

# Project Report

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## Searching the Dataset

### MQTT

We used python with the paho mqtt library to contact the server and retrieve data. The script is located at `mqtt/capture.py` relative to the repository directory. The script first establishes a connection to the server, then subscribes to all topics with the `#` metacharacter and then listen for exactly 30 minutes. The result of the capture is then saved to the `data.json` file.

We then used the `data-processing.ipynb` notebook to clean and filter the captured values, resulting in 13 valid unique observations saved in the `mqtt_coords.txt` file.

Then we extracted manually other observation which we used to interact with Coap, namely those with the following topic and payload:

Topic	Payload
<code>coap/post/mixed/</code>	<code>?problem=memory</code>
<code>coap/post/mixed/</code>	<code>go to the Doctor of the BarrierReef</code>
<code>coap/lies</code>	<code>resources can be hidden, find all of them and you'll get a treasure</code>
<code>coap/hidden</code>	<code>find the HiddenTreasure in the BarrierReef</code>
<code>coap/resource</code>	<code>/root/BarrierReef/FishLocator?user=Dory</code>
<code>anemone/in/the/barrier/reef</code>	<code>/root/BarrierReef/Anemone?owner=Marlin</code>
<code>great/barrier/reef/with/post</code>	<code>/root/PostMe6?search=entry_post</code>
<code>other/coap/resource</code>	<code>/root/BarrierReef/Apps?fingerprint=True</code>
<code>other/coap/resource</code>	<code>&amp;gps=False</code>
<code>other/coap/resource</code>	<code>wait for this A LOT!</code>

### COAP