

Chariot MQTT Server Usage

This document describes the basic usage of the Chariot MQTT Server through the Chariot UI.

The UI can be accessed at the following URL:

```
http://<server-url>:8080
```

When installed on [Linux](#), [Windows](#) or deployed via [Azure Marketplace](#), the default login credentials are:

```
username: admin  
password: password
```

When deployed via [AWS Marketplace](#), the default login credentials are:

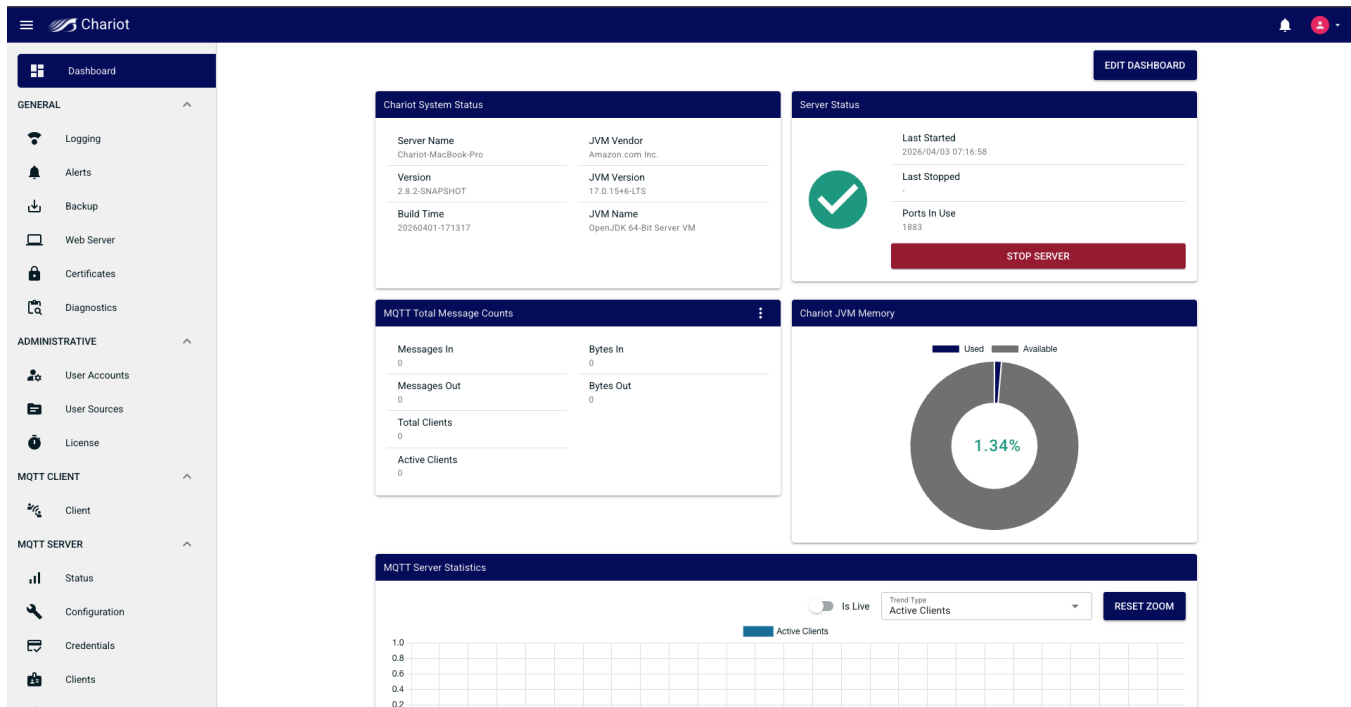
```
username: admin  
password: EC instance ID for example: i-0049ac1e13e558b70
```

The Chariot MQTT Server Web UI provides the following *status* pages for monitoring server activity, logs, and data.

- GENERAL
 - [Dashboard](#)
 - [Logging](#)
 - [Alerts](#)
 - [Diagnostics](#)
- MQTT
 - [Client Status](#)
 - [Sparkplug](#)

Dashboard

The Chariot dashboard provides a high level view of Chariot server and system status information.

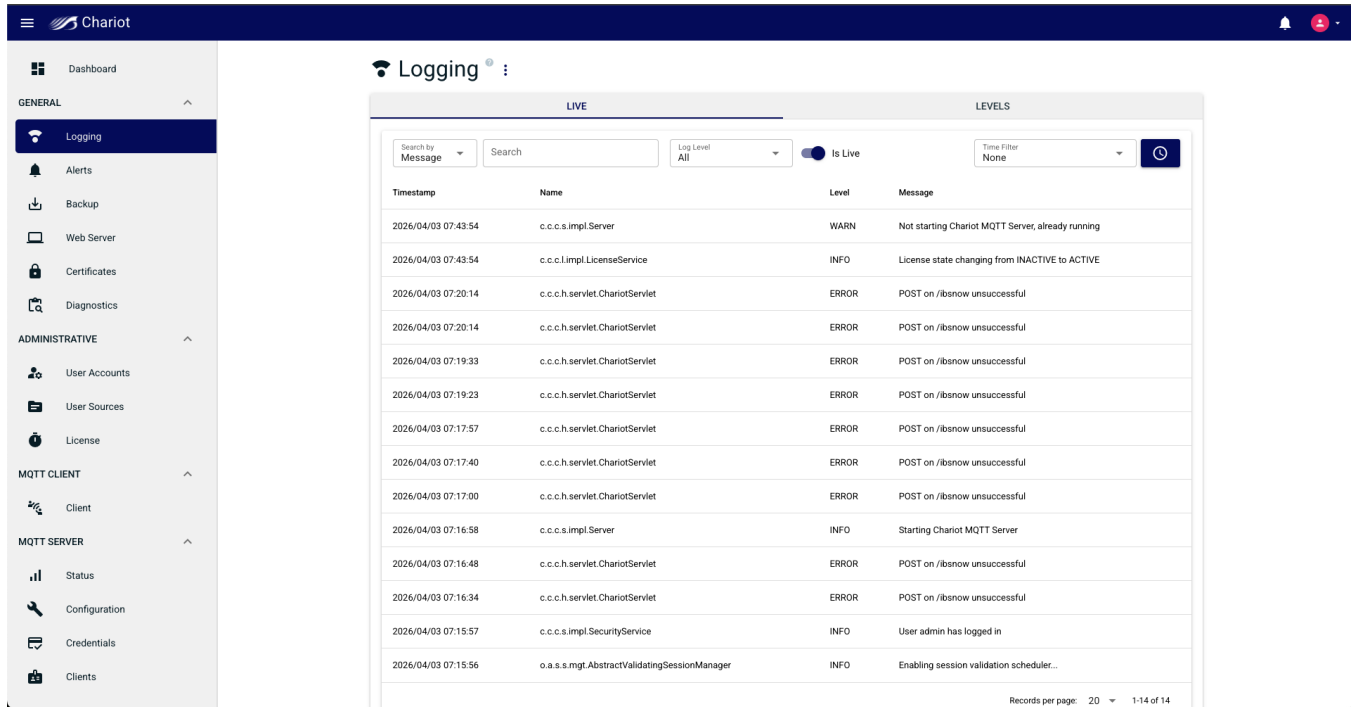


Logging

The Logging page has two tabs when a user can either view live Chariot logs or modify log levels. Additionally, a zip file containing the Chariot logs can be downloaded.

Live Logs

Live Chariot logs can be viewed on the Live logs tab. The live logs can be filtered by matching message text or selecting a minimum log level. A live toggle allows for enabling/disabling live log updates to the page.

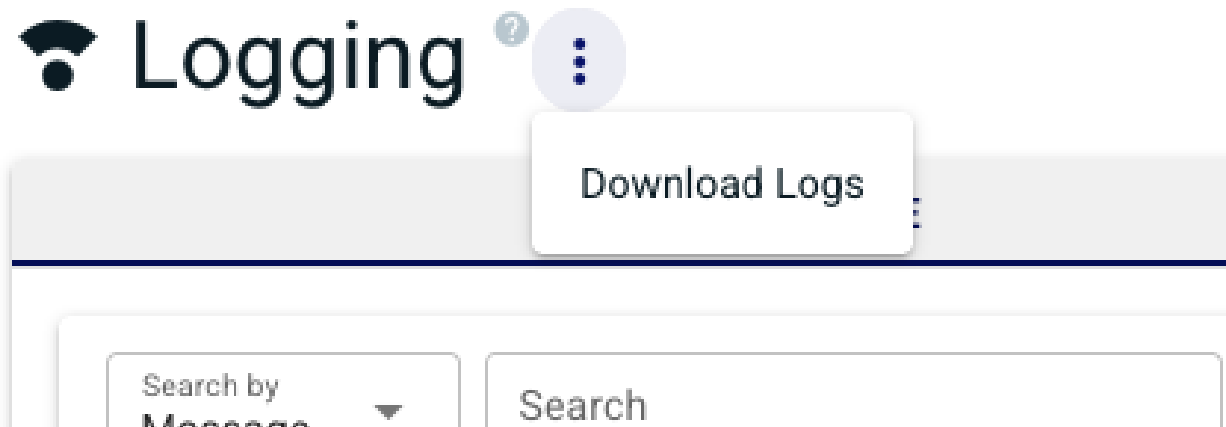


The screenshot shows the Chariot Logging interface. The left sidebar contains navigation options: Dashboard, GENERAL (Alerts, Backup, Web Server, Certificates, Diagnostics), ADMINISTRATIVE (User Accounts, User Sources, License), MQTT CLIENT (Client), and MQTT SERVER (Status, Configuration, Credentials, Clients). The main content area is titled 'Logging' and has two tabs: 'LIVE' (selected) and 'LEVELS'. The 'LIVE' tab includes a search filter (Search by Message), a search input field, a Log Level dropdown (set to All), an 'Is Live' toggle (checked), and a Time Filter dropdown (set to None). Below these controls is a table of log entries with columns for Timestamp, Name, Level, and Message. The table shows various log messages from different Chariot components, including warnings about MQTT server status, info about license state changes and user logins, and errors related to POST requests on /ibsnow.

Timestamp	Name	Level	Message
2026/04/03 07:43:54	c.c.s.impl.Server	WARN	Not starting Chariot MQTT Server, already running
2026/04/03 07:43:54	c.c.l.impl.LicenseService	INFO	License state changing from INACTIVE to ACTIVE
2026/04/03 07:20:14	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:20:14	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:19:33	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:19:23	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:17:57	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:17:40	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:17:00	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:16:58	c.c.s.impl.Server	INFO	Starting Chariot MQTT Server
2026/04/03 07:16:48	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:16:34	c.c.h.servlet.ChariotServlet	ERROR	POST on /ibsnow unsuccessful
2026/04/03 07:15:57	c.c.s.impl.SecurityService	INFO	User admin has logged in
2026/04/03 07:15:56	o.a.s.mgt.AbstractValidatingSessionManager	INFO	Enabling session validation scheduler...

Download Logs

The menu button at the top of the page contains an option for downloading a zip file containing the Chariot logs.



Log Levels

The second tabs allows for modifying log levels. The log levels can be filtered by name and each logger can have the level set to one of: TRACE, DEBUG, INFO, WARN and ERROR.

The screenshot shows the Chariot Logging interface. On the left is a navigation sidebar with categories: GENERAL (Dashboard, Logging, Alerts, Backup, Web Server, Certificates, Diagnostics), ADMINISTRATIVE (User Accounts, User Sources, License), MQTT CLIENT (Client), and MQTT SERVER (Status, Configuration, Credentials, Clients). The main content area is titled 'Logging' and has two tabs: 'LIVE' and 'LEVELS'. The 'LEVELS' tab is active, showing a table with columns 'Name' and 'Level'. A 'Filter' input field and a 'RESET ALL LEVELS' button are at the top right. The table lists various logging levels for different components, all currently set to 'INFO'.

Name	Level
ROOT	Level INFO
com	Level INFO
com.cirruslink	Level INFO
com.cirruslink.chariot	Level INFO
com.cirruslink.chariot.account	Level INFO
com.cirruslink.chariot.account.impl	Level INFO
com.cirruslink.chariot.account.impl.AccountService	Level INFO
com.cirruslink.chariot.alert	Level INFO
com.cirruslink.chariot.alert.impl	Level INFO
com.cirruslink.chariot.alert.impl.AlertService	Level INFO
com.cirruslink.chariot.api	Level INFO
com.cirruslink.chariot.api.model	Level INFO
com.cirruslink.chariot.api.model.AbstractAuthorizedResource	Level INFO

This close-up shows the dropdown menu for the logging level of the 'com' component. The menu is open, showing options: TRACE, DEBUG, INFO (highlighted), WARN, and ERROR. The current level is 'INFO'.

Level
Level INFO
TRACE
DEBUG
INFO
WARN
ERROR
Level

Sparkplug

The Sparkplug page tracks data from Sparkplug MQTT clients that are connected to the Chariot MQTT server. The tracking can be disabled by clicking on the menu button at the top.

Overview

The Overview tab provides a dynamic representation of the Sparkplug Host Applications, Groups, Edge Nodes and Devices that are being tracked by Chariot.

Chariot

Sparkplug

OVERVIEW HOST APPLICATIONS EDGE NODES TOOLS

Sparkplug Nodes

Select Edge, Device, Hos...
Two or more characters to search

Hosts 1/2

Edges 25/25

Groups 7

Devices 26/25

Sparkplug Node Details

Select an edge, host, or device to view

The network diagram illustrates a central 'Chariot' node connected to various components. A large cluster of 'EDGE NODES' is shown at the top right, with nodes labeled e1 through e20. Below this, several 'HOST APPLICATIONS' are visible, including 'spBv1 0/STATE/testtest', 'STATE/testtest', and 'My MQTT Group'. At the bottom, there are several 'DEVICES' labeled g1 through g6 and e1 through e2. The diagram uses a central hub-and-spoke model with 'Chariot' at the center and various nodes radiating outwards.

Selecting a specific Edge Node will display the Edge Node details

Sparkplug Node Details

Group ID

g33

Edge Node ID

e3

Online



Primary ID

testtest

Client ID

MT-e3b7ba3f-2479-4ecf

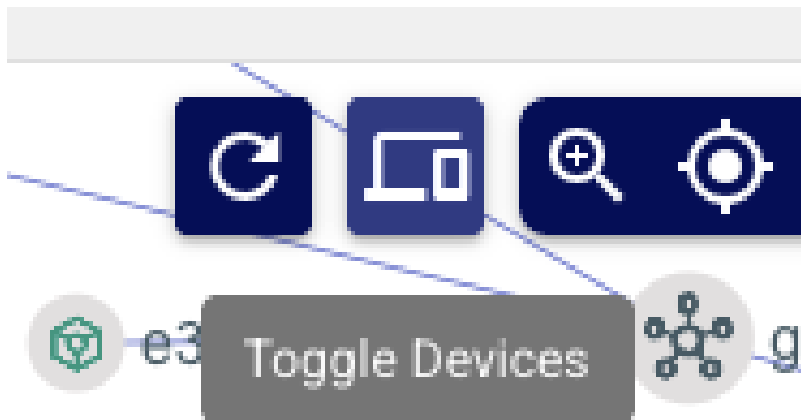
IP Address

127.0.0.1

Metric Count

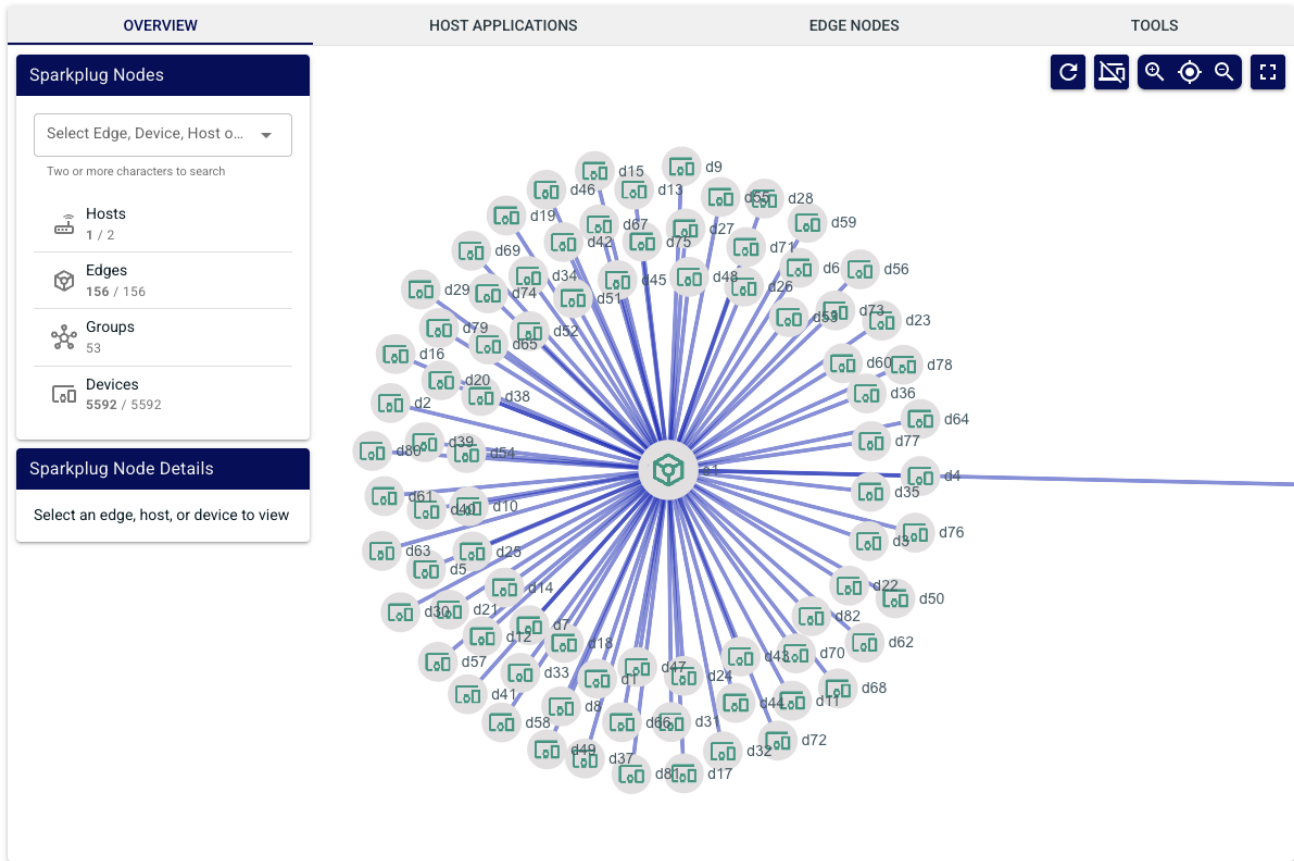


To see devices click on the show device button



This will expand out all edge node devices

⚡ Sparkplug Ⓞ :



Selecting a specific Device will display the Device details

⚡ Sparkplug Ⓞ :

The screenshot shows the 'OVERVIEW' tab of the Sparkplug interface. The main area displays a large graph of nodes, with two nodes highlighted: 'e1' (an edge node) and 'd63' (a device node). The sidebar on the left contains the following sections:

- Sparkplug Nodes**
 - Select Edge, Device, Host o... (dropdown)
 - Two or more characters to search
 - Hosts: 1 / 2
 - Edges: 156 / 156
 - Groups: 53
 - Devices: 5592 / 5592
- Sparkplug Node Details**
 - Device ID: d63
 - Online: ●
 - Metric Count: 5
 - Descriptor: g34/e1/d63

Alternatively you can search for a Edge node, group, and device via the dropdown. This will zoom in on the specified graph node. Note that searching devices requires the devices to be toggled on (see above).

This close-up shows the 'Sparkplug Nodes' search interface. The dropdown menu is open, displaying the following options:

- Select Edge, Device, Host or Group (dropdown)
- e9| (input field)
- e9 (edge node)
- g1/e9 (group)
- HOSTS (category)
- 1 / 2 (count)

⚡ Sparkplug [?] :

The screenshot displays the Sparkplug interface with three tabs: OVERVIEW, HOST APPLICATIONS, and EDGE NODES. The OVERVIEW tab is selected, showing a search bar with the text 'e9' and a list of Sparkplug Nodes. The list includes Hosts (1 / 2), Edges (156 / 156), Groups (53), and Devices (5592 / 5592). Below the list, the Sparkplug Node Details for Group ID 'g1' are shown, including Edge Node ID 'e9', Online status (checked), Primary ID 'testtest', Client ID 'MT-014cfd91-2db4-443e', and IP Address '127.0.0.1'. The HOST APPLICATIONS and EDGE NODES tabs are also visible, showing a network diagram with nodes labeled e2 through e9.

Host Applications

The Host Applications tab will show all Sparkplug Host applications that Chariot is tracking. Selecting a host application from the list will show additional details such as the last time it was online or offline.

Sparkplug

OVERVIEW | **HOST APPLICATIONS** | EDGE NODES | TOOLS

Filter: [] Filter Field: State Topic [] DELETE SELECTED

Host ID	State Topic	Client ID	IP	Online
<input type="checkbox"/> testtest	STATE/testtest			<input type="checkbox"/>
<input checked="" type="checkbox"/> testtest	spBv1.0/STATE/testtest	ME-0076679d-ddc4-446f	127.0.0.1	<input checked="" type="checkbox"/>

1 record selected. Records per page: 20 1/2 of 2

Host Details

Host ID: testtest

State Topic: spBv1.0/STATE/testtest

Client ID: ME-0076679d-ddc4-446f

IP Address: 127.0.0.1

Rebirths Requested: 0

Online: Yes

Last Online: 2026/04/03 07:46:35

Last Offline: -

Edge Nodes

The Edge Nodes tab will show all Sparkplug Edge Nodes and any Devices that Chariot is tracking. Selecting an Edge Node from the list will show additional details and also populate the list of the Edge Node's Devices below.

Dropdown button on the far right of each Edge Node entry in the list provide tools for sampling compression, request rebirth and downloading the Sparkplug Edge Node Birth (NBIRTH) and Device Birth (DBIRTH) payloads in JSON format.

Sparkplug

OVERVIEW | HOST APPLICATIONS | **EDGE NODES** | TOOLS

Filter: [] Filter Field: Client ID [] DELETE SELECTED

Group ID	Edge Node ID	Client ID
<input type="checkbox"/> My MQTT Group	Edge Node 94b2ef	MT-4e8386a6-bcf1-4eda
<input checked="" type="checkbox"/> g1	e10	MT-dcd8c8ae-6d5a-42fe
<input type="checkbox"/> g1	e11	MT-25371ab8-cfe5-4f6e
<input type="checkbox"/> g1	e12	MT-ffc5048e-fcbe-4975
<input type="checkbox"/> g1	e13	MT-0e51c266-df16-4080

1 record selected. Records per page: 5 1-5 of 25 |< > >>

Node Details

Group ID: g1

State Topic: e10

Online: Yes

Primary ID: testtest

Metric Count: 6

Client ID: MT-dcd8c8ae-6d5a-42fe

IP Address: 127.0.0.1

Historical

Session Metrics: 0

Lifetime Metrics: 0

Compression

Sampling: No

Average Ratio: -

Count: -

Statistics

Max Message Size: 718

Birth Payload Size: 718

<input type="checkbox"/>	My MQTT Group	Edge Node 94b2ef	MT-85869b3a-cda7-4809	127.0.0.1	✓	testtest	⋮
<input checked="" type="checkbox"/>	g1	e10	MT-bb1c60c9-8383-4df4	127.0.0.1	✓	testtest	⋮
<input type="checkbox"/>	g1	e2	MT-08373ea6-accb-448e	127.0.0.1	✓	testtest	⋮
<input type="checkbox"/>	g1	e3	MT-5dfa6db6-2570-4d3c	127.0.0.1	✓	testtest	⋮
<input type="checkbox"/>	g1	e4	MT-2df1717d-b138-4799	127.0.0.1	✓	testtest	⋮

- Sample Compression
- Node Birth Details
- Request Rebirth

- Clients
- Sparkplug
- IOT BRIDGE FOR SNOWFLAKE
- Status
- Certificates
- Configuration
- Servers

Metric Count: 6

Client ID: MT-dc88c8ae-6d5a-42fe

IP Address: 127.0.0.1

Last Birth: 2026/04/03 07:46:36

Last Death: -

Sequence Number: 1

Offline Count: 0

Birth Payload Size: 718

Device ID: Online

<input checked="" type="checkbox"/>	d1	✓	
-------------------------------------	----	---	--

1 record selected. Records per page: 20 | 1-1 of 1

Device Details

Device ID: d1

Online: Yes

Metric Count: 5

Last Birth: 2026/04/03 07:46:36

Last Death: -

Historical

Session Metrics: 0

Lifetime Metrics: 0

Statistics

Max Message Size: 196

Birth Payload Size: 196

	Device ID	Last Birth	Last Death	Online	
<input checked="" type="checkbox"/>	d1	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
<input type="checkbox"/>	d10	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
<input type="checkbox"/>	d11	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
<input type="checkbox"/>	d12	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
<input type="checkbox"/>	d13	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	

1 record selected. Records per page: 5 1-5 of 19

Device Details

Device ID
d1

Online
Yes

Metric Count
5

Last Birth
2025/08/21 10:14:52

Last Death
2025/08/20 14:53:07

Historical

Session Metrics
0

Lifetime Metrics
0

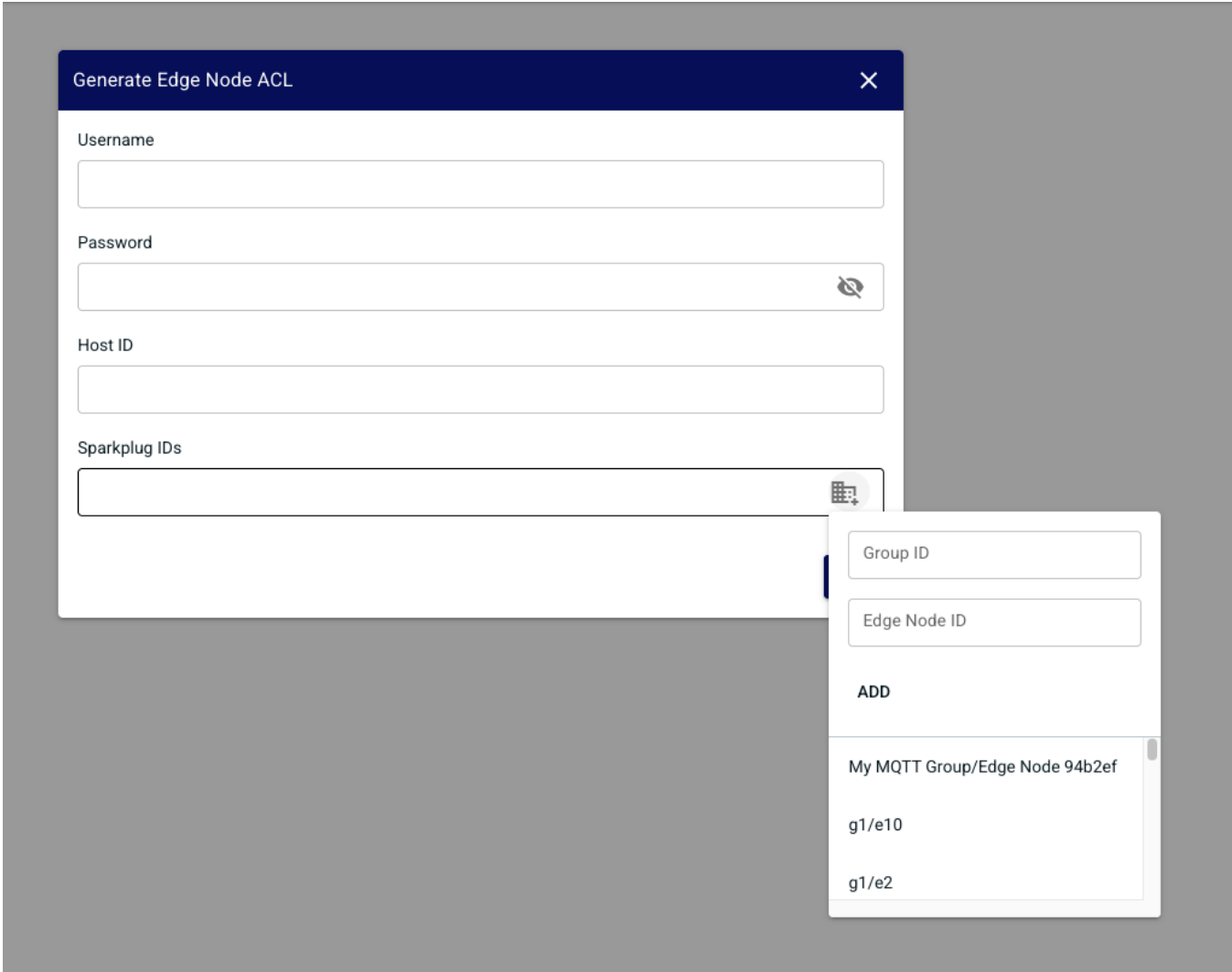
Tools

The Tools tab allows you to generate Access Control Lists (ACLs) needed for Hosts and Edge Nodes.

ACLs define the topics that a client can publish and subscribe on and generating an ACL through the Sparkplug Tools will automatically add the credentials to the MQTT Account Credentials section of the Chariot configuration.

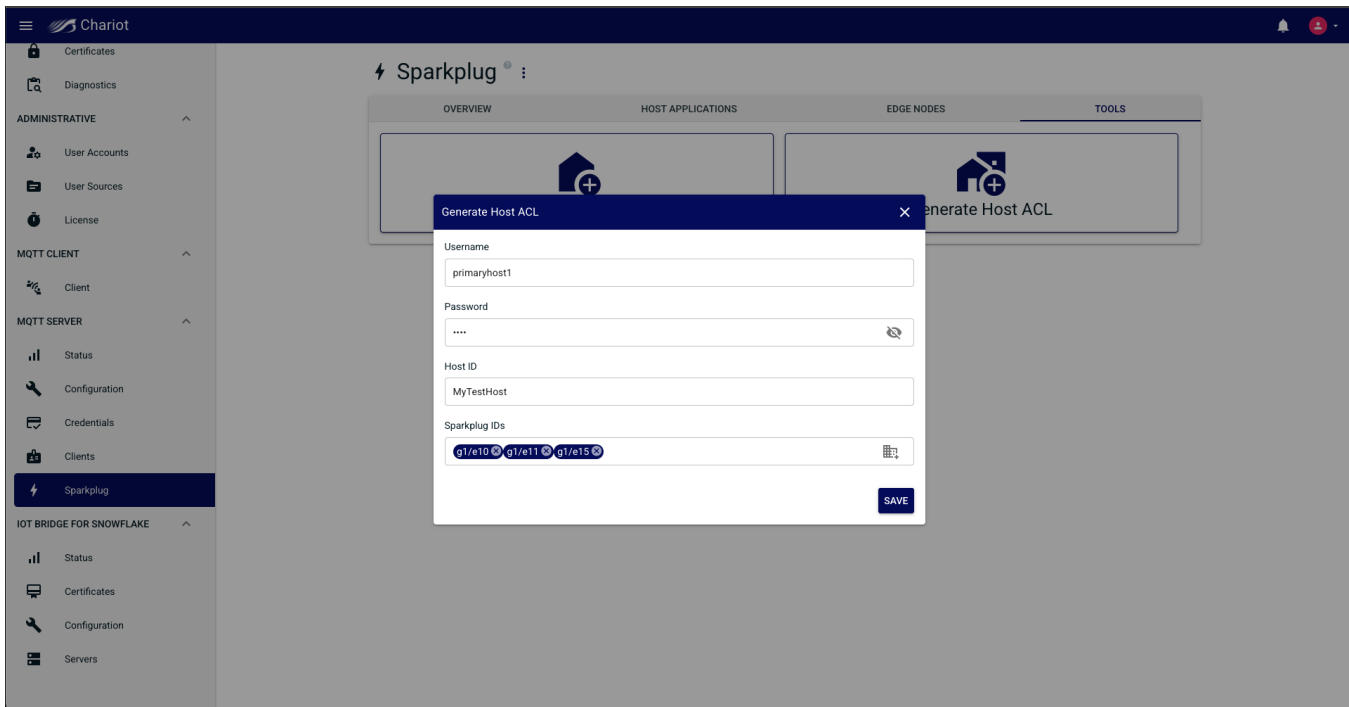
Select Generate Edge Node ACL to generate the ACLs for a Sparkplug client. Enter the client username, password and Primary Host ID (if needed). Add the required Sparkplug Edge Node IDs and select create.

A new entry for the username/password will be added to the MQTT Account Credentials section of the Chariot configuration.

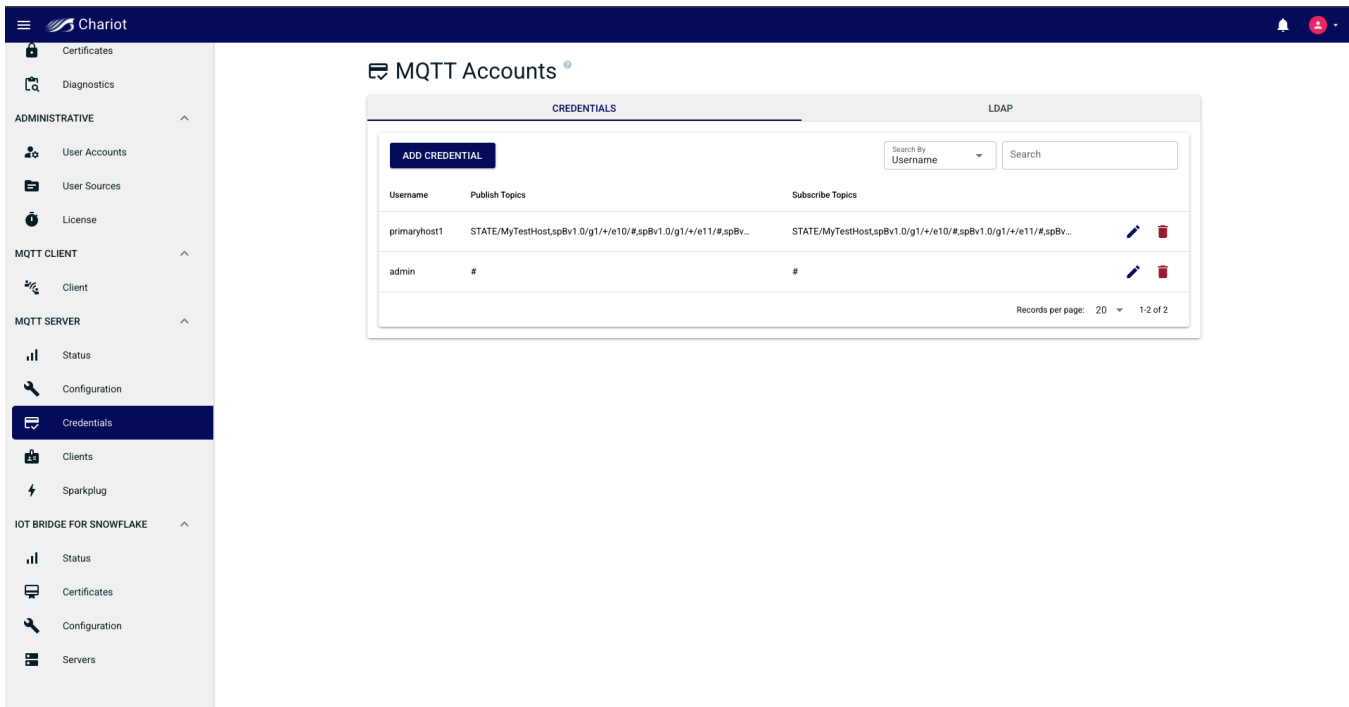


Select Generate Host ACL to generate the ACLs for a Sparkplug Primary Host client. Enter the client username, password and Primary Host ID. Add the required Sparkplug Edge Node IDs and select create.

A new entry for the username/password will be added to the MQTT Account Credentials section of the Chariot configuration.



For the examples above, the MQTT Account Credentials will have been updated as shown below:



Client Status

The Client Status page tracks the status of MQTT Clients.

Clients

The MQTT Client Status page shows details of all clients connected to the Chariot MQTT server. A filterable table lists the MQTT clients, selecting one will allow you to view network details, session information, LWT details and a list of subscriptions.

Chariot

MQTT Client Status

CLIENTS RETAINED MESSAGES

Filter by Client ID, IP and Will Topic Username Is Live

Client ID	IP Address	Connected	Will Topic
<input checked="" type="checkbox"/> MT-63c270ff-c95d-437e	127.0.0.1	●	spBv1.0/g1/NDEATH/e19
<input type="checkbox"/> MT-18a49e91-ff7-44bf	127.0.0.1	●	spBv1.0/g1/NDEATH/e3
<input type="checkbox"/> MT-dcd8c8ae-6d5a-42fe	127.0.0.1	●	spBv1.0/g1/NDEATH/e10
<input type="checkbox"/> MT-ffc5048e-fcbe-4975	127.0.0.1	●	spBv1.0/g1/NDEATH/e12
<input type="checkbox"/> MT-9124e4b-545a-4a63	127.0.0.1	●	spBv1.0/g5/NDEATH/e2

1 record selected. Records per page: 20 1-20 of 26

Network

IP Address
127.0.0.1

State
CONNECTED

Last Active
2026/04/03 07:51:36

Connection Since
2026/04/03 07:46:36

Bytes Received
41

Bytes Transmitted
914

Session

Client ID
MT-63c270ff-c95d-437e

Username
admin

Clean Session
Yes

Keep Alive
30

Connection Type
MQTT

Last Will

Will Topic
spBv1.0/g1/NDEATH/e19

Will QoS
1

Will Retained
No

Network

IP Address
127.0.0.1

State
CONNECTED

Last Active
2026/04/03 07:52:36

Connection Since
2026/04/03 07:46:36

Bytes Received
41

Bytes Transmitted
914

Inbound Queue Size ?
0

Outbound Queue Size ?
0

Packet Write Queue Size ?
0

Session

Client ID
MT-63c270ff-c95d-437e

Username
admin

Clean Session
Yes

Keep Alive
30

Connection Type
MQTT

Last Will

Will Topic
spBv1.0/g1/NDEATH/e19

Will QoS
1

Will Retained
No

Subscriptions

QoS	Topic
0	spBv1.0/g1/DCMD/e19/#
0	spBv1.0/g1/NCMD/e19
1	STATE/testttest
0	spBv1.0/g1/NDEATH/e19
1	spBv1.0/STATE/testttest

Records per page: 5 1-5 of 5

Retained Messages

The Retained Messages page shows all retained messages recorded by the Chariot Server.

The screenshot shows the Chariot MQTT Client Status page. The left sidebar contains navigation options: Logging, Alerts, Backup, Web Server, Certificates, Diagnostics, ADMINISTRATIVE (User Accounts, User Sources, License), MQTT CLIENT (Client), MQTT SERVER (Status, Configuration, Credentials, Clients), Sparkplug, and IOT BRIDGE FOR SNOWFLAKE. The main content area is titled 'MQTT Client Status' and has two tabs: 'CLIENTS' and 'RETAINED MESSAGES'. The 'RETAINED MESSAGES' tab is active, displaying a table with columns for Topic, QoS, Size, and Timestamp. A single message is listed with Topic 'sp8v1.0/STATE/testtest', QoS '1', Size '69', and Timestamp '2026/04/03 07:46:35'. A 'DELETE' button is visible in the top right of the table area. A filter input field is located at the top left of the table. The bottom right of the table shows 'Records per page: 20' and '1-1 of 1'.

Alerts

The Alerts page provides a place to view and manage any alerts that are generated in the Chariot Server

Live Alerts

The Live Alerts tab shows a live view of alerts as they are generated. Individual alerts can be acknowledge and cleared. The alerts displayed can be filtered by matching text in the description, selecting an alert type, and/or hiding cleared or acknowledged alerts.

Alerts

LIVE ALERTS TYPES

Description Search Filter By Alert Type: All Alerts Hide Cleared Hide Acknowledged Live

Active Time	Priority	Description	Type	Cleared	ACKED
2026/04/03 07:56:35	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_2' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:34	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:33	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:33	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_2' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:31	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:30	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:29	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_2' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:28	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>
2026/04/03 07:56:27	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION	<input type="checkbox"/>	<input type="checkbox"/>

Records per page: 20 1-9 of 9

Types

The Types tab allows for the enabling/disabling of specific alert types as well as changing the priority (1, 2, or 3).

Alerts

LIVE ALERTS TYPES

Enabled	Name	Path	Priority
<input checked="" type="checkbox"/>	MQTT_DISCONNECT	MQTT/DISCONNECT	3
<input checked="" type="checkbox"/>	MQTT_CONNECTION_LOST	MQTT/CONNECTION_LOST	2
<input checked="" type="checkbox"/>	MQTT_LWT_NOT_REGISTERED	MQTT/LWT_NOT_REGISTERED	3
<input checked="" type="checkbox"/>	MQTT_CLIENT_ID_COLLISION	MQTT/CLIENT_ID_COLLISION	2
<input checked="" type="checkbox"/>	MQTT_SUBSCRIBE_FAILED	MQTT/SUBSCRIBE_FAILED	2
<input checked="" type="checkbox"/>	SPARKPLUG_SEQ_NUM_ERROR	SPARKPLUG/SEQ_NUM_ERROR	1
<input checked="" type="checkbox"/>	SPARKPLUG_GROUP_EDGE_COLLISION	SPARKPLUG/GROUP_EDGE_COLLISION	1
<input checked="" type="checkbox"/>	SPARKPLUG_NONCOMPLIANT_LWT_TOPIC	SPARKPLUG/NONCOMPLIANT_LWT_TOPIC	3
<input checked="" type="checkbox"/>	SPARKPLUG_TEMPLATE_DEF_COLLISION	SPARKPLUG/TEMPLATE_DEF_COLLISION	3
<input checked="" type="checkbox"/>	SPARKPLUG_COMPRESSION_WARNING	SPARKPLUG/COMPRESSION_WARNING	3

1-10 of 10

Some of the Alert Types supported in the Chariot Server include:

- MQTT_DISCONNECT
 - An MQTT client has disconnected
- MQTT_CONNECTION_LOST
 - An MQTT client has lost it's connection
- MQTT_LWT_NOT_REGISTERED
 - An MQTT client has connected but not registered an LWT (last will and testament)
- SPARKPLUG_SEQ_NUM_ERROR
 - Messages published from a Sparkplug MQTT client have been received out of sequence
- SPARKPLUG_GROUP_EDGE_COLLISION

- Multiple Sparkplug MQTT clients are using the same Group ID and Edge Node ID
- SPARKPLUG_NONCOMPLIANT_LWT_TOPIC
 - A Sparkplug MQTT Client has registered an LWT that is not compliant with the Sparkplug specification
- SPARKPLUG_TEMPLATE_DEF_COLLISION
 - A Sparkplug MQTT client is publishing template definitions that conflict with previously published definitions
- SPARKPLUG_COMPRESSION_WARNING
 - A Sparkplug MQTT client is using data compression and the compressed data is actually larger in size than the uncompressed data

Diagnostics

The Diagnostics page provides a view to the threads running within the Chariot Server. This information may be requested by Cirrus Link support personnel to assist in diagnosing issues with the Chariot Server.

The screenshot shows the Chariot web interface. The left sidebar contains navigation menus for Dashboard, GENERAL (Logging, Alerts, Backup, Web Server, Certificates, Diagnostics), ADMINISTRATIVE (User Accounts, User Sources, License), MQTT CLIENT (Client), and MQTT SERVER (Status, Configuration, Credentials, Clients). The main content area is titled 'Diagnostics : THREADS' and features a search bar and a table of threads.

ID	Name	State	Daemon	Stack Trace
1	main	WAITING	✗	⬆
2	Reference Handler	RUNNABLE	✓	⬆
3	Finalizer	WAITING	✓	⬆
4	Signal Dispatcher	RUNNABLE	✓	⬆
22	Notification Thread	RUNNABLE	✓	⬆
23	Common-Cleaner	TIMED_WAITING	✓	⬆
25	FelixDispatchQueue	WAITING	✗	⬆
31	FelixFrameworkWiring	WAITING	✓	⬆
32	FelixStartLevel	WAITING	✓	⬆
45	CM Configuration Updater	WAITING	✓	⬆
46	CM Event Dispatcher	WAITING	✓	⬆
47	EventAdminAsyncThread #1	WAITING	✓	⬆
48	EventAdminAsyncThread #2	WAITING	✓	⬆
49	EventAdminAsyncThread #3	WAITING	✓	⬆
51	EventAdminAsyncThread #4	WAITING	✓	⬆

Diagnostics :

This view shows a detailed look at the 'main' thread (ID 1). The thread is in a 'WAITING' state and is not a daemon. The stack trace is expanded, showing the following call stack:

```

java.base@17.0.15/java.lang.Object.wait(Native Method)
app//org.apache.felix.framework.util.ThreadGate.await(ThreadGate.java:81)
app//org.apache.felix.framework.Felix.waitForStop(Felix.java:1222)
app//org.apache.felix.main.Main.main(Main.java:299)
  
```