**Machine Learning for IoT——HW3**



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**Exercise 1 - Data Collection, Communication, and Storage**

The reason why MQTT is a better choice than REST as the communication protocol for this application is because MQTT can send and receive data with very low processing power and devices can communicate with each other even with poor internet connection.

MQTT’s Broker can make multiple devices receive data as soon as another device changes state or decides to send data to the Broker, and the devices that we need to communicate to each other constantly, MQTT can help us achieve this in an easy way.

**Exercise 2 - Data Management & Visualization**

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| **Method** | **Endpoint** | **Description** |
| **GET** | **/devices** | Retrieve the list of MAC addresses of the monitored devices. |
| **GET** | **/device/{mac\_address}** | Retrieve battery status information of the device with the specified MAC address in the specified time range |
| **DELETE** | **/device/{mac\_address}** | Delete the timeseries associated to the specified MAC address. |

**GET:** used to retrieve resources from a server. It is said to be a safe method as it does not change the state of the resource in any way.

**POST:**used to create a new resource into the collection of resources on a server.

**PUT:**used to update the existing resource on the server and it updates the full resource.

**DELETE:** used to delete the resources from a server. It deletes resource identified by the Request-URI.

By the definition of each method, because we need to read the list of MAC addresses and battery status information of the device, so we choose GET method.

When we should delete the timeseries associated to the specified MAC address we choose DELETE method.