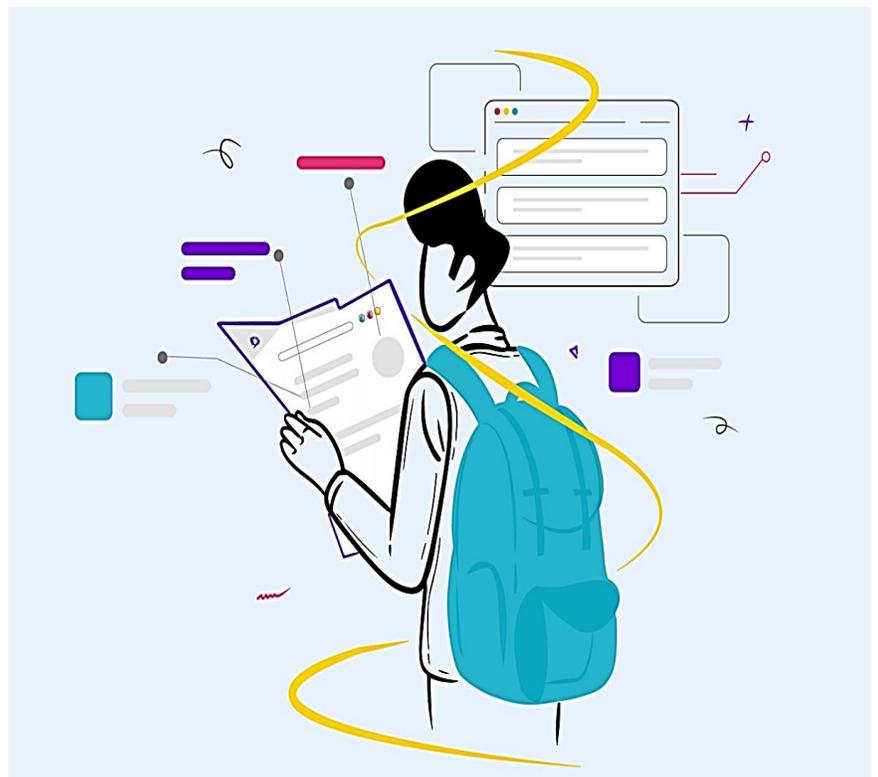


MQTT UI User Manual



HashStudioz Technologies Pvt. Ltd.

Table of Contents

Overview about MQTT

Dashboard Overview

1. Configure New Connection

2. Update Existing Configuration

Overview about MQTT-

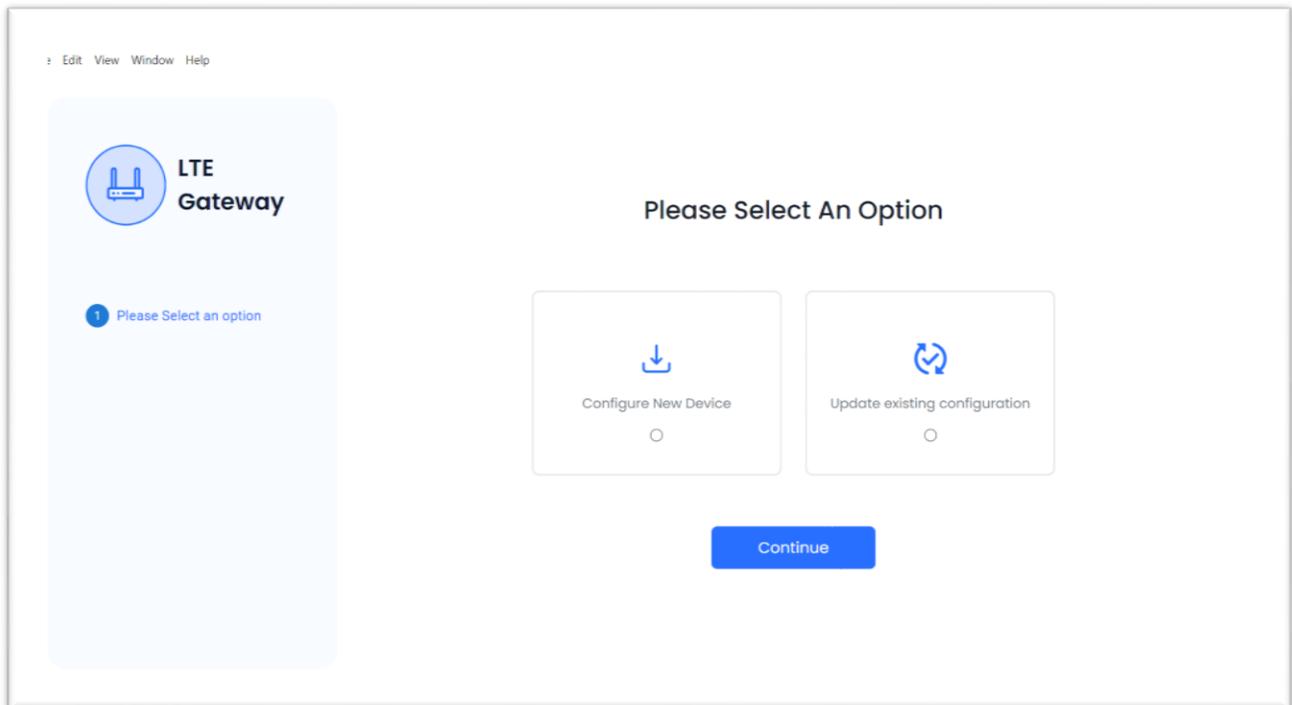
MQTT (Message Queuing Telemetry Transport) is a lightweight and efficient messaging protocol commonly used in IoT (Internet of Things) and various industrial applications. When integrated into a UI (User Interface) application with Modbus configuration, it becomes a powerful tool for setting up, controlling, and managing devices that communicate using the Modbus protocol.

The primary purpose of this MQTT-based UI application with Modbus configuration is to streamline the process of configuring Modbus-enabled devices. The application provides a user-friendly interface to manage various parameters necessary for communication and control using the Modbus protocol. The components within the application enable users to tailor the communication settings based on specific device requirements.

Dashboard Overview

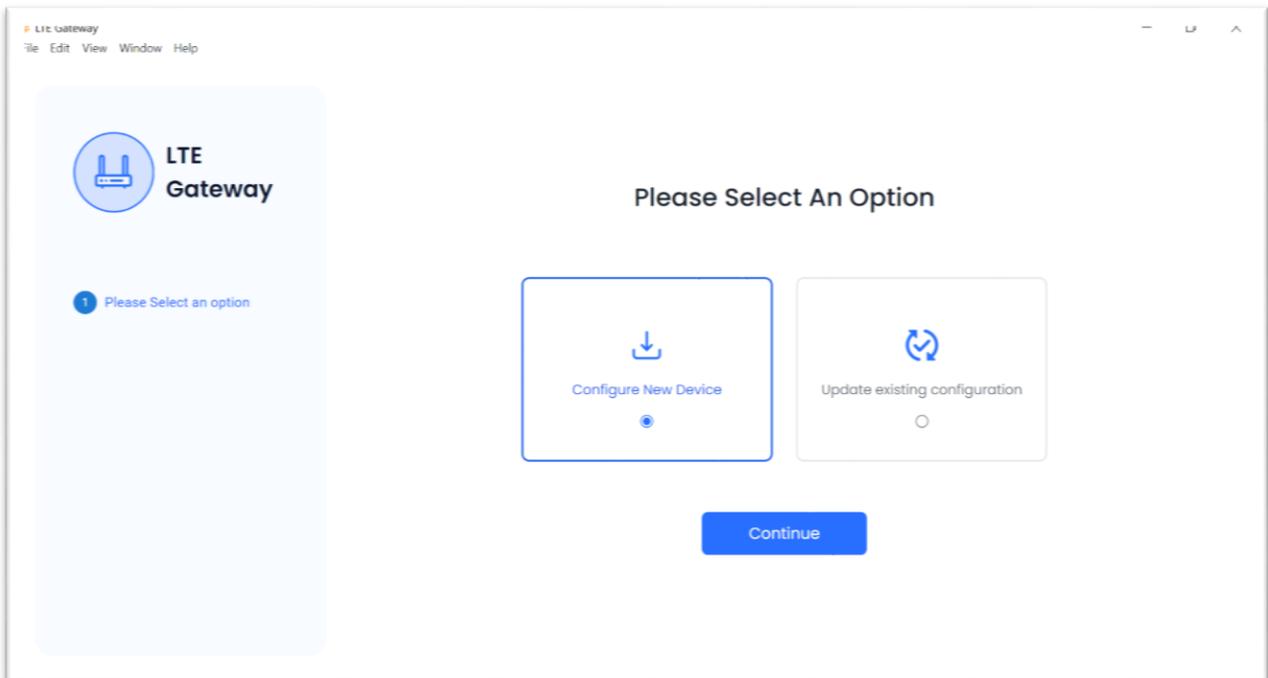
MQTT UI application appears to have a streamlined approach, offering users two primary options upon landing on the first page:

- 1. Configure New Device*
- 2. Update Existing Device*



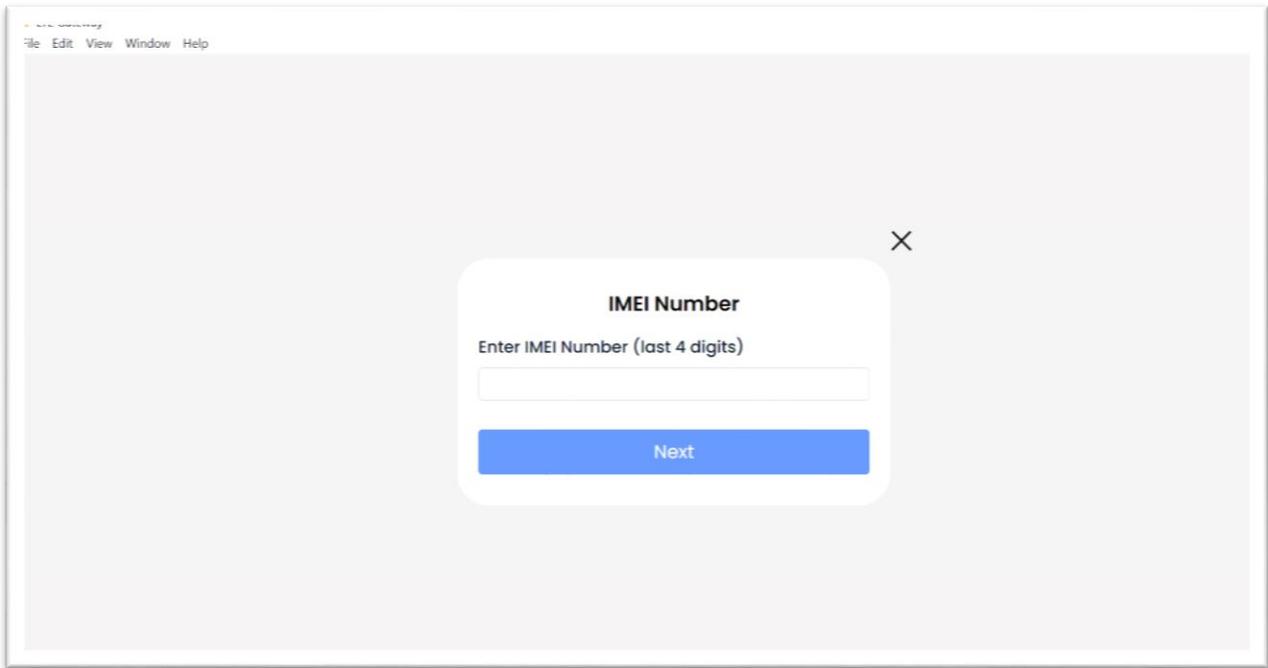
1. Configure New Connection Step By Step:

Step 1: Please select an option *“Configure New Device”*



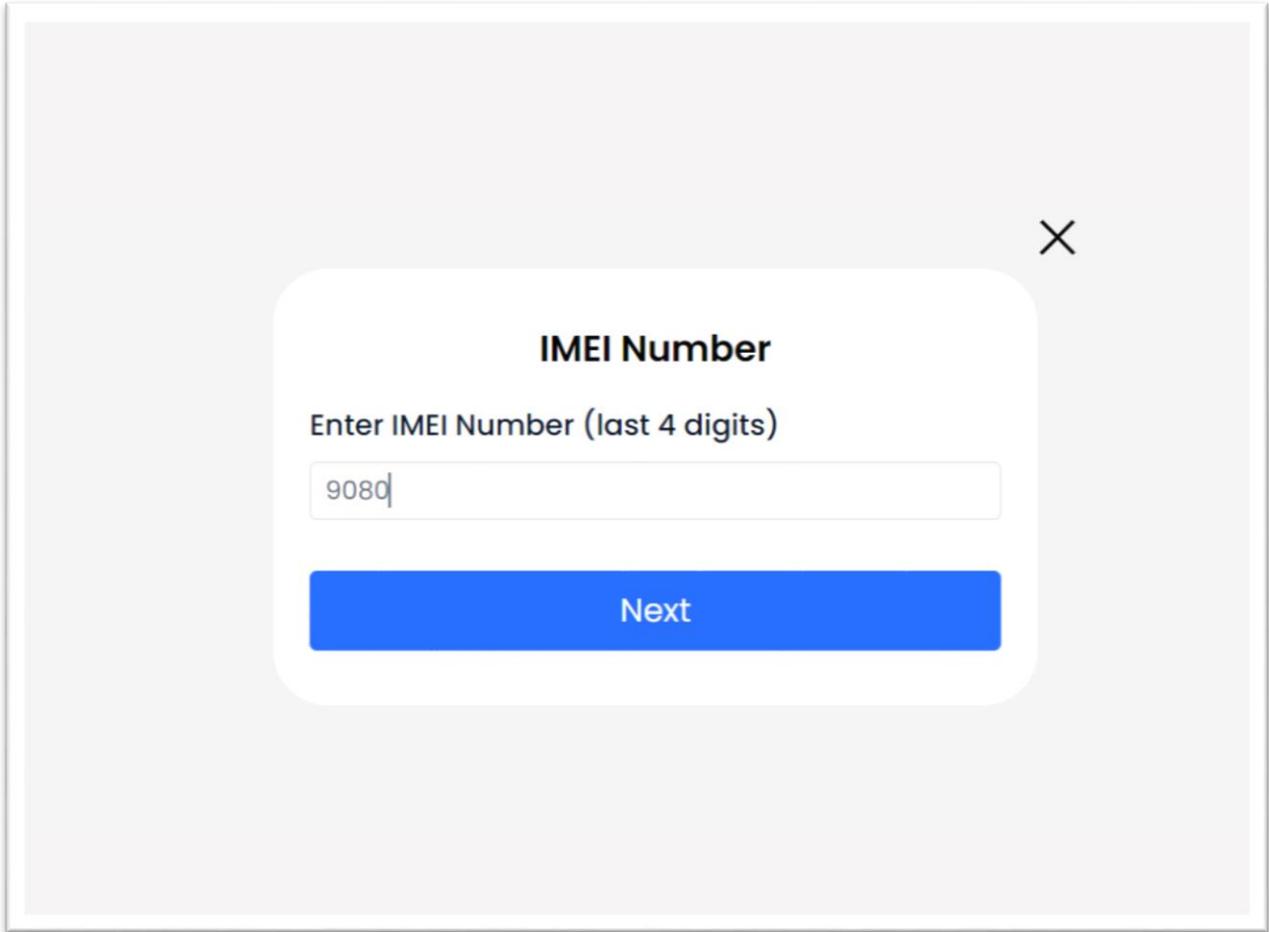
Step 2: Click on “Continue” Button.

After clicking on continue button a user move on new screen.



Step 3: Enter IMEI Number (last 4 digits)

The device has a distinct 15- or 17-digit IMEI number, we can only take the last four digits eg. 860987054309080.



IMEI Number

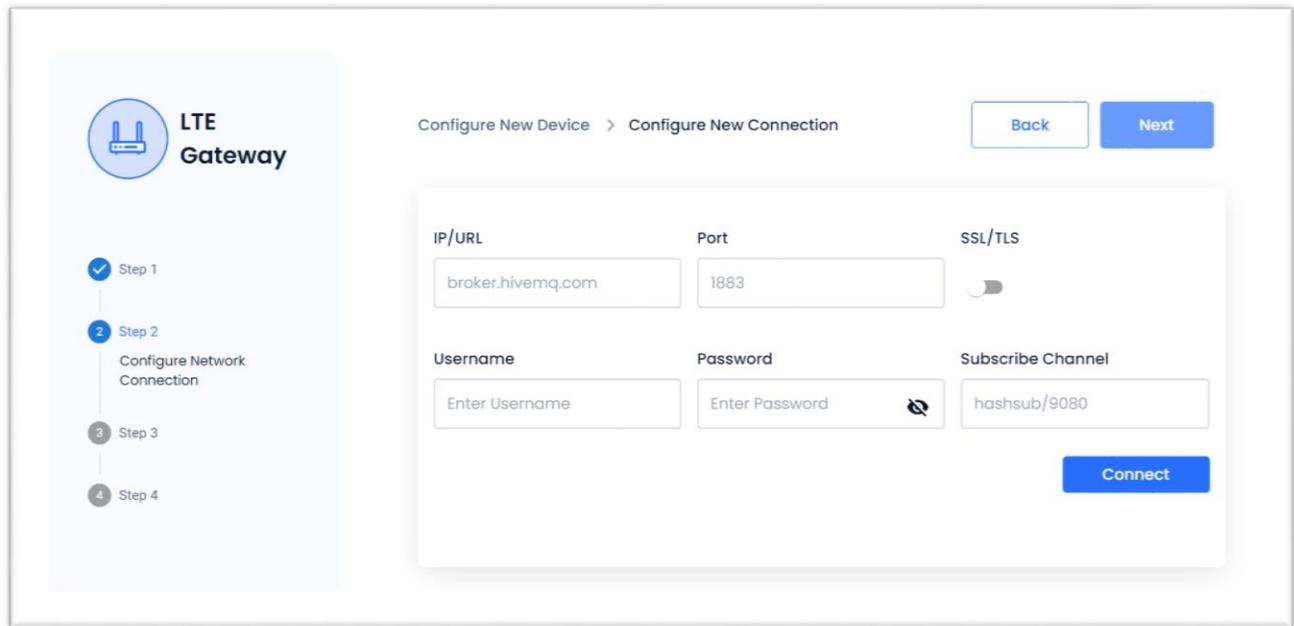
Enter IMEI Number (last 4 digits)

9080

Next

Step 4: Click on “Next” Button.

After clicking on Next button a user will navigate on new screen

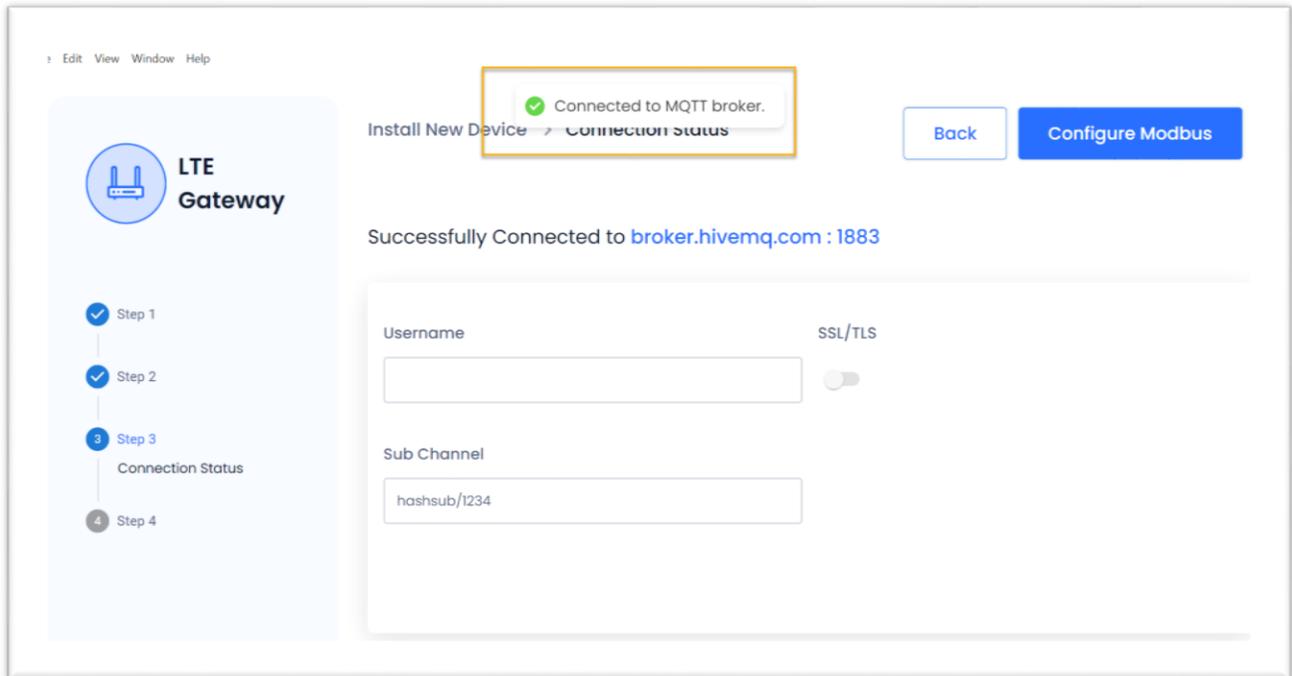


Step 5: Enter the data inside the field.

- **URL:** It comes pre-filled with a default URL, "broker.hivemq.com," which users can modify based on the broker they want to connect.
- **Port:** Users can specify the port number associated with the MQTT broker. The default port number is set as 1883.
- **SSL/TLS:** This option allows users to enable or disable SSL/TLS encryption for secure communication
- **Username:** Enter Username for authentication
- **Password:** Enter Password for authentication.
- **Subscribe Channel:** This field is pre-filled with a default topic name, "hashsub/IMEI no's last 4 digits," which seems to be generated based on the device's IMEI number. Users can customize this topic if needed

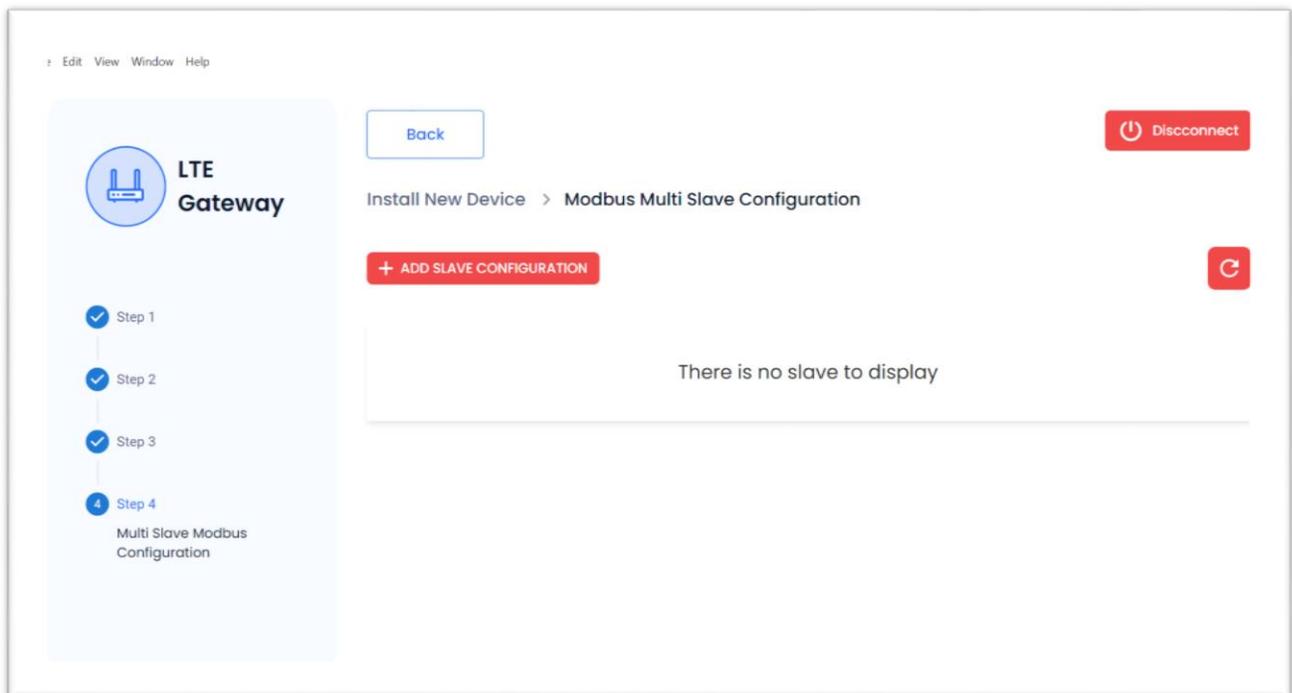
Step 6: Click on "Connect" Button.

After clicking on Connect button MQTT UI application serves as a dashboard reflecting the current status and details of the established connection. After successful configuration and connection to the MQTT broker move on next Page with message "**Connected to MQTT Broker**".



Step 7: Click on “Configure Modbus” Button.

Upon clicking on Configure Modbus button a user will navigate on new screen



Step 8 : Click on “ADD SLAVE CONFIGURATION” Button.

The screenshot shows a web interface for configuring an LTE Gateway. The header includes a 'Back' button and a 'Disconnect' button. The main content area contains the following fields:

- Slave Name***: Text input field with placeholder 'Enter Slave Name'.
- Slave Id***: Text input field with placeholder 'Enter Slave Id'.
- Baudrate***: Dropdown menu with placeholder 'Select an option'.
- Frame Format***: Dropdown menu with placeholder 'Select an option'.
- Pub Topic***: Text input field with placeholder 'Enter Pub Topic'.
- Slave Number***: Dropdown menu with placeholder 'Select an option'.

At the bottom of the form are two buttons: 'Add Register' (blue) and 'Reset' (red).

Step 9: Enter all the details inside the fields

- **Slave Name:** This field allows users to assign a name or label to the Modbus slave device for easier identification (eg. Hash Test)
- **Slave Id:** Enter numeric value which define on the device.(eg. 2)
- **Baudrate:** Choose the same value from the dropdown where the value is defined on the device (eg. 300)
- **Frame Format:** Select the value from the dropdown (eg. 8E1)
- **Pub Topic:** Enter any name where you want to receive the data (eg. HashTopic)
- **Slave Number:** Select the value from the dropdown (eg. 4)

The screenshot shows the 'Modbus Multi Slave Configuration' page for an 'LTE Gateway'. The page has a dark grey header with a 'Back' button and a 'Disconnect' button. Below the header, there are six input fields arranged in two rows. The first row contains 'Slave Name*' (text input: HashTest), 'Slave Id*' (text input: 1), and 'Baudrate*' (dropdown: 300). The second row contains 'Frame Format*' (dropdown: BET), 'Pub Topic*' (text input: HashTopic), and 'Slave Number*' (dropdown: 4). Below these fields are two buttons: 'Add Register' (blue) and 'Reset' (red).

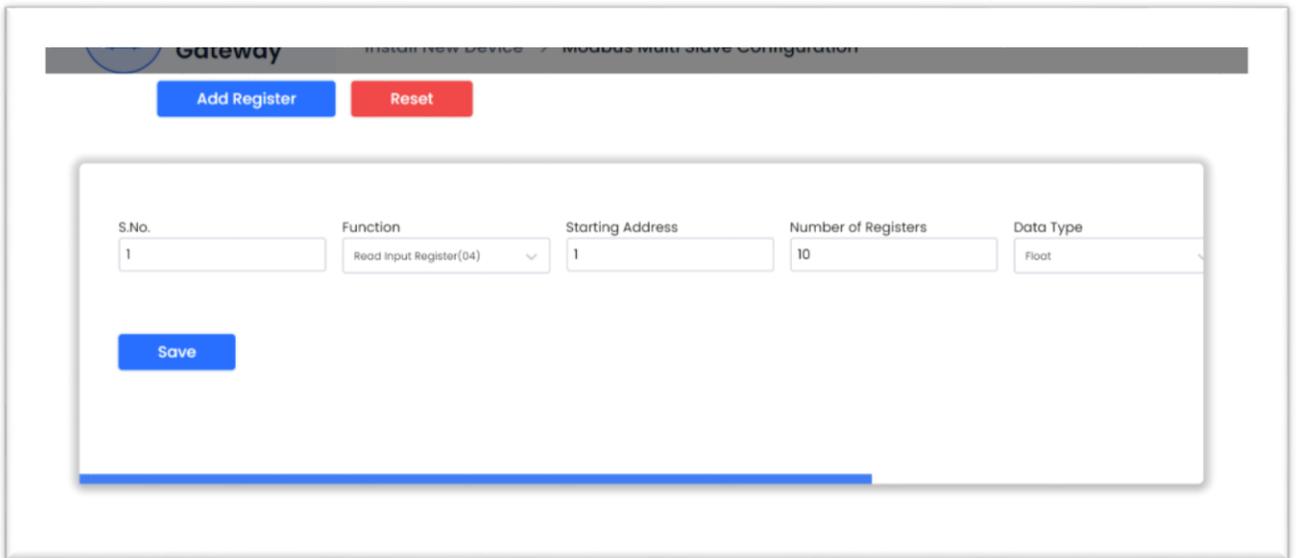
Step 10: Click on “Add Register” button.

Upon clicking on Add Register button a page will expand with new fields for register as shown in image.

The screenshot shows the 'Modbus Multi Slave Configuration' page after clicking the 'Add Register' button. The page has expanded to show a new form with five input fields: 'S.No.' (text input: 1), 'Function' (dropdown: Enter function), 'Starting Address' (text input: Starting address), 'Number of Registers' (text input: Number of registers), and 'Data Type' (dropdown: Select an option). Below these fields is a 'Save' button (blue).

Step 11: Enter all the required details for registers inside the fields.

- **S no.:** It is prefilled fata
- **Function:** Select the function appropriate Modbus function associated with the register.
- **Starting Address:** Enter the starting address for the register. The address is within the allowable range of 0 to 65635, as specified by the Modbus protocol.
- **Number of Registers:** Enter the quantity of consecutive registers to be accessed,
- **Data Type :** Select the data types associated with the registers.
- **Shift Byte:** It allows users to choose whether to enable or disable shifting of bytes. Shifting bytes.
- **Remove Button:** To reset all the register details.



The screenshot shows the 'Gateway' configuration page with a breadcrumb trail: 'Gateway' > 'Install New Device' > 'Modbus Multi Slave Configuration'. At the top, there are two buttons: 'Add Register' (blue) and 'Reset' (red). Below these is a form with the following fields:

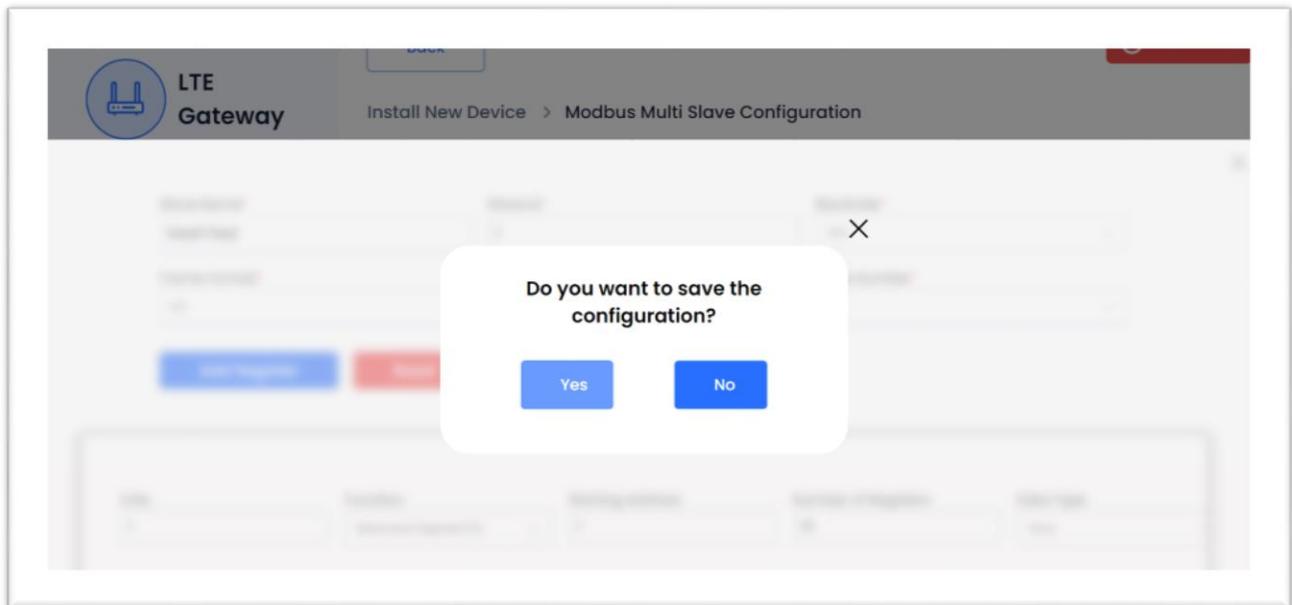
S.No.	Function	Starting Address	Number of Registers	Data Type
1	Read Input Register(04)	1	10	Float

Below the form is a 'Save' button (blue).

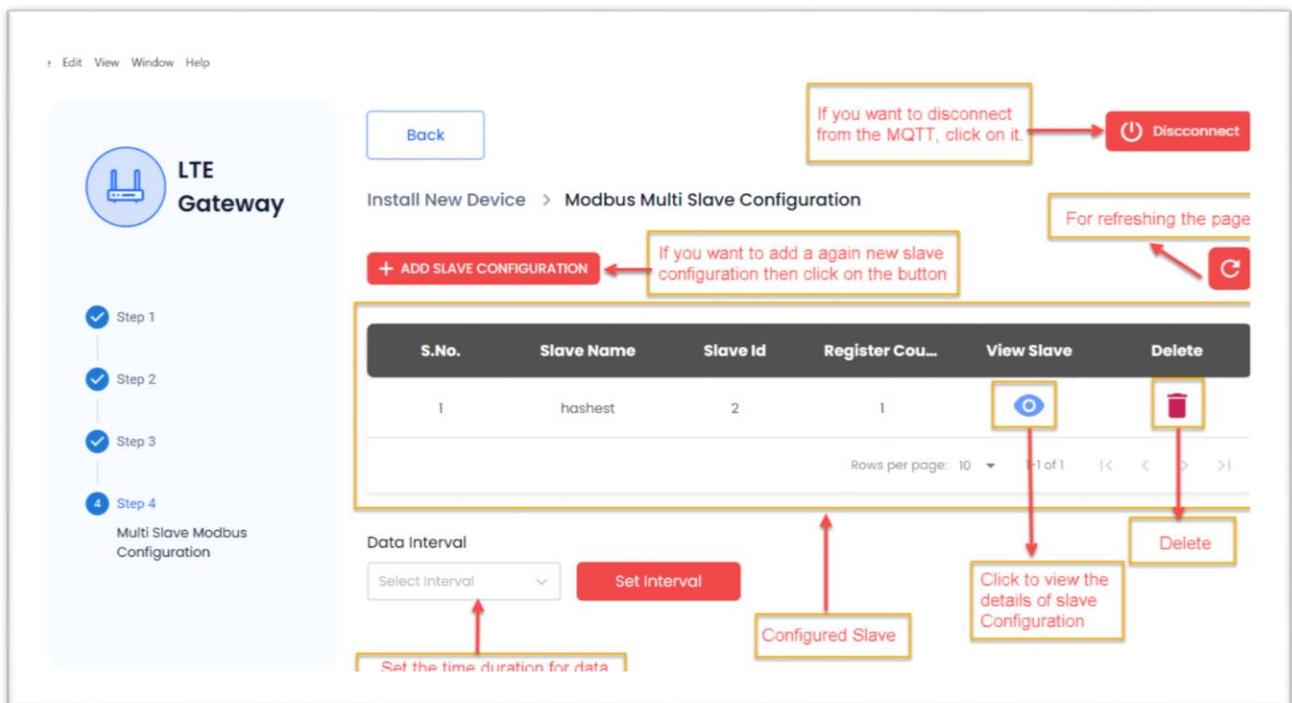
Step 12: Click on “Save” Button.

Upon clicking on Save button a Popup will display with the message “ Do you want to save the configuration?”

- If you want to save the configuration click on “Yes” Button
- If you don’t want to save button click on “No” Button.

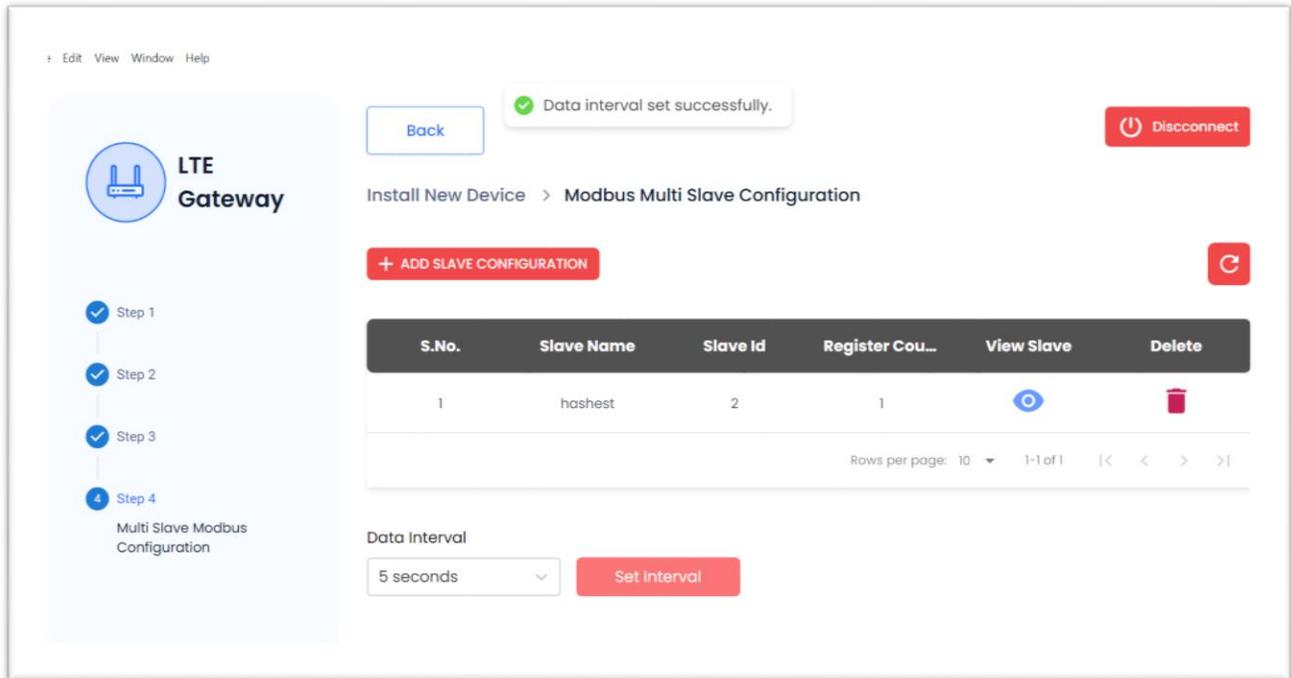


After clicking on **Yes** button. A new screen will come as shown in an image.



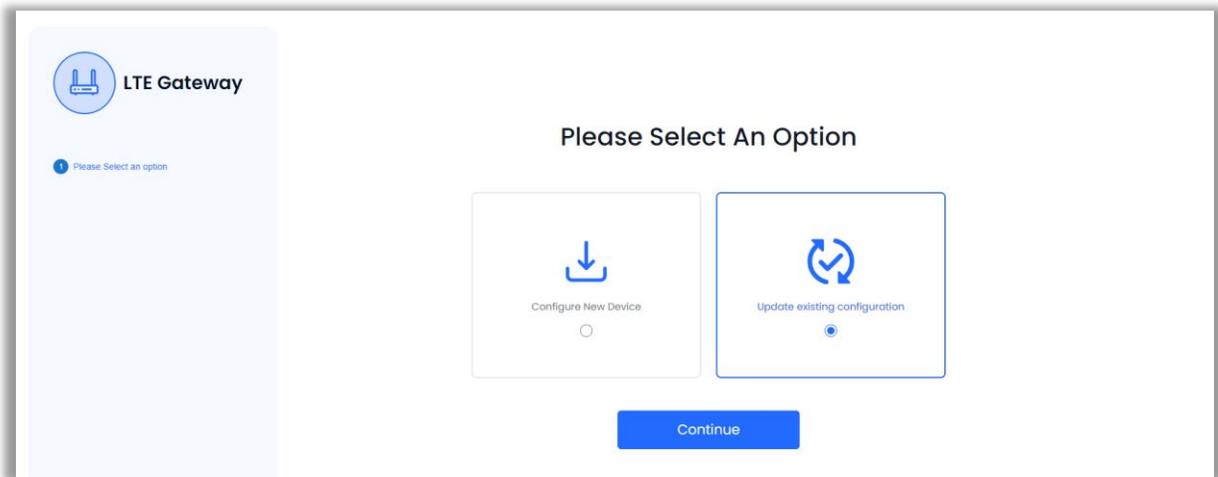
Step 13: Choose data Interval time from the dropdown and then click on “Set Interval” Button.

Upon clicking on Save Interval Button. User will get the message “Data interval set successfully”.



2. Update Existing Configuration

The "Update Existing Configuration" option on the first page of the MQTT UI application provides a pathway for users to modify and adjust the settings of previously configured Modbus devices and their associated register configurations. This option is specifically designed to enable users to make changes or updates to the existing configurations, ensuring that the application remains dynamic and adaptable to evolving requirements.

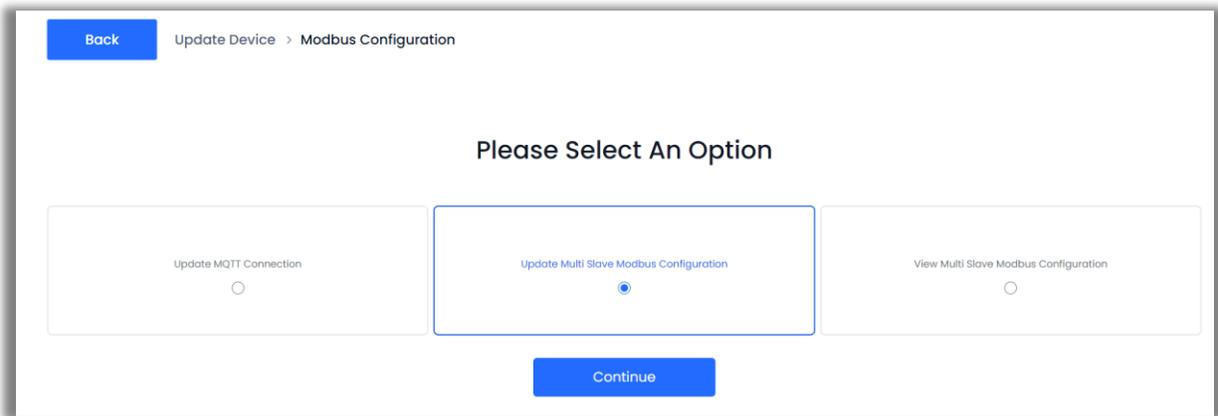


"Update Existing Configuration" option and entering the existing IMEI (International Mobile Equipment Identity) number, the subsequent page displays three distinct options for further modifications and viewing of the configurations related to the previously entered IMEI number:

2.1 Update MQTT Connection: This option allows users to update and modify the settings associated with the MQTT connection for the specified IMEI number. Users can make adjustments to the broker URL, port number, SSL/TLS settings, username, password, subscription channel, or any other details related to the connection settings.

2.2 Update Multi Slave Modbus Configuration: Users can modify and update the configurations associated with multiple Modbus slave devices connected under the specified IMEI number.

2.3 View Multi Slave Modbus Configuration: This option allows users to view the current configurations of multiple Modbus slave devices associated with the entered IMEI number



Follow the same procedures as when we configured the Multi Slave Modbus Configuration if you wish to Change/Modify it.