

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=*](http://pxnet2.stat.fi/pxweb/api/v1/en/StatFin/?query=*&filter=)

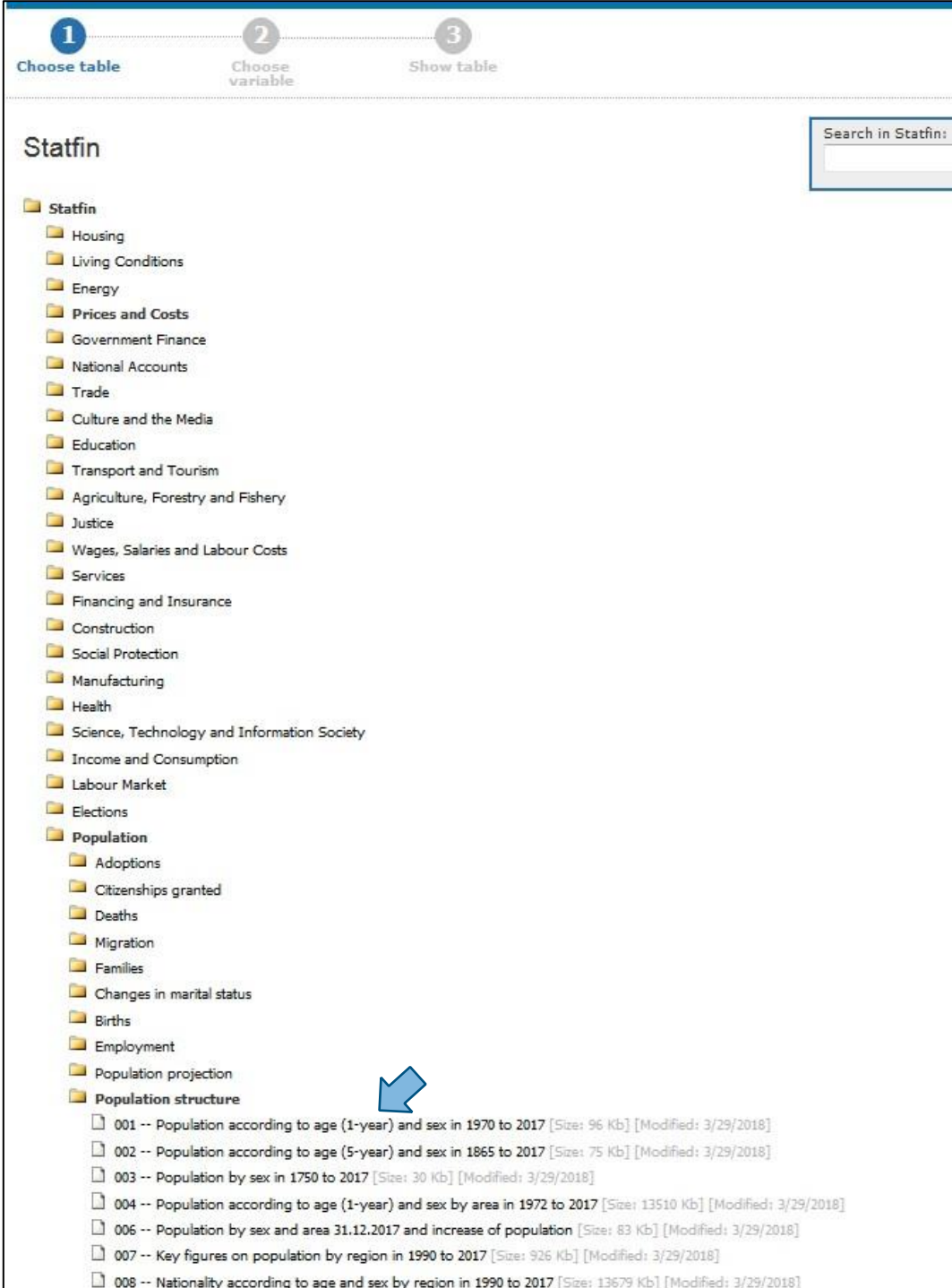
| API's structure | PXWEB/API-NAME/API-VERSION/LANGUAGE/DATABASE-ID/LEVELS/TABLE-ID |
|---|--|
| Available databases | http://pxnet2.stat.fi/PXWeb/api/v1/en/ |
| Topics in the StatFin database (levels) | http://pxnet2.stat.fi/PXWeb/api/v1/en/StatFin |
| Statistics (levels) related to population (vrm) | 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**



The screenshot shows the StatFin database interface. At the top, there are three steps: 1. Choose table, 2. Choose variable, and 3. Show table. A search bar is located in the top right corner. The main content area displays a tree view of categories. The 'Population structure' category is selected and highlighted with a blue arrow. Below it, a list of tables is shown, with the first table, '001 -- Population according to age (1-year) and sex in 1970 to 2017', selected.

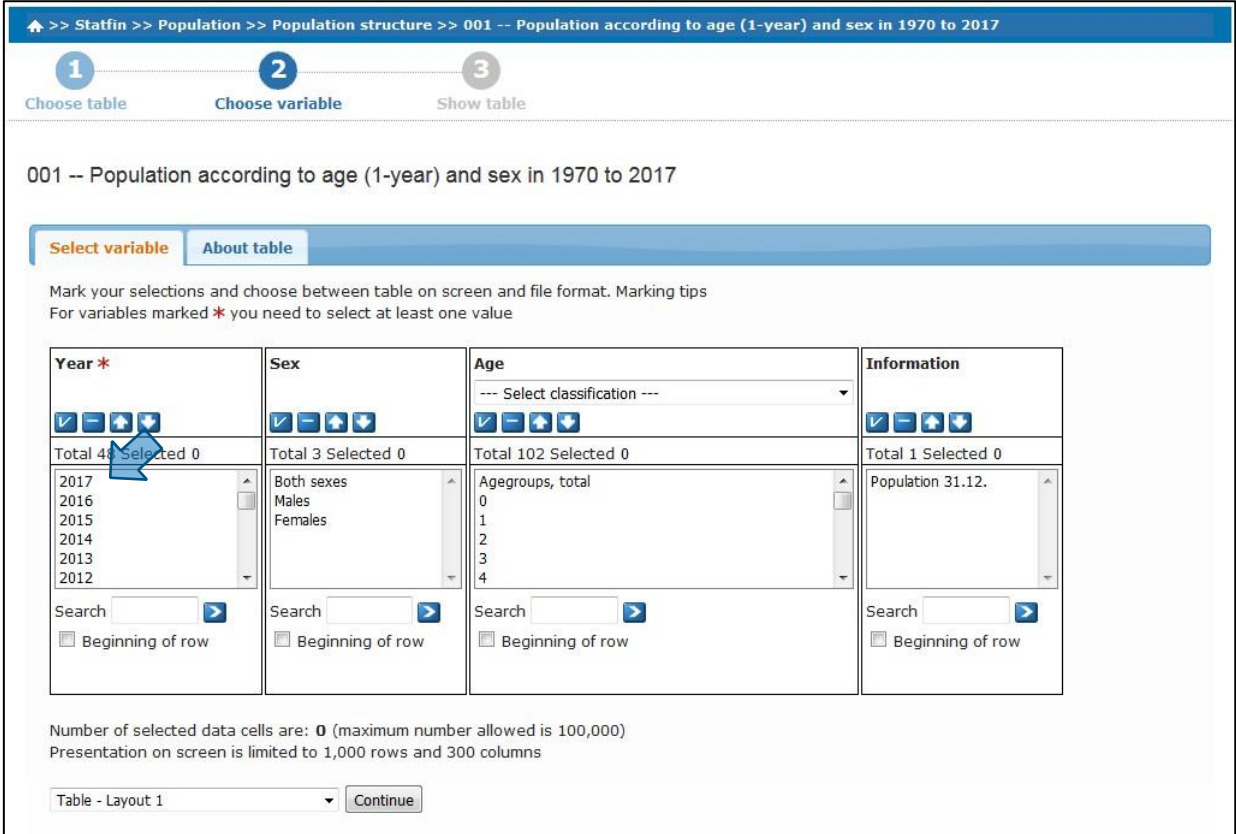
Statfin

Search in Statfin:

- Statfin
 - Housing
 - Living Conditions
 - Energy
 - Prices and Costs
 - Government Finance
 - National Accounts
 - Trade
 - Culture and the Media
 - Education
 - Transport and Tourism
 - Agriculture, Forestry and Fishery
 - Justice
 - Wages, Salaries and Labour Costs
 - Services
 - Financing and Insurance
 - Construction
 - Social Protection
 - Manufacturing
 - Health
 - Science, Technology and Information Society
 - Income and Consumption
 - Labour Market
 - Elections
 - Population
 - Adoptions
 - Citizenships granted
 - Deaths
 - Migration
 - Families
 - Changes in marital status
 - Births
 - Employment
 - Population projection
 - Population structure
 - 001 -- Population according to age (1-year) and sex in 1970 to 2017 [Size: 96 Kb] [Modified: 3/29/2018]
 - 002 -- Population according to age (5-year) and sex in 1865 to 2017 [Size: 75 Kb] [Modified: 3/29/2018]
 - 003 -- Population by sex in 1750 to 2017 [Size: 30 Kb] [Modified: 3/29/2018]
 - 004 -- Population according to age (1-year) and sex by area in 1972 to 2017 [Size: 13510 Kb] [Modified: 3/29/2018]
 - 006 -- Population by sex and area 31.12.2017 and increase of population [Size: 83 Kb] [Modified: 3/29/2018]
 - 007 -- Key figures on population by region in 1990 to 2017 [Size: 926 Kb] [Modified: 3/29/2018]
 - 008 -- Nationality according to age and sex by region in 1990 to 2017 [Size: 13679 Kb] [Modified: 3/29/2018]

- 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.



001 -- Population according to age (1-year) and sex in 1970 to 2017

Select variable About table

Mark your selections and choose between table on screen and file format. Marking tips
For variables marked * you need to select at least one value

| Year * | Sex | Age | Information |
|---|--|--|---|
| <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 48 Selected 0 2017 2016 2015 2014 2013 2012 Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of row | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 3 Selected 0 Both sexes Males Females Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of row | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> --- Select classification --- Total 102 Selected 0 Agegroups, total 0 1 2 3 4 Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of row | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 1 Selected 0 Population 31.12. Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of row |

Number of selected data cells are: 0 (maximum number allowed is 100,000)
Presentation on screen is limited to 1,000 rows and 300 columns

Table - Layout 1

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



001 -- Population according to age (1-year) and sex in 1970 to 2017

Show table About table

Edit and Calculate Save table as Table - Layout 1

+ Table settings

+ Save your retrieval

Population 31.12. by Year

| | |
|------|-----------|
| 2017 | 5,513,130 |
|------|-----------|

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.

Information

Unit
Persons

Contact
Statistics Finland
[Further information](#)
[Statistics' home page](#)


Latest update
3/29/2018

Copyright
Yes

Source
Statistics Finland

Matrix
vaerak_001_201700

[Make this table available in your application](#)



- 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.

Matrix
vaerak_001_201700

Hide information

POST the following JSON query to the URL below to access this table from your application.

URL:

http://pxnet1.stat.fi/PXWeb/api/v1/en/StatFin/vrm/vaerak/statfin_vaerak_pxt_001.px

JSON query:

```
{
  "query": [
    {
      "code": "Vuosi",
      "selection": {
        "filter": "item",
        "values": [
          "2017"
        ]
      }
    }
  ],
  "response": {
    "format": "px"
  }
}
```

More information

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.

```
1 "Year",Population 31.12.
2 "2017",5513130
3
```

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.

| Headers | Response |
|---------|--|
| 1 | "Year","Commodity","January Point figure","February Point figure","March Point figure","April Point figure","May Point figure","November Point figure","December Point figure","Annual Average Point figure" |
| 2 | "2015","0 Consumer Price Index",99.54,99.79,100.12,100.11,100.03,100.03,99.81,99.99,100.13,100.29,100.11,99.99,100.00 |
| 3 | "2016","0 Consumer Price Index",99.57,99.70,100.08,100.37,100.34,100.39,100.32,100.37,100.54,100.75,100.77,101.02,100.35 |
| 4 | "2017","0 Consumer Price Index",100.41,100.92,100.91,101.22,101.06,101.14,100.85,101.11,101.32,101.30,101.55,101.51,101.10 |
| 5 | "2018","0 Consumer Price Index",101.21,101.52,101.73,101.98,102.09,,,,,,,,,,,,, |
| 6 | |

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"
    ]
  }
}
```


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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.