

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:

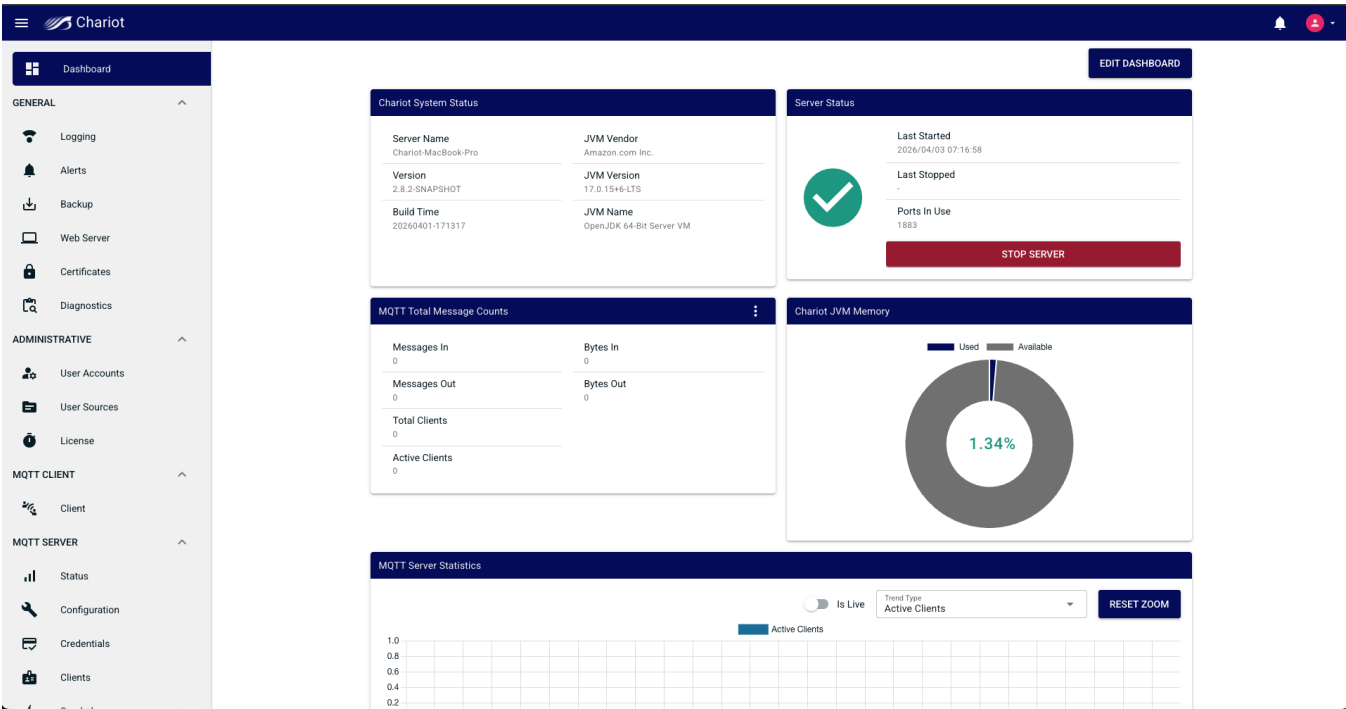
```
username: admin
password: EC instance ID for example: i-0049ac1e13e558b70
```

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

- GENERAL
 - [Dashboard](#)
 - [Logging](#)
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 - [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.

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Search by Message

Search

Log Level All

Is Live

Time Filter None

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.s.impl.LicenseService	INFO	License state changing from INACTIVE to ACTIVE
2026/04/03 07:20:14	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:20:14	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:19:33	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:19:23	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:17:57	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:17:40	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow unsuccessful
2026/04/03 07:17:00	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow 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 /bsnow unsuccessful
2026/04/03 07:16:34	c.c.h.servlet.ChariotServlet	ERROR	POST on /bsnow 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.s.mgt.AbstractValidatingSessionManager	INFO	Enabling session validation scheduler...

Records per page: 20 1-14 of 14

Download Logs

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

Logging

Download Logs

Search by Message

Search

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.

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RESET ALL LEVELS

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

com	Level INFO
com.cirruslink	TRACE
com.cirruslink.chariot	DEBUG
com.cirruslink.chariot.account	INFO
com.cirruslink.chariot.account.impl	WARN
com.cirruslink.chariot.account.impl.AccountService	ERROR

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.

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Sparkplug Nodes

Select Edge, Device, Hos...

Two or more characters to search

Hosts

1 / 2

Edges

25 / 25

Groups

7

Devices

26 / 26

Sparkplug Node Details

Select an edge, host, or device to view

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

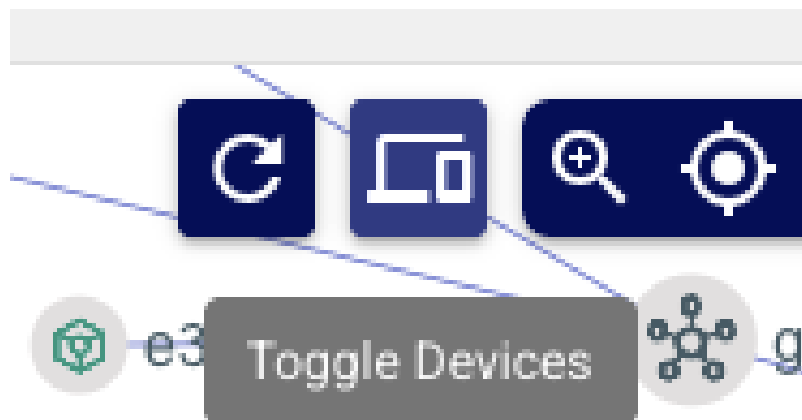
IP Address

127.0.0.1

Metric Count

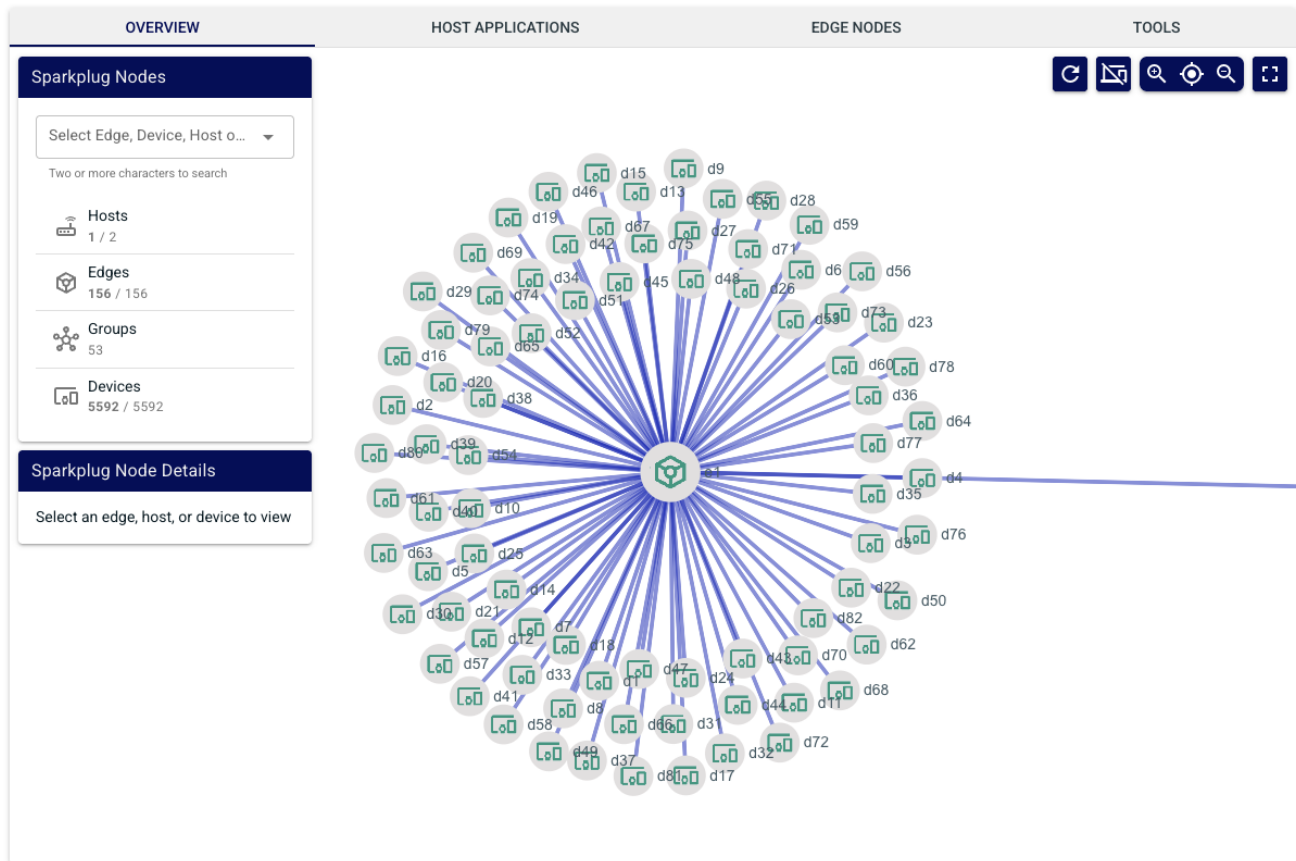
 e3

To see devices click on the show device button



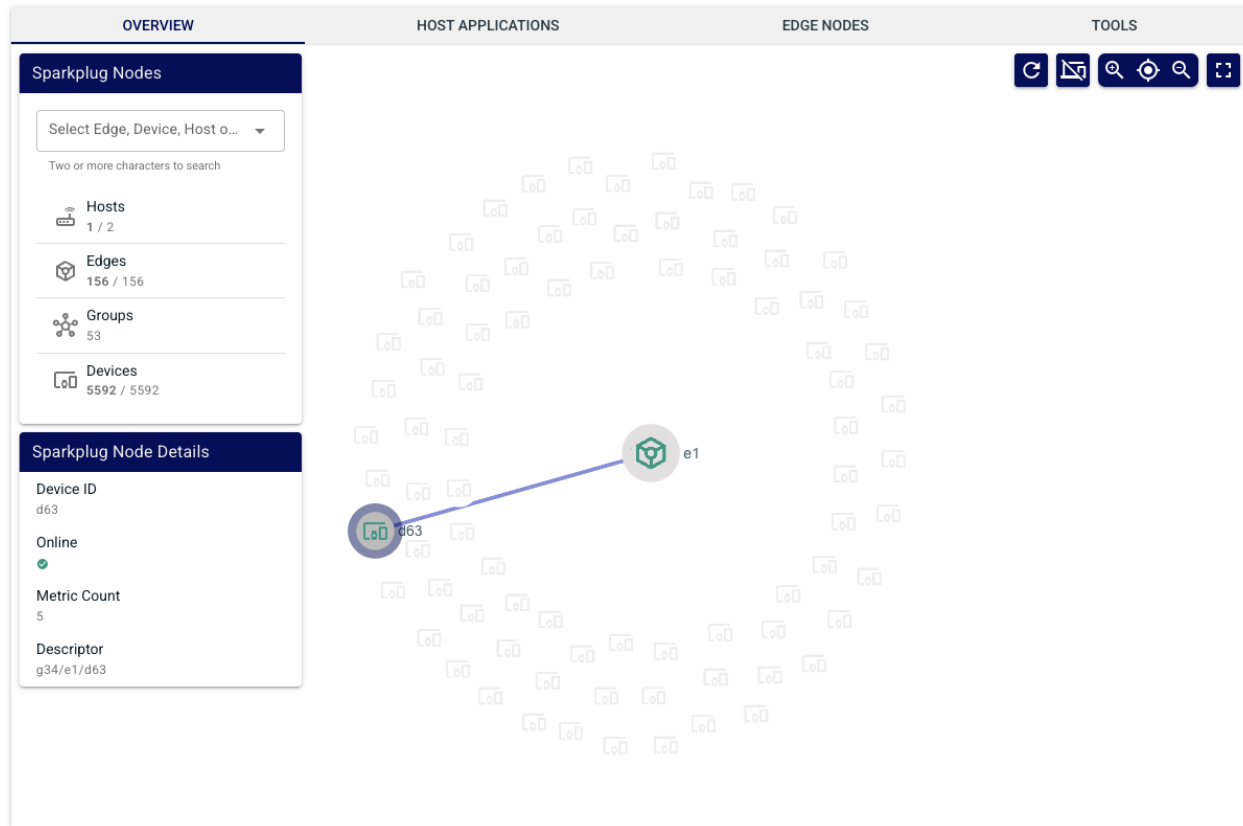
This will expand out all edge node devices

⚡ Sparkplug ⚙️ :

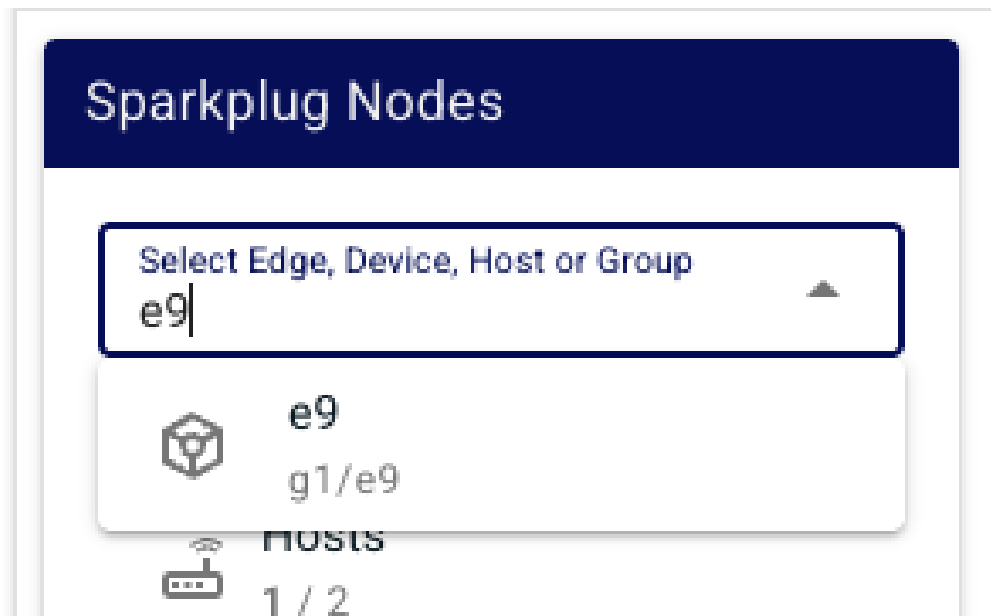


Selecting a specific Device will display the Device details

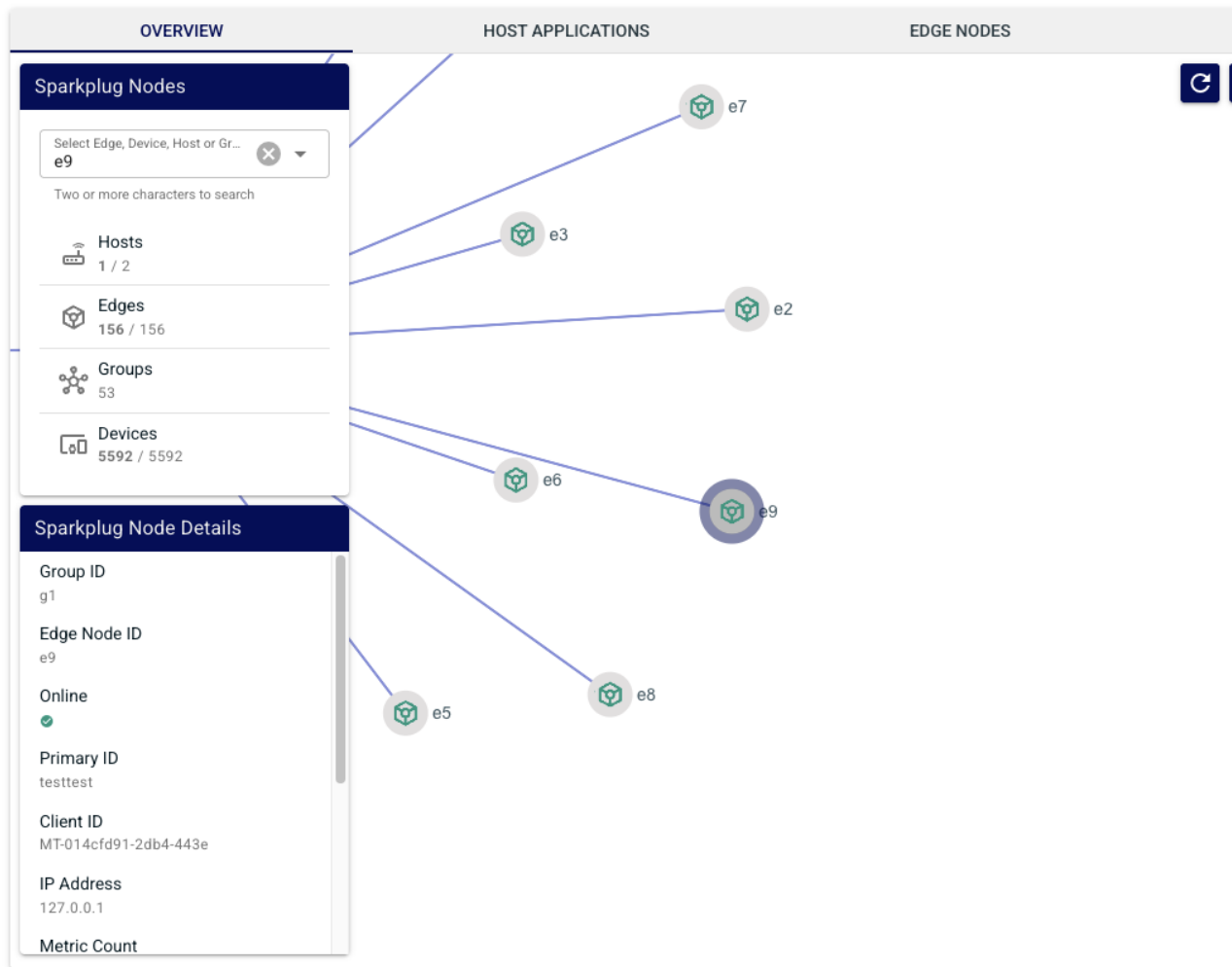
⚡ Sparkplug Ⓢ :



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).



⚡ Sparkplug [?] :



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.

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 - Client
- MQTT SERVER ^
 - Status
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- IOT BRIDGE FOR SNOWFLAKE ^
 - Status
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⚡ Sparkplug[®]

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EDGE NODES
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DELETE SELECTED

	Host ID	State Topic	Client ID	IP	Online
☐	testtest	STATE/testtest			✗
☒	testtest	spBv1.0/STATE/testtest	ME-0076679d-ddc4-446f	127.0.0.1	✓

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

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Filter Field Client ID

DELETE SELECTED

	Group ID	Edge Node ID	Client ID	
☐	My MQTT Group	Edge Node 94b2ef	MT-4e8386a6-bcf1-4eda	⋮
☒	g1	e10	MT-dcd8c8ae-6d5a-42fe	⋮
☐	g1	e11	MT-25371ab8-cfe5-4f6e	⋮
☐	g1	e12	MT-ffc5048e-fcbe-4975	⋮
☐	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

Statistics

Max Message Size

718

Birth Payload Size

718

Compression

Sampling

No

Average Ratio

-

Count

-

☐	My MQTT Group	Edge Node 94b2ef	MT-85869b3a-cda7-4809	127.0.0.1	✓	testtest	⋮
☒	g1	e10	MT-bb1c60c9-8383-4df4	127.0.0.1	✓	testtest	⋮
☐	g1	e2	MT-08373ea6-accb-448e	127.0.0.1	✓	testtest	
☐	g1	e3	MT-5dfa6db6-2570-4d3c	127.0.0.1	✓	testtest	
☐	g1	e4	MT-2df1717d-b138-4799	127.0.0.1	✓	testtest	⋮

Sample Compression

Node Birth Details

Request Rebirth

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Metric Count
6

Client ID
MT-dcd8c8ae-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

☒ 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	
☒	d1	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
☐	d10	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
☐	d11	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
☐	d12	2025/08/21 10:14:52	2025/08/20 14:53:07	✓	
☐	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 the credentials to the MQTT Account Credentials section of the Chariot configuration.

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Sparkplug® :

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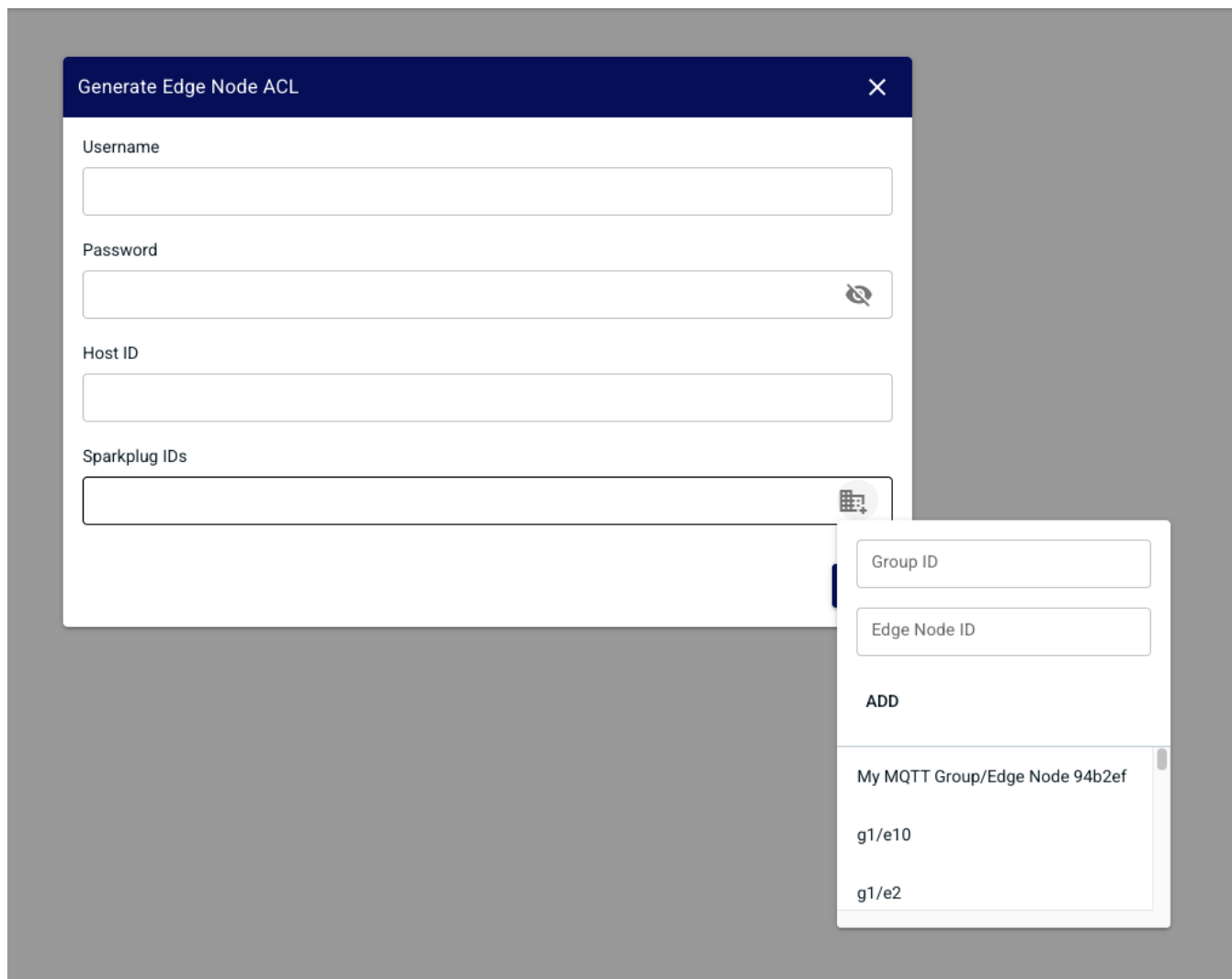
Generate Edge Node ACL



Generate Host ACL

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.

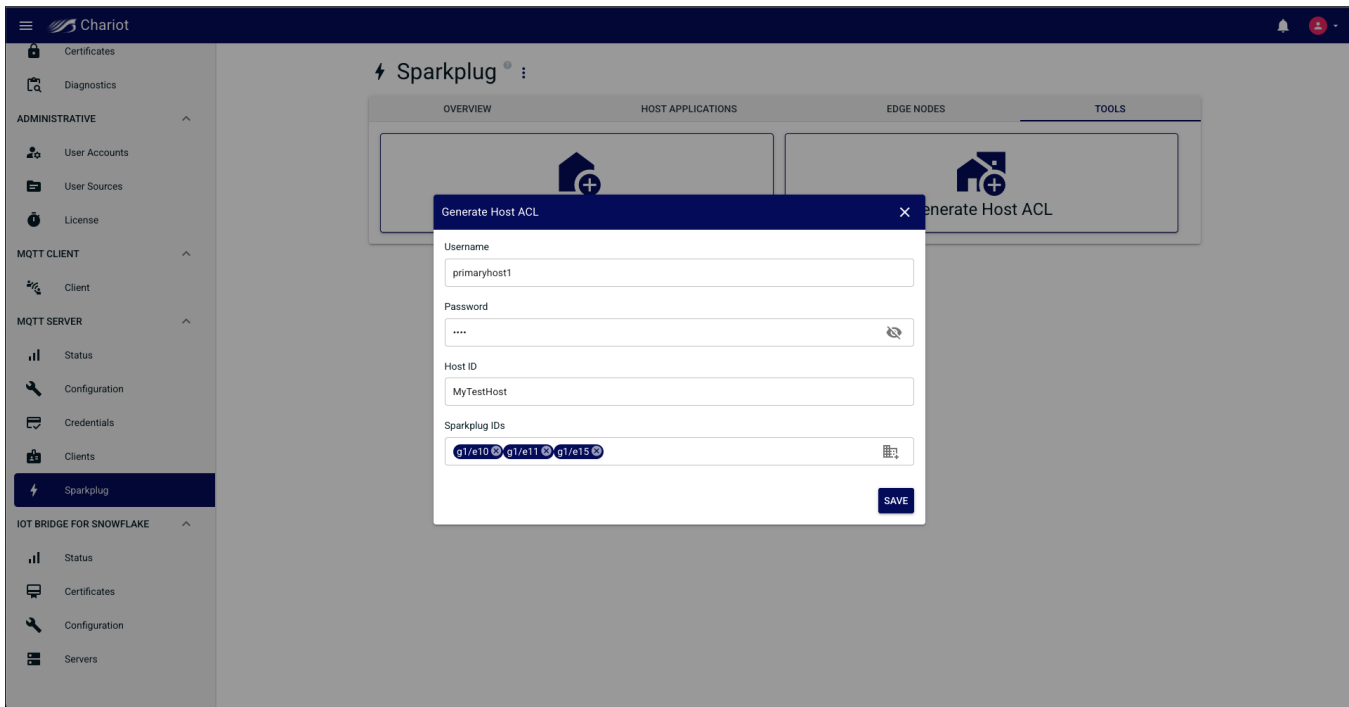


The image shows a 'Generate Edge Node ACL' dialog box with a dark blue header and a close button (X). The dialog contains four input fields: 'Username', 'Password' (with a toggle icon), 'Host ID', and 'Sparkplug IDs' (with a table icon). A dropdown menu is open from the 'Sparkplug IDs' field, showing a list of IDs. The dropdown has a header 'Group ID' and 'Edge Node ID', followed by an 'ADD' button. Below the button, there is a scrollable list of IDs: 'My MQTT Group/Edge Node 94b2ef', 'g1/e10', and 'g1/e2'.

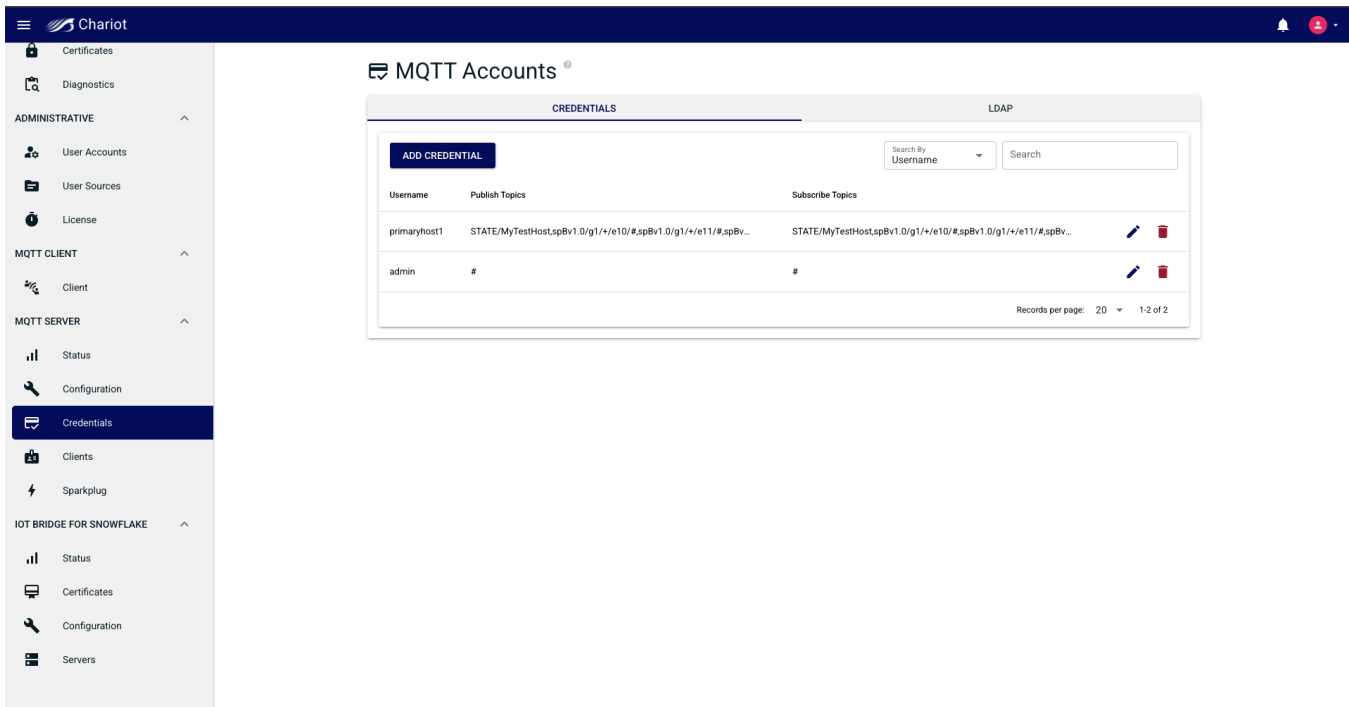
Group ID	Edge Node ID
My MQTT Group/Edge Node 94b2ef	
	g1/e10
	g1/e2

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.

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MQTT Client Status

CLIENTS

RETAINED MESSAGES

Filter by Client ID, IP and Will Topic

Username

Is Live

Client ID	IP Address	Connected	Will Topic
☒ MT-63c270ff-c95d-437e	127.0.0.1	✓	spBv1.0/g1/NDEATH/e19
☐ MT-18a49e91-ff7-44bf	127.0.0.1	✓	spBv1.0/g1/NDEATH/e3
☐ MT-dcd8c8ae-6d5a-42fe	127.0.0.1	✓	spBv1.0/g1/NDEATH/e10
☐ MT-ffc5048e-fcbe-4975	127.0.0.1	✓	spBv1.0/g1/NDEATH/e12
☐ MT-91f24e48-545a-4a63	127.0.0.1	✓	spBv1.0/g5/NDEATH/e2

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

Network

Session

Last Will

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

Client ID
MT-63c270ff-c95d-437e

Username
admin

Clean Session
Yes

Keep Alive
30

Connection Type
MQTT

Will Topic
spBv1.0/g1/NDEATH/e19

Will QoS
1

Will Retained
No

Network

Session

Last Will

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

Client ID
MT-63c270ff-c95d-437e

Username
admin

Clean Session
Yes

Keep Alive
30

Connection Type
MQTT

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/testtest
0	spBv1.0/g1/NDEATH/e19
1	spBv1.0/STATE/testtest

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Retained Messages

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

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Filter

DELETE

☐	Topic	QOS	Size	Timestamp
☐	sp8v1.0/STATE/testtest	1	69	2026/04/03 07:46:35

Records per page: 20 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.

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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		
2026/04/03 07:56:34	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:33	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:33	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_2' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:31	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:30	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:29	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_2' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:28	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_1' and...	SPARKPLUG_GROUP_EDGE_COLLISION		
2026/04/03 07:56:27	1	Collision detected for Edge Node 'Emulated Sparkplug/EDGE_0' and...	SPARKPLUG_GROUP_EDGE_COLLISION		

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).

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LIVE ALERTS

TYPES

Enabled	Name	Path	Priority
☒	MQTT_DISCONNECT	MQTT/DISCONNECT	3
☒	MQTT_CONNECTION_LOST	MQTT/CONNECTION_LOST	2
☒	MQTT_LWT_NOT_REGISTERED	MQTT/LWT_NOT_REGISTERED	3
☒	MQTT_CLIENT_ID_COLLISION	MQTT/CLIENT_ID_COLLISION	2
☒	MQTT_SUBSCRIBE_FAILED	MQTT/SUBSCRIBE_FAILED	2
☒	SPARKPLUG_SEQ_NUM_ERROR	SPARKPLUG/SEQ_NUM_ERROR	1
☒	SPARKPLUG_GROUP_EDGE_COLLISION	SPARKPLUG/GROUP_EDGE_COLLISION	1
☒	SPARKPLUG_NONCOMPLIANT_LWT_TOPIC	SPARKPLUG/NONCOMPLIANT_LWT_TOPIC	3
☒	SPARKPLUG_TEMPLATE_DEF_COLLISION	SPARKPLUG/TEMPLATE_DEF_COLLISION	3
☒	SPARKPLUG_COMPRESSION_WARNING	SPARKPLUG/COMPRESSION_WARNING	3

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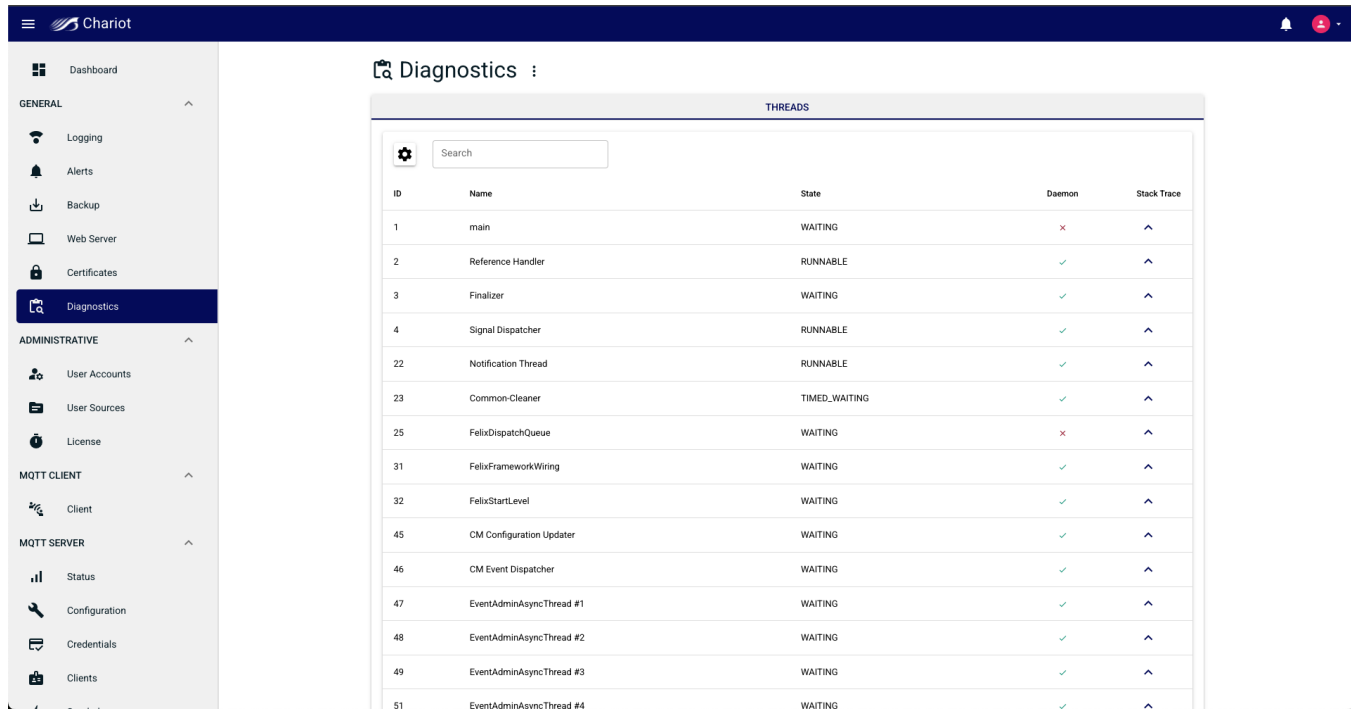
Some of the Alert Types supported in the Chariot Server include:

- 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 then the uncompressed data

Diagnostics

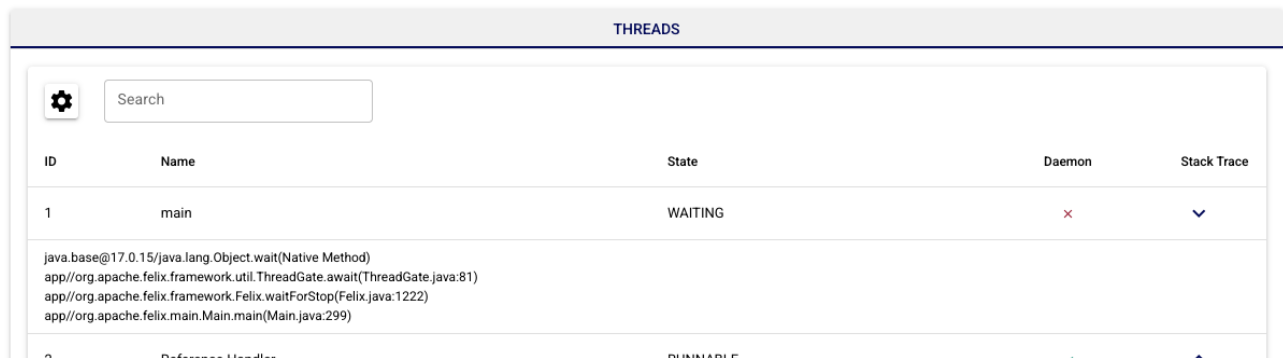
The Diagnostics page provides a view to the threads running within the Chariot Server. This information may be requested by Cirrus Link support personnel to assist in diagnosing issues with the Chariot Server.



The screenshot shows the Chariot web interface. The left sidebar contains a menu 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 'Diagnostics' page is selected, displaying 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 the detailed stack trace for the 'main' thread (ID 1). The thread is in a 'WAITING' state and is not a daemon.

ID	Name	State	Daemon	Stack Trace
1	main	WAITING	✗	⬇
<pre> 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) </pre>				
2	Reference Handler	RUNNABLE	✓	⬆