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:

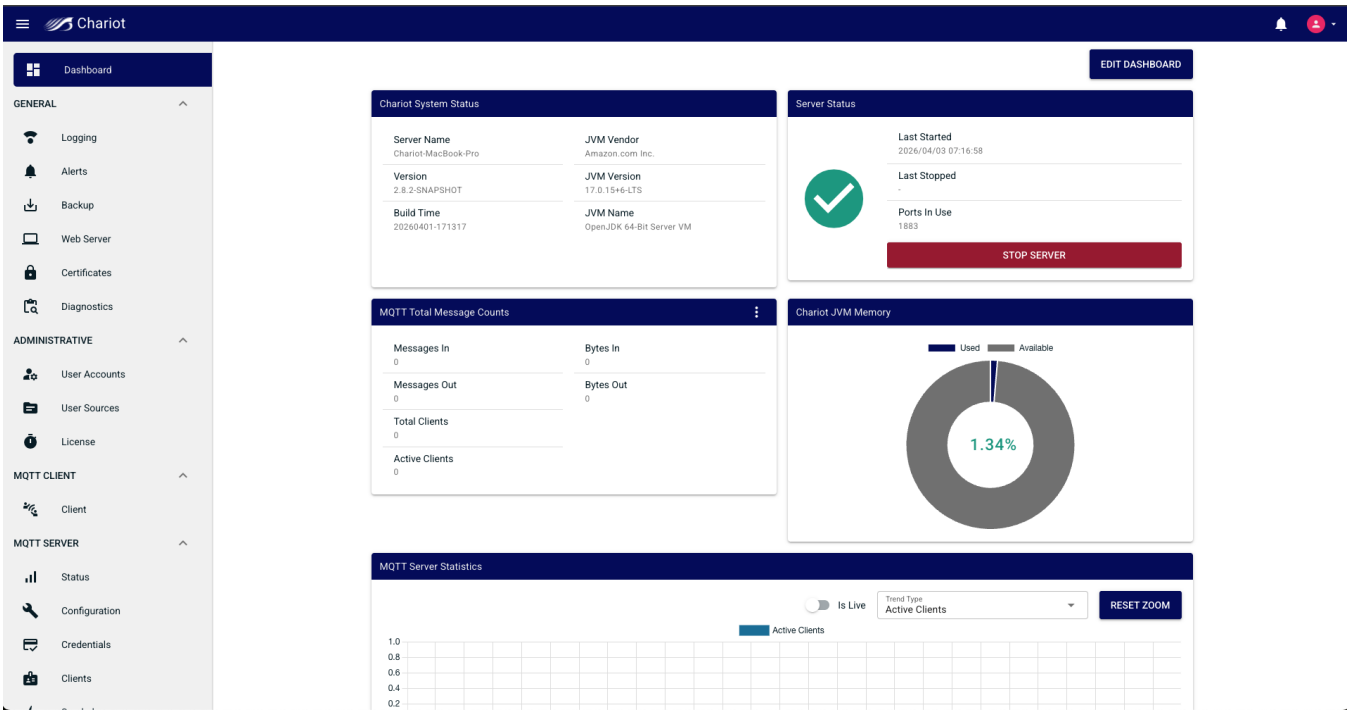
```
username: admin
password: EC instance ID for example: i-0049ac1e13e558b70
```

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.

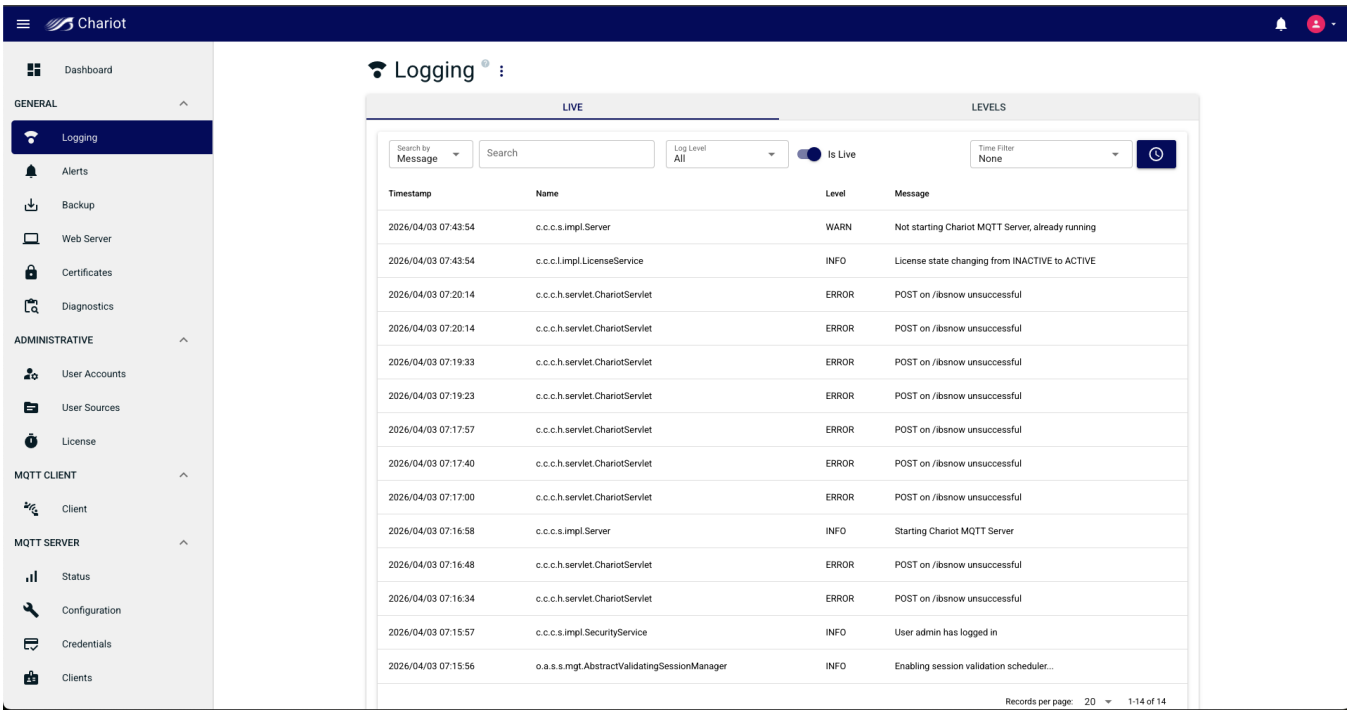


Logging

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.

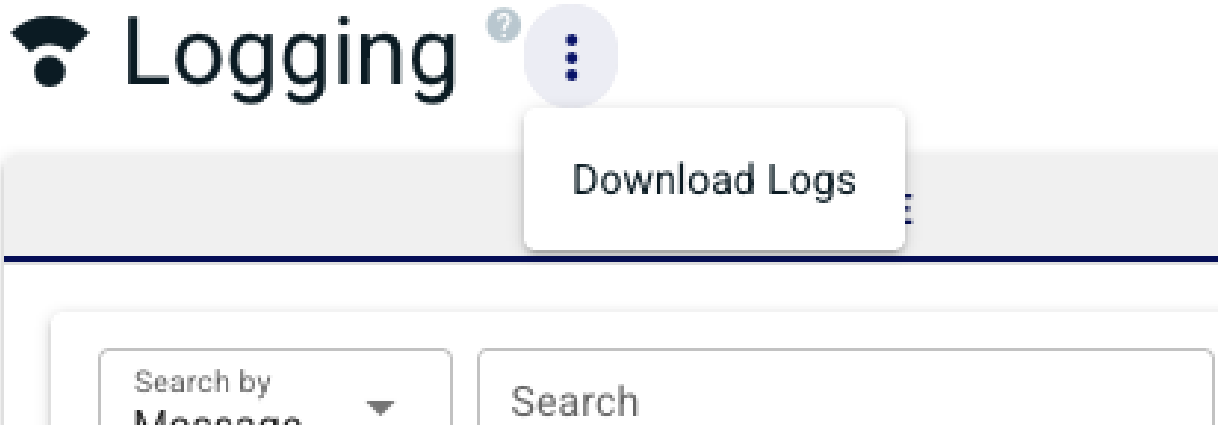
Live Logs

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.



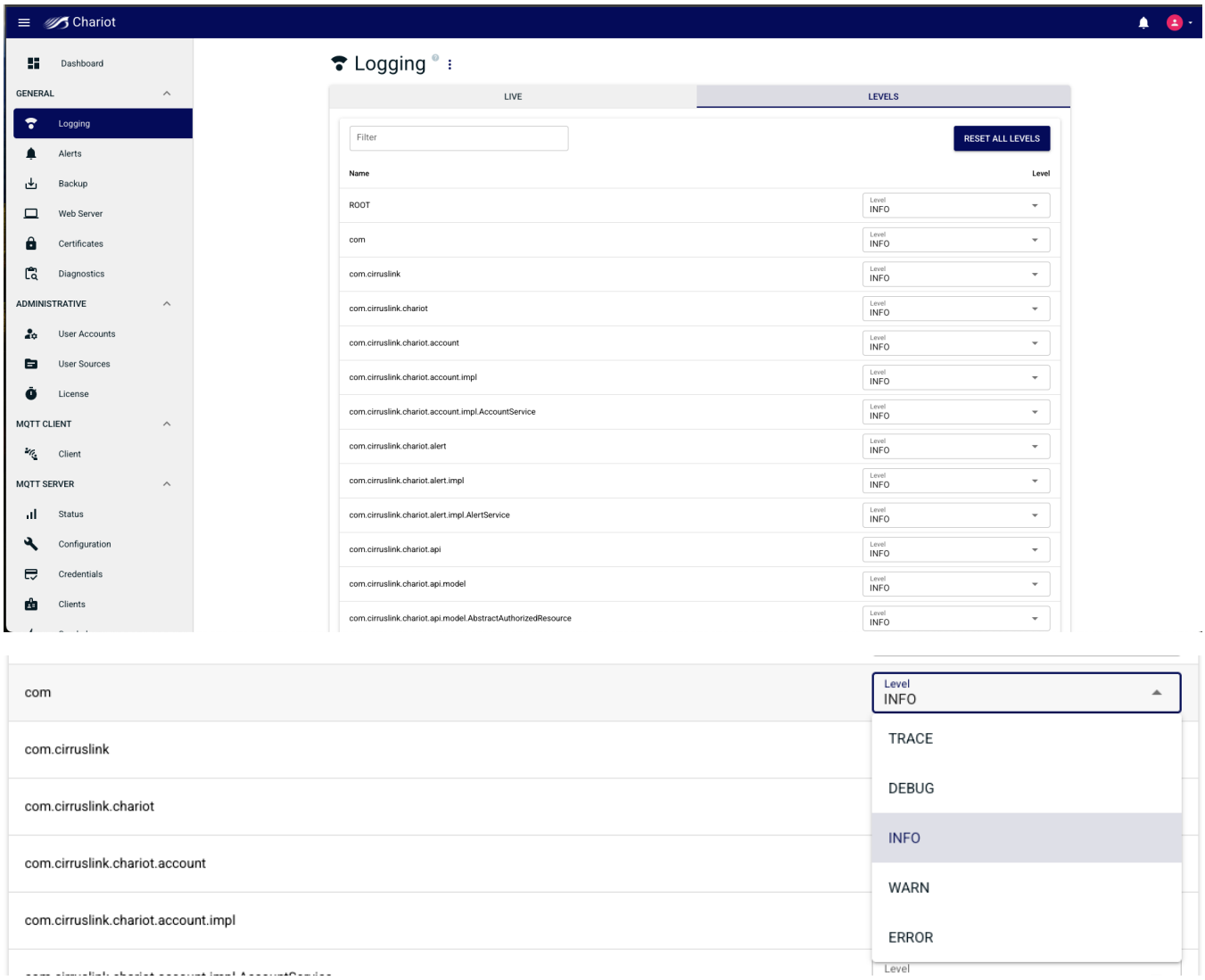
Download Logs

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.

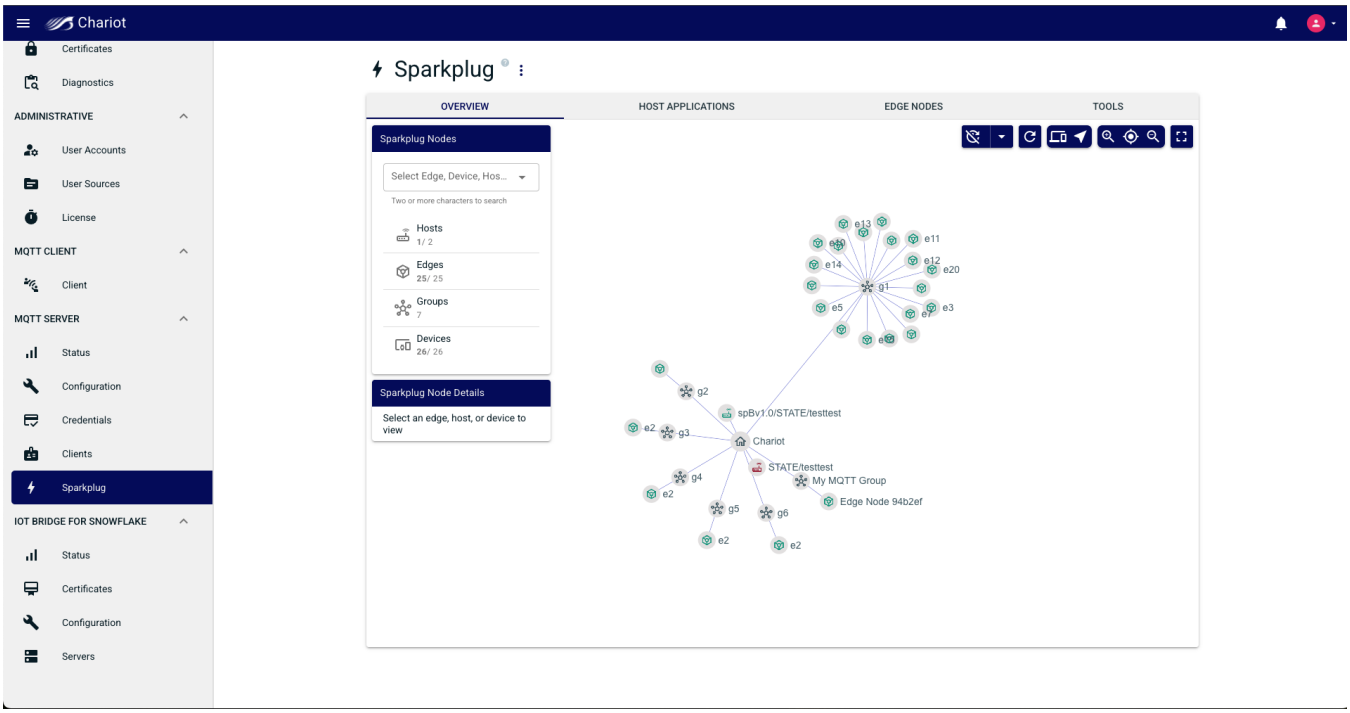


Sparkplug

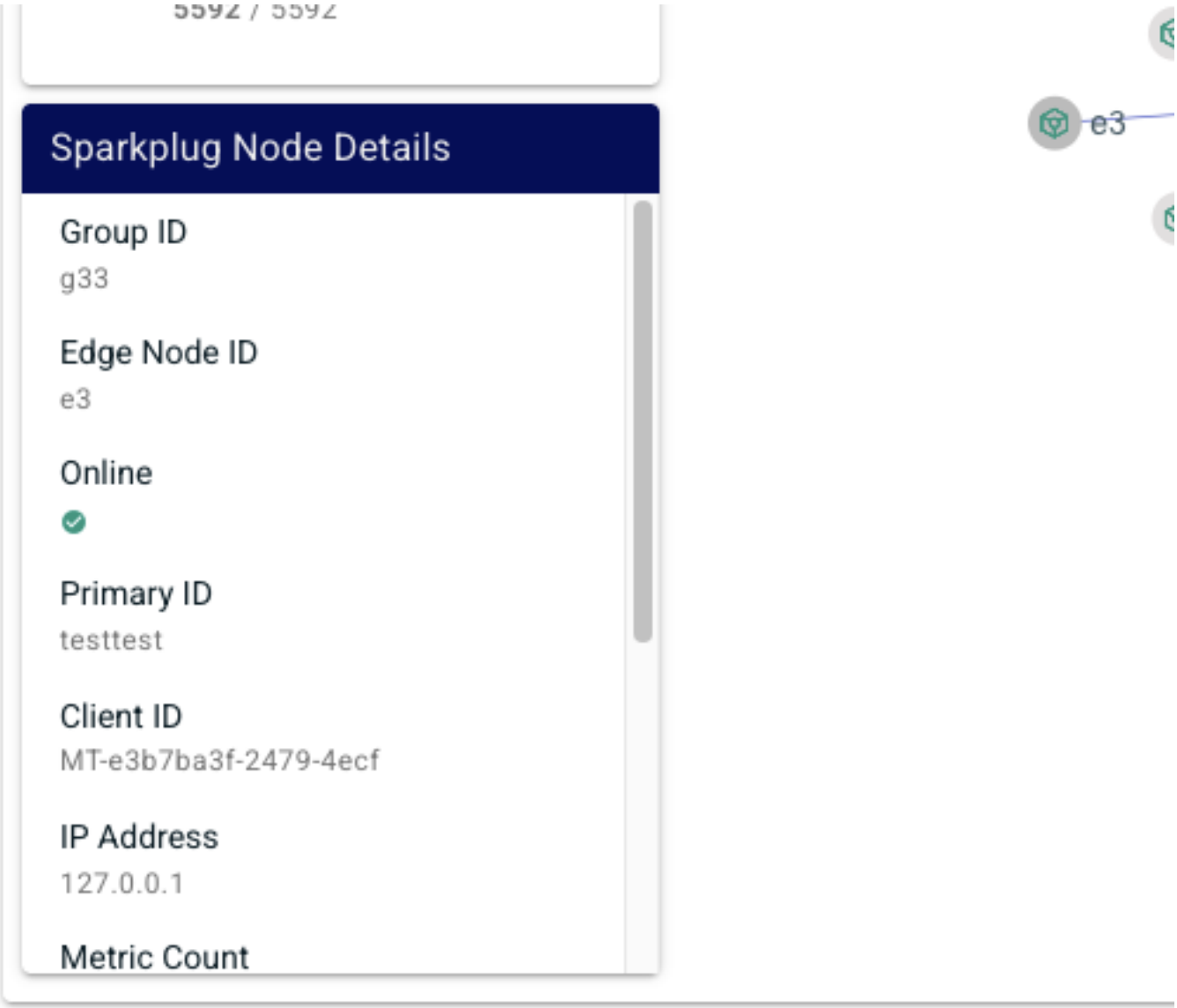
The Sparkplug page tracks data from Sparkplug MQTT clients that are connected to the Chariot MQTT server. The tracking can be disabled by clicking on the menu button at the top.

Overview

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

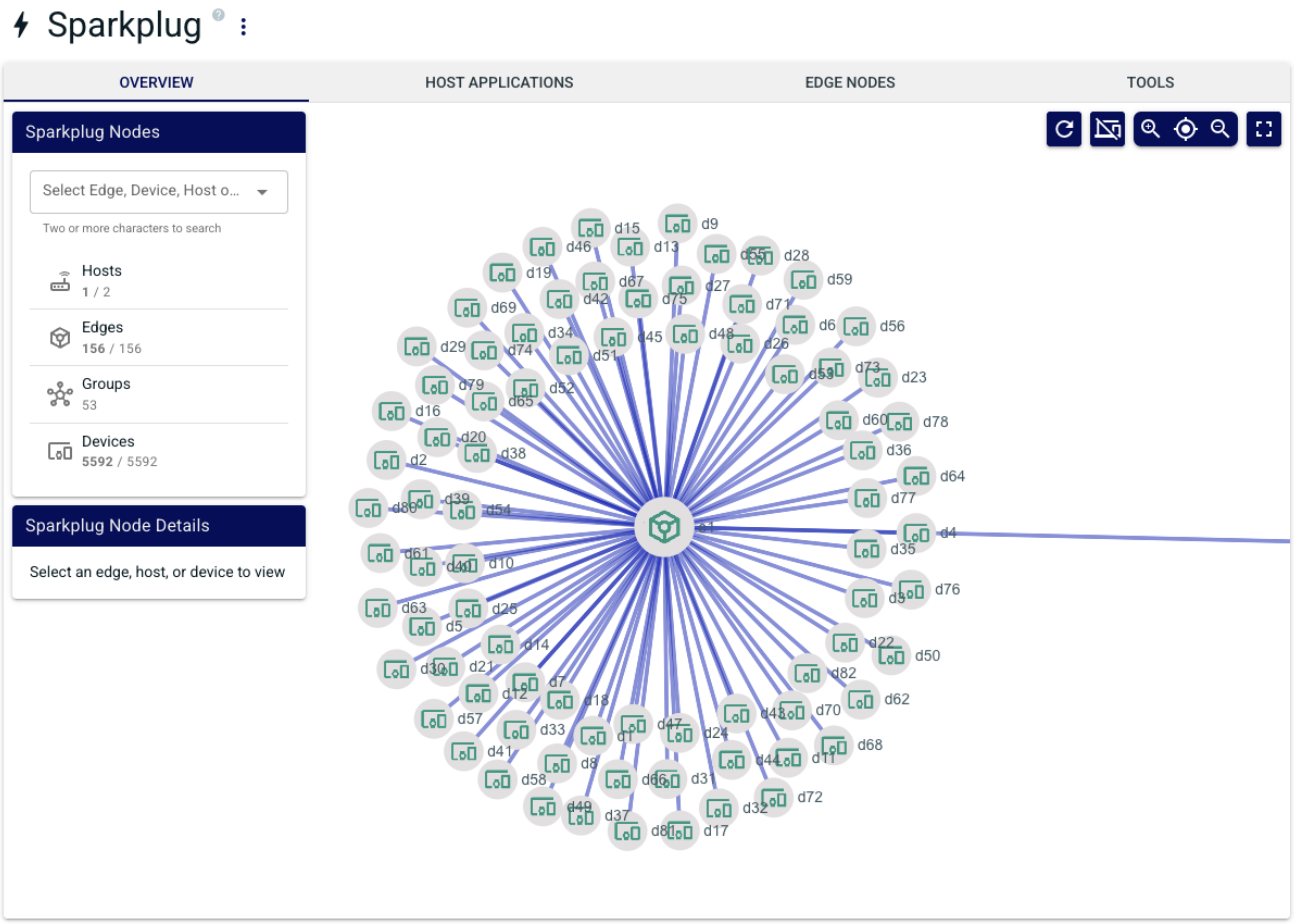


Selecting a specific Edge Node will display the Edge Node details

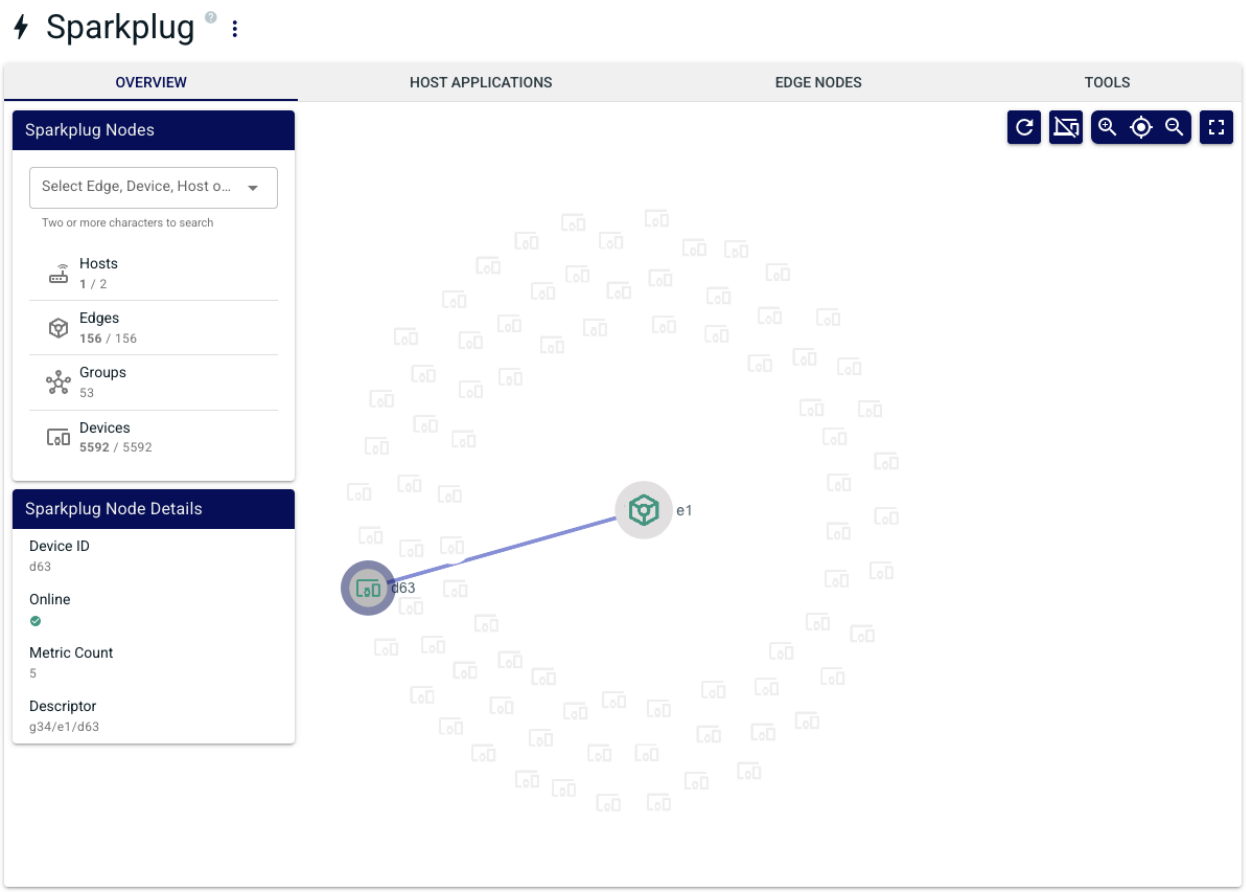


To see devices click on the show device button

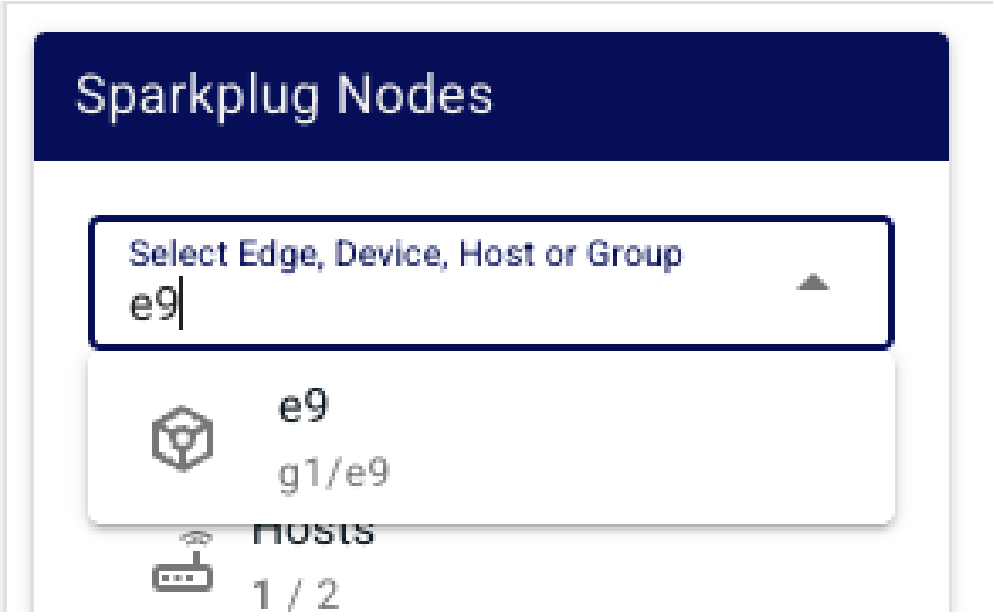
This will expand out all edge node devices

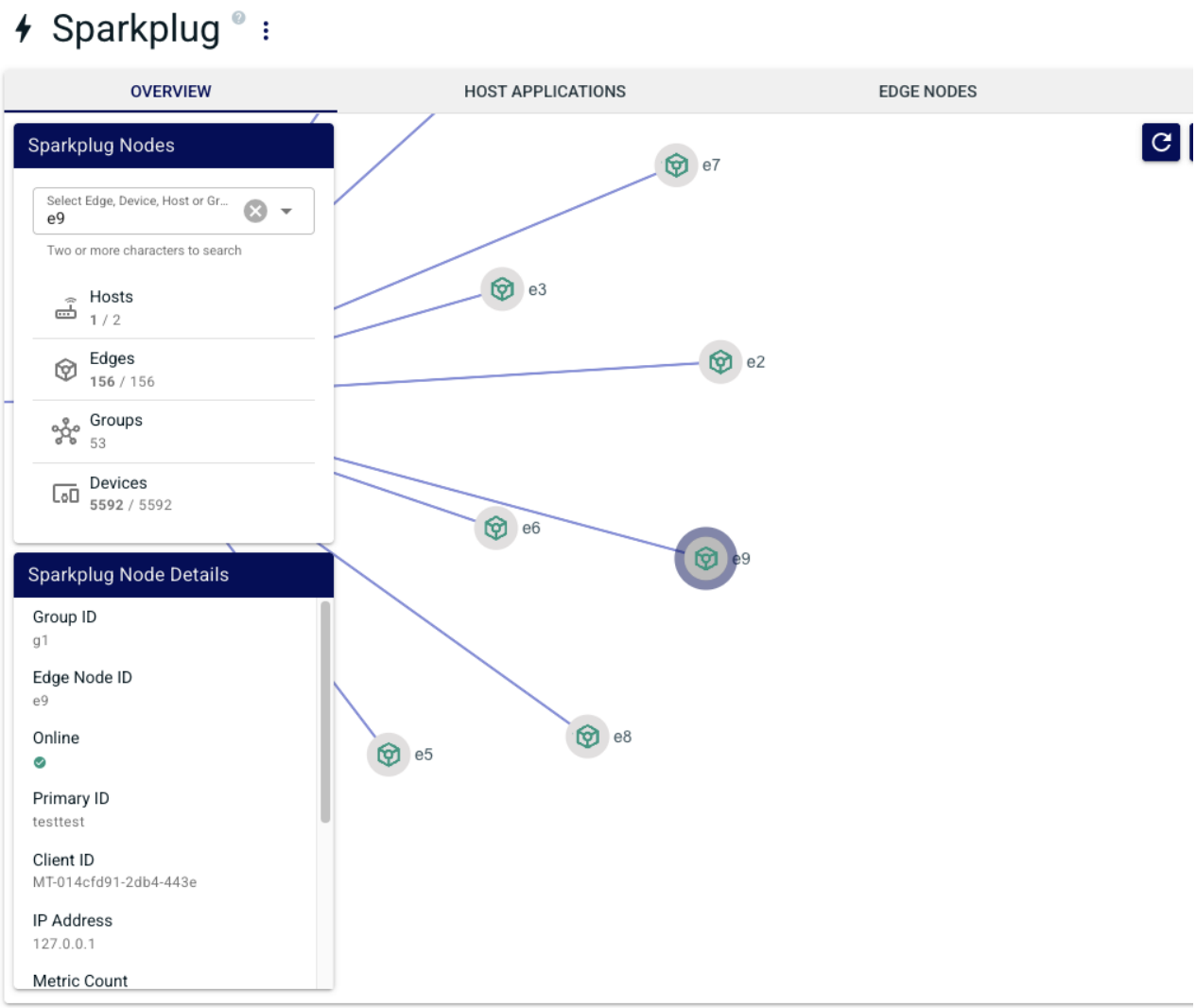


Selecting a specific Device will display the Device details



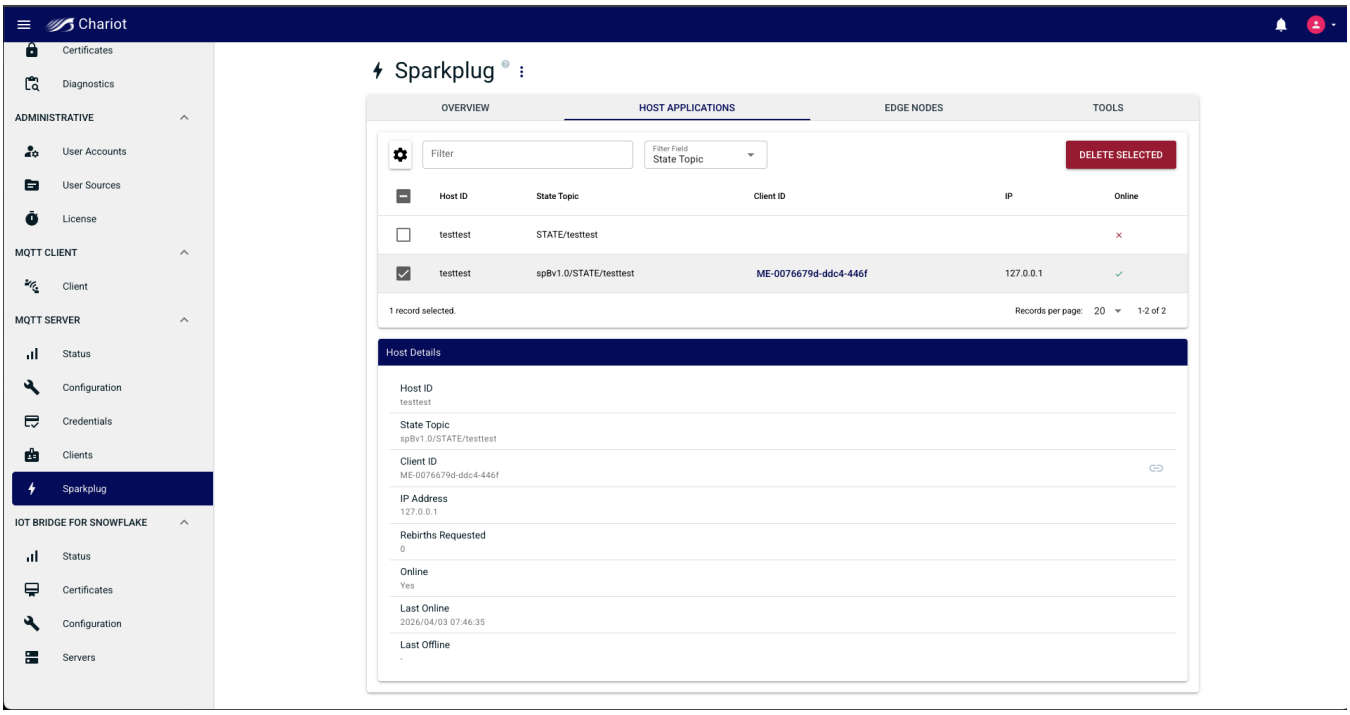
Alternatively you can search for a Edge node, group, and device via the dropdown. This will zoom in on the specified graph node. Note that searching devices requires the devices to be toggled on (see above).





Host Applications

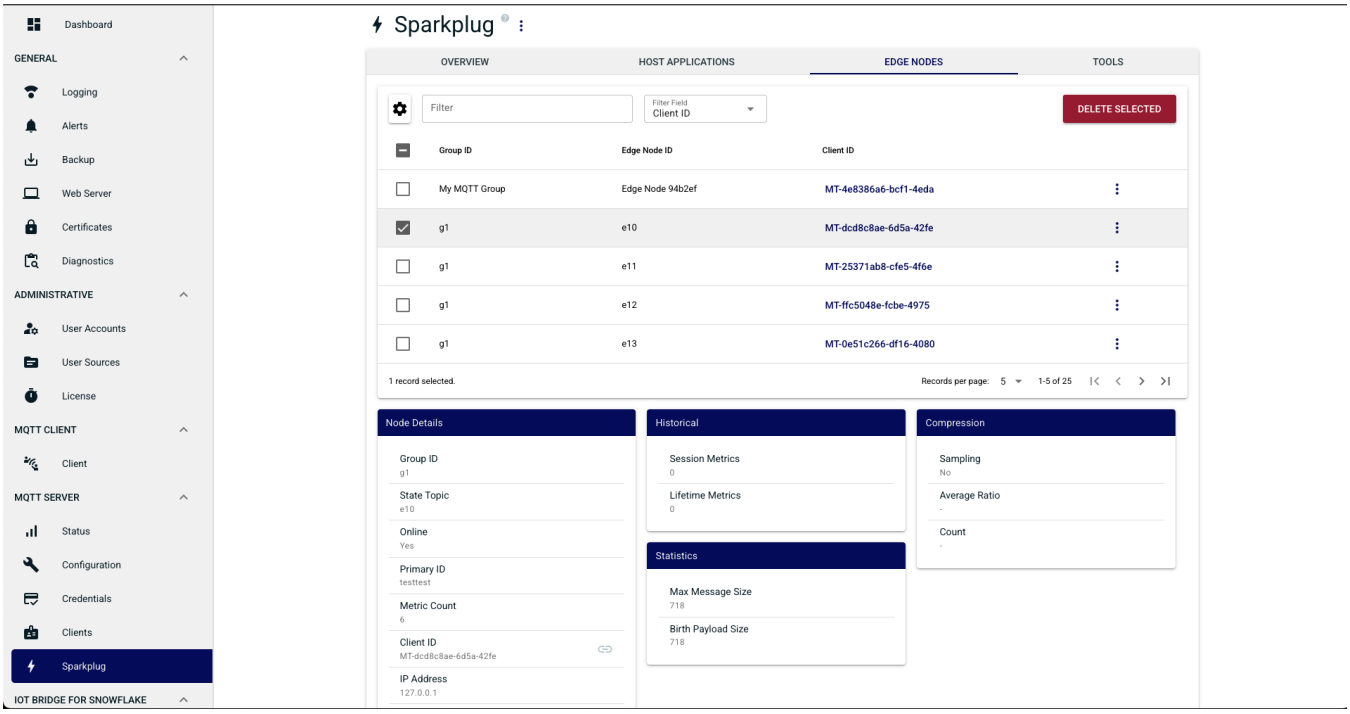
The Host Applications tab will show all Sparkplug Host applications that Chariot is tracking. Selecting a host application from the list will show additional details such as the last time it was online or offline.



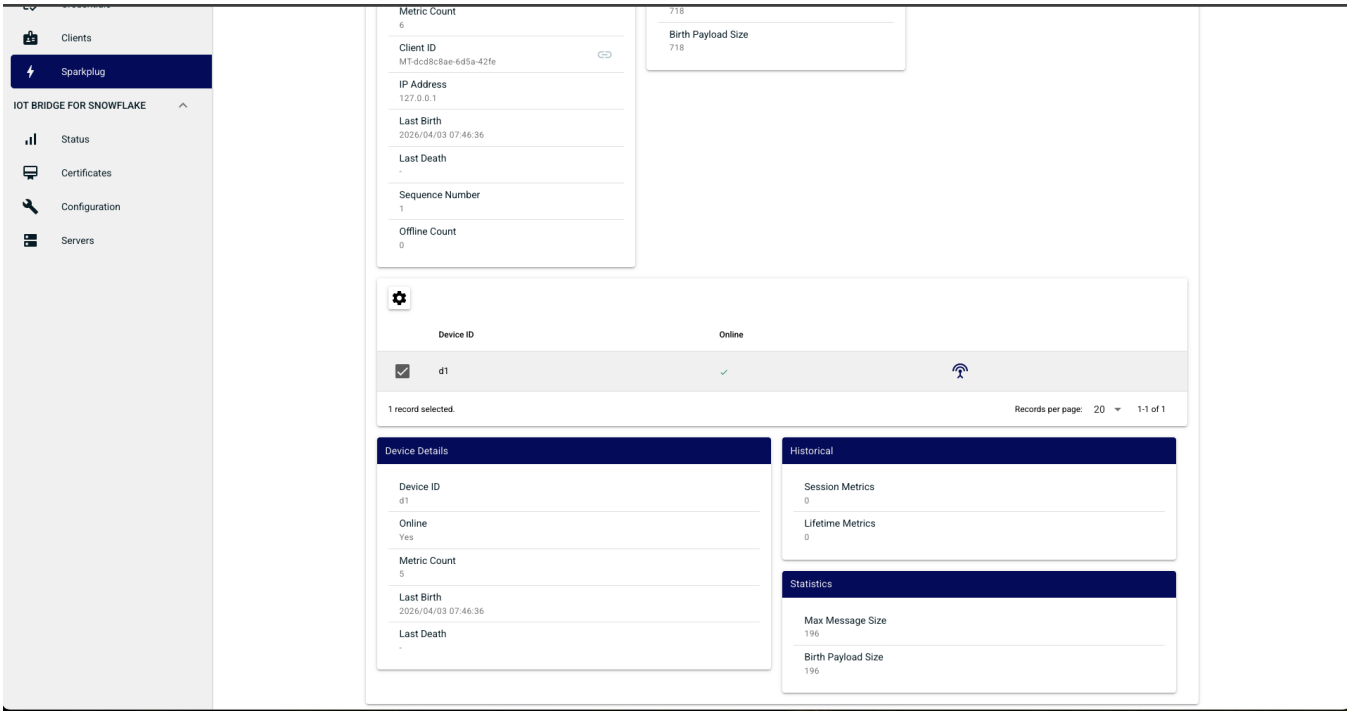
Edge Nodes

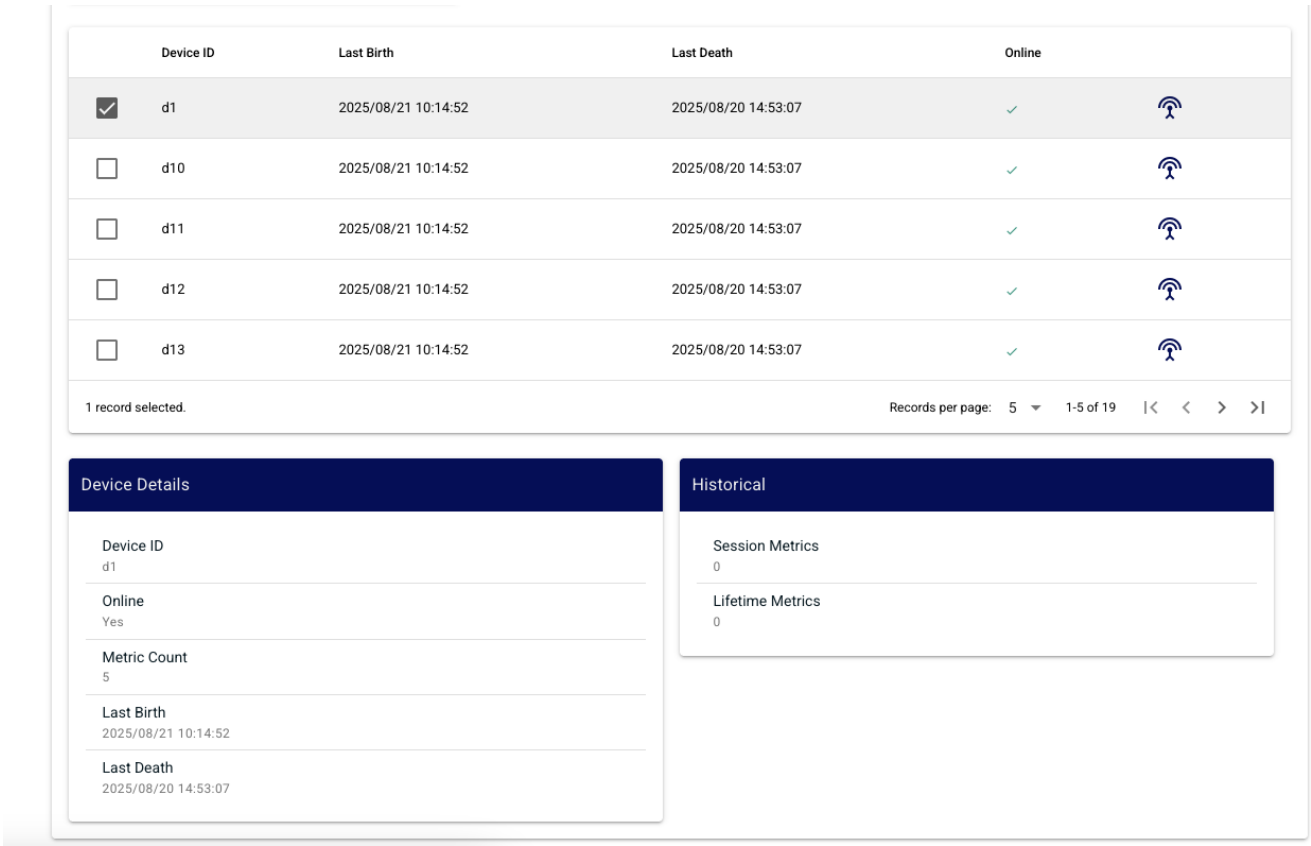
The Edge Nodes tab will show all Sparkplug Edge Nodes and any Devices that Chariot is tracking. Selecting an Edge Node from the list will show additional details and also populate the list of the Edge Node's Devices below.

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.




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

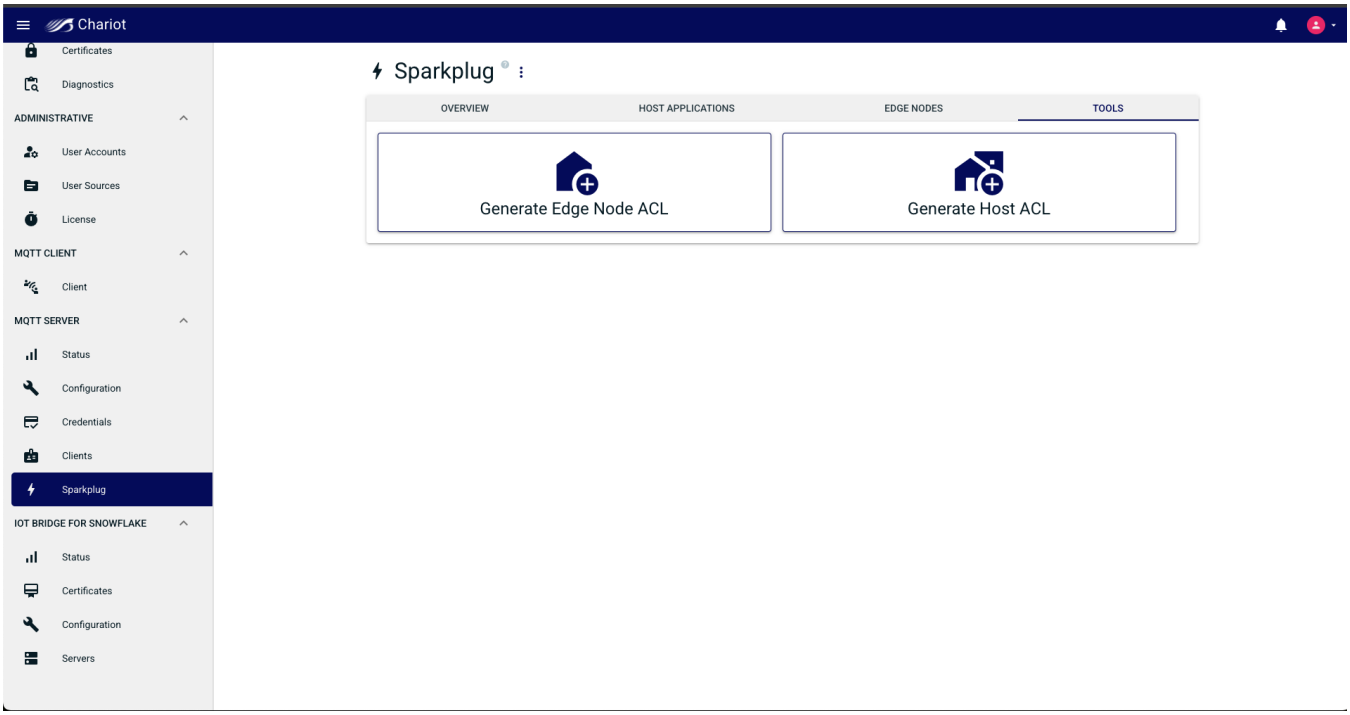

Clients
Sparkplug
IOT BRIDGE FOR SNOWFLAKE
Status
Certificates
Configuration
Servers
Metric Count
6
Client ID
MT-dcd8c8ae-6d5a-42fe
IP Address
127.0.0.1
Last Birth
2026/04/03 07:46:36
Last Death
-
Sequence Number
1
Offline Count
0
718
Birth Payload Size
718
Device ID
Online
d1
1 record selected.
Records 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



Tools

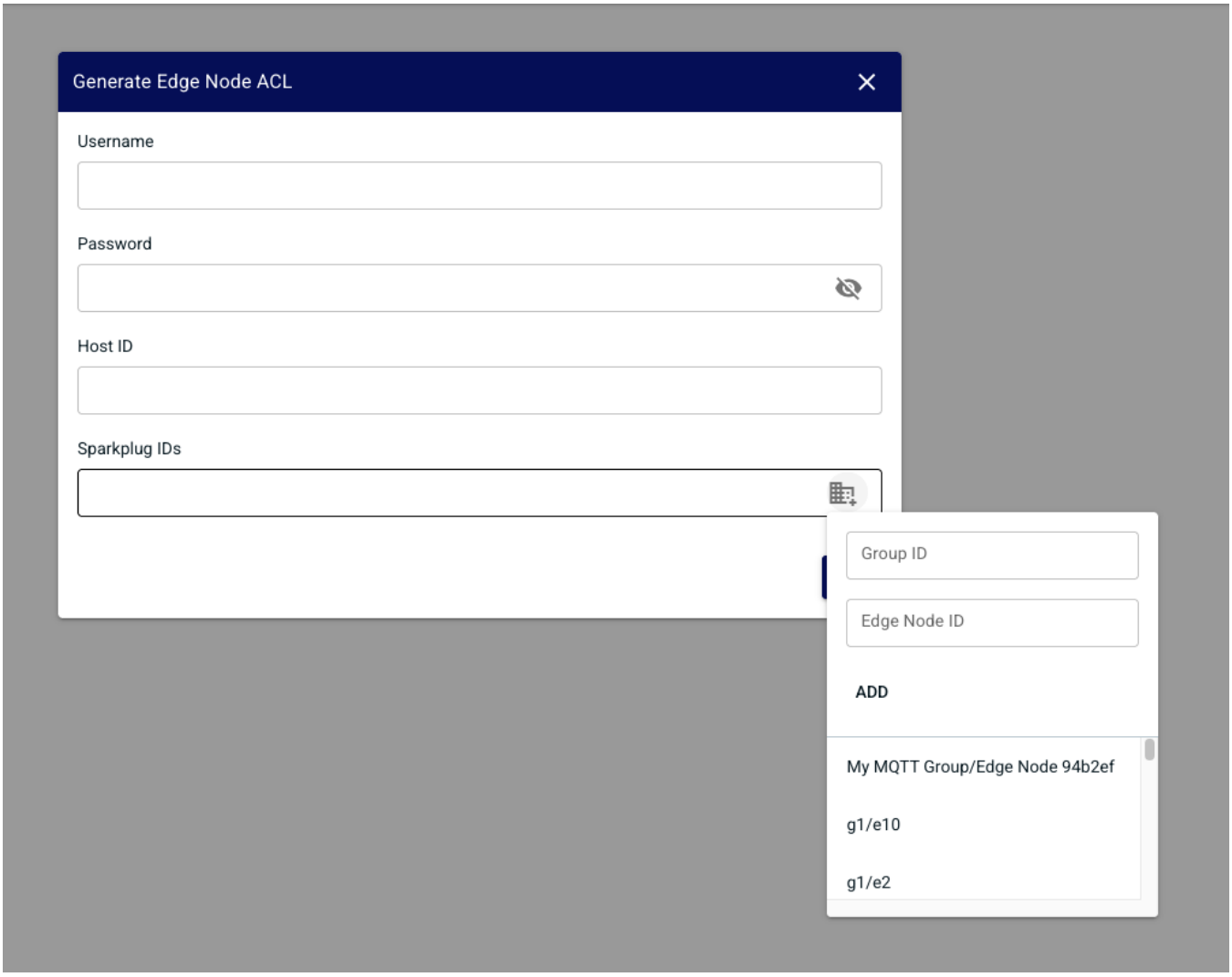
The Tools tab allows you to generate Access Control Lists (ACLs) needed for Hosts and Edge Nodes.

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.



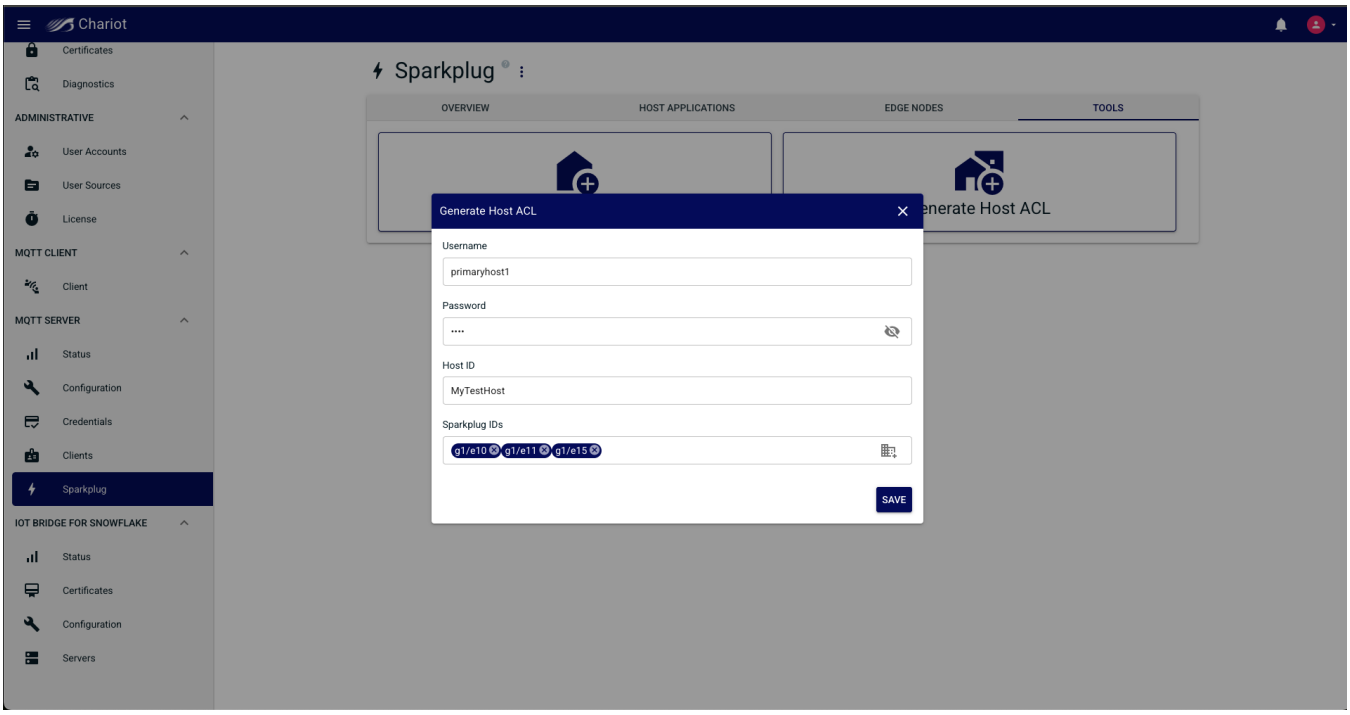
Select Generate Edge Node ACL to generate the ACLs for a Sparkplug client. Enter the client username, password and Primary Host ID (if needed). Add the required Sparkplug Edge Node IDs and select create.

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

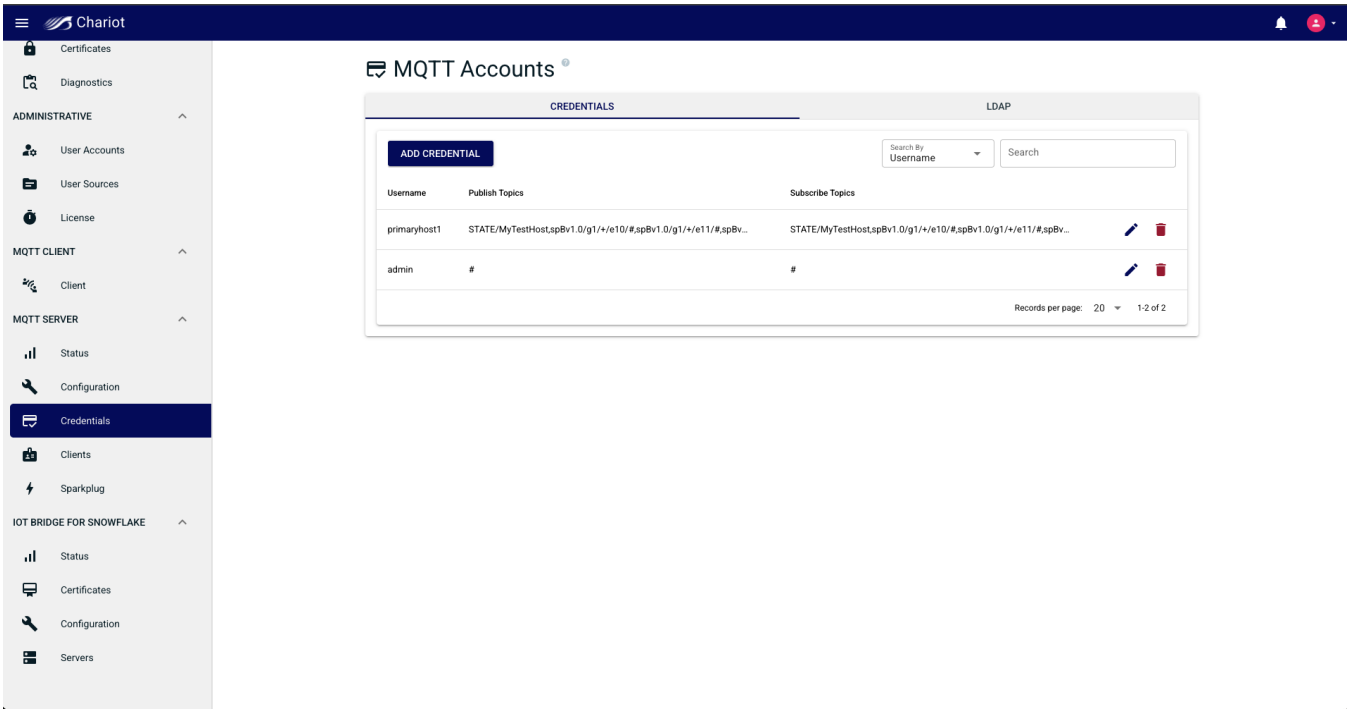


Select Generate Host ACL to generate the ACLs for a Sparkplug Primary Host client. Enter the client username, password and Primary Host ID. Add the required Sparkplug Edge Node IDs and select create.

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:

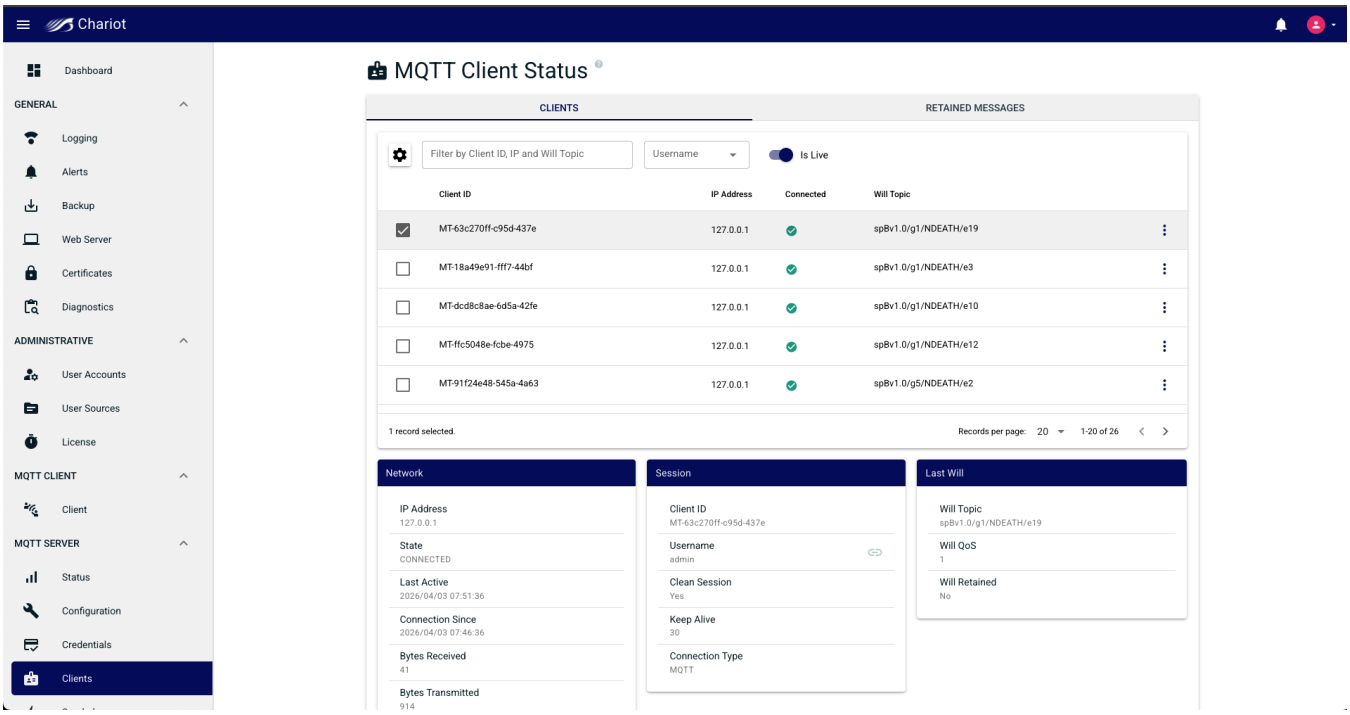


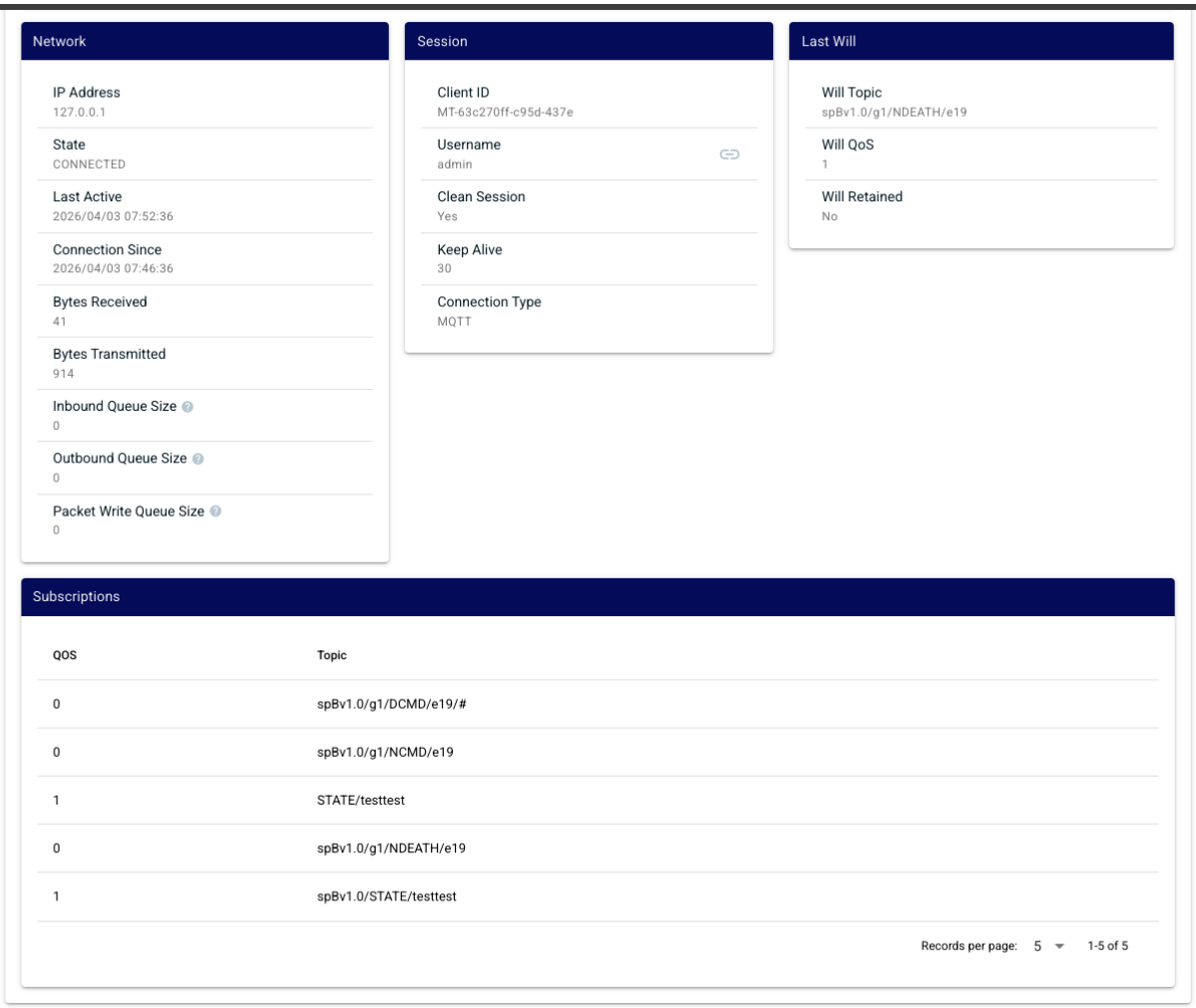
Client Status

The Client Status page tracks the status of MQTT Clients.

Clients

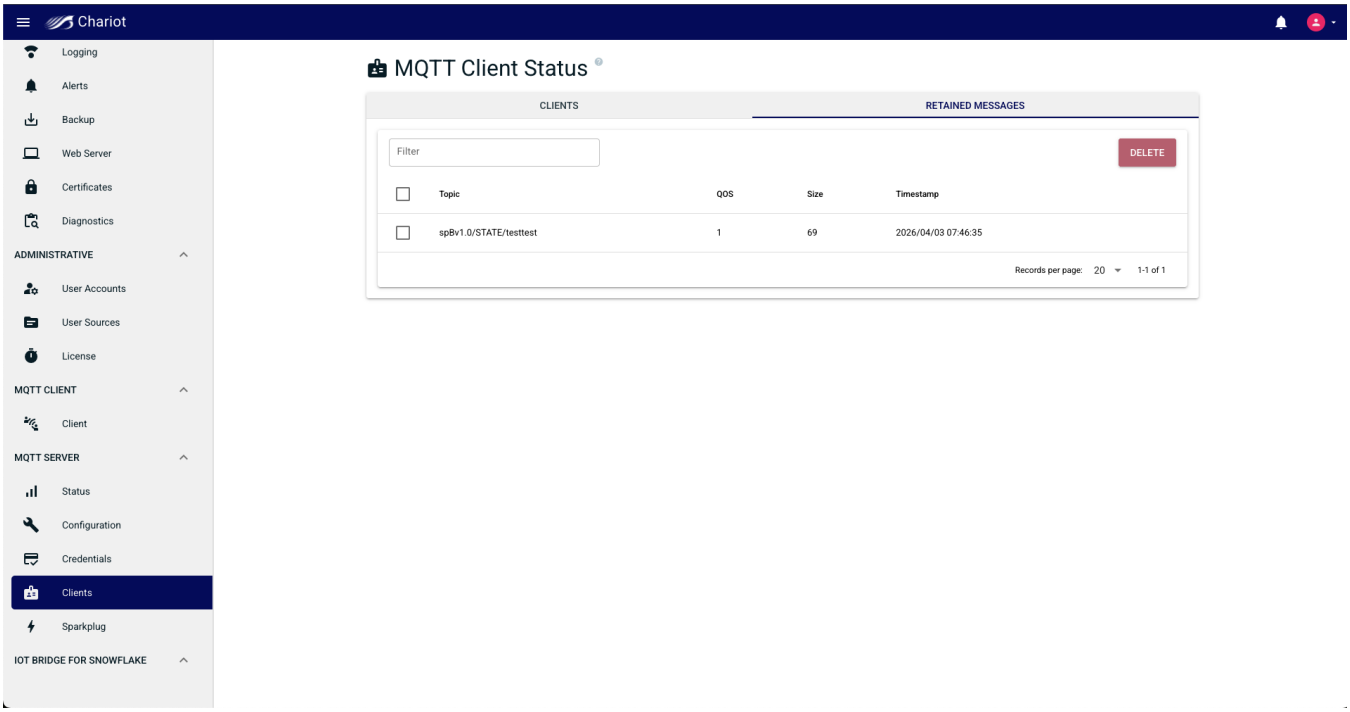
The MQTT Client Status page shows details of all clients connected to the Chariot MQTT server. A filterable table lists the MQTT clients, selecting one will allow you to view network details, session information, LWT details and a list of subscriptions.





Retained Messages

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

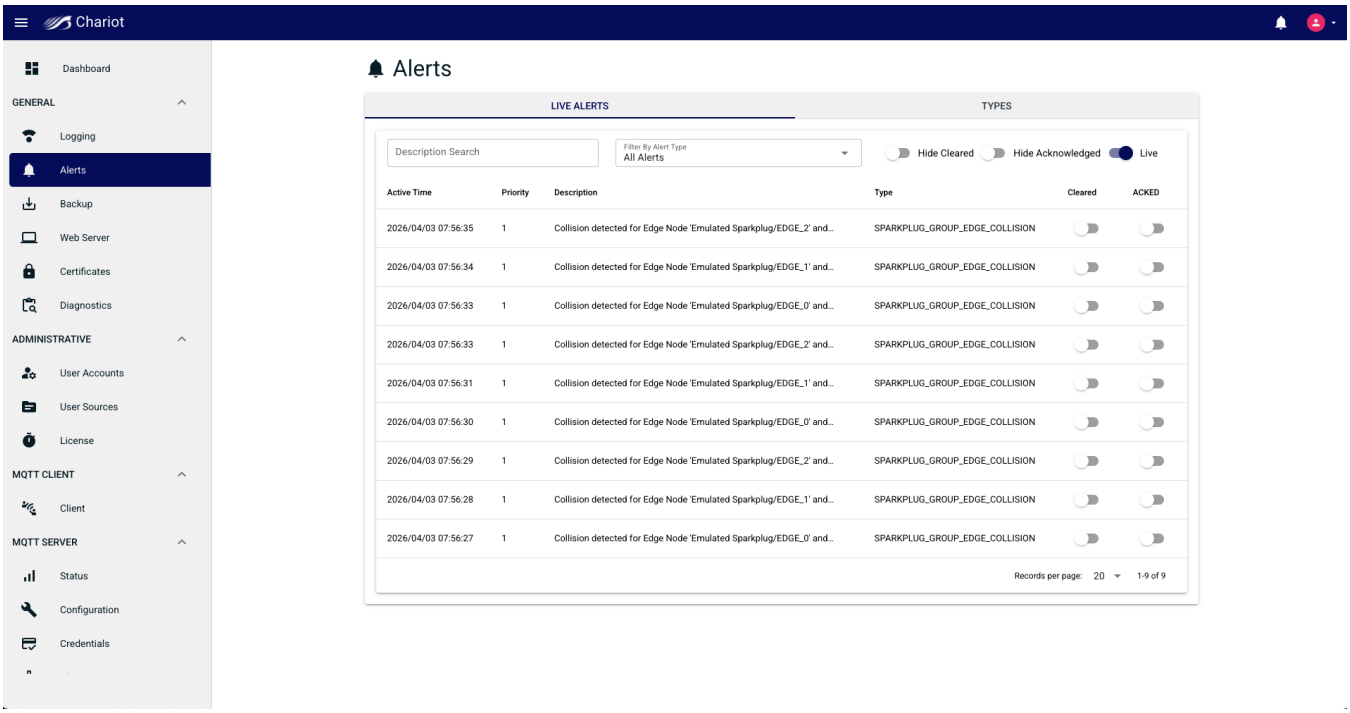


Alerts

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

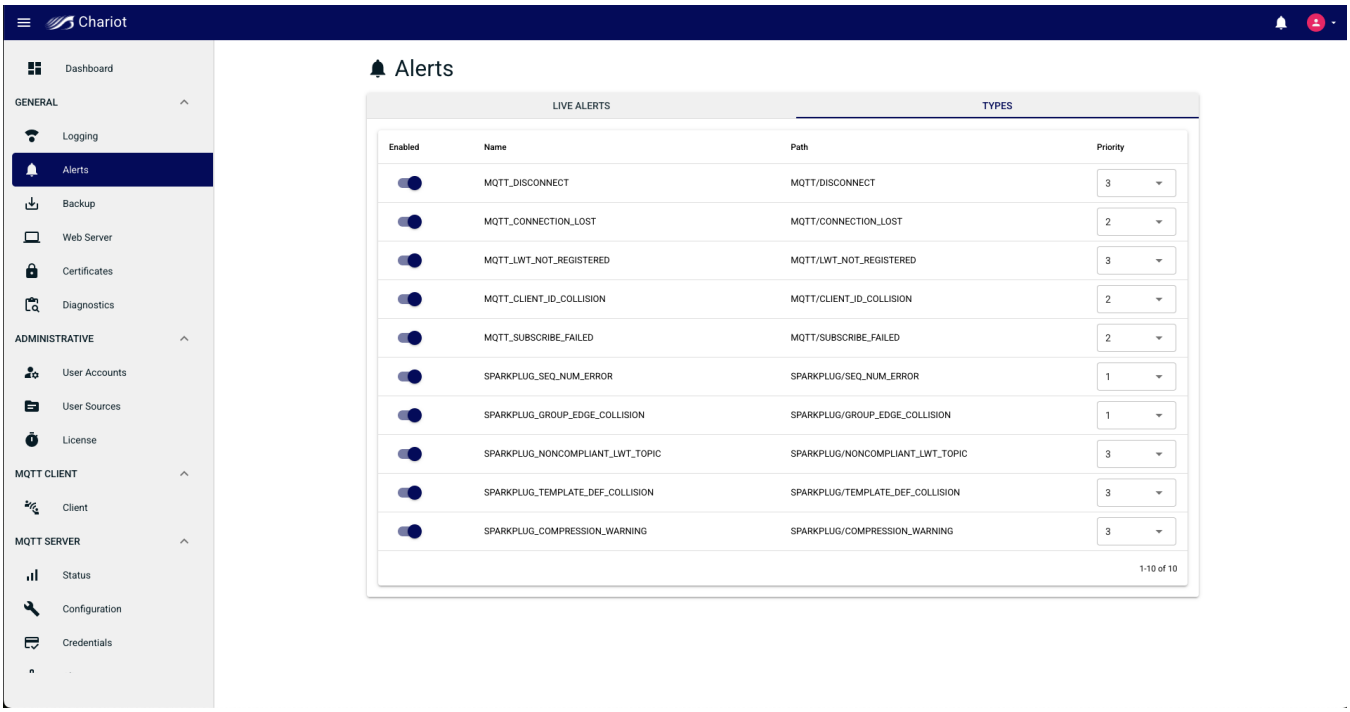
Live Alerts

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.



Types

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



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.