

Qt : Openweather

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Openweather

Openweather est une société informatique créée en 2014 par un groupe d'ingénieurs et d'experts en Big Data, en traitement de données et en traitement d'imagerie par satellite.

Openweather fournit des API simples et rapides pour travailler avec leur base de données de données météorologiques, d'images satellite et d'autres données environnementales. Il existe 3 produits : API pour les données météorologiques, API pour l'imagerie par satellite et API pour l'apprentissage automatique (R & D).



Aller sur le site <https://openweathermap.org/api>.

Current weather data

[API doc](#) [Subscribe](#)

- Access current weather data for any location including over 200,000 cities
- Current weather is frequently updated based on global models and data from more than 40,000 weather stations
- Data is available in JSON, XML, or HTML format
- Available for Free and all other paid accounts

	Free
Price per month Price is fixed, no other hidden costs (VAT is not included)	Free
Subscribe	Get API key and Start
Calls per minute (no more than)	60
Current weather API	✓
4 days/hourly forecast API NEW	-
5 days/3 hour forecast API	✓
16 days/daily forecast API	-
Climate forecast for 30 days NEW	-
Weather maps 2.0: Current, Forecast, Historical layers	-
Relief maps	-
Weather maps 1.0	✓
Bulk download	-
UV index	✓
Weather alerts	✓

How to start in 3 simple steps

- 1 **Sign up** and get an API key (APPID) on your account page.

After registration, we will send you a welcome email that contain your API key and additional information on how to get started with our weather APIs. Within the next couple of hours, it will be activated and ready to use.

- 2 **Start using API for free.**

Find the complete description of API calls with a list of parameters and examples of responses in [API documentation](#).

Please, use API key in each API call.

- 3 **If you need more features than Free account can give you, look at the options of our monthly subscriptions [here](#).**

Choose your subscription depending on a number of calls per sec, API availability, service provided, and other features.

Contact us via [Support Center](#).

Suivre la procédure pour créer un compte

L'utilisation de l'API nécessite une clé APPID :

Example of using API key in API call

Description:
Please, use your API key in each API call.
We do not process API requests without the API key.

API call:
`http://api.openweathermap.org/data/2.5/forecast?id=524901&APPID={APIKEY}`

Parameters:
APPID {APIKEY} is your unique API key

Example of API call:
`api.openweathermap.org/data/2.5/forecast?id=524901&APPID=1111111111`

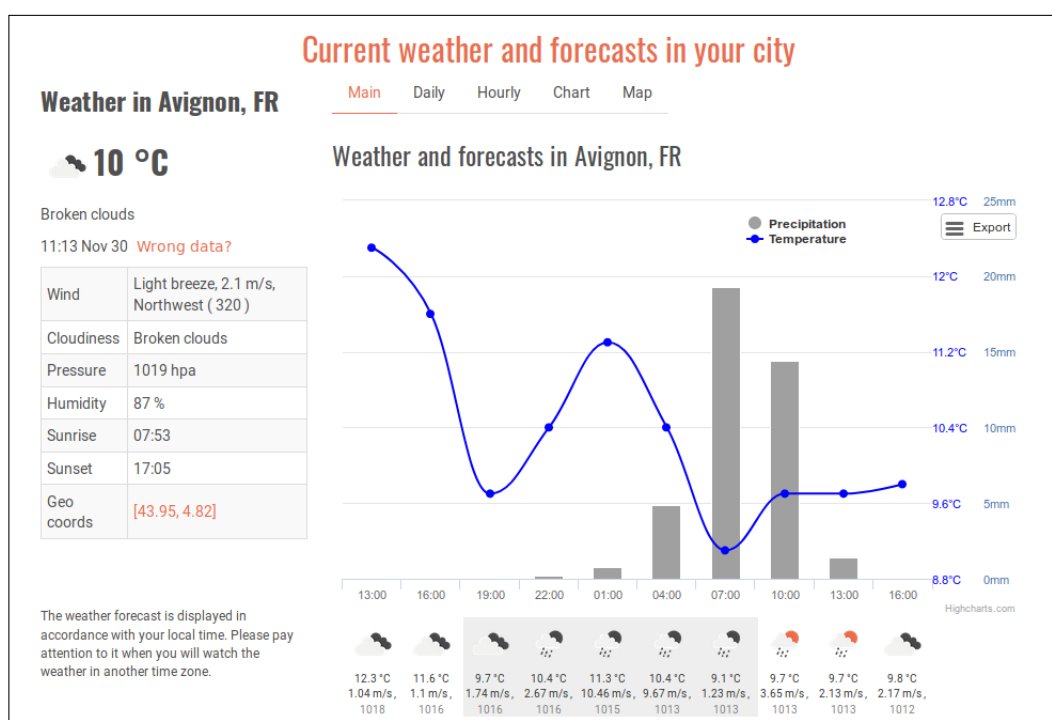
New Products Setup **API keys** Services Payments Billing plans Block logs History bulk Logout

You can generate as many API keys as needed for your subscription. We accumulate the total load from all of them.

Key	Name	Create key
	Default	 Generate

Accéder à son compte pour récupérer

➡ Rechercher la météo sur Avignon : <https://openweathermap.org/city/6455379>



➡ Obtenir les données météorologiques d'Avignon au format JSON : <http://api.openweathermap.org/data/2.5/forecast?id=6455379&APPID=xxxx>

JSON	Données brutes	En-têtes
Enregistrer	Copier	Tout réduire
	Tout développer	Filtrer le JSON
cod:		"200"
message:		0
cnt:		40
list:		
0:		
dt:		1575115200
main:		
temp:		285.49
temp_min:		283.52
temp_max:		285.49
pressure:		1018
sea_level:		1018
grnd_level:		1006
humidity:		69
temp_kf:		1.97

➡ Documentation sur l'API :

Parameters:

- **coord**
 - **coord.lon** City geo location, longitude
 - **coord.lat** City geo location, latitude
- **weather** (more info Weather condition codes)
 - **weather.id** Weather condition id
 - **weather.main** Group of weather parameters (Rain, Snow, Extreme etc.)
 - **weather.description** Weather condition within the group
 - **weather.icon** Weather icon id
- **base** Internal parameter
- **main**
 - **main.temp** Temperature. Unit **Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit.**
 - **main.pressure** Atmospheric pressure (on the sea level, if there is no sea_level or grnd_level data), hPa
 - **main.humidity** Humidity, %
 - **main.temp_min** Minimum temperature at the moment. This is deviation from current temp that is possible for large cities and megalopolises geographically expanded (use these parameter optionally). Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit.
 - **main.temp_max** Maximum temperature at the moment. This is deviation from current temp that is possible for large cities and megalopolises geographically expanded (use these parameter optionally). Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit.
 - **main.sea_level** Atmospheric pressure on the sea level, hPa
 - **main.grnd_level** Atmospheric pressure on the ground level, hPa

Units format

Description:

Standard, metric, and imperial units are available.

Parameters:

units metric, imperial. When you do not use units parameter, format is Standard by default.

Temperature is available in Fahrenheit, Celsius and Kelvin units.

- For temperature in Fahrenheit use units=imperial
- For temperature in Celsius use units=metric
- Temperature in Kelvin is used by default, no need to use units parameter in API call

List of all API parameters with units openweathermap.org/weather-data

Examples of API calls:

standard api.openweathermap.org/data/2.5/find?q=London

metric api.openweathermap.org/data/2.5/find?q=London&units=metric

imperial api.openweathermap.org/data/2.5/find?q=London&units=imperial

Format

Description:

JSON format is used by default. To get data in XML or HTML formats just set up mode = xml or html.

Parameters:

mode - possible values are xml and html. If mode parameter is empty the format is JSON by default.

Examples of API calls:

JSON api.openweathermap.org/data/2.5/weather?q=London

XML api.openweathermap.org/data/2.5/weather?q=London&mode=xml

HTML api.openweathermap.org/data/2.5/weather?q=London&mode=html

➡ Utilisation de paramètres spécifiques : <http://api.openweathermap.org/data/2.5/forecast?id=6455379&units=metric&lang=fr&APPID=xxxx>

JSON	Données brutes	En-têtes
Enregistrer	Copier	Tout réduire
	Tout développer	Filtrer le JSON
cod:		"200"
message:		0
cnt:		40
list:		
0:		
dt:		1575115200
main:		
temp:		12.43
temp_min:		10.37
temp_max:		12.43
pressure:		1018
sea_level:		1018
grnd_level:		1006
humidity:		69
temp_kf:		2.06

Qt

Il faut utiliser un objet de la classe `QNetworkAccessManager` pour émettre une requête GET avec un objet `QNetworkRequest`.

L'url sera stocké dans un objet de type `QUrl`.

On obtiendra la réponse à la requête par le signal `finished(QNetworkReply*)` qui passera l'adresse d'un objet `QNetworkReply`. On accédera au contenu de la réponse en appelant la méthode `readAll()`.

```
manager = new QNetworkAccessManager(this);
connect(manager, SIGNAL(finished(QNetworkReply*)), this, SLOT(replyFinished(QNetworkReply*))
);

QString URL = "http://api.openweathermap.org/data/2.5/forecast?id=6455379&units=metric&lang=fr&APPID=xxxx";

// Pour tester les entêtes HTTP
//QUrl url("https://httpbin.org/headers");
QUrl url(URL);
QNetworkRequest request;
request.setUrl(url);
//--header 'Accept: application/json'
request.setRawHeader("Accept", "application/json");
qDebug() << Q_FUNC_INFO << request.url();
manager->get(request);

void IHM::replyFinished(QNetworkReply *reply)
{
    QByteArray datas = reply->readAll();
    QString infos(datas);
    //...
}
```

Ensuite, il faut traiter les données au format JSON.

➡ Format JSON : <http://tvaira.free.fr/projets/activites/activite-json.html>