Current work and the road ahead

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PxWeb roadmap

Roadmap

- PxWin
- PxWeb
- PxWeb API 2.0
- ”PxWeb 2.0”

“PxWeb 2.0”

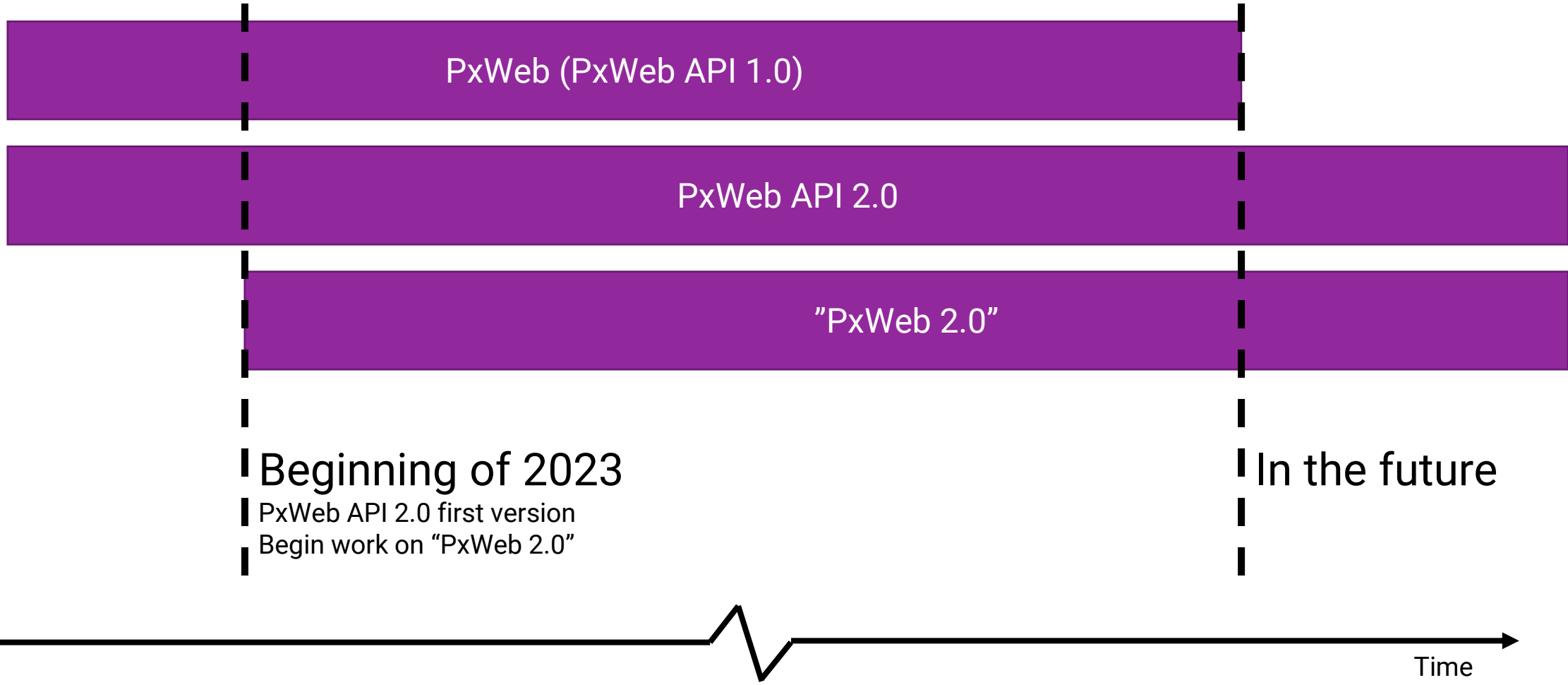
Motivation: The technology used for PxWeb (ASP.NET Web Forms) is reaching its end of life.

- Rewrite of the user interface in a different technology.
- Same functionality as now
- Based on the PxWeb API 2.0.

“PxWeb 2.0”

- **Technology study**
- **Specify the UI**
- **Basic infrastructure**
- **Structure of the admin UI**
- **Search view**
- **Navigation view**
- **Selection view**
- **Table view**
- **Save as**
- “Reselection”
- Preform operations
- UI för API helper
- Saved query
- Charting

Roadmap


PxWeb (PxWeb API 1.0)
PxWeb API 2.0
”PxWeb 2.0”
Beginning of 2023
PxWeb API 2.0 first version
Begin work on “PxWeb 2.0”
In the future
Time

PxWeb API 2.0

Motivations

- Change the structuring of URL:s so that they become more resilient to change and conforms better to a RESTful design.
- More metadata will be exposed through API calls.
- User experience for fetching data will be improved.
- More advanced features to filter data will be provided.

Current status

- Defining the specification of PxWeb API 2.0 using the OpenAPI specification. The specification is available at https://github.com/statisticssweden/PxApiSpecs
- Implementing the API endpoints. The code is available at https://github.com/statisticssweden/PxWeb/tree/pxapi2/master

PxWeb API 2.0 design choices

- One database (CNMM/PX)
- Folder name should be unique
- Responses should be self-described
  - Links
  - Languages
- .NET 6 (might run on Linux)

PxWeb 2022 v1

Svenska

/ Example

Example

Choose table — Choose variable — Show result

Search in Example:

Search

- AggregallowedNo
- aggregations
- AttributesCellnotes
- Autopen
- Descriptiondefault
- Doublecolumn
- error

/navigation

SCB

/navigation
/navigation/{id}

Used for browsing the database

- Show the content of one level in the database
- Content can be:
  - Subfolders
  - Tables
  - Headings

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Svenska

/ Example

Example

Choose table — Choose variable — Show result

Search in Example:

Search

/tables

- AggregallowedNo
- aggregations
- AttributesCellnotes
- Autopen
- Descriptiondefault
- Doublecolumn
- error

SCB

/tables

Used for finding the right table in the database

- Lists information about all tables in the database
- Is pageable
- Can be filtered on:
  - a search criteria
  - since it was last updated
  - if table is *discontinued*

Examples

List tables that has been updated the last 5 days

/tables?pastDays=5

List tables that contains something with Örebro

/tables?query=Örebro

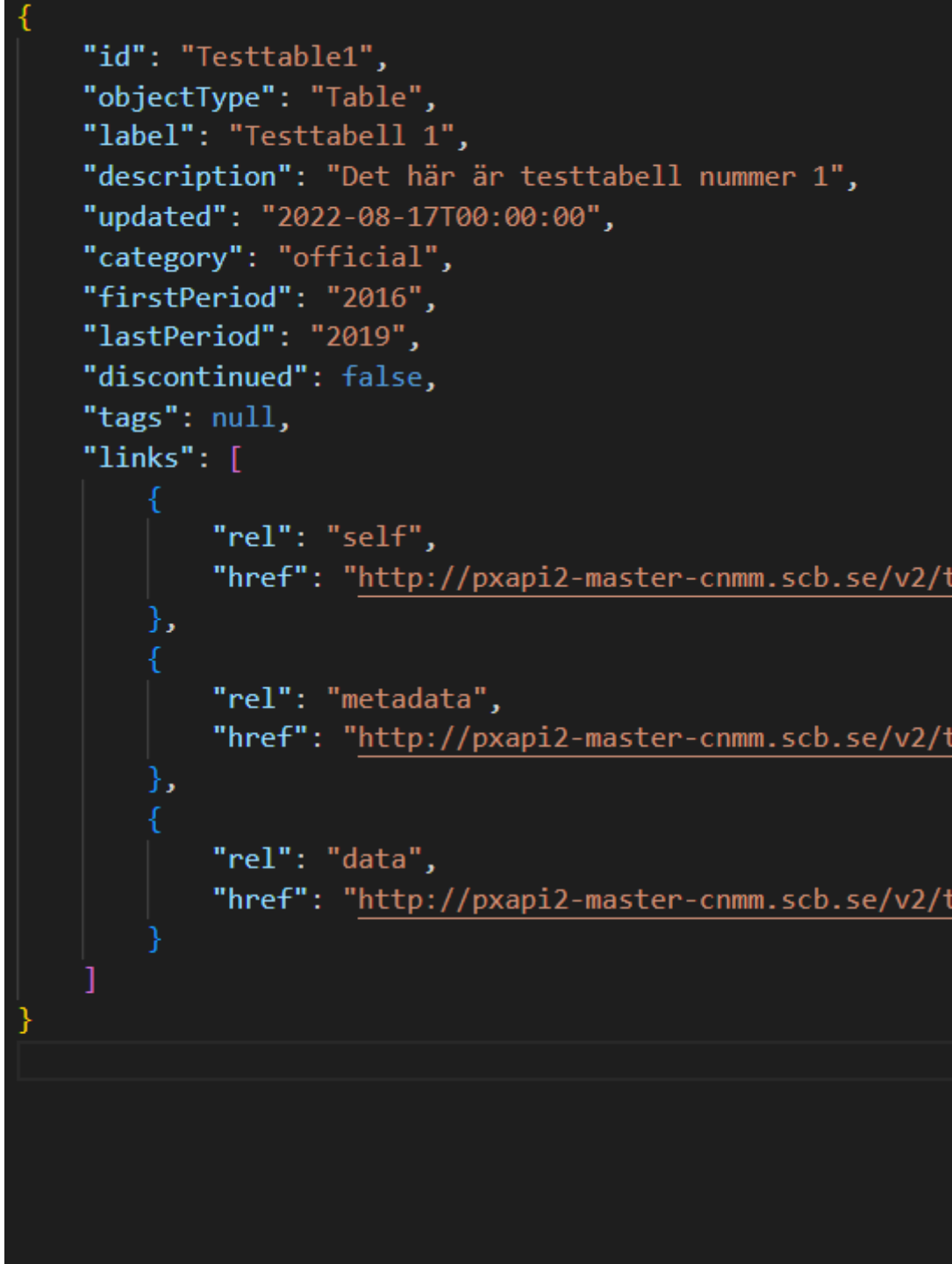
List tables that has been updated the last 5 days and that contains something with Örebro

/tables?pastDays=5&query=Örebro

/tables/{id}

Used for listing the information about a table

- Gives short information about the table
- Also links to where to fetch
  - Data
  - Metadata



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Svenska

/ Example / Autopen / Population by region, period and sex

Choose table — Choose variable — Show result

/tables/{id}/metadata

Population by region, period and sex

Choose variables

About table

List view

Region

Select all | Deselect all

Beginning of word

Search

Selected 0 of total 21

Optional variable

03 Uppsala county
04 Södermanland county
05 Östergötland county

Period Mandatory*

Select all | Deselect all

Selected 1 of total 2

2008
2007

Sex

Select all | Deselect all

Selected 0 of total 2

Optional variable

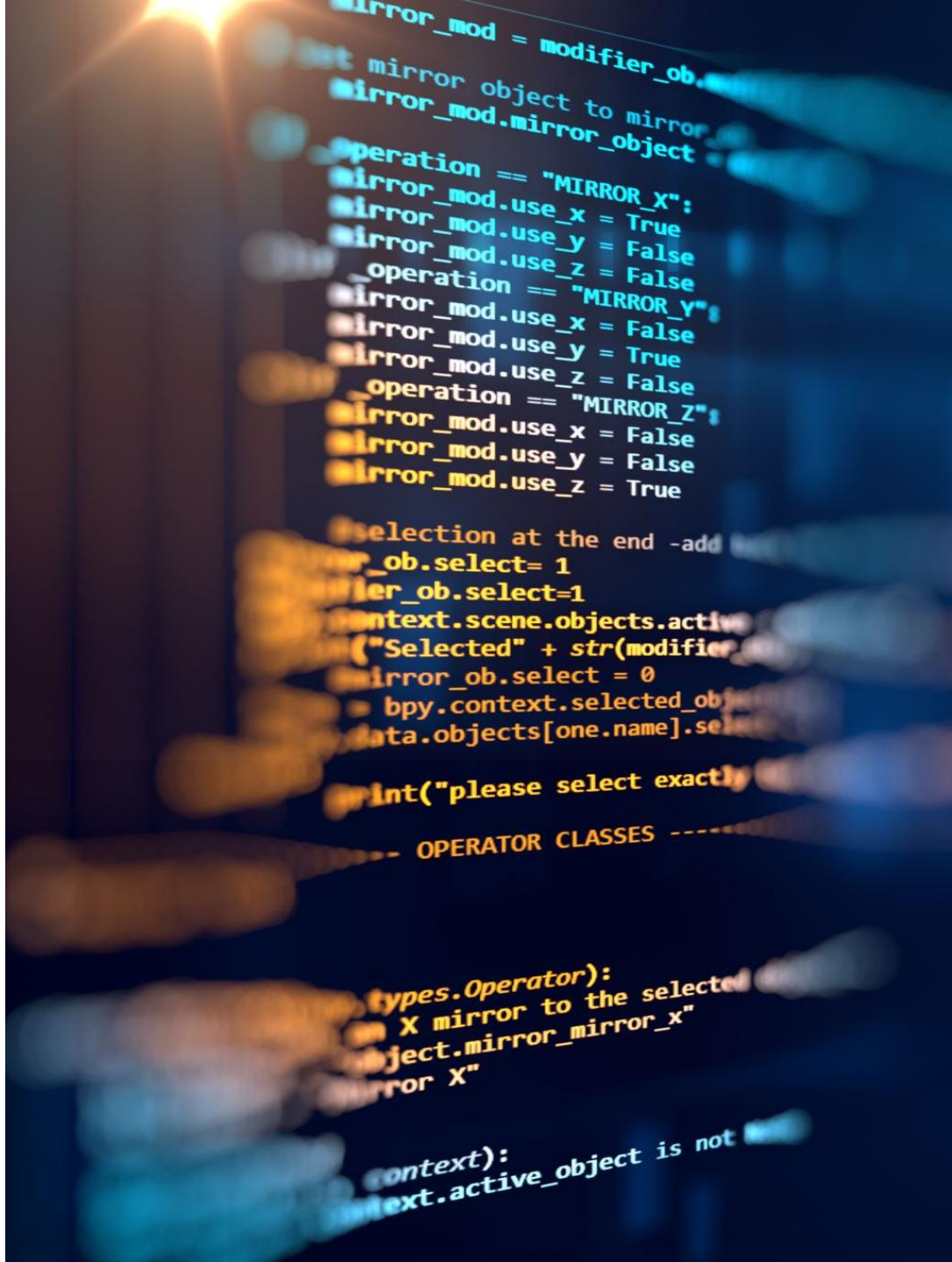
men
women

SCB

/tables/{id}/metadata

Used for listing detailed information about a table

- List all variables and values and all other metadata needed to be able to fetch data
- Also links to where to:
  - Fetch data
  - Where to get information about codelists
- 2 output formats
  - Custom JSON
  - JSON-STAT2 + extensions



/tables/{id}/codelists

Used for listing codelists, that is aggregations and valuesets associated with the table

- Gives short information about the codelist
- Also links to where to fetch detailed information of the codelist

/tables/{id}/codelist/{codelist_id}

Used for listing detailed information about a codelist

- Shows all codes and values for a codelist and how that values maps to the original value.


```
{
    "id": "agg_RegionNUTS2_2008",
    "label": "NUTS2 fr.o.m 2008",
    "labguage": "sv",
    "values": [
        {"code": "SE11", "value": "Stockholm",
         "valueMap": ["01"]},
        {"code": "SE12", "value": "Östra Mellansverige",
         "valueMap": ["03", "04", "05", "18", "19"]},
        {"code": "SE21", "value": "Småland med öarna",
         "valueMap": ["06", "07", "08", "09"]},
        {"code": "SE22", "value": "Sydsverige",
         "valueMap": ["10", "12"]},
        {"code": "SE23", "value": "Västsverige",
         "valueMap": ["13", "14"]},
        {"code": "SE31", "value": "Norra Mellansverige",
         "valueMap": ["17", "20", "21"]},
        {"code": "SE32", "value": "Mellersta Norrland",
         "valueMap": ["22", "23"]},
        {"code": "SE33", "value": "Övre Norrland",
         "valueMap": ["24", "25"]}
    ]
}
```

PxWeb 2022 v1

Svenska

/ Example / Autopen / Population by region, period and sex

Choose table — Choose variable — Show result

Population by region, period and sex

/tables/{id}/data

Result

- About table
- Show result as...
- Edit and Calculate
- Save result as...
- Save your query
- Hide empty rows

Pivot manual | Pivot clockwise | Pivot counterclockwise | Fullscreen

	2007		2008	
	Men	Women	Men	Women
03 Uppsala county	160,281	162,989	162,386	164,802
04 Södermanland county	131,764	133,426	132,907	134,617
05 Östergötland county	210,531	210,278	212,026	211,143
06 Jönköping county	166,405	167,205	167,218	168,028

Obs:

The tables show the conditions on December 31st for each respective year according to administrative subdivisions of January 1st of the following year

region: 03 Uppsala county

Since 1 January 2007, Uppsala county has been expanded to include Heby municipality. Please note that the figures for the county are not comparable with earlier figures.

SCB

/tables/{id}/data

Used for fetching the data in different formats.

- The same formats as in PxWeb will be supported but should be configurable.
- Supports fetching data through HTTP GET and POST methods
- More advanced ways to express what to fetch.

SCB

```
CHARSET="ANSI";
AXIS-VERSION="2010";
CODEPAGE="iso-8859-1";
LANGUAGE="sv";
CREATION-DATE="20221023 19:11";
DECIMALS=0;
SHOWDECIMALS=0;
MATRIX="BE0101N1";
COPYRIGHT=NO;
SUBJECT-CODE="BE";
SUBJECT-AREA="Befolkning";
TITLE="Folkmängden efter region, tabellinnehåll och år";
CONTENTS="Folkmängden";
STUB="region";
HEADING="tabellinnehåll","år";
CONTVARIABLE="tabellinnehåll";
UNITS="antal";
DATABASE="Statistikdatabasen ";
SOURCE="SCB";
INFOFILE="BE0101";
NOTEX="Fr o m 2007-01-01 överförs Heby kommun från Västmanlands län t
"rs räknas som Gifta, Separerade partners som Skilda och Efterlevande
NOTE="År 1968-1998 redovisas enligt regional indelning 1998-01-01.";
TABLEID="TAB638";
DATA=
2344124 2377081 2391990 2415139 35981 32957 14909 23149
376354 383713 388394 395026 7383 7359 4681 6632
294695 297540 299401 301801 3354 2845 1861 2400
461583 465495 467158 469704 4087 3912 1663 2546
360825 363599 365010 367064 3588 2774 1411 2054
199886 201469 202263 203340 2367 1583 794 1077
244670 245446 246010 247175 1134 776 564 1165
59249 59686 60124 61001 654 437 438 877
159684 159606 159056 158937 313 -78 -550 -119
1362164 1377827 1389336 1402425 17475 15663 11509 13089
329352 333848 336748 340243 4527 4496 2900 3495
1709814 1725881 1734443 1744859 19032 16067 8562 10416
281482 282414 282885 283196 1083 932 471 311
```

Selection expressions for fetching data

Selection expression is in the form

```
valueCodes[variable_code]=value_expresion1,
value_expression_2, …
```

Value expressions are either the value code or special expressions.

Special variable alias for time

Value expressions

- ***** - zero or many characters.
- **?** - exactly one character.
- **TOP(N)** – First N number of values.
- **BOTTOM(N)** – Last N number of values.
- **RANGE(X,Y)** – From value with code X to value with code Y.
- **FROM(X)** - From value with code X and all values after.
- **TO(X)** From the first value to the value with code X.

Examples

valueCodes[region]=01,18,25

variable_code = region

01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=1*

variable_code = region

01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=?2

variable_code = region

01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=TOP(5)

variable_code = region

01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=BOTTOM(2)

variable_code = region
01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=RANGE(08,18)

variable_code = region
01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=FROM(04)

variable_code = region

01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=TO(18)

variable_code = region
01
03
04
05
06
07
08
09
10
12
13
14
17
18
19
20
21
22
23
24
25

Examples

valueCodes[region]=TOP(5),01,08,BOTTOM(1)

variable_code = region

- 01
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10
- 12
- 13
- 14
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

Examples

valueCodes[TIME]=TOP(5),2010,2008,BOTTOM(1)

variable_code = tid

2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

CodeList

variable_code = region
SE11
SE12
SE21
SE22
SE23
SE31
SE32
SE33

- We can apply a diffrent codelist for the variable and use them either for making selection of singel values eisier or to select aggregates

```
codelist[region]=agg_RegionNUTS_2008
outputValues[region]=aggregated (default)|singel
```

Example

codelist[region]=agg_RegionNUTS_2008

valueCodes[region]=SE11,SE12

variable_code = region

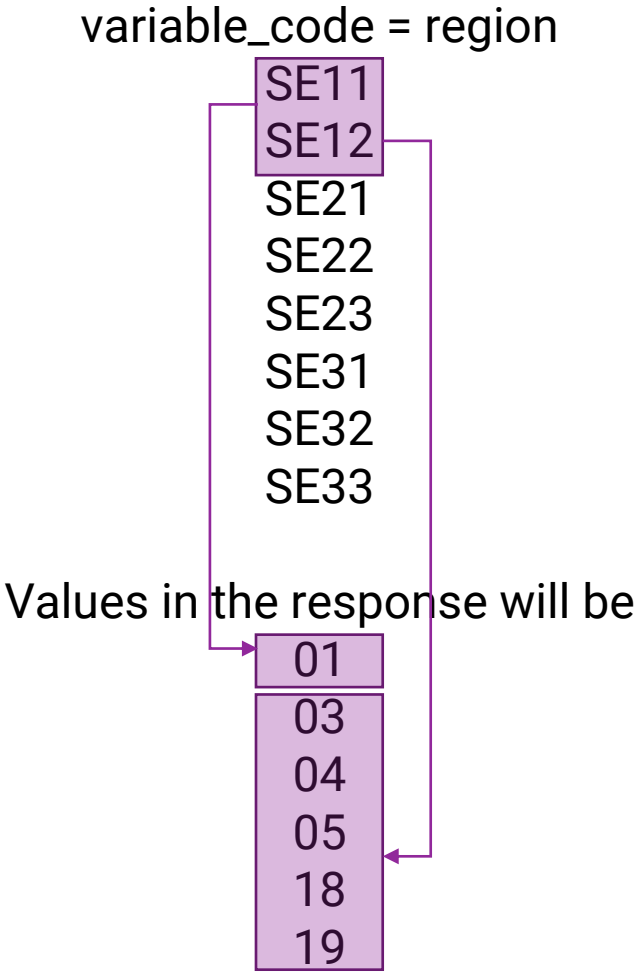
SE11
SE12
SE21
SE22
SE23
SE31
SE32
SE33

Example

codelist[region]=agg_RegionNUTS_2008

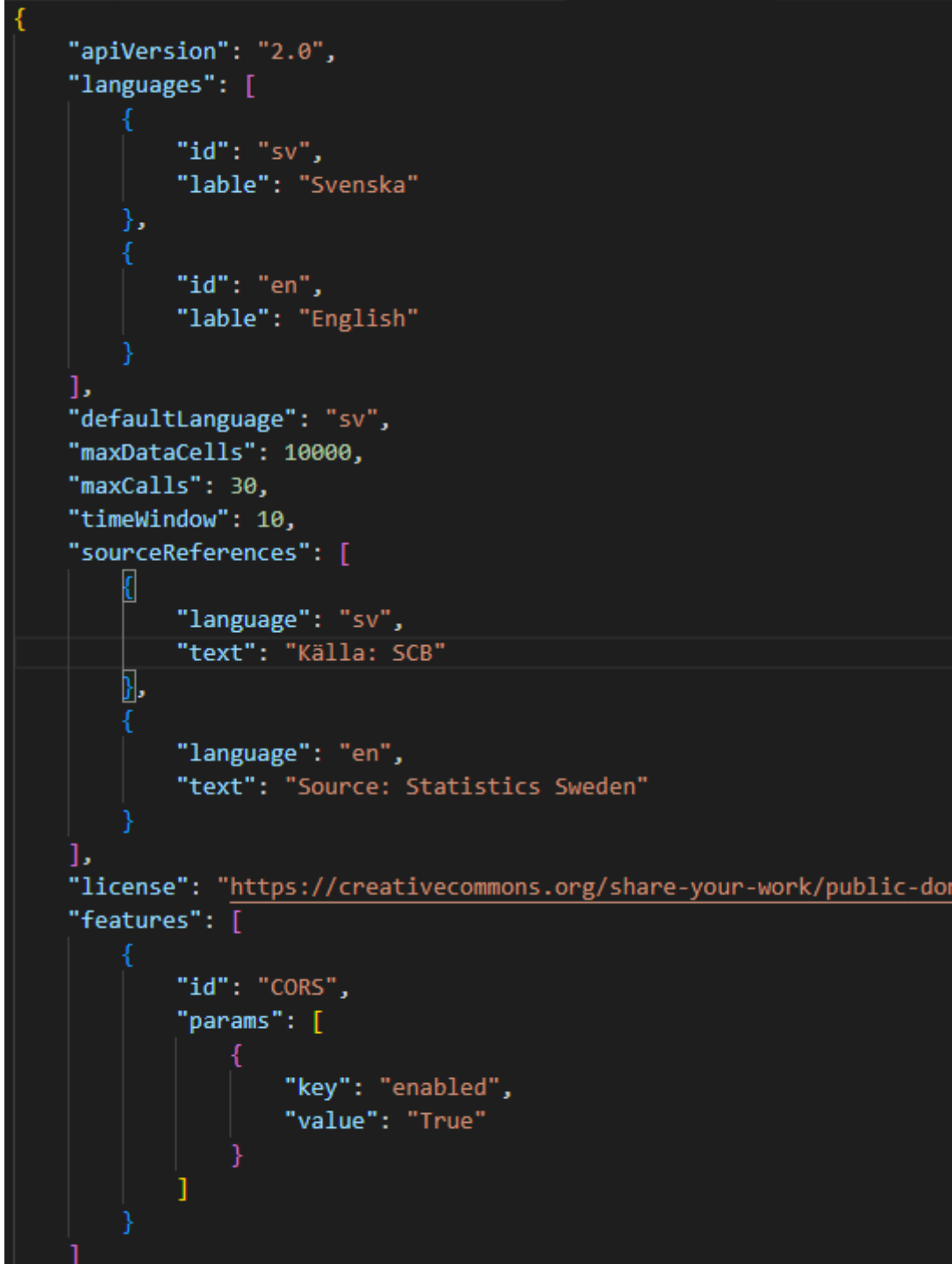
outputValues[region]=singel

valueCodes[region]=SE11,SE12



/config

- Will display settings for the the API



Demo sites

We have two demo sites up and running one for PX databases and one for CNMM

https://pxapi2-master-px.scb.se/

https://pxapi2-master-cnmm.scb.se/

They are continuously updated as new functionality is available

Admin API

We will have an admin API for common tasks that can be used to automate some of the recurrent works. Like what we have in PxWeb