



UKDS.Stat API guide (SDMX-ML)

Contents

1.1.	About the Rest-SDMX API	1
1.2.	What is SDMX-ML protocol?	1
1.3.	Rest-SDMX service methods	2
1.4.	Rest-SDMX query structure	2
1.5.	GetDataStructure Method	2
1.6.	GetData Method	3
1.7.	Query examples:	4
1.8.	GetSchema Method	4
1.9.	Specifics of the UKDS.Stat implementation	4

1.1. About the Rest-SDMX API

The UK Data Service provides access to international macro datasets in the UKDS.Stat application through a RESTful application programming interface (API) based on the SDMX-ML standard. This allows a developer to easily call the API using simple RESTful URL programmatically, and to obtain results in SDMX format.

You can use the API with any of the open datasets hosted on the UKDS.Stat platform:-

- All OECD datasets
- All IMF datasets
- All World Bank datasets
- United Nations: Unesco Institute for Statistics
- Human Rights Atlas

You cannot use the API with datasets that require authentication:-

- International Energy datasets
- United Nations: Comtrade
- United Nations: Unido

1.2. What is SDMX-ML protocol?

The SDMX Technical Standards Version 1.0 establishes an information model which describes aggregated statistical data sets and the structural metadata needed to exchange them in a standard fashion. Based on the SDMX information model, XML formats (SDMX-ML) are used for exchange of structural metadata, data sets and queries. Versions 2.0 and 2.1 build on this foundation established in version 1.0 to provide a higher degree of support for the SDMX information model, with an emphasis on data sharing in the form of a set of standard registry services interfaces.

1.3. Rest-SDMX service methods

Method	Use
GetKeyFamily/ GetDataStructure	Return structural metadata information about available datasets and their structure.
GetData	Used to convey data in a non-data structure specific form. Each Data set in this message will have a related structure specification in the header, which states the data structure that the data conforms to and how the data is organised (i.e. the observation dimension).
GetSchema	Schema query is used to query SDMX compliant databases or web services for data structure specific schemas for the purpose of validating structured data.

1.4. Rest-SDMX query structure

Details of the query structure are given below, however, a quick way to get started is to select your data as normal. Once you have made your selection go to:

- Export > SDMX(XML)
- Cut and paste the text into your application from the SDMX DATA URL box to obtain the data you have selected, or the text from the SDMX Data Structure Definition box to obtain the data structure.

1.5. GetDataStructure Method

To create a datastructure query, a dataset identifier and agency name must be supplied in an URL in the following format:

`http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/{GetKeyFamily|GetDataStructure}/<dataset identifier>/<agency name>[?<additional parameters>]`

Parameter	Use
dataset identifier	The identifier of the dataset to be queried. Can be set to “ALL” or a specific identifier. “ALL” returns available dataset lists.
agency name	The agency maintaining the artefact to be returned. “All” returns artefacts maintained by any maintenance agency. The agency name for the UK Data Service is “UKDS”.
Optional Parameter	Use
format	Can be blank or SDMX-ML. If the format is set to blank then the SDMX-ML format is used as default.
querymessage	Not part of the standard. Boolean value. If set to “True” then it returns the Query message instead of result. Can be used to review/analyse the query message which will be sent to SDMX-ML service.



Query examples:

Return data structure:

<http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetDataStructure/QNA/all?format=SDMX-ML>

Return query message:

<http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetDataStructure/QNA/all?format=SDMX-ML&querymessage=true>

1.6. GetData Method

To create a data query, the following parameters must be supplied in an URL in the following format: a dataset identifier, a list of dimension item identifiers and some additional parameters:

[http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetData/<dataset identifier>/<filter expression>/<agency name>\[?<additional parameters>\]](http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetData/<dataset identifier>/<filter expression>/<agency name>[?<additional parameters>])

Parameter Use

dataset identifier The identifier of the dataset to be queried. For example, QNA.

filter expression Using their identifiers, the list of desired dimension values to be included in the result. To get all available dimension values, use the “all” keyword. Dimensions should be separated by a dot (“.”) and for each dimension its values should be separated by the plus sign (“+”). If for a particular dimension, no dimension value identifiers are specified, then all available values of this dimension will be returned. To get the list of dimensions and dimension values, use

<http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetDataStructure/<dataset identifier>>

agency name The agency maintaining the artefact to be returned. “All” returns artefacts maintained by any maintenance agency. The agency name for the UK Data Service is “UKDS”.

Optional Parameter Use

format Specify the format of the result. Can be set to “generic_v2” or “compact_v2”. If not specified then it uses the “generic_v2” as default. Compact version uses attributes instead of XML child nodes.

**startPeriod/
startTime** The start period for which results should be supplied (inclusive). If not specified, data returned from the beginning. The value can be in the following formats:

year
 year-semester: <year>-S1 – <year>-S2
 year-quarter: <year>-Q1 – <year>-Q4
 year-month: <year>-M1 – <year>-M12

**endPeriod/
endTime**

The end period for which results should be supplied (inclusive). If not specified, data is returned until the latest available date. The format is the same as for **startPeriod/startTime**

querymessage

Not part of the standard. Boolean value. If set to “True” then it returns the Query message instead of result. Can be used to review/analyse the query message which will be sent to SDMX-ML service.

1.7. Query examples:

Return generic data:

http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetData/QNA/AUS+AUT.GDP+B1_GE.CUR+VOBARSA.Q/all?startTime=2009-Q2&endTime=2011-Q4

Return compact data:

http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetData/QNA/AUS+AUT.GDP+B1_GE.CUR+VOBARSA.Q/all?startTime=2009-Q2&endTime=2011-Q4&format=compact_v2

Return query message:

http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetData/QNA/AUS+AUT.GDP+B1_GE.CUR+VOBARSA.Q/all?startTime=2009-Q2&endTime=2011-Q4&querymessage=true

1.8. GetSchema Method

To create a schema query, a dataset identifier must be supplied in an URL in the following format:

<http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetSchema/<dataset identifier>>

Parameter	Use
-----------	-----

dataset identifier	The identifier of the dataset to be queried. For example "QNA".
---------------------------	---

Query examples:

Return schema:

<http://stats.ukdataservice.ac.uk/restsdmx/sdmx.ashx/GetSchema/QNA>

1.9. Specifics of the UKDS.Stat implementation

The following are a list of specific UKDS.Stat REST SDMX interface implementation details at this time. Please be advised that the list will be updated to reflect developments and/or new features of the SDMX standard.



- Only anonymous queries are supported, there is no authentication.
- Each response is limited to 1 000 000 observations.
- Maximum request URL length is 1000 characters.
- Cross-origin requests are supported by CORS headers (read more about CORS <http://www.html5rocks.com/en/tutorials/cors/>).
- Errors are not returned in the result but HTTP status codes and messages are set according to the Web Services Guidelines.
- 401 Unauthorized is returned if a non-authorized dataset is requested.
- The source (or Agency ID) parameter in the REST query is mandatory but the “ALL” keyword is supported.
- Versioning is not supported: always the latest implemented version is used.
- Reordering the data is not supported:
 - The lastNObservations parameter is not supported.
 - Observations follow the time series (or import-specific) order even if dimensionAtObservation=AllDimensions is used.
- The retrieval of reference metadata is not supported at this time