Statistics Finland's PxWeb API Help

Through Statistics Finland's PxWeb API interface for statistical databases you can search for machine readable information in, for example, XLSX, CSV, JSON, JSON-stat and PX formats. Before using the service, you should take a look at Statistics Sweden's (SCB) API documentation.

NB. SCB's description is based on the use of a relational database where you do not have to use a PX extension in the table name. By contrast, in Statistics Finland's databases you must always remember to use the PX extension in the table name.

API limitations can be seen in this link http://pxnet2.stat.fi/PXWeb/api/v1/en/?config

API's structure

In the newest PxWeb version you can see the structure of the database: http://pxnet2.stat.fi/pxweb/api/v1/en/StatFin/?query=*&filter=*

API's structure	PXWEB/API-NAME/API-VERSION/LANGUAGE/DATABASE-ID/LEVELS/TABLE-ID
Available databases	http://pxnet2.stat.fi/PXWeb/api/v1/en/
Topics in the StatFin database (levels)	http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin
Statistics (levels) related to population (vrm)	http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/vrm
List of tables	http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/vrm/vaerak/
Table metadata	http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/vrm/vaerak/statfin_vaerak_pxt_001.px Now a short version of both GET and POST requests can be used: http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/statfin_vaerak_pxt_001.px

PxWeb API

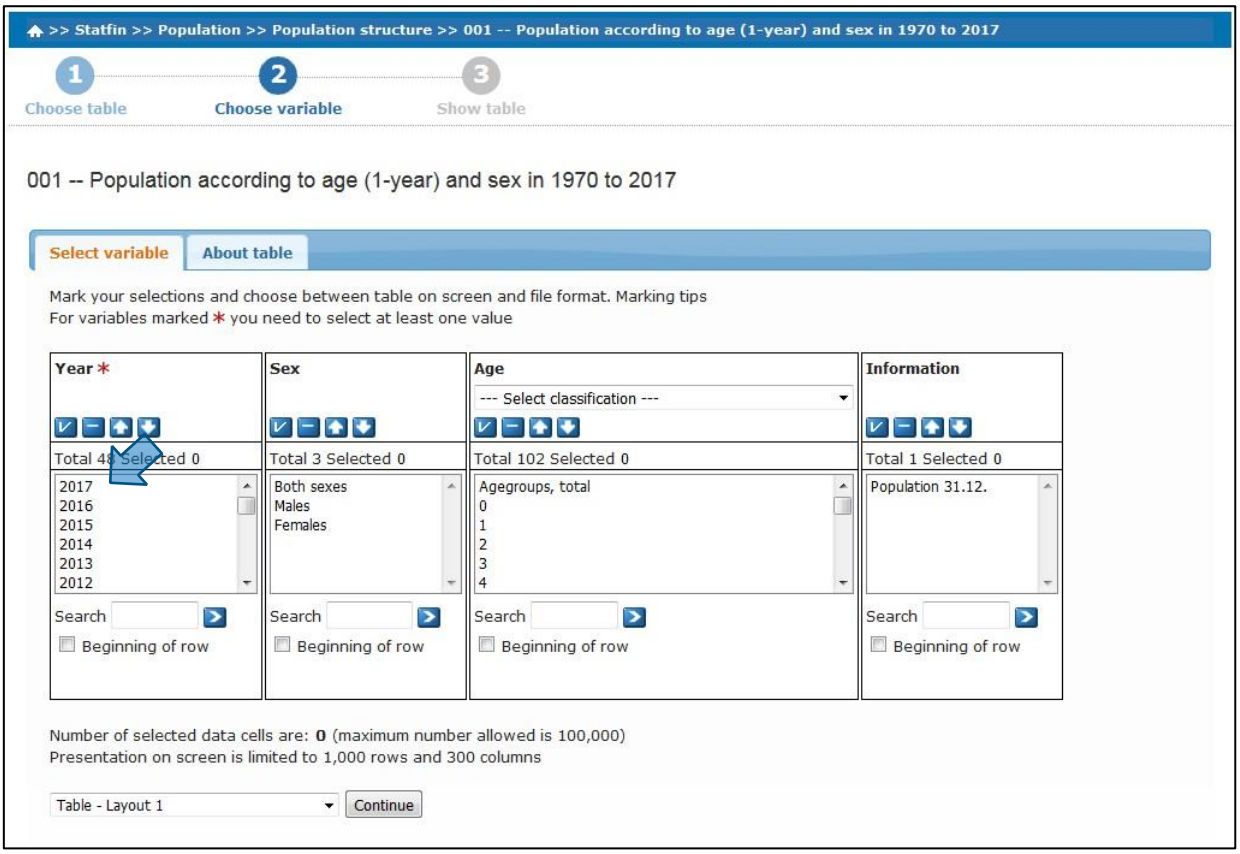
Example:

1. First select the desired table from Statistics Finland's StatFin database.

   In this example, a table describing the population by age and sex is selected from the Population structure statistics: **Population by age (1-year) and sex in 1970 to 2017**

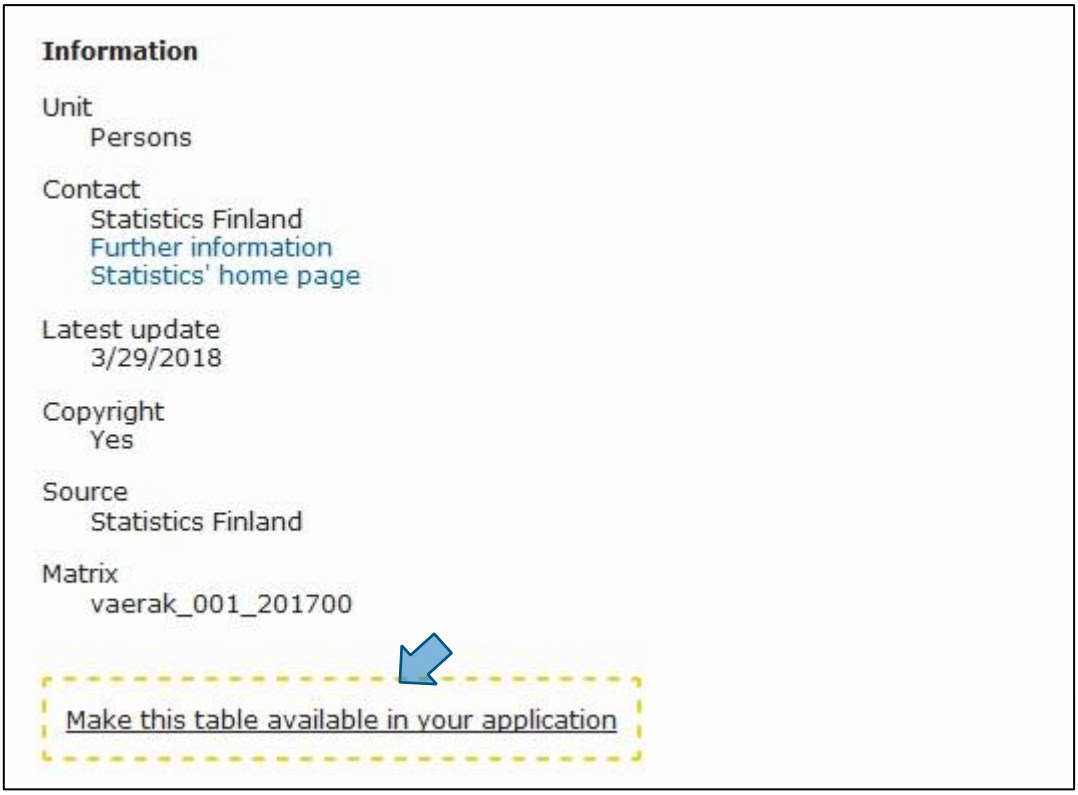
2. Next, select the desired variables and click "Continue".

   In this table, only the **Year** variable marked with a red asterisk (*) is mandatory. Only select **2017** as at this stage you only need the data form the API interface.

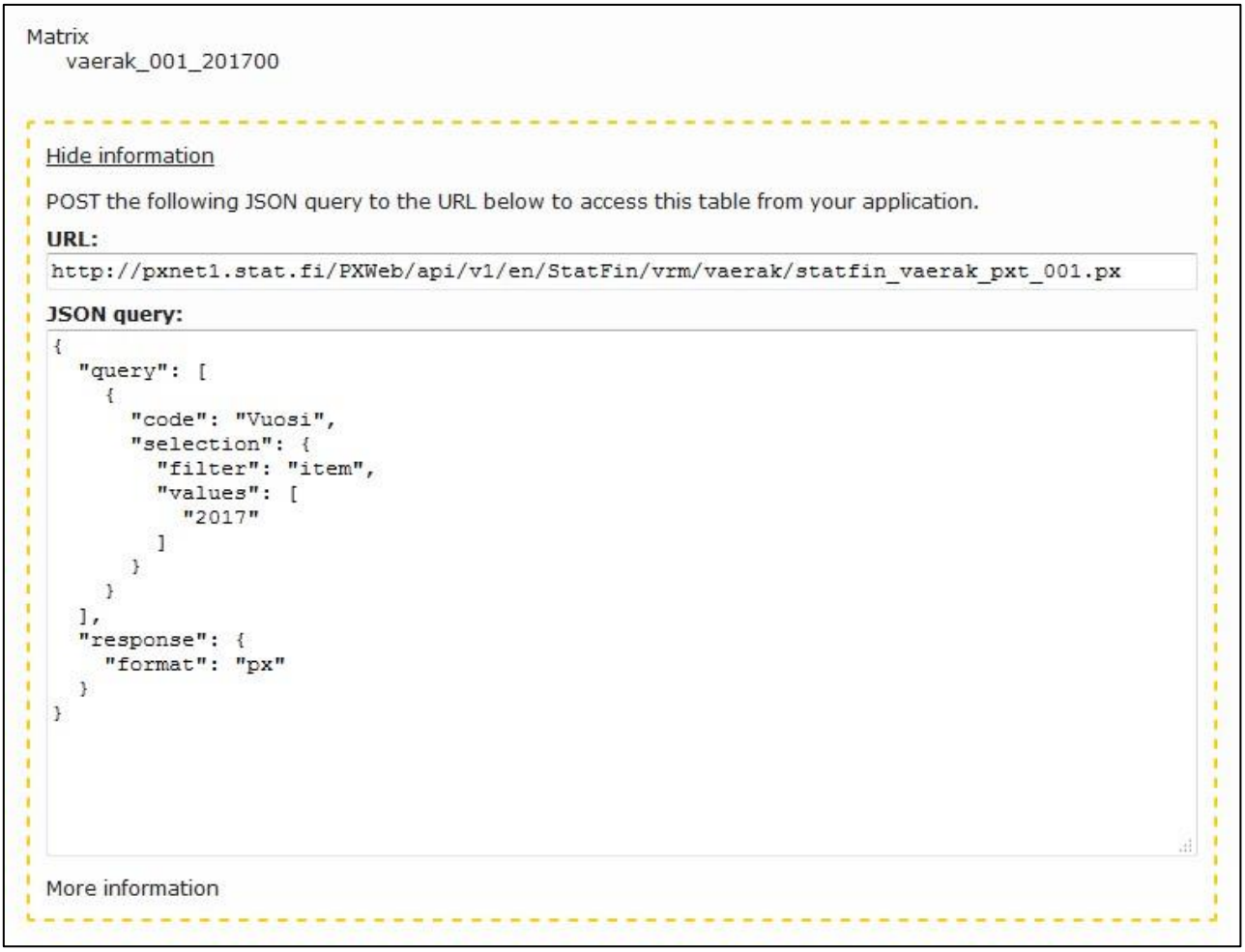


3. After the selection you see the table depicted below. Next, select the **About table** tab which displays table information.

At the bottom of the page you find the **Make this table available in your application** selection surrounded by yellow dashed lines. Click the link and it opens a JSON query.



4. Here you find the necessary API interface data. You can use the JSON POST query to retrieve data and the GET query to retrieve the metadata of the table. These provide a machine-readable link to the database table.



Using PxWeb API with RESTClient

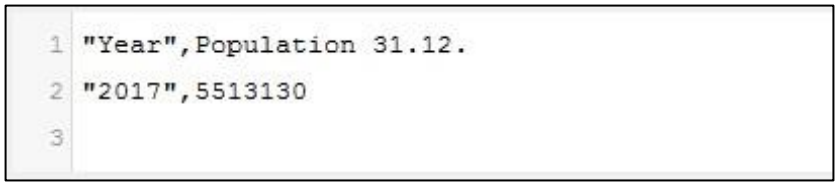
The supported formats are: PX, CSV, JSON, XLXS and JSON-stat.

The URL address together with the GET function gives the metadata of the selected PX table. The metadata are also shown when the URL address is typed into the address field of the browser.

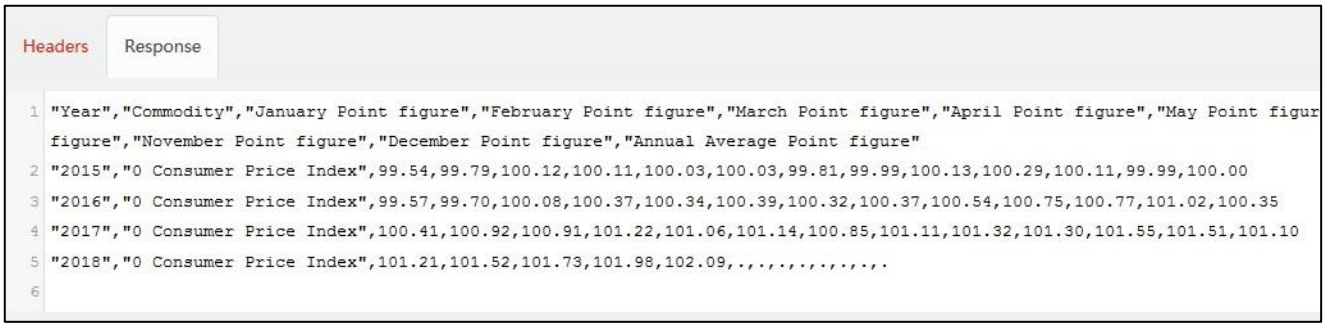
When retrieving the information with the GET function of the URL command http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin we find out that the database has 26 **root nodes**.

The URL command GET http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/vrm shows that the database has 11 **table nodes**.

Below is an image of the POST query result together with the URL command and JSON query code shown in the example.



When you remove the time variable from the JSON query code you can see all periods and their values. The image below now shows the table describing the index point figures.



Using filters

Filters can be used to search only for defined values.

- **Item**. The filter lists valid variable values. There can be one or several filtered values, for example, years “2015” and “2016”.
- **All**. This filter uses the wildcard feature but only one of these can be used at a time. For example, 01* shows all values that begin with 01, * shows all values.
- **Top**. Shows the first values or the latest values if the variable is time-based. The number of values to be shown is entered in the value field, for example, “5” which would show the five first or latest values.

Examples:

Population for 2017.

```
{
   "code": "Vuosi",
   "selection": {
       "filter": "item",
       "values": [
          "2017"
       ]
    }
}
```

If the figures “1980” and “1988” are added to the time variable, the population for 1980 and 1988 are shown in addition to that for 2017.

```
{
   "code": "Vuosi",
   "selection": {
      "filter": "item",
      "values": [
         "2017”, “1980", ”1988”
      ]
    }
}
```

Select all **Vuosi** variables that end in zero, i.e. Show the populations for 1970, 1980, 1990, 2000 and 2010. Set the value of the **Ikä** variable as “010” so only persons aged 10 are shown for the selected years.

```
{
   "code": "Vuosi",
   "selection": {
      "filter": "all",
      "values": [
         "*0"
      ]
   }
},
{
   "code": "Ikä",
   "selection": {
      "filter": "item",
      "values": [
         "010"
      ]
   }
}
```

Shows the population of the past three years: 2017, 2016 and 2015. For time-based variables, the newest values are shown first.

```
{
   "code": "Vuosi",
   "selection": {
       "filter": "top",
       "values": [
           "3"
       ]
    }
}
```

This example shows the number of women in the last five years.

```
{
   "code": "Vuosi",
   "selection": {
       "filter": "top",
       "values": [
           "5"
       ]
   }
},
{
    "code": "Sukupuoli",
    "selection": {
       "filter": "item",
       "values": [
           "2"
       ]
   }
}
```

You can also use a free text search with URL commands through the API interface. For example:

1) Search “population”
   http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin?query=population
2) Searches for data related to the population in the “vrm” topic
   http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin/vrm?query=vrm

Technical support:

Further information is available by contacting tietokannat@stat.fi.