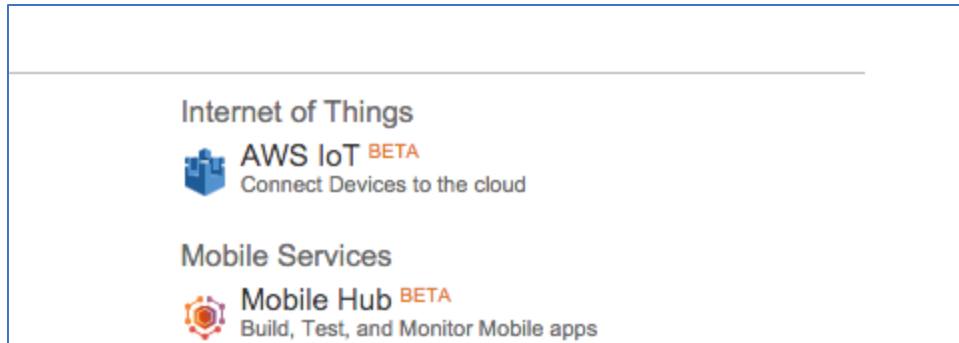


AWS IoT with Raspberry Pi

1. To begin it from IoT Portal, we need to first sign in to AWS Management console

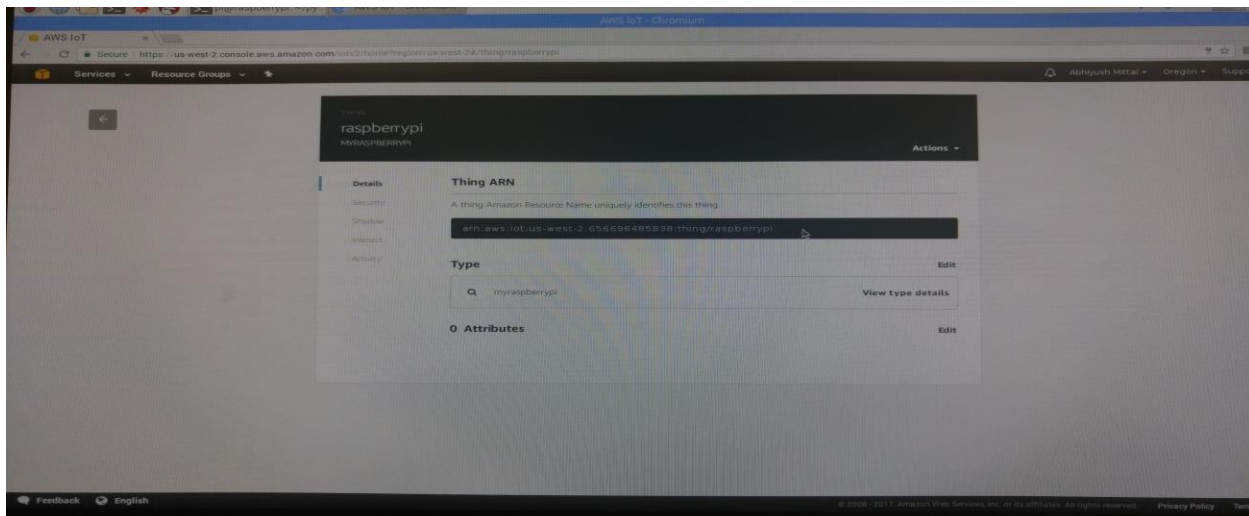


2. Create, Download and Activate Certificate

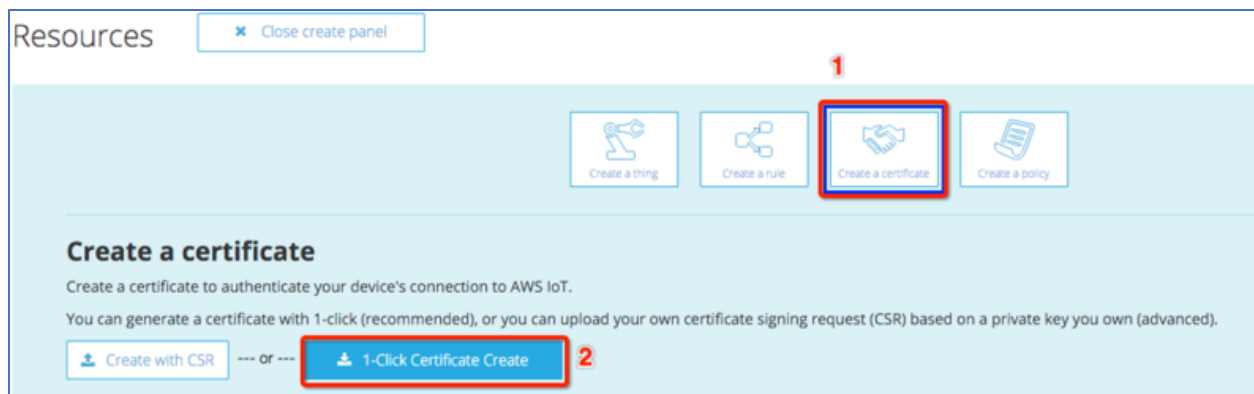
Every Devices connecting to AWS IoT must have a valid certificates. In this step, we will generate, download and activate the certificates through AWS IoT console.

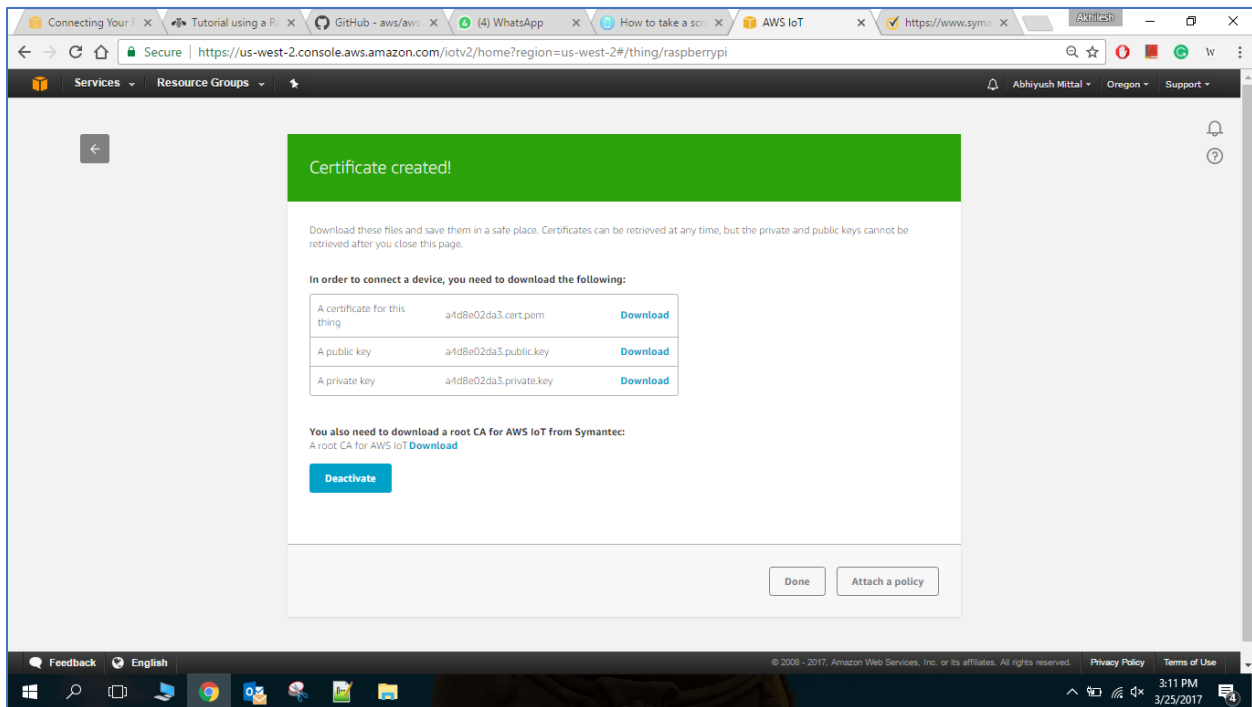
- B. Click on **Create a resource** button





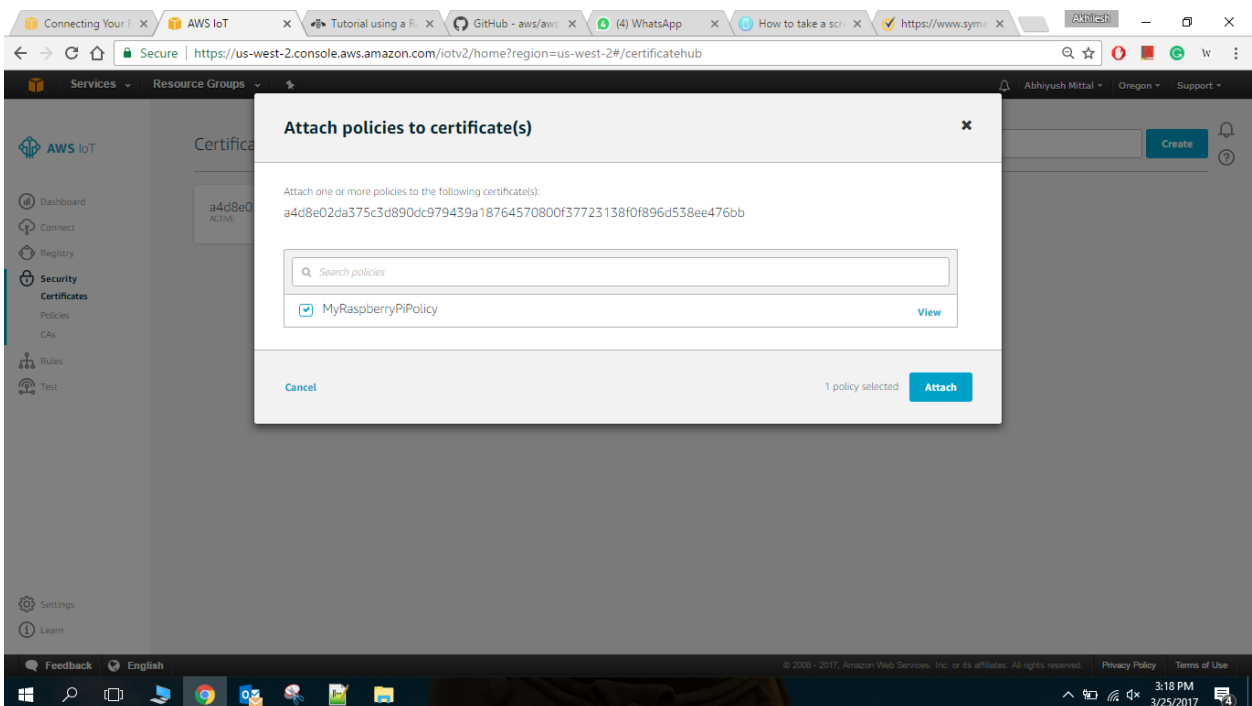
C. Now, select **Create a certificate** option and then click on **Click certificate create** button as shown in screenshot below

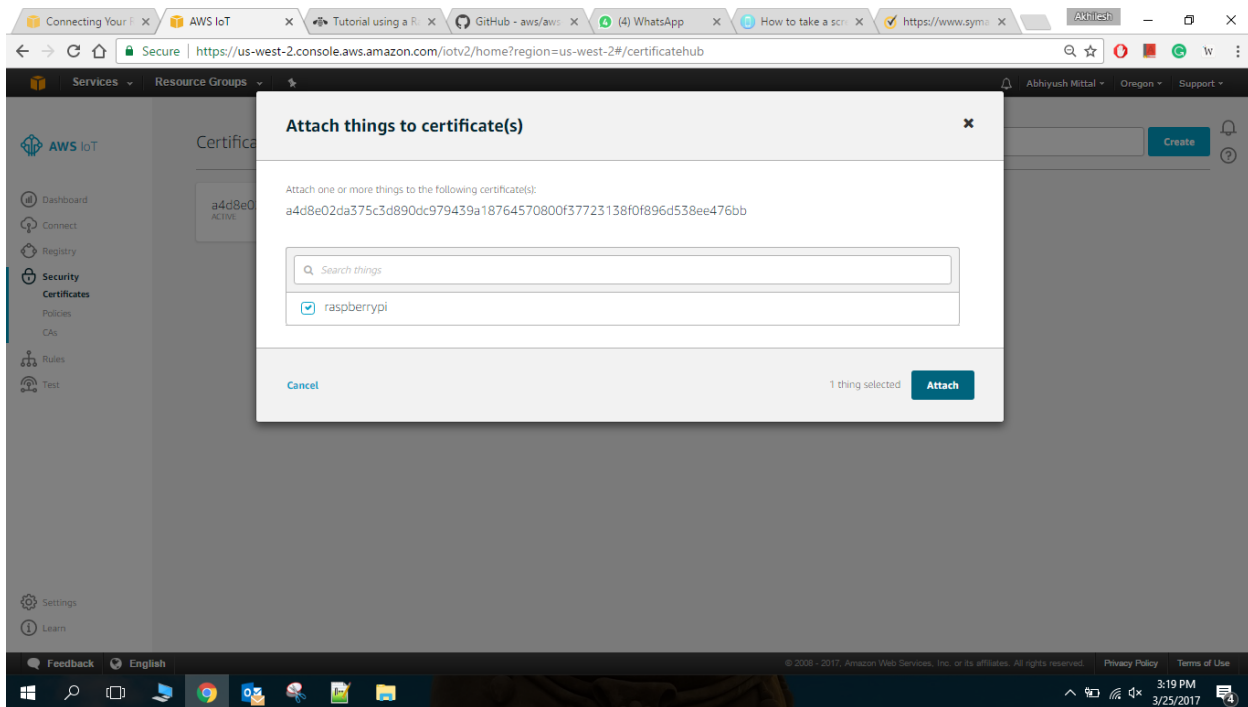




D. Download all the keys & the certificates

E. Attach the policy and certificates as below





Similarly create Raspberry Pi thing as above and attach the certificate to it.

Connect Raspberry Pi to AWS IoT

Requirements:

1. Raspberry Pi
2. Programming Language: Python v3
3. Required Libraries: Paho MQTT Python Client (<https://eclipse.org/paho/clients/python/>)

Creating an IOT MQTT subscriber in python 3

Create a python script [iot-mqtt-subscriber.py](#) in your folder.

Change the keys and certificates with your certificates.

```
#adding client-side certificates and enabling tlsv1.2 support as required by aws-IoT service
mqttc.tls_set("/home/pi/certs/root-CA.crt",
              certfile="/home/pi/certs/6fdda68178-certificate.pem.crt",
              keyfile="/home/pi/certs/6fdda68178-private.pem.key",
```

```
tls_version=ssl.PROTOCOL_TLSv1_2,  
ciphers=None)
```

Artifacts attached:

- AWS IoT certificate
- AWS IoT private key
- Root CA certificates that are trusted
- You also need to note down you AWS IoT Endpoint from left panel
- Port to use on the service host. Eg: 8883 (default port no)
- MQTT Quality of Service (QoS) level
- Topic (thing name : raspberry Pi) to publish to.
- Client ID

MQTT Connections

Minimum Requirements

- Python 2.7+ or Python 3.3+
- OpenSSL version 1.0.1+ (TLS version 1.2) compiled with the Python executable for X.509 certificate-based mutual authentication

Setting up MQTT environment:

- `git clone https://github.com/aws/aws-iot-device-sdk-python.git`
- `cd aws-iot-device-sdk-python`
- `python setup.py install`
- `pip install paho-mqtt`
- `git clone https://github.com/eclipse/paho.mqtt.python.git`
- `cd paho.mqtt.python`
- `python setup.py install`