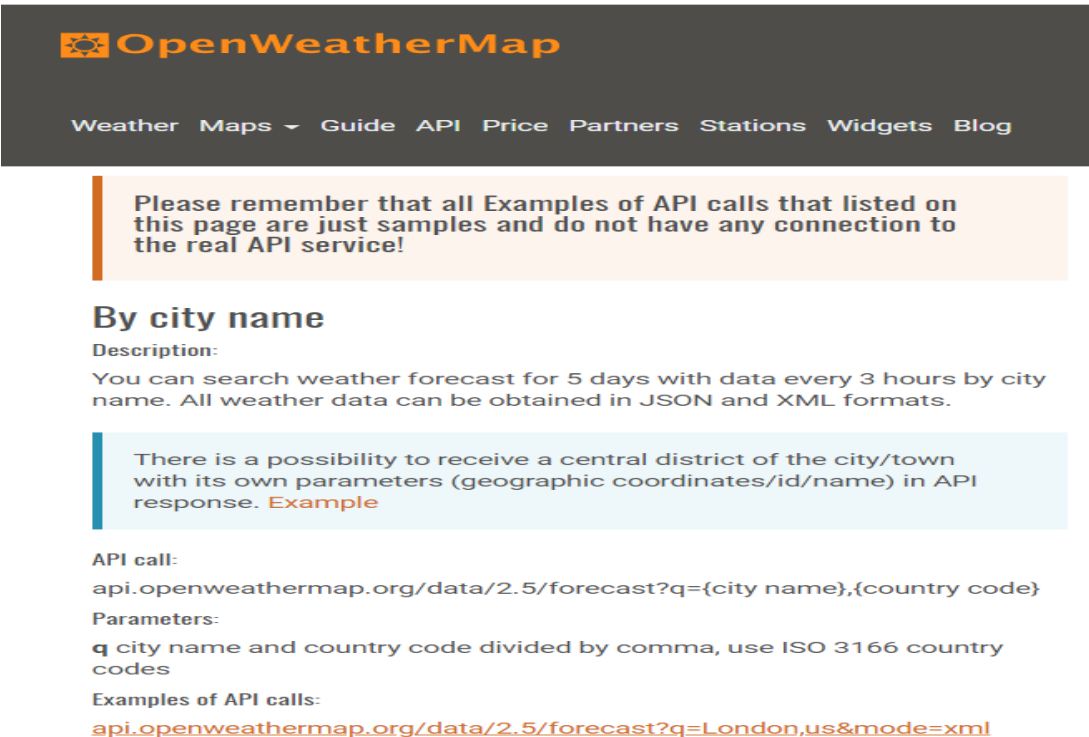


# openAPI를 활용한 응용개발

XML 자료 활용

# XML 활용: openAPI

- 다양한 날씨(기상) 정보
  - XML과 JSON 형식



The screenshot shows the OpenWeatherMap website header with the logo and navigation links: Weather, Maps, Guide, API, Price, Partners, Stations, Widgets, and Blog. Below the header is a warning box stating that API call examples are just samples and not connected to the real service. The main section is titled 'By city name' and describes the 5-day forecast service. It includes a note about receiving a central district of the city/town with its own parameters. The API call is shown as `api.openweathermap.org/data/2.5/forecast?q={city name},{country code}`. Parameters are listed as `q` (city name and country code divided by comma, use ISO 3166 country codes). Examples of API calls are provided, including one for London in XML format: `api.openweathermap.org/data/2.5/forecast?q=London,us&mode=xml`.

**OpenWeatherMap**

Weather Maps ▾ Guide API Price Partners Stations Widgets Blog

Please remember that all Examples of API calls that listed on this page are just samples and do not have any connection to the real API service!

### By city name

Description:

You can search weather forecast for 5 days with data every 3 hours by city name. All weather data can be obtained in JSON and XML formats.

There is a possibility to receive a central district of the city/town with its own parameters (geographic coordinates/id/name) in API response. [Example](#)

API call:

`api.openweathermap.org/data/2.5/forecast?q={city name},{country code}`

Parameters:

**q** city name and country code divided by comma, use ISO 3166 country codes

Examples of API calls:

[api.openweathermap.org/data/2.5/forecast?q=London,us&mode=xml](https://api.openweathermap.org/data/2.5/forecast?q=London,us&mode=xml)

<https://openweathermap.org/api>

# XML 활용: openAPI

## • 사용자 등록 및 API 키 생성


2019-03-06 (수) 오후 2:49

OT

OWM Team <robot2@openweathermap.org>

OpenWeatherMap Create Account

받는 사람 Customer

 이 메시지가 표시되는 방식에 문제가 있으면 여기를 클릭하여 웹 브라우저에서 메시지를 확인하십시오.

Thank you for subscribing to Free [OpenWeather API](#)!

API key:

- Your API key is **a070fcd8fc2db8d5d1f140466a2012b4**
- Within the next couple of hours, it will be activated and ready to use
- You can later create more API keys on your [account page](#)
- Please, always use your API key in each API call

Endpoint:

- Please, use the endpoint [api.openweathermap.org](#) for your API calls
- Example of API call:

[api.openweathermap.org/data/2.5/weather?](#)

[q=London,uk&APPID=a070fcd8fc2db8d5d1f140466a2012b4](#)

Useful links:

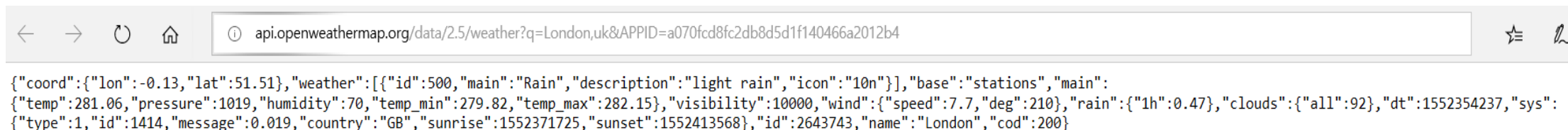
- API documentation <https://openweathermap.org/api>

# XML 활용: openAPI

- 특정 도시에 날씨정보 요청 및 응답

a070fcd8fc2db8d5d1f140466a2012b4

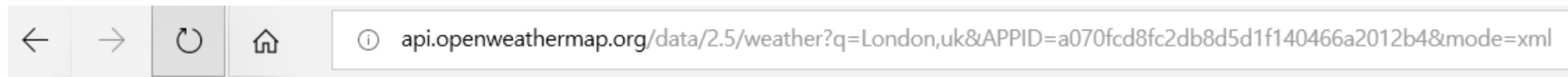
[http:// api.openweathermap.org/data/2.5/weather?q=London,uk&APPID=a070fcd8fc2db8d5d1f140466a2012b4](http://api.openweathermap.org/data/2.5/weather?q=London,uk&APPID=a070fcd8fc2db8d5d1f140466a2012b4)



# XML 활용: openAPI

- 특정 도시에 날씨정보 요청 및 응답 (XML)

<http://api.openweathermap.org/data/2.5/weather?q=London,uk&APPID=키값&mode=xml>



```
<?xml version="1.0" encoding="ISO-8859-1"?>
- <current>
  - <city id="2643743" name="London">
    <coord lat="51.51" lon="-0.13"/>
    <country>GB</country>
    <sun set="2019-03-12T17:59:28" rise="2019-03-12T06:22:05"/>
  </city>
  <temperature unit="kelvin" max="282.15" min="279.82" value="281.06"/>
  <humidity unit="%" value="70"/>
  <pressure unit="hPa" value="1019"/>
  - <wind>
    <speed name="Moderate breeze" value="7.7"/>
    <gusts/>
    <direction name="South-southwest" value="210" code="SSW"/>
  </wind>
  <clouds name="overcast clouds" value="92"/>
```

# (실습)XML 활용: openAPI

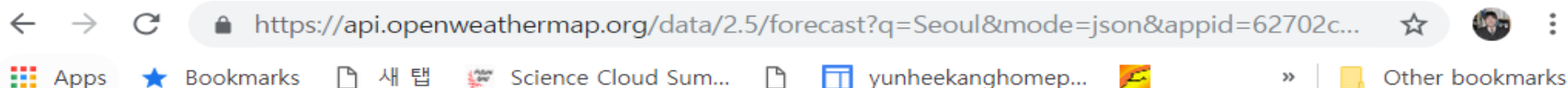
<https://api.openweathermap.org/data/2.5/forecast?q=Seoul&mode=xml&appid=키값>

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<weatherdata>
  <location>
    <name>Seoul</name>
    <type/>
    <country>KR</country>
    <timezone/>
    <location altitude="0" latitude="37.5667" longitude="126.9783" geobase="geonames" geobaseid="1835848"/>
  </location>
  <credit/>
  <meta>
    <lastupdate/>
    <calctime>0.006</calctime>
    <nextupdate/>
  </meta>
  <sun rise="2019-03-05T21:57:09" set="2019-03-06T09:30:15"/>
  <forecast>
    <time from="2019-03-06T06:00:00" to="2019-03-06T09:00:00">
      <symbol number="500" name="light rain" var="10d"/>
      <precipitation unit="3h" value="0.365" type="rain"/>
      <windDirection deg="304.502" code="NW" name="Northwest"/>
      <windSpeed mps="1.97" name="Light breeze"/>
      <temperature unit="kelvin" value="281.62" min="281.62" max="281.71"/>
      <pressure unit="hPa" value="1013.54"/>
      <humidity value="67" unit="%"/>
      <clouds value="broken clouds" all="56" unit="%"/>
    </time>
    <time from="2019-03-06T09:00:00" to="2019-03-06T12:00:00">
      <symbol number="500" name="light rain" var="10n"/>
      <precipitation unit="3h" value="0.005" type="rain"/>
      <windDirection deg="322.502" code="NW" name="Northwest"/>
      <windSpeed mps="1.31" name="Calm"/>
      <temperature unit="kelvin" value="276.15" min="276.15" max="276.209"/>
      <pressure unit="hPa" value="1013.98"/>
      <humidity value="81" unit="%"/>
      <clouds value="broken clouds" all="68" unit="%"/>
    </time>
  </forecast>
</weatherdata>
```

# (실습) XML 활용: openAPI

<https://api.openweathermap.org/data/2.5/forecast?q=Seoul&mode=json&appid=키값>



```
{
  "cod": "200",
  "message": 0.0091,
  "cnt": 37,
  "list": [
    {
      "dt": 1551862800,
      "main": {
        "temp": 281.62,
        "temp_min": 281.62,
        "temp_max": 281.71,
        "pressure": 1013.54,
        "sea_level": 1013.54,
        "grnd_level": 990.15,
        "humidity": 67,
        "temp_kf": -0.09
      },
      "weather": [
        {
          "id": 500,
          "main": "Rain",
          "description": "light rain",
          "icon": "10d"
        }
      ],
      "clouds": {
        "all": 56
      },
      "wind": {
        "speed": 1.97,
        "deg": 304.502
      },
      "rain": {
        "3h": 0.365
      },
      "sys": {
        "pod": "d"
      },
      "dt_txt": "2019-03-06 09:00:00"
    },
    {
      "dt": 1551873600,
      "main": {
        "temp": 276.15,
        "temp_min": 276.15,
        "temp_max": 276.209,
        "pressure": 1013.98,
        "sea_level": 1013.98,
        "grnd_level": 990.4,
        "humidity": 81,
        "temp_kf": -0.06
      },
      "weather": [
        {
          "id": 500,
          "main": "Rain",
          "description": "light rain",
          "icon": "10n"
        }
      ],
      "clouds": {
        "all": 68
      },
      "wind": {
        "speed": 1.31,
        "deg": 322.502
      },
      "rain": {
        "3h": 0.005
      },
      "sys": {
        "pod": "n"
      },
      "dt_txt": "2019-03-06 12:00:00"
    },
    {
      "dt": 1551884400,
      "main": {
        "temp": 275.15,
        "temp_min": 275.15,
        "temp_max": 275.182,
        "pressure": 1014.34,
        "sea_level": 1014.34,
        "grnd_level": 990.52,
        "humidity": 83,
        "temp_kf": -0.03
      },
      "weather": [
        {
          "id": 500,
          "main": "Rain",
          "description": "light rain",
          "icon": "10n"
        }
      ],
      "clouds": {
        "all": 32
      },
      "wind": {
        "speed": 1.21,
        "deg": 302.5
      },
      "rain": {
        "3h": 0.02
      },
      "sys": {
        "pod": "n"
      },
      "dt_txt": "2019-03-06 15:00:00"
    },
    {
      "dt": 1551895200,
      "main": {
        "temp": 272.156,
        "temp_min": 272.156,
        "temp_max": 272.156,
        "pressure": 1014.46,
        "sea_level": 1014.46,
        "grnd_level": 990.53,
        "humidity": 78,
        "temp_kf": 0
      },
      "weather": [
        {
          "id": 802,
          "main": "Clouds",
          "description": "scattered clouds",
          "icon": "03n"
        }
      ],
      "clouds": {
        "all": 48
      },
      "wind": {
        "speed": 1.53,
        "deg": 343.5
      },
      "rain": {},
      "sys": {
        "pod": "n"
      },
      "dt_txt": "2019-03-06 18:00:00"
    },
    {
      "dt": 1551906000,
      "main": {
        "temp": 273.882,
        "temp_min": 273.882,
        "temp_max": 273.882,
        "pressure": 1016.53,
        "sea_level": 1016.53,
        "grnd_level": 992.55,
        "humidity": 91,
        "temp_kf": 0
      },
      "weather": [
        {
          "id": 500,
          "main": "Rain",
          "description": "light rain",
          "icon": "10n"
        }
      ],
      "clouds": {
        "all": 44
      },
      "wind": {
        "speed": 2.66,
        "deg": 25.0004
      },
      "rain": {
        "3h": 0.08
      },
      "sys": {
        "pod": "n"
      },
      "dt_txt": "2019-03-06 21:00:00"
    },
    {
      "dt": 1551916800,
      "main": {
        "temp": 277.959,
        "temp_min": 277.959,
        "temp_max": 277.959,
        "pressure": 1019.62,
        "sea_level": 1019.62,
        "grnd_level": 995.68,
        "humidity": 65,
        "temp_kf": 0
      },
      "weather": [
        {
          "id": 800,
          "main": "Clear",
          "description": "clear sky",
          "icon": "01d"
        }
      ],
      "clouds": {
        "all": 0
      },
      "wind": {
        "speed": 3.31,
        "deg": 36.0031
      },
      "rain": {},
      "sys": {}
    }
  ]
}
```

# 정리

- 정보서비스를 위해 openAPI 가 공공 및 민간 분야에서 활용되고 있음
- openAPI는 네트워크 상의 요청과 응답으로 이루어짐
- openAPI의 응답형식으로는 XML 과 JSON 이 활용되고 있음
- 다양한 분야에서 사용되는 openAPI를 조사하여 응용을 구성할 수 있음