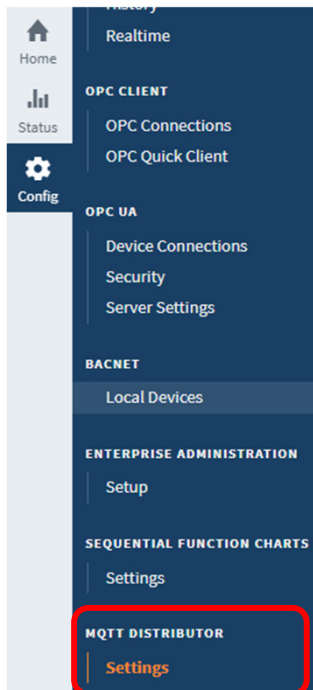
- Initially, data can be sent from the MQTT node (device side) to the Ignition, but not in the reverse direction (Ignition to MQTT node).
- This can be deactivated by setting To do this, open "Config"->"MQTT ENGINE"->"Settings" and uncheck "Block Node Commands" (for Nodes) and "Block Device Commands"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

Main	
Username	<input type="text" value="username"/> MQTT Username to use during connection establishment
Password	<input type="password" value="*****"/> MQTT Password to use during connection establishment
Password	<input type="password" value="*****"/> Re-type password for verification.
ACLs	<input type="text" value="RW #"/> Comma separated list of permissions associated with this user of the form [RW topic],[RW topic]...

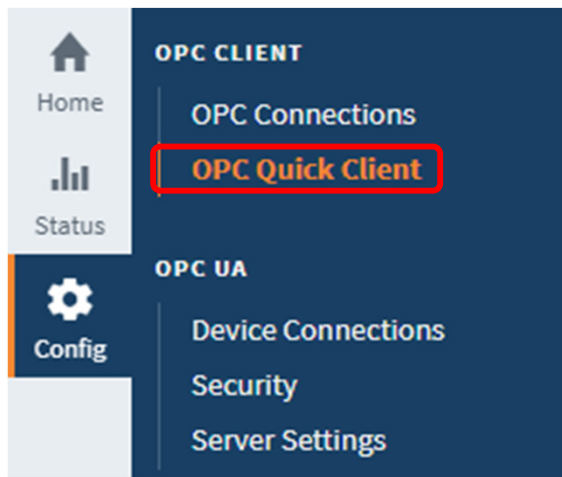
Create New MQTT Users

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".



TYPE	ACTION	TITLE
Server	refresh	Ignition OPC UA Server
Object		Devices
Object		Server
Object		Tag Providers
Object		MQTT Distributor
Object		MQTT Engine
Object		Edge Nodes
Object		My MQTT Group
Object		Edge Node ca4021
Object		Node Control
Object		Node Info
Object		PLC 1
Object		SparkPlug2
Object		Sparkplug B Devices

END