BRTSys

IoT Portal

SENSE | MONITOR | CONTROL

Versatile, Scalable Sensor-to-Cloud Connectivity

USER GUIDE

Mobile App for Android

(Ver.2.0.1)

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Table of Contents

1. About This Guide 5
2. Intended Audience 5
3. Document References 5
4. Getting Started 6
4.1 Supported Android Platforms and Requirements 6
4.2 Installing IoTPortal Mobile App for Android 6
4.3 Updating IoTPortal Mobile App for Android 6
5. Registration 7
5.1 IoTPortal Account Sign In / Sign Up 7
5.2 Forgot / Reset Password 8
6. Gateway Management 9
6.1 Register / Add Gateway 9
6.1.1 Using QR Code 9
6.1.2 Manually 10
6.2 On-board Gateway 11
6.2.1 Using Wi-Fi 11
6.2.2 Using Ethernet 14
6.3 View - All Gateways / Gateway Groups / Standalone Gateways 15
6.4 Search Function 16
6.5 Map View / List View 17
6.6 Gateway Functions 18
6.6.1 Edit Gateway Name 18
6.6.2 Restart Gateway 19
6.6.3 Gateway Location 20
6.6.4 Gateway Settings 21
6.6.4.1 Firmware Update (For Standalone Gateway) 21
6.6.4.2 Re-onboard Gateway 22
6.6.4.3 View Gateway Descriptors 23
6.6.5 Manage Storage 24
6.6.6 Gateway Scan 25
6.6.7 Manage LDSBus Ports 27
6.6.7.1 Port Scan 27
6.6.7.2 Delete Port 29
6.6.7.3 Power On/Off Port 29
6.6.7.4 LDSU List and Categories 30
6.6.7.4.1 LDSU Details 31
6.6.7.5 Sensor List 33
6.6.7.5.1 Configure Sensor / Alert 34
6.6.7.5.2 Edit Sensor Name 37
6.6.7.5.3 Associate Sensor 38
6.6.7.6 Actuators List 40
6.6.7.6.1 Edit Actuator Name 41
6.6.7.6.2 Configure Actuator 42

6.6.7.7 UART 46
6.6.7.7.1 Reset to Default Values 46
6.6.7.7.2 Configure UART 47
6.6.8 Manage Gateway Group 49
6.6.8.1 Create New Gateway Group 49
6.6.8.2 Edit Gateway Group Name 50
6.6.8.3 Firmware Update for Gateway Group Member 51
6.6.8.4 Transfer Gateway from one group to another group 53
6.6.8.5 Remove Gateway from Gateway Group 54
6.6.8.6 Remove Gateway Group 55
6.6.9 Delete Gateway 56
7. Event Management 57
7.1 Create Event 58
7.1.1 Add Condition(s) / Action(s) 59
7.1.1.1 When 59
7.1.1.2 Do 61
7.1.2 Change the order of the Condition(s) / Action(s) 63
7.1.3 Edit Condition(s) / Action(s) 64
7.1.4 Delete Condition(s) / Action(s) 65
7.2 Change the event order 66
7.3 Edit Event Name 66
7.4 Delete Event Name 67
8. Dashboard Management 68
8.1 Create Dashboard 68
8.2 Dashboard Charts – Gateway/Sensor/Actuator/Other Charts 69
8.2.1 Add Gateway Chart 69
8.2.2 Edit Gateway Chart 70
8.2.3 Delete Gateway Chart 71
8.2.4 Add Sensor Chart 72
8.2.4.1 Create standalone charts for selected sensor 72
8.2.4.2 Create stacked charts for multiple sensors 73
8.2.5 Edit / Delete Sensor Chart 74
8.2.6 Download Data 75
8.2.7 Add Actuator Chart 76
8.2.8 Edit / Delete Actuator Chart 77
8.2.9 Download Data 77
8.2.10 Add Other Charts 78
8.2.11 Edit / Delete Other Chart 78
8.2.12 Applying Filter 79
8.2.13 Clearing Filter 80
8.2.14 Time Interval Filter 81
8.3 Edit Dashboard 82
8.4 Delete Dashboard 83
9. Organisation Management 84
9.1 Create Organisation 85

9.1.1 Members 87
9.1.1.1 Invite Members 87
9.1.1.2 Cancel Invitation 89
9.1.1.3 Remove Member/User from Organisation 90
9.1.2 Groups 91
9.1.2.1 Create Custom Groups 92
9.1.2.2 Add Members to Custom Group 93
9.1.2.3 View Member Info 94
9.1.2.4 Remove Member from Group 95
9.1.2.5 Edit Group Name 96
9.1.2.6 Delete Group 97
9.1.3 User Roles 98
9.1.3.1 Create Custom Roles 99
9.1.3.2 Edit Role 100
9.1.3.3 Delete Role 101
9.2 Edit Organisation 102
9.3 Delete Organisation 103
10. More Functions 104
10.1 Account Settings 104
10.1.1 Profile Details 104
10.1.1.1 View Profile Details 104
10.1.1.2 Edit User Profile 105
10.1.1.3 Verifying Mobile Number 106
10.1.1.4 Change Password 107
10.1.1.5 Delete Account 108
10.2 Invitations Received from Other Organisations 109
10.3 Logged in Devices 110
10.4 About 111
10.5 Feedback 112
10.6 Logout 113
11. Contact Information 114
12. Appendix 115
12.1 Glossary of Terms, Acronyms & Abbreviations 115
12.2 List of Figures 115
12.3 List of Tables 115
Revision History 116

1. About This Guide

This guide explains the usage of IoTPortal Mobile App for Android. **The screenshots used are for illustration purpose only**.

2. Intended Audience

The intended audience will be System Integrators, Technical / Administrative users who will assist in realizing the capabilities, functions, and the full benefits of the product.

3. Document References

Document Name	Document Type	Format
BRTSYS_AN_032_IoTPortal User Guide - Introduction	Application Note/ User Guide	PDF
BRTSYS_AN_033_IoTPortal User Guide - Portal Web Application (WMC)		

4. Getting Started

4.1 Supported Android Platforms and Requirements

Operating System	Technical Requirement
Android	Android devices with Android 10+

4.2 Installing IoTPortal Mobile App for Android

The IoTPortal Mobile App can be downloaded from the Google Play Store using the following steps –

1. Go to Google Play Store on your handphone.
2. Type in "IoTPortal" and click Search.
3. Select IoTPortal from the search result.
4. Tap on the **[Install]** button to download the application.
5. Upon successful installation, tap on **[Open]** to access the IoTPortal App. A shortcut is created and displayed.

4.3 Updating IoTPortal Mobile App for Android

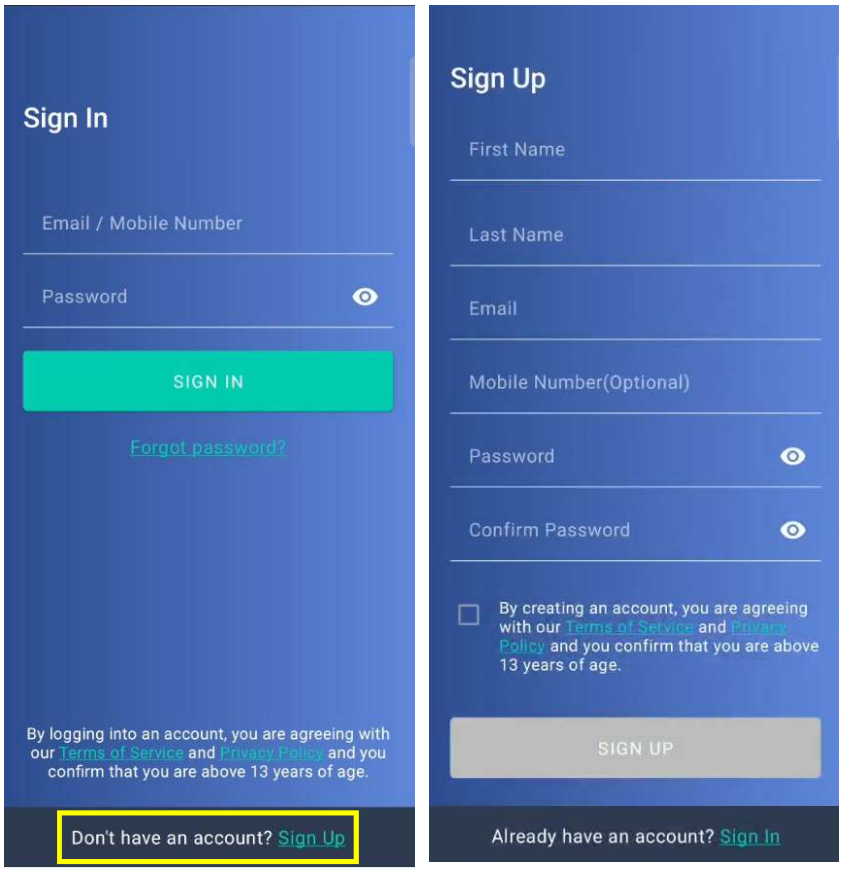
Updates will be made to the mobile app on a regular basis. Whenever an update is available, you can download the new version through the Google Play Store.

5. Registration

5.1 IoTPortal Account Sign In / Sign Up

IoTPortal customers need to sign in using their *email address* or *mobile number* and *password* to access the app.

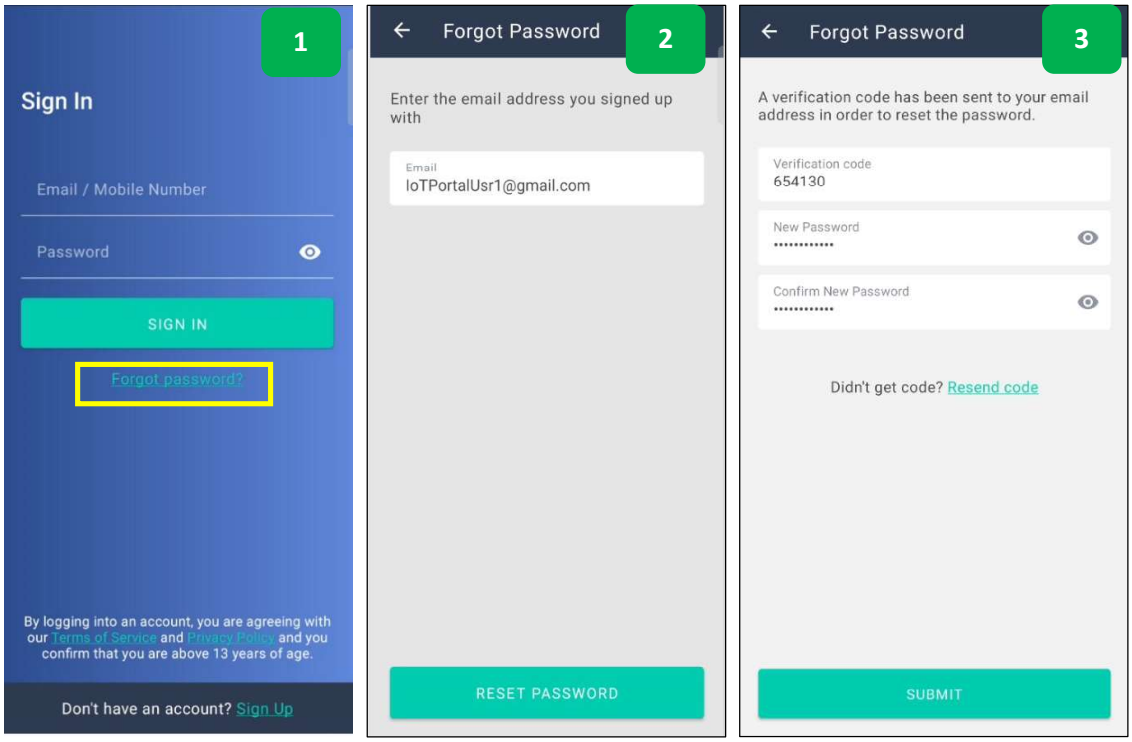
Click **[Sign Up]** to create an IoTPortal account if you do not already have one.



NOTE: If sign in attempts fail more than 5 times, then the account will be locked for 30 minutes.

5.2 Forgot / Reset Password

From the Sign In interface,



1. Tap **Forgot your password?** link.
2. Enter the registered *Email Address* & tap **[RESET PASSWORD]**
3. Enter the *Verification Code* (sent to the registered email address)*; New Password* and *Confirm New Password*. Tap **[SUBMIT]**. If successful, an appropriate message indicating the same is displayed.

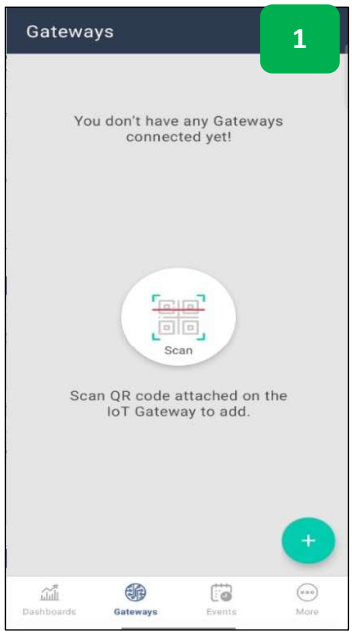
NOTE:

"Attempt limit exceeded, please try after some time" – message is displayed if the user enters an invalid verification code more than 5 times. Please enter a valid verification code.

6. Gateway Management

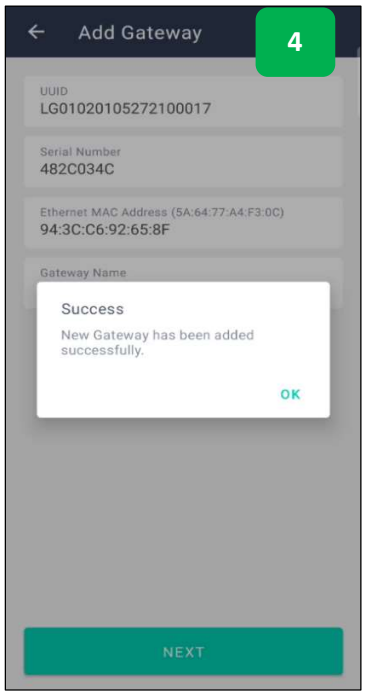
6.1 Register / Add Gateway

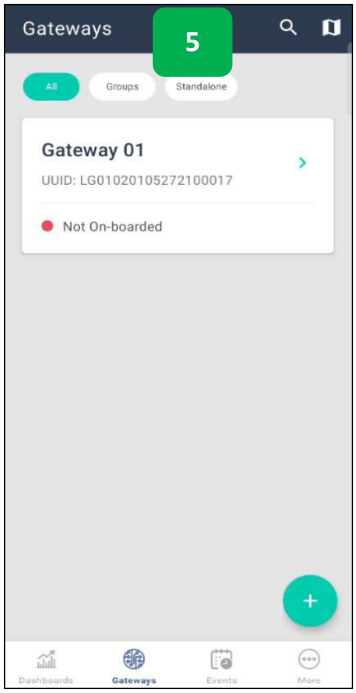
6.1.1 Using QR Code



A first-time user won't see any gateways connected. To add a gateway using QR Code –

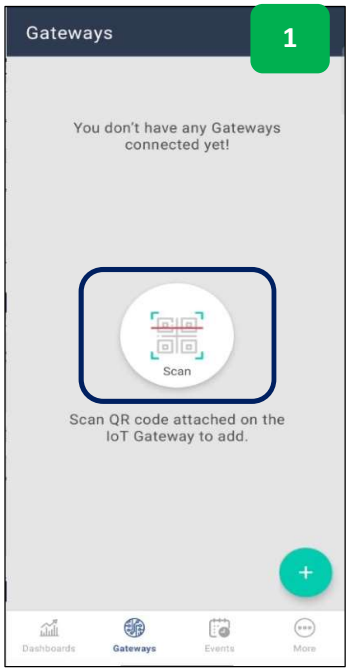
1. Tap **[Gateways]**.
2. Using the Camera App, scan the *QR Code* of Gateway device.
3. If the QR code scanning is successful, the device details are displayed. Enter a *name* for the gateway device. Tap **[NEXT]**.
4. If device is registered successfully, an appropriate message indicating the same is displayed.
5. The newly added Gateway device is displayed in the Gateways UI.

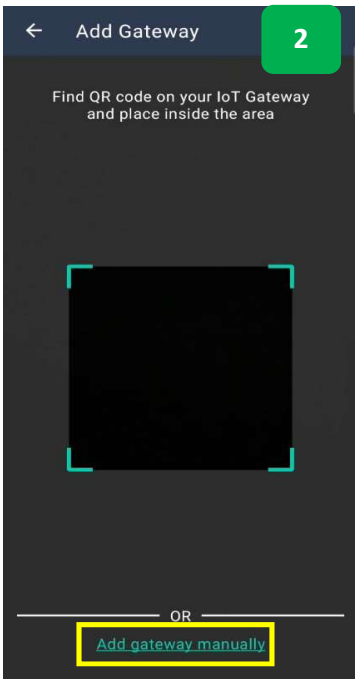




NOTE: Gateway must be on-boarded before using it. Refer to On-board Gateway for more details.

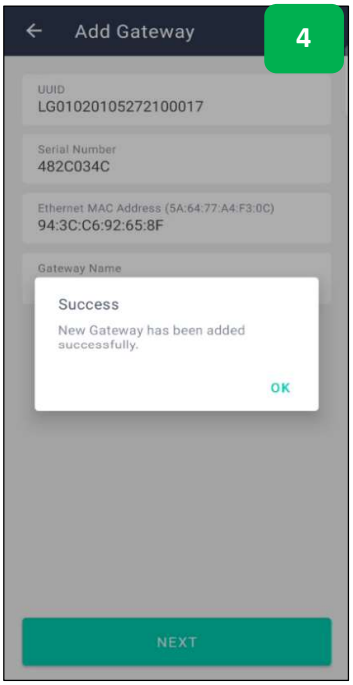
6.1.2 Manually

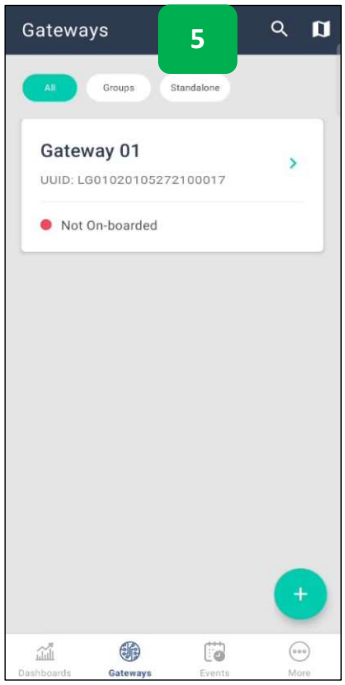




A first-time user won't see any gateways connected. To add a gateway manually –

1. Tap **[Scan]**.
2. Tap **Add Gateway manually**. Alternatively, tap **+** and select **[Add New Gateway]**.
3. Enter the *UUID, Serial Number* & *Ethernet MAC Address, Gateway Name* and tap **[NEXT]**.
4. If device is registered successfully, an appropriate message indicating the same is displayed.
5. The newly added Gateway device is displayed in the Gateways UI.



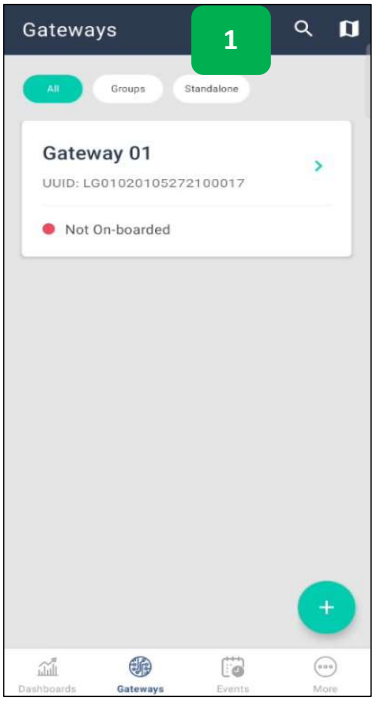


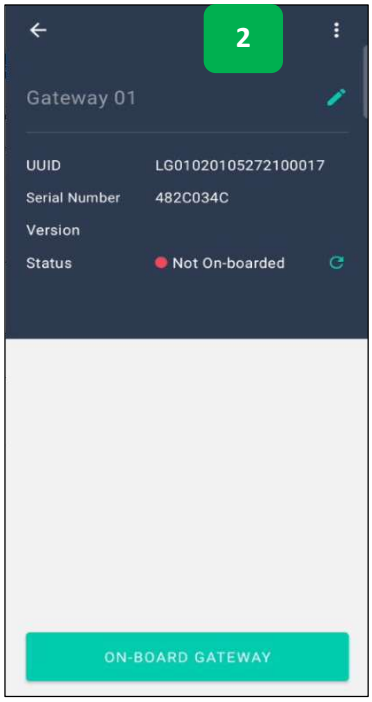
NOTE: At any point of time, if any error message is encountered, try adding the gateway (using QR Code or Manually) again.

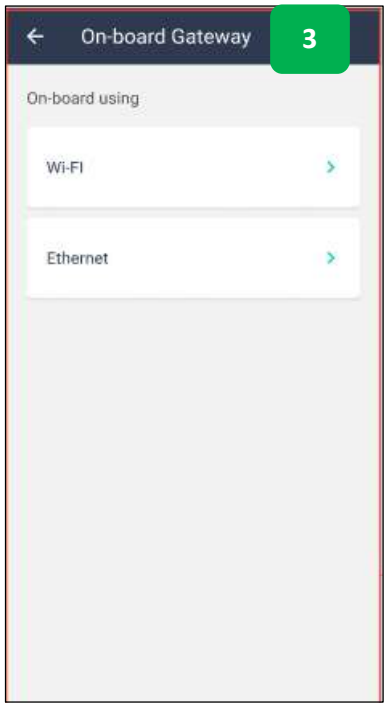
6.2 On-board Gateway

Upon adding the gateway, users must on-board it before using. Gateways that need to be on-boarded are indicated with the Status – *"Not On-boarded"*. A gateway can be on-boarded using *Wi-Fi* or *Ethernet*.

6.2.1 Using Wi-Fi

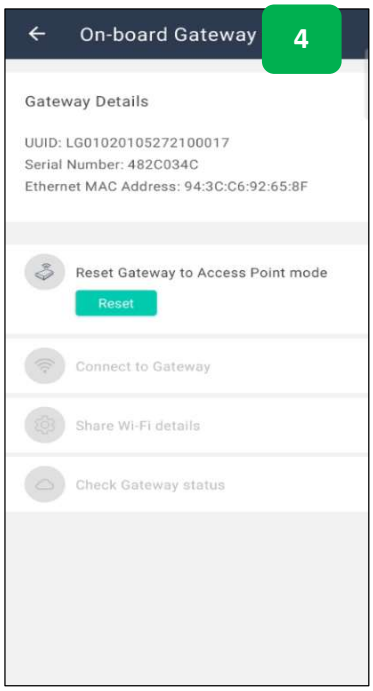


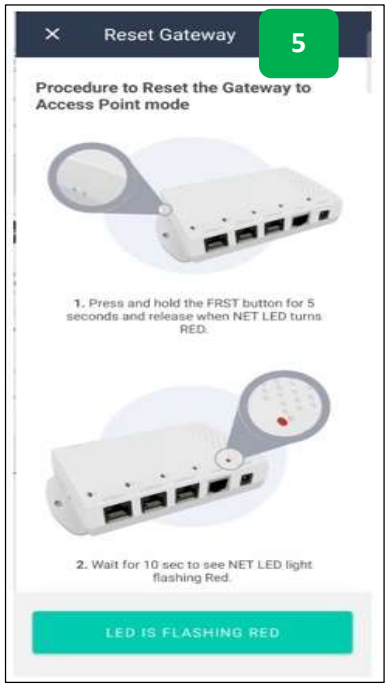


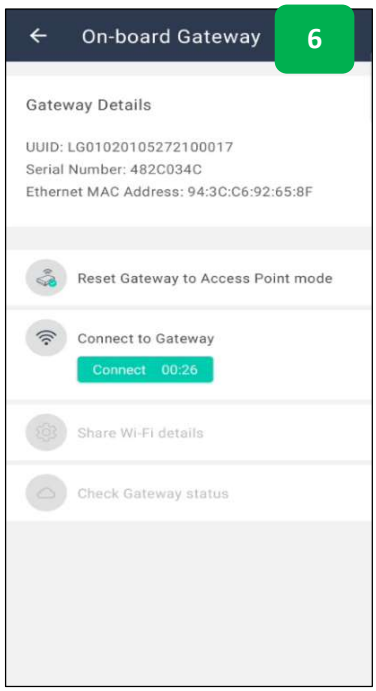


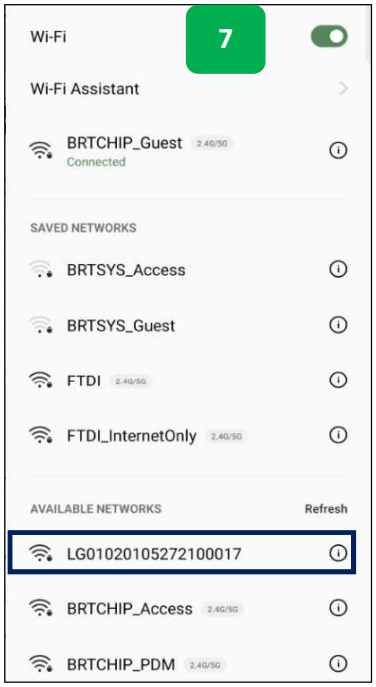
To on-board gateway using **Wi-Fi**,

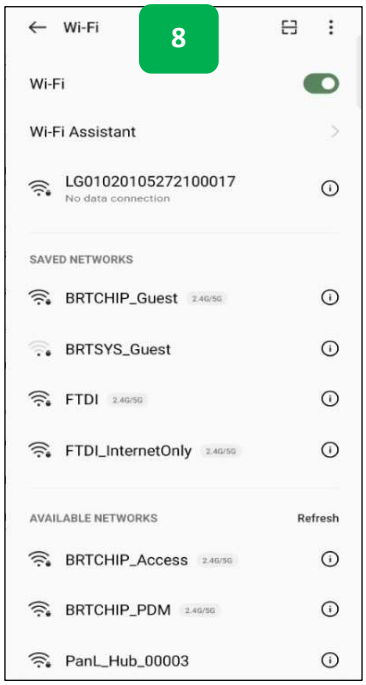
1. From the Gateways interface, tap and select the gateway to on-board (indicated with the status- *Not On-boarded*).
2. The selected gateway's attributes (*UUID, Serial Number, Firmware Version* and *On-boarding status)* are displayed. Tap **[ON-BOARD GATEWAY]**.
3. Tap and select *Wi-Fi*.
4. Tap **[Reset]**.
5. Reset the gateway to access point mode as shown in the Reset Gateway UI. LED flashing in red color (in the hardware) indicates that resetting is successful. Tap **[LED STARTED TO FLASHING RED]** to confirm the gateway reset.



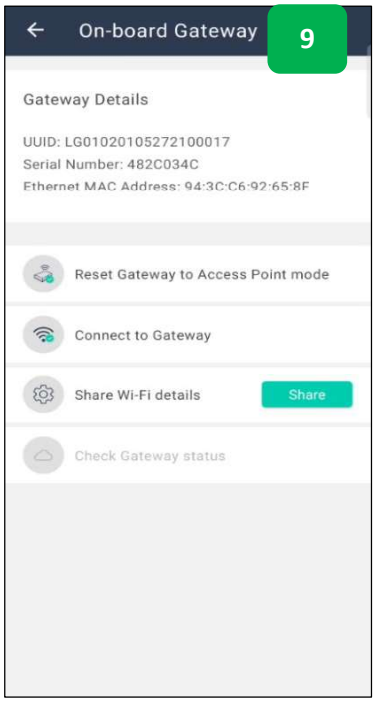


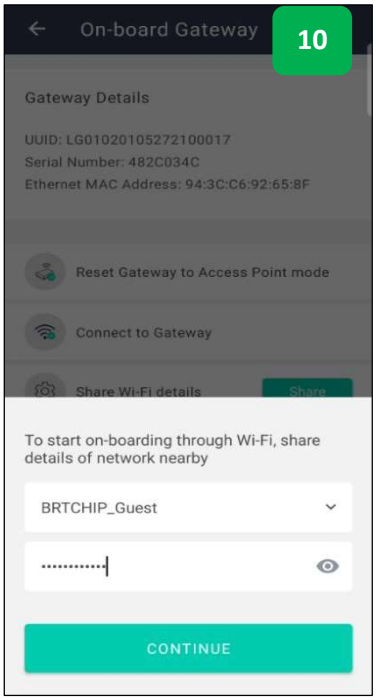


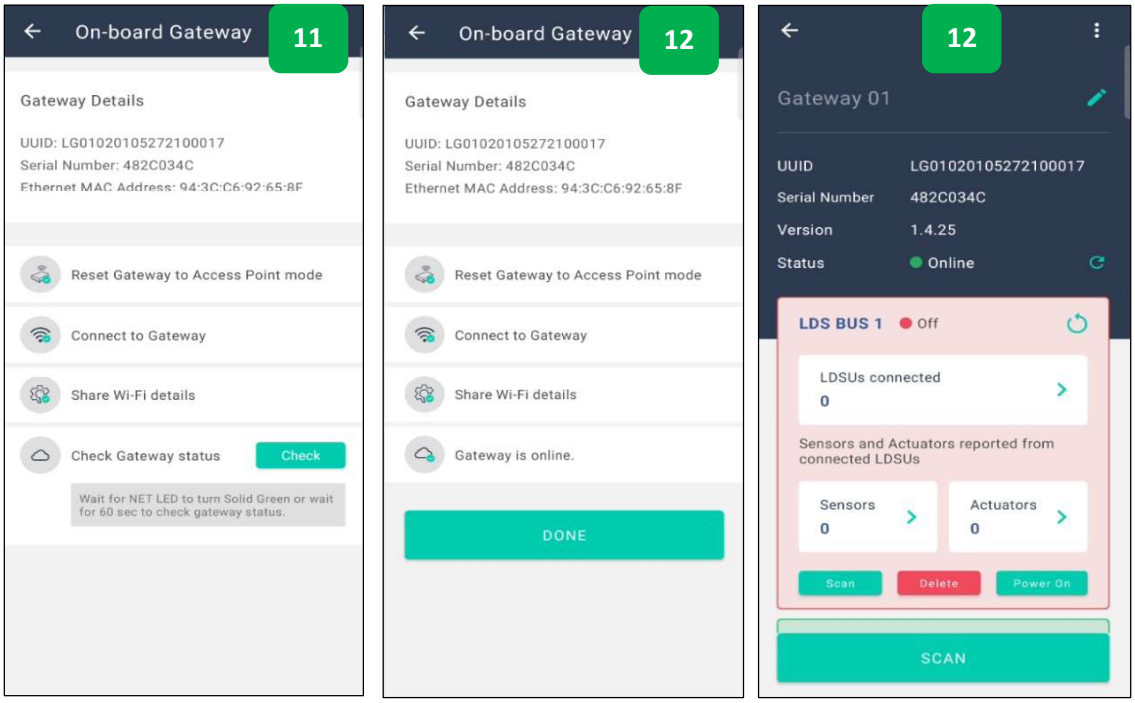




6. Connect to the gateway by tapping **[Connect]** within 30 secs.
7. Select and connect to the gateway device Wi-Fi by providing the password. The password is the *"product key"* which can be found on the label behind the gateway device.
8. Upon successfully connecting to the gateway device Wi-Fi, switch back to the on-board gateway interface by tapping on ←.
9. Tap **[Share]** to share the Wi-Fi details.
10. In the popup screen, *choose a network* and enter the *password*. Tap **[CONTINUE]**. Wi-Fi details sharing will be in progress.





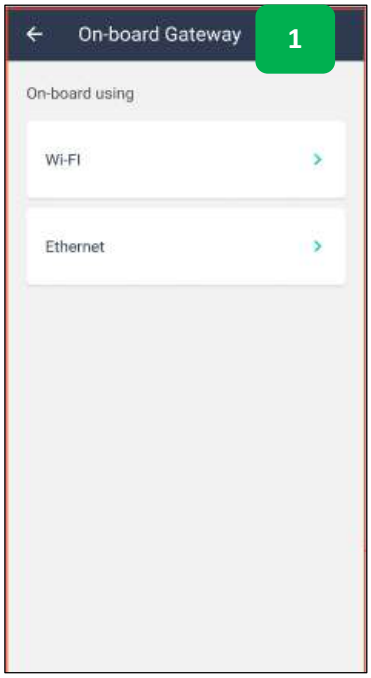


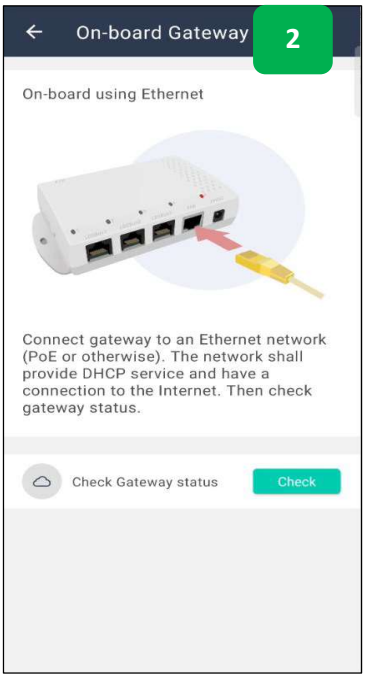
11. Once the Wi-Fi details are shared, tap **[Check]** to verify the *gateway status*. Gateway status verification will be in progress.
12. Upon status check, the gateway is on-boarded successfully and gateway status changes to online. Tap **[DONE]** to complete the on-boarding procedure. The newly on-boarded device is displayed in the Gateway interface.

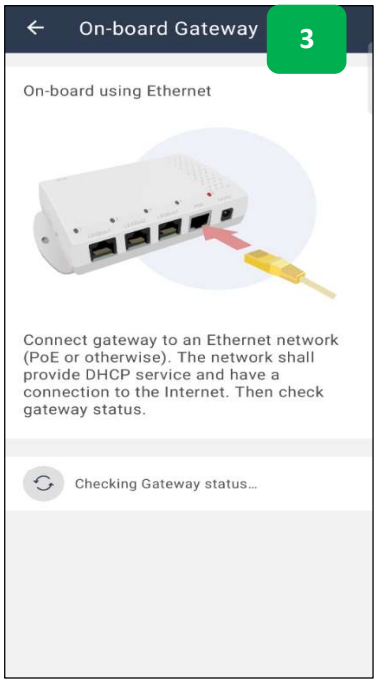
    Alternately, if the Gateway is not found, then tap **[Check Again]** to verify the gateway status. If verifying the gateway status continuously fails, then tap **[RETRY ON-BOARD]** to go through the on-boarding steps from the beginning.

NOTE: During the on-boarding procedure, at any point of time, if any error is encountered, go through the steps from the beginning.

6.2.2 Using Ethernet

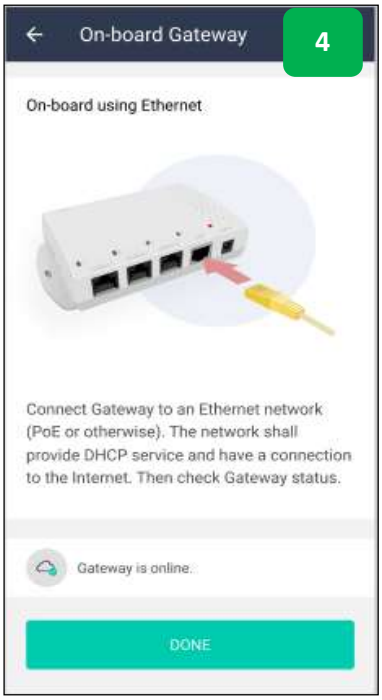






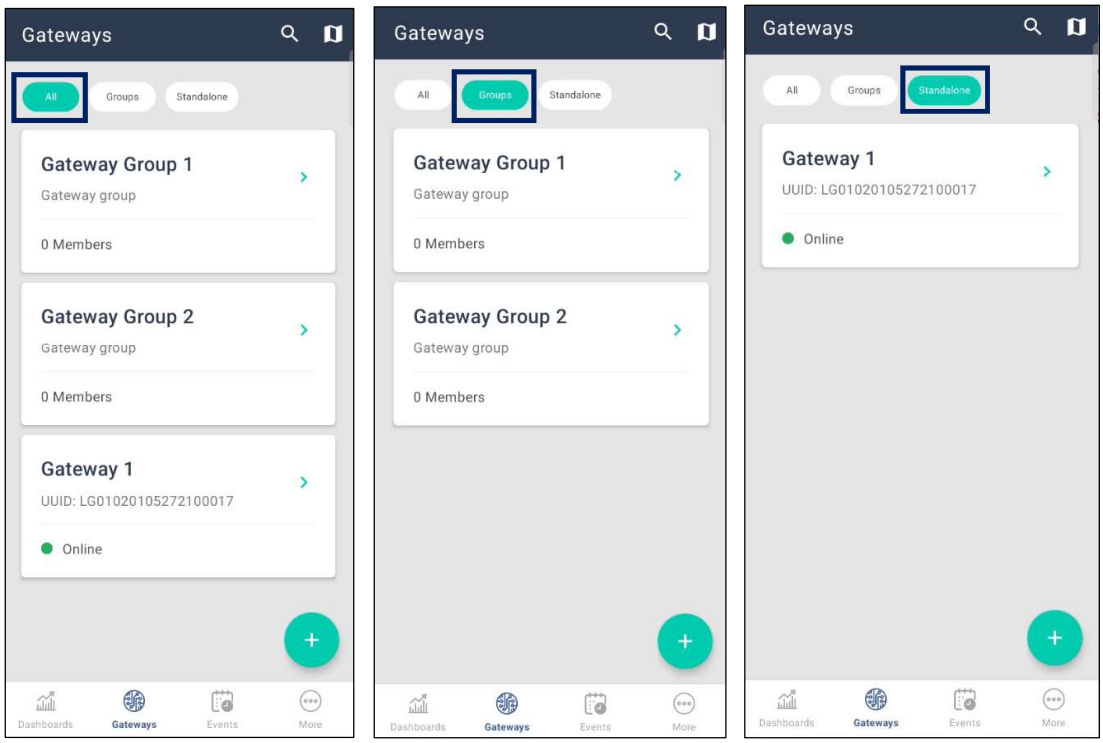
To on-board gateway using Ethernet,

1. Tap and select *Ethernet*.
2. Connect to an Ethernet Network as shown in the UI. Tap **[Check]** to verify the gateway connection status.
3. Connection verification will be in progress.
4. Upon status check, the gateway is on-boarded successfully and gateway status changes to online. Tap **[DONE]** to complete the on-boarding procedure.



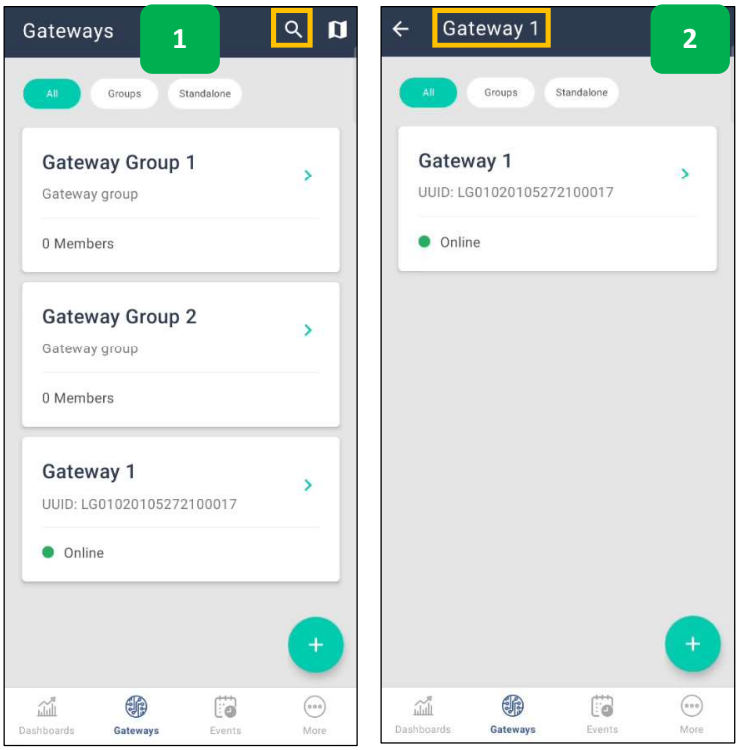
NOTE: During the on-boarding procedure, at any point of time, if an error is encountered, go through the steps from the beginning.

6.3 View - All Gateways / Gateway Groups / Standalone Gateways



- To view all gateways, tap **All**.
- To view all gateways groups, tap **Groups**.
- To view all Standalone gateways, tap **Standalone**.

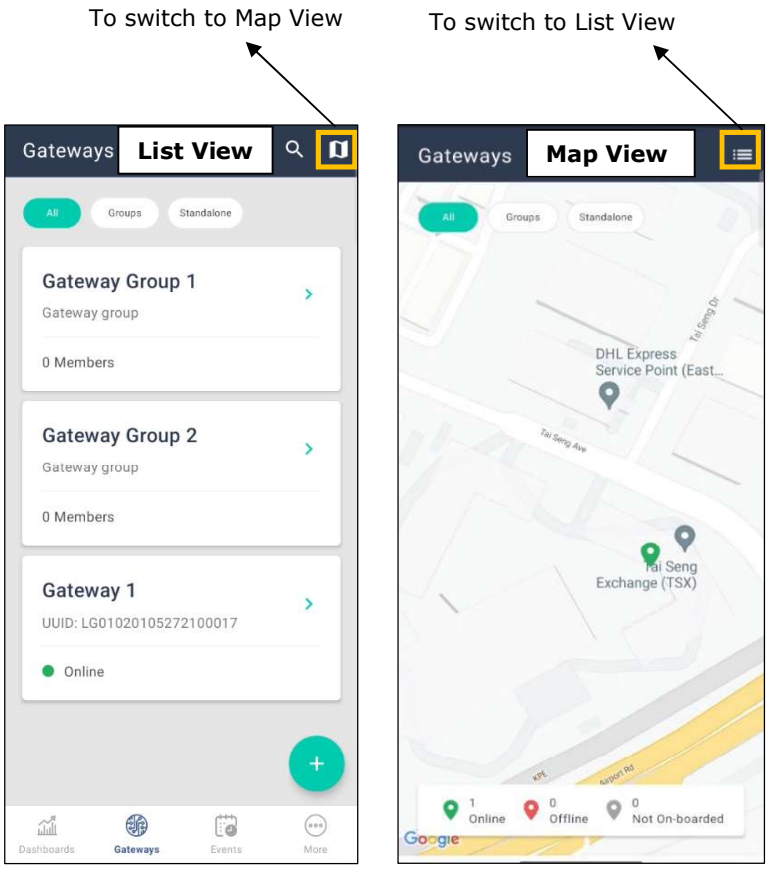
6.4 Search Function



To search for a specific gateway,

1. Tap 🔍 .
2. Enter the search criteria to look for a specific IoT Gateway.

6.5 Map View / List View

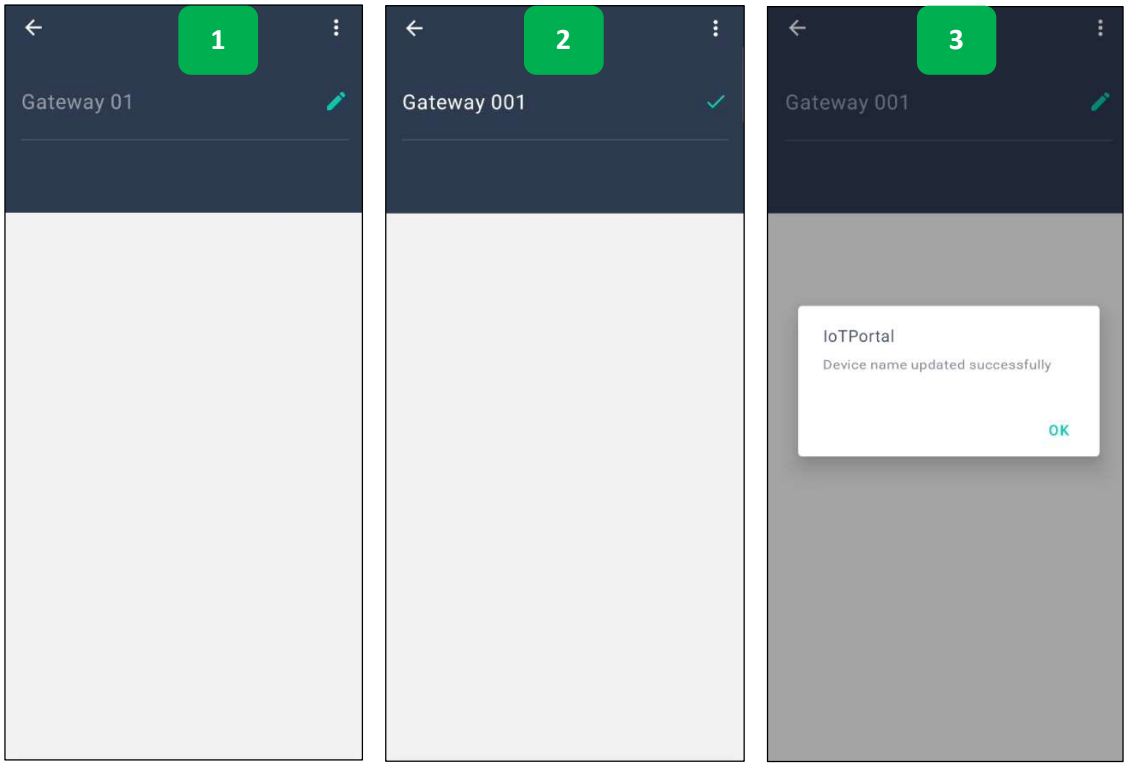


Tap to switch to **Map View** and view the location of the IoT Gateway.

Tap to switch to **List View** (default view).

6.6 Gateway Functions

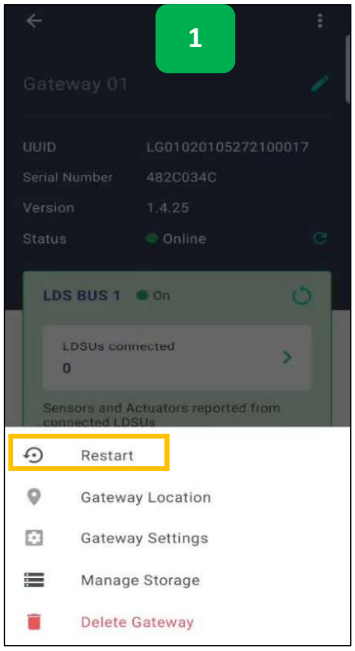
6.6.1 Edit Gateway Name

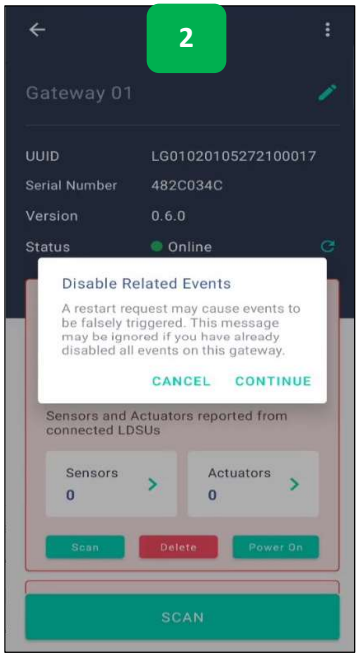


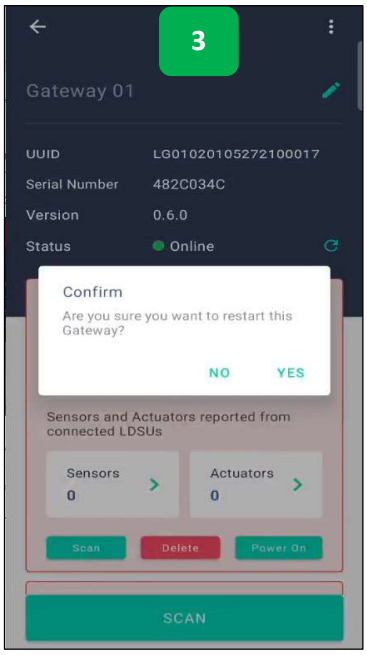
To edit gateway,

1. Tap ✎ .
2. Edit the Gateway Name as required and click ✓.
3. An appropriate message indicating the update is displayed.

6.6.2 Restart Gateway

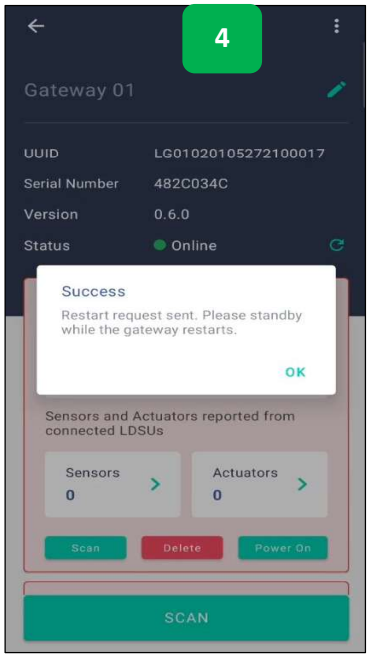




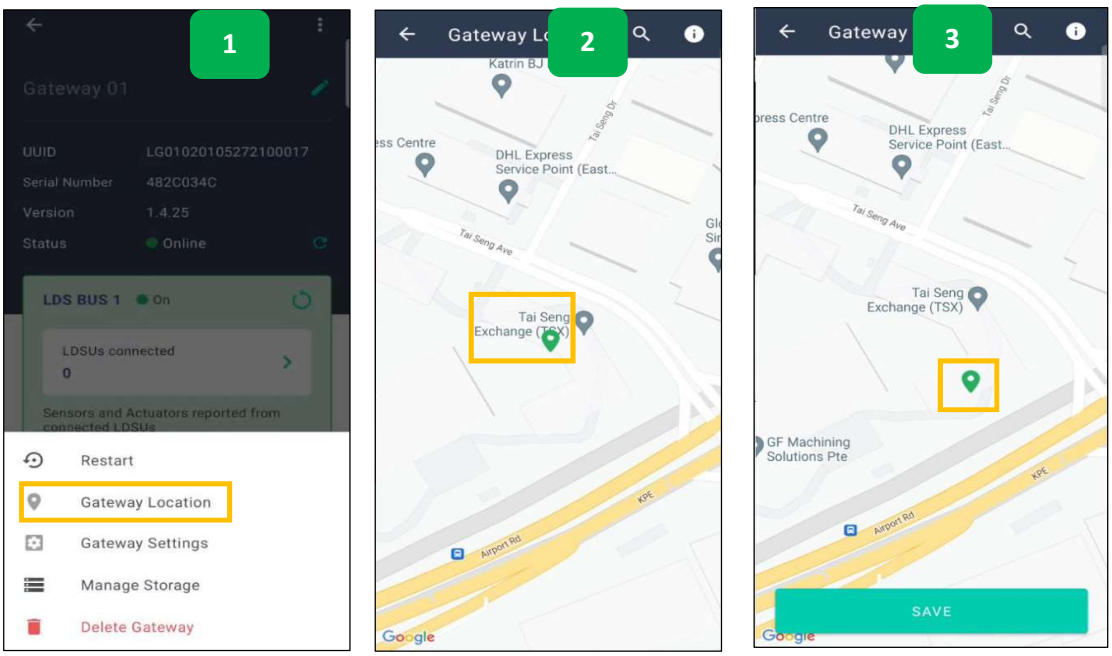


To restart gateway –

1. Tap **[Restart]**.
2. If the events are not disabled before triggering the restart of the gateway, an appropriate message indicating the same is displayed. Tap **[CONTINUE]**.
3. Tap **[YES]** to confirm the restart or **[NO]** to discard the operation.
4. If the restart request is sent successfully, an appropriate message indicating the same is displayed. Tap on **[OK]**.



6.6.3 Gateway Location

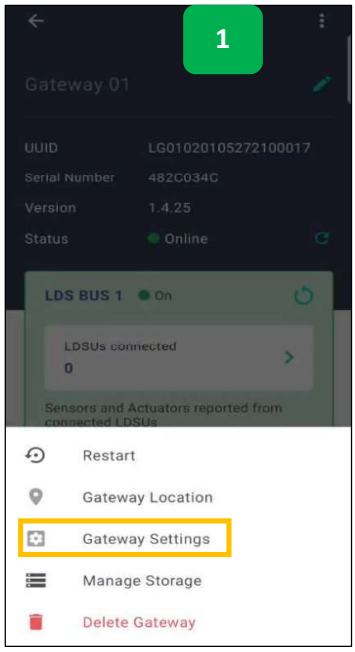


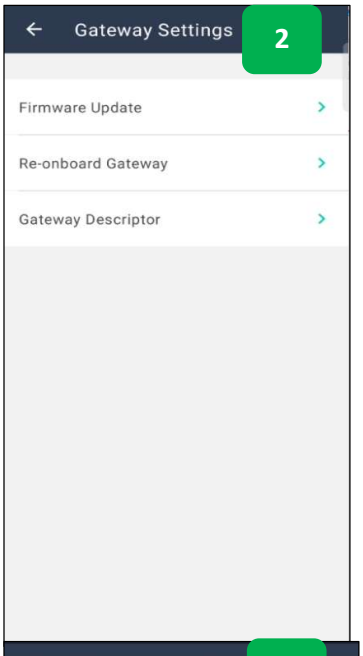
To access the Gateway Location –

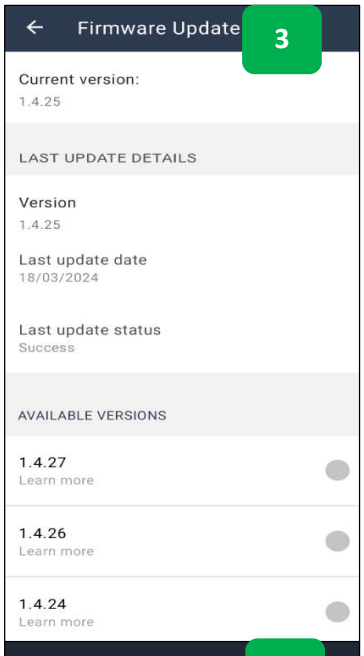
1. Tap **Gateway Location**.
2. The current location of the gateway is displayed. Long tap on the marker to change the gateway location to the new coordinates.
3. The updated location is displayed. Tap **[SAVE]** to store the updated gateway location.

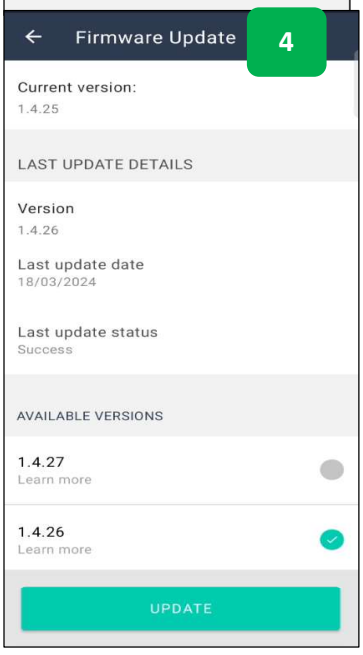
6.6.4 Gateway Settings

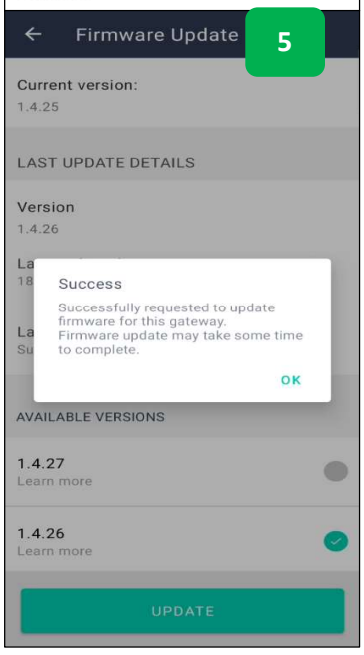
6.6.4.1 Firmware Update (For Standalone Gateway)







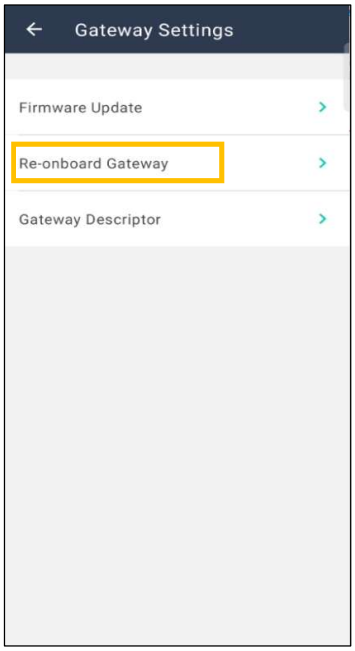




To update firmware for Standalone Gateway –

1. Tap **Gateway Settings**.
2. Tap **Firmware Update**.
3. Currently installed firmware version details and a list of available versions are displayed. Tap and select a version to update. To know more about the version, tap **Learn More**.
4. Tap **[UPDATE]** and confirm firmware update.
5. Upon successful update, an appropriate message indicating the same is displayed. Tap **[OK]**. Firmware is updated if the gateway is online. If the gateway is offline, then the firmware update will start later.

6.6.4.2 Re-onboard Gateway



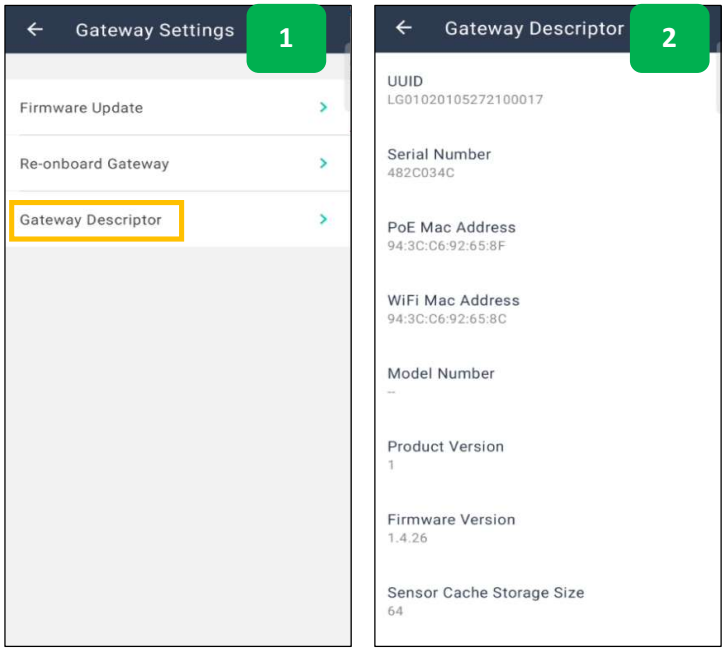
Tap **[Re-onboard Gateway]** to re-onboard a gateway.

The procedure for re-onboarding the gateway is same as that of On-board Gateway.

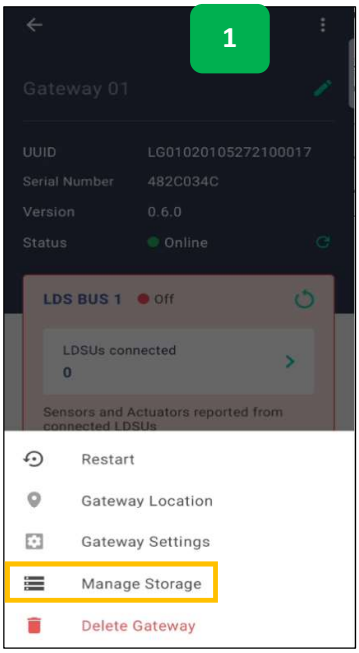
6.6.4.3 View Gateway Descriptors

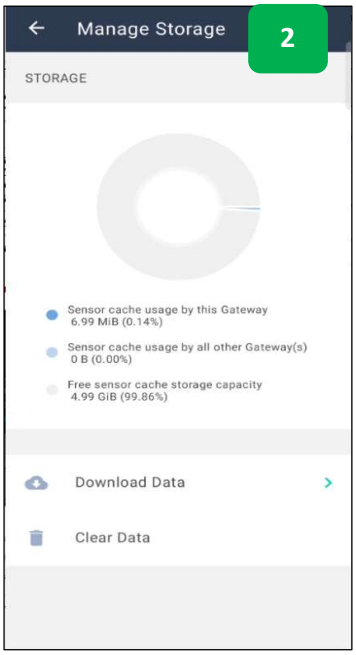
To view gateway descriptors –

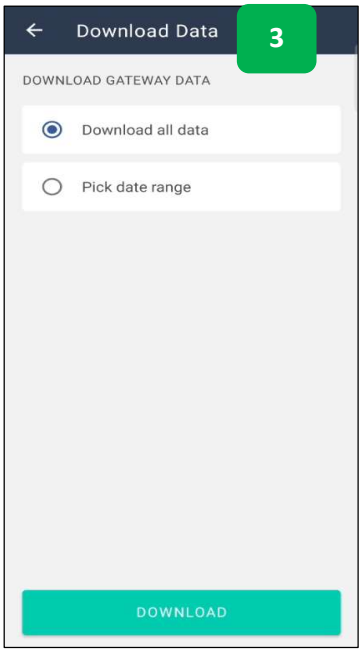
1. Tap **Gateway Descriptor**.
2. The following gateway descriptor details are displayed –
   - *UUID*
   - *Serial Number*
   - *PoE Mac Address*
   - *Wi-Fi Mac Address*
   - *Model Number*
   - *Product Version*
   - *Firmware Version*
   - *Sensor Cache Storage Size*
   - *Number of LDS Ports*
   - *Configuration Storage*
   - *Max. LDSUs per Gateway*
   - *Machine to Machine Config*
   - *GPS Location*
   - *Auto-Scan*
   - *Sensor Cache Status*
   - *Object Identifier*



6.6.5 Manage Storage

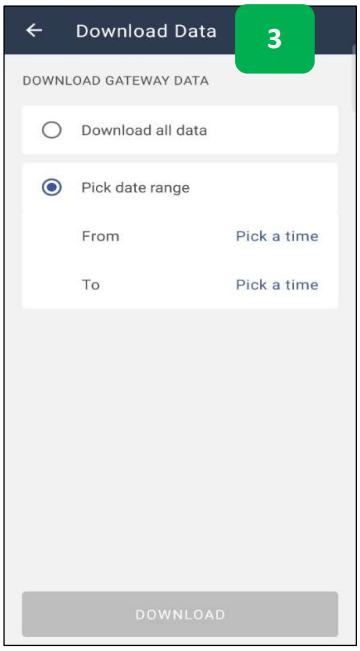


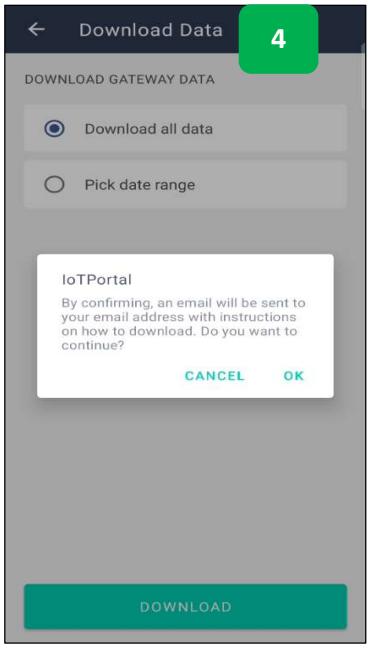




To manage storage –

1. Tap **Manage Storage**. The information related to storage usage is displayed.
2. To download data, tap on **Download Data** or **Clear Data** to remove data.
3. Upon selecting Download Data, tap and select either **Download all data** or **Pick data range** as required. Upon selection, tap on **[DOWNLOAD]**.
4. Tap **[OK]**. An email will be sent to the registered email address with the set of instructions on how to download the data.





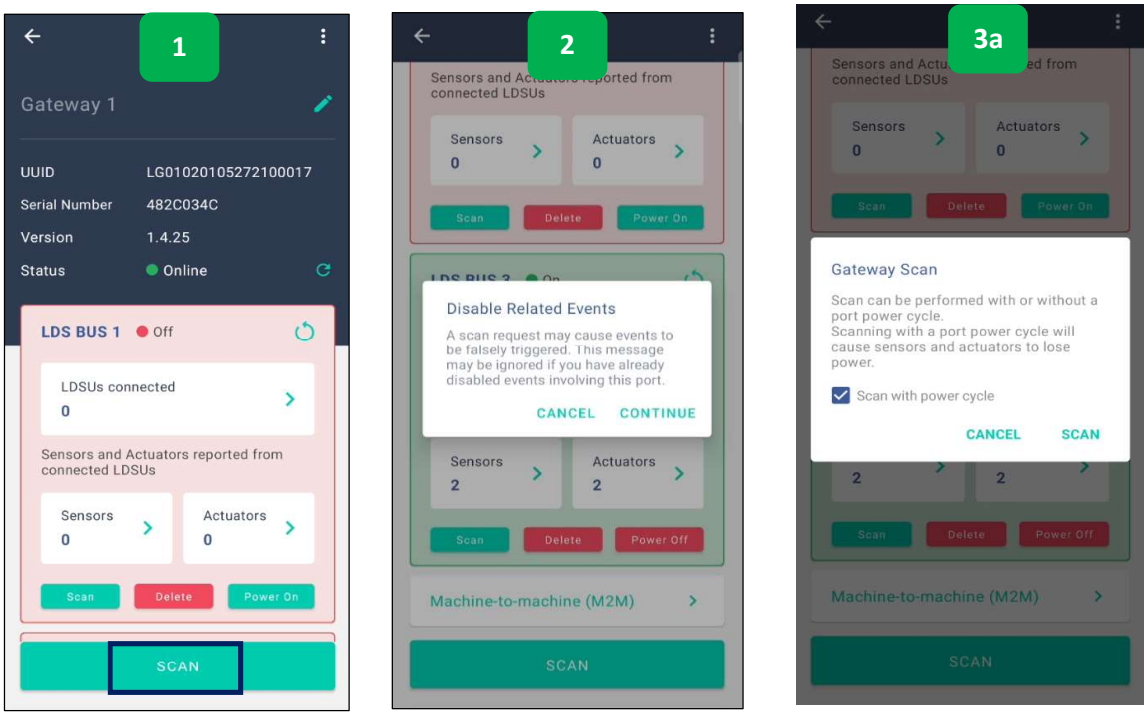
Instructions on how to download the sensor data

- Click **[Download Data]**.
- The data is downloaded to your local folder (for example – Downloads).
- Extract the zip file and its content by providing the password sent to your registered email address.
- Open the spreadsheet file that contains the downloaded sensor data.

To delete gateway, refer to Delete Gateway.

6.6.6 Gateway Scan

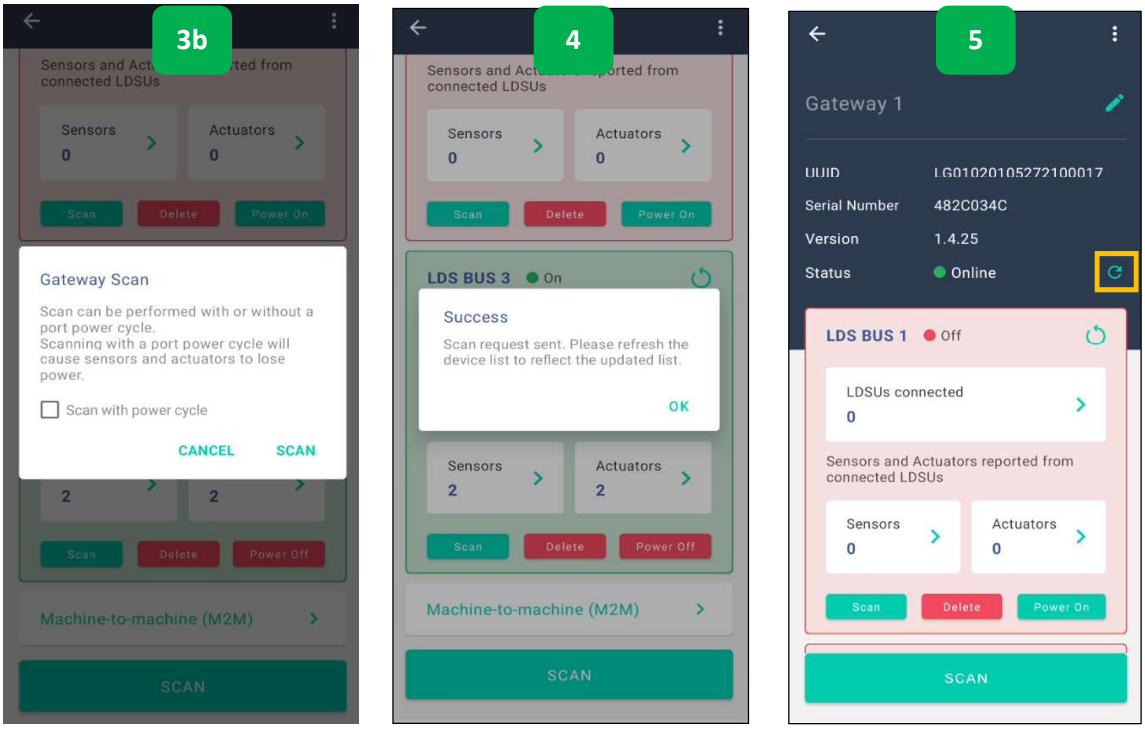
A gateway scan can be initiated by a user (via the mobile app or the Web Client). The IoTPortal shall not initiate a gateway scan unless the user requests it. LDSU scan results are reported to the IoTPortal and may contain information about newly discovered LDSUs or LDSUs that are no longer accessible (offline devices).



NOTE: The scan must be performed sequentially, meaning, scan and wait for LDSBus 1 Scan to complete, verify whether the devices are online/offline, and then perform LDSBus 2 Scan and LDSBus 3 Scan.

1. Tap **[SCAN]** to start the gateway scan.
2. A scan request may cause events to be falsely triggered. This message may be ignored if you have already disabled all events on this gateway. Tap **[CONTINUE]**.
3. The Gateway Scan has two options, namely – *Scan with Port Power Cycle, Scan without Port Power Cycle.*

    a. Scan with Power Cycle: Selecting this checkbox will restart and discover all the connected devices on all the 3 ports.



NOTE: The Scan with power cycle option, if triggered, will affect all the connected actuators and restart the actuators.

b. Scan without Power Cycle: De-selecting this checkbox will just discover all the connected devices on all the 3 ports.

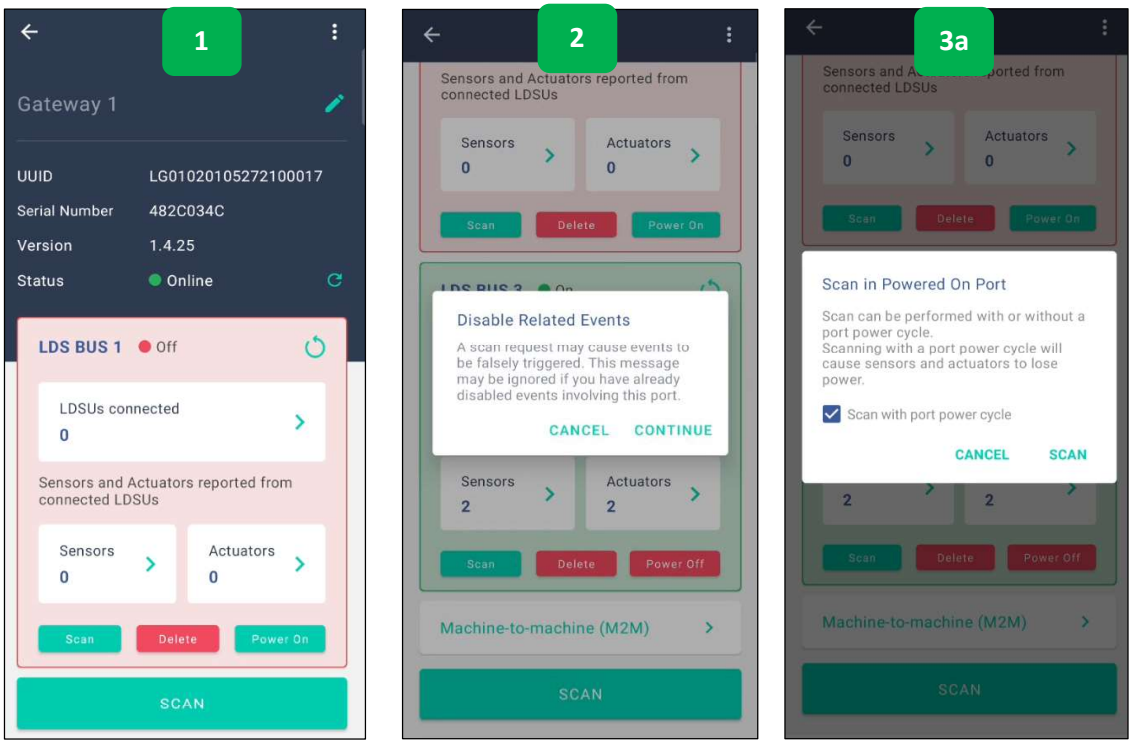
4. Upon successfully sending the scan request, an appropriate message indicating the same is displayed.
5. Tap on refresh ↻ icon, to view the updated list.

6.6.7 Manage LDSBus Ports

The gateway has 3 LDSBus ports. Each LDSBus port can connect to multiple LDSUs (up to 80 LDSUs) via LDSBus Quad-T Junctions. The LDSBus port has the following features – *Scan*, *Delete* and *Port Power Control (On / Off).*

For Illustration purposes, the procedure for managing the LDSBus 3 is explained here. The same procedure can be used for managing LDSBus 1 and LDSBus 2.

6.6.7.1 Port Scan



To perform Port Scan,

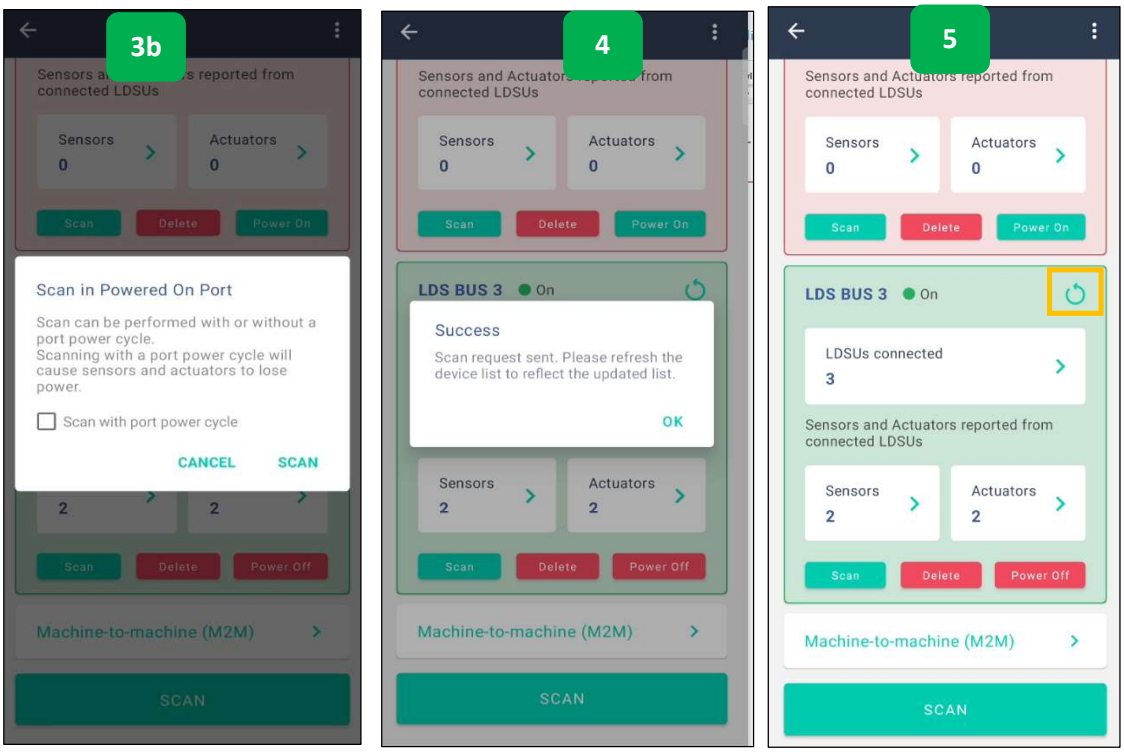
1. Tap **[Scan]** to perform port scan and get the latest list of LDSUs[1].
2. A scan request may cause events to be falsely triggered. This message may be ignored if you have already disabled all events on this gateway. Tap **[CONTINUE]**.
3. The Port Scan has two options, namely – *Scan with Port Power Cycle, Scan without Port Power Cycle.*

    a. Scan with Port Power Cycle: Selecting this checkbox will restart and discover all the connected devices on all the 3 ports. **(OR)**

> NOTE: The Scan with power cycle option, if triggered, will affect all the connected actuators and restart the actuators.

    b. Scan without Port Power Cycle: De-selecting this checkbox will just discover all the connected devices on all the 3 ports.

[1] Long Distance Sensor Units (LDSUs) can be LDSBus Sensors / Adapters (*for example – 4in1 Sensor, pH Sensor Adapter, CO2 Sensor, EC Sensor Adapter etc.)* and LDSBus Controllers *(Relay Controller, IR Blaster, IO Controller, etc.)*

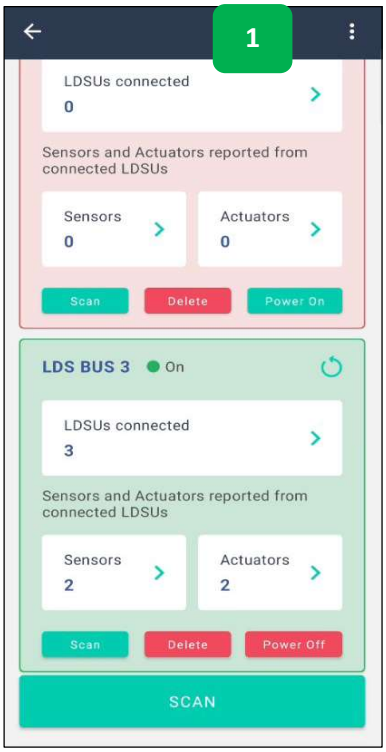


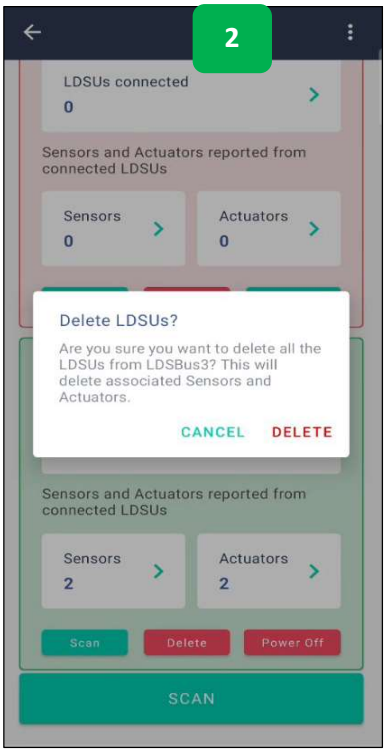
4. Upon successfully sending the scan request, an appropriate message indicating the same is displayed.
5. Tap on refresh ↻ icon, to view the updated list.

6.6.7.2 Delete Port

Download the LDSU data before performing a delete operation. To delete,

1. Tap **[Delete]** to remove all the connected LDSUs from the port.
2. A confirmation message is displayed. Tap **[DELETE]** to proceed or **[CANCEL]** to discard the operation.

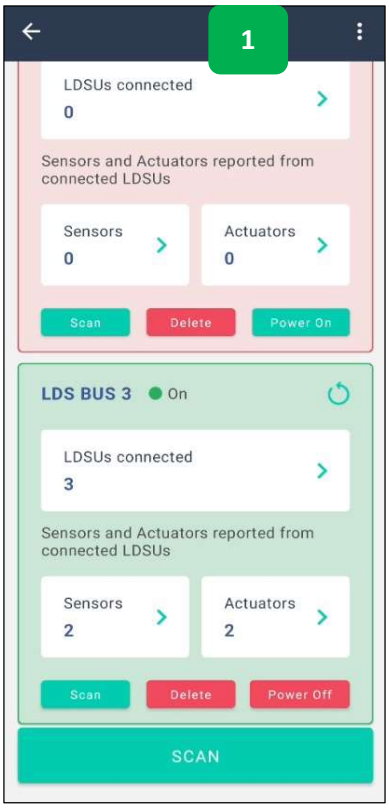


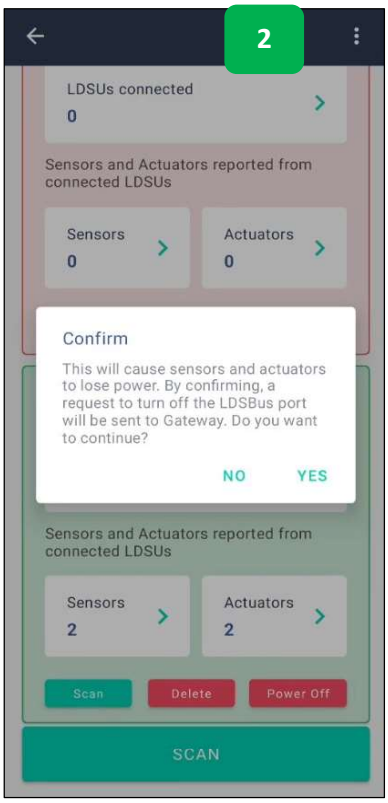


6.6.7.3 Power On/Off Port

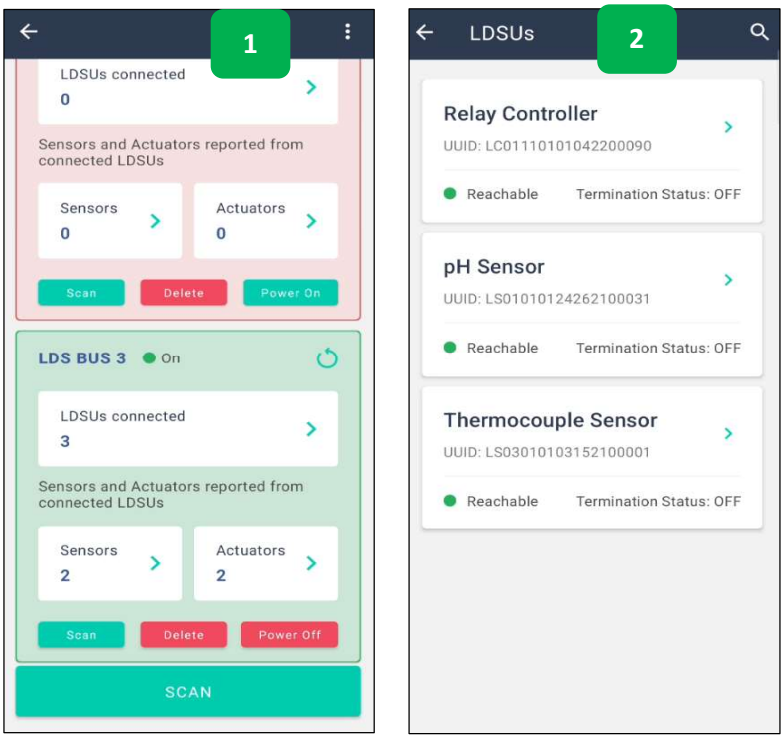
To power On/Off port,

1. Tap **[Power Off]** to control the port power (Power Off / Power ON).
2. A confirmation message will be displayed. Click **[YES]** to continue or **[NO]** to discard this operation.





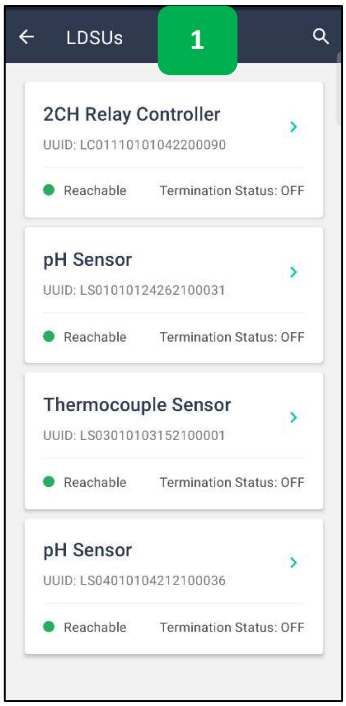
6.6.7.4 LDSU List and Categories

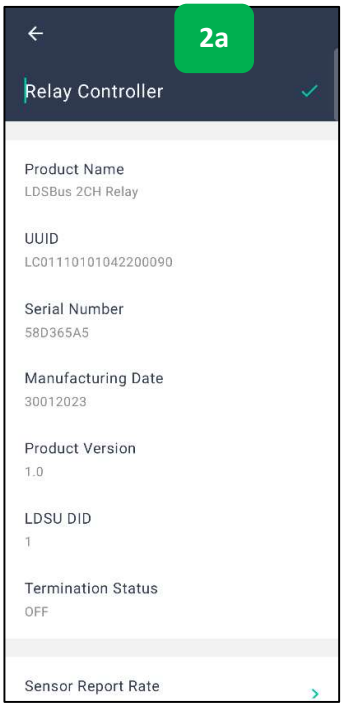


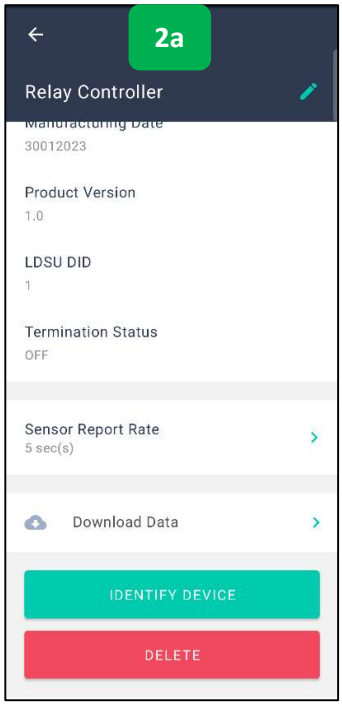
To access LDSU List and Categories interface,

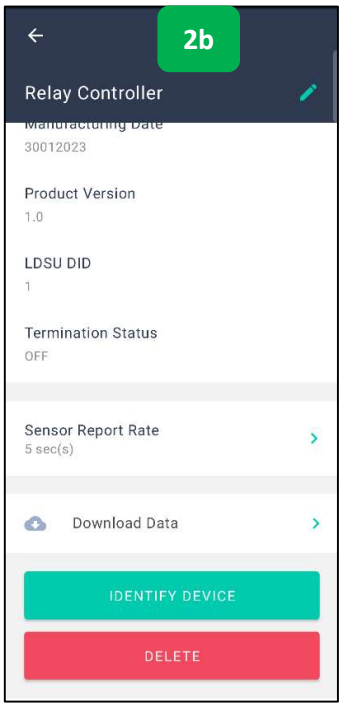
1. Tap on a specific LDSBus Management Widget, for example LDSBus 3. The LDSU List interface displays the number of *Sensors* and *Actuators* reported under the detected LDSUs.
2. *LDSU Name, UUID, Status (reachable / not reachable)* and *Termination Status* are displayed. Users may search for a specific LDSU using the **Search** field.

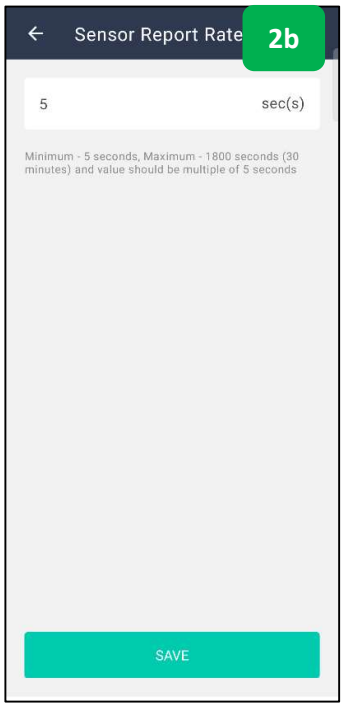
6.6.7.4.1 LDSU Details

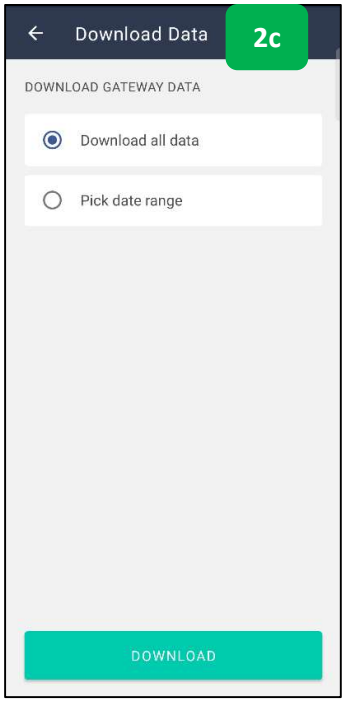






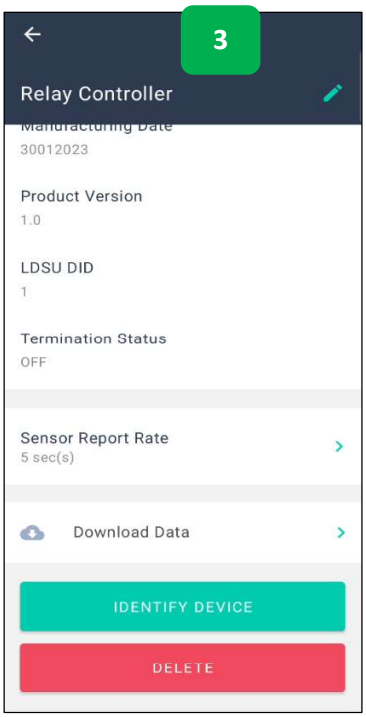






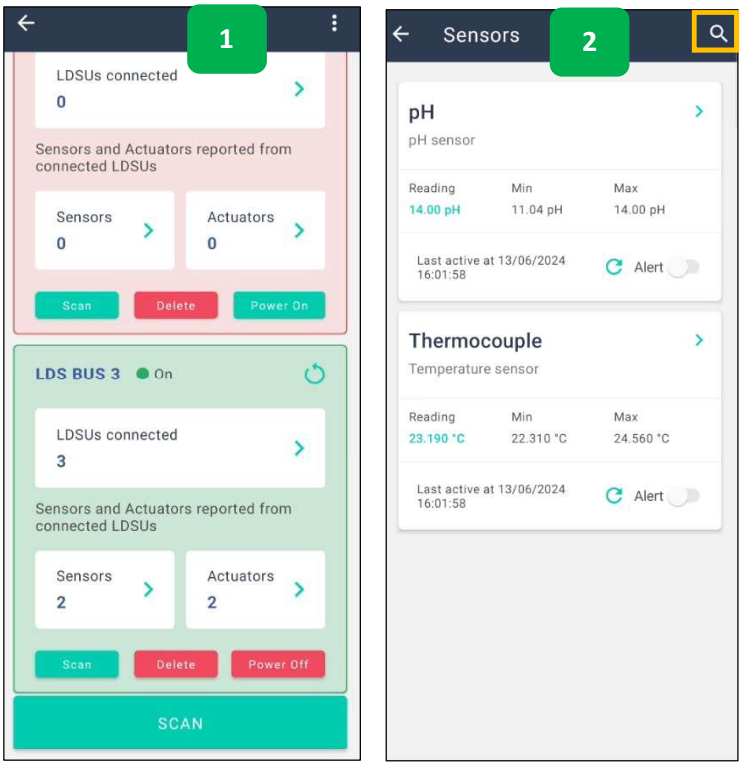
To access LDSU details,

1. Tap on any LDSU device. For example, *Relay Controller*.
2. The LDSU details interface displays the LDSU Name and other attributes (*UUID, Serial Number* etc.).
   a. Tap Click ✎ icon to edit the *LDSU Name.* Upon editing (if any), click ✓ to save the changes.
   b. To edit Report Rate, tap on the *Report Rate* field; Update the Report Rate as required and tap **[SAVE]** to save the changes.
   c. Tap **[Download Data]** to download LDSU data (*all data* or *based on specific date range*) as required. Upon selecting Download Data, tap and select either **Download all data** or **Pick data range** as required. Upon selection, tap on **[DOWNLOAD]**. A confirmation message will be displayed. Tak **[OK]**. An email will be sent to the registered email address with the set of instructions on how to download the data.
3. Tap **[Identify Device]** to identify the LDSU that is connected to the LDSBus Port.
   Tap **[Delete]** to delete LDSU device. Upon deleting, ensure that the LDSU is physically removed from the Bus, otherwise it will be reported as newly found LDSU device when the bus port is scanned.



NOTE: At any situation Hot plug In/Out is not recommended. In case, if there is a need to add or remove the devices in the network, then shut down the system and do the needful.

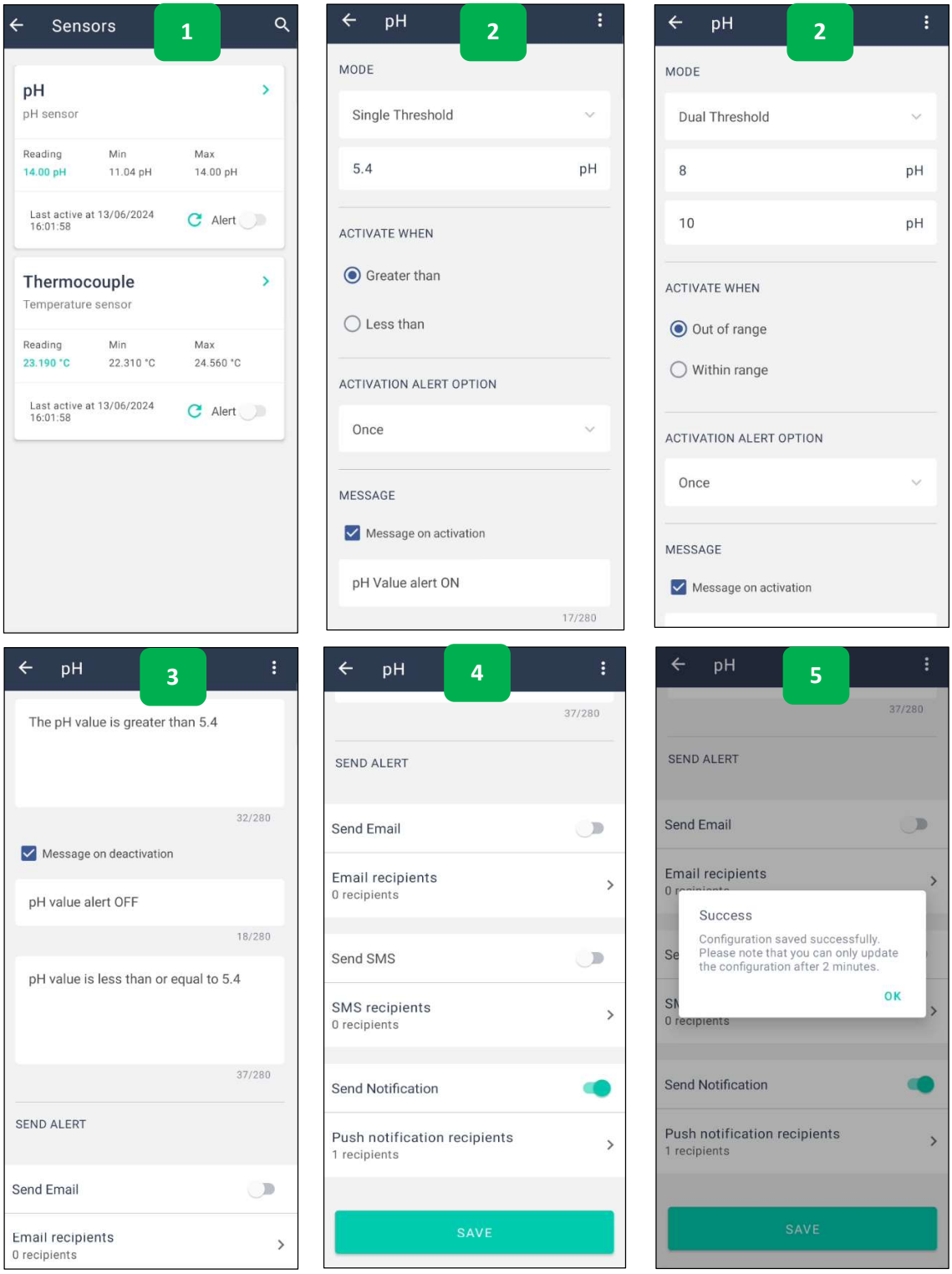
6.6.7.5 Sensor List

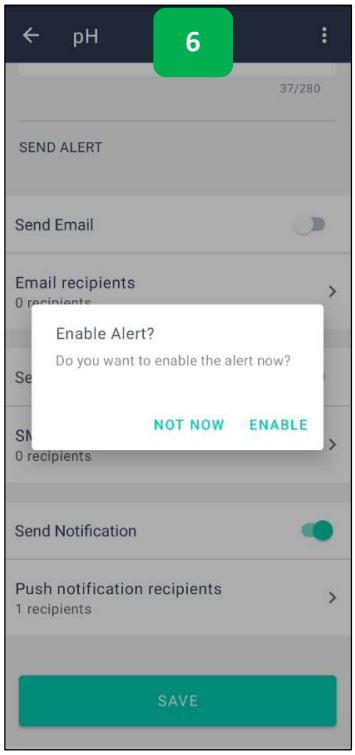


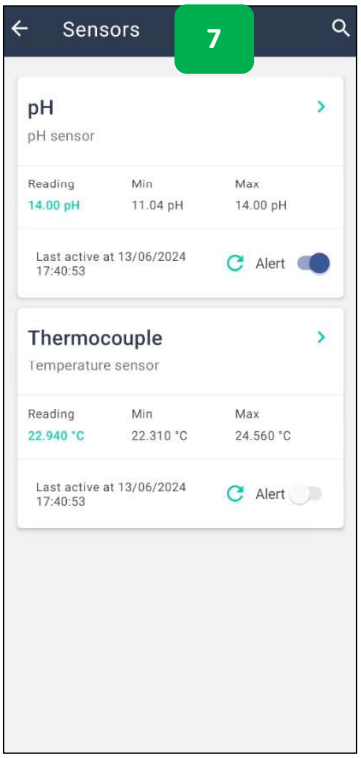
To view the list of Sensors,

1. Tap on **Sensors** field.
2. A list of sensors, if any, are displayed - Sensor *Name,* Sensor *Type, Reading, Min / Max* values, when the Sensor was *Last Active* and *Alert* (if any). Users may search for a specific Sensor using the 🔍 **Search** function.

6.6.7.5.1 Configure Sensor / Alert







To configure sensor/alert -

For illustration purposes, a pH Sensor is used.

1. Tap **Sensor Name** field to access the configuration interface. Configure the sensor as per the steps given below.

2. Select the **Mode.** There are two types of mode, namely Single Threshold and Dual Threshold.

   Single Threshold: A single threshold is used when an action should be triggered if the current pH value is greater than or lesser than the specified threshold value.

   Dual Threshold: A dual threshold is used when an action should be triggered if the current pH value is within specified threshold range or out of specified threshold range.

   Select **Activation Alert Options**. An activation alert refers to a notification that is triggered to indicate the user defined alert.

   Once: If this option is selected, when activated, the activation alert is sent only once **or**

   Continuously: If this option is selected, when activated, the activation alert is sent continuously until deactivated.

3. Click on the **Message on activation** checkbox and enter the message header and the message; Click on the **Message on deactivation** checkbox and enter the message header and the message.

4. Select one or more **Send Alert** mode(s) **–** *Email, SMS, Push Notification.* Accordingly, select the recipient information.

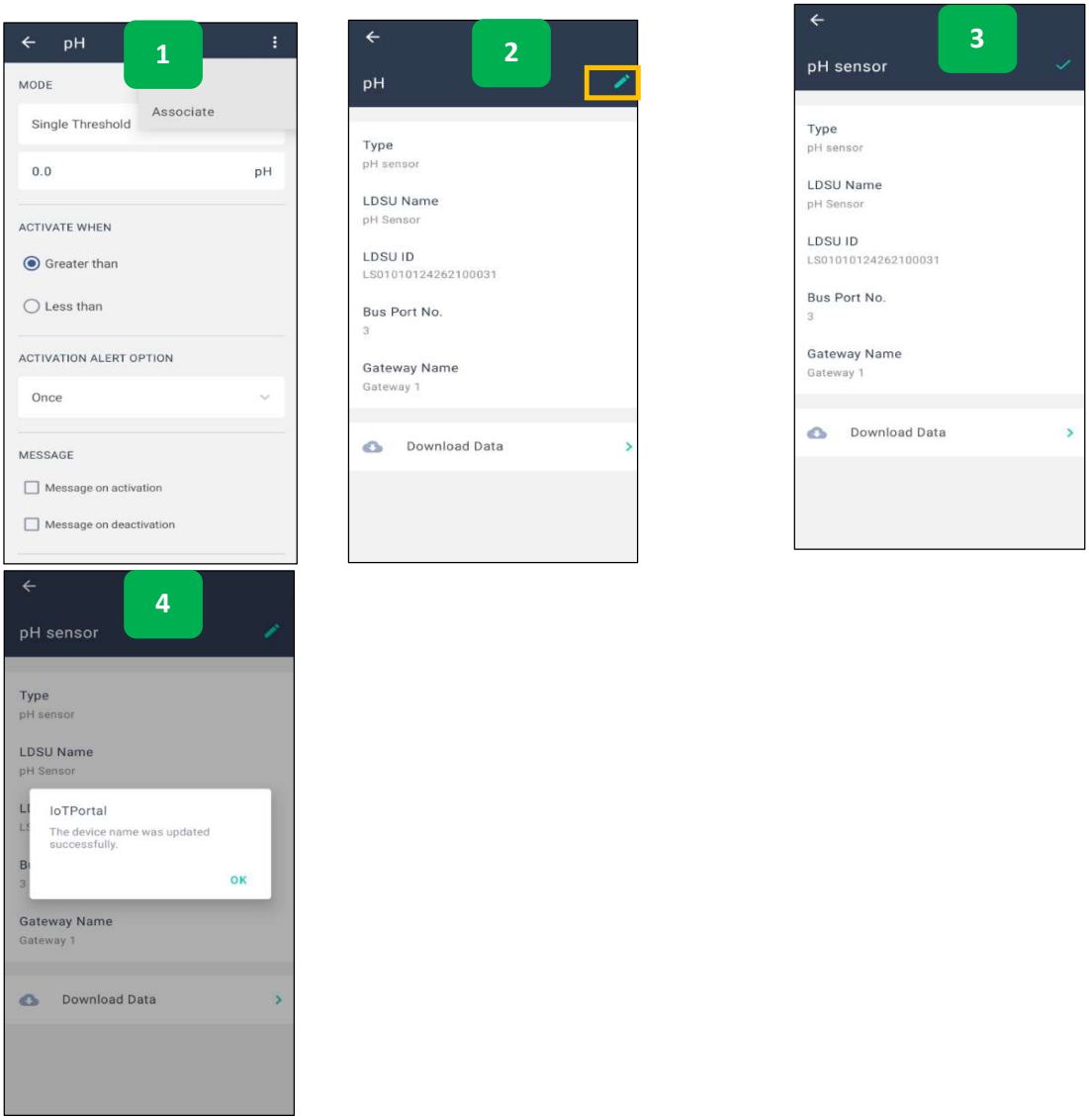
   Upon providing all the configuration details, click **[SAVE]**.

5. An appropriate message indicating the successful saving of configuration is displayed. Note that, if the configuration needs to be updated, then it can be done only after 2 minutes. Tap **[OK]** to close the message window.

6. A confirmation window to enable or disable the alert is displayed. Click **[ENABLE]** to enable alert or **[NOT NOW]** to discard the operation. Upon enabling the alert, an appropriate message indicating that same is displayed. Note that it may take up to 2 minutes for the enable/disable operation to take effect.

7. In the sensor interface, the **Alert** toggle button appears enabled.

6.6.7.5.2 Edit Sensor Name

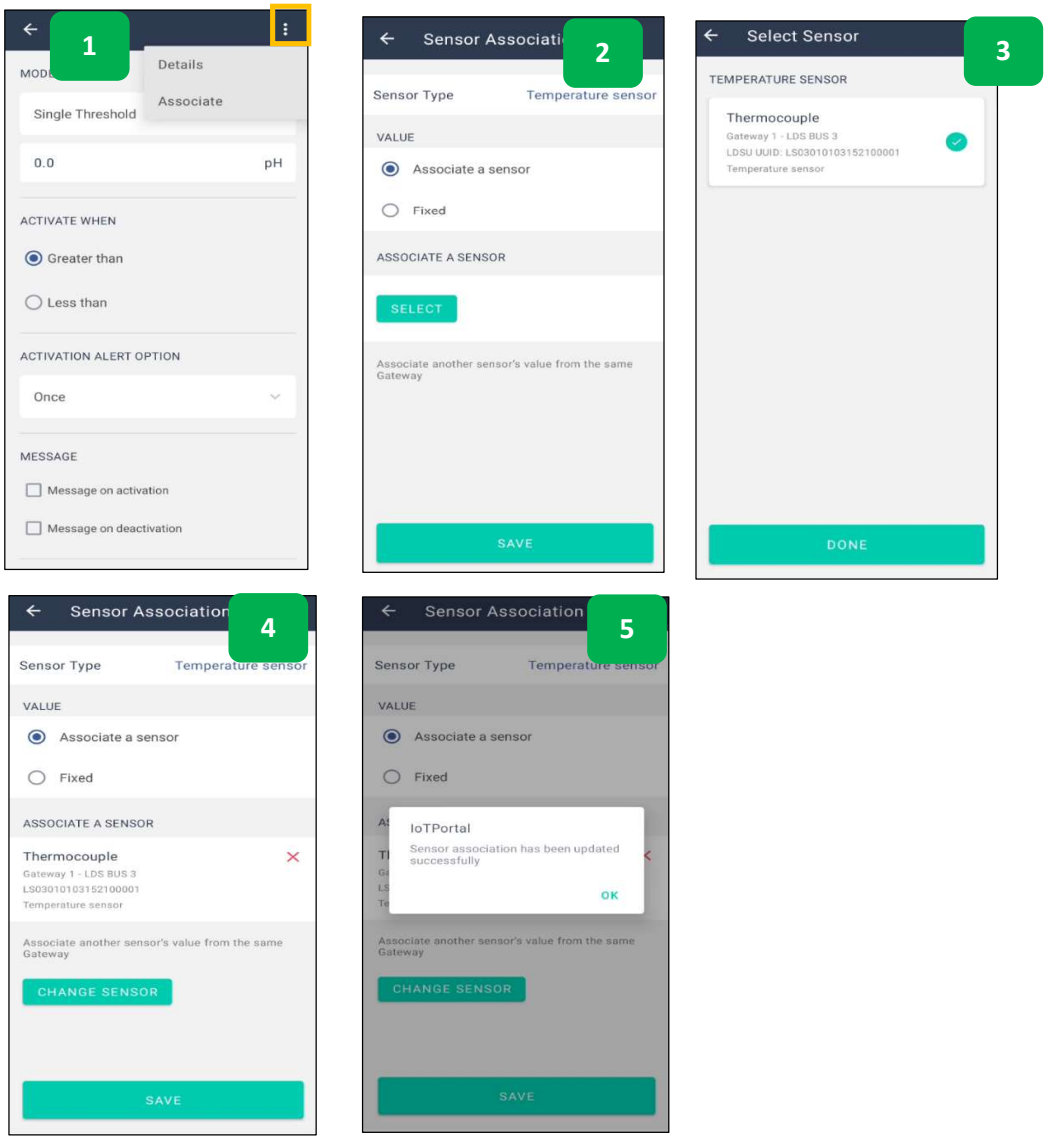


To edit sensor name,

1. Tap ⋮ and select **Details**.
2. Tap ✎ to edit the sensor name. The sensor information (like Type, LDSU Name etc.) cannot be edited.
3. Upon editing the sensor name (if any), tap ✓ to save the changes.
4. An appropriate message indicating the change is displayed.

   Tap **[Download Data]** to download sensor data *(all data / based on date range)* and tap **[DOWNLOAD]**. Upon confirmation, an email will be sent to the user's registered email address with instructions on how to download the sensor data.

6.6.7.5.3 Associate Sensor



For Sensor Type – *Temperature* and Value – *Associate a sensor*

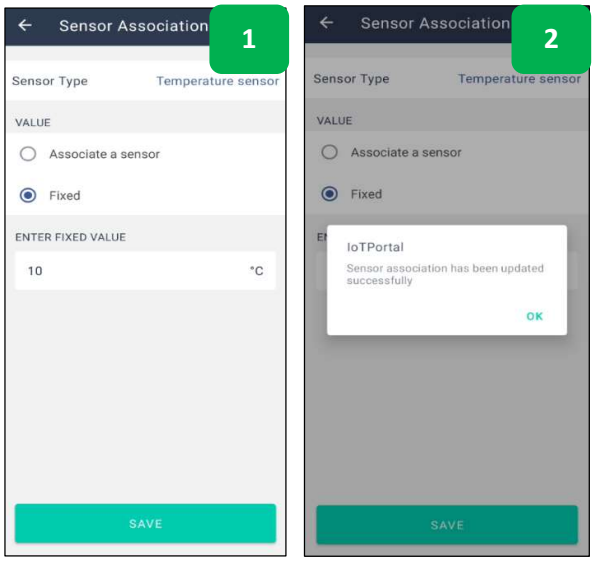
NOTE: This function can be used only for EC, Salinity, and pH sensors

This option is used to associate additional parameter (like temperature) for compensation to improve sensor data accuracy. For example, in order to associate temperature with pH sensor,

1. Tap ⋮ and select **Associate**.
2. The Sensor Association interface is displayed. Select the **Sensor Type –** Temperature; Select the **Value –** Associate a sensor.
3. Tap **[SELECT]** and choose a sensor from a list of available temperature sensor. Tap **[DONE]**.
4. Tap **[SAVE]** to save the associated sensor information.

5. An appropriate message indicating the sensor association is displayed. Tap **[OK]** to close the message box.

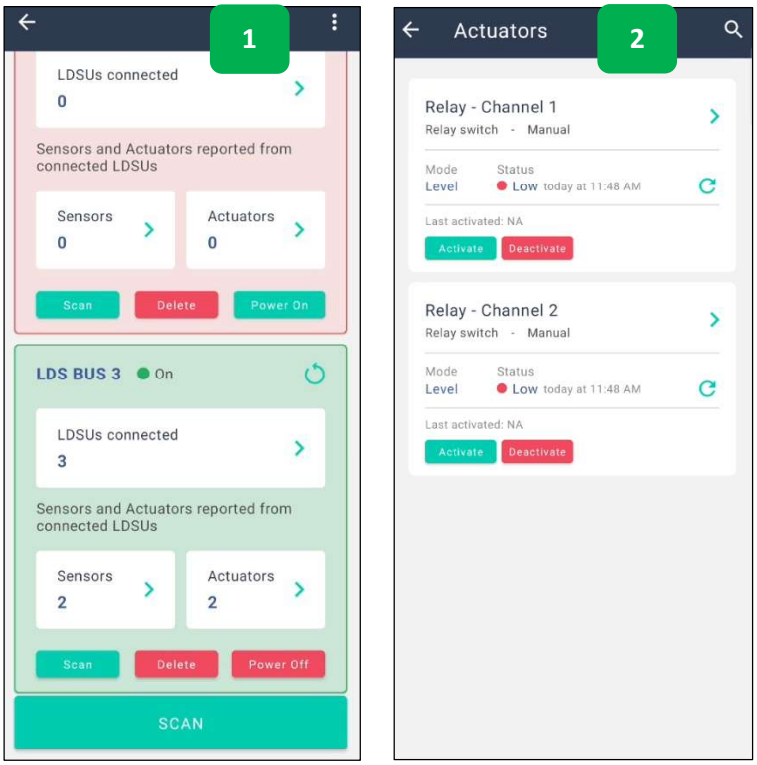
Associate Sensor with Fixed Value



This option is used when a temperature sensor is not available. For example, in order to associate a fixed temperature value with pH sensor,

1. Select the **Sensor Type –** Temperature; Select the **Value –** Fixed. Enter the *Fixed Value*. Tap **[SAVE]**.
2. An appropriate message indicating the sensor association is displayed. Tap **[OK]** to close the message box.

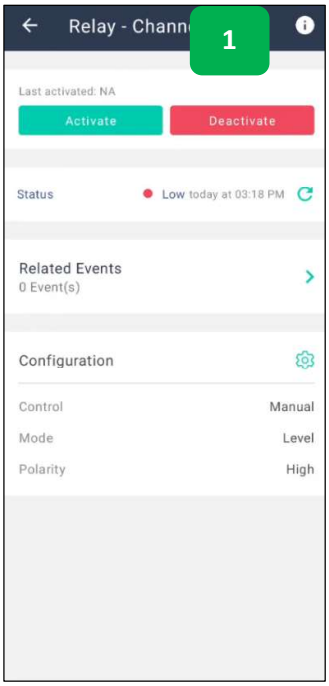
6.6.7.6 Actuators List

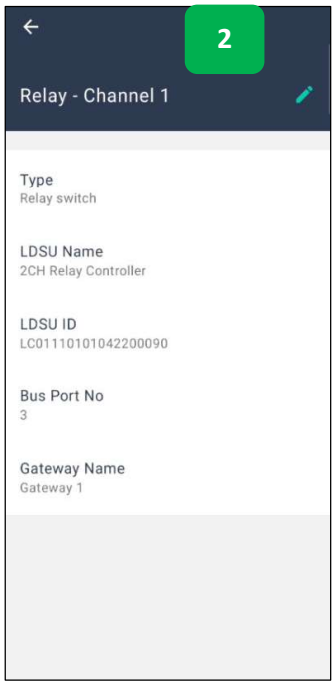


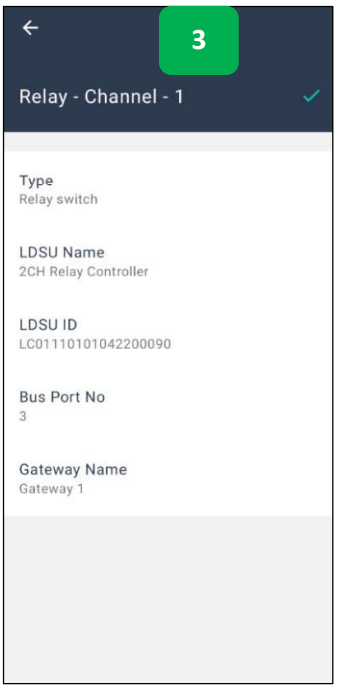
To view the list of Actuators,

1. Tap on **Actuators** field.
2. A list of actuators, if any, are displayed - *Actuator Name, Actuator Type, Control – Manual / Auto, Mode – Level / Pulse, Reading, Min / Max* values, Actuator Status, when the Actuator was *Last Active* and *Actions (Activate / Deactivate)*. Users may search for a specific actuator using the 🔍 **Search** function.

6.6.7.6.1 Edit Actuator Name

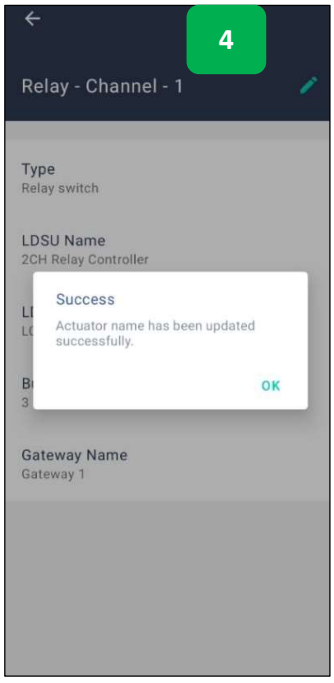




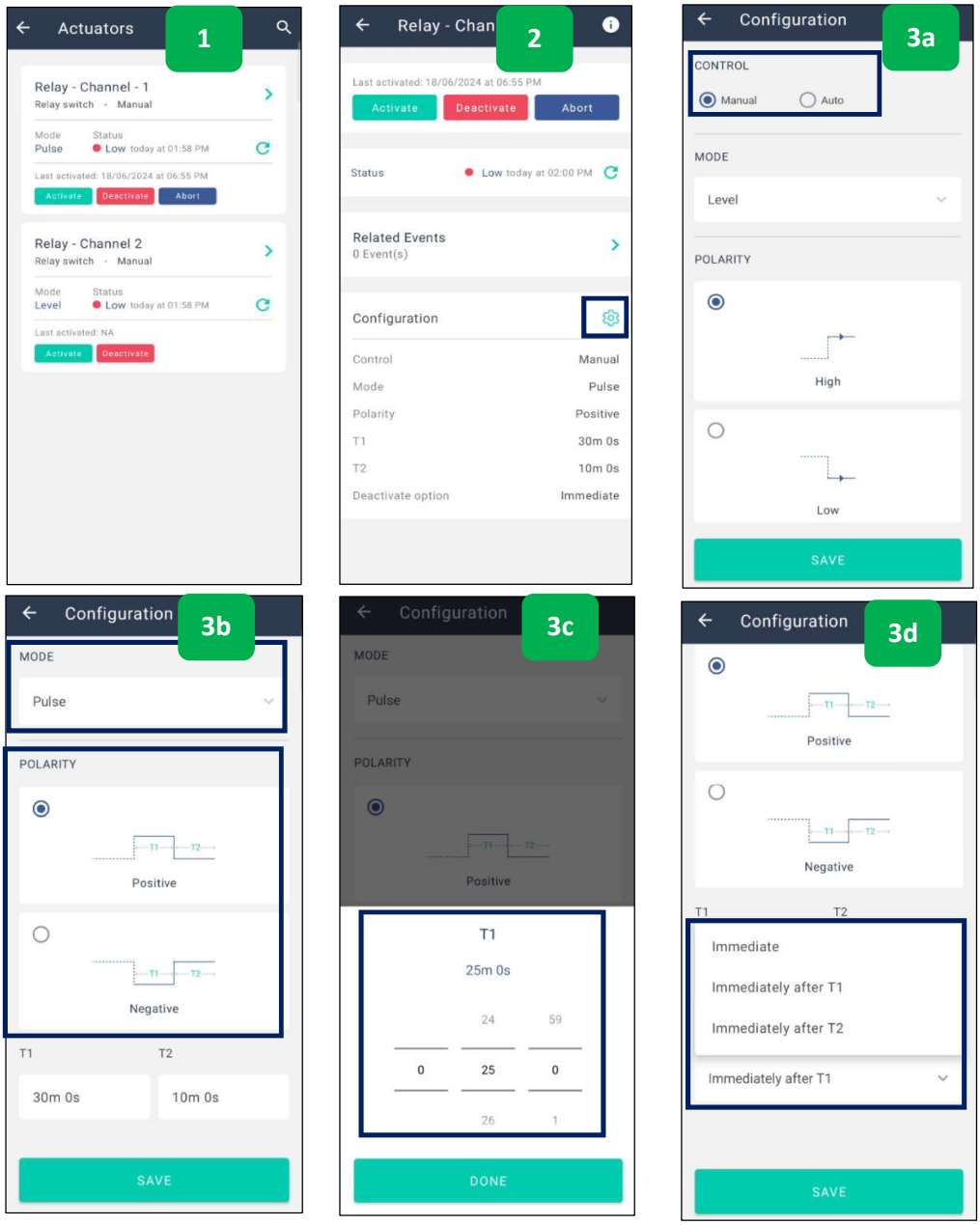


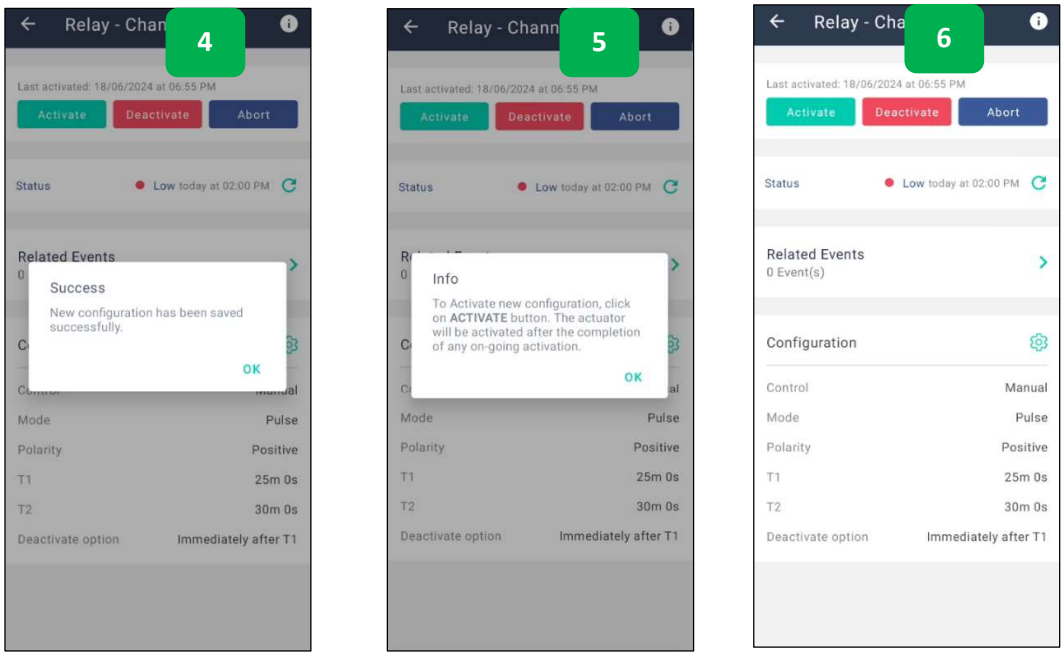
To edit actuator name -

1. Tap ⓘ icon.
2. Tap ✎ to edit the actuator name. The actuator information (like Type, LDSU Name etc.) cannot be edited.
3. Upon editing the actuator name (if any), tap ✓ to save the changes.
4. An appropriate message indicating the change is displayed.



6.6.7.6.2 Configure Actuator





For illustration purposes, Relay – Channel 1 is used.

1. From the actuator list interface tap on the **Actuator Name** field.
2. From the actuator interface, tap on the ⚙ settings icon.
3. The configuration interface is displayed. Configure the actuator parameters as per the steps given below.

   a. There are two types of **Control**, namely *Manual* and *Auto*. Select one of the options.

   Manual: This mode allows user to activate and deactivate relay channels manually.

   Auto: This mode operates autonomously, with the system managing the activation and deactivation of the relay channel automatically. In this mode, predefined events or conditions determine when the relay channel is activated or deactivated. These events could include specific times of the day, environmental triggers, or inputs from other systems. The system executes these actions based on programmed instructions without requiring manual intervention, enabling automated operation, and reducing the need for constant oversight.

   b. There are two types of **Modes**, namely *Level* Mode and *Pulse* Mode.

   Level: In Level mode, the functionality operates similarly to a standard switch mode commonly found in various electronic devices. Once a channel is activated, meaning the relay is turned on, it remains in that state until the user manually intervenes to deactivate it. This mode provides a straightforward and intuitive way of controlling the relay, offering stability and consistency in maintaining the relay's state until a deliberate action is taken by the user to change it.

   Pulse: In pulse mode, the functionality mirrors that of automatic doors.

   Upon activation, the channel remains active for a predefined period, denoted as T1. During this time, the relay maintains its active state, allowing the load to be powered or controlled as required. This duration typically corresponds to the time required to perform a specific task or operation associated with the load.

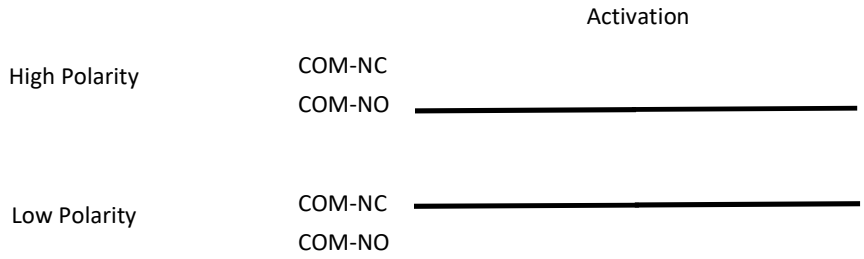
Following the completion of the T1 period, the channel automatically deactivates. The duration of this inactive period is denoted as T2 and is adjustable based on the application requirements.

Polarity

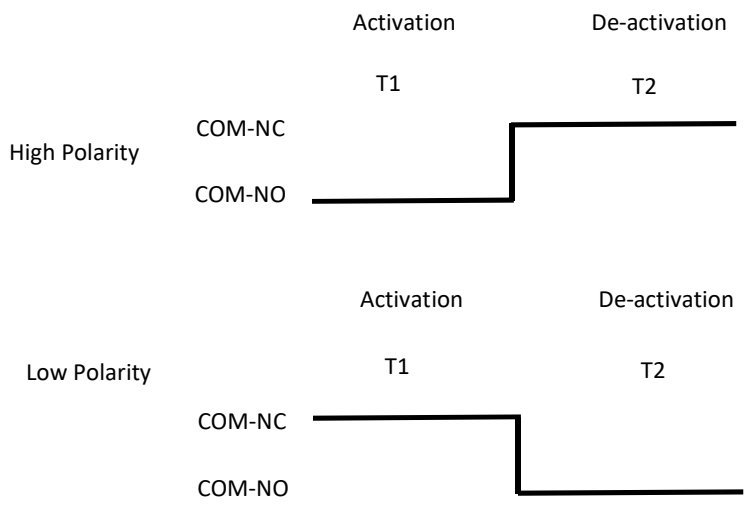
NOTE: Polarity feature is available for both Level mode and Pulse mode.

The LDSBus 2CH relay utilizes Single Pole Double Throw (SPDT) relay type, offering two distinct ways of load connection. Load connection can be achieved by connecting the load to Normally Open (NO) or Normally Closed (NC) terminals. To accommodate these connection options, the controller features two configurations: High and Low.

Level Mode



Pulse Mode



High: In the default High configuration, the relay operates with the channel contact closed between the Common (COM) and Normally Open (NO) terminals for activation. Upon de-activation, the channel contact switches to close between the Common (COM) and Normally Closed (NC) terminals.

Low: In the Low configuration, the relay operates in the opposite manner compared to the High configuration. Upon activation, the channel contact closes between the Common (COM) and Normally Closed (NC) terminals. Then, upon deactivation, the channel contact switches to close between the Common (COM) and Normally Open (NO) terminals.

These two configurations provide flexibility in adapting the relay to different load connection requirements, ensuring compatibility with a wide range of applications and allowing users to select the configuration that best suits their specific needs.

c. Pulse Phase – T1, T2

T1 and T2 indicate the first and second phase of the pulse, respectively. Input the duration of T1 and T2. Ensure that T1 and T2 duration are greater than 0 seconds and (T1 + T2) duration does not exceed 1 hour.

Select T1 and T2, tap **[DONE]**.

d. Deactivate Option

NOTE: Deactivation mode feature is only available for Pulse mode.

The following three distinct options are available for deactivation mode.

Immediate: With this option, the channel instantly returns to its deactivated state without any delay.

Immediate after T1: With this option, the channel returns to deactivated state after completing the T1 cycle.

Immediate after T2: With this option, the channel returns to deactivated state after completing the T1 and T2 cycle.

Upon providing all the configuration details, tap **[SAVE]**.

4. An appropriate message indicating that the configuration details are saved is displayed. Tap **[OK]**.
5. An information window on activating or deactivating the actuator is displayed. Tap **[OK]** to close the message window.
6. Tap **[Activate]** to trigger the actuator into active state or **[Deactivate]** to trigger the actuator to inactive state or **[Abort]** to cancel the current operation and return the actuator to inactive state immediately.

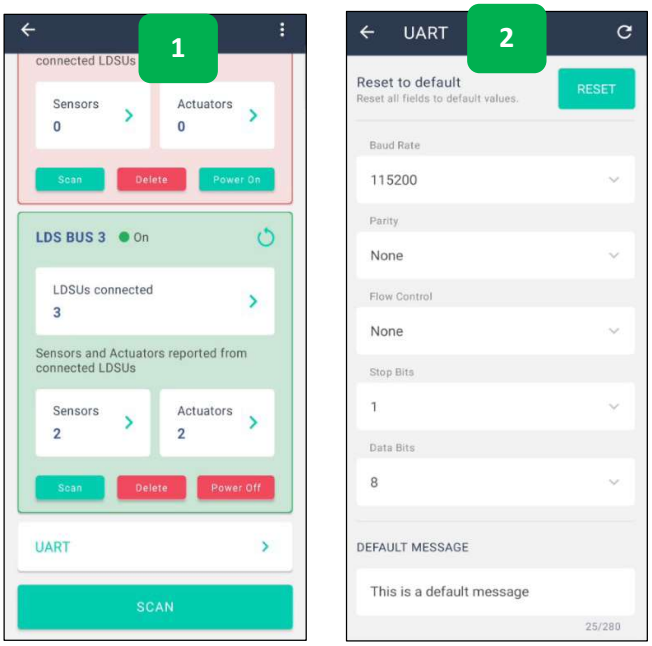
NOTE: The Abort feature is only available for Pulse mode.

6.6.7.7 UART

The UART connection is a RS232 serial cable connection between the gateway and user PC. This connection is known as Machine To Machine (M2M) connection. It enables the user to download system level diagnostic messages about the gateway. These messages can be useful for further troubleshooting in case of issues.

By default, the UART of the gateway is enabled with the default communication parameters. Using the Web Management Console or Mobile app, users can modify the communication parameters, if necessary. Ensure the token balance is sufficient to perform this operation.

6.6.7.7.1 Reset to Default Values



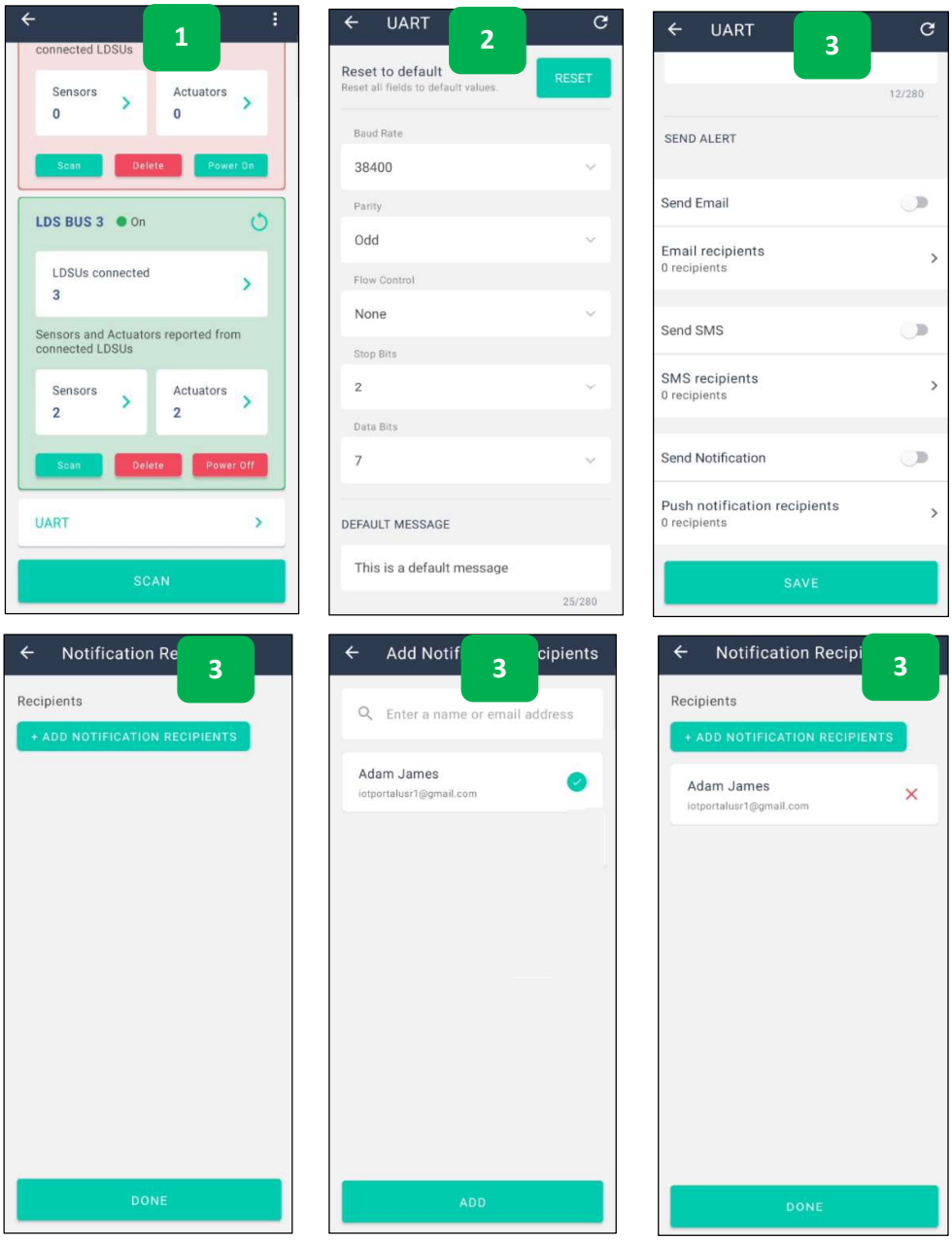
To reset UART values to default,

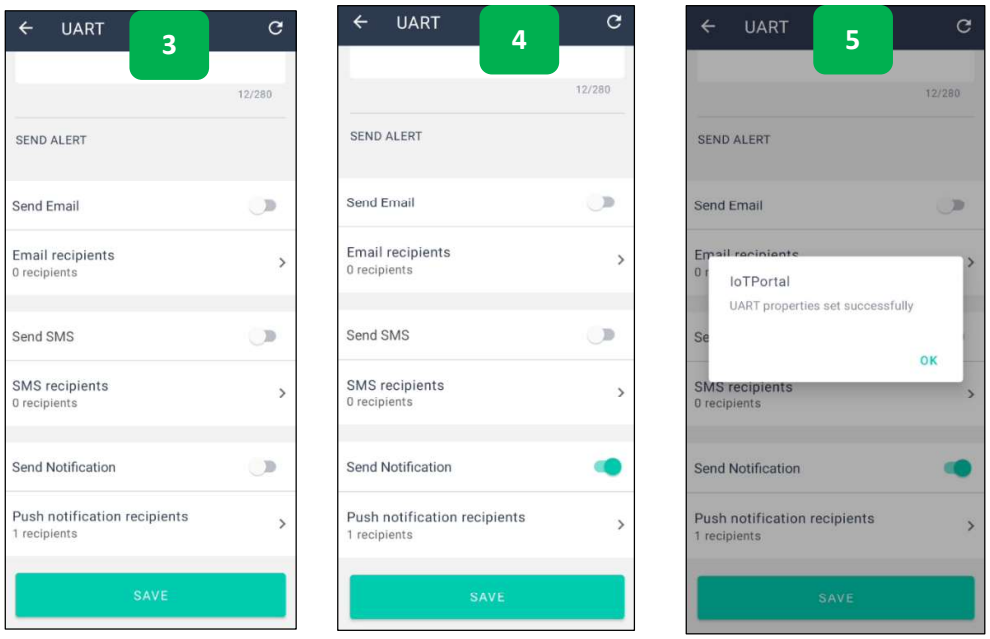
1. Tap on **[UART]**.
2. Tap on **[RESET]** to reset all fields to default values. Refer to Table 1 for UART default values.

UART Parameter	Default Value
Baud Rate	115200
Parity	None
Flow Control	None
Stop Bits	1
Data Bits	1

Table 1 – UART Default Values

6.6.7.7.2 Configure UART





To configure UART,

1. Tap on **[UART]**.
2. The UART configuration interface is displayed. Configure the UART parameters as per the steps given below.

   Baud Rate refers to the communications speed measured in "bits transferred per second." Select the Baud Rate from the drop-down control.

   Parity is used for error-checking. Parity can be either *Even*, *Odd*, or *None*.

   For example, for Even parity, if the data is 10010010, the serial port sets the parity bit as 1 to keep the number of logic-high bits Even. For Odd parity, the parity bit is 0 so that the number of logic-high bits is Odd.

   Select the Parity from the drop-down control.

   Flow control is used to manage the rate of data transmission between sender and receiver to prevent a fast sender from overwhelming a slow receiver.

   Stop bits are used to signal the end of a communication packet. Stop bits can be either 1 or 2 bits.

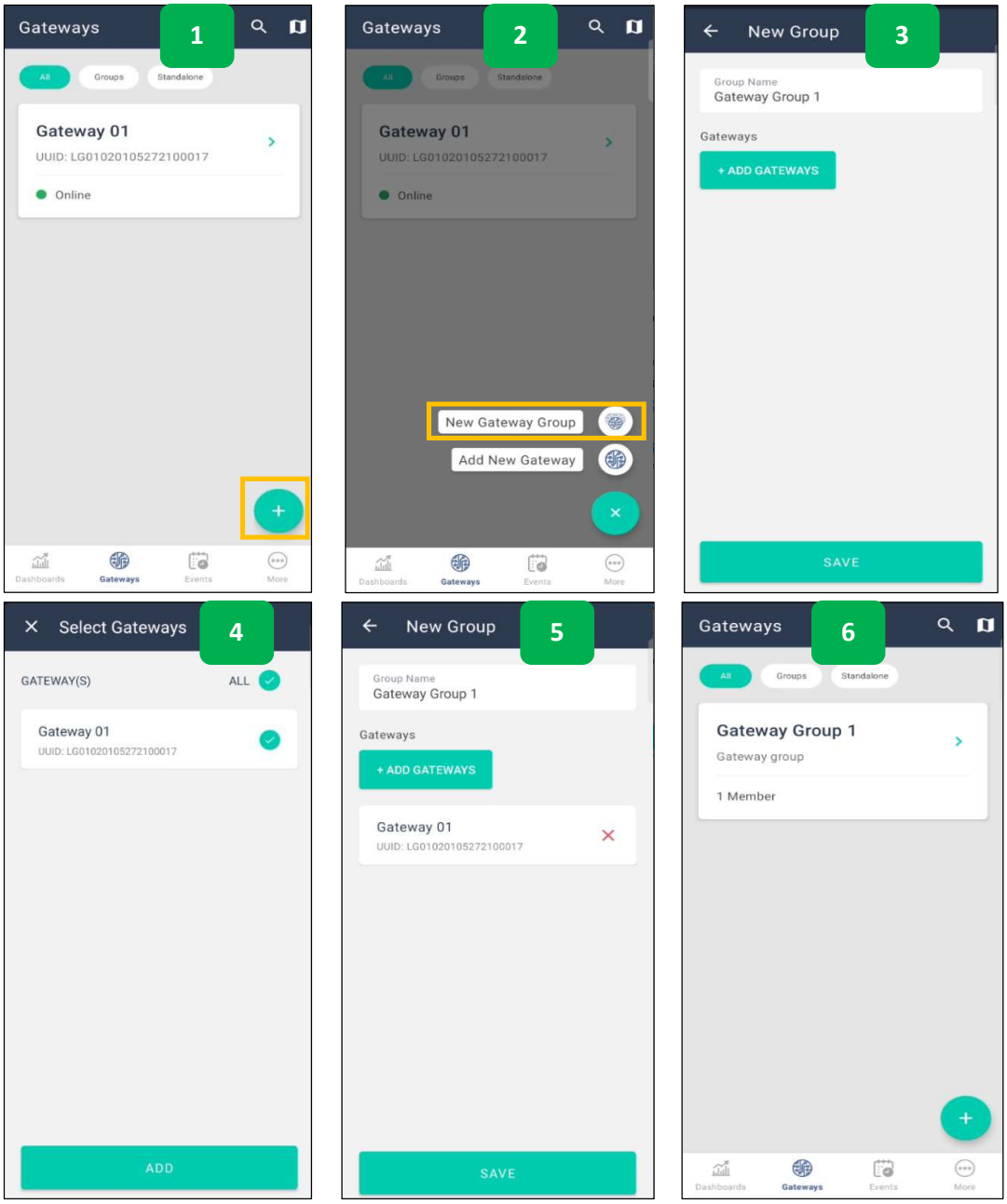
   Data bits are a measurement of the actual data bits transferred within a word. Data Bits can be either 7 or 8 bits.

   Default Message - This field is for debugging purpose. The messages keyed in here are displayed at the M2M logs.

3. Send Alert - Select one or more Send Alert mode(s) **–** *Email, SMS, Push Notification.* For example, select Push Notification, **[+ ADD NOTIFICATION RECIPIENTS]**, tap **[DONE]**.
4. Enable Send Notification toggle button and tap **[SAVE]**.
5. An appropriate message indicating that the UART properties are set is displayed.

6.6.8 Manage Gateway Group

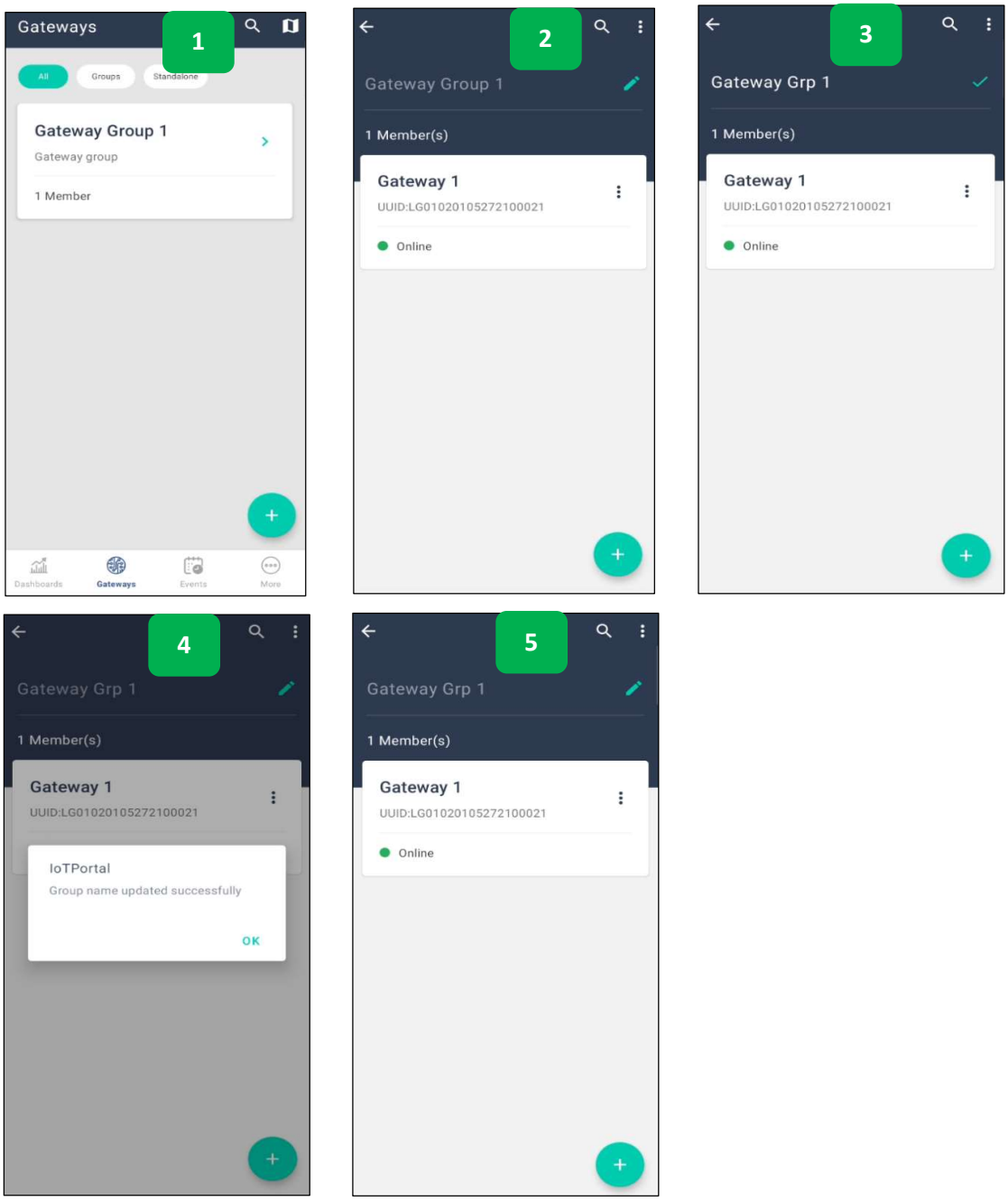
6.6.8.1 Create New Gateway Group



To create new gateway group –

1. Tap + to access the additional functions.
2. Tap **New Gateway Group.**
3. Enter a *Group Name*. Tap **[+ ADD GATEWAYS]** and select the gateway(s) to add to the group.
4. Tap **[ADD]**.
5. Tap **[SAVE]**.
6. New Gateway Group is created successfully.

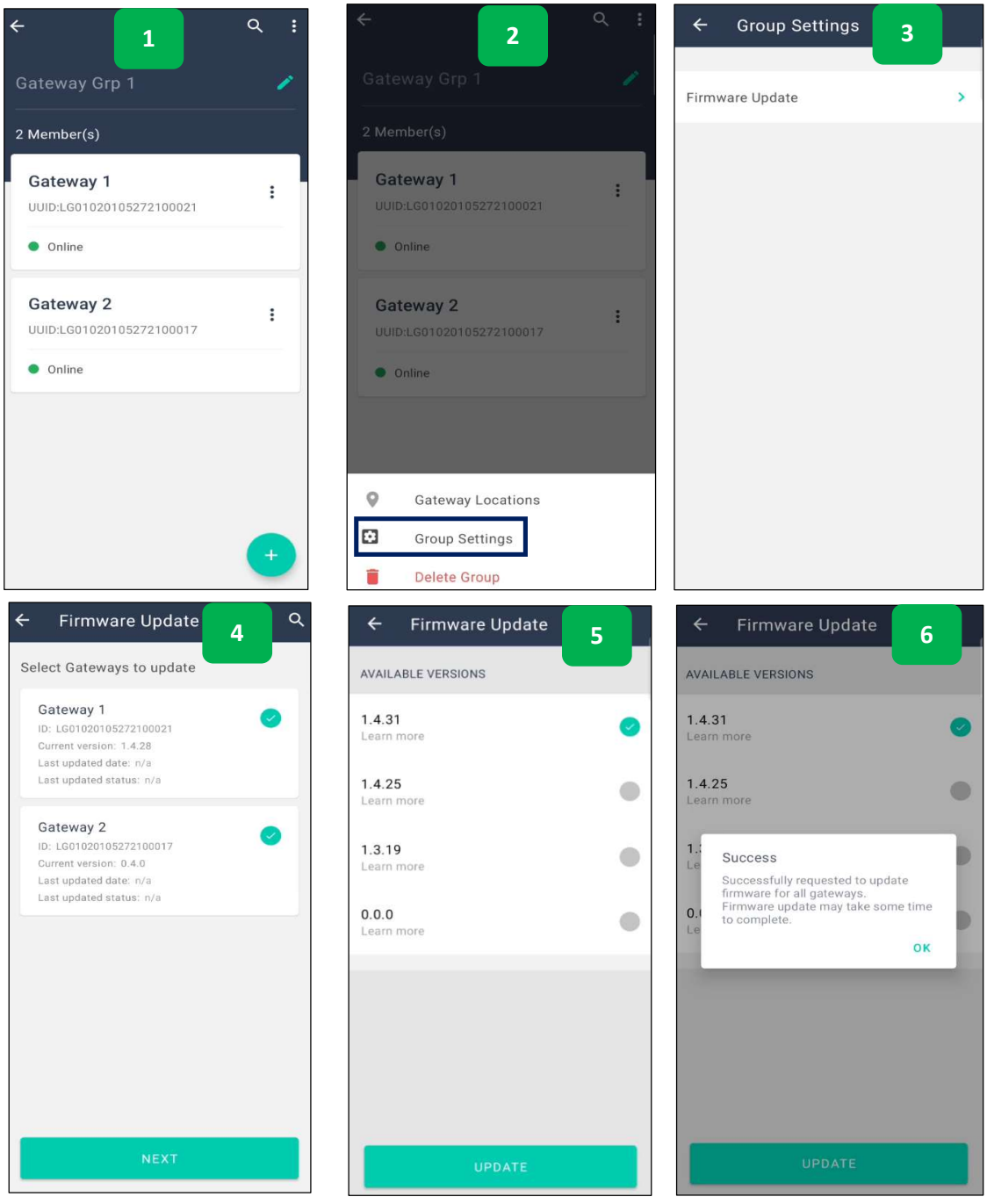
6.6.8.2 Edit Gateway Group Name



To create new gateway group –

1. Tap **Gateway Group Name** or **>**.
2. Tap ✎.
3. Edit the Gateway Group Name (if required) and tap ✓ to save.
4. An appropriate message indicating the update is displayed. Tap **[OK]**.
5. The updated gateway group name is displayed.

6.6.8.3 Firmware Update for Gateway Group Member

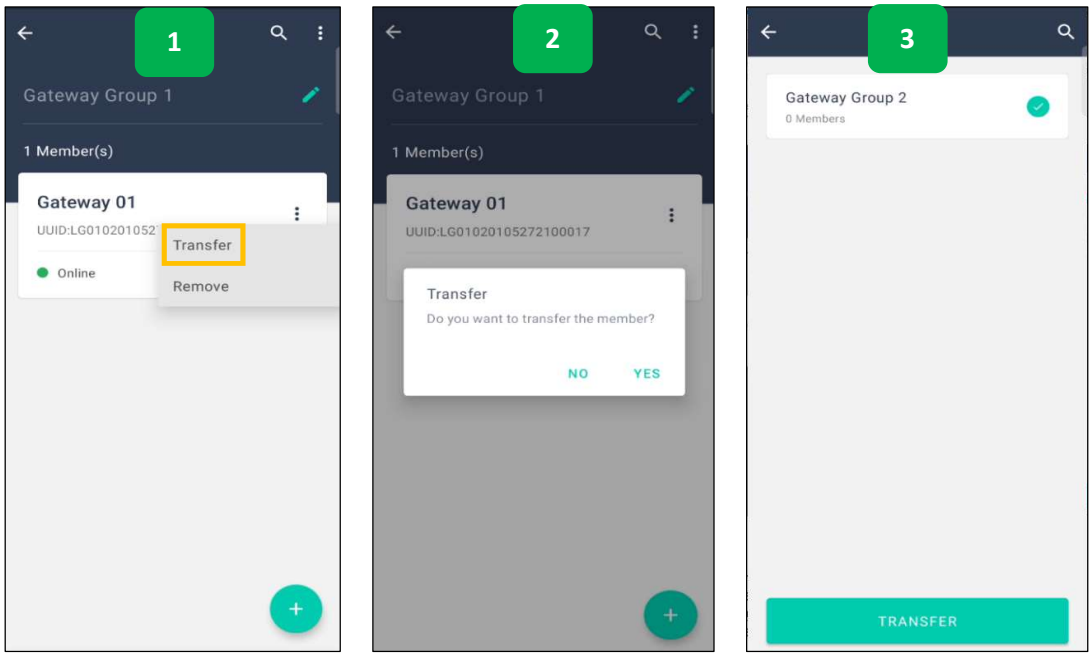


To perform firmware update for gateway group members –

1. Tap ⋮.
2. Tap **Group Settings**.
3. Tap **Firmware Update**.
4. Tap and select the **Gateways**. Tap **[NEXT]**.

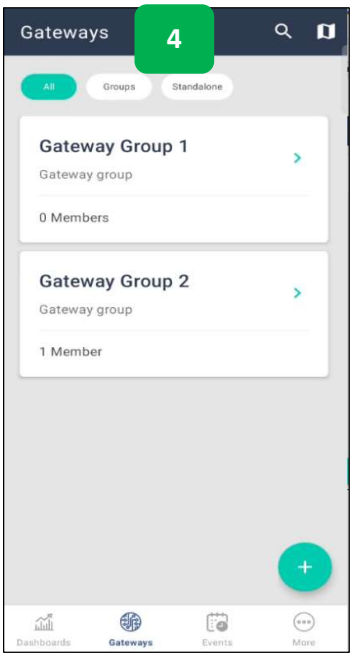
5. Tap and select the **version**. Tap on *Learn more* to view the version log. Tap **[UPDATE]** and tap **[YES]** to confirm the update.
6. A request for firmware update will be submitted. An appropriate message indicating the same is displayed. Tap **[OK]** to close the message window.

6.6.8.4 Transfer Gateway from one group to another group

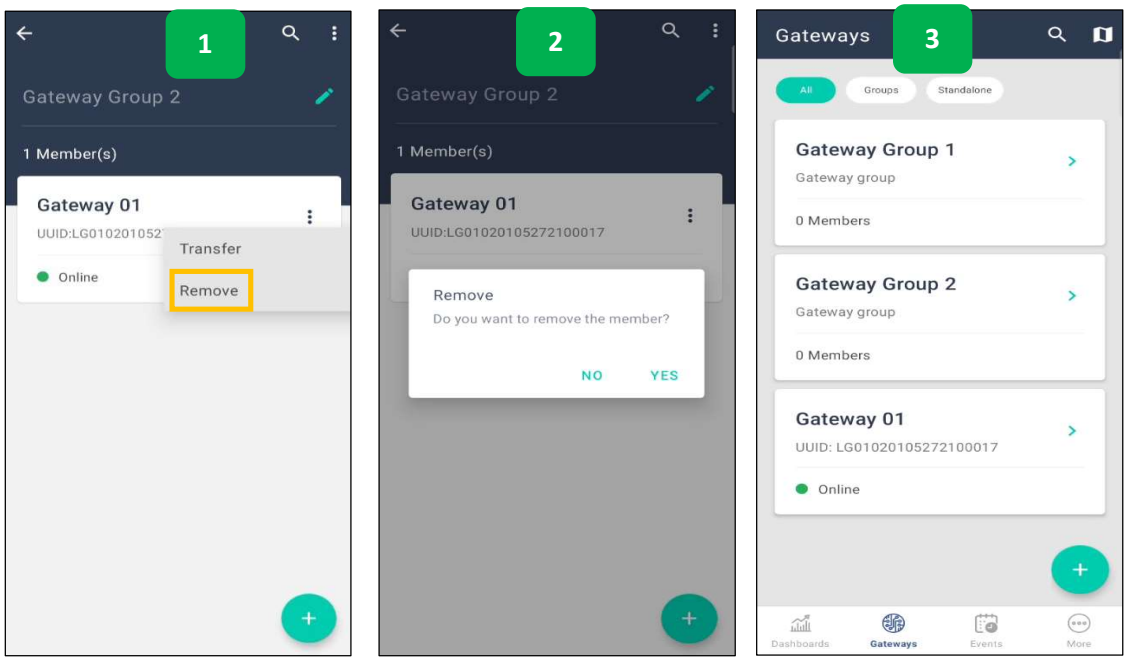


To transfer gateway from one group to another –

1. Select the gateway member to transfer, tap ⋮ and select **Transfer**.
2. Tap **[YES]** to confirm.
3. Tap and select the destination gateway group. Tap **[TRANSFER]**. Upon successful transfer an appropriate message indicating the same is displayed.
4. The member will be available as part of the new gateway group.



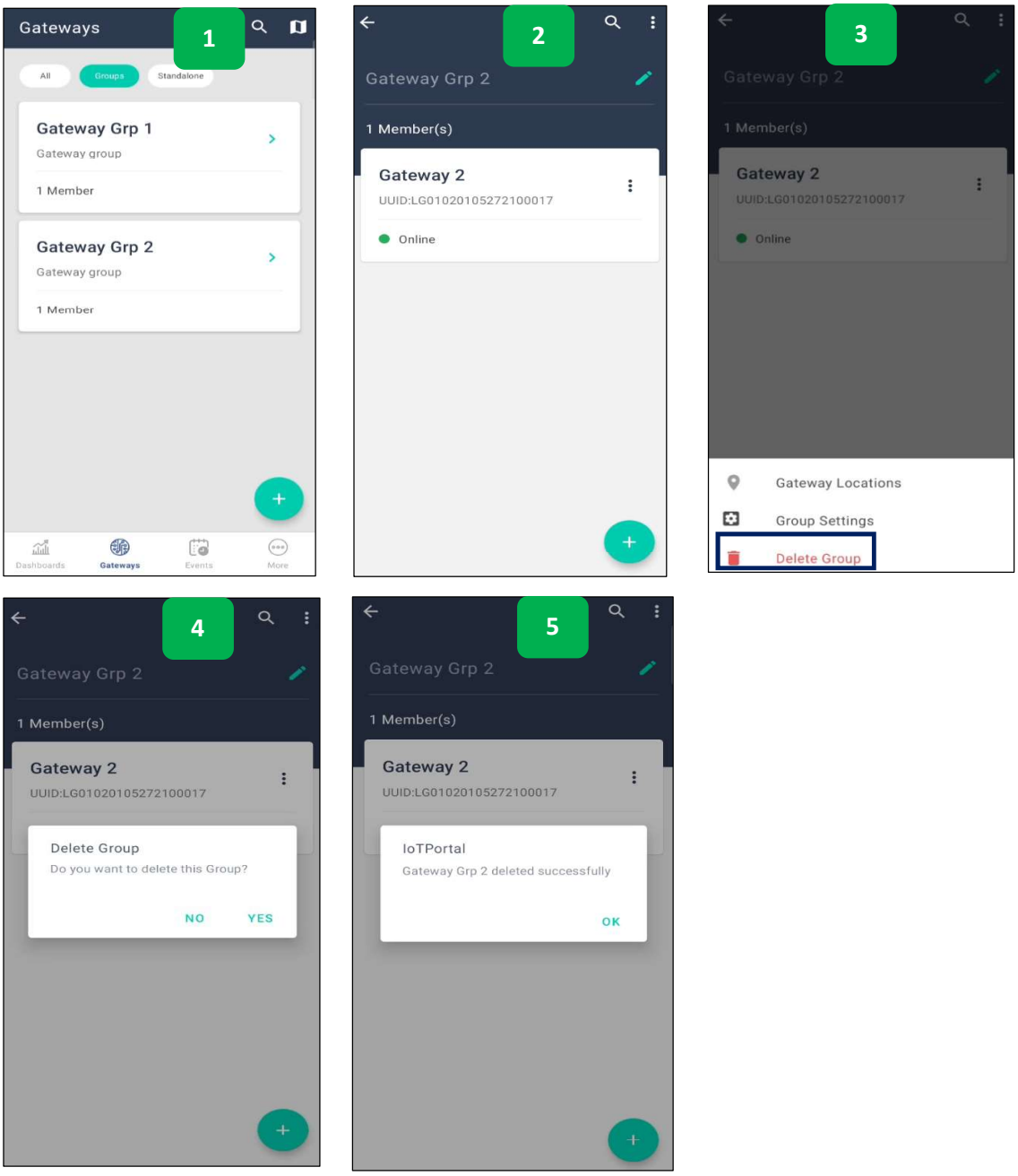
6.6.8.5 Remove Gateway from Gateway Group



To remove a gateway from a group –

1. Select the gateway to remove, tap ⋮ and select **Remove**.
2. Tap **[YES]** to confirm removing the gateway from the group.
3. Upon successful removal, the gateway will become a standalone / single gateway.

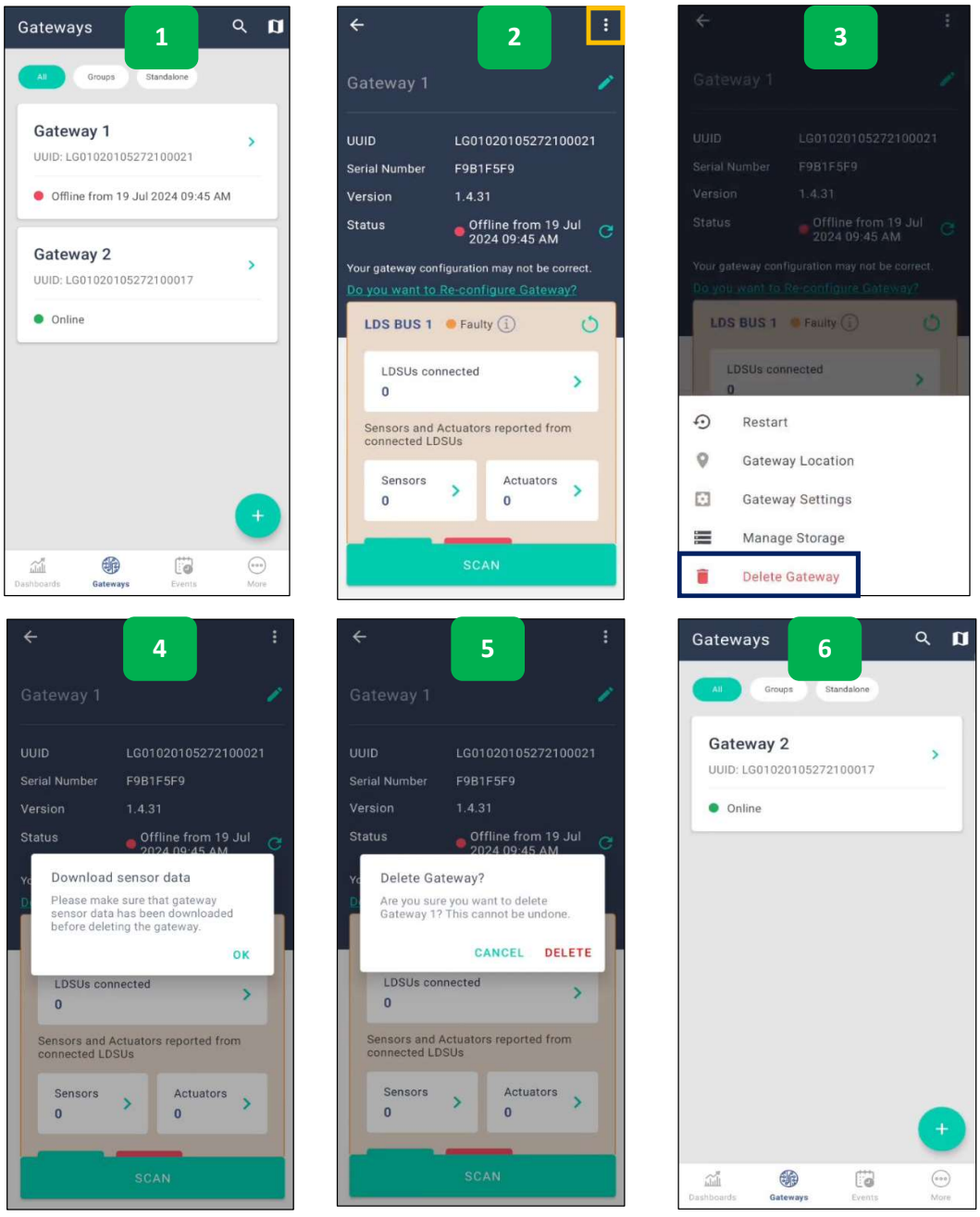
6.6.8.6 Remove Gateway Group



To perform firmware update for gateway group members –

1. Tap and select the gateway group.
2. Tap ⋮.
3. Tap **Delete Group**.
4. Tap **[YES]** to confirm deleting the gateway group.
5. Upon successful deletion, an appropriate message indicating the same is displayed.

6.6.9 Delete Gateway



To remove gateway –

1. Tap on **Gateways** from the bottom menu.
2. Tap ⋮.
3. Tap on **Delete Gateway**.
4. Read through the instructions; To proceed tap **[OK]**.
5. Tap **[DELETE]** to confirm deleting the gateway.
6. Upon successful deletion, the updated gateway list interface is displayed.

7. Event Management

An event is a set of triggers evaluated against a set of conditions that cause an action or sequence of actions to happen. There are 5 types of events. The following table provides the list of events and action triggered.

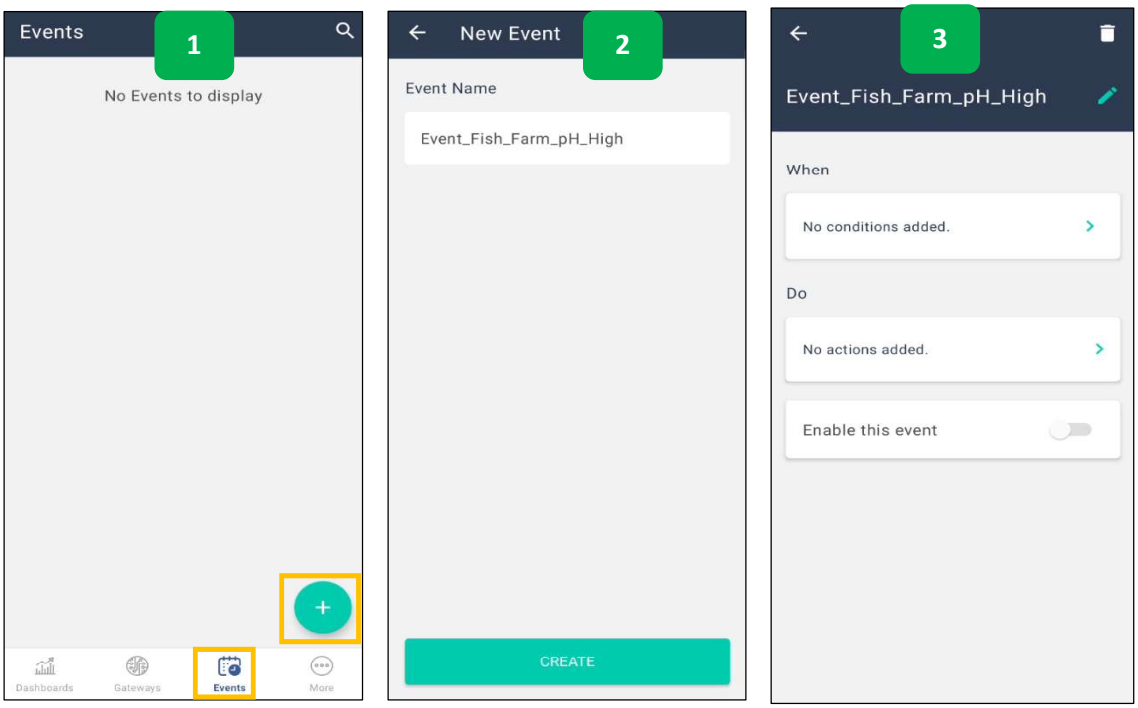
	Event Type	Action Triggered
1	Sensor based events	The trigger signal is generated by one or more sensors
2	Time based events	The trigger signal is generated by a clock
3	Duration based events	The trigger signal is generated by a timer
4	Attribute based events	The trigger signal is generated by an attribute of an object that is not a sensor (for example, an attribute of a gateway, a storage attribute, a subscription entitlement attribute, etc.
5	Complex events	Combination of one or more above triggers

Table 2 – Event Types

In every event, conditions are evaluated, and when the conditions are met, an action or sequence of actions is taken. Alerts and actuation sequences may be included in such actions. A triggered event cannot be re-armed until all its action components have been completed.

The events are created by the event owner, or any member of the organization authorised to perform the action, such as Create/Read/Update/Delete (CRUD). Events are given friendly names, and a log of event activations is kept and counts towards storage. Events can be enabled or disabled. Events are not enabled by default and must be enabled. A disabled (disarmed) event ignores its trigger signals and does not evaluate its conditions.

7.1 Create Event

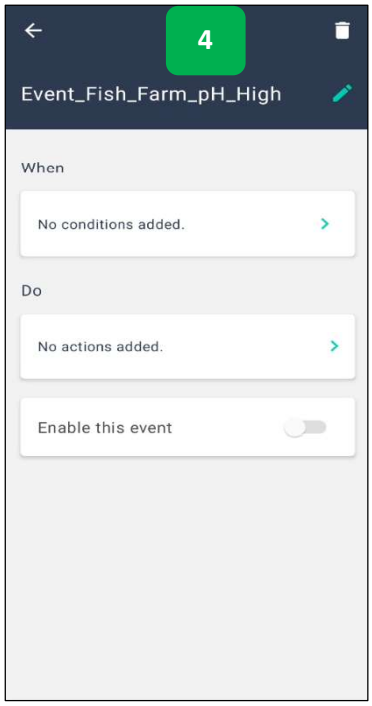


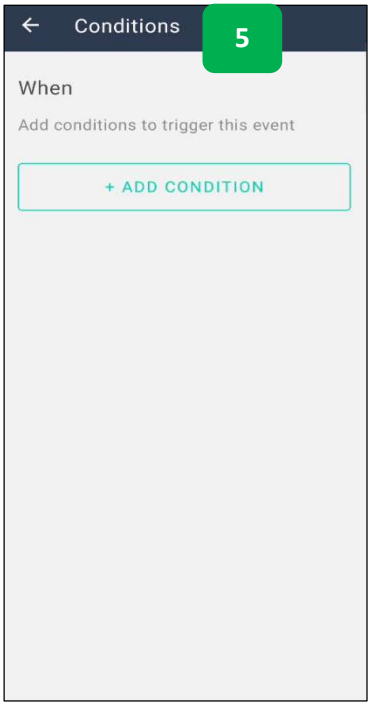
To create a new event–

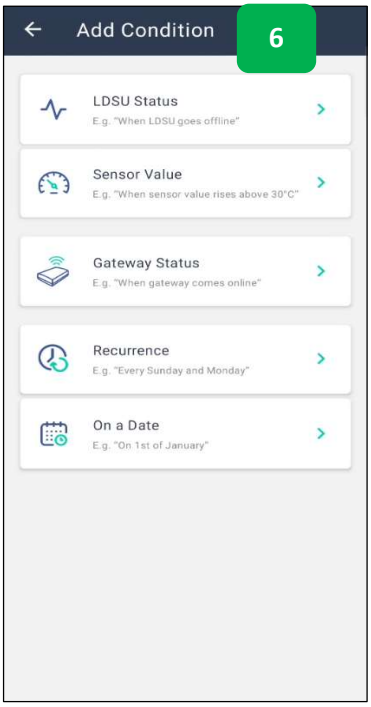
1. Tap **Events** from the menu. If no events are available, then the interface will be empty. Else, a list of events is displayed. Tap **+.**
2. Enter an **Event Name**. For example, *Event_Fish_Farm_pH_High*. Tap **[CREATE]**.
3. The newly created event is displayed.

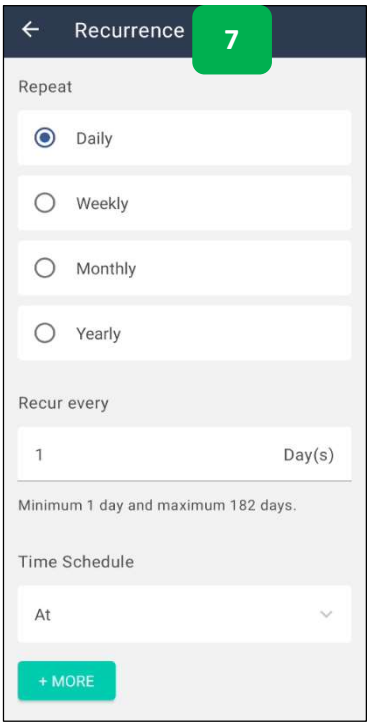
7.1.1 Add Condition(s) / Action(s)

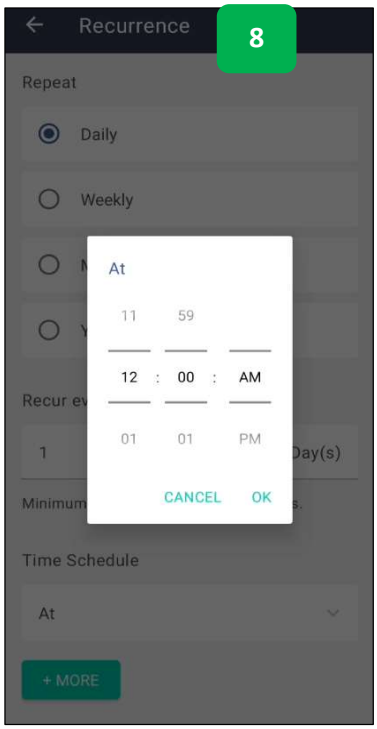
7.1.1.1 When

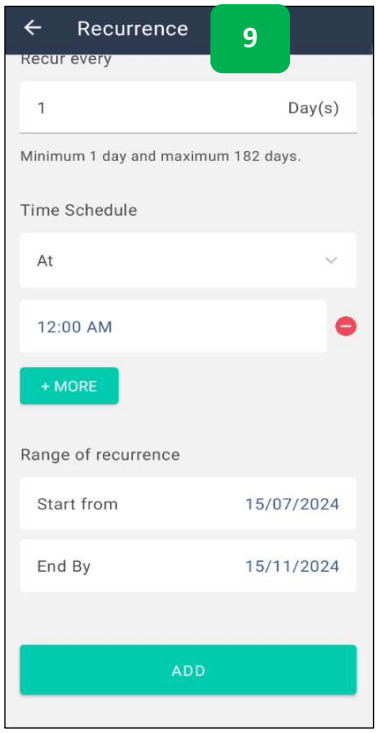


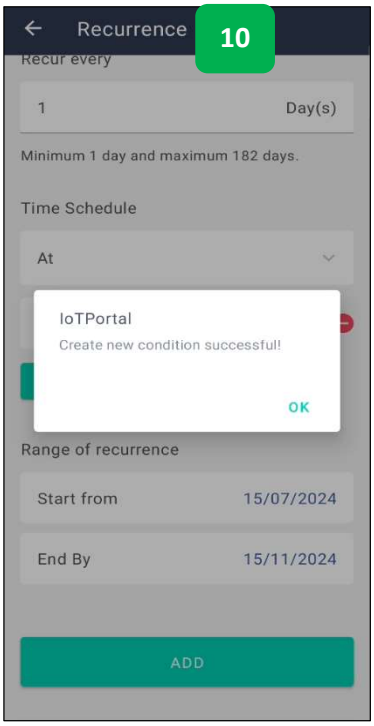


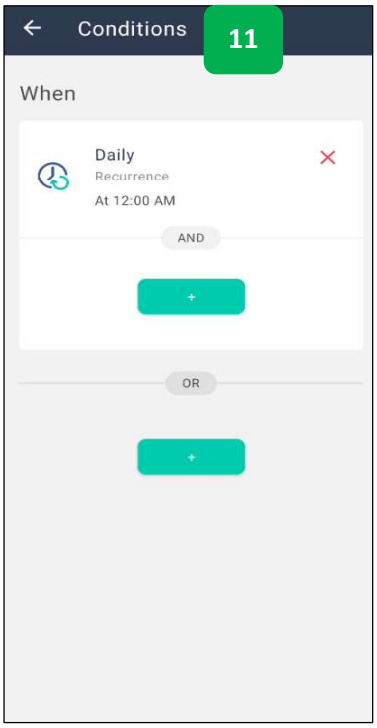












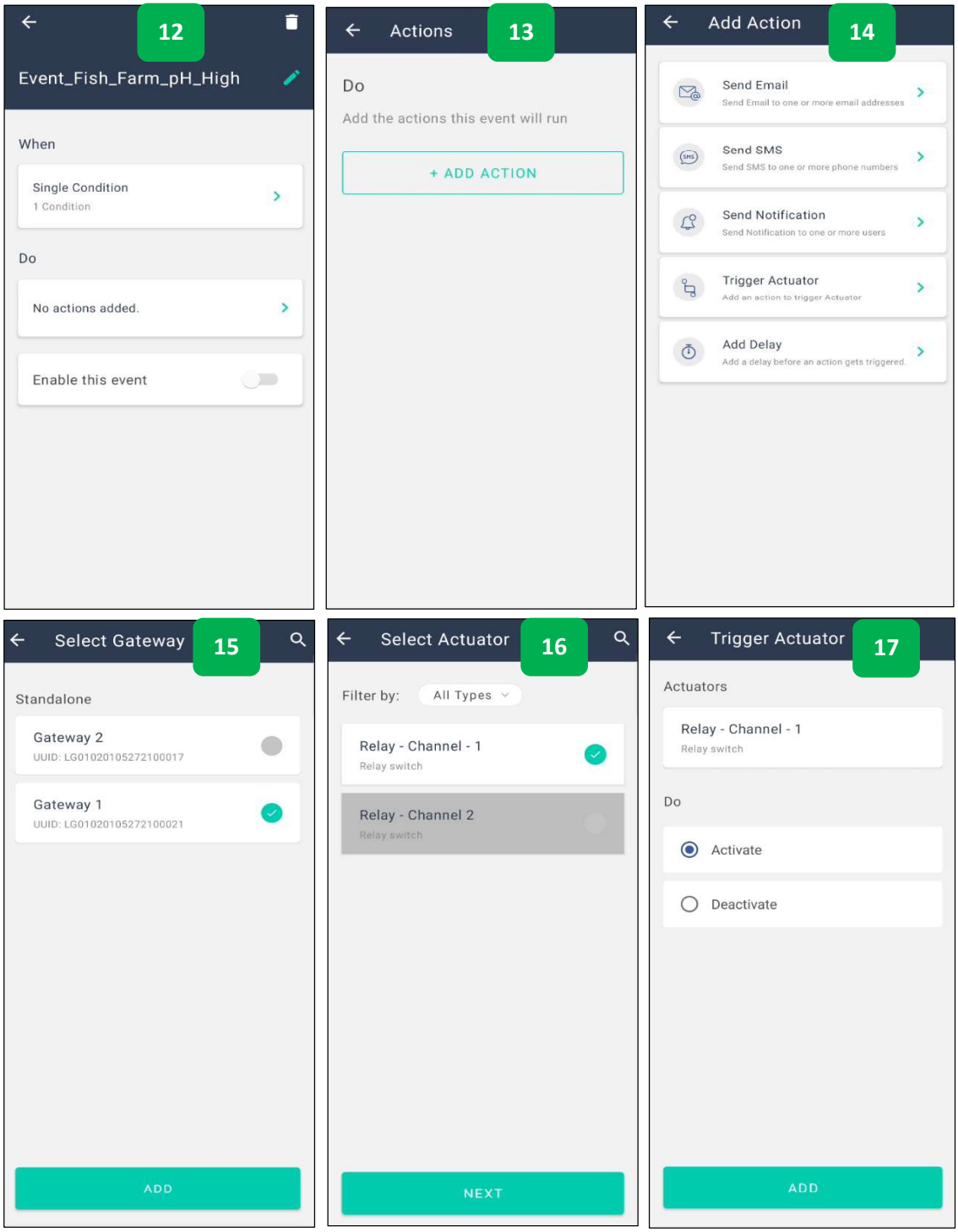
4. Tap on the *When* condition field.
5. Tap **[+ ADD CONDITION]**.

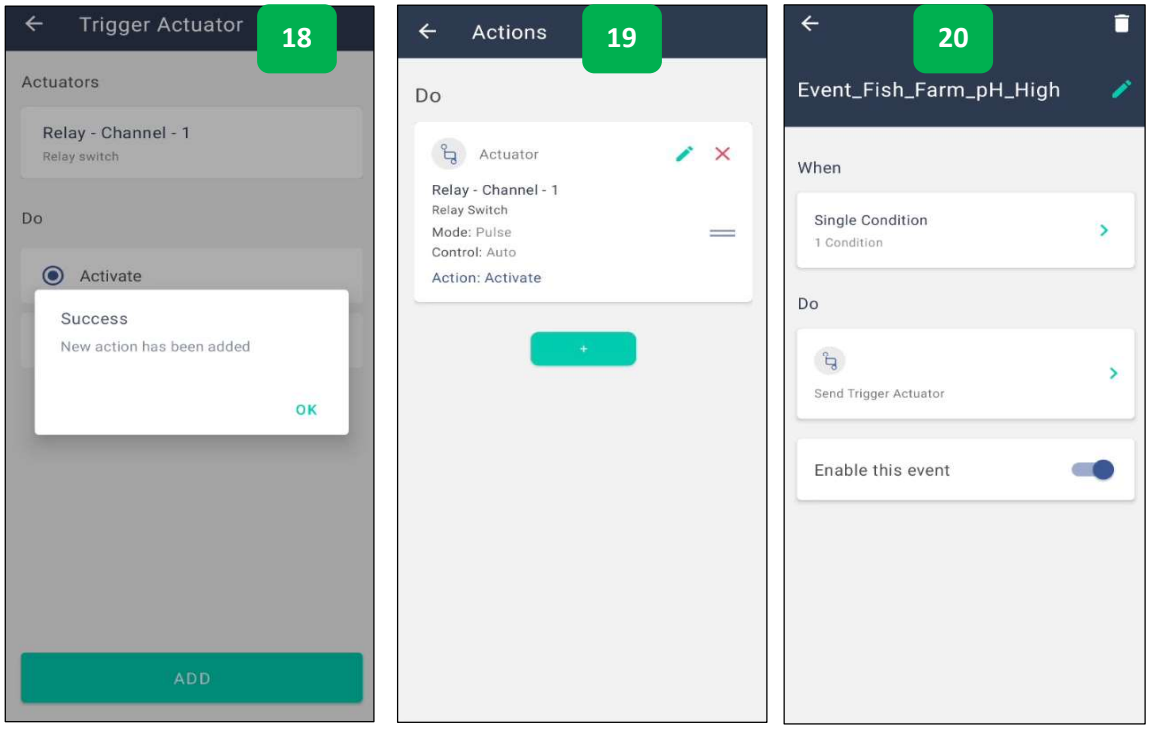
For illustration purpose, a recurrence condition that repeats *"Daily" "Every Day" "at" "12:00 PM"* and *"End by 15/11/2024" is created*.

6. Select the condition - *Recurrence*.
7. Set the Recurrence Frequency to *Daily*; Tap and select *"1"* under *Recur every* field; Tap and select *"At"* under *Time Schedule* field; Tap **[+More]**.
8. Select the *time* from the resulting Time picker.
9. Tap and select the *Range of recurrence (Start Date & End Date)* using the Date picker. Upon adding the condition, tap **[ADD]**.
10. Upon successfully adding the condition an appropriate message indicating the same is displayed.
11. The newly added condition is displayed. Tap ← to switch back to the Event Home page.

7.1.1.2 Do

Now, add the actions the event will run when the conditions are met.





To add action(s),

12. Tap on the *Do* action field.
13. Tap **[+ ADD ACTION]**.

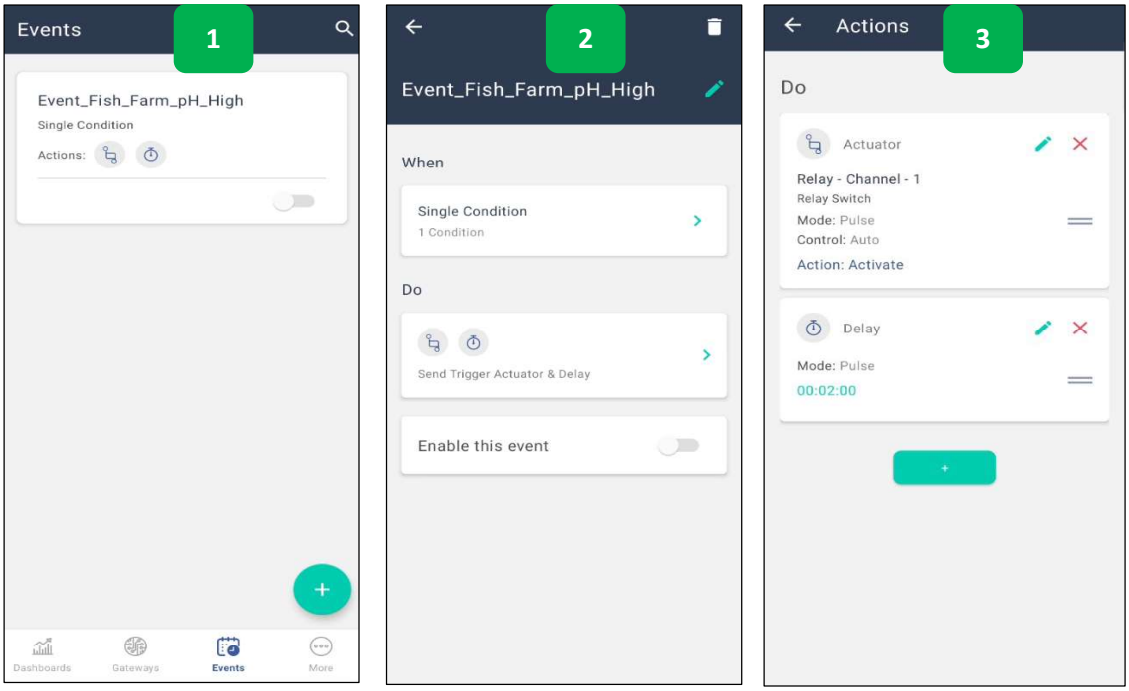
For illustration purpose, *"Trigger Actuator"* action is explained here.

14. Select the action **–** *Trigger Actuator*.
15. Select the Gateway and tap **[ADD]**.
16. Select the Actuator. In this case a list of Relay Channels is displayed. Please note that the fields are enabled, only if the actuators are configured to "Auto" control. Else the fields are disabled. Refer to section **6.6.7.6.2** for more information. Upon selecting the actuator, tap **[NEXT]**.
17. Select the appropriate action **–** *Activate or Deactivate* and tap **[ADD]**.
18. Upon successfully adding the action, an appropriate message indicating the same is displayed.
19. The newly added action is displayed. Tap ← to switch back to the Event Home page.
20. Enable event using the toggle button[3]. By default, the events are disabled. Upon enabling or disabling the event, an appropriate message indicating the same is displayed. A recurrence condition that repeats *"Daily" "Every Day" "at" "12:00 PM"* and *"End by 15/11/2024"*. Upon triggering this event, the *Actuator Relay – Channel 1 @ Fish Farm* will be activated.

Event Status	Toggle Button State
Enabled	
Disabled	

[3] A toggle button refers to a control used for switching (or toggling) between two or more states or options.

7.1.2 Change the order of the Condition(s) / Action(s)

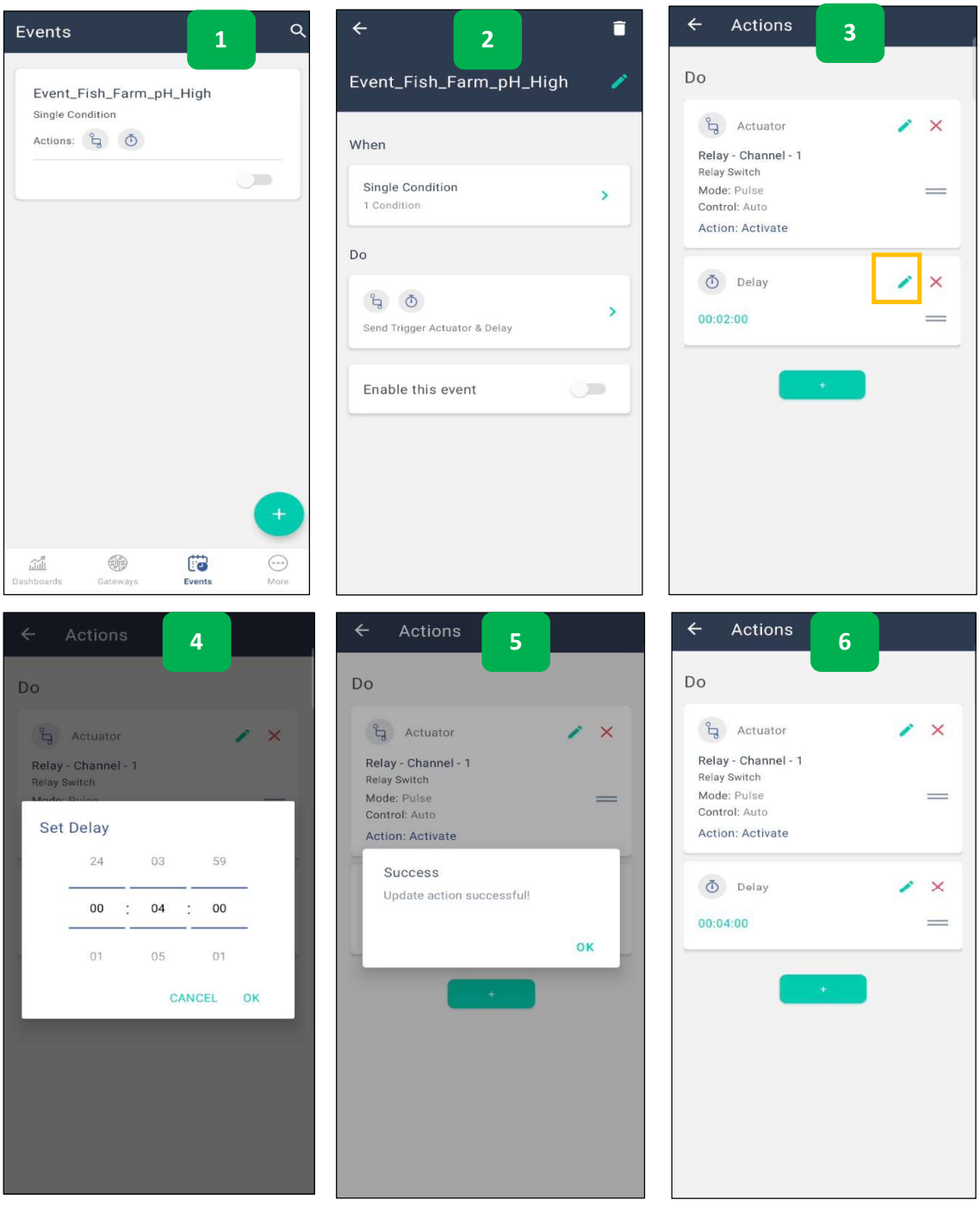


NOTE: Ensure that the event is disabled before changing the order.

To change the order of condition(s) / action(s) –

1. Tab and disable the event. Tap on the event.
2. Tap on the condition or action.
3. Tap on the = icon and change the order of the condition / action.

7.1.3 Edit Condition(s) / Action(s)



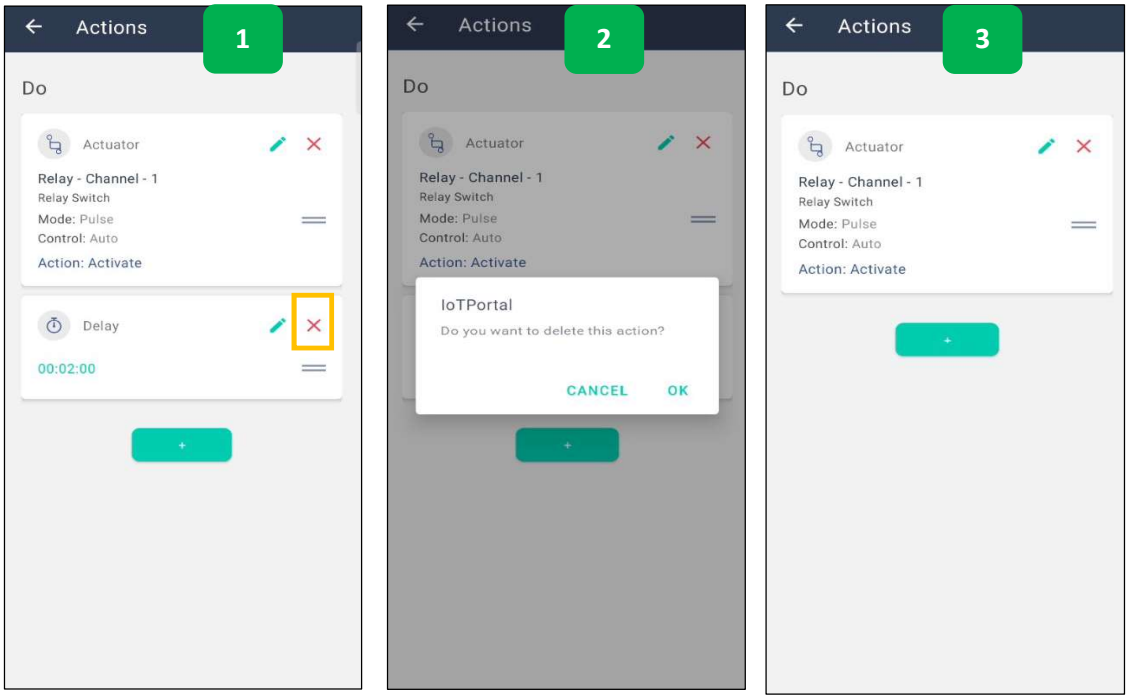
NOTE: Ensure that the event is disabled before editing condition/action.

The procedure for editing a condition or action is same. To edit condition or action –

1. Tap on the Event.

2. Tap on the Condition or Action. Action is edited for illustration purpose.
3. Actions interface is displayed. Delay action is edited for illustration purpose. Tap ✎.
4. Set a new delay timeframe. Tap **[OK]**.
5. An appropriate message indicating that the update was successful is displayed. Tap **[OK]** to close the message window.
6. The updated action is displayed. Tap ← to switch back to the Event Home page.

7.1.4 Delete Condition(s) / Action(s)



NOTE: Ensure that the event is disabled before deleting condition/action.

The procedure for deleting a condition or action is same. For illustration purpose Delay action is deleted.

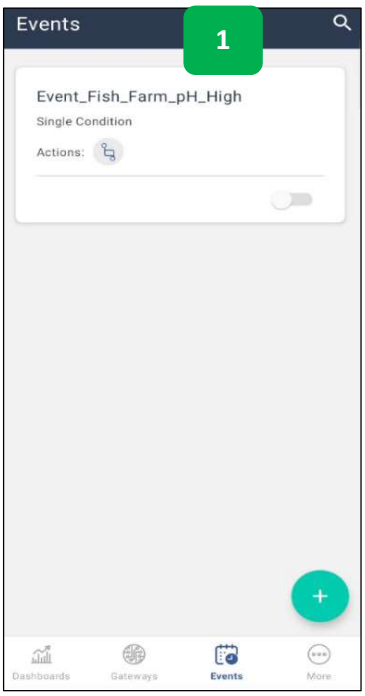
To delete condition or action –

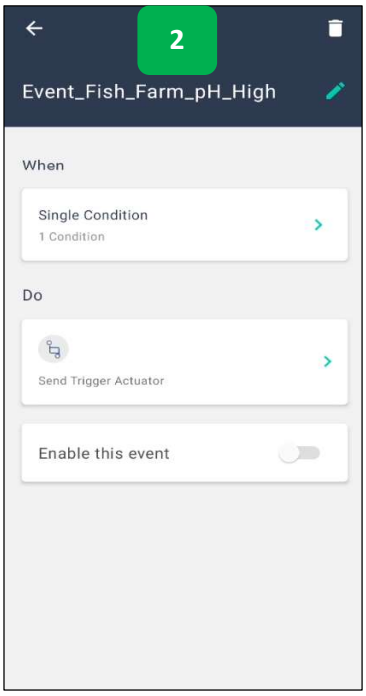
1. Tap ✕.
2. A confirmation message window is displayed. Tap **[OK]**.
3. The delay action is removed and the updated action interface is displayed. Tap ← to switch back to the Event Home page.

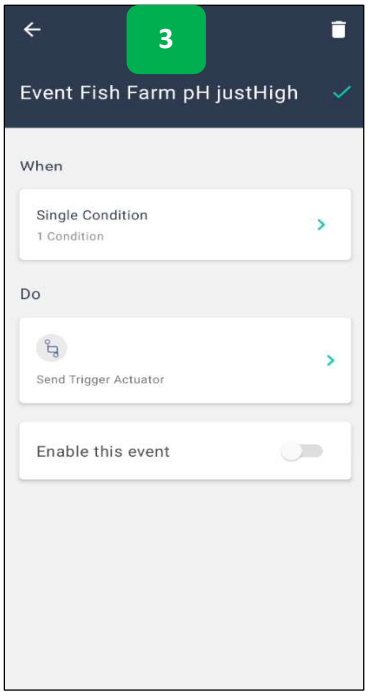
7.2 Change the event order

The procedure for changing the order of the event is same as that of changing the order of the condition /or actions.

7.3 Edit Event Name

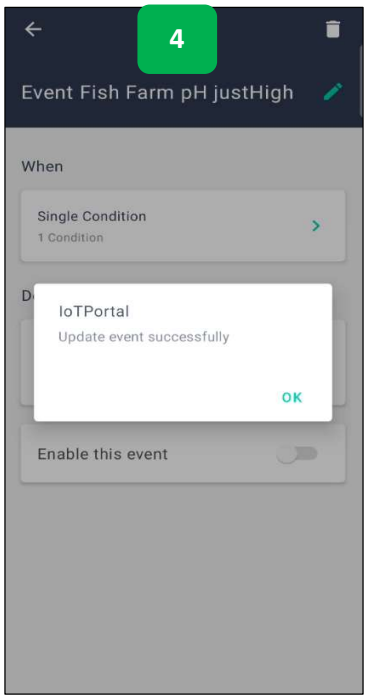


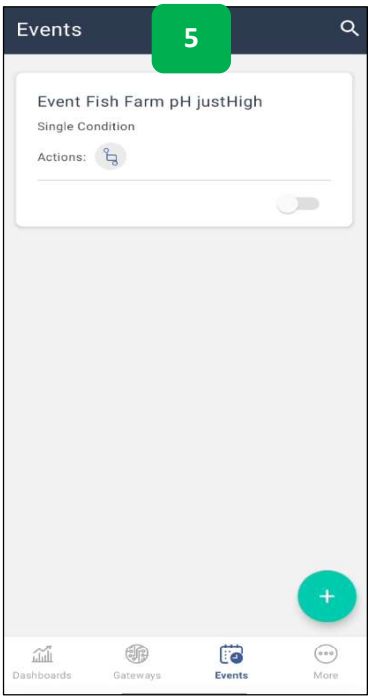




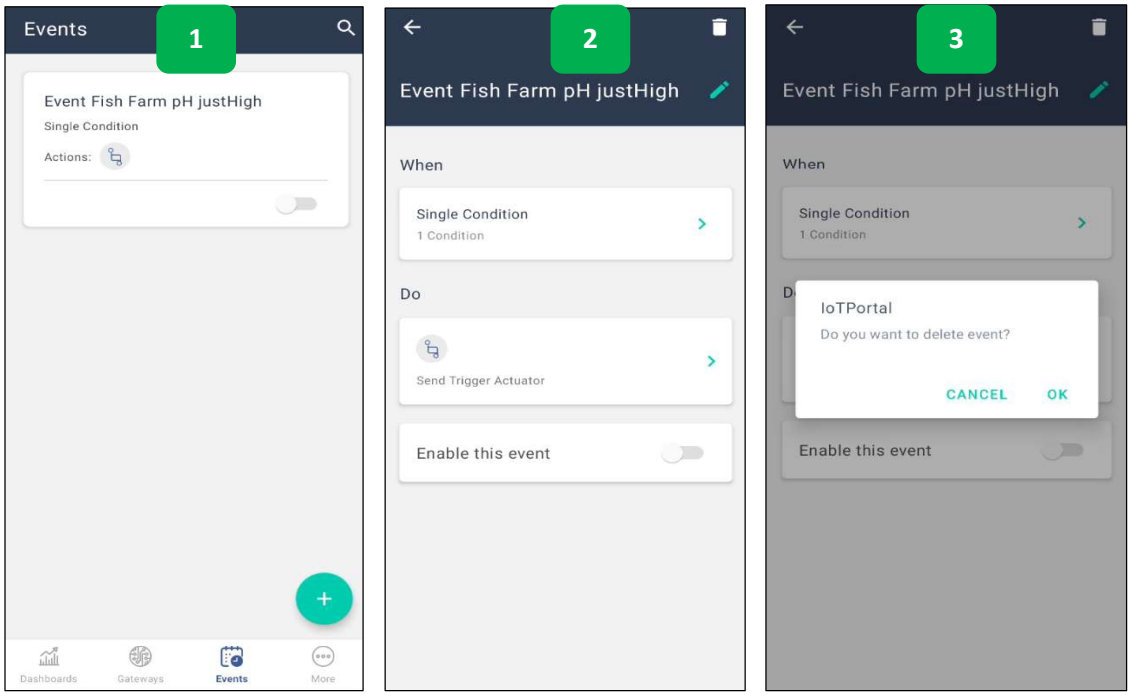
To edit event name –

1. Tap Event.
2. Tap ✎.
3. Edit the name as required and tap ✓.
4. An appropriate message indicating that update is successful is displayed. Tap **[OK]**.
5. The updated event name (if any) is displayed.





7.4 Delete Event Name



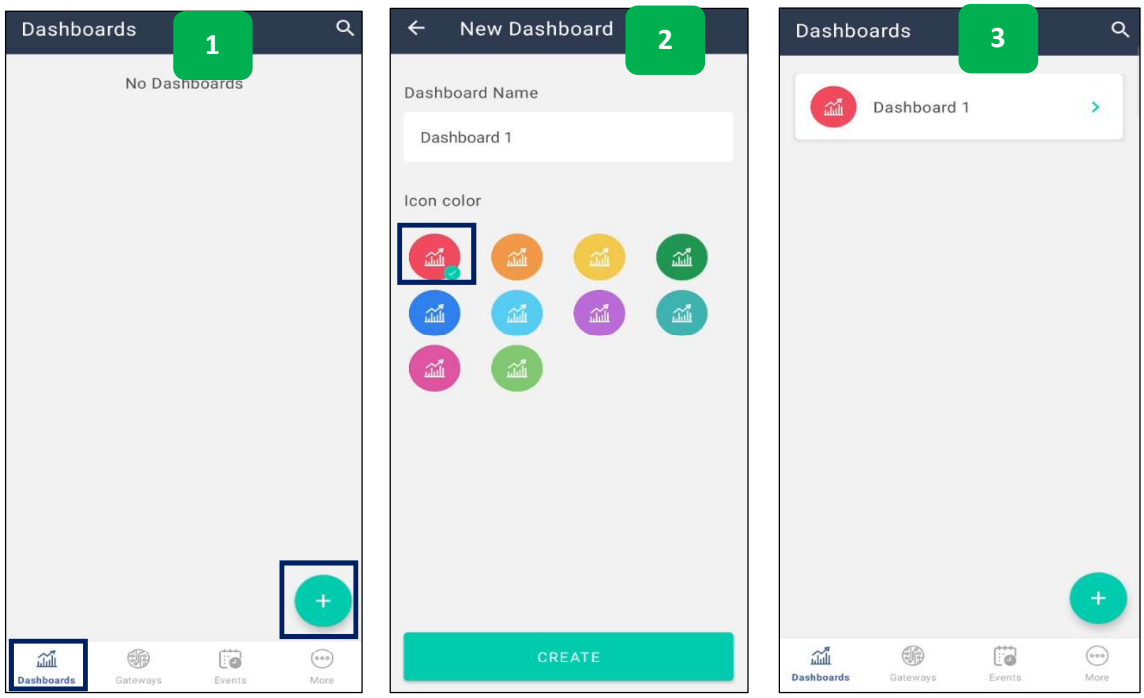
To delete event –

1. Tap Event.
2. Tap .
3. A confirmation message is displayed. Tap on **[OK]** to delete the event or **[CANCEL]** to discard the operation.

8. Dashboard Management

The dashboard function allows users to create dashboards for data visualization and remote device control in real time. Users can create dashboards and add attributes for *Gateways*, *Sensors (Temperature, Humidity, Ambient Light etc.)* and *Actuators*.

8.1 Create Dashboard



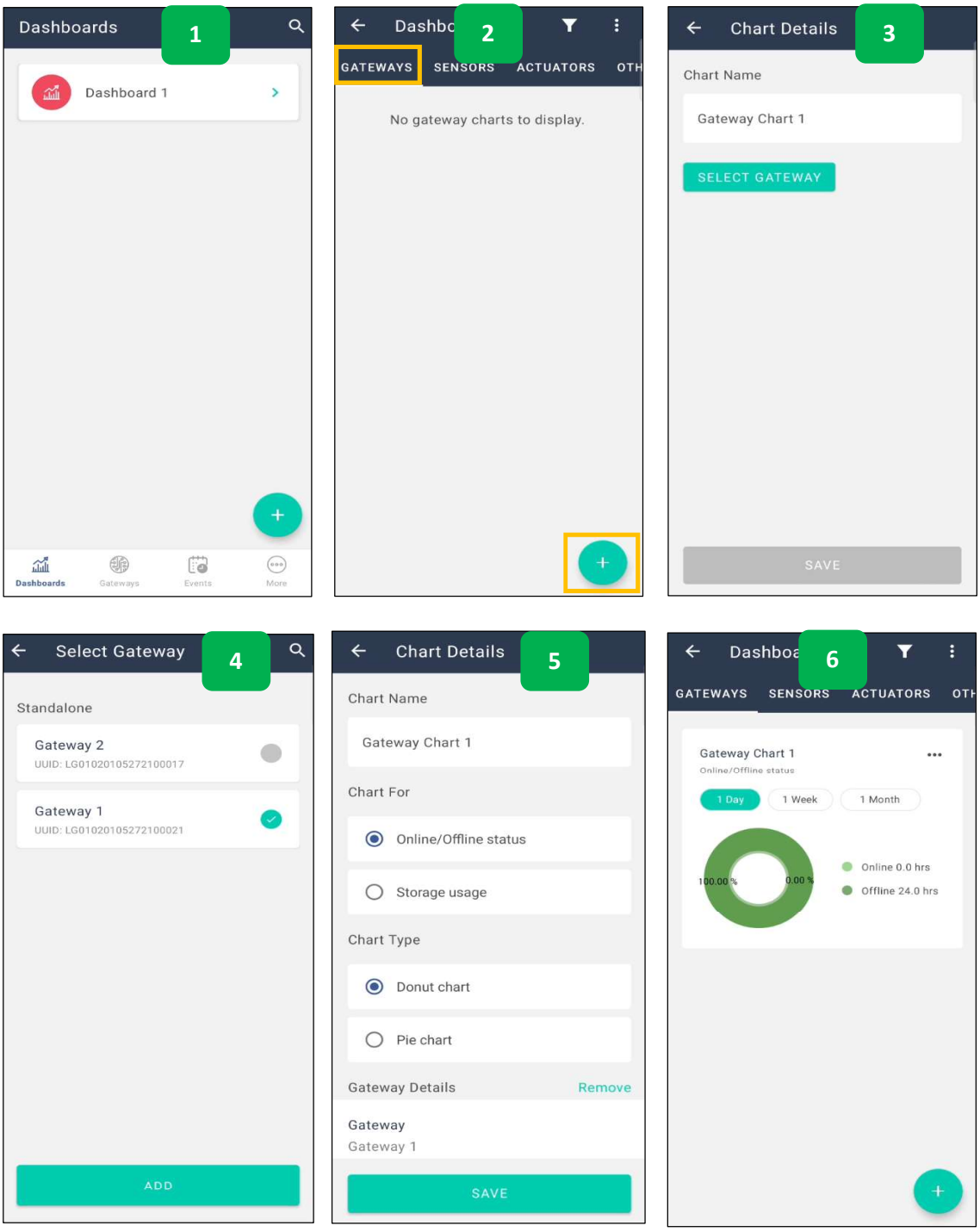
To create a dashboard –

1. Tap **[Dashboards]**. A list of existing dashboards if any are displayed. If no dashboards are available, then the interface will be empty. Tap **+** to add a new dashboard.
2. Enter the *Dashboard Name*; Select an appropriate *icon color* for the dashboard. Tap **[CREATE]**.
3. Dashboard is created successfully.

8.2 Dashboard Charts – Gateway/Sensor/Actuator/Other Charts

This section describes how to add/edit/delete different charts *(Gateway, Sensor, Actuator and Others)*.

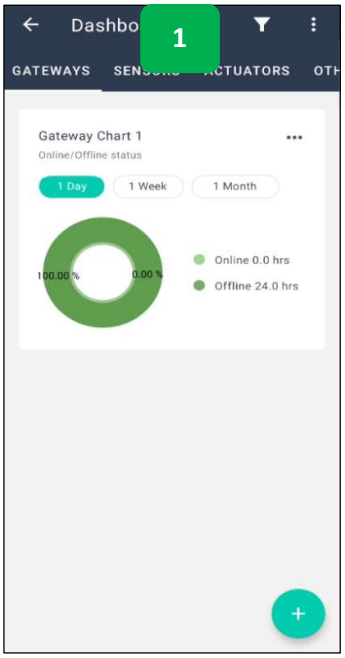
8.2.1 Add Gateway Chart

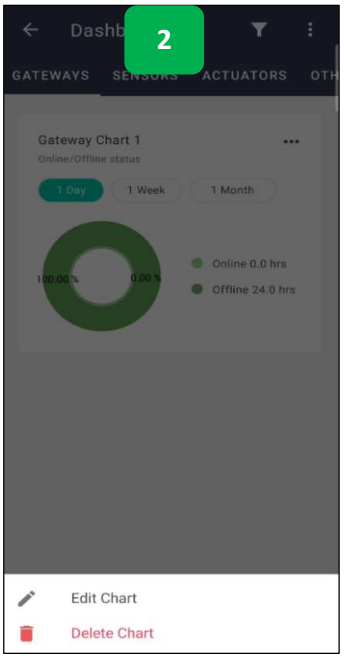


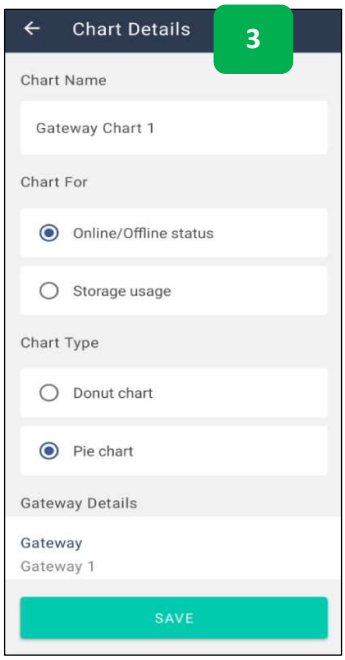
To add a gateway chart –

1. Tap and select the **Dashboard**.
2. Tap on **GATEWAYS**; Tap **+**.
3. Enter the *Chart Name*. Tap **[SELECT GATEWAY]**.
4. From the available gateway list, tap and select a gateway; Tap **[ADD]**.
5. From the available chart details, select the chart attributes; Tap **[SAVE]**.
6. An appropriate message indicating the chart creation is displayed. The newly created Gateway Chart is displayed. To add more gateway charts, tap **+** and repeat the steps.

8.2.2 Edit Gateway Chart

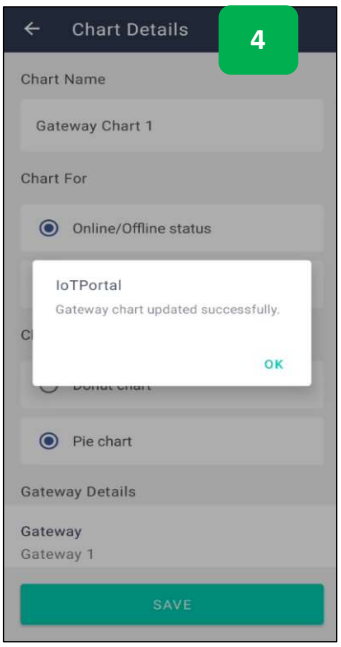


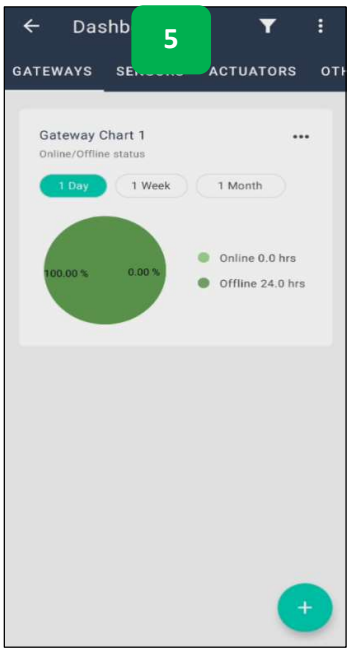




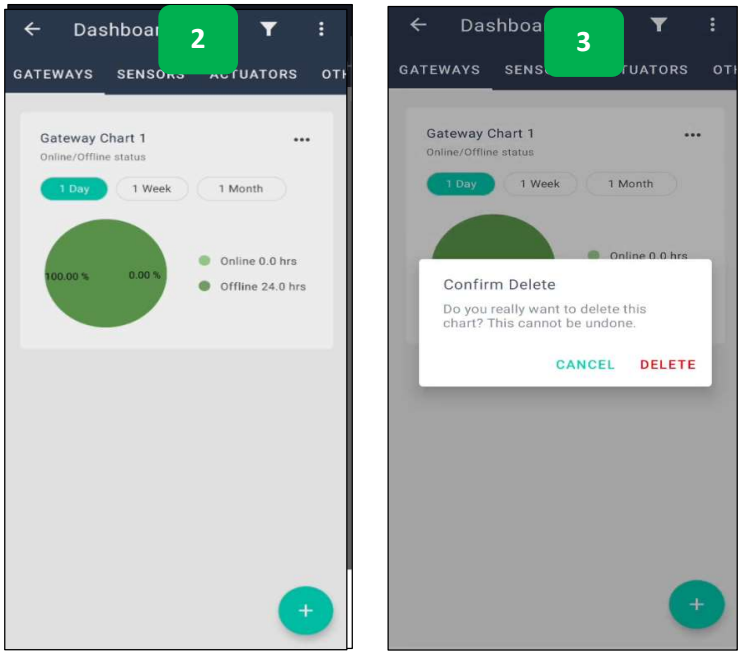
To edit a gateway chart –

1. Tap **...**
2. Tap and select **Edit Chart**.
3. The chart details are displayed. Modify the chart attributes as required and tap **[SAVE]** to the changes, if any.
4. An appropriate message indicating that the update (if any) is successful is displayed. Tap **[OK]**.
5. Updated gateway chart is displayed.





8.2.3 Delete Gateway Chart

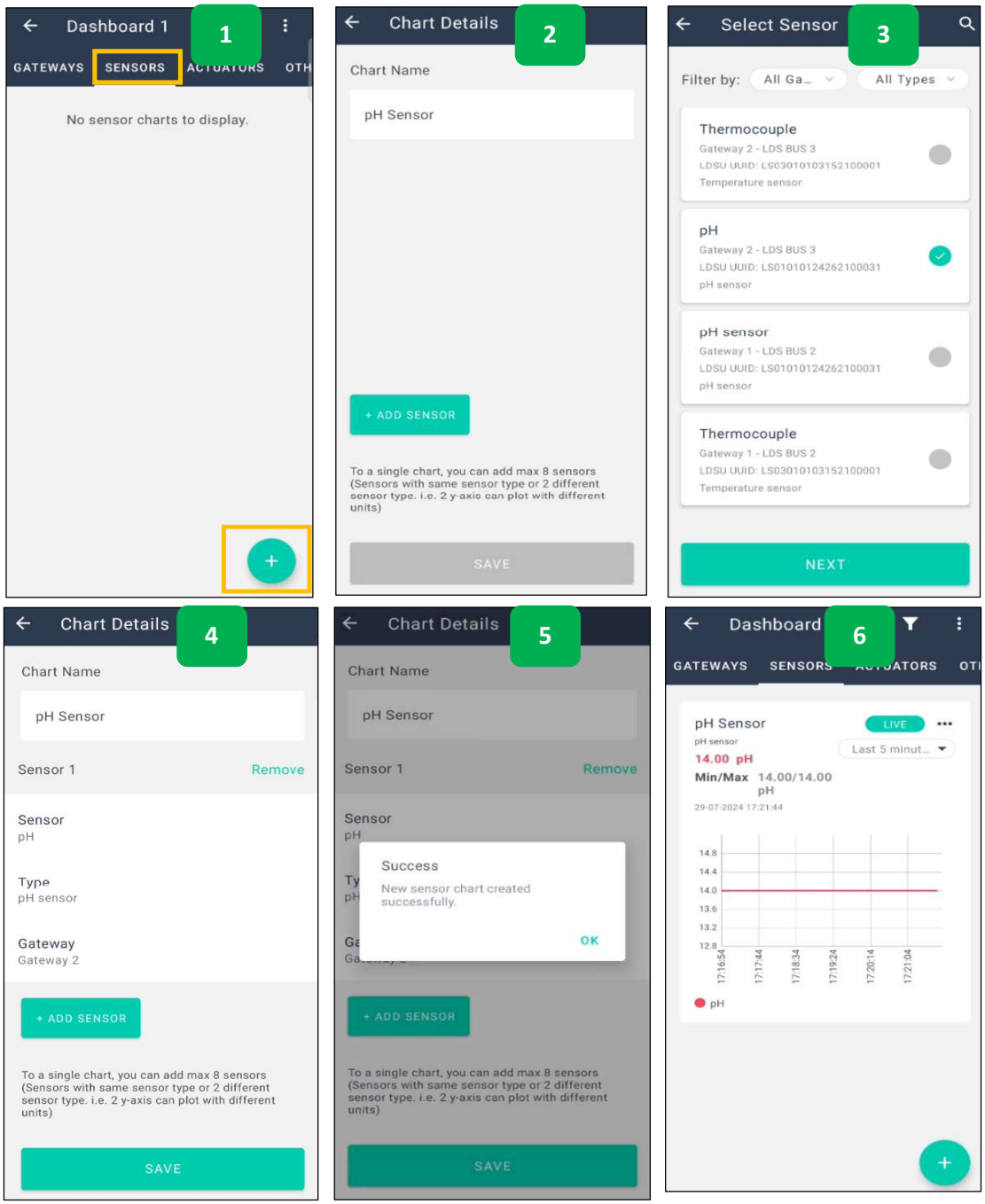


To delete a gateway chart –

1. Tap **...**
2. Tap and select **Delete Chart**.
3. A confirmation message is displayed. Tap **[DELETE]** to proceed. The gateway chart will be removed.

8.2.4 Add Sensor Chart

8.2.4.1 Create standalone charts for selected sensor



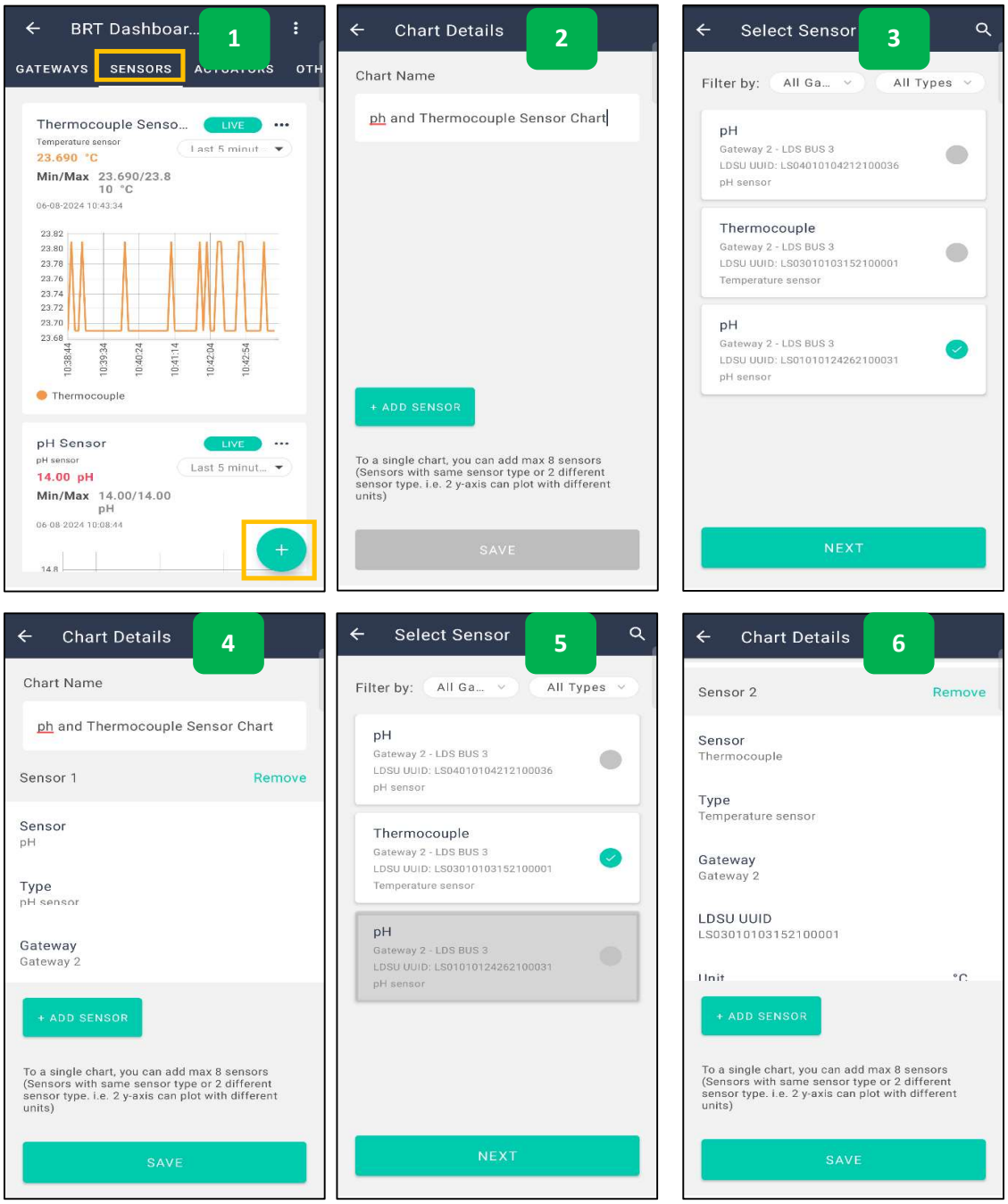
To add a standalone chart for a sensor –

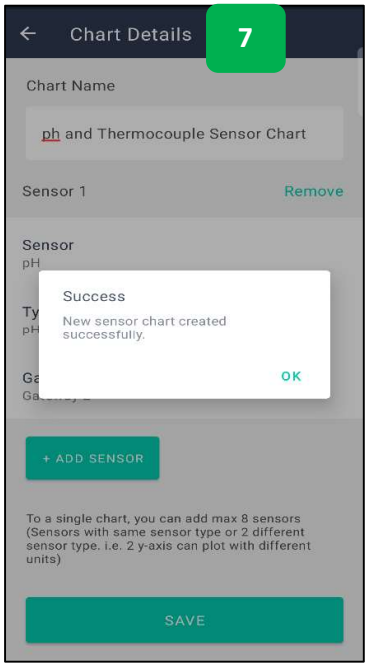
1. Tap on **SENSORS;** Tap on **+**.
2. Enter the *Chart Name*. Tap **[+ ADD SENSOR]**.
3. From the available sensor list, tap and select a sensor *(for ex: pH)*; Tap **[NEXT]**.
4. Tap **[SAVE]**.

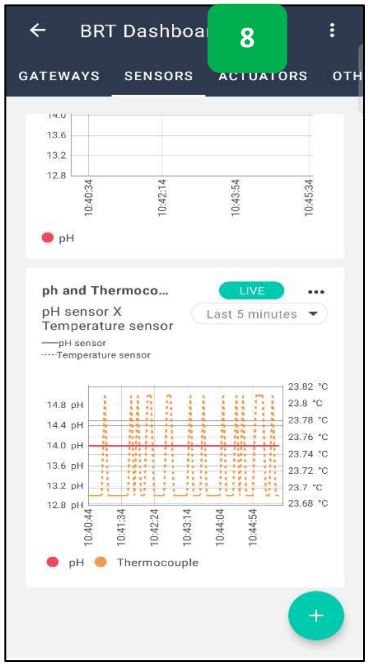
5. An appropriate message indicating the status of the chart creation is displayed. Tap **[OK]**.
6. The newly created sensor chart is displayed.

NOTE: 8 sensors and 2 sensor types are allowed per chart.

8.2.4.2 Create stacked charts for multiple sensors







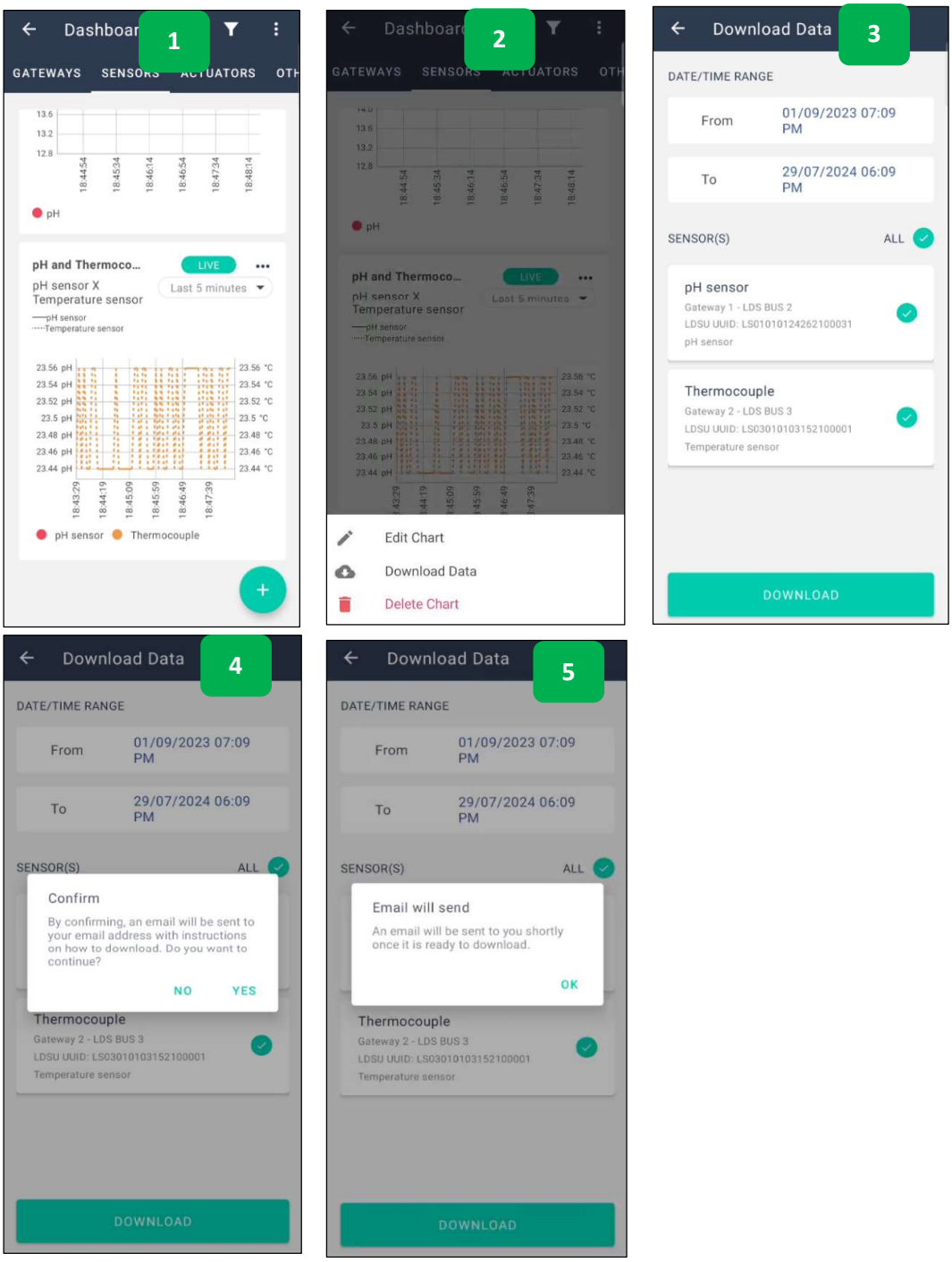
To create stacked charts for multiple, sensor **–**

1. Tap on **SENSORS;** Tap on **+**.
2. Enter the *Chart Name*. Tap **[+ ADD SENSOR]**.
3. From the available sensor list, tap and select a sensor *(for ex: pH sensor)*; Tap **[NEXT]**.
4. Tap **[+ ADD SENSOR]**
5. Add another sensor (for ex: Thermocouple); Tap **[NEXT]**.
6. Tap **[SAVE]**.
7. An appropriate message indicating the status of the chart creation is displayed. Tap **[OK]**.
8. The newly created stacked chart is displayed.

8.2.5 Edit / Delete Sensor Chart

The procedure for editing / deleting sensor chart is similar to Edit Gateway Chart / Delete Gateway Chart.

8.2.6 Download Data

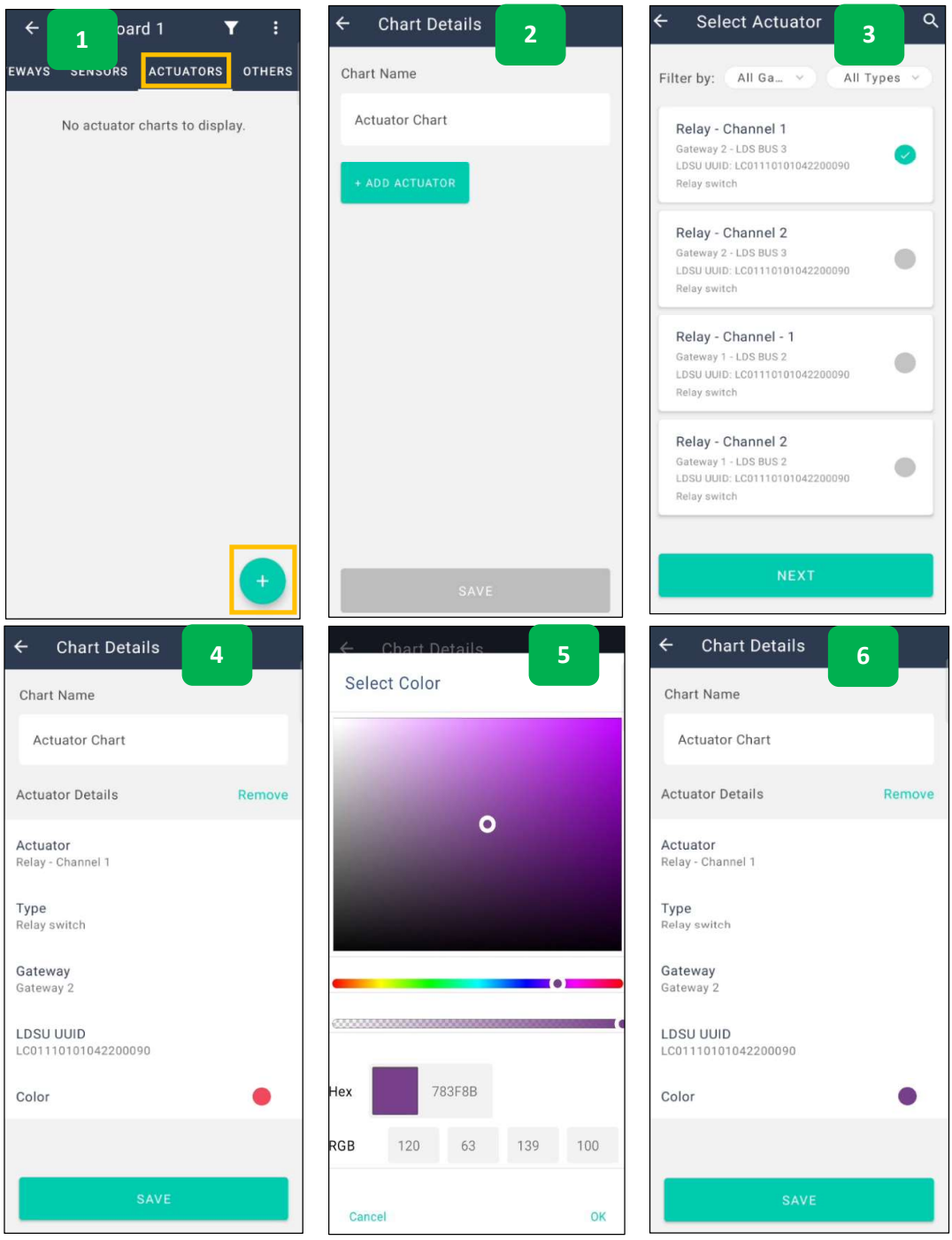


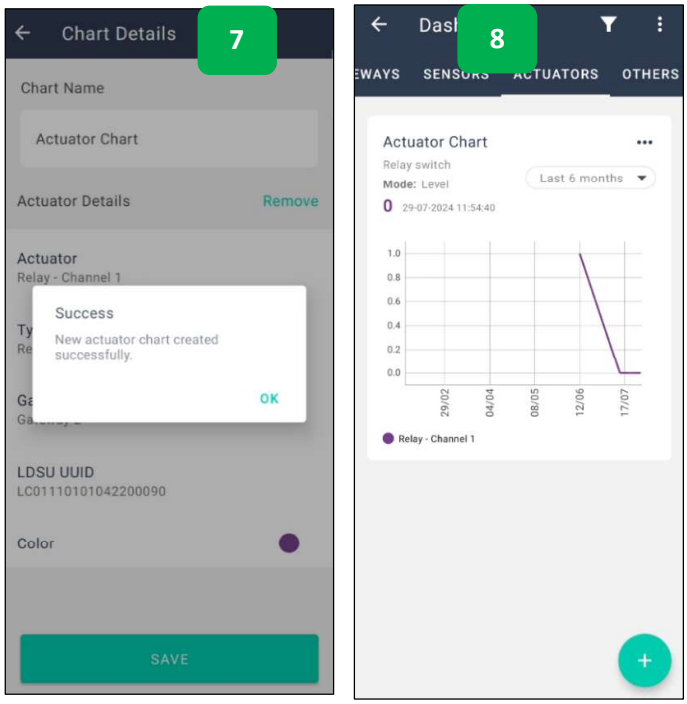
To download sensor data –

1. Tap **...**
2. Tap and select **Download Data**.
3. Using the date and time picker, input the Date/Time range; Tap and select All to download all sensors data. Alternatively, to download a specific sensor's data, tap and select the sensor. Tap **[DOWNLOAD]**.

4. A confirmation message is displayed. Go through the message and tap **[YES]**.
5. Upon confirmation, an email will be sent to the user's registered email address with instructions on how to download the sensor data. Tap **[OK]** to close the message window.

8.2.7 Add Actuator Chart



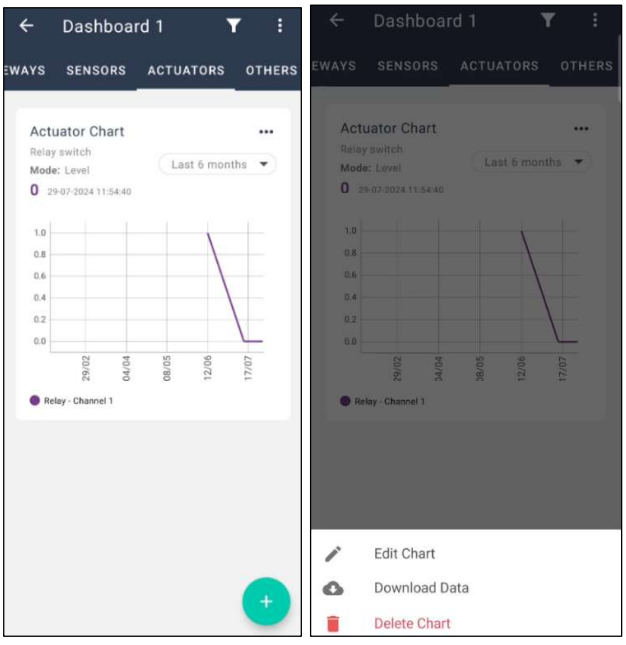


To add an actuator chart –

1. Tap on **ACTUATORS**; Tap **+**.
2. Enter the *Chart Name*. Tap **[+ ADD ACTUATOR]**.
3. From the available actuator list, tap and select an actuator; Tap **[NEXT]**.
4. To update the chart color attribute, tap on the color selection palette.
5. The color selection palette is displayed. Select the required color and tap **[OK]**.
6. Tap **[SAVE]**.
7. An appropriate message indicating the chart creation is displayed. Tap **[OK]**.
8. The newly created Actuator Chart is displayed. To add more actuator charts, tap **+** and repeat the steps.

8.2.8 Edit / Delete Actuator Chart

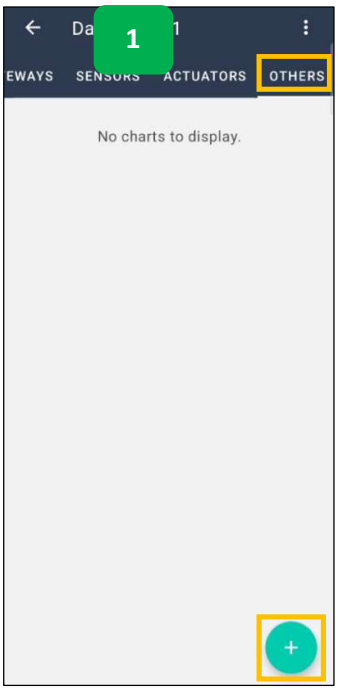
The steps for editing / deleting Actuator Chart is similar to the one provided under the sections Edit Gateway Chart / Delete Gateway Chart.

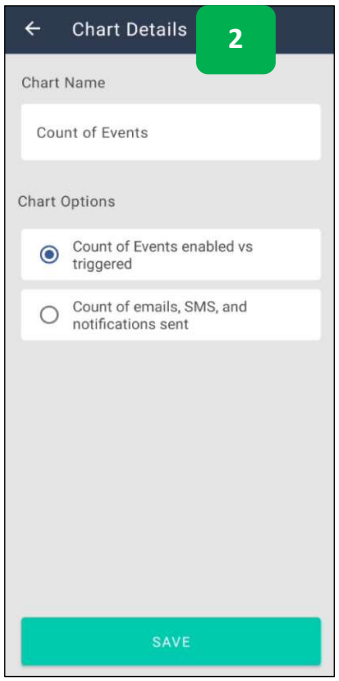


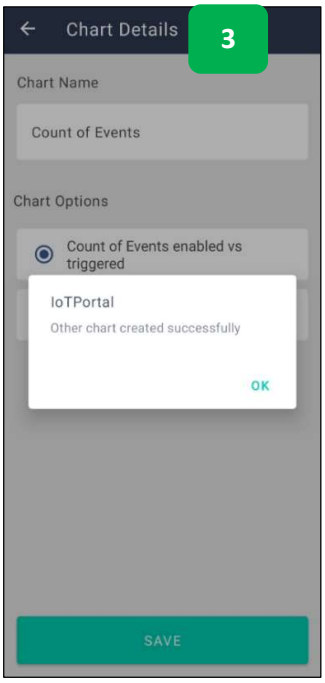
8.2.9 Download Data

The steps for downloading actuator data is similar to the one provided under the section Download Data.

8.2.10 Add Other Charts



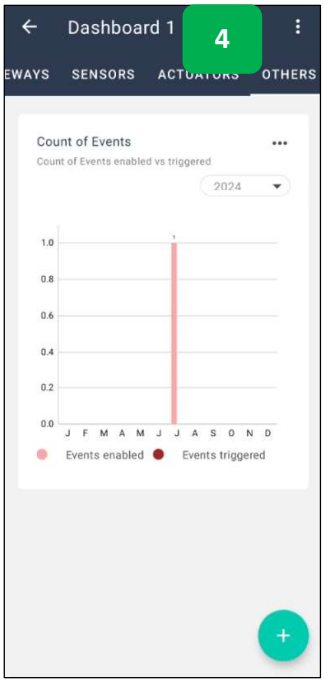




1. Tap on **OTHERS**; Tap **+**.
2. Tap and select one of the following chart options –

   - Count of Events enabled vs triggered
   - Count of emails, SMS, and notifications sent

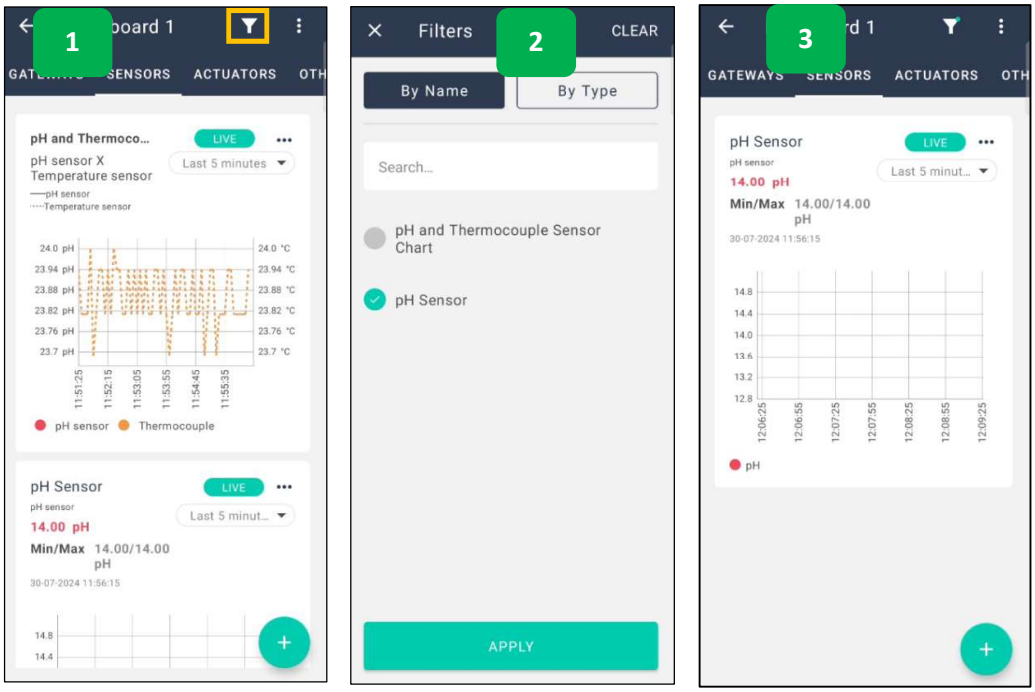
   Tap **[SAVE]**.
3. An appropriate message indicating the chart creation is displayed. Tap **[OK]**.
4. The newly created chart is displayed. To add more charts, tap **+** and repeat the steps.



8.2.11 Edit / Delete Other Chart

The procedure for editing / deleting sensor chart is similar to Edit Gateway Chart / Delete Gateway Chart.

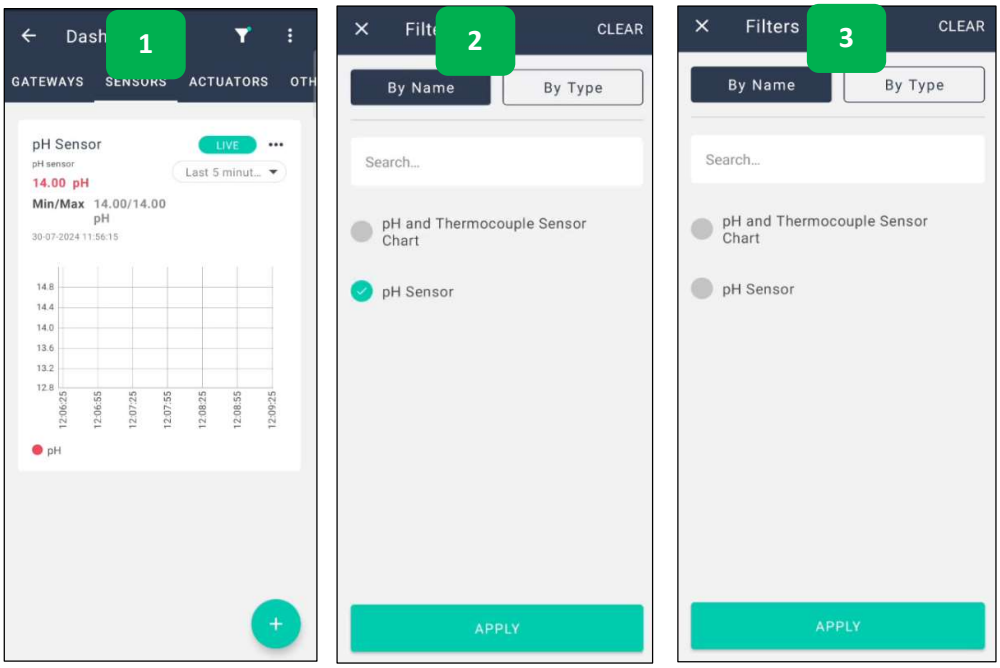
8.2.12 Applying Filter



To apply filter –

1. Tap ▼.
2. In the filters interface, tap on **By Name** or **By Attribute** and input the filter criteria. Tap **[APPLY]**.
3. The chart data is displayed based on the filter criteria.

8.2.13 Clearing Filter

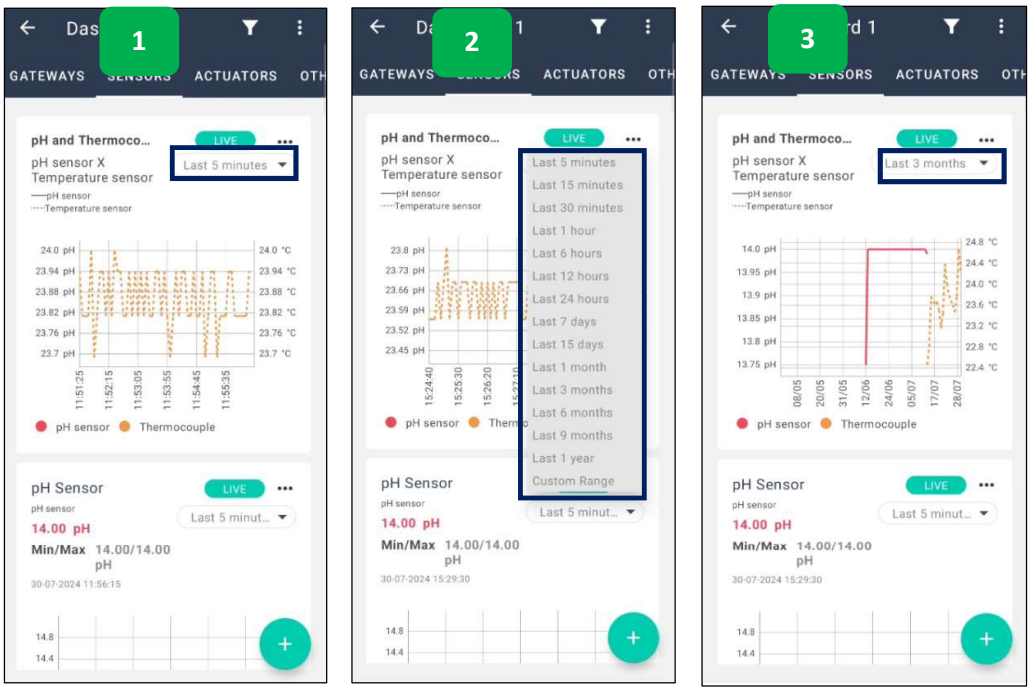


To clear filter –

1. Tap  .
2. In the filters interface, tap on CLEAR.
3. The filter criteria are cleared. Tap **[APPLY]**.

8.2.14 Time Interval Filter

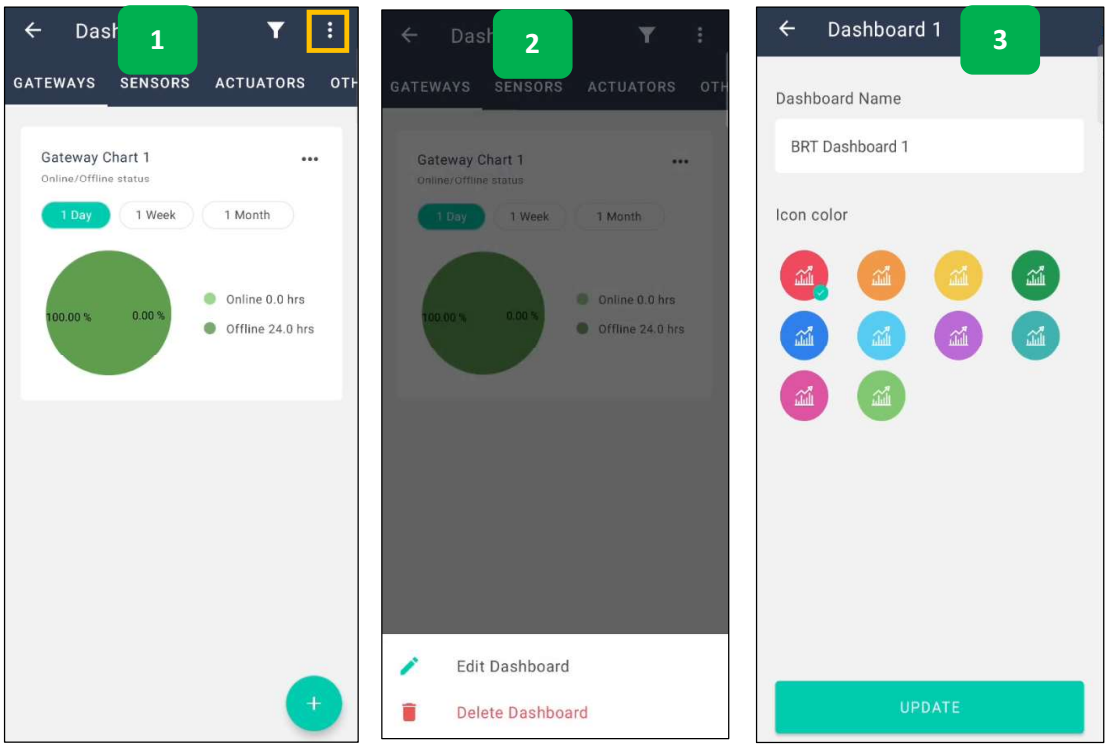
This filter allows users to select a specific period or duration of time to analyse data within a dashboard.



To set time interval –

1. Tap on the **Time interval** filter.
2. From the filter, select the **Time interval** *(Last 5 minutes….Last 24 Hrs./Last 7 days…15 days/Last 1 month…. Last 1 year/ Custom Range)* required.
3. For example, if 3 months is selected, then the dashboard chart will display the last 3 month's data.

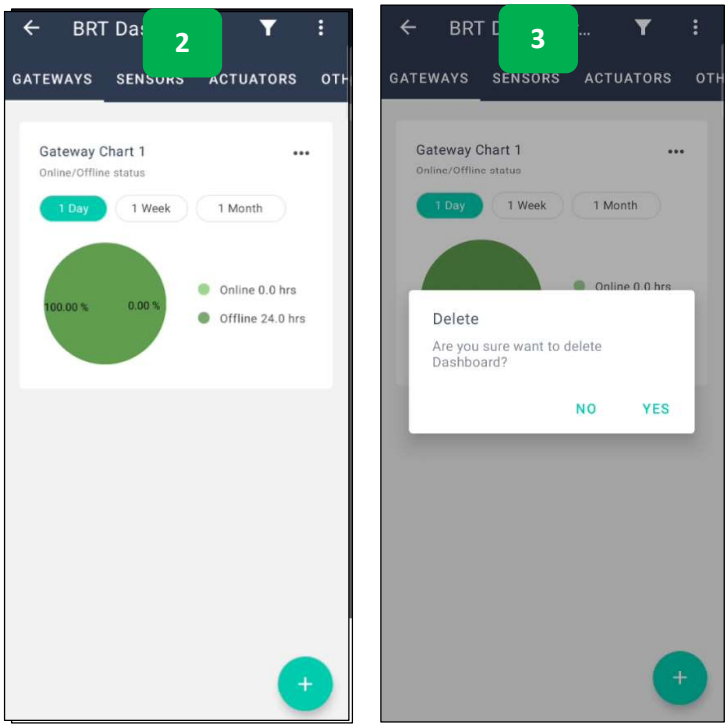
8.3 Edit Dashboard



To edit dashboard –

1. Tap ⋮.
2. Tap **Edit Dashboard.**
3. Edit the dashboard name and icon color as required. Tap **[UPDATE]** to save the changes.
4. The Dashboard name is updated and displayed.

8.4 Delete Dashboard



To delete dashboard –

1. Tap ⋮ .
2. Tap **Delete Dashboard.**
3. A confirmation message is displayed. Tap **[YES]** to delete the dashboard or **[NO]** to discard the delete operation.

9. Organisation Management

Organisations are collections of users groups assigned with predefined permissions to achieve usage and access policies. The user may create one or more organisations and be invited to join and become a member. A user who creates an organisation becomes its owner. Any user who is invited to join the organisation becomes a member. Owners can create up to 8 organisations. Organisations cannot be created on IoTPortal without a verified email address of the owner.

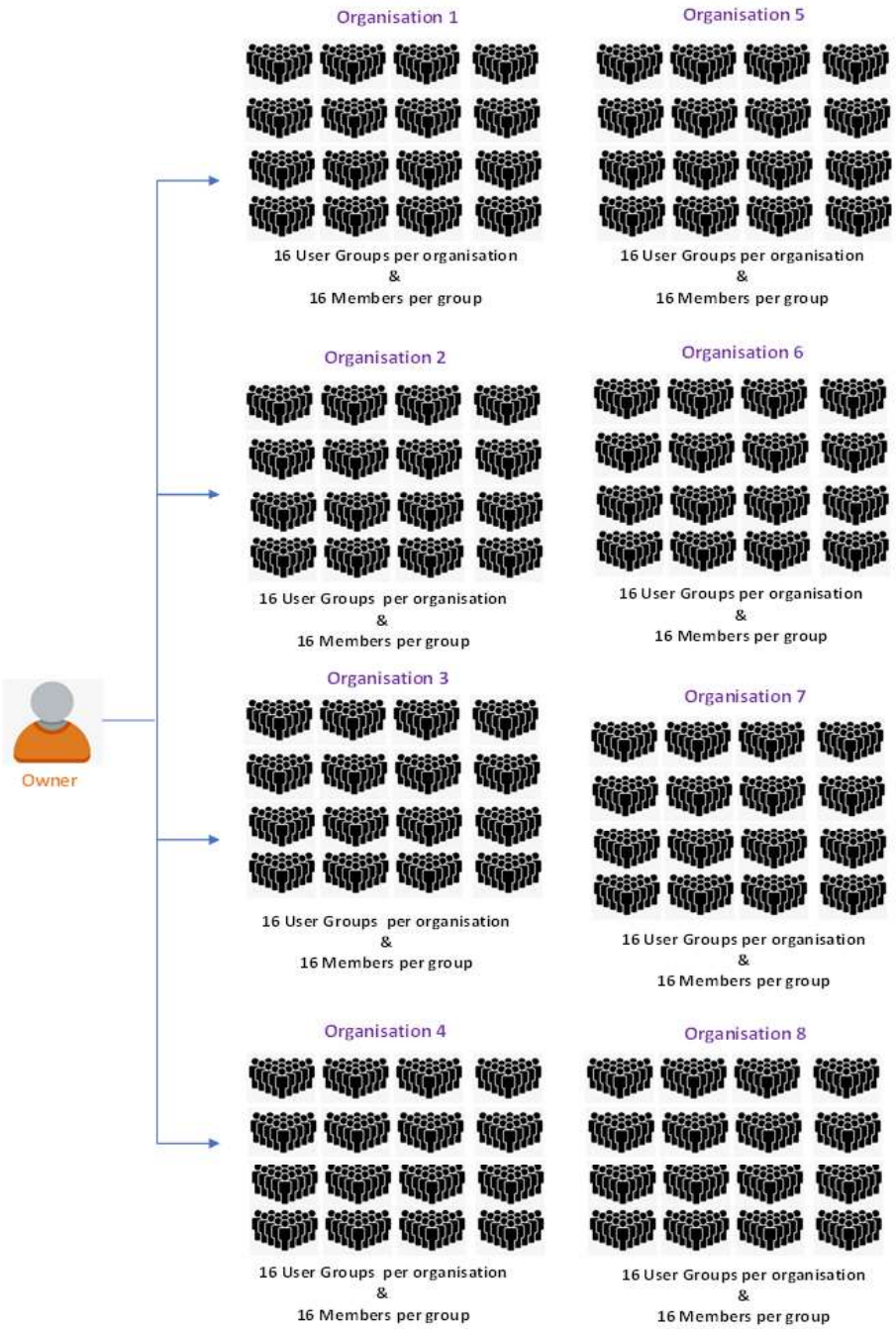
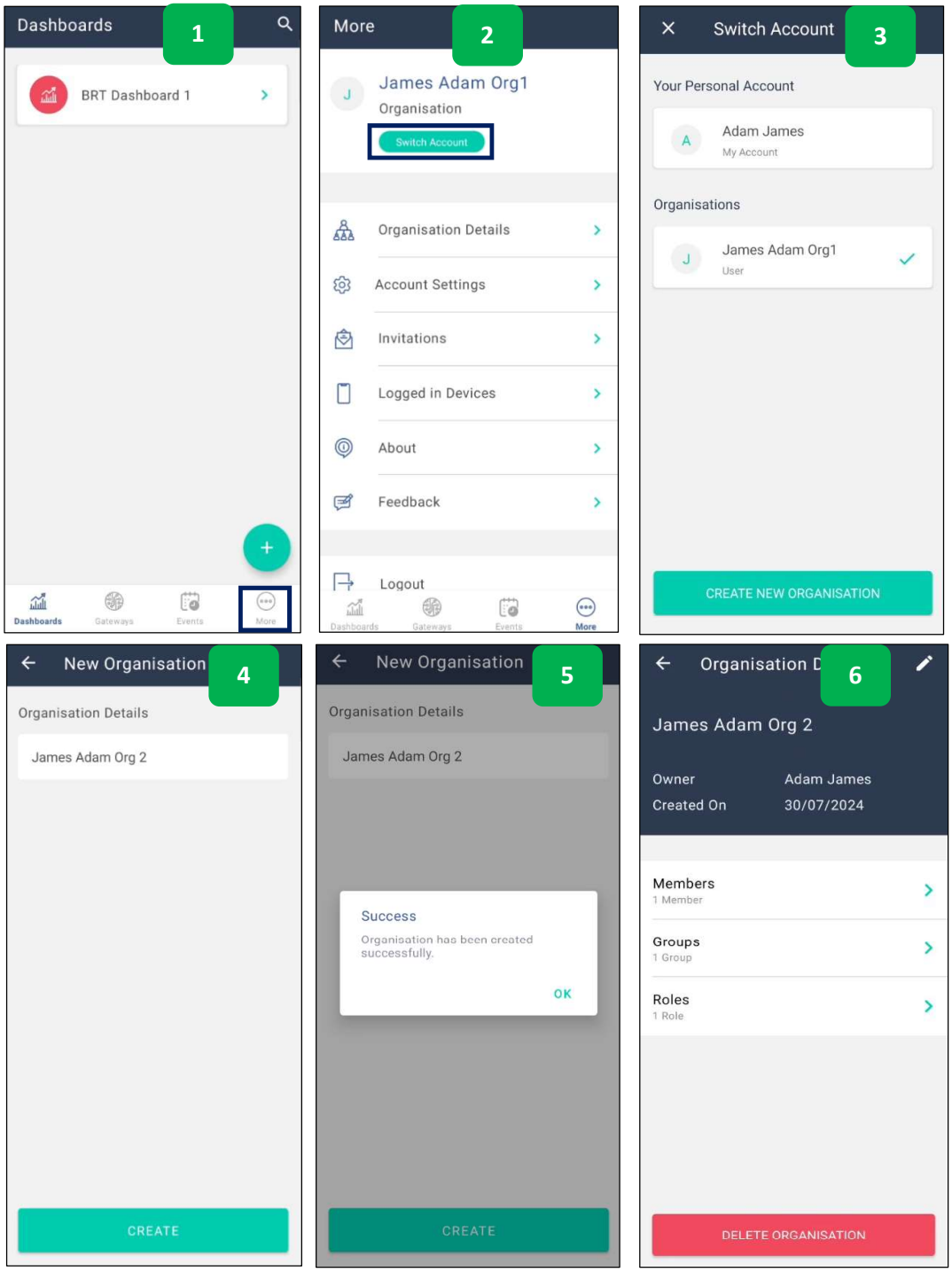


Figure 1 - Organisation Management

9.1 Create Organisation



To create an organisation –

1. From the **Home** screen, **bottom menu bar**, tap **More**.
2. Tap **Switch Account** to change to the account under which you wish to create a new organisation.

3. A list of existing organisations under the owner/user if any are displayed. If no organisations are available, then the interface will be empty. Tap **[CREATE NEW ORGANISATION]** to add a new organisation.
4. Enter the *Organisation Name* and tap **[CREATE]**.
5. Upon successful addition of the organisation, an appropriate message indicating the same is displayed. Tap **[OK]**.
6. Invite Users or tap **Invite Later & Skip** to invite the members at a later time. The newly added organisation is displayed.

9.1.1 Members

The number of members in each group may be up to 16 (pending or confirmed). Invitations are used to invite members into organizations. The invited user receives an email or push notification inviting them to download and register for an IoTPortal account and accept or decline the invitation. A member who is not assigned to a group does not inherit any default policies, except policy-leave-organisation.

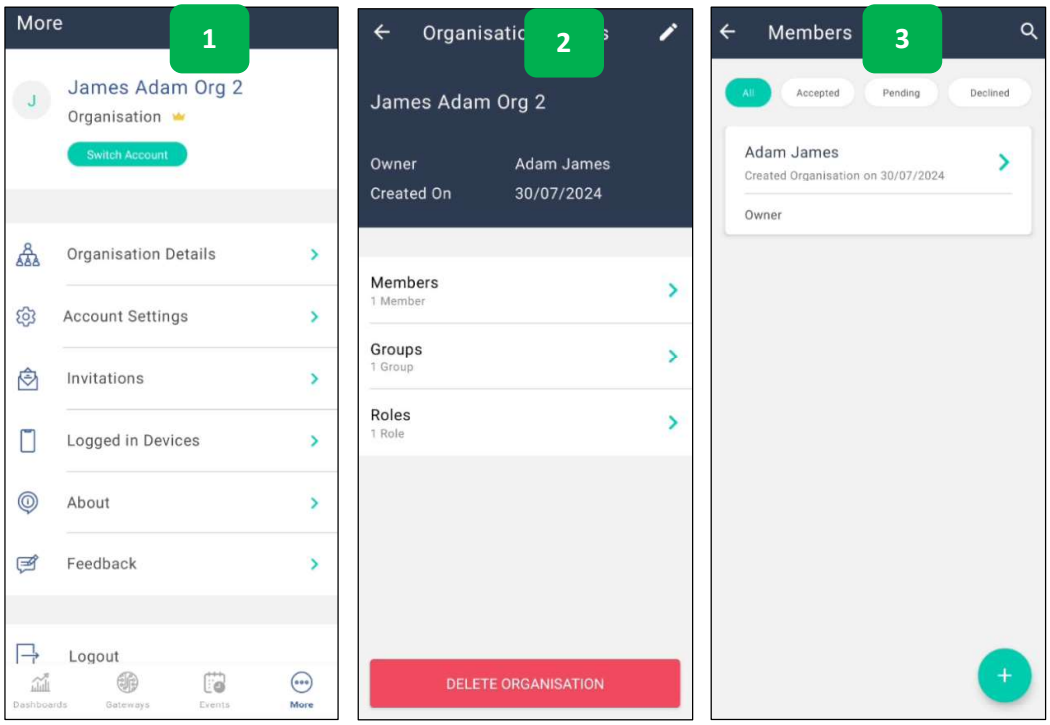
A group owner or member with a group-manager policy can add, remove, or transfer users into, out of, and between groups. Members are re-invited back to an organisation when they are removed from it. Pending invitation can be cancelled by the owner. Owners can re-assign an invited user or member to another group.

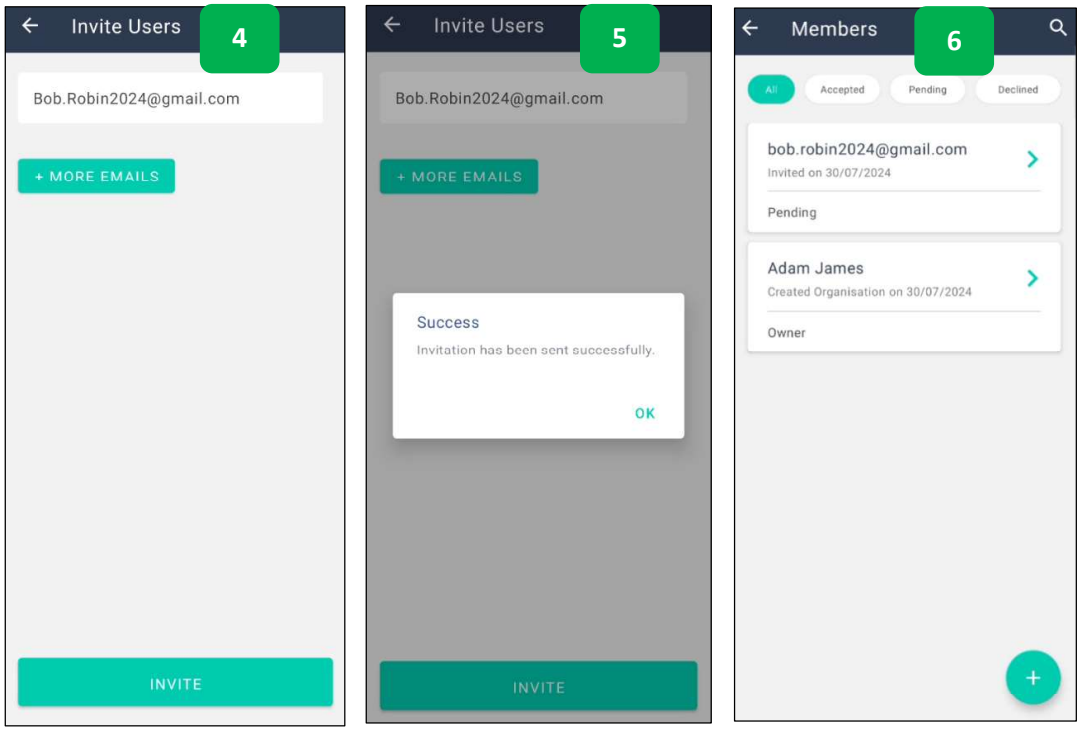
Members who have been moved to a different group or removed from an organisation may have active ongoing sessions in progress at the time of change. As a result, the member's next actions will fail (e.g., invalidate access and refresh tokens). To allow the new group policy and permissions to take effect, the member must log into the IoTPortal again and select the organisation. If a member is removed from the organisation, the organisation will not appear on the list of organisations. Members and owners who have been re-assigned or removed will be notified via email (verified email) or push notification (verified mobile).

9.1.1.1 Invite Members

Users are invited into organisations through invitations via email address. The email address used in the invitation may be verified (existing IoTPortal user) or unverified.

An invited user is sent an email or push notification inviting the user to download and sign-up for an IoTPortal account and accept/decline the invitation. Two links shall be provided in the email that invites the user to download the app from the Apple App Store or Google Play Store. Later, the email shall be updated to include website when the web client is available.

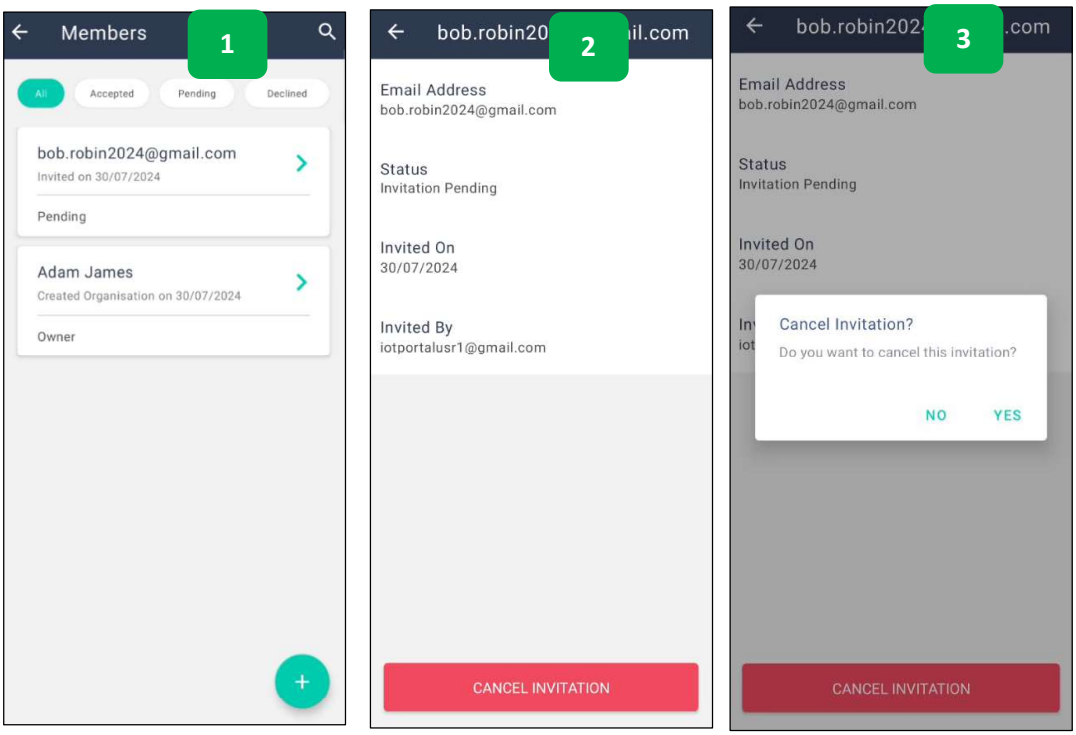




To invite new members –

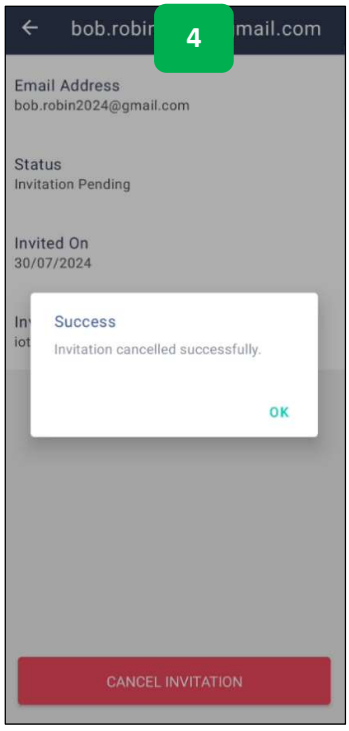
1. Tap on **Organisation Details**
2. Tap on **Members**.
3. Tap on **+**.
4. Enter the Email address and tap **[INVITE]**.
5. Upon successfully sending the invite, an appropriate message indicating the same is displayed.
6. The list of invited members is displayed in the Members interface.

9.1.1.2 Cancel Invitation

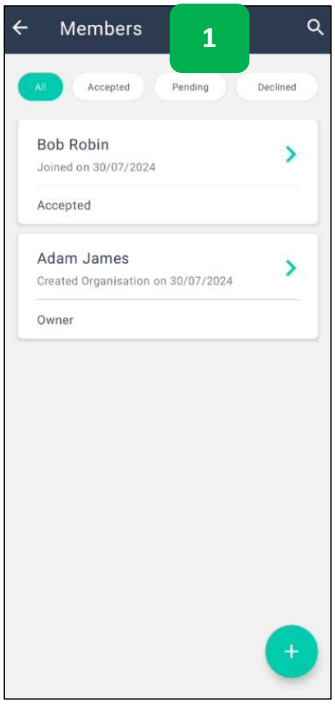


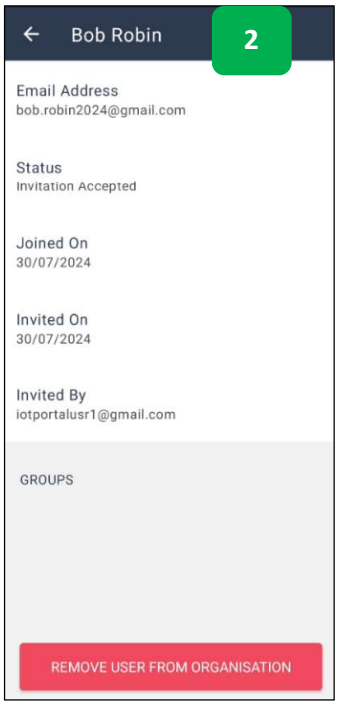
To cancel user invitation -

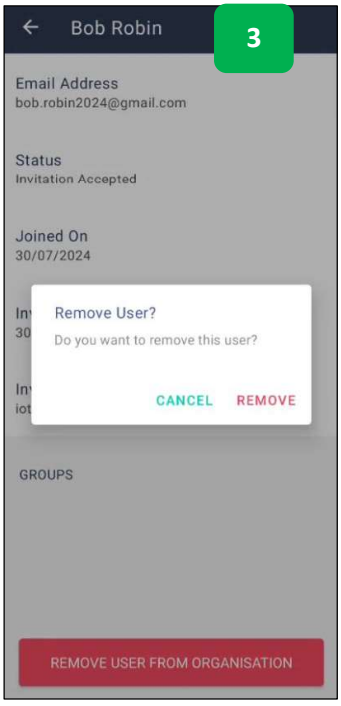
1. Tap and select the user.
2. Tap **[CANCEL INVITATION].**
3. To confirm the cancellation, tap **[YES]**.
4. An appropriate message indicating that the successful cancellation is displayed.



9.1.1.3 Remove Member/User from Organisation

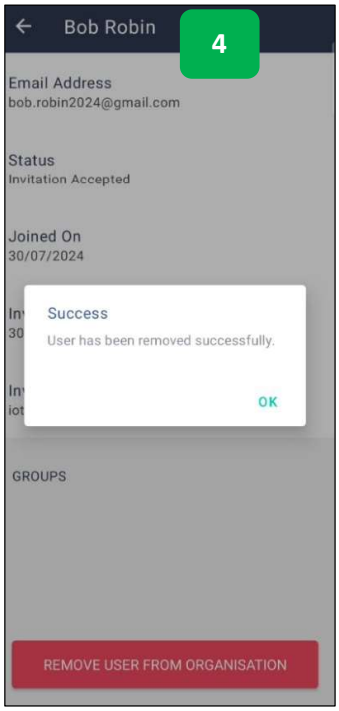


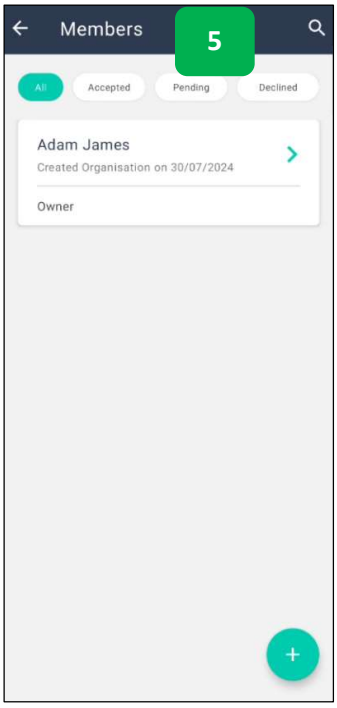




To remove member/user from organisation -

1. Tap and select the member you wish to remove.
2. Tap **[REMOVE USER FROM ORGANISATION].**
3. To confirm the removal, tap on **[REMOVE]**.
4. An appropriate message indicating the successful removal is displayed. Tap **[OK]**.
5. The member/user is removed.





9.1.2 Groups

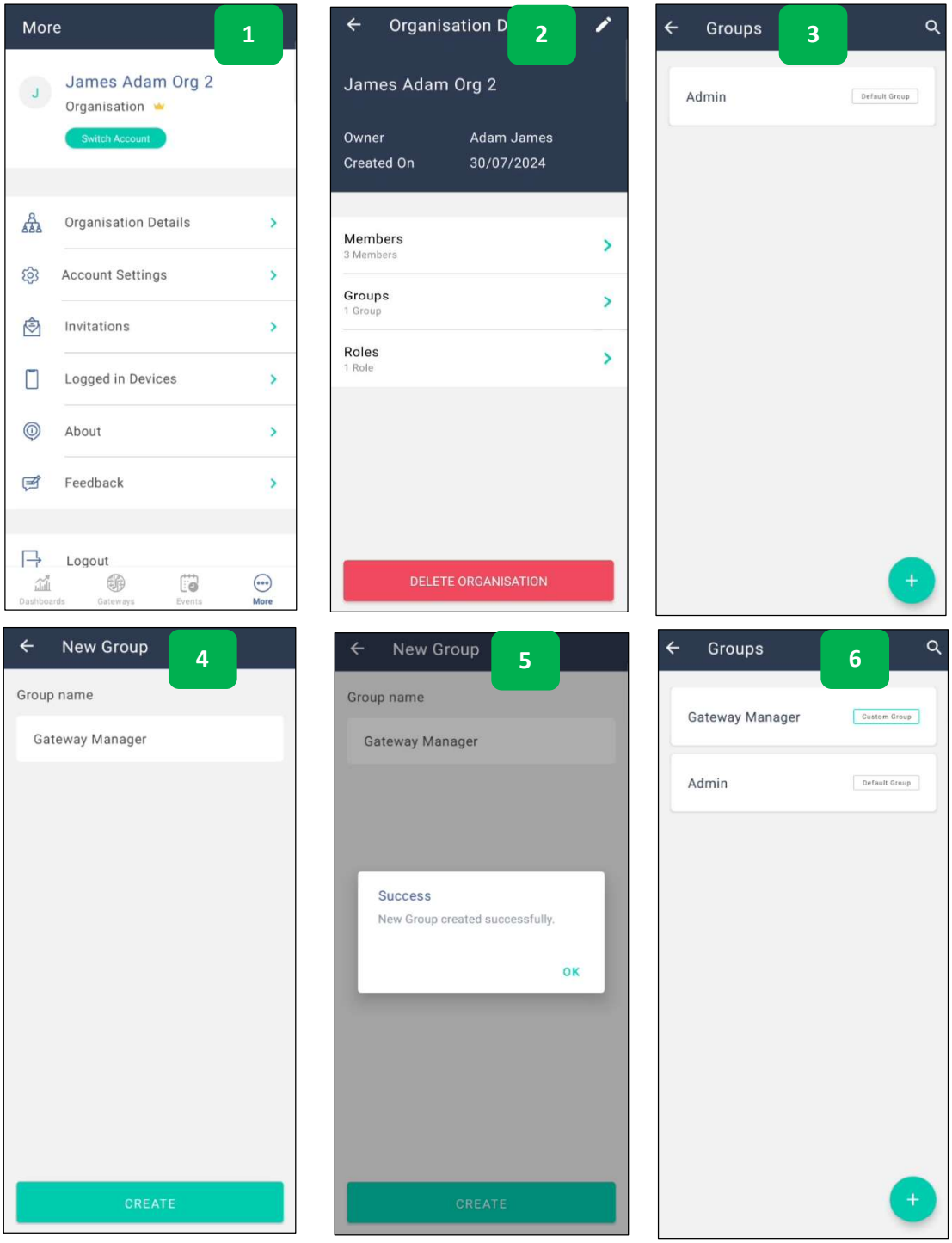
The owner of an organisation can create up to 16 groups. Groups can be divided into two types:

1. **Fixed Owner Group:** This group is pre-created. Only one owner group can exist, and it cannot be deleted, but members can be added and removed except the organisation owner. The members of this fixed group have unrestricted access to the organisation's configuration.

2. **Regular Group:** The second type of group is a regular group that can be assigned policies. The policies define a set of privileges for a particular action or set of actions withing the IoTPortal or for access to protected resources. Owners may perform *Create/Read/Update/Delete (CRUD)* operations on their groups. Organisations can have up to 15 regular groups besides the owner group.

Each member is added to a group, and group membership is not exclusive; each member can belong to more than one group.

9.1.2.1 Create Custom Groups



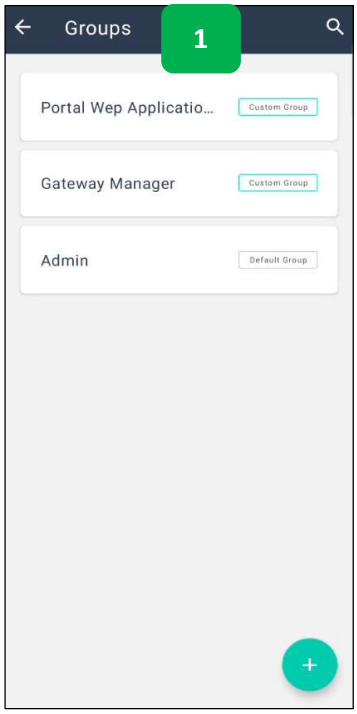
Switch to the organisation under which the new custom group is to be created.

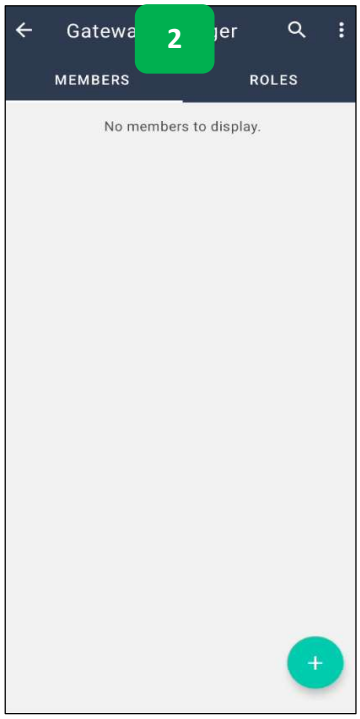
To create custom group –

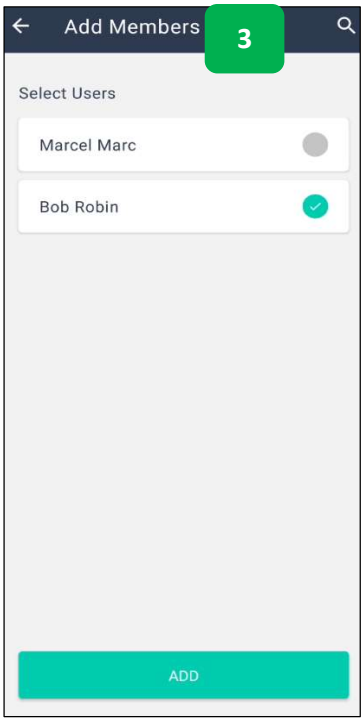
1. Tap on **Organisation Details**.

2. Tap on **Groups**.
3. The default group is displayed. To create a new custom group, tap on **+**.
4. Enter the *Group name* and tap on **[CREATE]**.
5. An appropriate message indicating the successful group creation is displayed. Tap **[OK]**.
6. The newly created group is displayed. Tap on **+** to add more groups.

9.1.2.2 Add Members to Custom Group

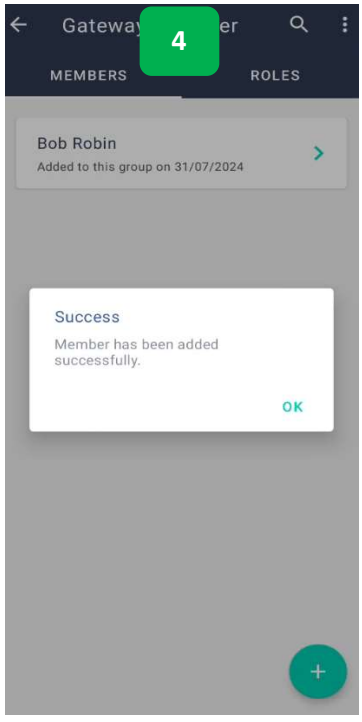


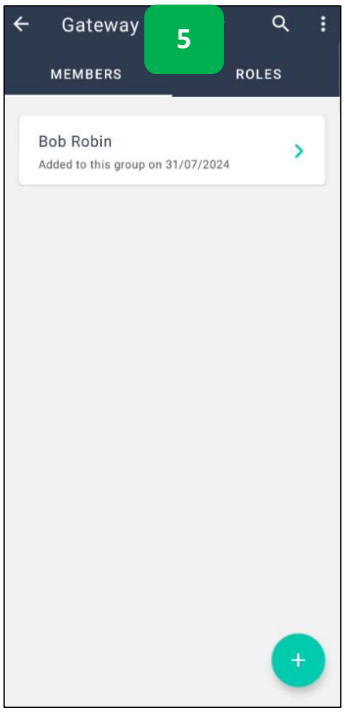




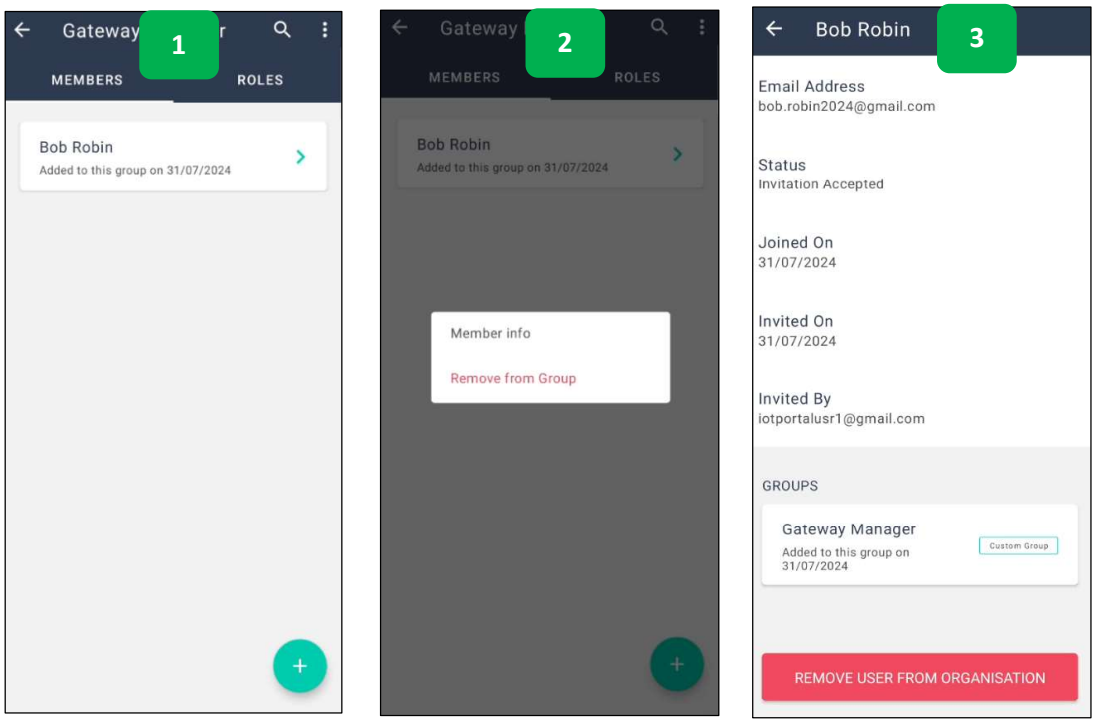
To add members to custom group –

1. Tap on the custom group to which member(s) are to be added.
2. Tap on **+**.
3. Select the member and tap on **[ADD]**.
4. An appropriate message indicating the successful addition of member is displayed. Tap **[OK]**.
5. The newly added member is displayed. Tap on **+** to add more members.





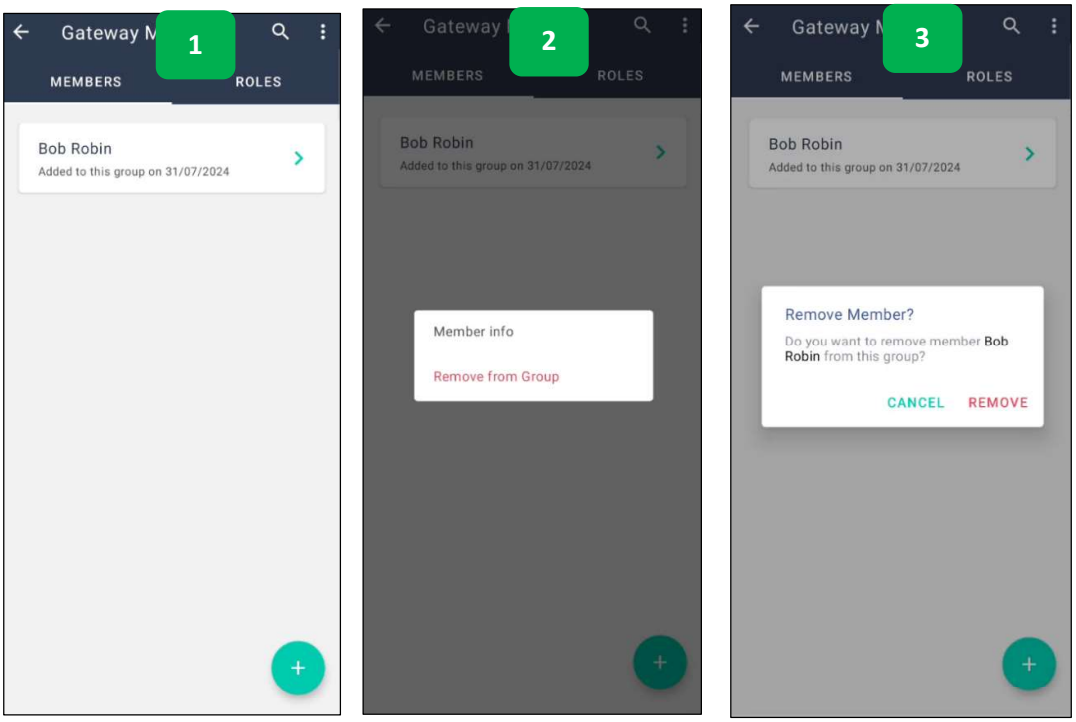
9.1.2.3 View Member Info



To view member information –

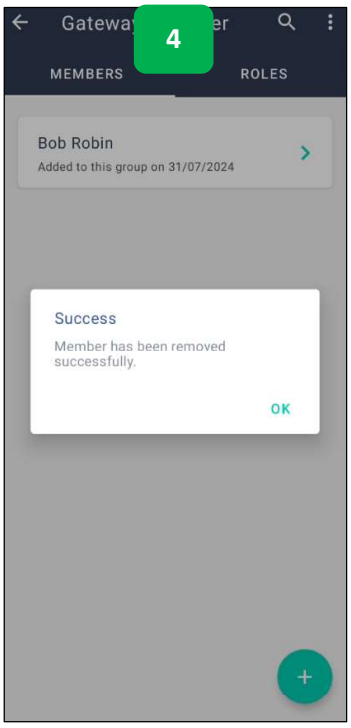
1. Tap on the member.
2. From the resulting menu, tap on **Member info**.
3. Member details are displayed. Tap on **[REMOVE USER FROM ORGANISATION]** to delete the user. Alternately, tap ← to switch back to the Members Home page.

9.1.2.4 Remove Member from Group

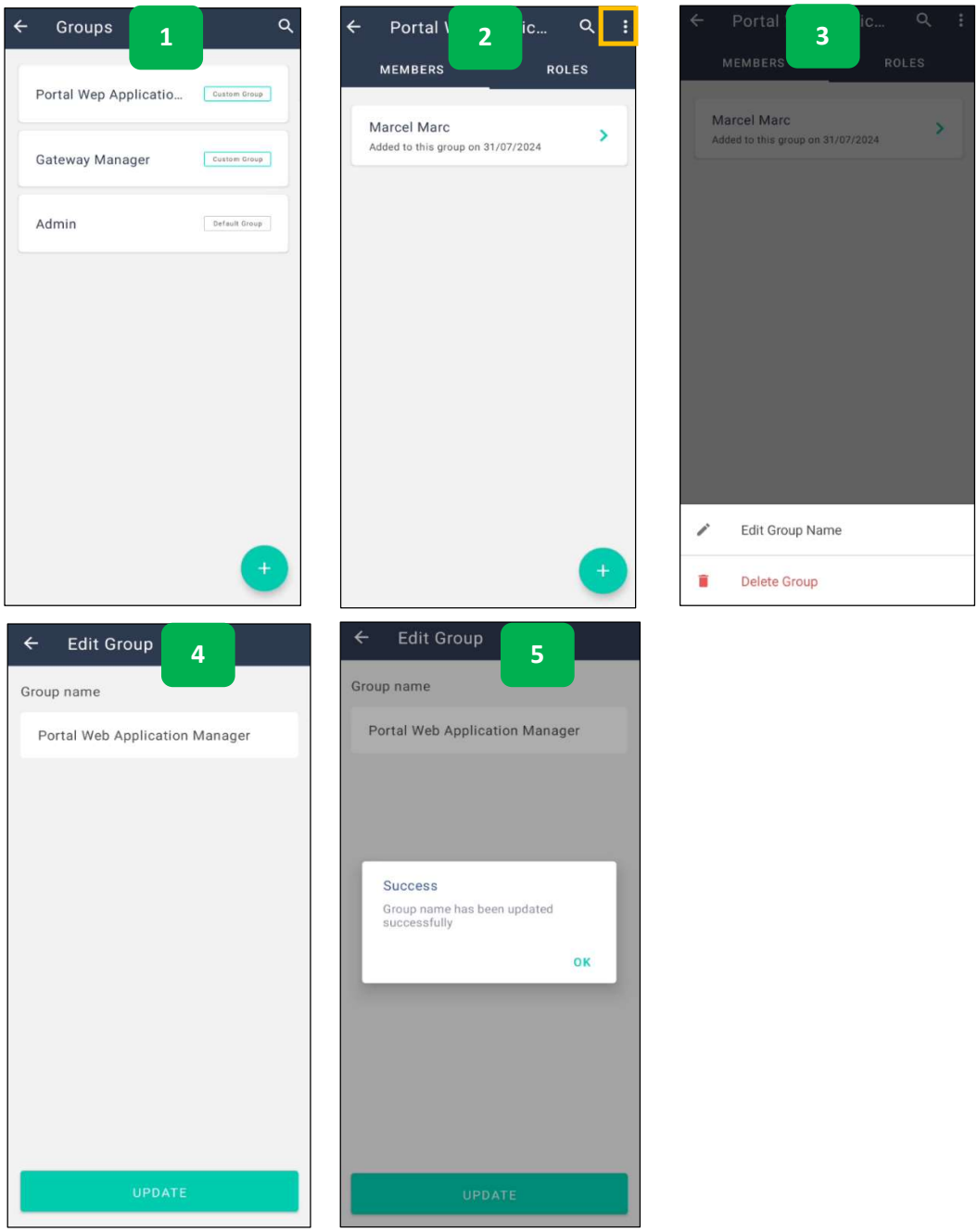


To remove member from group –

1. Tap on the member.
2. From the resulting menu, tap on **Remove from Group**.
3. Tap on **[REMOVE]** to remove the member from the group.
4. An appropriate message indicating the successful remove is displayed. Tap [**OK].**



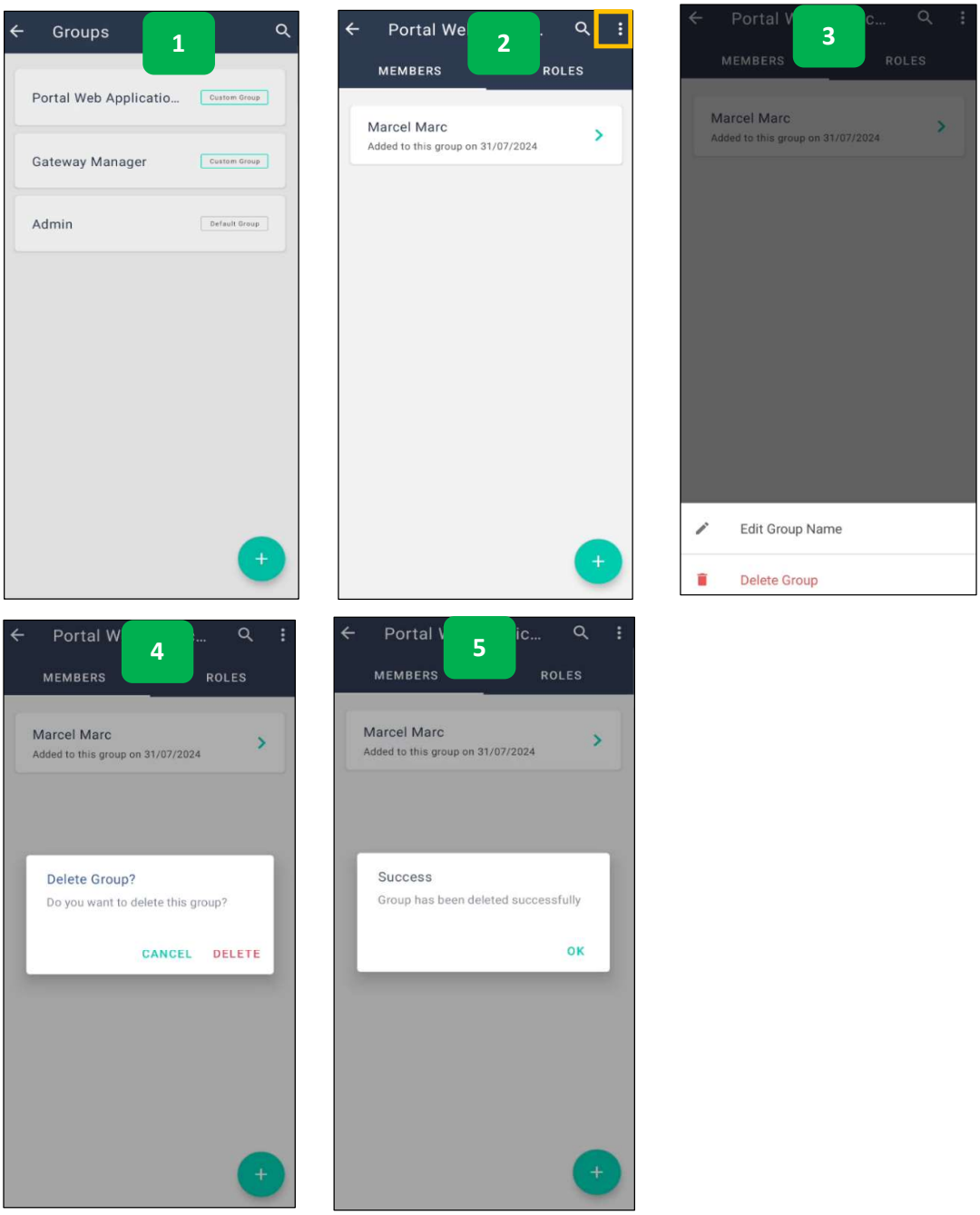
9.1.2.5 Edit Group Name



To edit group name –

1. Tap on the custom group.
2. Tap ⋮.
3. Select **Edit Group Name**.
4. Edit the Group Name as required and tap on **[UPDATE]** to save changes (if any).
5. An appropriate message indicating the successful update is displayed.

9.1.2.6 Delete Group



To delete group –

1. Tap on the custom group.
2. Tap ⋮
3. Select **Delete Group**.
4. Tap on [DELETE] to delete the group.
5. An appropriate message indicating successful deletion is displayed.

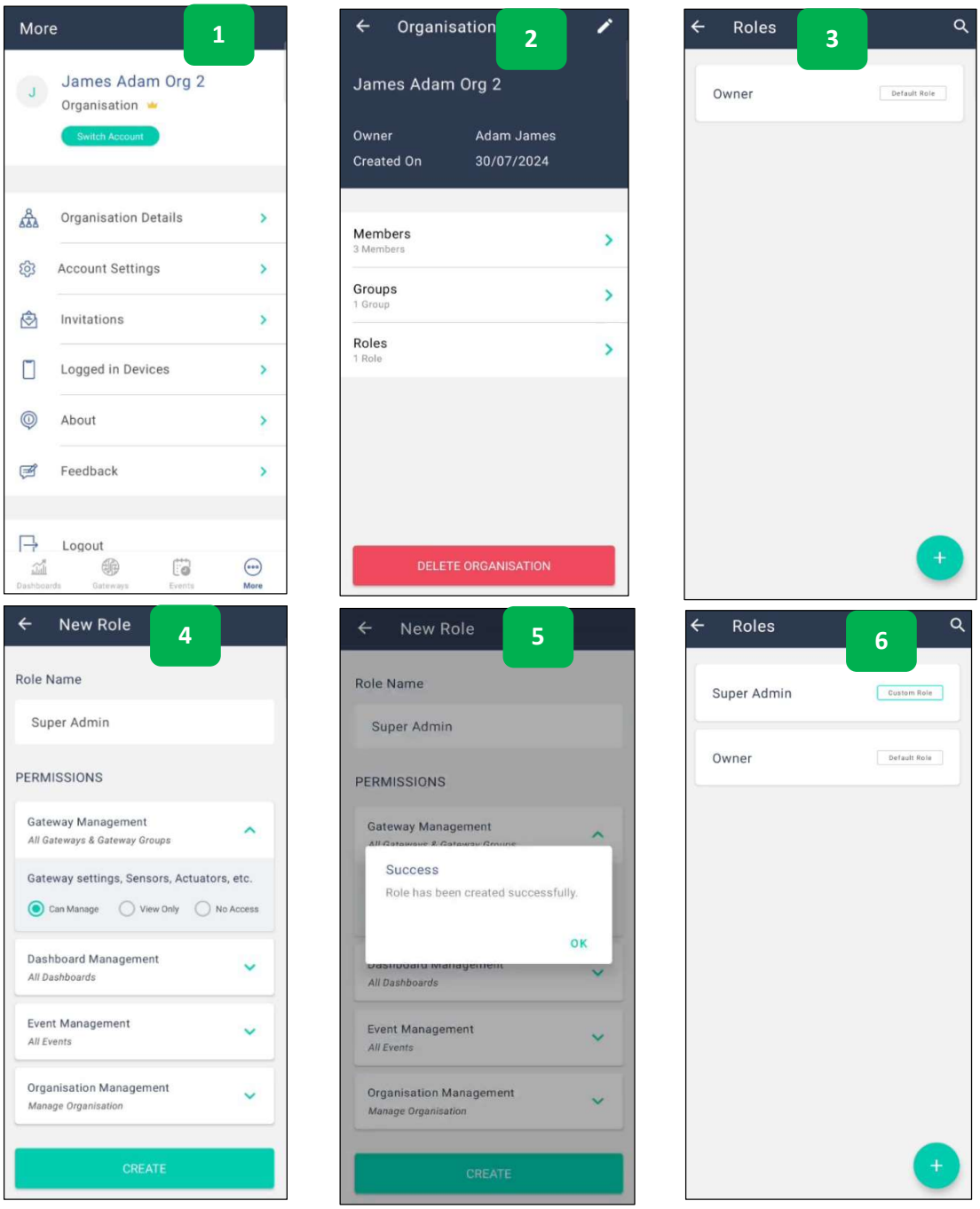
9.1.3 User Roles

The IoTPortal users can have one or more roles. Roles have associated Access Rights Create/Read/Update/Delete (CRUD) and Resources (device/sensor page, dashboard page etc.). Roles can be defined in number of ways. Roles can be restrictive or loose, generic, or specific. Some examples of roles are *Finance role, Operator role, Customer role, Guest role* etc. Alternatively, it can be generic such as *Full Control, Restrictive, View Only* etc. Owners and members are given permission to perform actions in the system or access resources when they have permissions. Refer to the table given below for the list of Policies and Permissions.

Policies	Permissions		
Gateway Management *(All Gateways and Gateway Groups)*			
Gateway Settings, Sensors, Actuators etc.	Can Manage	View Only	No Access
Dashboard Management *(All Dashboards)*			
Dashboards and Charts	Can Manage	View Only	No Access
Organisation Management (*Manage Organisations*)			
Groups, Roles and Members	Can Manage	View Only	
Event Management *(All events)*			
Create, Edit, View and Delete Events	Can Manage	View Only	No Access

Table 3 – Permissions

9.1.3.1 Create Custom Roles



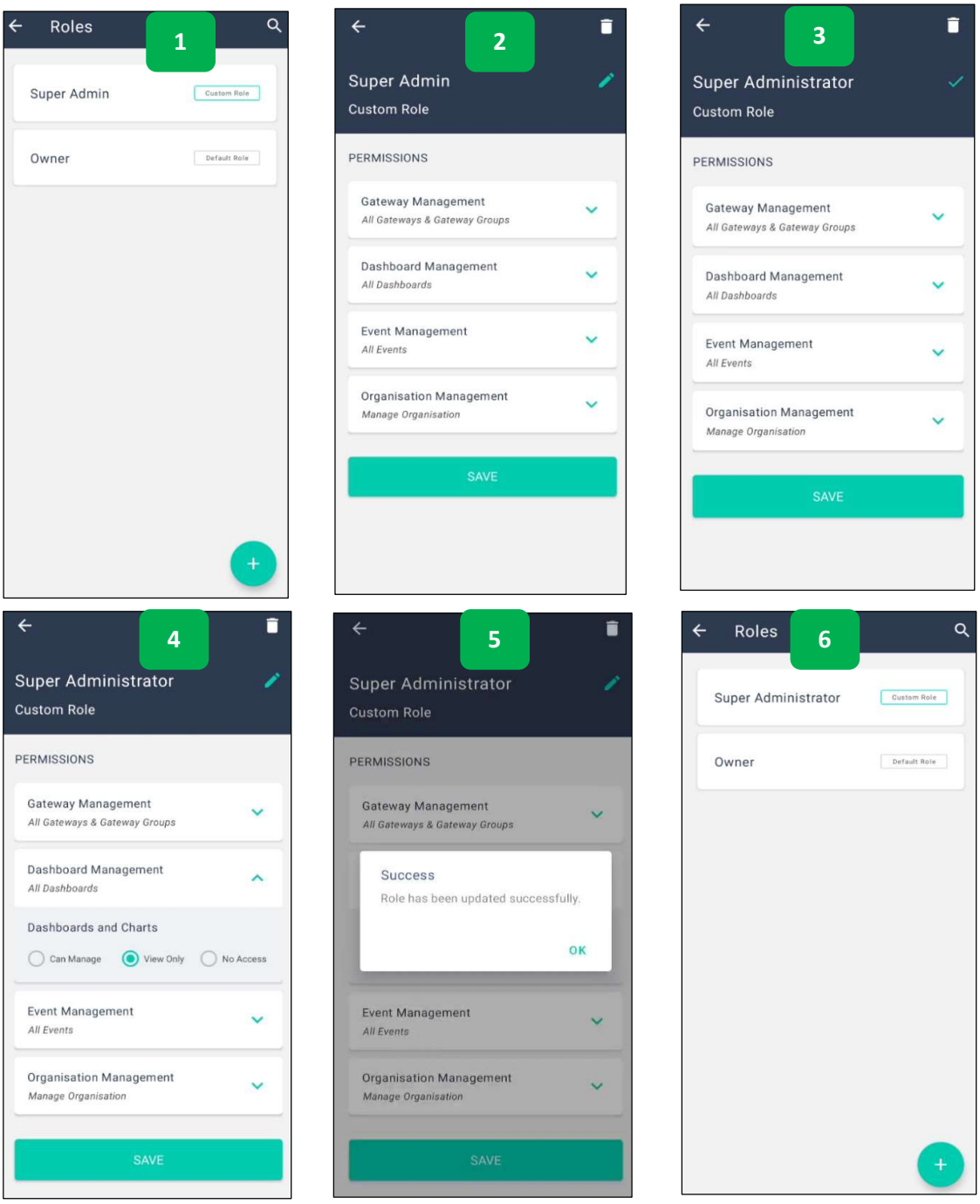
Switch to the organisation under which the new custom role is to be created.

To create custom role –

1. Tap on **Organisation Details**.
2. Tap on **Roles**.
3. The default role is displayed. To create a new custom role, tap on **+**.
4. Enter the *Role Name* and assign the Permissions as required. Tap on **[CREATE]**.

5. An appropriate message indicating the successful role creation is displayed.
6. The newly created custom role is displayed. Tap on **+** to create more custom roles.

9.1.3.2 Edit Role

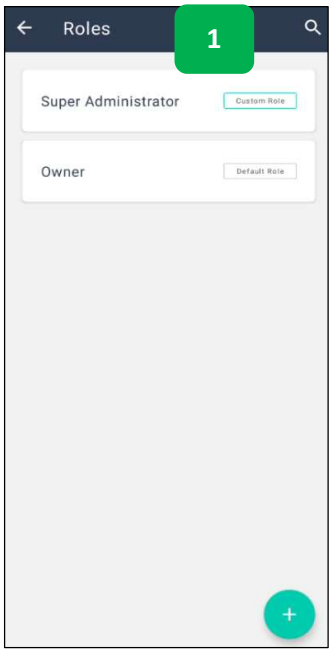


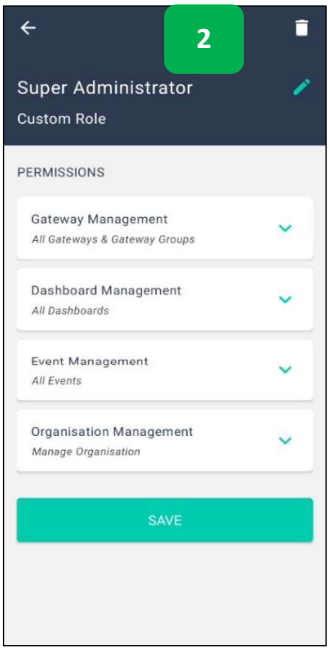
To edit role –

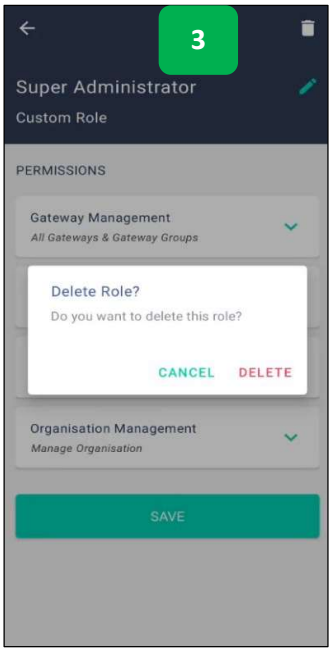
1. Tap on the role to be edited.
2. To edit the *Role Name*, tap on ✎ .

3. Upon editing, tap on ✓.
4. Edit the *Permissions* as required. Tap on **[SAVE]**.
5. An appropriate message indicating the successful update is displayed.
6. The updated roles interface is displayed.

9.1.3.3 Delete Role

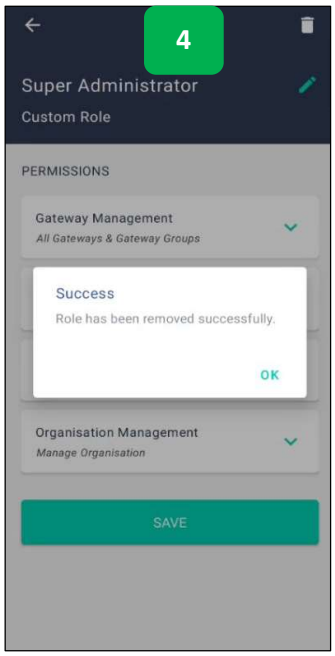


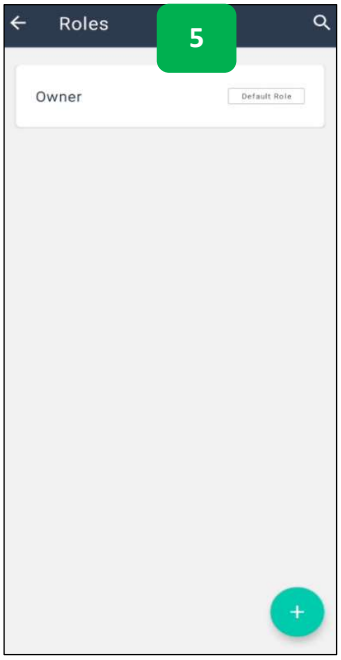




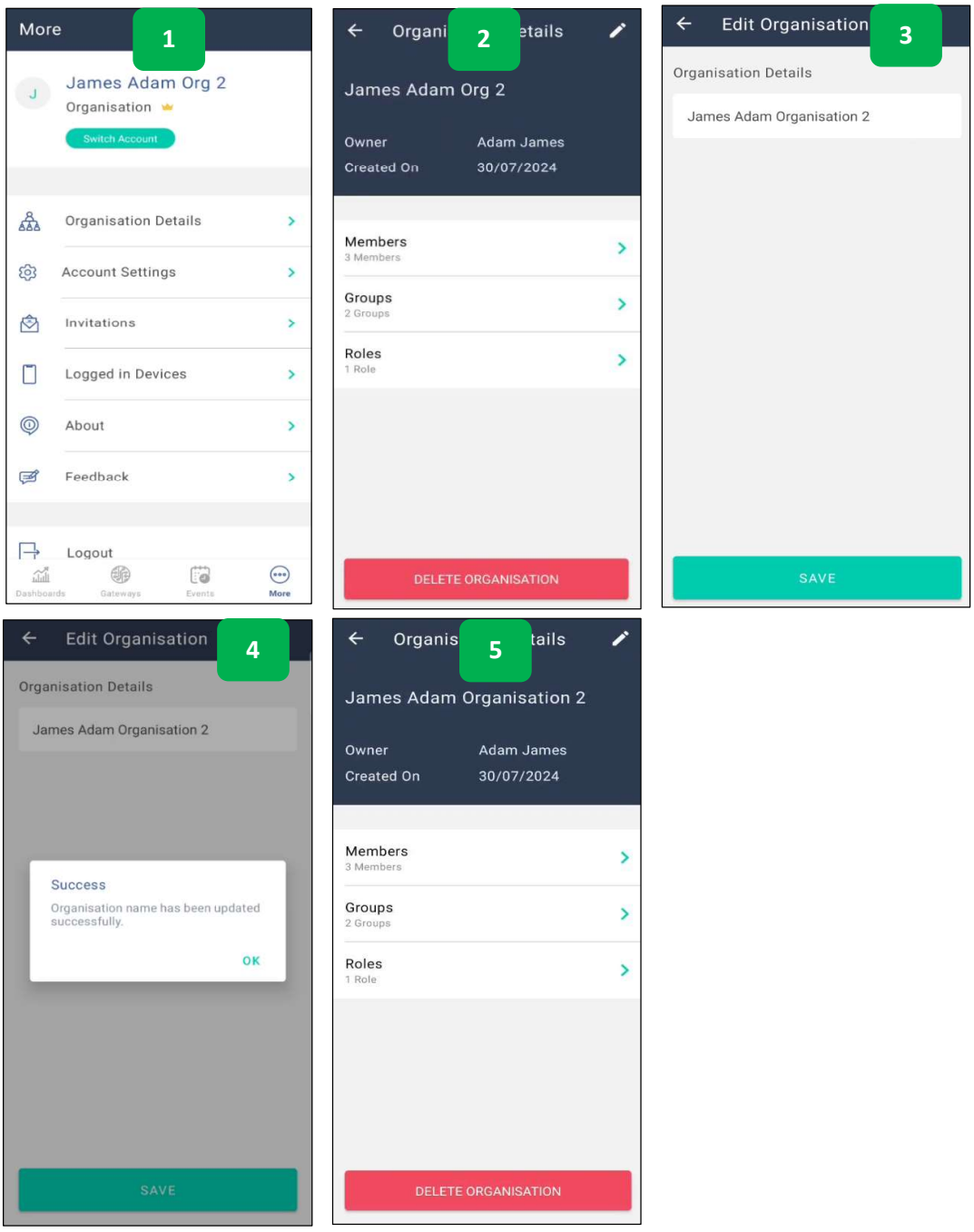
To delete role –

1. Tap on the role to be deleted.
2. Tap on 🗑.
3. To confirm the deletion, tap on **[DELETE]**.
4. An appropriate message indicating the successful deletion is displayed. Tap [OK].
5. The updated Roles interface is displayed.





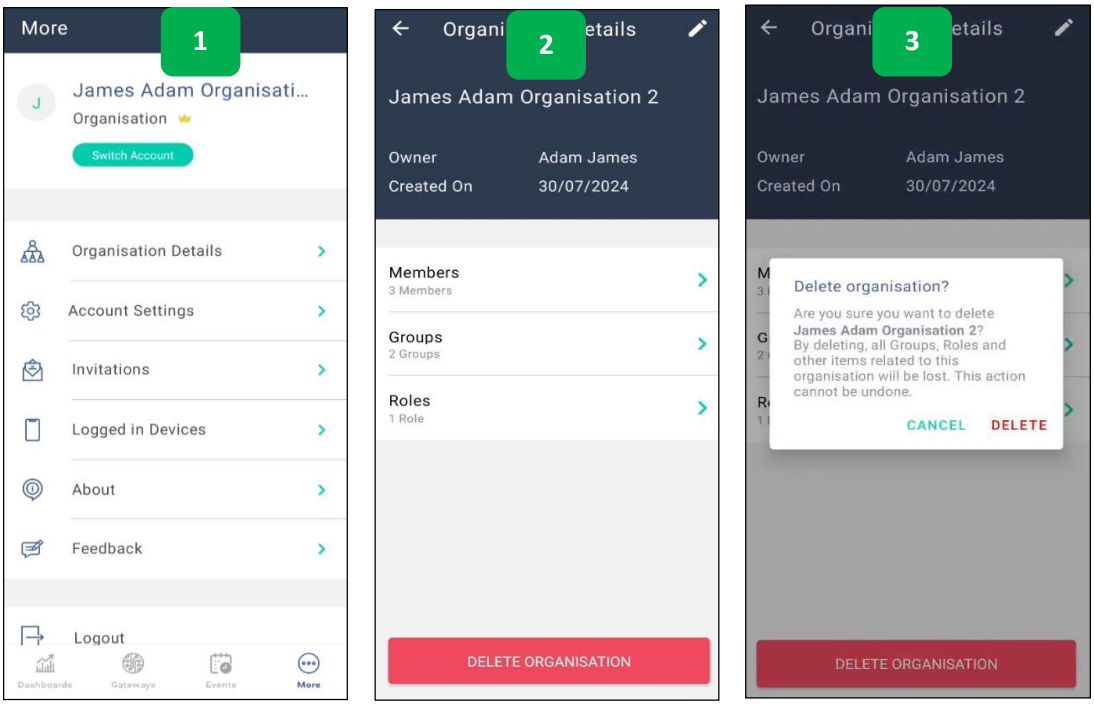
9.2 Edit Organisation



To edit organisation details –

1. Tap on the Organisation details.
2. Tap on ✎.
3. Edit the *Organisation Name* and tap **[SAVE]**.
4. An appropriate message indicating the successful update is displayed.
5. The updated organisation details are displayed.

9.3 Delete Organisation



To delete organisation –

1. Tap on the Organisation details.
2. Tap **[DELETE ORGANISATION]**.
3. A confirmation message is displayed. Tap on **[DELETE]**. The organisation will be deleted.

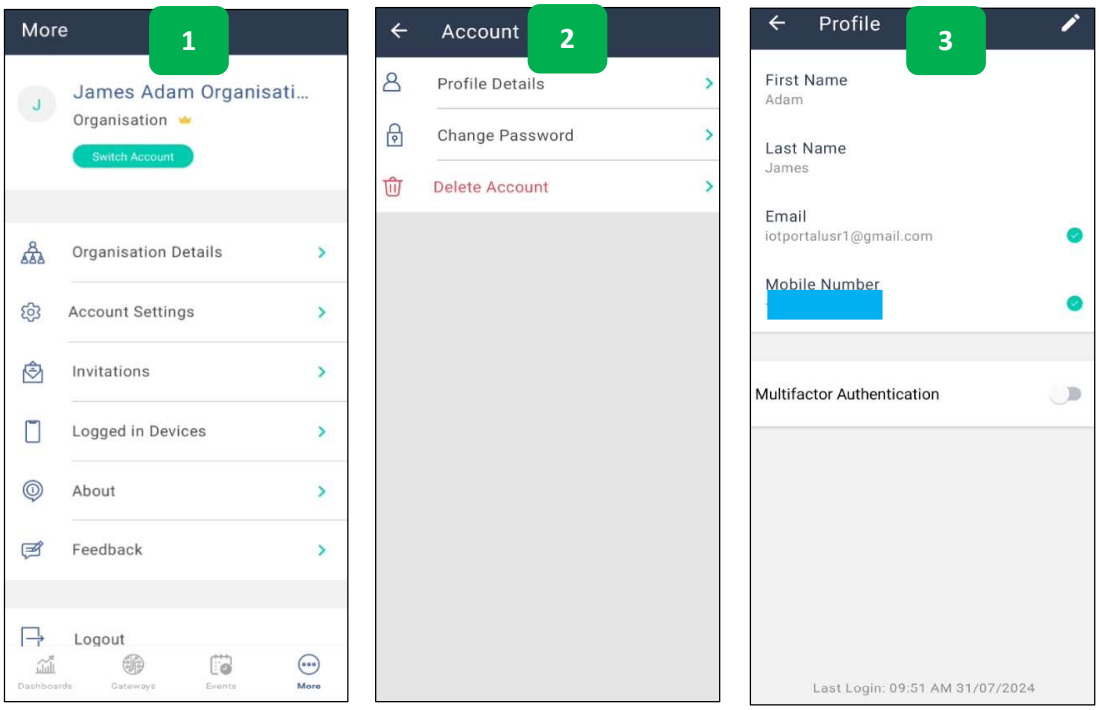
10. More Functions

10.1 Account Settings

10.1.1 Profile Details

Profile contains user information such as *First Name, Last Name, Email Address* and *Mobile Number* associated with the user.

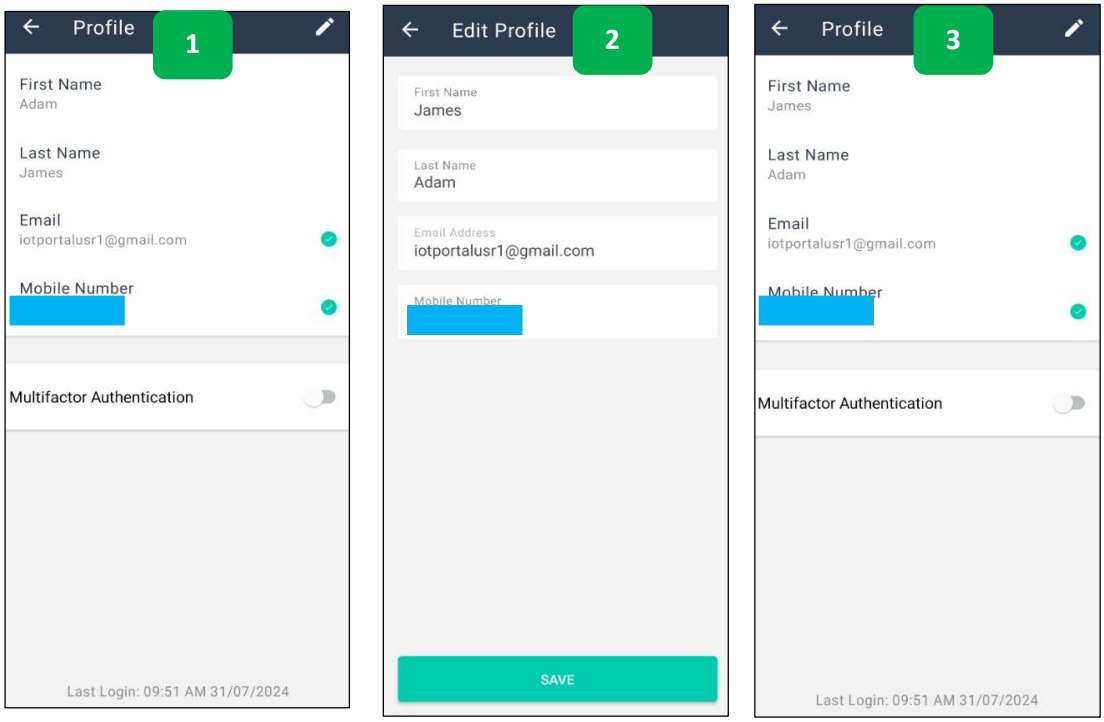
10.1.1.1 View Profile Details



To view user profile –

1. From **More** interface, tap on **Account Settings**.
2. From Account page, tap on **Profile Details**.
3. The user profile is displayed.

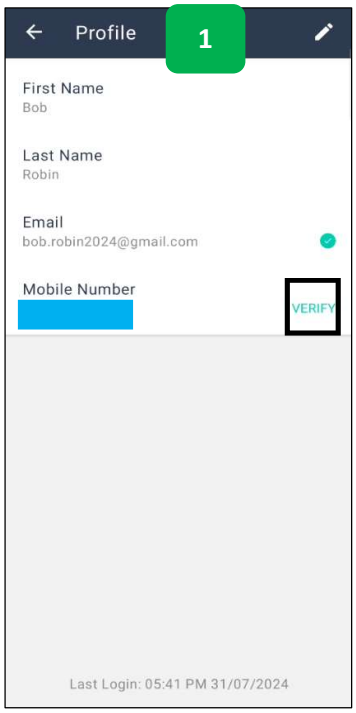
10.1.1.2 Edit User Profile

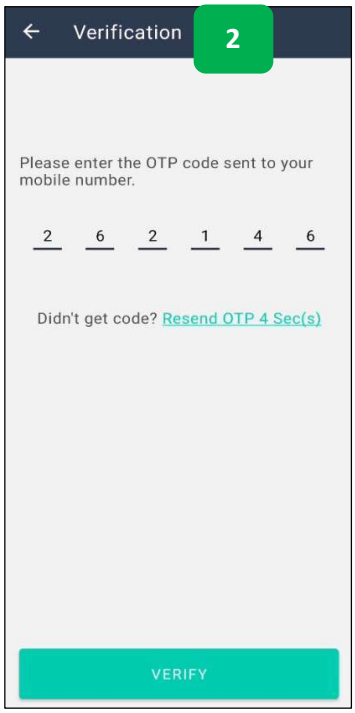


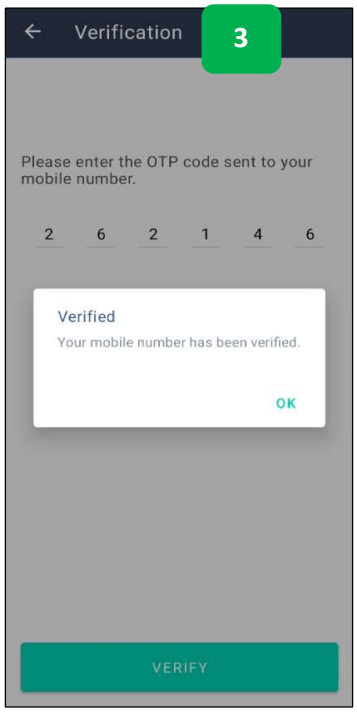
To edit user profile –

1. To edit profile, tap on ✎.
2. Edit the *First Name, Last Name* and *Mobile Number* as required and tap **[SAVE]**.
3. An appropriate message indicating the successful update is displayed. Tap **[OK]**. The updated profile details (if any) are displayed.

10.1.1.3 Verifying Mobile Number

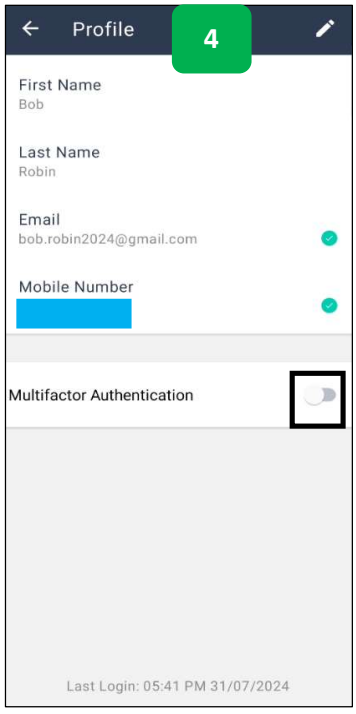


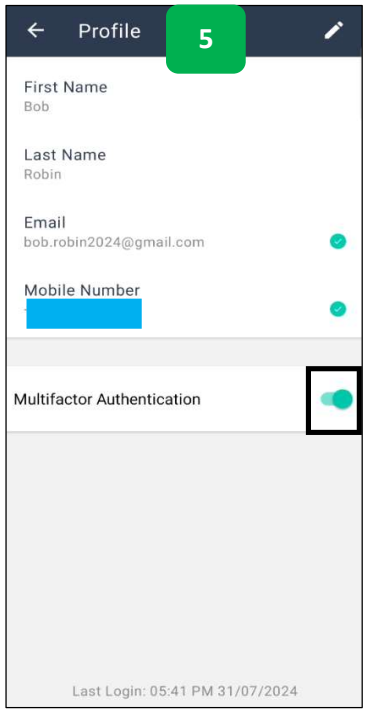




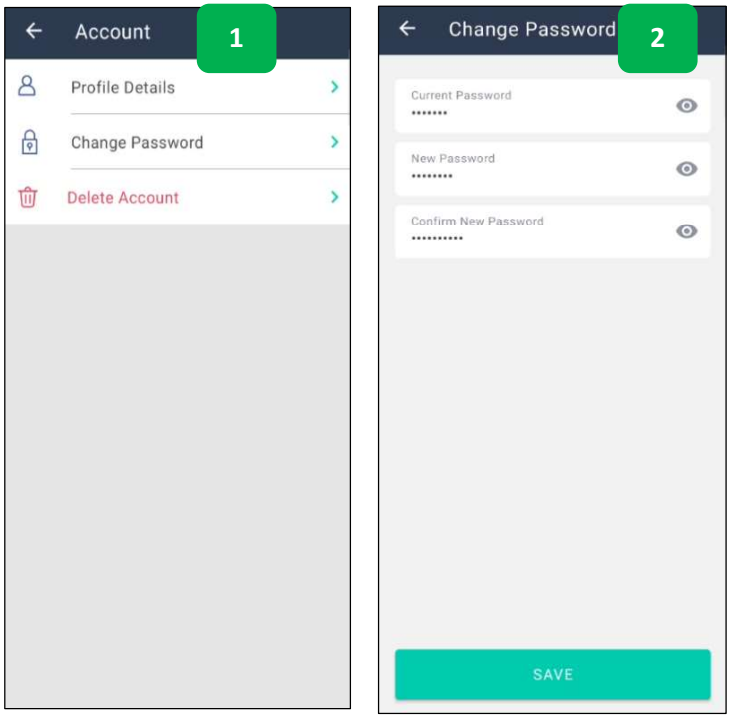
To Verify the registered mobile number –

1. Tap **VERIFY**.
2. Enter the one-time password (*OTP) code* sent to the registered mobile number and tap **[VERIFY]**.
3. Upon successful verification an appropriate message is displayed. Tap **[OK]**.
4. The Multifactor Authentication toggle button is disabled by default.
5. Enable the *multi-factor authentication* toggle button to receive one-time password (OTP) while signing in.





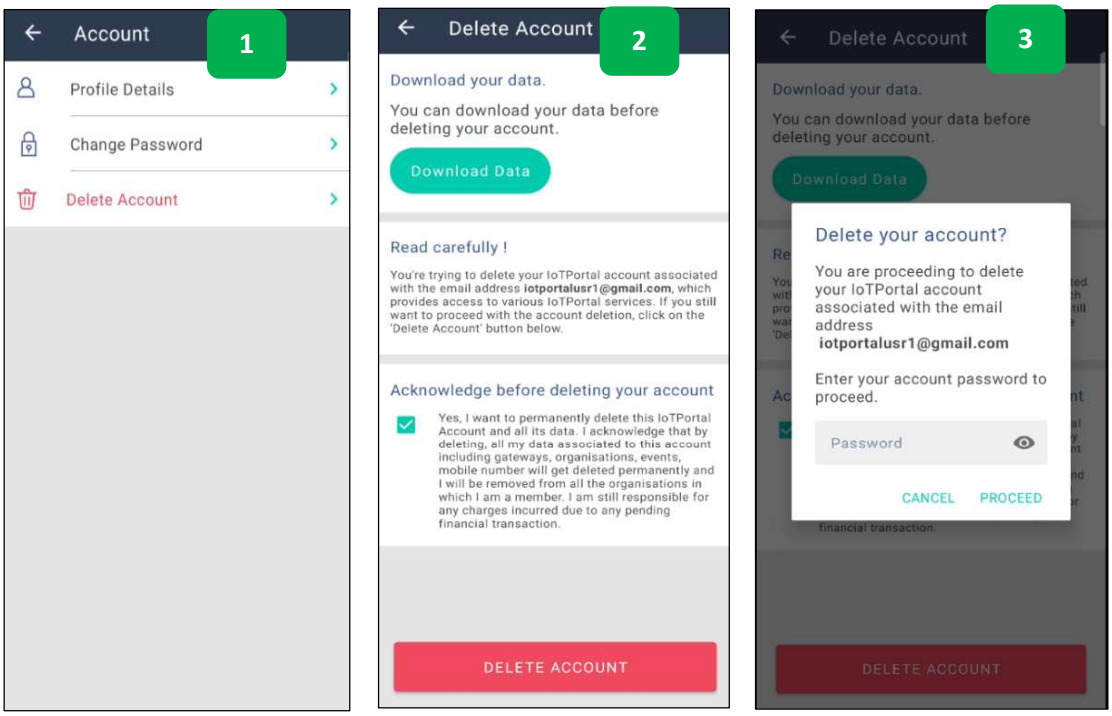
10.1.1.4 Change Password



To change password –

1. Tap on **Change Password**.
2. Enter the *Current Password, New Password* and *Confirm New Password*. Tap **[SAVE]**.

10.1.1.5 Delete Account

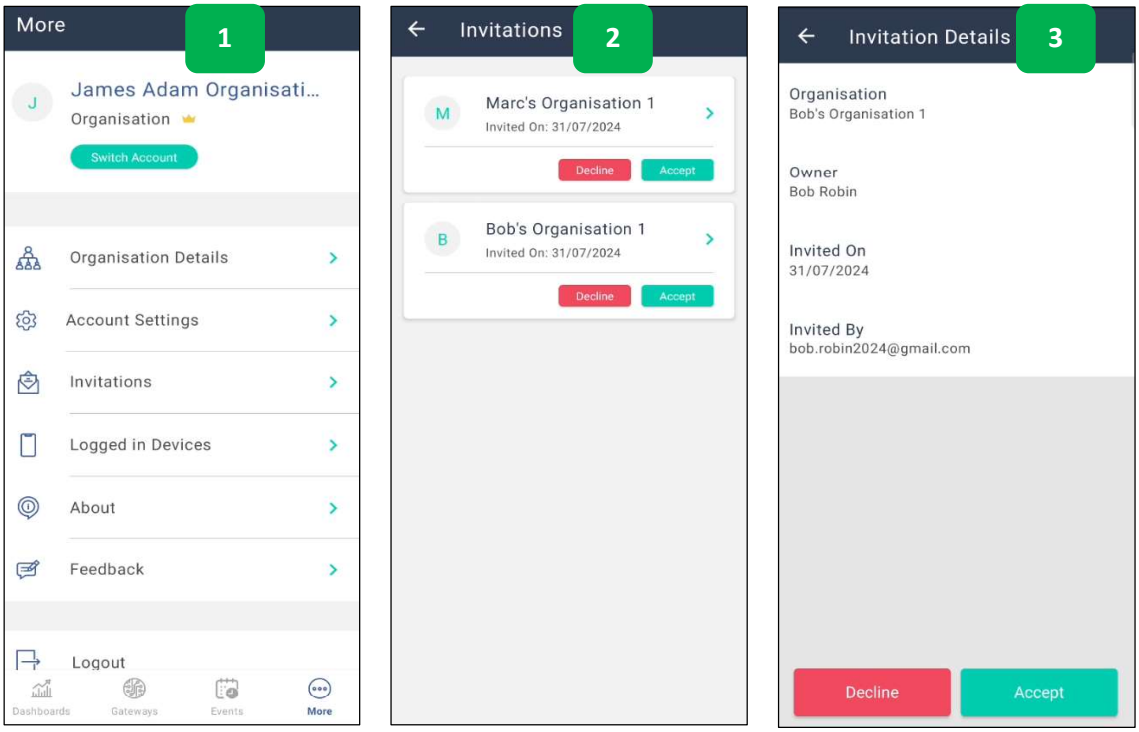


When you delete your IoTPortal account, all services linked to that account will be lost. You may download your data before deleting the account.

To download data/delete account –

1. Tap on **Delete Account**.
2. Tap on **[Download Data]** to download the data.
3. Read the instructions carefully before deleting an IoTPortal Account. Tap and select the *checkbox* to "Acknowledge before deleting your account". Tap **[DELETE ACCOUNT]**. A confirmation message is displayed. Enter your account password and tap **[PROCEED]** to go ahead with your decision of deleting the account.

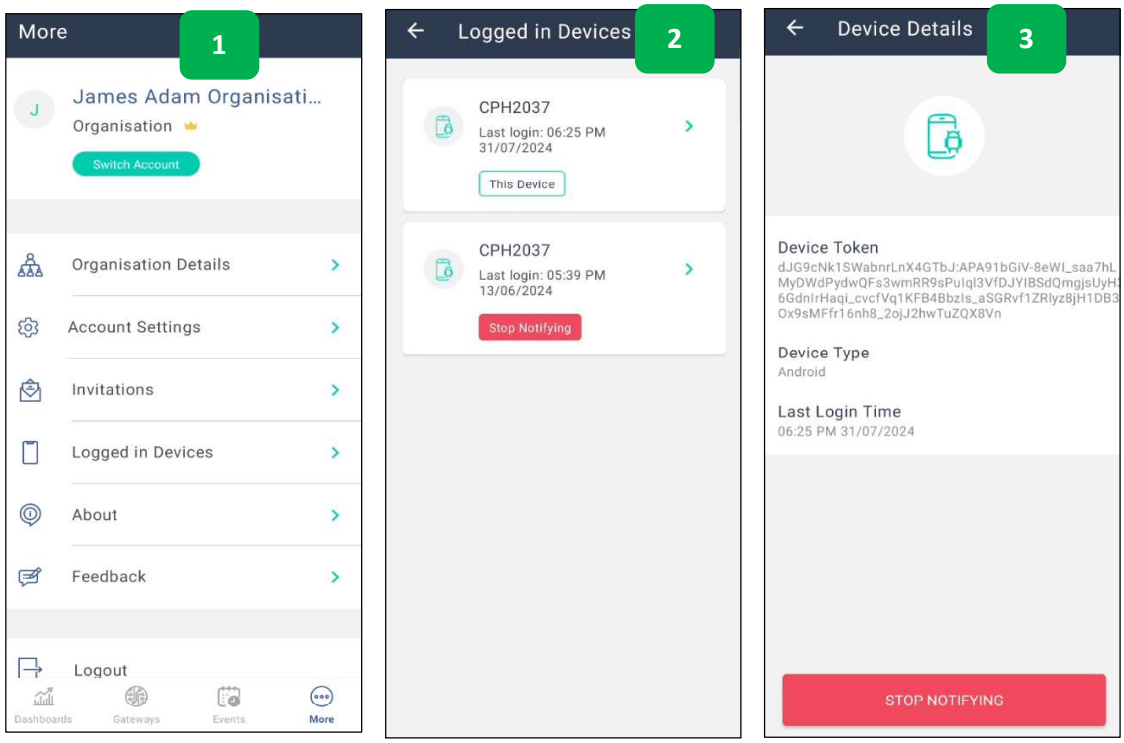
10.2 Invitations Received from Other Organisations



To view the list of invitations received from other organisations (if any) –

1. From the **More** functions interface, tap **Invitations**.
2. A list of invitations received from other organisations (if any) are displayed. Click **[ACCEPT]** or **[DECLINE].**
3. To view the invitation details, tap on the invitation. The Invitation details are displayed.

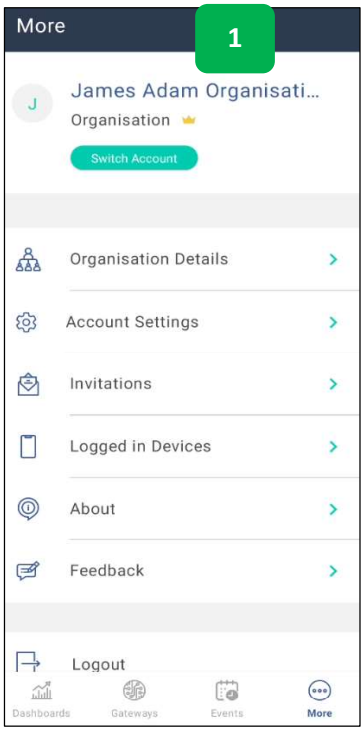
10.3 Logged in Devices

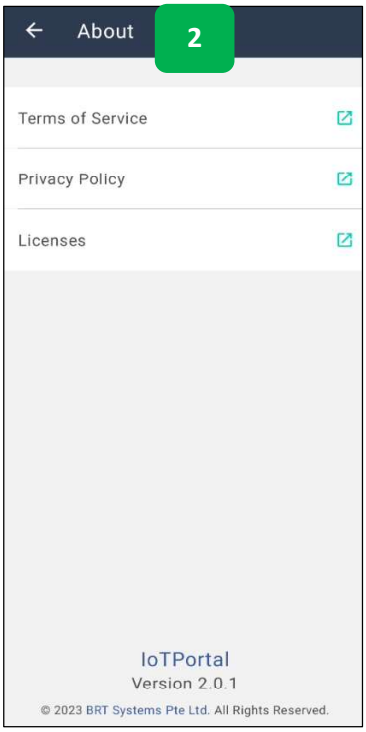


To view the list of devices that you have used to log into IoTPortal account –

1. From the **More** functions interface, tap **Logged in Devices**.
2. A list of logged in devices will be displayed.
3. To view the details of the device, tap on the device information. The details pertaining to *device token*; *device type* and *last login time* are displayed. Tap **[STOP NOTIFYING]** to stop sending push notifications to other devices.

10.4 About

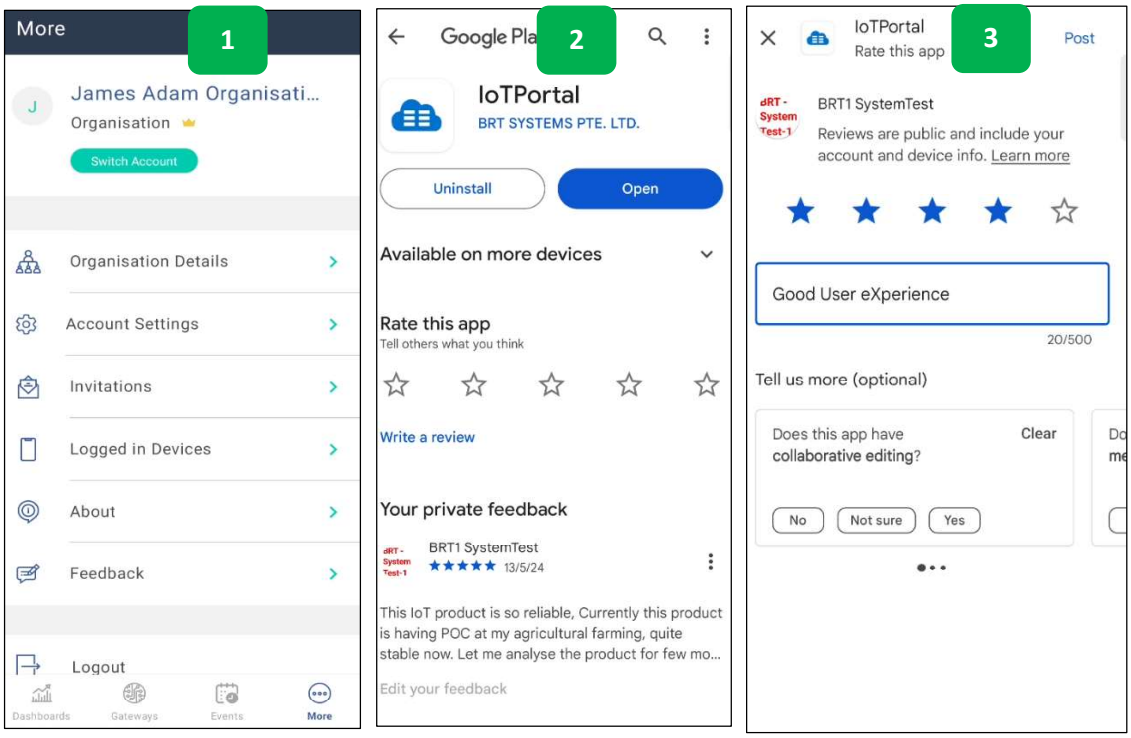




To view information about *IoT Portal version/Terms of Service/Privacy Policy/Licenses* –

1. From the **More** functions interface, tap **About**.
2. Tap on each field to view the respective information.

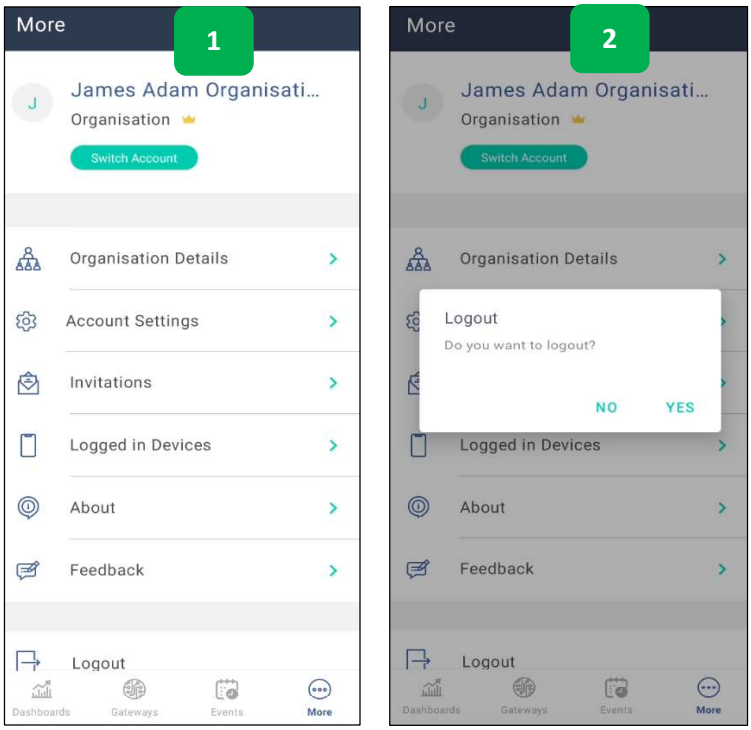
10.5 Feedback



To rate or provide feedback about IoTPortal app –

1. From the **More** functions interface, tap **Feedback**.
2. You will be redirected to the GooglePlay feedback page.
3. Rate the app and/or write a review about the app and tap **Post**.

10.6 Logout



To logout from the IoTPortal mobile app –

1. From the **More** functions interface, tap **Logout**.
2. A confirmation message is displayed. Tap **[YES]** to log out of IoTPortal.

11. Contact Information

Refer to https://brtsys.com/contact-us/ for contact information.

12. Appendix

12.1 Glossary of Terms, Acronyms & Abbreviations

Term or Acronym	Definition or meaning
CRUD	In computer programming, create, read, update and delete (CRUD) are the four basic operations of persistent storage.
IoT	The Internet of Things describes devices with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the internet or other communications networks.
MFA	Multi-Factor Authentication is a multi-step account login process that requires users to enter more information than just a password.
OTP	A One-time-password is an identity verification tool for authenticating users logging into an account, network, or system.
QR Code	A Quick Response code is a type of two-dimensional matrix barcode, invented in 1994, by Japanese company Denso Wave for labelling automobile parts.
UUID	A Universally Unique Identifier is a 128-bit label used for information in computer systems.
UART	A Universal Asynchronous Receiver-Transmitter is a peripheral device for asynchronous serial communication in which the data format and transmission speeds are configurable.

12.2 List of Figures

Figure 1 - Organisation Management 84

12.3 List of Tables

Table 1 – UART Default Values 46
Table 2 – Event Types 57
Table 3 – Permissions 98

Revision History

Document Title	:	BRTSYS_AN_034IoTPortal User Guide - Android Mobile Application
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Product Page	:	https://brtsys.com/iotportal/
Document Feedback	:	Send Feedback

Revision	Changes	Date
1.0	Initial release for Version 1.0.0	26-01-2023
2.0	Updated release for Version 2.0.0	12-08-2024