# Chapter 8: Class Project

## Objective

## Time: 4 ½ Hours

## Fundamentals

## Exercise(s)

Your project is to build an IoT weather station. This will be a serial terminal based application. Everyone in the class will use the same MQTT broker.

amk6m51qrxr2u.iot.us-east-1.amazonaws.com

Everyone will already have a “thing” on the AWS IOT cloud with the name “initials\_ww101”.

Each person should update the state of their “thing”. The parameters are named “temperature” (float), “humidity” (float), “weatherAlert” (true or false) and “IPAddress” (ipv4 4dot syntax)

Your console based application should be able to take the following commands

t – read + publish temperature

h – read + publish humidity

A – publish weather alert on

a – publish weather alert Off

S – turn on subscriptions

s – turn off subscriptions

P – turn on printing of updates

p – turn off printing of update

x – print the current known state of data

l – print the list of known things

c – clear the screen

? – print out a help screen

u – turn off auto updating

U – turn on auto updating

The easiest thing to do is to have a static list of known initials

It would be cool if you:

1. Used the linked\_list library to maintain a local database
2. Used threads
3. Used the console library functions to build the interface
4. Used VT100 escape codes to make a pretty screen (<http://ascii-table.com/ansi-escape-sequences-vt-100.php)>
5. Used the DCT to write the configuration
6. Created an HTTP server to display all of the information