

Project 3 Report Part 1

Setting Up the IoT Device with AWS IoT Core

Group 8

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MCP9808 Temperature Sensor

```
venv: error: the following arguments are required: ENV_DIR
pi@CYT160Project:~ $ python3 -m venv
usage: venv [-h] [--system-site-packages] [--symlinks | --copies] [--upgrade] [--without-pip] [--prompt PROMPT] [--upgrade]
            [--without-scm-ignore-files]
            ENV_DIR [ENV_DIR ...]
venv: error: the following arguments are required: ENV_DIR
pi@CYT160Project:~ $ source iot_project_env/bin/activate
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.5625 °C
(iot_project_env) pi@CYT160Project:~ $
```

Interpreting the Temperature Sensor Reading

```
            [--without-scm-ignore-files]
            ENV_DIR [ENV_DIR ...]
venv: error: the following arguments are required: ENV_DIR
pi@CYT160Project:~ $ source iot_project_env/bin/activate
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.5625 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.5 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.5 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.3125 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.1875 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.3125 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.375 °C
(iot_project_env) pi@CYT160Project:~ $ python3 sensor_test.py
Temperature: 24.375 °C
(iot_project_env) pi@CYT160Project:~ $
```

View Messages in the AWS IoT Console

The screenshot shows the AWS IoT Console interface. At the top, there's a navigation bar with the account ID '3397-1290-8322' and the user 'voclabs/user4393835-Angeline_Nicole_Faina'. The main content area is divided into two sections. The left section, titled 'Subscriptions', shows a list of subscriptions with 'sdk/test/python' selected. The right section, titled 'sdk/test/python', displays the 'Message payload' as a JSON object: `{ "message": "Hello from AWS IoT console" }`. Below this, there's an 'Additional configuration' section with a 'Publish' button. The bottom section shows a list of messages received by the subscription. The first message is 'Hello from mqtt5 sample [7]' received on November 05, 2025, at 14:38:43 (UTC-0500). The second message is 'Hello from mqtt5 sample [6]' received on November 05, 2025, at 14:38:41 (UTC-0500). Both messages have a 'Properties' section that is currently collapsed.

```
File Edit Tabs Help
(.venv) pi@CYT160Project: ~/Desktop/CYT160/projects3 $ ./start.sh
Running pub/sub sample application...
Starting MQTT5 X509 PubSub Sample
==== Creating MQTT5 Client ====
==== Starting client ====
Lifecycle Connection Attempt
Connecting to endpoint: 'aishp6zvy6pviv-ats.iot.us-east-1.amazonaws.com' with client ID 'basicPubSub'
Lifecycle Connection Success with reason code: <ConnectReasonCode.SUCCESS: 0>
==== Subscribing to topic 'sdk/test/python' ====
Suback received with reason code: [<SubackReasonCode.GRANTED_QOS_1: 1>]
==== Sending messages until program killed ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [1]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [1] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [2]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [2] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [3]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [3] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [4]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [4] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [5]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [5] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [6]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [6] ====
Publishing message to topic 'sdk/test/python': Hello from mqtt5 sample [7]
PubAck received with <PubackReasonCode.SUCCESS: 0>
==== Received message from topic 'sdk/test/python': Hello from mqtt5 sample [7] ====
```