



# Android weather app

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# Goals

- Get Seattle weather information through Weather API.
- Get In-room temperature from an Arduino board through Bluetooth.
- The app needs to be able to fetch the data from the sources periodically.



# Weather API



- Obtain the API Key (URL) <https://openweathermap.org/current>
- Use the JSON format(XML and HTML formats are available as well)

## How to make an API call

### API call

```
https://api.openweathermap.org/data/2.5/weather?lat={lat}&lon={lon}&appid={API key}
```



### JSON

Example of API response

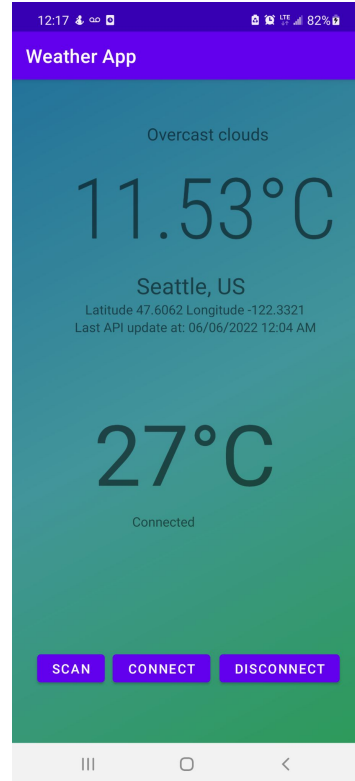
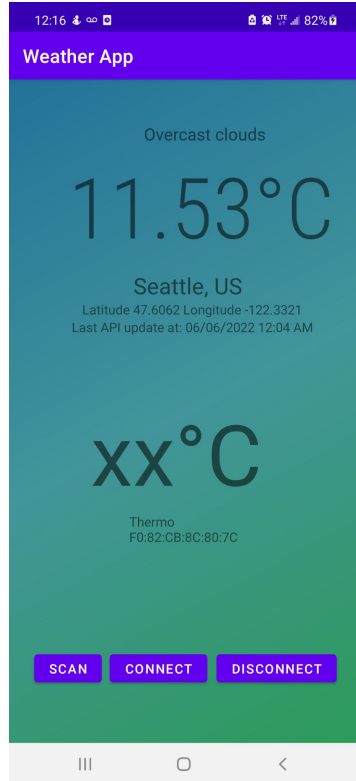
```
{
  "coord": {
    "lon": -122.08,
    "lat": 37.39
  },
  "weather": [
    {
      "id": 800,
      "main": "Clear",
      "description": "clear sky",
      "icon": "01d"
    }
  ],
  "base": "stations",
  "main": {
    "temp": 282.55,
    "feels_like": 281.86,
    "temp_min": 280.37,
    "temp_max": 284.26,
    "pressure": 1023,
    "humidity": 100
  },
  "visibility": 10000,
  "wind": {
    "speed": 1.5,
    "deg": 350
  }
}
```

# Arduino Side

- circuit playground
- Flora Bluefruit LE Module



# The app



# Potential Improvements

- Use view binding to hold display data
- Use relativelayout or other layout setup, so the UI works with different kind of screens.
- Try P-NUCLEO-WB55
- (<https://www.digikey.com/en/products/detail/stmicroelectronics/P-NUCLEO-WB55/9857029>)

# Try another embedded board

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## More about the board

