# Chapter 8: Class Project

## Objective

## Time: 4 ½ Hours

## Fundamentals

## Exercise(s)

Your project is to build an IoT weather station.

### 01 Data Collection

Get weather data (temperature and humidity) from the analog shield board.

Display the weather data to a terminal window.

### 02 Cloud Connection

Connect to the cloud and publish your weather data.

### 03 Weather Data Configuration

Take user input (e.g. from the terminal) to determine how often to update the weather data to the cloud.

### 04 Gather Data from Other Stations

Take user input (e.g. from the terminal) to subscribe to weather updates from different stations.

Display the weather data for all requested stations (including your own) in a terminal window.

### 05 Weather Alerts

Create alerts (e.g. flashing LEDs) for certain weather conditions.

Make the alerts programmable based on user input (e.g. from the terminal).

### 06 Device Configuration

Add a configuration AP to your device. Use that connection to configure which AP your device will connect to as a station. Store the configuration in the DCT (in flash) so that on subsequent power cycles the configuration is retained.

Hint: connect to the configuration AP from your laptop and use telnet (or putty) to send/receive configuration data.