MQTT.fx Starfish Client

Overview

MQTT.fx is an open-source Windows-based MQTT client that can be used to subscribe to MQTT data from Milli-enabled sensors through the Starfish environment. This document describes how Milli developers can download the MQTT.fx client application and configure it to subscribe to data from a Milli device connected to Itron's Starfish platform.

Download and Install MQTT.fx

A link to download the MQTT.fx client installer can be found here. Once the client application has been installed on your Windows 10 machine, open the application, and set up a connection to the Starfish environment using the instructions below.

Set Up a Connection in MQTT.fx

A connection to the Starfish environment needs to be added to MQTT.fx first. The screenshot below shows how to do this using the main MQTT.fx window. Click the gear icon to bring up the Edit Connection Profiles window, then click the + sign at the lower left of that window to create a new connection for the Starfish environment.

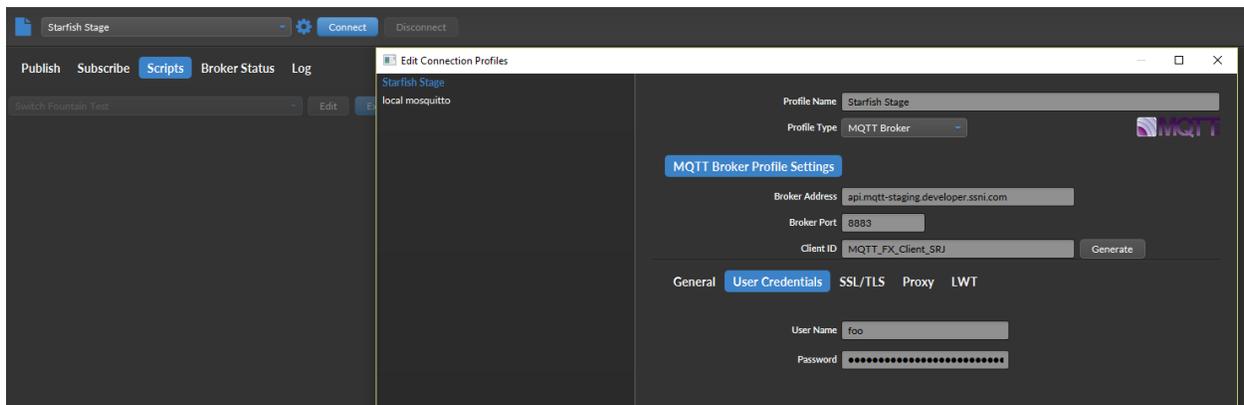*Click the gear icon to edit an existing connection, or create a new one*

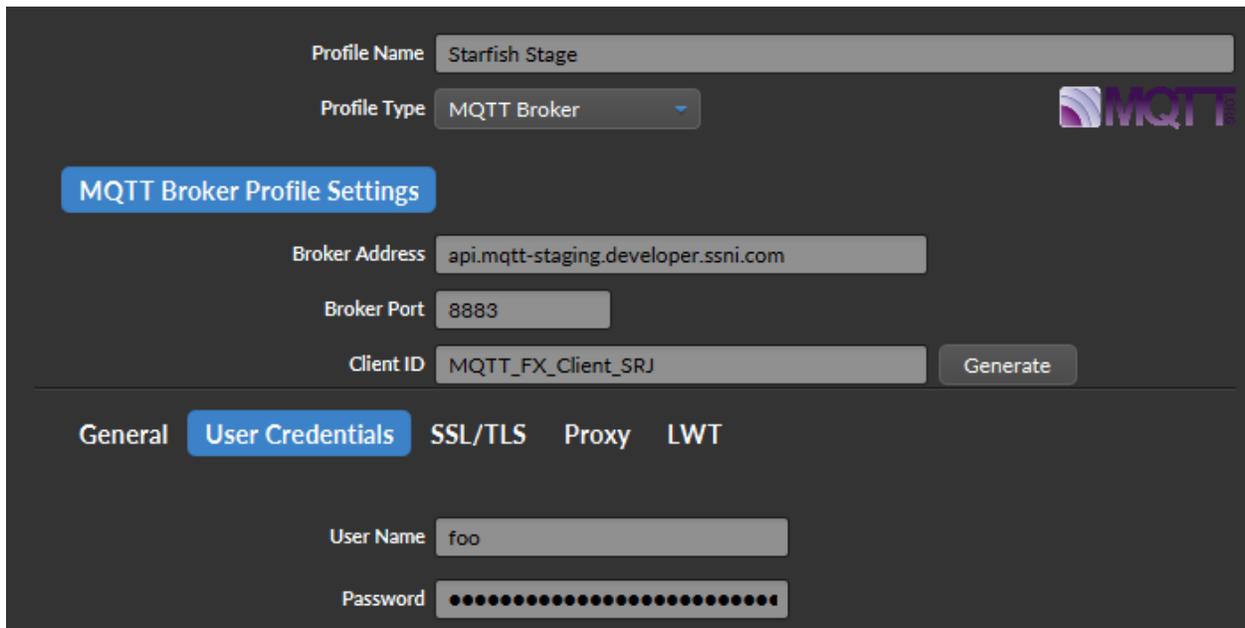**Figure 1: Create a New Connection with the Edit Connection Profile window**

Enter a profile name for your Starfish connection, and select MQTT Broker as the Profile Type. For Broker Address, enter the following URI to indicate the Itron Starfish platform for developers:

api.mqtt-staging.developer.ssni.com

The Broker Port should be changed to 8883. For Client ID, enter a unique identifier for your client connection to the Starfish MQTT broker. An easy way to do this is to re-use the existing Client ID that is associated with your Milli account on the developer portal. Alternately, you can enter your own unique string, as shown in Figure 1 above, or click the Generate button to have MQTT.fx automatically generate a unique Client ID for you.

Next, click the User Credentials tab in the lower half of the window, and enter your desired user name and password. User Name can be anything; just enter a short string like "foo" as shown in Figure 2 below. The Password needs to be an Authorization Token from the Starfish platform.

To retrieve an Authorization Token associated with your Starfish account log into Starfish Studio and click the View APIs tab. Then click on the Show Authorization Token button shown in Figure 3 below. Copy the resulting token and enter it in the Password field in the MQTT.fx Edit Connection Profiles window.

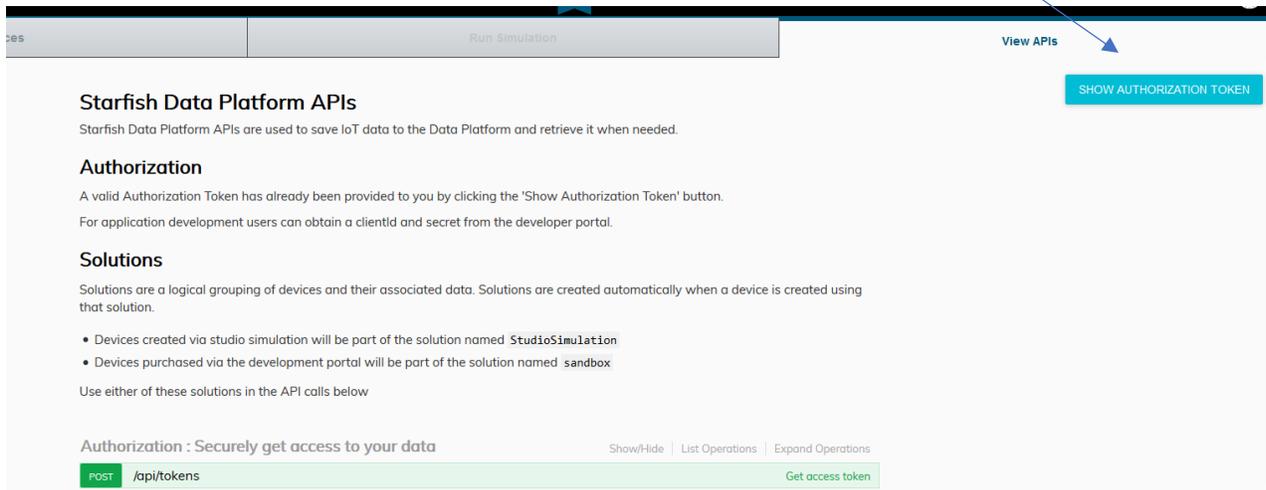
Figure 2: User Credentials

Figure 3: Get a Starfish Studio Authorization Token

In the MQTT.fx Edit Connection Settings window, click SSL/TLS and then check the Enable SSL/TLS box as shown in Figure 4 below. In the Protocol drop-box, select SSLv3.
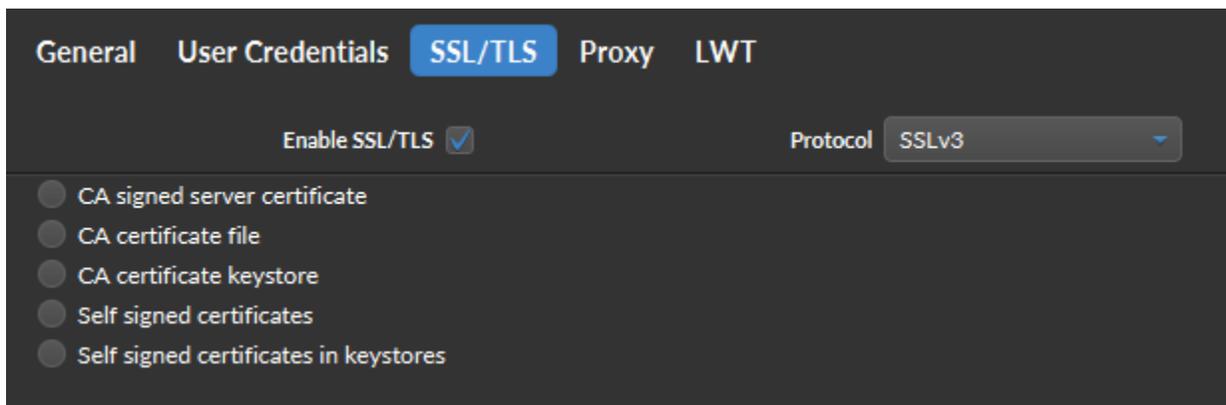

Figure 4: Enable SSL for your Starfish Connection

Finally, click OK at the bottom of the Edit Connection Settings window, and your new connection will appear in the MQTT.fx main window on the connection drop-down list. To test your connection, select it in the drop-down list and click Connect. The gray bubble on the upper right-hand side of the window will turn green once the connection to Starfish has been established.

Enter a Topic and Subscribe to Milli Sensor Data

Once MQTT.fx is connected to Starfish, click Subscribe, and enter the Topic name for your Milli's sensor data as shown in Figure 5 below.
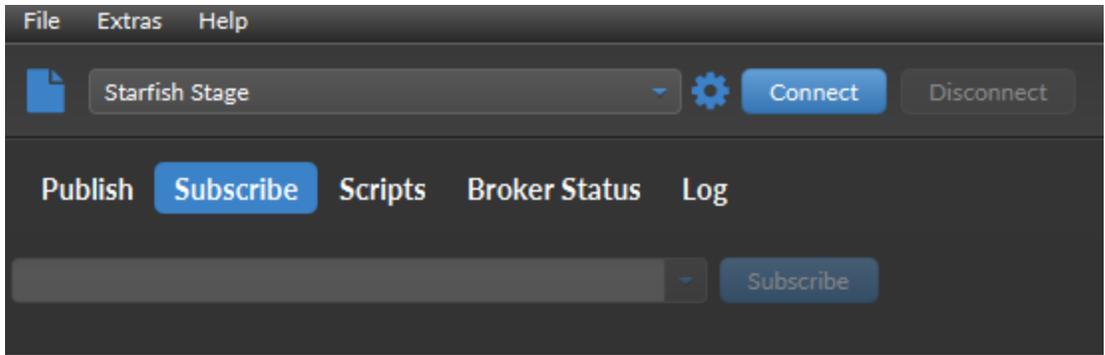
Figure 5: Subscribe to a Topic

The topic name format can use wildcards to indicate all sensor data from all Millis associated with your account in Starfish. The format is **<your Tenant ID>/alert/+/+**. To find your tenant ID, go to the website jwt.io and enter the Authorization Token you previously copied from Starfish Studio. Enter that into the Encoded box as shown in Figure 6 below. This will populate the Decoded box with metadata about your tenant extracted from the authorization token. The **sub:** element indicates your Tenant ID.

Copy that Tenant ID and add /alert/+/+ to it, then enter that string into the drop-down list under Subscribe (see Figure 5 above), then click the Subscribe button. Now you should see updates to your sensor data appear every 60 seconds from your Milli devices in the MQTT.fx main window!

Figure 6: Use JWT.io to Extract Your Tenant ID