

Project 3 Report Part 2

# Continuous Temperature Data Monitoring System with AWS IoT Core

Group 8

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## Connection between Pi and AWS IoT

The screenshot shows the AWS IoT MQTT test client interface. On the left, there's a sidebar with options like 'Test' (selected), 'Device Advisor', 'MQTT test client' (which is highlighted in blue), 'Device Location', and 'Query connectivity status'. Below that is the 'Manage' section with 'All devices', 'Greengrass devices', 'LPWAN devices', 'Software packages', 'Remote actions', 'Message routing', and 'Retained messages'. At the bottom of the sidebar are 'CloudShell' and 'Feedback' buttons. The main area has a green success message box that says 'Successfully updated policy RaspberryPi-Policy, created policy version 2.' Below this, there's a text input field containing a JSON message: {"message": "Hello from AWS IoT console"} and a 'Publish' button. To the right, there are two message history entries under 'raspberrypi/temperature': one from November 13, 2025, at 00:12:46 (UTC-0500) with the payload {"temperature": "25.3125"}, and another from November 13, 2025, at 00:12:41 (UTC-0500) with the payload {"temperature": "25.25"}. There's also a 'Properties' button next to the second message. At the bottom of the main area, there are links for 'Privacy', 'Terms', and 'Cookie preferences'.

## Terminal Output

The terminal window title is 'pi@CYT160Project: ~/Desktop/CYT160v2'. The log output shows the following sequence of events:

```
File Edit Tabs Help
DEBUG:AWSIoTPythonSDK.core.protocol.internal.workers:Dispatching [puback] event
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:Invoking custom event callback.
...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:This custom event callback is for pub/sub/unsub, removing it after invocation...
INFO:AWSIoTPythonSDK.core:Message published to AWS IoT Core.
INFO:AWSIoTPythonSDK.core:Temperature: 25.19C
INFO:AWSIoTPythonSDK.core.protocol.mqtt_core:Performing sync publish...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:Filling in custom puback (QoS>0) event callback...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.workers:Produced [puback] event
DEBUG:AWSIoTPythonSDK.core.protocol.internal.workers:Dispatching [puback] event
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:Invoking custom event callback.
...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:This custom event callback is for pub/sub/unsub, removing it after invocation...
INFO:AWSIoTPythonSDK.core:Message published to AWS IoT Core.
INFO:AWSIoTPythonSDK.core:Temperature: 25.25C
INFO:AWSIoTPythonSDK.core.protocol.mqtt_core:Performing sync publish...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:Filling in custom puback (QoS>0) event callback...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.workers:Produced [puback] event
DEBUG:AWSIoTPythonSDK.core.protocol.internal.workers:Dispatching [puback] event
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:Invoking custom event callback.
...
DEBUG:AWSIoTPythonSDK.core.protocol.internal.clients:This custom event callback is for pub/sub/unsub, removing it after invocation...
INFO:AWSIoTPythonSDK.core:Message published to AWS IoT Core.
```