

Statistical database API

With the application programming interface (API), the machine-readable data in the statistical database can be used and updated in other applications.

Some of the information in the statistical database can be retrieved with GET requests through API, but the data within data tables can only be queried with POST requests.

A POST request is a JSON-format query specifying which data within the data table are requested and in which format they must be returned.

Below, there are some examples of how to request information with API. In these examples, queries are made in the English version of the database. For queries in the Estonian version of the database, change the language identifier from *en* to *et* in the URL.

Databases accessible with API

URL for GET request:

<https://andmed.stat.ee/api/v1/en>

The request URL defines the response language.

The query returns a JSON-format list with one or more database identifiers (*dbid*) and names (*text*).

Database levels and data tables

URL for GET request:

<https://andmed.stat.ee/api/v1/en/stat>

<https://andmed.stat.ee/api/v1/en/stat/majandus>

<https://andmed.stat.ee/api/v1/en/stat/majandus/hinnad>

<https://andmed.stat.ee/api/v1/en/statsql>

<https://andmed.stat.ee/api/v1/en/statsql/majandus>

https://andmed.stat.ee/api/v1/en/statsql/majandus/valiskaubandus/kaupade_vk

The request URL defines the language, database and directory path.

The query returns a JSON-format list of the sub-domains and data tables under this level.

Each listed element is shown with its identifier (*id*), type (*type*) and name (*text*).

Type *l* means a level (*level*), type *t* means a data table (*table*).

For data tables, the response includes the date and time of the latest update (*updated*).

Data table description

URL for GET request:

<https://andmed.stat.ee/api/v1/en/stat/IA001>

<https://andmed.stat.ee/api/v1/en/statsql/VKK32>

The request URL defines the language, database and data table.

The query returns a JSON-format list with the table title (*title*) and the data of the variables (*variables*).

Each variable is shown with its code (*code*), name (*text*), value codes (*values*) and value names (*valueTexts*).

If the variable includes time series, *time: true* is defined.

If the variable can be eliminated, *elimination: true* is defined.

Elimination means the possibility of not defining any values for a given variable.

Data from a data table

Example 1

URL for POST request:

<https://andmed.stat.ee/api/v1/en/stat/IA001>

The request URL defines the language, database and data table.

The body of the POST request in JSON format:

```
{
  "query": [
    {
      "code": "Kaubagrupp",
      "selection": {
        "filter": "item",
        "values": [
          "1"
        ]
      }
    }
  ],
  "response": {
    "format": "json-stat2"
  }
}
```

Example 2

URL for POST request:

<https://andmed.stat.ee/api/v1/en/statsql/VKK32>

The request URL defines the language, database and data table.

The body of the POST request in JSON format:

```
{
  "query": [
    {
      "code": "PART_COUNTRY",
      "selection": {
        "filter": "item",
        "values": [
          "TOTAL"
        ]
      }
    },
    {
      "code": "ContentsCode",
      "selection": {
        "filter": "item",
        "values": [
          "TRD_VAL"
        ]
      }
    }
  ],
  "response": {
    "format": "json-stat2"
  }
}
```

The object *query* in the POST request body defines the variable values within the data table that must be returned in the response.

For variables, you must define the code (*code*), the value selection (*selection*) filter (*filter*) and the requested values (*values*).

The filter determines how the selected values are returned.

The supported filters are:

item – the parameter *values* includes all the requested values

all – the parameter *values* includes option *wildcard*

For example, "01*" means all values beginning with 01; "*" means all values.

top – the parameter *values* includes a number defining how many first values are selected

If it is a time variable, the specified number of the most recent periods is selected.

If a variable has not been defined at all, the values are selected automatically based on the following rules.

1. If the variable can be eliminated, the elimination value is selected for the variable (usually the sum value).
2. If the variable cannot be eliminated, all values are selected for the variable.

The object *response* in the POST request body is not required, but it is necessary if the response should be in a format other than the default (json-stat2) format.

The following response formats are available:

1. csv
2. csv2
3. csv3
4. json
5. json-stat
6. json-stat2 (default)
7. px
8. sdmx
9. xlsx

The contents and structure of the response depend on the selected response format.

Search

URL for GET request:

<https://andmed.stat.ee/api/v1/en/stat?query=price>

https://andmed.stat.ee/api/v1/en/stat?query=price*

<https://andmed.stat.ee/api/v1/en/statsql?query=balance>

<https://andmed.stat.ee/api/v1/en/stat?query=price%20index>

The request URL defines the language, database and search term(s). The search terms must be URL-encoded (e.g. to recognise umlaut characters).

The query returns a JSON-format list of the search results.

By default, the search is for an exact match to the search term. If you add an asterisk at the end of your search term, the search will include all the words starting with those letters.

In case of multiple search terms, the query returns results which include all the search terms (AND search).

Each element listed in the search results is shown with its identifier (*id*), directory path (*path*), title (*title*), search score (*score*) and date and time of the latest update (*published*).

Limits on API requests

To manage the load from API requests, there are limits on the maximum number of data values that can be requested in a single query and on the maximum number of requests that can be made from the same IP address within a given time period.

If you have exceeded the number of requests allowed, your query will return the HTTP status code 429 *Too Many Requests*.

Information about the limits in place can be found at <https://andmed.stat.ee/api/v1/en?config>.