SmartThings Developers

SmartThings Device Connectivity

Integrating Devices to the Cloud and getting setup for Apps

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IoT Fuse
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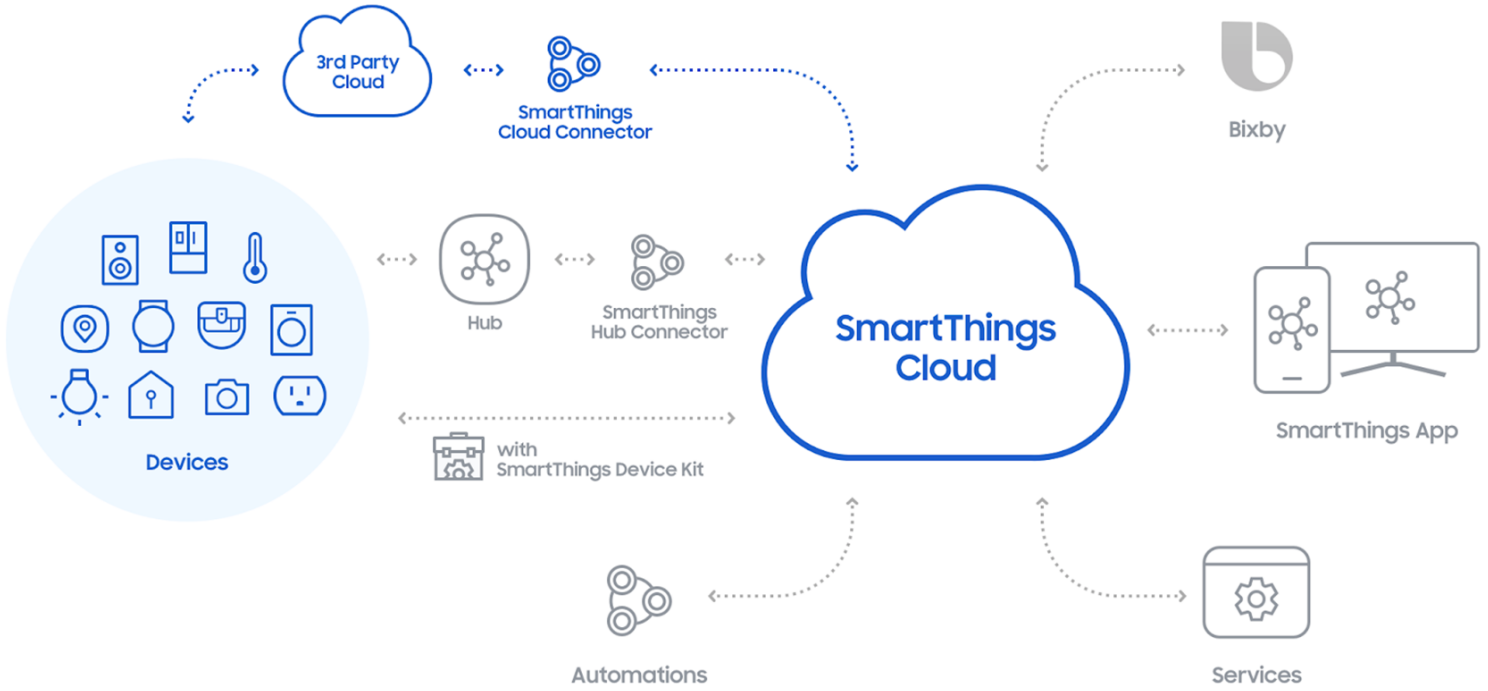
Setup

- Install the SmartThings app for Android or iOS (not the Classic App)
- Sign in and create a Samsung account if you don't already have one
- We'll be going around the room sharing a SmartThings location with you
- Get the slides from https://github.com/tpmanley/conferences/tree/master/iotfuse-2019

SmartThings Ecosystem

- Open, device compatible
- Intelligent, SmartApps
- Secure
- Developer Support

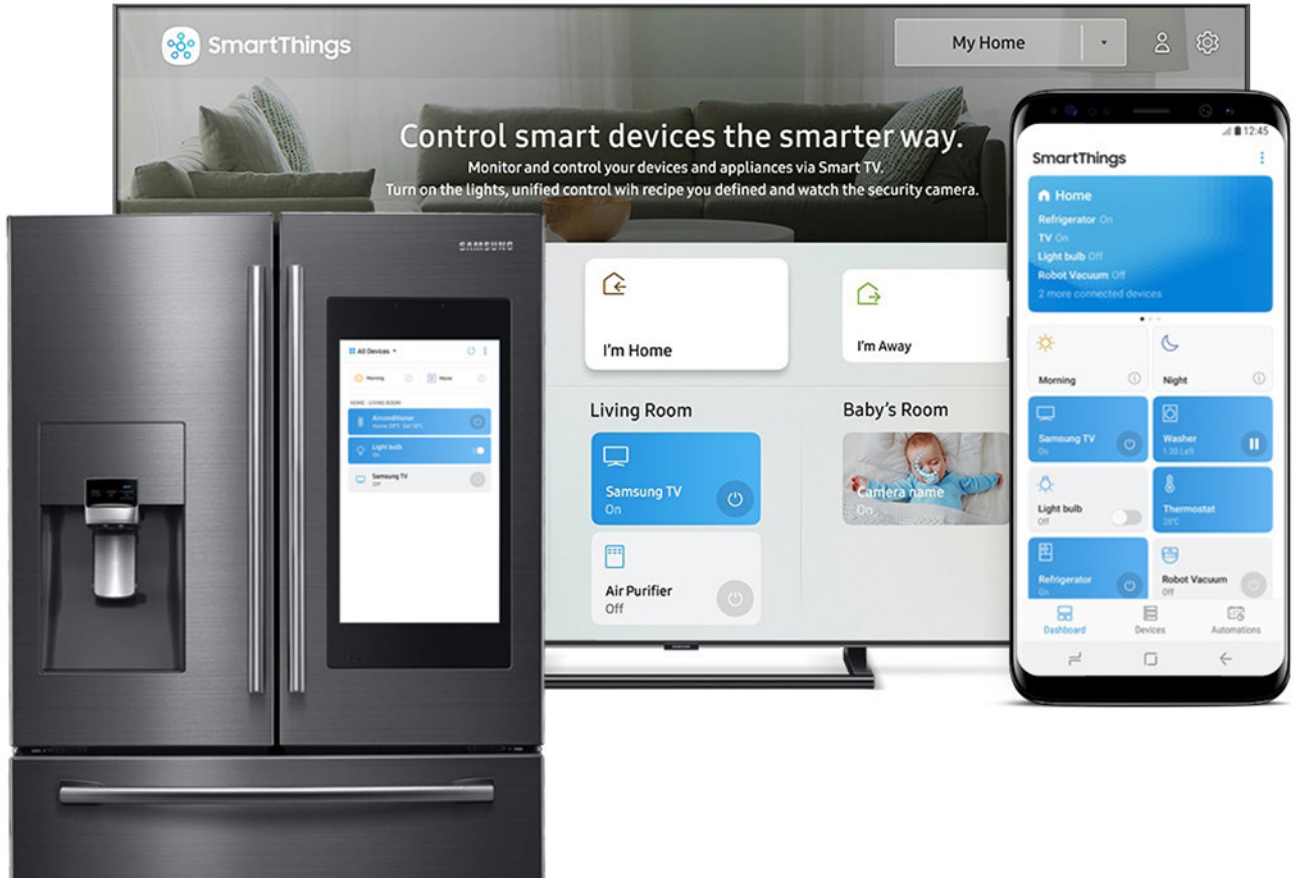


Why Connect To SmartThings?

Access and control your devices from millions of places

Leverage ecosystem of over 4000 different IoT devices to create smart home automations

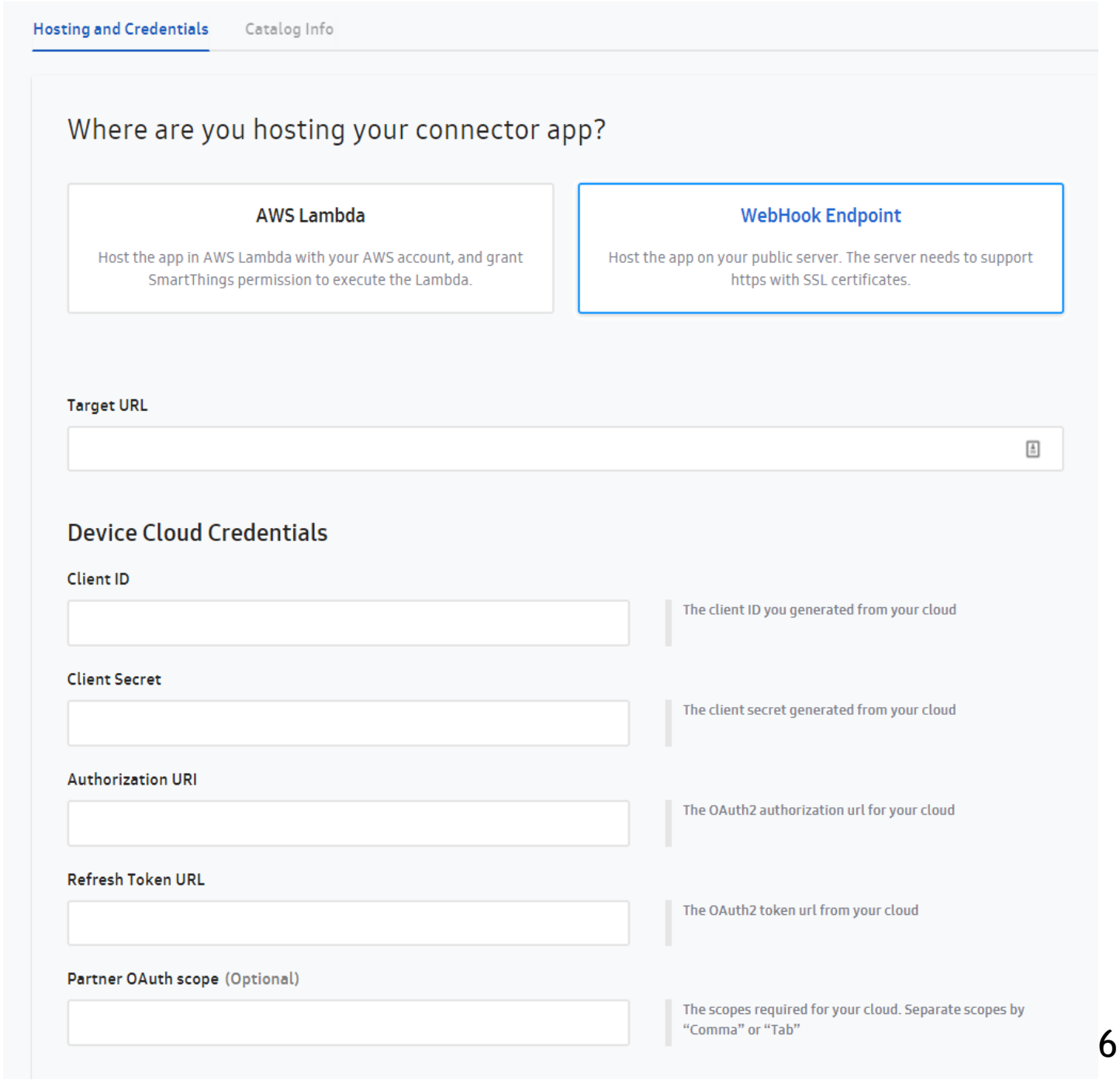
Open up bundling options in hundreds of markets worldwide



ST Schema Integration

- Schema-based device discovery eliminates the requirement to define device profiles for each device variant
- Built-in UI and simplified event model reduces the amount of code needed in the connector
- Supports the full range of SmartThings platform capabilities, no compromise in device functionality

ST Schema Connector Form



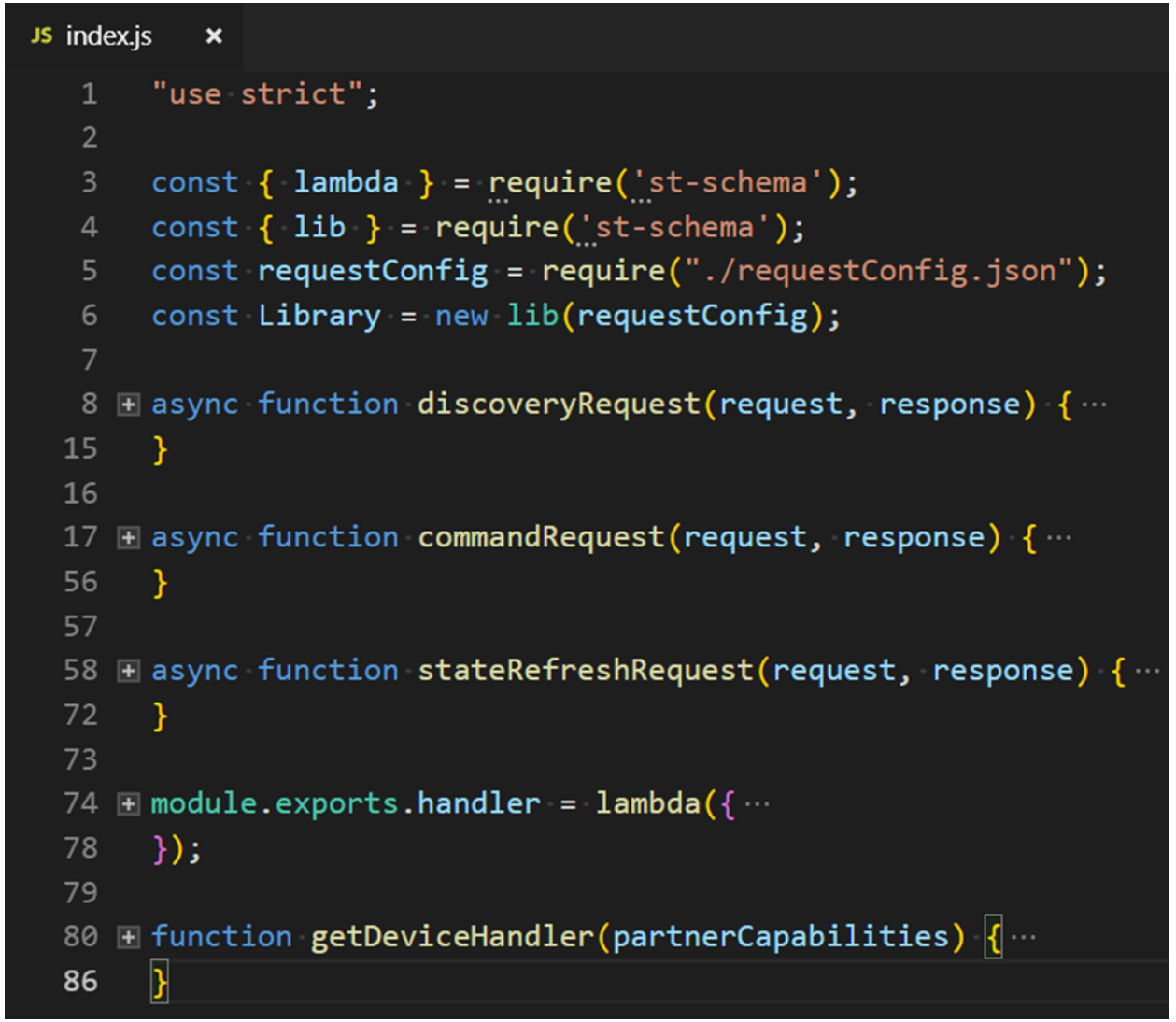
ST Schema Connector

Simplified Event Model

Discovery
- Return a description of all devices

State Refresh
- Return current state of each device

Command
- Handle commands from the SmartThings platform, returning updated device state



Less Coding. No need to define UI pages, handle OAuth token exchange, or explicitly manage the creation and deletion of devices on the SmartThings platform

Getting Published

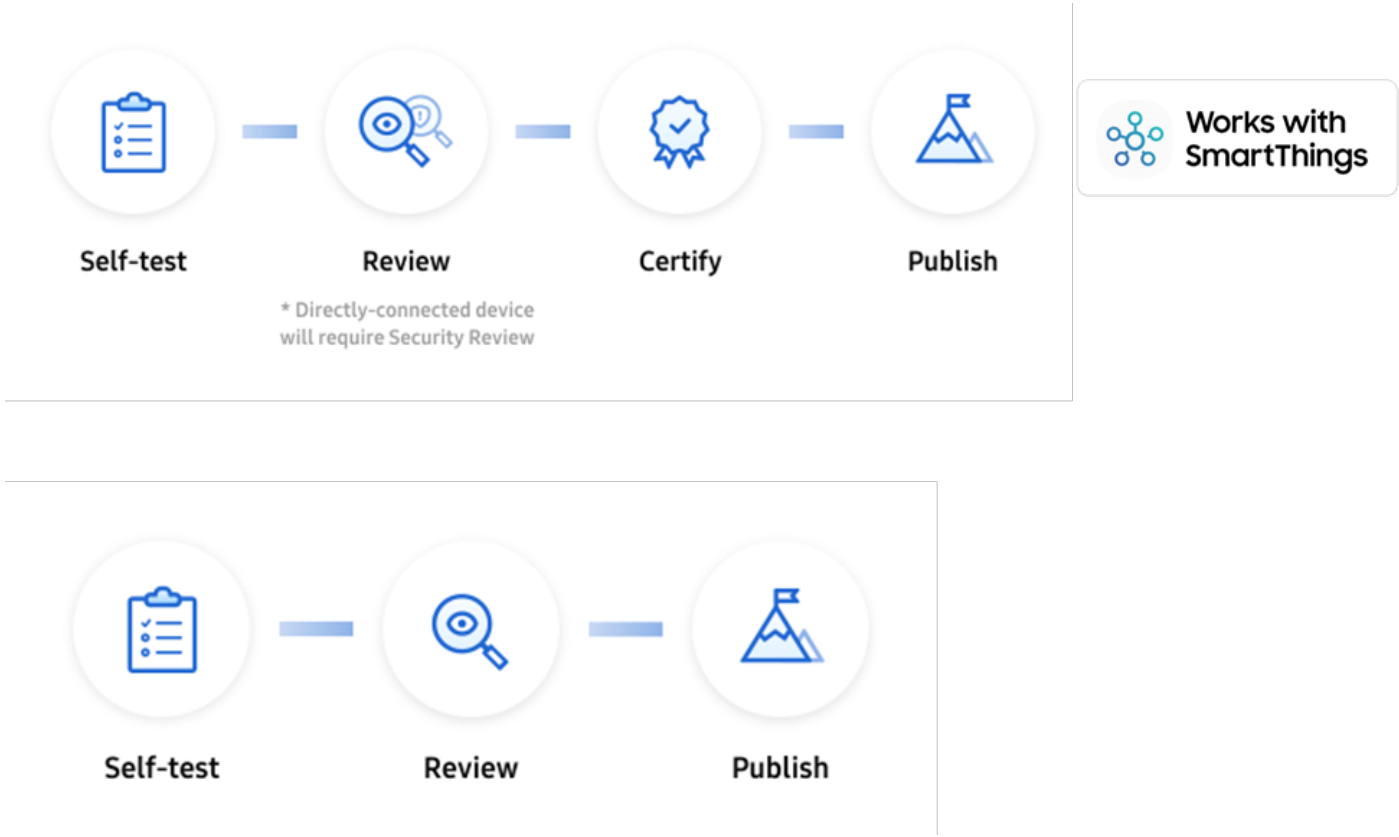
Two Options to Suit Your Product

SmartThings-Certified

- SmartThings functional certification & security review
- Premium listing in SmartThings app
- Use WWST logo for packaging & website
- You must provide device state change callbacks

SmartThings-Compatible

- Use guidelines to self-test and verify
- Fast path to listing in SmartThings app
- Available now for cloud-connected devices



SmartThings
Developers

CODE WALKTHROUGH

glitch.com/~iot-fuse-code

Agenda

- Brief introduction to Hub Connected Devices
- Walk through the process of on-boarding and testing a “new” contact sensor
- Modify the DTH to expose some new capabilities
- Use the sensor to control the lights

Hub Connected Device Integration

- Includes Zigbee, Z-Wave and Wi-Fi devices with a local API
- Currently supported in SmartThings via Device Type Handlers (DTHs)
- DTHs are Groovy code that convert protocol specific messages into SmartThings capabilities
- There are DTHs for many types of devices and you can also modify or create new ones

Zigbee DTH Example

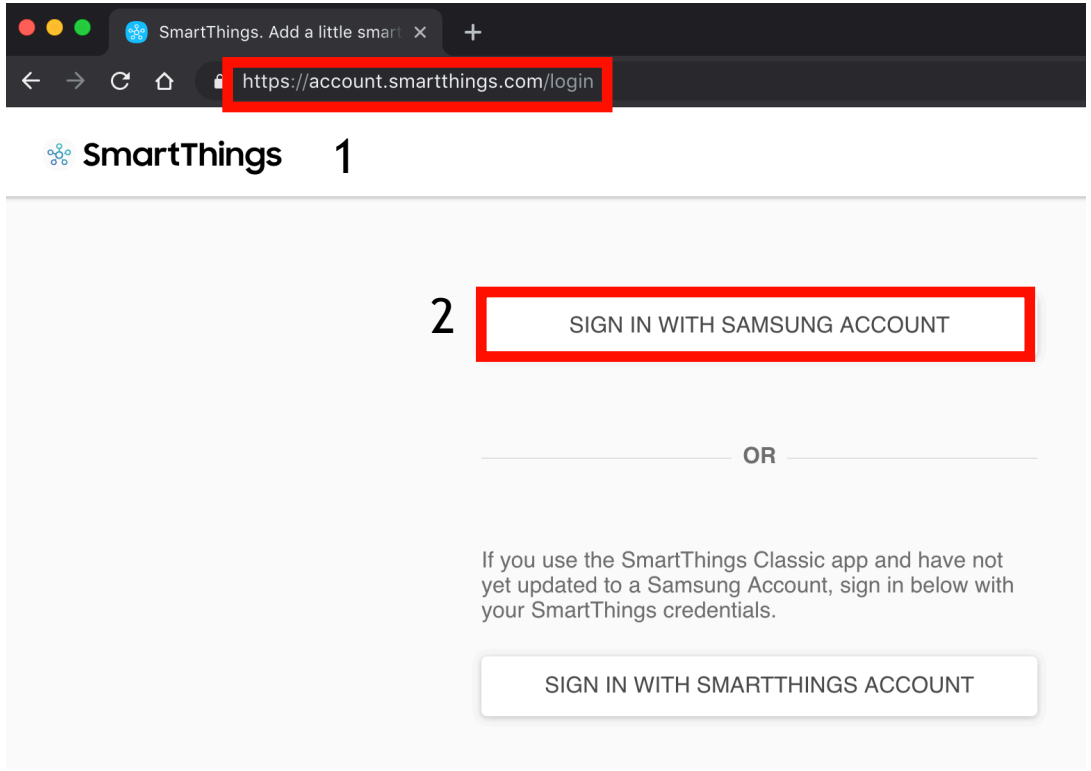
Source Code

```
metadata {
    definition (name: "ZigBee Dimmer") {
        capability "Switch"
        capability "Switch Level"
    }
}

def parse(String description) {
    // Converts device status into an event
    def event = zigbee.getEvent(description)
    sendEvent(event)
}

def off() {
    zigbee.off() // Sends the “Off” command
}

def on() {
    zigbee.on() // Sends the “On” command
}

def setLevel(value) {
    zigbee.setLevel(value) // Sends a command to change the brightness
}
```

Maps the Zigbee On/Off and Level Control Clusters to SmartThings Switch and Switch Level capabilities

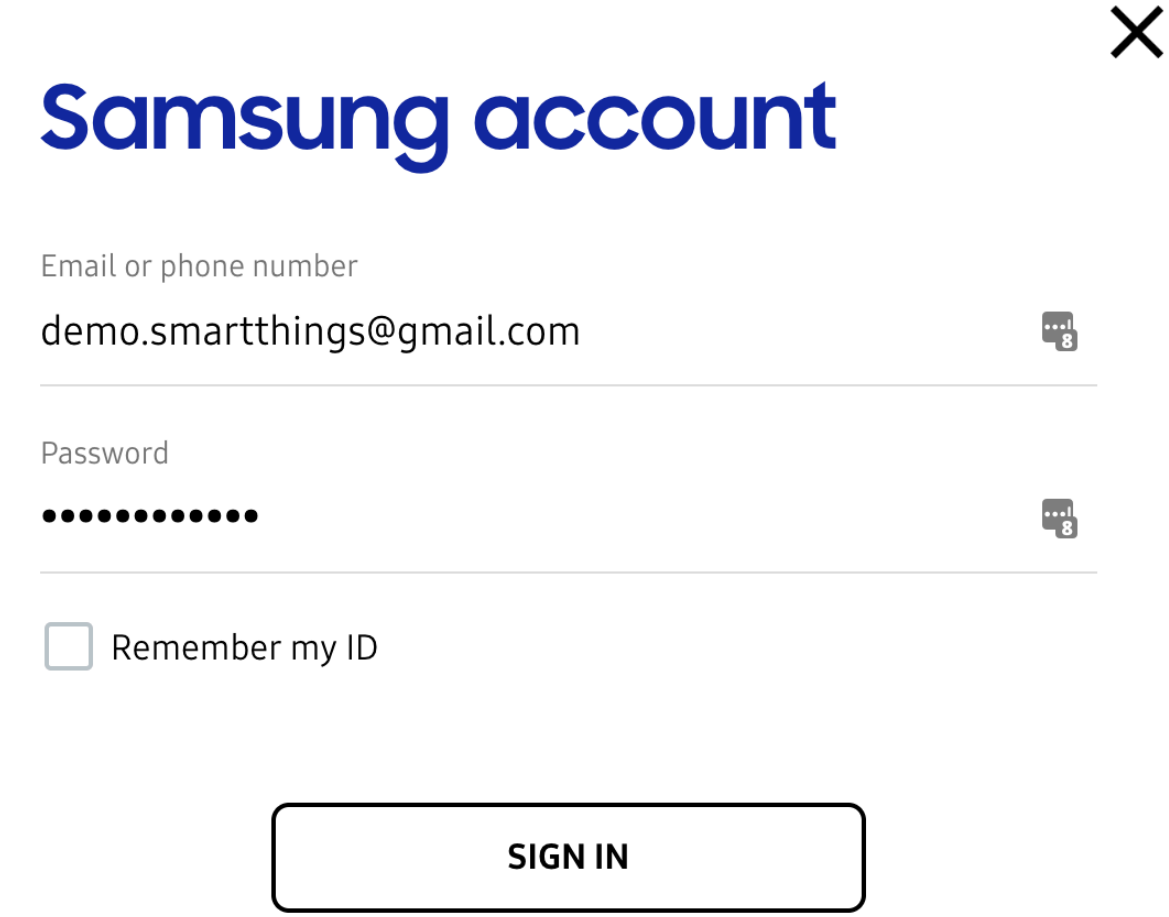
Add Support for New Device

- Soon you will be able to add hub connected devices via the Developer Workspace at https://smartthings.developer.samsung.com
- For now login to https://account.smartthings.com/



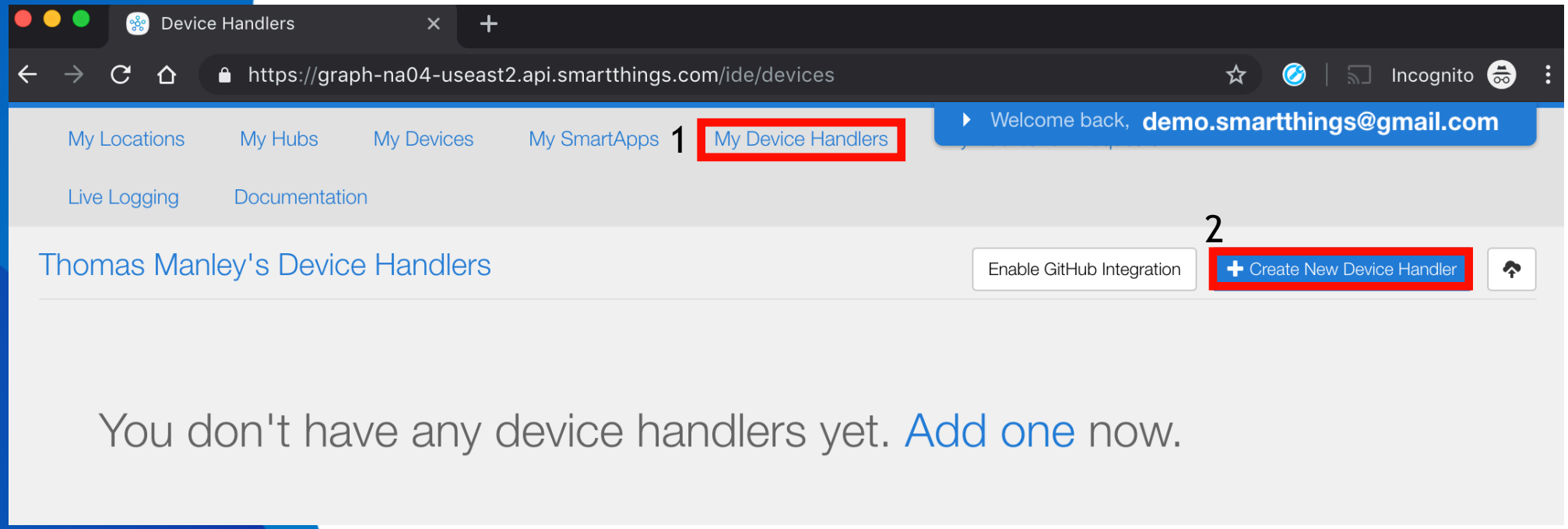
Add Support for New Device

- Email: demo.smartthings@gmail.com
- Password: 6^xVad9tBs9f



Add Support for New Device

- Navigate to https://graph-na04-useast2.api.smartthings.com/
- Create New Device Handler



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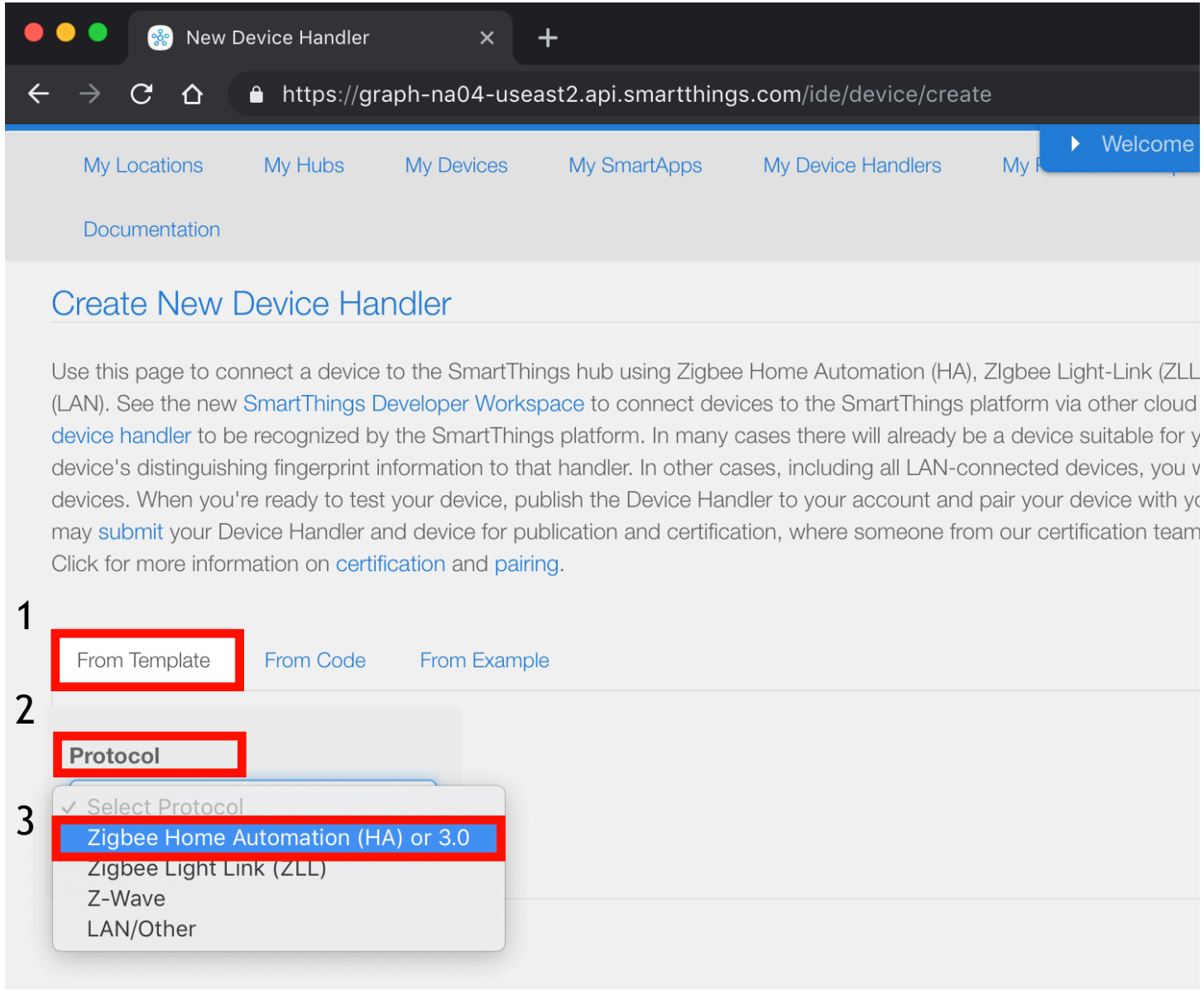


Add Support for New Device

Use the last 4 digits of the Mac address in the Model Name and Device Join Name

From Template | From Code | From Example

Protocol

Zigbee Home Automation (HA) or

Template Capabilities

1

- [x] Battery
- [ ] Color Control
- [ ] Color Temperature
- [x] Contact Sensor
- [ ] Lock
- [ ] Lock Codes
- [ ] Motion Sensor
- [ ] Power Meter
- [ ] Power Source
- [ ] Smoke Detector
- [ ] Switch
- [ ] Switch Level
- [x] Temperature Measurement
- [ ] Thermostat Cooling Setpoint
- [ ] Thermostat Fan Mode
- [ ] Thermostat Heating Setpoint
- [ ] Thermostat Mode
- [ ] Thermostat Operating State
- [ ] Water Sensor

Other Capabilities

Matching Device Handler Found!

SmartSense Open/Closed Sensor

Fill out and submit this form with information about your device to have it pair and b
using this existing device handler

Device Handler Update form

Zigbee Manufacturer Name

2 Samjin

The name specified in the ManufacturerName attribute (0x0004) in the Basic Cluster (0x0000). e.g

Zigbee Model Name

3 multi-531C

The name specified in the ModelIdentifier attribute (0x0005) in the Basic Cluster (0x0000). e.g. *ACI*

Zigbee Device ID (optional)

Enter device ID

The four digit hex code that specifies the device in the selected application profile, as defined in th

Device Join Name

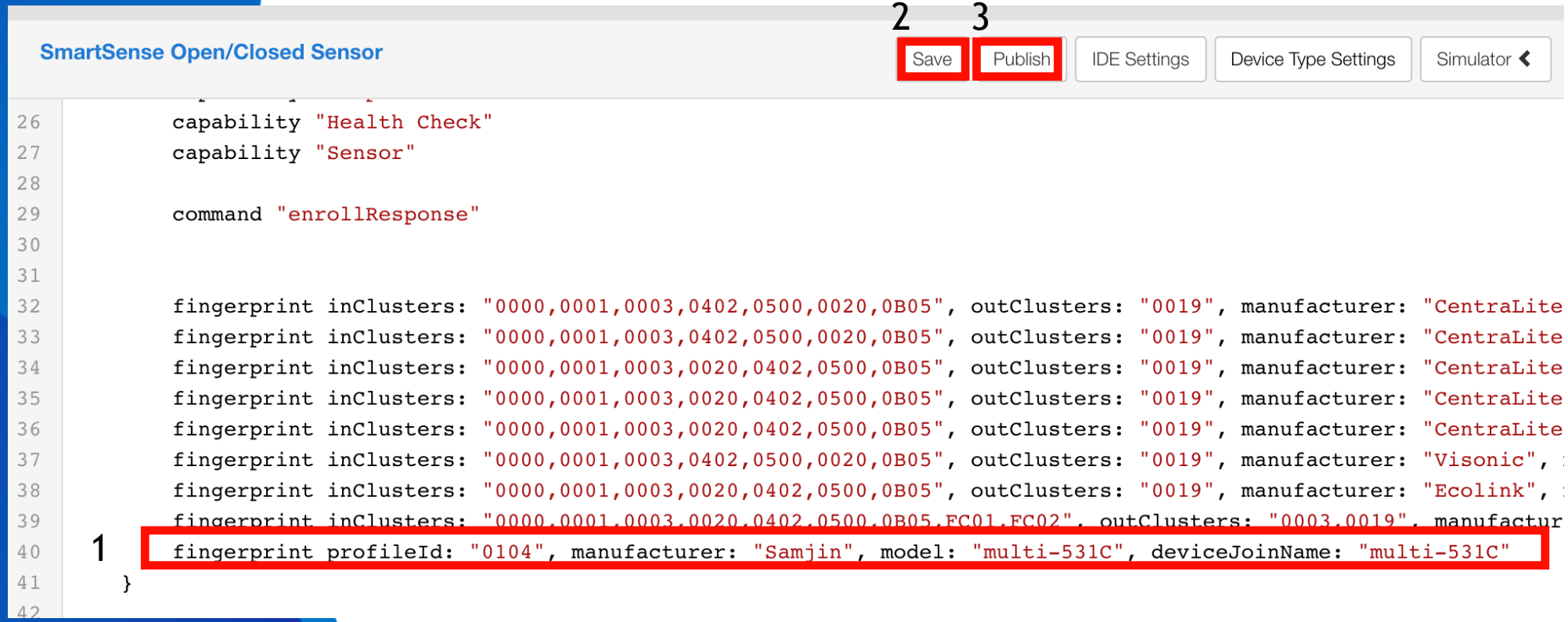
4 multi-531C

The device name that you want to show when it pairs in the SmartThings App. for example *ACME*

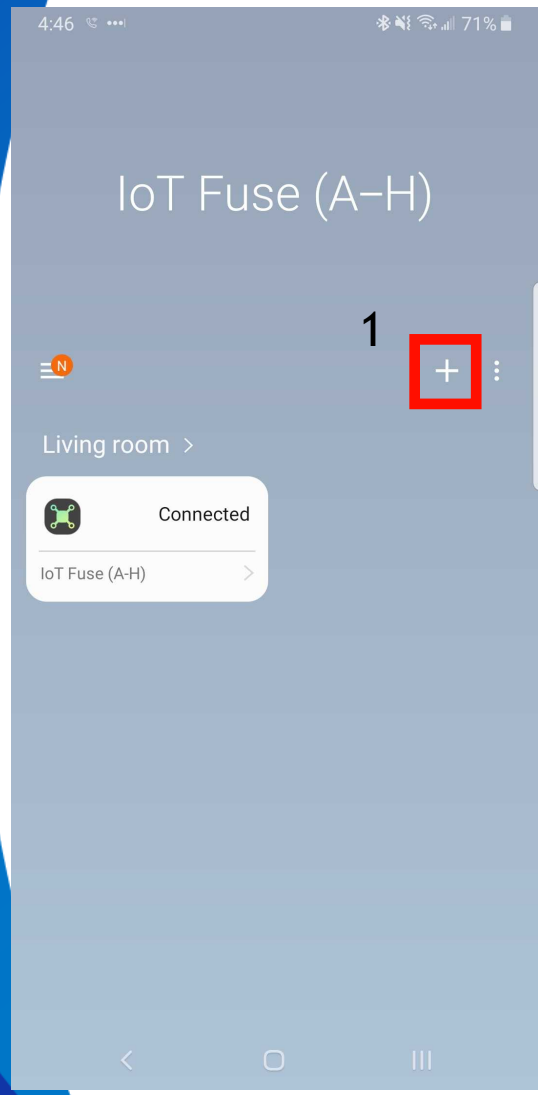
5 Update Existing Device Handler

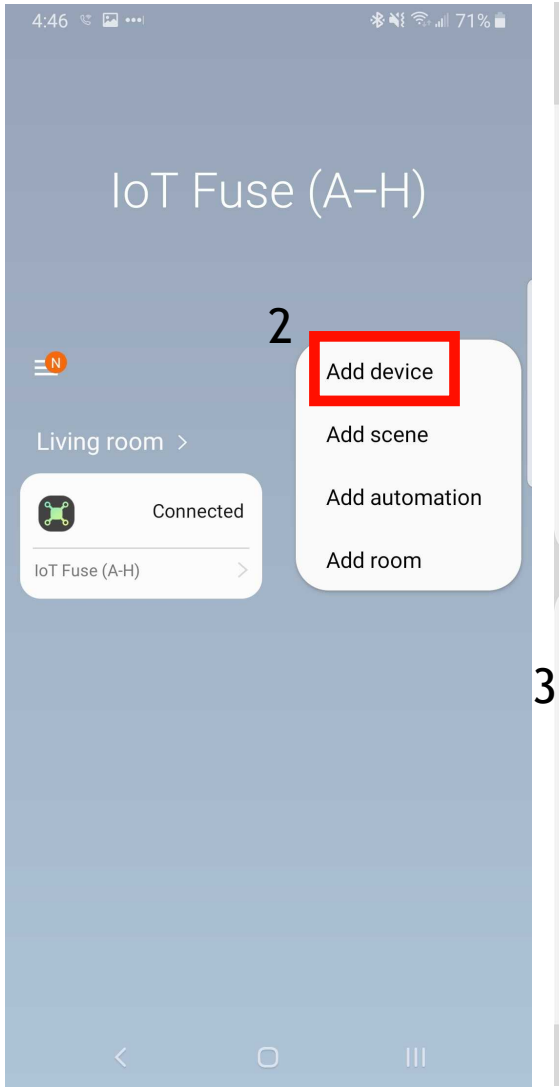
Add Support for New Device

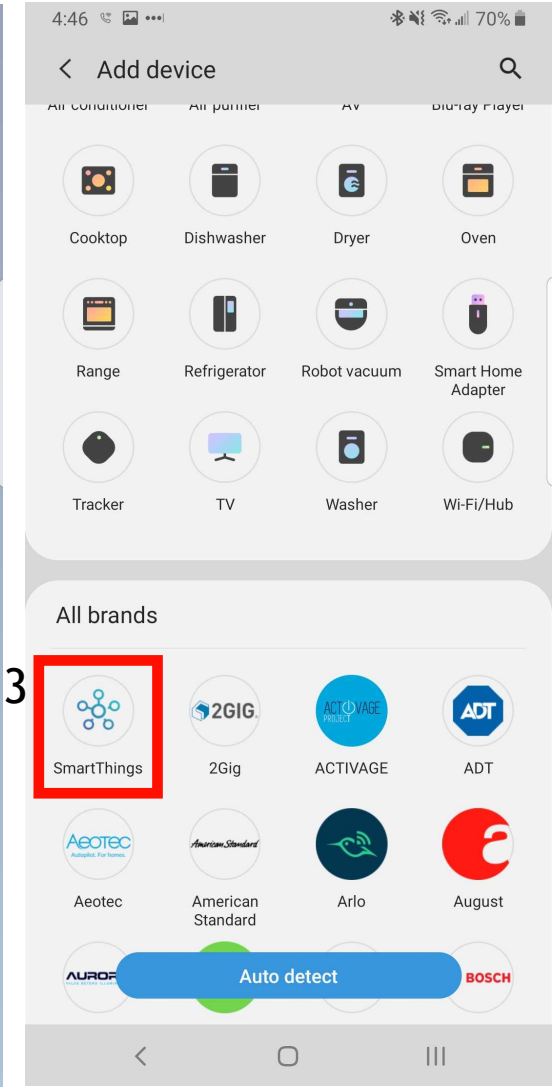
DO NOT NAVIGATE AWAY FROM THIS TAB/WINDOW



Join the Device (Android)







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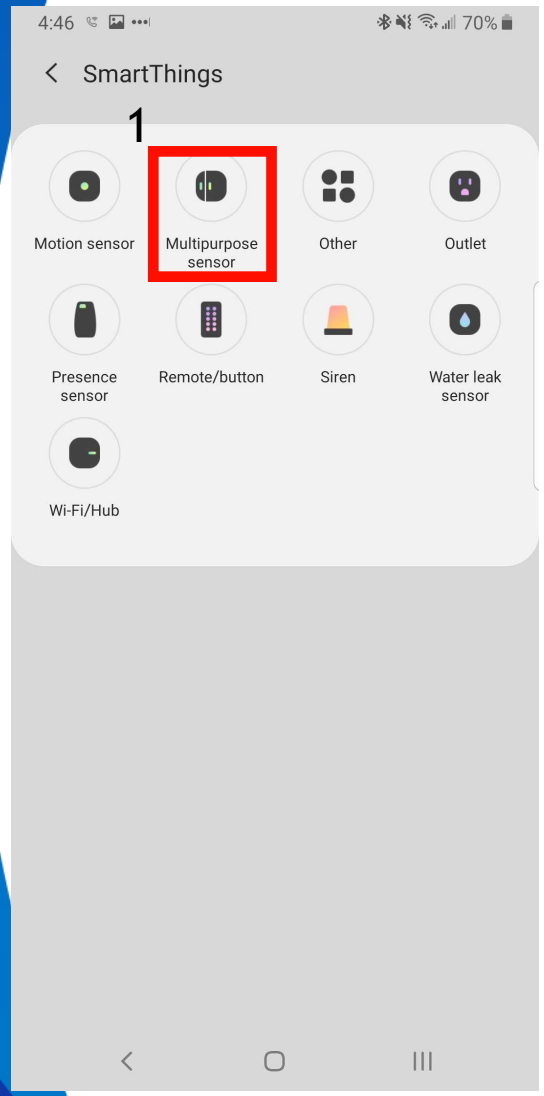

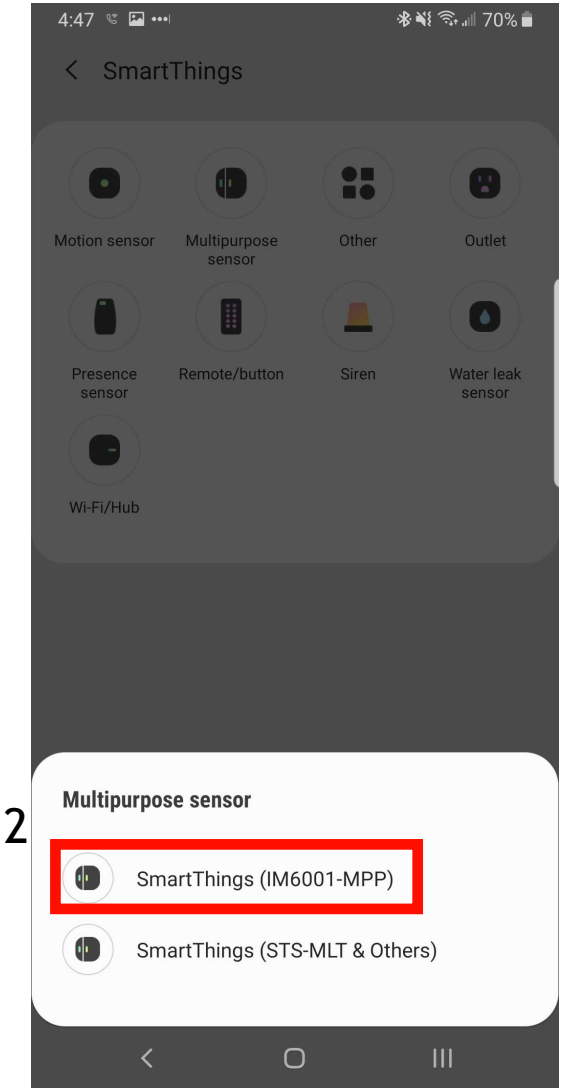

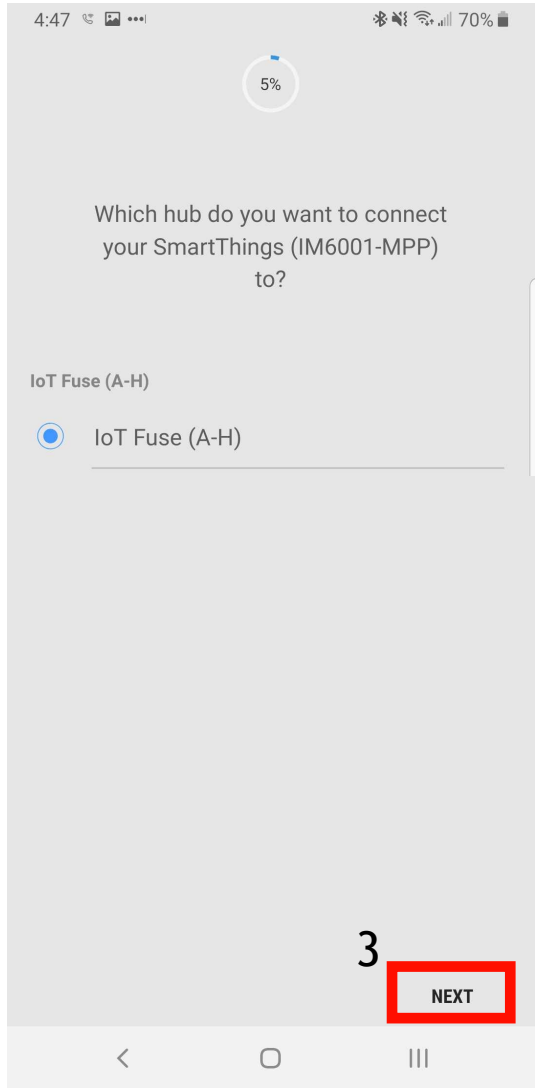

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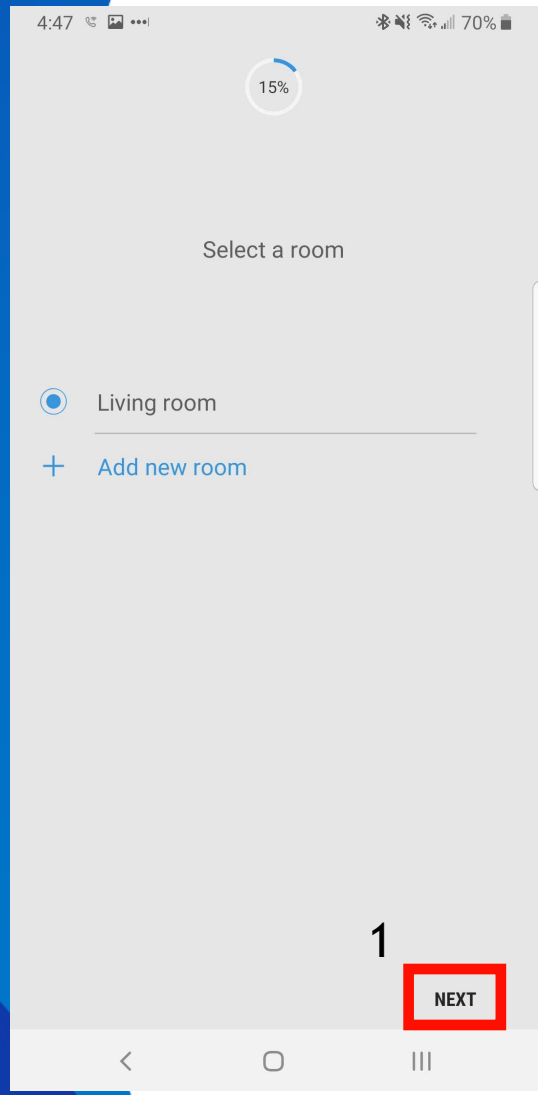

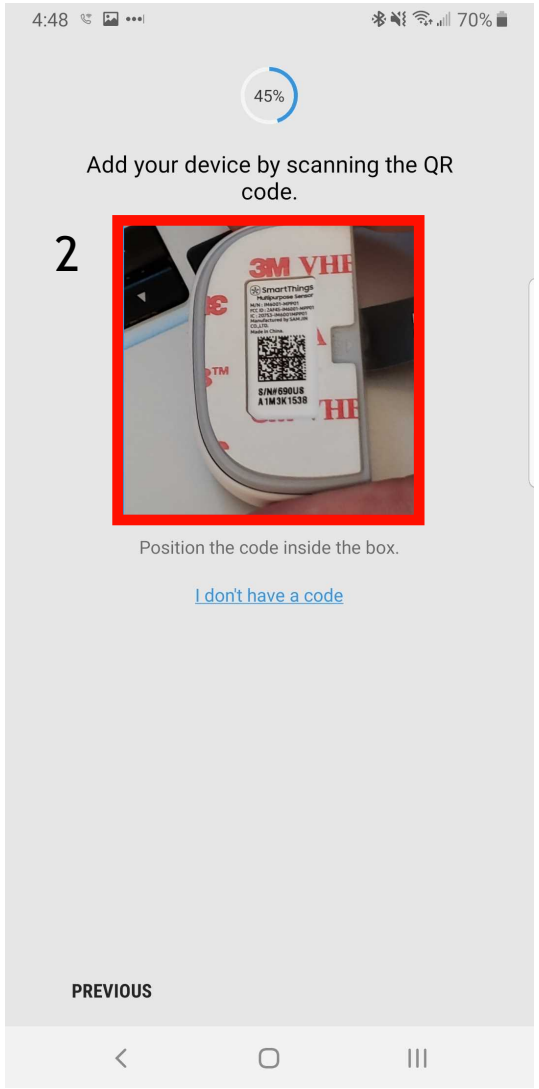

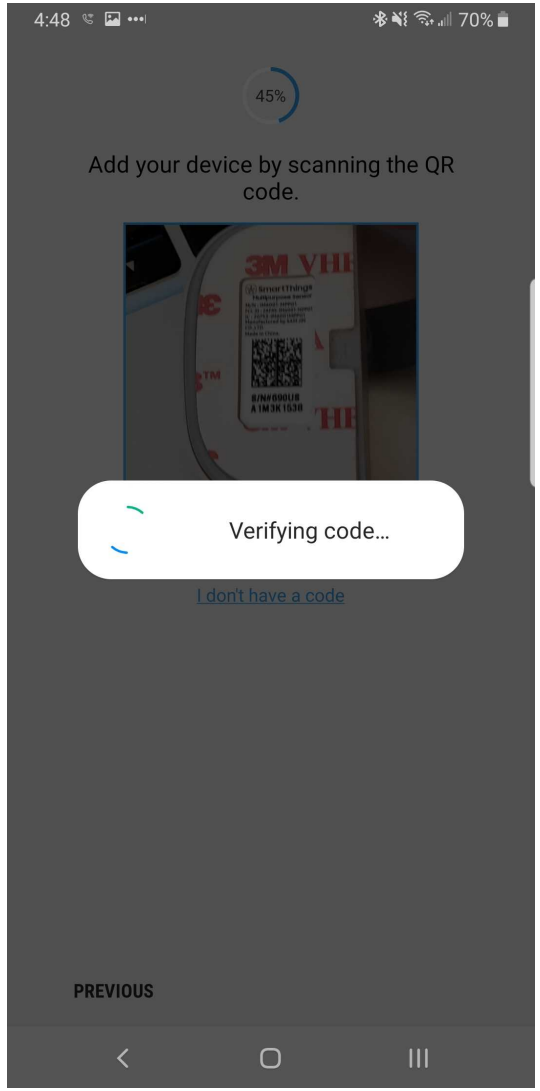

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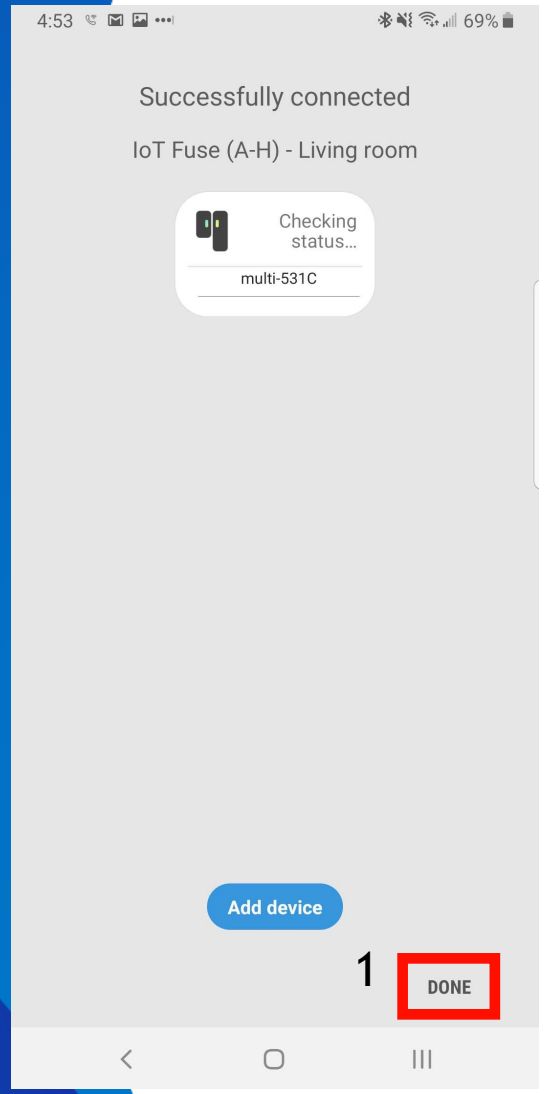

Join the Device (iOS)

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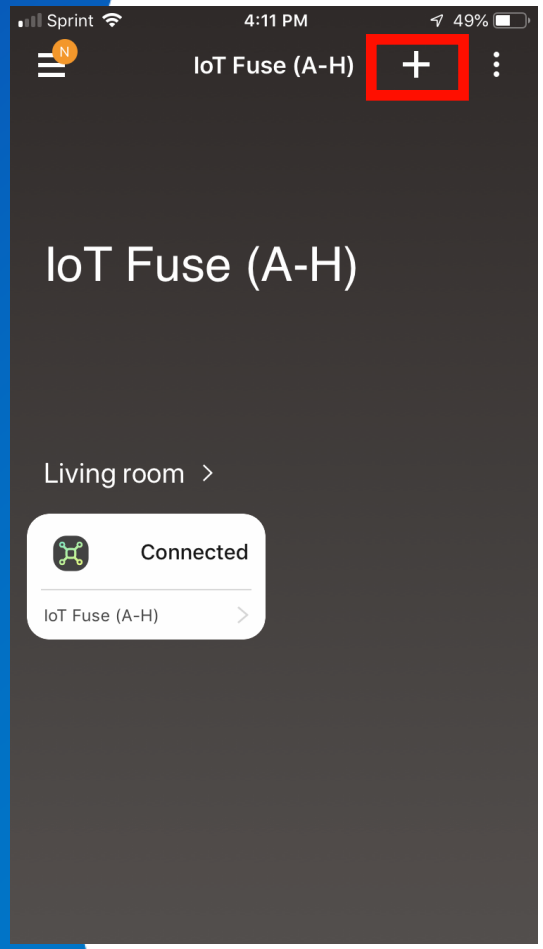

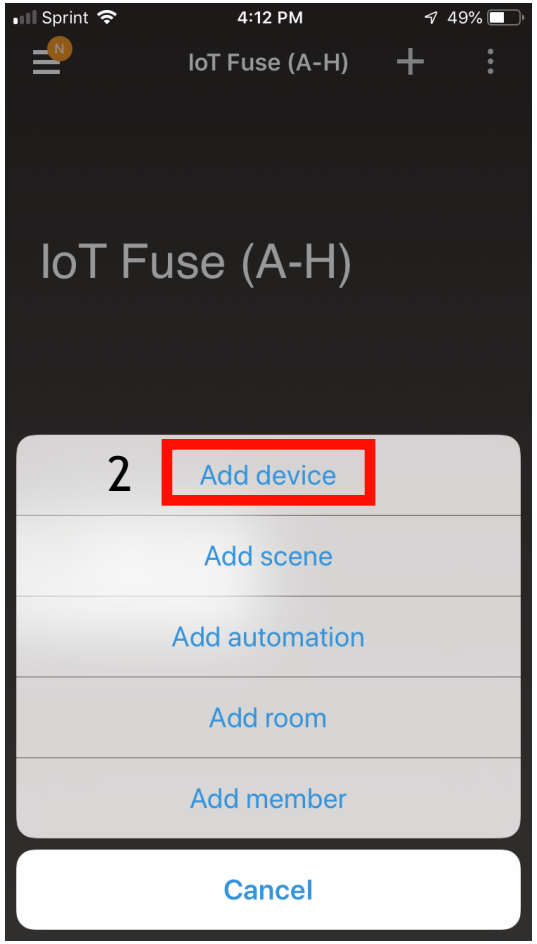

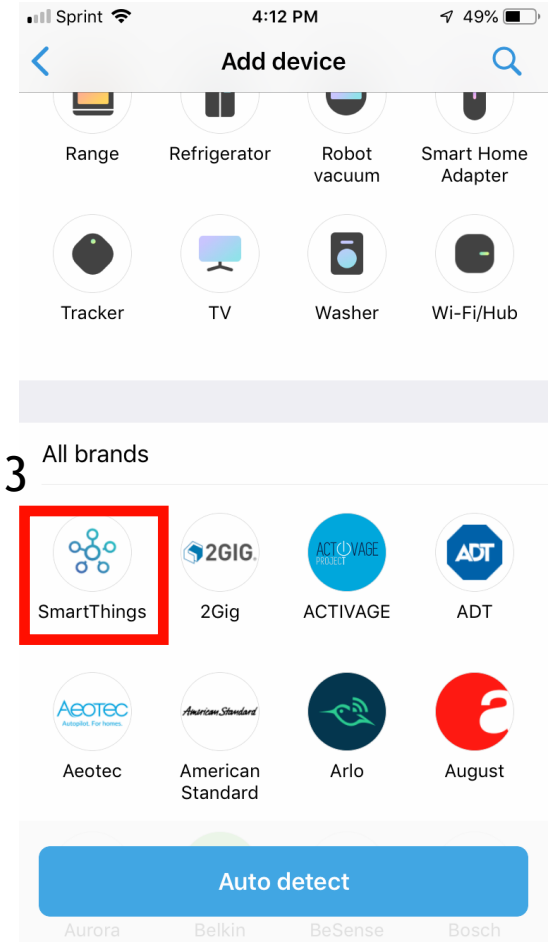

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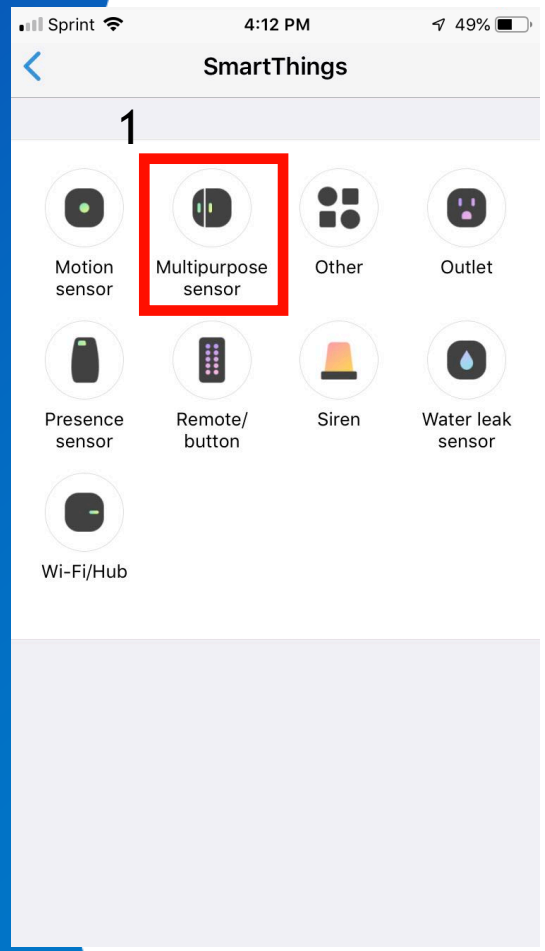

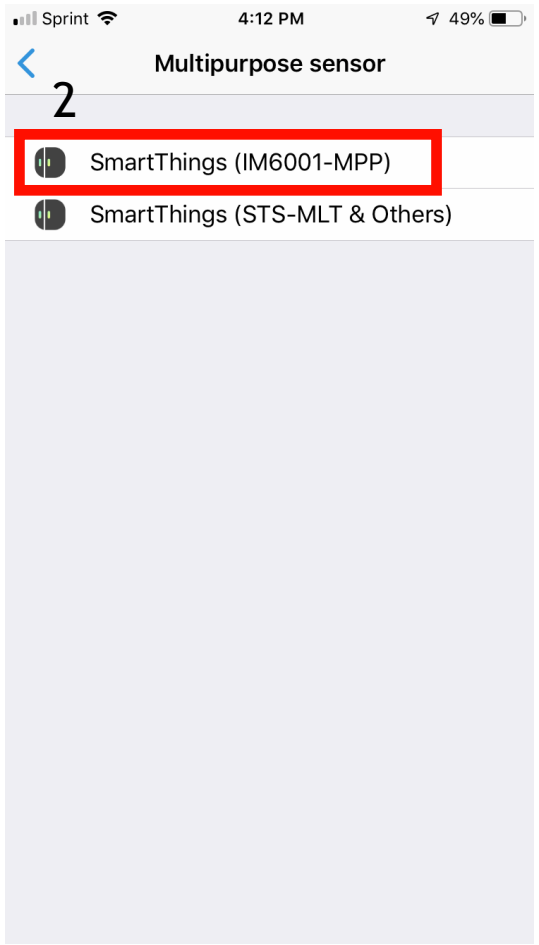

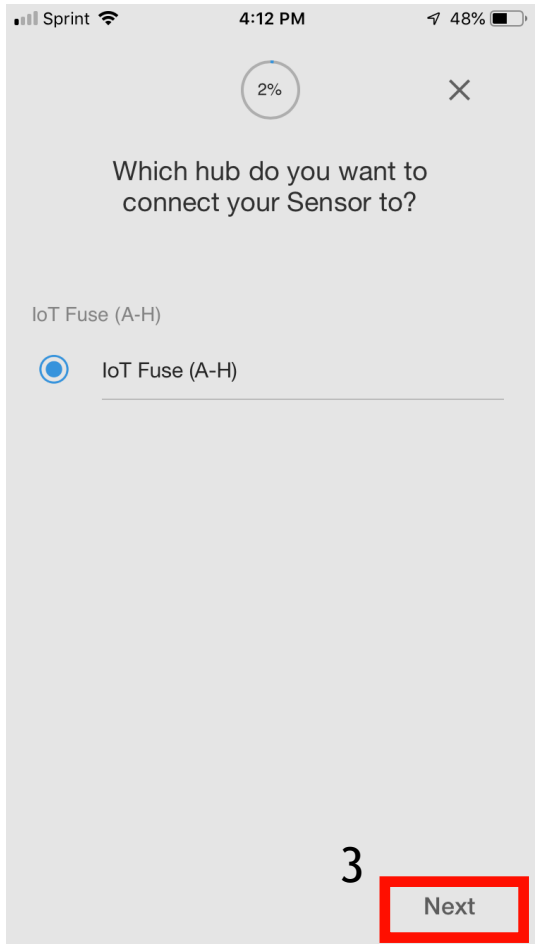

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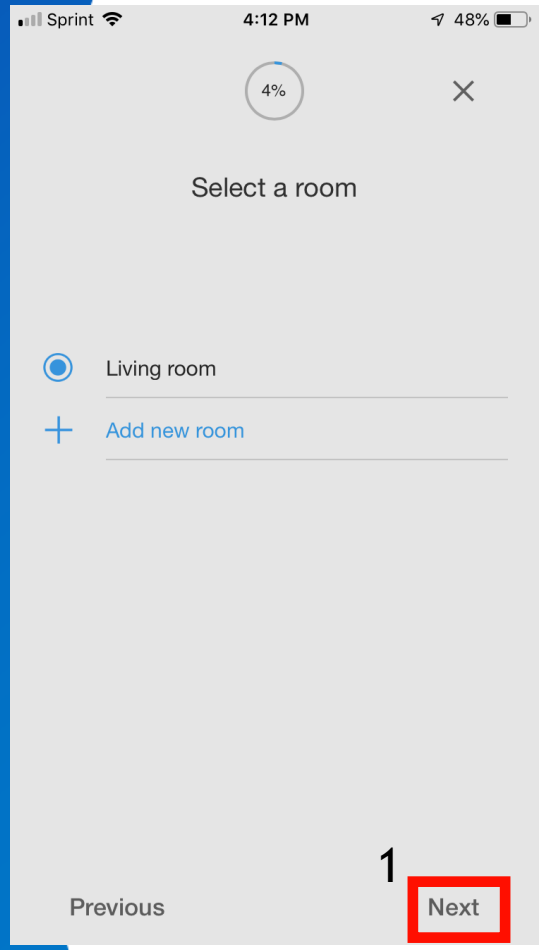
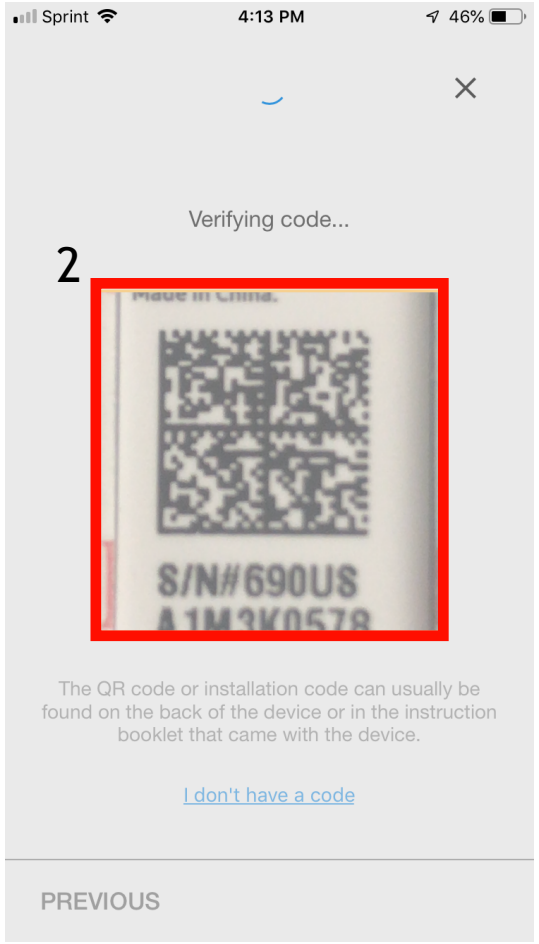
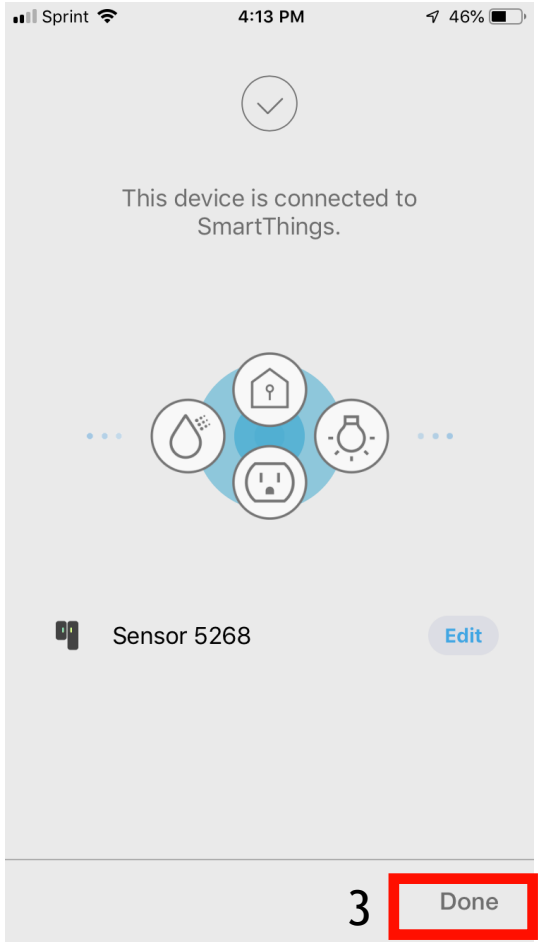




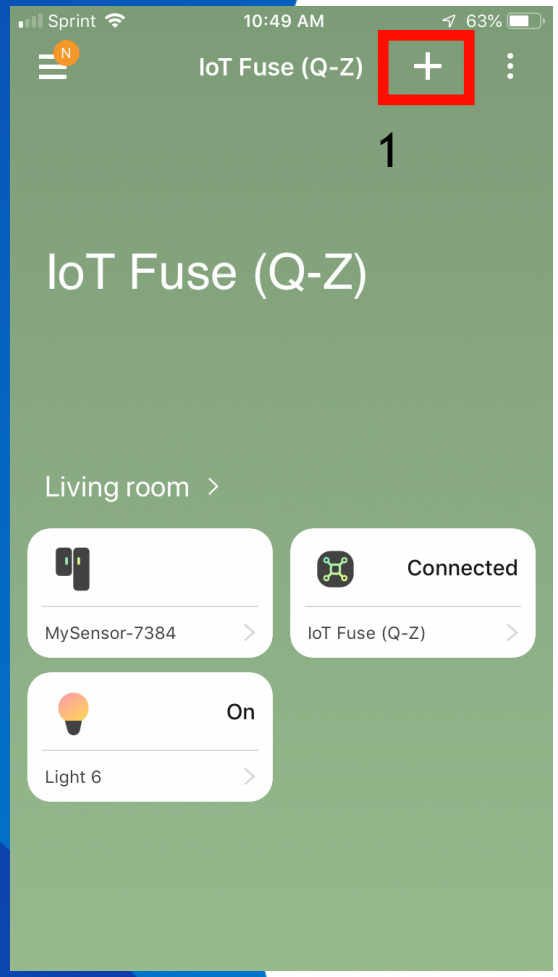


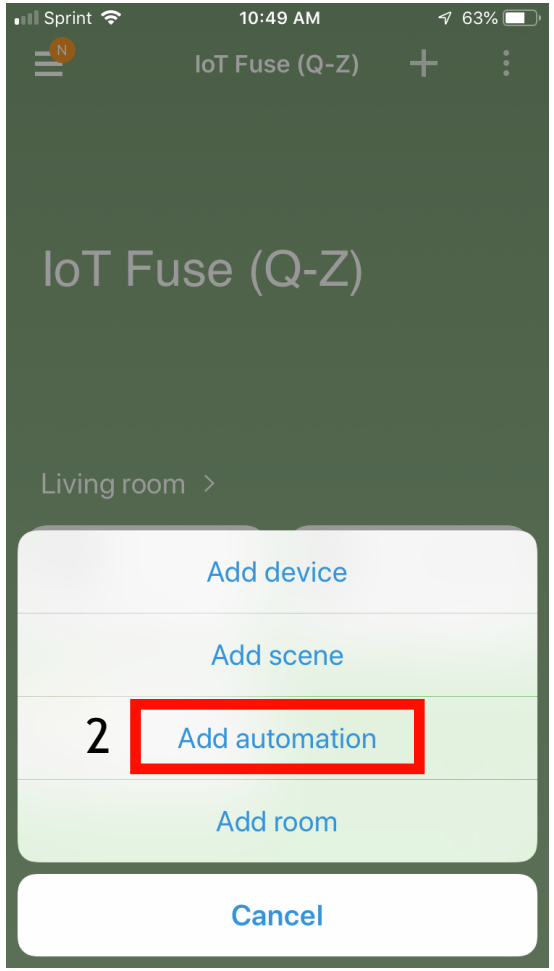
~~Play with~~Test the Device

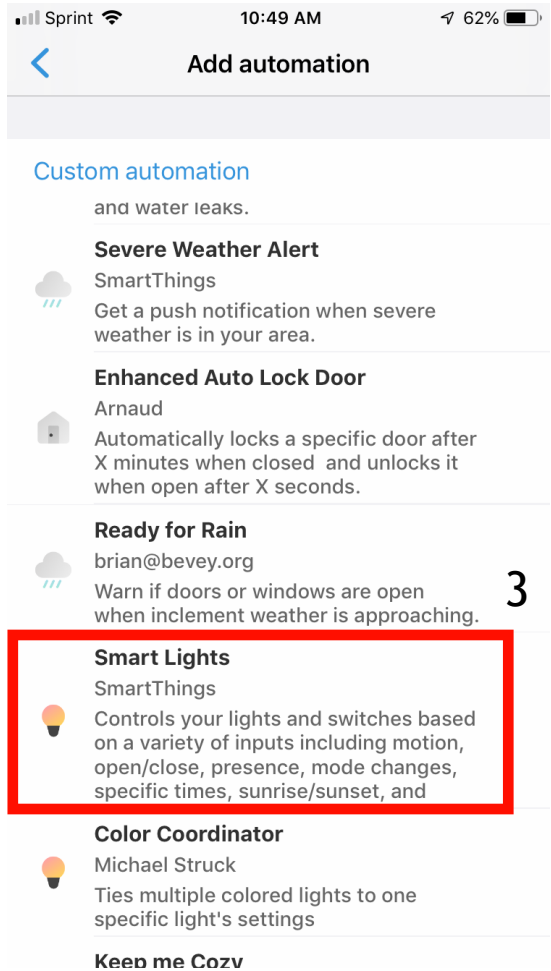
Implement a Custom Device Type Handler

- Grab the code from our conference repo: https://raw.githubusercontent.com/tpmanley/conferences/master/iotfuse-2019/smartsense-multi-dimmer.groovy
- Edit the Device Type Handler you created earlier and replace all the code with that from the above repository
- Modify the new Device Type Handler to add custom functionality to the device

Setup Bulb Automation







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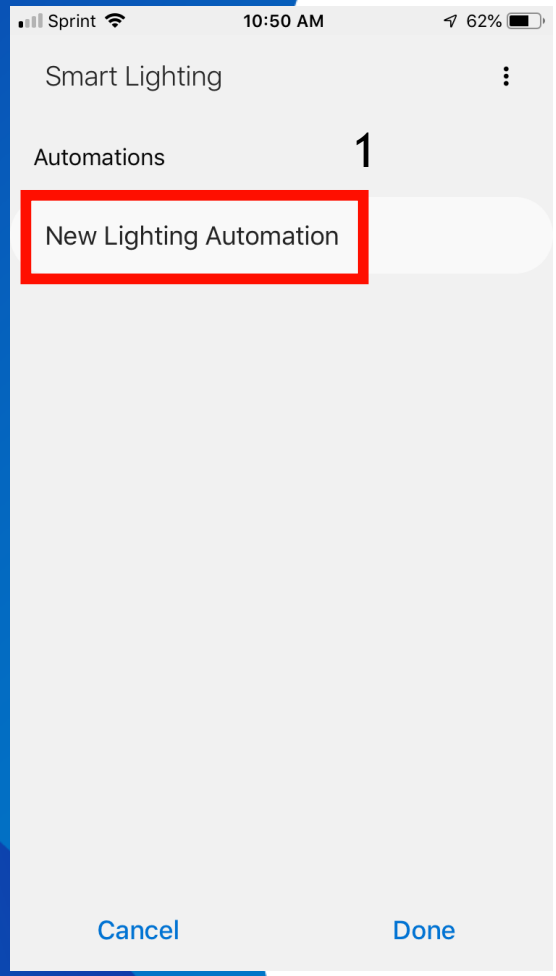

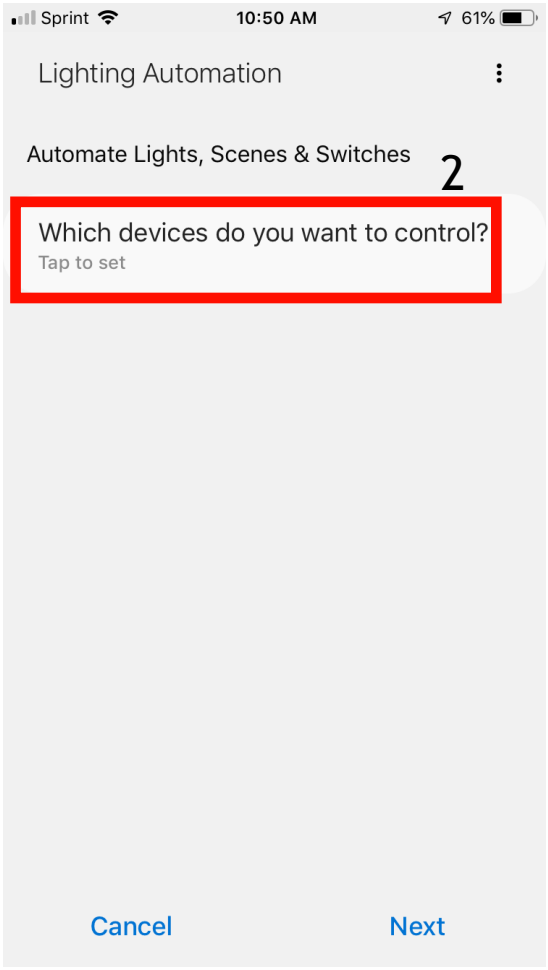

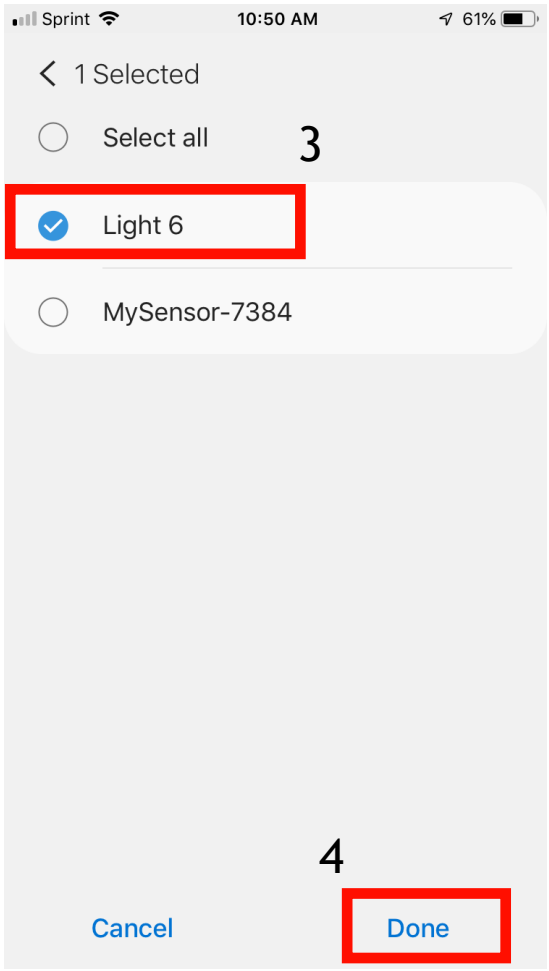

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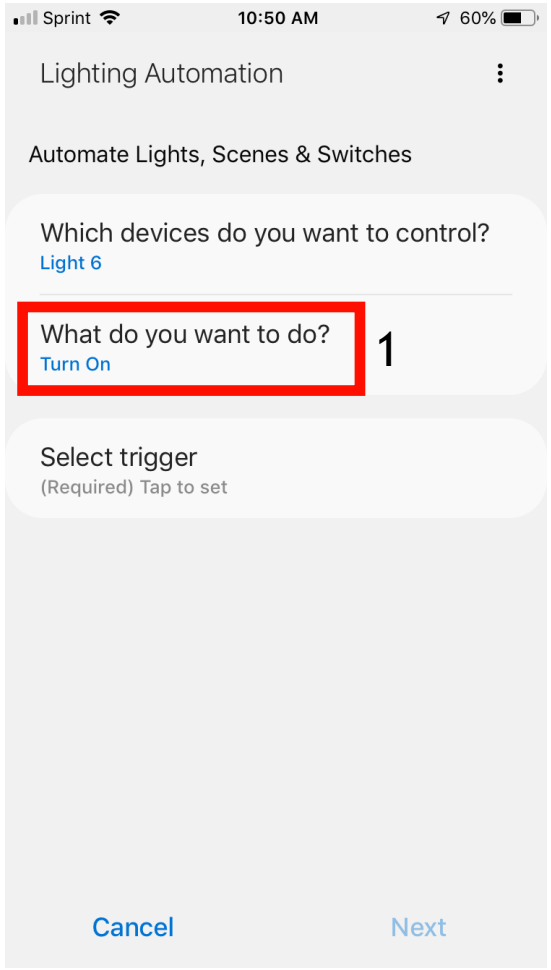
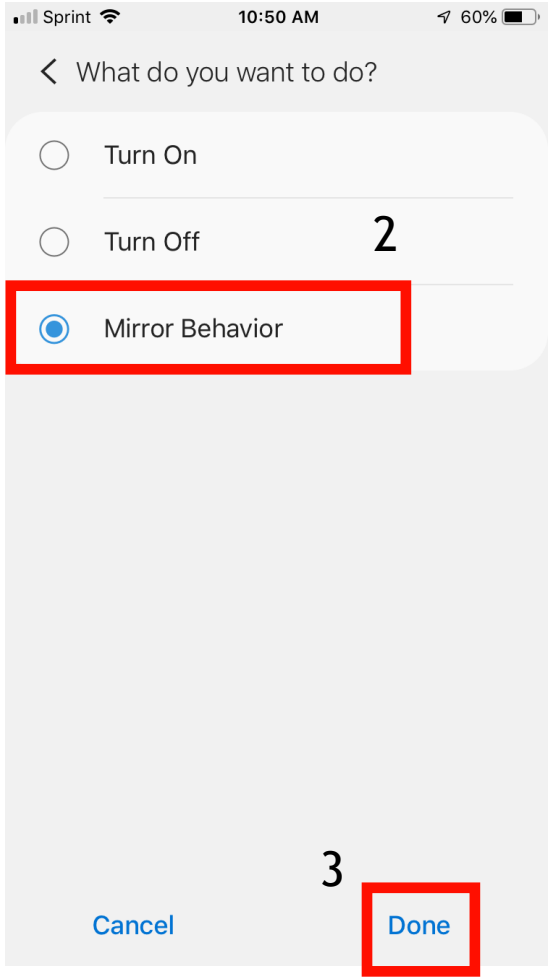
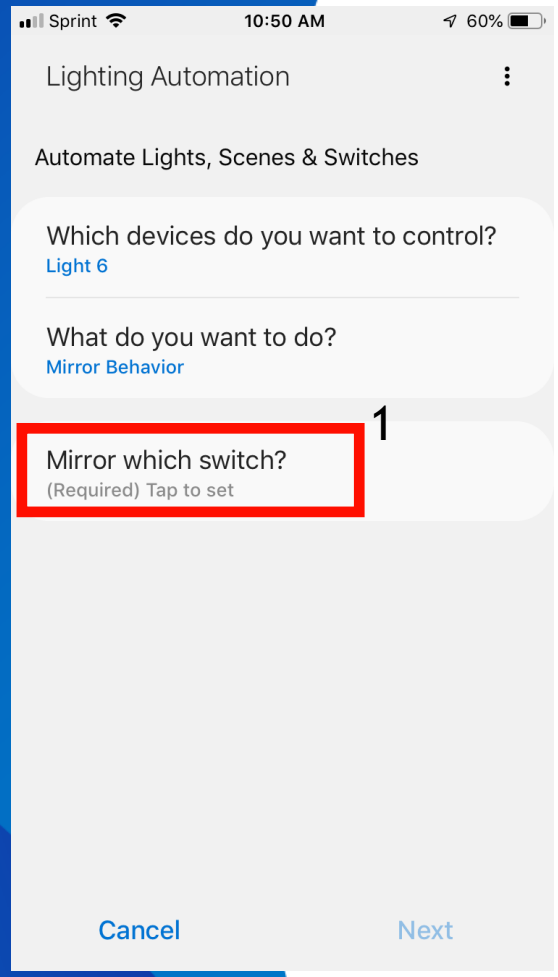
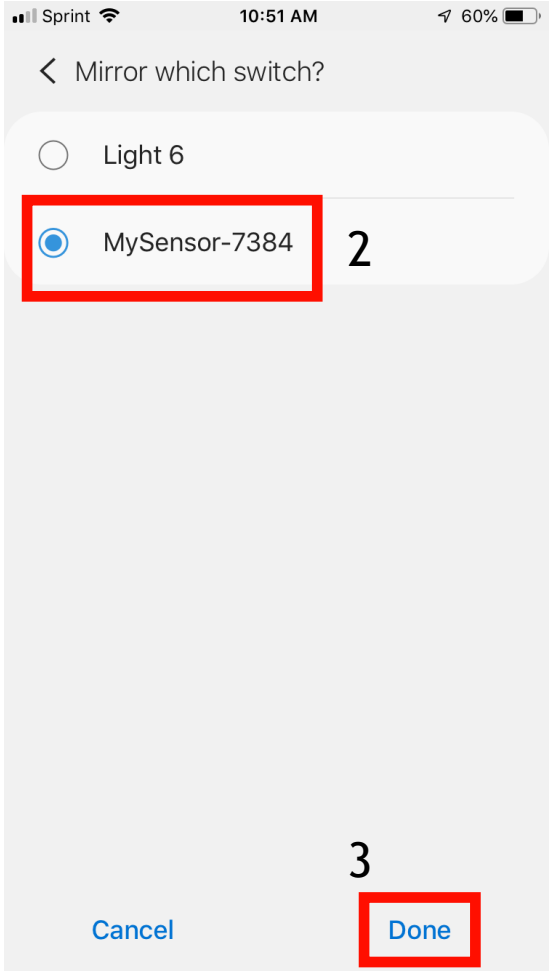
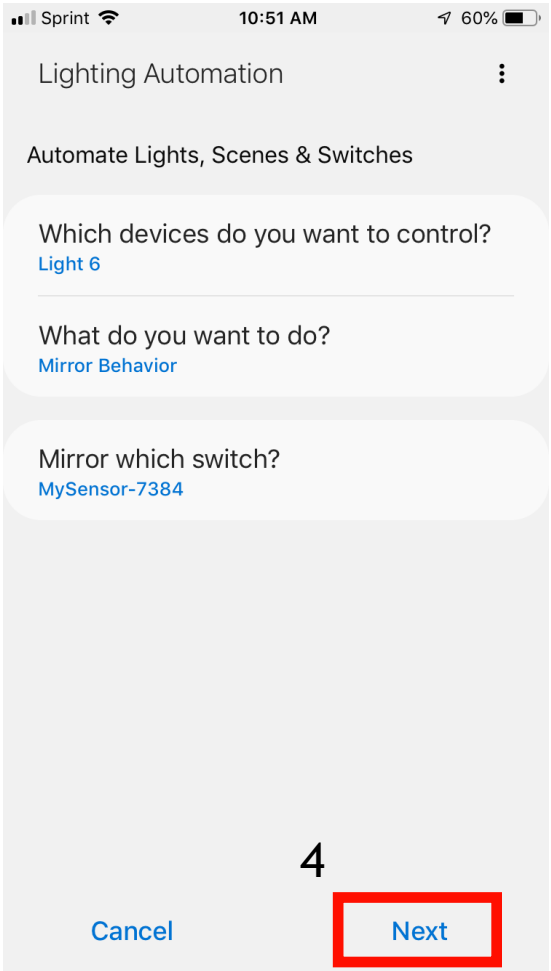




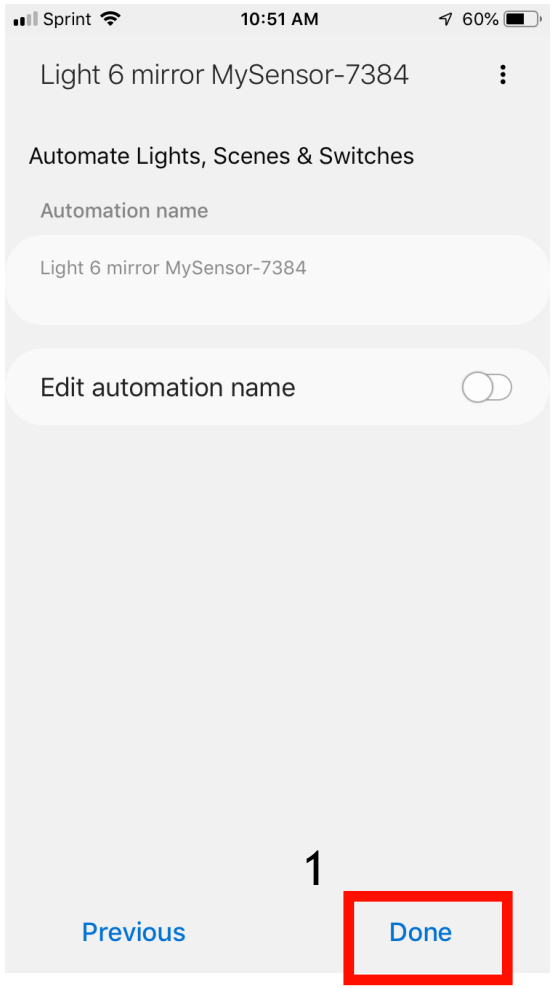
Setup Bulb Automation

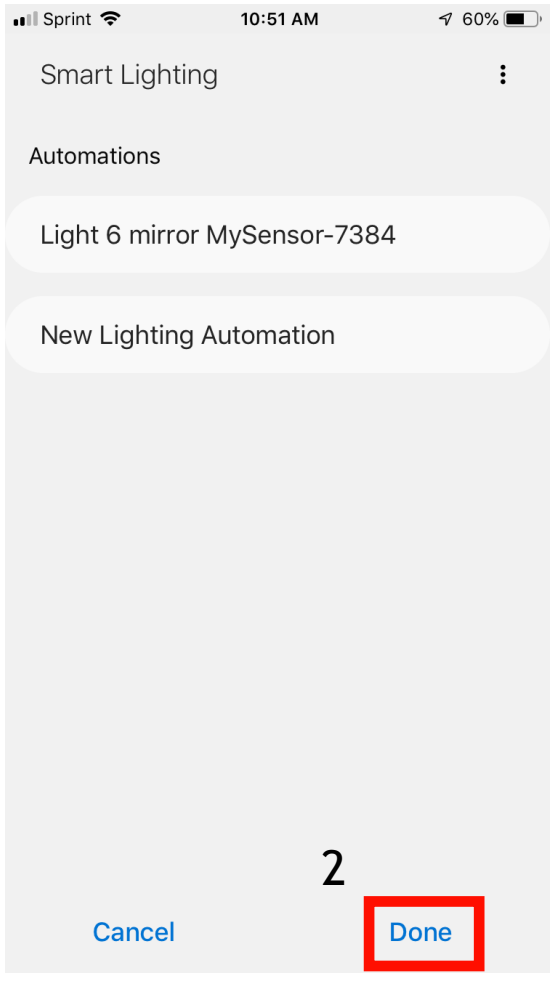






Setup Bulb Automation





SmartThings
Developers

Thank You
(…and we are hiring!)

glitch.com/~iot-fuse-code
github.com/tpmanley/conferences