

# NOBIL API



Version 3.0  
rev. 19.12.2017

## **Client API version 3.0**

NOBIL is a comprehensive and trustworthy database covering all charging stations in Norway, Sweden and Finland. Based on admission to the data, providers and clients can develop new and innovative services for promoting use of electric vehicles.

### **What is an API?**

API stands for Application Programming Interface, and is a piece of software which enables the use of existing systems for a 3rd Party.

### **How to use the client API**

By using http call with different parameters, you can ask the service to return charging station data.

### **What is needed?**

Clients using the API call service have to register in NOBIL. The data required for registration are as follows:

- First name, last name
- Email address
- Mobile Number
- Website Address (where service is to be run)
- Password

After the registration is approved by NOBIL you will receive an API key. This key must be attached to each request against NOBIL API. This is to identify who uses the service and to ensure NOBIL's data and service. API key is a string. For those who use Google's APIs, this is familiar material. Currently this registration process is done here:

<http://info.nobil.no/index.php/api>

Ver 3.0. has a larger dataset both for charging stations and points. Availability data (status) are included where they are reported to NOBIL. An important change from Ver 1.1 to 3.0 is that all data types now are displayed in English. If a user has written data in his or her native language in the database, those data will get back in that native language.

Another new feature is that JSONP is a possible method of retrieving API data for all the Ajax functions. This makes it possible to get data via AJAX from different domains than NOBIL, without having to write a server side proxy functionality. Read more on **JSONP here**:

<http://en.wikipedia.org/wiki/JSON#JSONP>

**Server side proxy functionalities in services consuming the NOBIL API, could implement better caching mechanisms, which can result in better response and a better user experience.**

**NOBIL's API supports both HTTP GET and HTTP POST requests for getting data.**

### **Search for charger stations via map references**

An example how to do this with AJAX and jQuery:

```
jQuery.ajax({
```

```

type: 'POST',
url: 'https://nobil.no/api/server/search.php',
data: { 'apikey': nobilApiKey, 'apiversion': '3',
        'action': "search",
        'type': 'rectangle',
        'northeast': '(59.943921193288915, 10.826683044433594)',
'southwest': '(59.883683240905256, 10.650901794433594)',
        'existingids': '189,195,199,89,48'},
  dataType: 'json'
});

```

| Parameter         | Example values  |
|-------------------|---|
| action            | Search  |
| apikey            | APIkey_that_You_have_received_from_Nobil.no   |
| apiversion        | 3   |
| existingids       | 189,195,199,89,48,190,58,77,83,75,63,64,86,181,207,182,180<br>A list of charger station id's that you don't want back from the server, cause you already have received those and stored them in client store. This is done for saving bandwidth and increase the speed of showing and navigating in online maps like Google Maps. |
| northeast         | (59.943921193288915, 10.826683044433594)  |
| southwest         | (59.883683240905256, 10.650901794433594)  |
| type              | Rectangle   |
| format (optional) | json or xml   |

## API service response from map area search

The response content type from this type of search is json object.

Example of a JSON object from the server:

```
[{"Provider":"NOBIL.no","Rights":"Creative Commons 3.0 Unported License","apiver":"3", "chargerstations":
[{"csmd": {"id":"41","name":"IKEA Slependen","url":"http://www.ladestasjoner.no/2010/06/ikea-
slependen_08.html","blogpostid":"3599822862656171588","Active":true,"Street":"Nesbruveien
","House_number":"40","Zipcode":"1396","City":"BILLINGSTAD","Municipality_ID":"0220","Municipality":"ASKER","Co
unty_ID":"02","County":"Akershus","Description_of_location":"Tre plasser i parkeringshuset P1, rett til h\u00f8yve
etter innkj\u00f8ring. Slependen. Det finnes ogs\u00e5 3 ladeplasser p\u00e5 omr\u00e5de L, n\u00e6rmest
\"utgang\" i P-
kjelleren.","Owned_by":"IKEA","Number_charging_points":6,"Position":"(59.87447,10.49982)","Image":"41.jpg","Avai
lable_charging_points":6,"User_comment":"","Contact_info":"48050000 - kar fra IKEA som ringte om videre
utbygging.","Created":"2010-03-24
10:24:13","Created_by":4,"Created_by_Forename":"nobilAdmin","Created_by_Surname":"nobilAdmin","Updated":"20
11-04-15 12:19:20","Updated_by":5,"Updated_by_Forename":"Hans
H.,"Updated_by_Surname":"Kvisle","Station_status":1,"Land_code":"nor","International_id":"NOR_00041"}, "attr":
{"st":{"24":{"attrtypeid":"24","attrname":"Open
24h","attrvalid":"1","trans":"Yes","attrval":"true"},"21":{"attrtypeid":"21","attrname":"Real-time
information","attrvalid":"2","trans":"No","attrval":""},"22":{"attrtypeid":"22","attrname":"Public
funding","attrvalid":"4","trans":"None","attrval":""},"7":{"attrtypeid":"7","attrname":"Parking
fee","attrvalid":"2","trans":"No","attrval":false},"6":{"attrtypeid":"6","attrname":"Time
limit","attrvalid":"2","trans":"No","attrval":""},"3":{"attrtypeid":"3","attrname":"Location","attrvalid":"4","trans":"Sho
pping center","attrval":""},"2":{"attrtypeid":"2","attrname":"Availability","attrvalid":"1","trans":"Public","attrval":""}},
"conn":{"1":{"attrtypeid":"1","attrname":"Accessibility","attrvalid":"1","trans":"Open","attrval":""},"4":{"attrtypeid":"
4","attrname":"Connector","attrvalid":"14","trans":"Schuko CEE
7/4","attrval":""},"5":{"attrtypeid":"5","attrname":"Charging capacity","attrvalid":"7","trans":"230V 1-phase max
16A","attrval":""},"17":{"attrtypeid":"17","attrname":"Vehicle type","attrvalid":"1","trans":"All
vehicles","attrval":""},"20":{"attrtypeid":"20","attrname":"Charge mode","attrvalid":"1","trans":"Mode
1","attrval":""},"18":{"attrtypeid":"18","attrname":"Reservable","attrvalid":"2","trans":"No","attrval":""},"25":{"attrty
peid":"25","attrname":"Fixed cable","attrvalid":"2","trans":"No","attrval":""}}}]}
```

## Cross domain Ajax - JSONP

Example of how this can be implemented across different domains using Ajax and JSONP and jQuery:

```
jQuery.ajax({
  url: 'https://nobil.no/api/server/search.php',
  data: {'apikey': nobilApiKey,
        'apiversion': '3',
        'action': "search",
        'type': 'rectangle',
        'northeast': bound.getNorthEast(),
        'southwest': bound.getSouthWest(),
        'existingids': idList},
  success: parseJsonResponse,
  dataType: 'jsonp'
});
```

| Parameter         | Example values  |
|-------------------|---|
| action            | Search  |
| apikey            | APIkey_that_You_have_received_from_Nobil.no   |
| apiversion        | 3   |
| existingids       | 189,195,199,89,48,190,58,77,83,75,63,64,86,181,207,182,180<br>A list of charger station id's that you don't want back from the server, cause you already have received those and stored them in client store. This is done for saving bandwidth and increase the speed of showing and navigating in online maps like Google Maps. |
| northeast         | (59.943921193288915, 10.826683044433594)  |
| southwest         | (59.883683240905256, 10.650901794433594)  |
| type              | Rectangle   |
| format (optional) | json or xml   |

## Service response from rectangle map search

The response from the search service is of the type jsonp object. This object is encapsulated in a callback method that is given by the client to the search method as a parameter. In the search request seen above, this function is called «parseJsonResponse».

Response example for the above search request:

```
jsonp1300629903865([{"id":228,"active":true,"name":"Statens arbeidsmiljøinstitutt, Oslo", "address":"Gydasvei 8", "zip":"0383", "city":"OSLO", "municipalityid":"0301", "municipality":"OSLO", "countyid":"03", "county":"Oslo", "discription":"","placetype":"Street", "accessibility":"Visitors", "owner":"Statens arbeidsmiljøinstitutt", "chargerpointnumber":4, "parkingfee":false, "timelimit":9, "chargerspeed":"16A", "geolocation":"(59.93255,10.71514)", "constructionsupportname":"Oslo kommune", "image":"228.jpg", "usercomment":"Tilgjengelig 07-16.00", "contactinfo":"Statens arbeidsmiljøinstitutt\r\nSteinar Messel\r\nsteinarm@stami.no\r\n23195153", "created":"2010-04-14 12:55:02", "createdbygivenname":"Hans H.", "createdbyfamilyname":"Kvisle", "updated":"2010-06-04 09:56:44", "updatedbygivenname":"Hans H.", "updatedbyfamilyname":"Kvisle", "accesstype":"Standard key", "url":"http://www.ladestasjoner.no/2010/07/statens-arbeidsmiljainstitutt-oslo_06.html", "countrycode":"NO"}]);
```

## Get all data on a given charger station

Example implementation done with Ajax and jQuery:

This example gets all data on charger station with id: NOR\_00171

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3', 'action': "search",
    'type':'id', 'id': 'NOR_00171'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values    |
|------------------------------|-------------------|
| action                       | Search            |
| apikey                       | API key           |
| apiversion                   | 3                 |
| type                         | Id                |
| id                           | NOR_00171         |
| Callback function on success | printJsonResponse |
| format (optional)            | json or xml       |

The function below gets called if the request returns data of type JSON. The function iterates over all object values and adds these to a string. This string then gets displayed in a html div with ID="jsonOutput".

```
function printJsonResponse(data, textStatus, XMLHttpRequest){
  jQuery("#jsonOutput").html(dump(data));
}
```

```
function dump(arr,level) {
  var dumped_text = "";
  if(!level) level = 0;

  //The padding given at the beginning of the line.
  var level_padding = "";
  for(var j=0;j<level+1;j++) level_padding += " ";

  if(typeof(arr) == 'object') { //Array/Hashes/Objects
    for(var item in arr) {
      var value = arr[item];

      if(typeof(value) == 'object') { //If it is an array,
        dumped_text += level_padding + "" + item + " ... \n";
        dumped_text += dump(value,level+1);
      } else {
```

```
        dumped_text += level_padding + "" + item + " => \" + value + "\"\n";
    }
}
} else { //Stings/Chars/Numbers etc.
    dumped_text = "===>"+arr+"<==(" +typeof(arr)+" )";
}
return dumped_text;
}
```



## Retrieving statistics for charger stations

The following statistics search method can be used:

### ***stats\_TotalsAllCounties***

Gets the total count of active charger stations grouped by counties.

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3',
    'action': "search",
    'type': 'stats_TotalsAllCounties',
    'countrycode': 'NO'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values             |
|------------------------------|----------------------------|
| apikey                       | API key                    |
| apiversion                   | 3                          |
| action                       | Search                     |
| type                         | stats_TotalsAllCounties    |
| countrycode                  | NO (ISO 639-1)             |
| format (optional)            | json or xml (default json) |
| Callback function on success | printJsonResponse          |

**stats\_TotalsByCountyId**

Gets the total count of active charger stations for a given county specified by county id.  
(11=Rogaland)

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3',
    'action': "search",
    'type': 'stats_TotalsByCountyId',
    'id': '11',
    'countrycode': 'NO'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values             |
|------------------------------|----------------------------|
| apikey                       | API key                    |
| apiversion                   | 3                          |
| action                       | Search                     |
| type                         | stats_TotalsByCountyId     |
| id                           | 11                         |
| countrycode                  | NO (ISO 639-1)             |
| format (optional)            | json or xml (default json) |
| Callback function on success | printJsonResponse          |

**stats\_DetailedTotalsByCountyId**

Gets the total count of active charger stations for a given county grouped by municipality specified by county id. (11=Rogaland)

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3',
    'action': "search",
    'type': 'stats_DetailedTotalsByCountyId',
    'id': '11',
    'countrycode': 'NO'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values                 |
|------------------------------|--------------------------------|
| apikey                       | API key                        |
| apiversion                   | 3                              |
| action                       | Search                         |
| type                         | stats_DetailedTotalsByCountyId |
| id                           | 11                             |
| countrycode                  | NO (ISO 639-1)                 |
| format (optional)            | json or xml (default json)     |
| Callback function on success | printJsonResponse              |

**stats\_TotalsByMunicipalId**

Gets the total count of active charger stations for a given municipality specified by municipality id. (1103=Stavanger)

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3',
    'action': "search",
    'type': 'stats_TotalsByMunicipalId',
    'id': '1103',
    'countrycode': 'NO'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values             |
|------------------------------|----------------------------|
| apikey                       | API key                    |
| apiversion                   | 3                          |
| action                       | search                     |
| type                         | stats_TotalsByMunicipalId  |
| id                           | 11                         |
| countrycode                  | NO (ISO 639-1)             |
| format (optional)            | json or xml (default json) |
| Callback function on success | printJsonResponse          |

**stats\_DetailTotalsByMunicipalId**

Gets the total count of active charger stations for all zip codes for a given municipality specified by municipality id. (1103=Stavanger)

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey, 'apiversion': '3',
    'action': "search",
    'type': 'stats_DetailTotalsByMunicipalId',
    'id': '1103',
    'countrycode': 'NO'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values                  |
|------------------------------|---------------------------------|
| apikey                       | API key                         |
| apiversion                   | 3                               |
| action                       | search                          |
| type                         | stats_DetailTotalsByMunicipalId |
| id                           | 11                              |
| countrycode                  | NO (ISO 639-1)                  |
| format (optional)            | json or xml (default json)      |
| Callback function on success | printJsonResponse               |

## The nearest charger station

Gets the 10 closest charger stations which are within 2000 meters, ordered by meters, nearest first.

```
jQuery.ajax({
  type: 'POST',
  url: 'https://nobil.no/api/server/search.php',
  data: {
    'apikey': nobilApiKey,
    'apiversion': '3',
    'action': "search",
    'type': 'near',
    'lat': '59.91673',
    'long': '10.74782',
    'distance': '2000',
    'limit': '10'
  },
  success: printJsonResponse,
  dataType: 'json'
});
```

| Parameters                   | Example values             |
|------------------------------|----------------------------|
| apikey                       | API key                    |
| apiversion                   | 3                          |
| action                       | search                     |
| type                         | near                       |
| lat                          | 59.91673                   |
| long                         | 10.74782                   |
| distance                     | 2000 (metre)               |
| format (optional)            | json or xml (default json) |
| Callback function on success | printJsonResponse          |

**NOBIL Data Export**URL: <https://nobil.no/api/server/datadump.php>

| Parameters                     | Example values  |
|--------------------------------|---|
| apikey                         | API key   |
| countrycode (optional)         | NOR (if no parameter is submitted to the server, all data from all countries is returned) |
| fromdate (optional)            | 2012-06-02  |
| format (optional)              | json (default format is XML)  |
| file                           | false (default value is 'true', which returns a file, rather than the text stream)        |
| callback (function on success) | PrintJsonResponse (wrapping data via jsonp)   |
| norealtime                     | true false (Filter out realtime stations from resultset)                                  |
| nonimupdate                    | true false (Filter out station that have been updated by realtime data)                   |

URL examples:

<https://nobil.no/api/server/datadump.php?apikey=2048b60b804ac019155675421c0ddb13&countrycode=NOR&fromdate=2012-06-02&format=xml&file=false>

<https://nobil.no/api/server/datadump.php?apikey=2048b60b804ac019155675421c0ddb13>

<https://nobil.no/api/server/datadump.php?apikey=2048b60b804ac019155675421c0ddb13&fromdate=2012-06-02&file=false&callback=mycallback&format=json>

**NOBIL Station statistics**URL: <https://nobil.no/api/server/search.php>

| type   | params   |
|--|--|
| stats_GetSumChargerstations  | countrycode (ISO3) ex.:<br>&countrycode=NOR (Norway)                                   |
| stats_GetCountChargerConnectors  | countrycode (ISO3) ex.:<br>&countrycode=SWE (Sweden)                                   |
| stats_GetCountPublicChargerConnectors  | countrycode (ISO3) ex.: &countrycode=FIN<br>(Finland)                                  |
| stats_GetCountChargerConnectorsTypes   | countrycode (ISO3) ex.:<br>&countrycode=DAN (Denmark)                                  |
| stats_GetCountChargersByCapacity   | countrycode, capacityids ex.:<br>countrycode=FIN&capacityids<br>=capacityid,capacityid |
| stats_GetCountChargersModeOneTwo   | countrycode, ids<br>ex.: &countrycode=FIN&ids=1,2                                      |
| stats_CountChargeModeThreeAndCapacity  | countrycode, capacityids   |
| stats_GetCountChargersByConnectorTypeAndCapacity                                       | countrycode, capacityid, connectorid   |
| stats_GetCountChargerConnectorsByConnectorTypeAndCapacity                              | countrycode, capacityid, connectorid   |
| stats_GetCountRealtimeChargers   | countrycode, daysold   |
| stats_GetStatisticsTotalConnectorsPRMunicipalityPrCountyPrCountry                      | countrycode, countycode, municipalitycode  |
| stats_GetStatisticsCountChargerConnectorsByCountryByMunicipalityByCountyByChargerTypes | countrycode, countycode, municipalitycode  |

Gets the total count of active charger stations for all zip codes for a given municipality specified by municipality id.

[https://nobil.no/api/server/search.php?apiversion=3&apikey=KEY&action=search&type=stats\\_GetCountChargerConnectorsByConnectorTypeAndCapacity&countrycode=NOR&countycode=11&municipalitycode=1103&format=json](https://nobil.no/api/server/search.php?apiversion=3&apikey=KEY&action=search&type=stats_GetCountChargerConnectorsByConnectorTypeAndCapacity&countrycode=NOR&countycode=11&municipalitycode=1103&format=json)

(countycode:11=Rogaland, municipalitycode:1103=Stavanger)

**Capacityids and connectorids could be found here:**

<https://nobil.no/admin/attributes.php>



## ***NOBILDBs changelog***

Gets a changelog from the NobilDB generated by human interactions in the NobilAdmin CRUD style.

<https://nobil.no/api/server/changelog.php?apikey=KEY&timestamp=2017-12-01%2017:30:00>

|           |   |
|-----------|---|
| timestamp | Max 7 days < todays date.<br>Ex: &timestamp=2017-12-01%2017:30:00 |
|-----------|---|

## ***Example implementation***

Demonstration of these examples can be found here:

[https://www.nobil.no/api/client/search\\_apiVer3.php](https://www.nobil.no/api/client/search_apiVer3.php)

## ***Attribute reference***

An overview of all attributes and valid values can be found here:

Production server: <https://nobil.no/admin/attributes.php>

## ***NOBIL real time stream API***

In April 2014 we made a new real time stream API available. It makes it easier to include real time data in your services, and it will reduce the traffic on our server when the collection of real time data is separated from the ordinary API which is more suitable for static data. We advise you to use the real time stream API together with the original API. Please look at the documentation for stream API here:

<https://github.com/nobil/nobil-stream-api>