

SDMX-SDGs Application Programming Interface

V3.0

Oct 2021

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Introduction

The [SDG Global Database](#) is available at the UNSD SDMX API, structured in accordance with the official [SDG Data Structure Definition](#). Please consult the [SDMX-SDGs](#) page for further detail on the SDG DSD.

The SDG Global Database is published under the SDG Harmonized Global Dataflow, [DF SDG GLH](#).

The end point of the SDMX API is located at <http://data.un.org/WS>. Dataflows available at the SDMX API, including SDG Harmonized Global Dataflow DF_SDG_GLH, can be browsed, queried, and visualized at <http://data.un.org/SdmxBrowser>.

For full information on SDMX RESTful API, please consult [the site maintained by the SDMX Technical Working Group](#), particularly the section on [data queries](#), as well as the [REST cheat sheet](#).

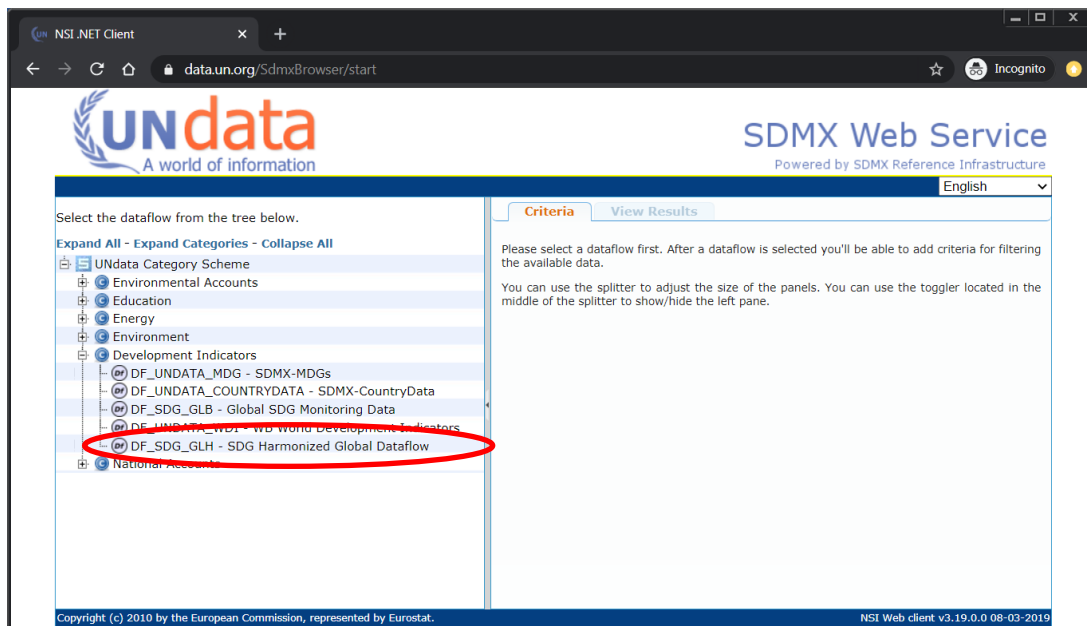
For examples of SDMX RESTful queries, please see below [Building a simple query against the SDG Dataflow using the SDMX Browser](#) for a simple visual guide of building an SDMX query, and [Building a custom query to the SDMX API for SDGs](#) for a more detailed guidance on querying the SDMX SDG API.

Building a simple query against the SDG Dataflow using the SDMX Browser

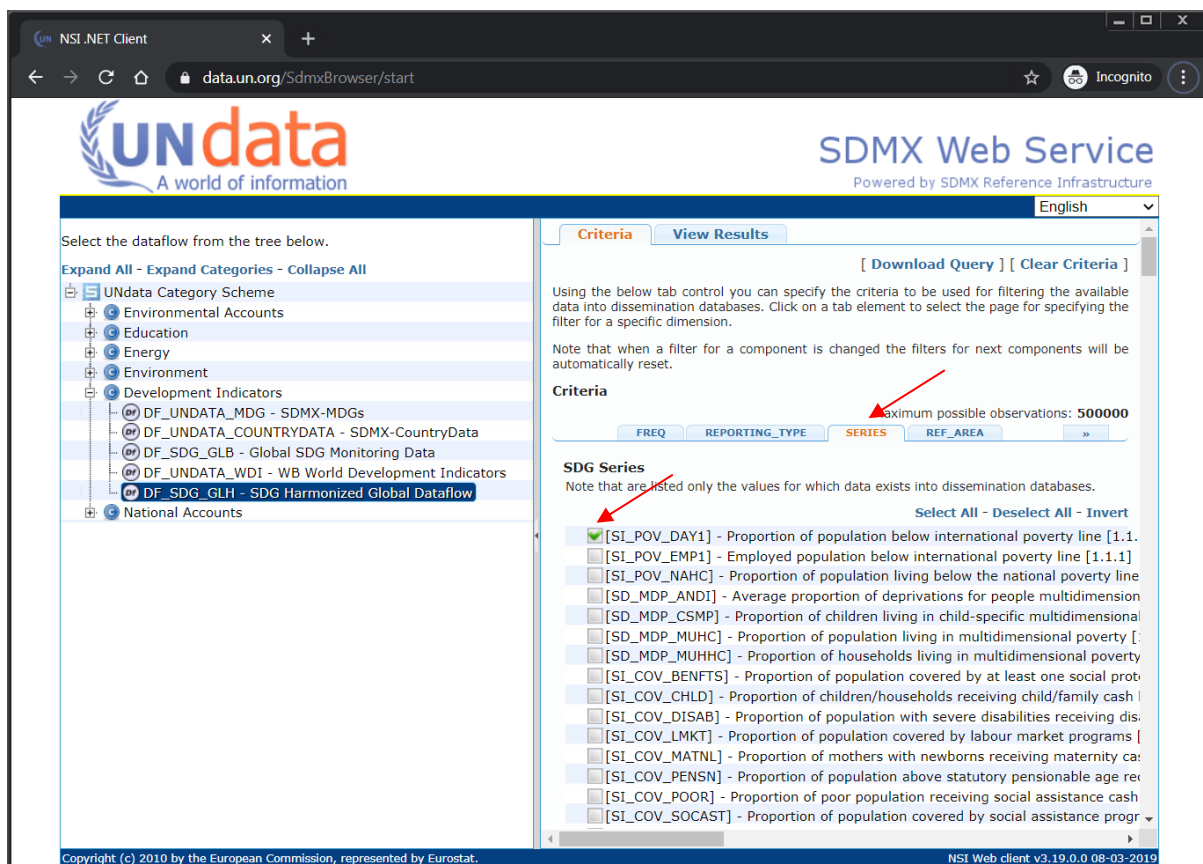
This section outlines how to build a simple first query using the visual tool SDMX Browser, built with the [Eurostat NSI Client](#) software. Detailed explanation on building queries is provided in section [Building a custom query to the SDMX API for SDGs](#).

1. Open SDMX Browser at <http://data.un.org/SdmxBrowser>.

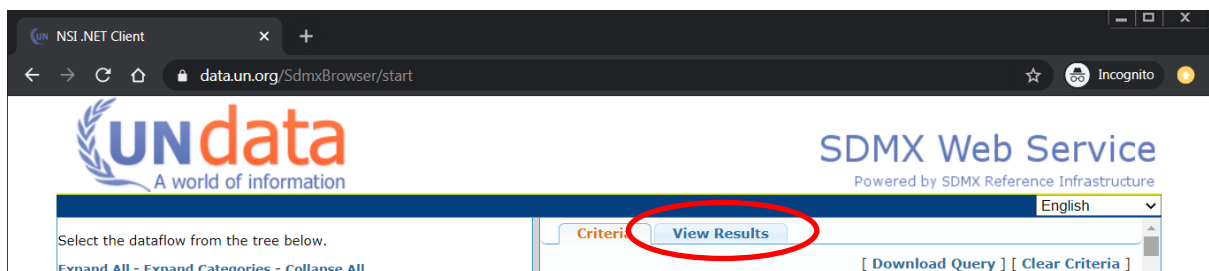
- Locate and click on the “DF_SDG_GLB - SDG Harmonized Global Dataflow” on the left-hand side of the screen:



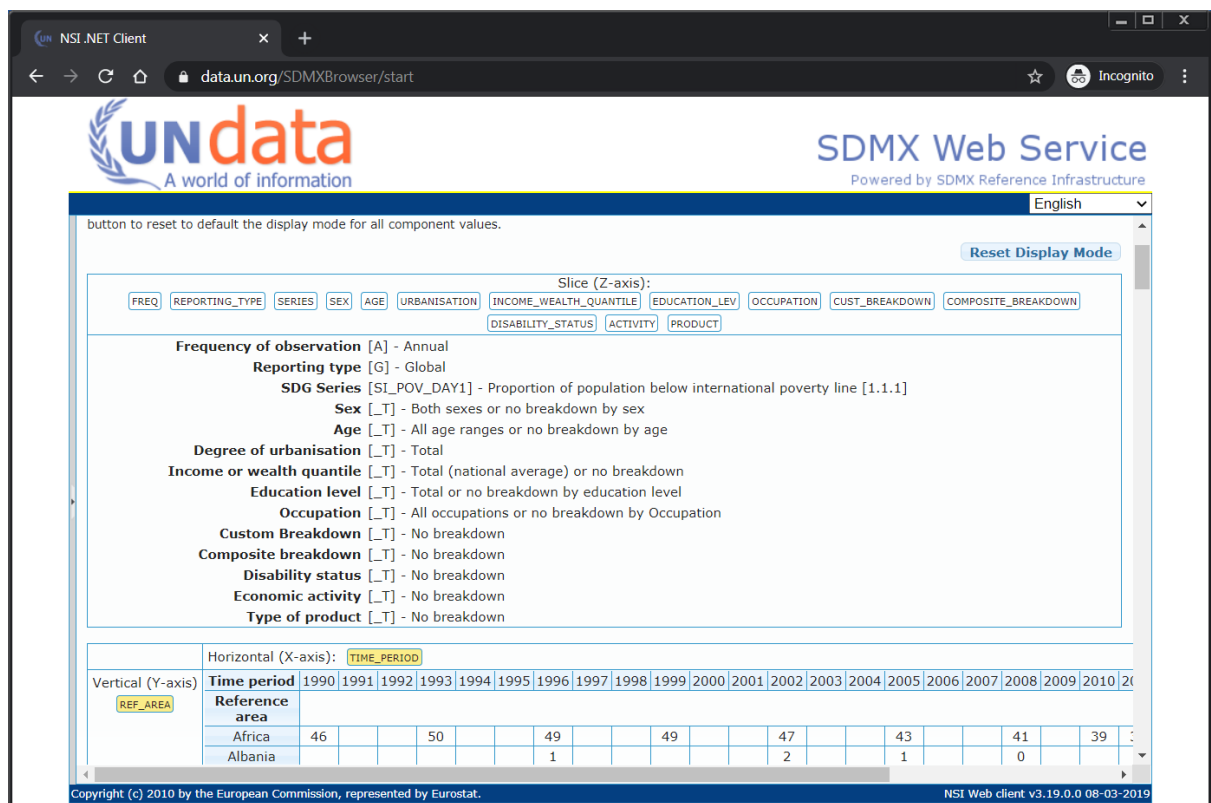
- Dimensions of the SDG DSD appear on the right. Click the “SERIES” dimension, then for example select the first series “SI_POV_DAY1”:



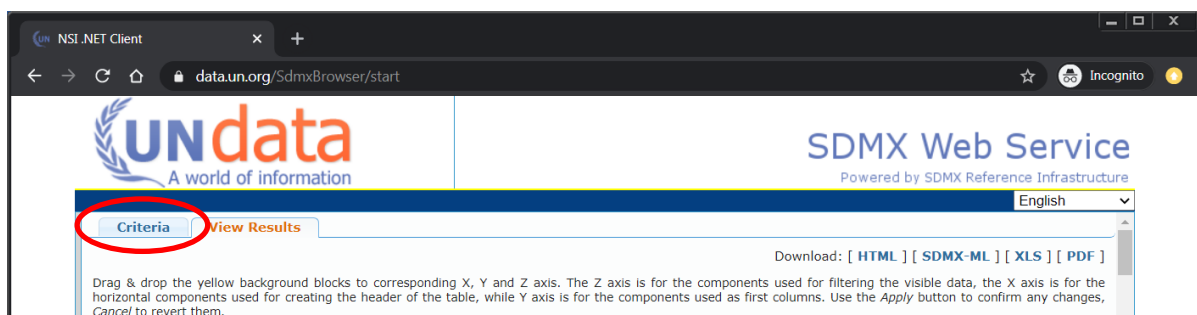
- Click "View Results" in the top portion of the screen:



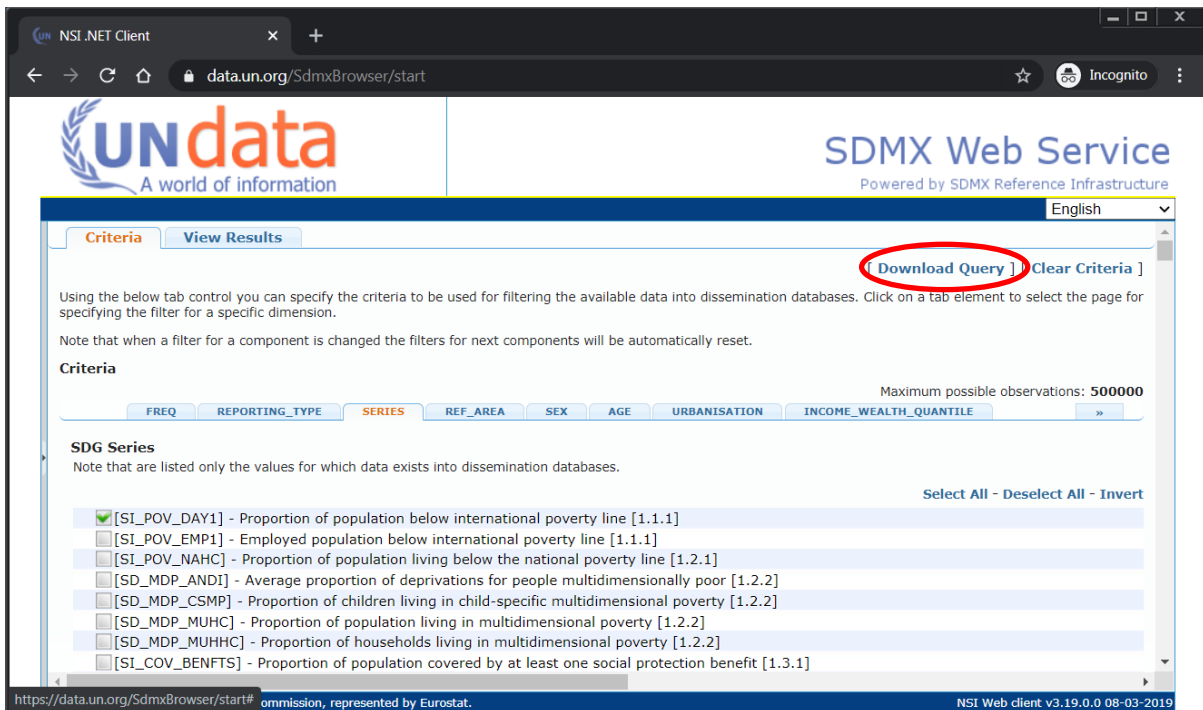
- Results of the query will be visualized. You can rearrange the dimensions into rows and columns, e.g. as shown below.



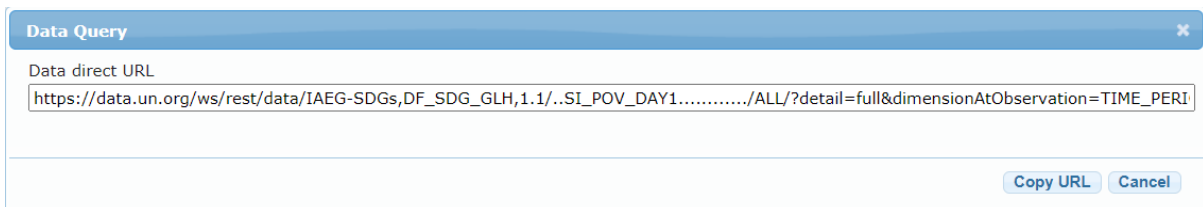
- Click "Criteria" in the top portion of the screen to return to filter selection:



7. Click “Download Query”.



8. The Data Query box displays the actual REST query as it is sent to the Web service to retrieve the data that is then shown in the Results screen. This query can be used in the browser or another application to get the data from the web service:



You can copy and paste this link into your browser to query the Web service and return the data.

For further detail on the use of SDMX Browser, please consult the [Eurostat NSI Client](#) documentation. See below on how to customize the query to retrieve the data of interest.

Format of data returned by the API

By default, the Web Service returns data in the SDMX 2.1 Generic format. If other formats are desired, the **Accept** header of the HTTP request needs to be set¹ as described in the [HTTP Content Negotiation](#) section of the online guidance.

¹ To set the HTTP header, you will need a browser plugin or application, such as [Postman](#).

For example:

- To have the query return data in the SDMX 2.1 Structure-Specific Data, use HTTP Accept header with the value

application/vnd.sdmx.structurespecificdata+xml;version=2.1

- To have the query return data in the SDMX-CSV format, use

application/vnd.sdmx.data+csv;version=1.0.0

Alternatively, the data format can be provided in the query string using the **format** parameter. The following formats are supported in the query string:

Format name	Format parameter (query string)	HTTP Accept header
SDMX 2.1 Generic	genericdata	application/vnd.sdmx.genericdata+xml
SDMX 2.1 Structure-specific	structurespecificdata	application/vnd.sdmx.structurespecificdata+xml
SDMX JSON	jsondata	application/vnd.sdmx.data+json
SDMX CSV	csv	application/vnd.sdmx.data+csv

For example, to return data as CSV:

http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_NAHC.800+765+826.....?startPeriod=2000&endPeriod=2015&format=csv

Building a custom query to the SDMX API for SDGs

For full information on building SDMX RESTful queries, please consult the [section on data queries](#) of the online Guidelines and the [REST cheat sheet](#).

URL structure

REST queries to the UNdata SDMX API are based on following simplified URL structure:

http://data.un.org/WS/rest/data/*dataflow*/*key*/?startPeriod=yyyy&endPeriod=yyyy]

where

- **dataflow** is identification of the dataflow. For the SDG Harmonized Global Dataflow, the dataflow ID is **DF_SDG_GLH**. The full identify of the dataflow is built with maintenance agency ID, dataflow ID, and version, such as **IAEG-SDGs,DF_SDG_GLH,1.1**. However, the agency ID and version can be defaulted and only the dataflow ID can be used.
- **key** is the set of filters to be applied. Please see below for further information on building the filter.
- **[?startPeriod=yyyy&endPeriod=yyyy]** for any optional additional time filtering.

Building the key

As described in the [Guidelines](#), the key consists of dimension values separated by dots(.), in the order the dimensions are listed in the Data Structure Definition. The OR operator is supported using the plus (+) character. Download the [SDG DSD](#) to obtain code lists used in the various dimensions. You may also wish to download the SDG DSD Matrix in the Excel format from the [SDMX-SDGs page](#), for a more user-friendly representation of the DSD if you wish to manually construct the query².

In the [SDG DSD](#), the order of dimensions is as follows:

1. FREQ
2. REPORTING_TYPE
3. SERIES
4. REF_AREA – please note that only M49 (numeric) reference area codes are used
5. SEX
6. AGE
7. URBANISATION
8. INCOME_WEALTH_QUANTILE
9. EDUCATION_LEV
10. OCCUPATION
11. CUST_BREAKDOWN
12. COMPOSITE_BREAKDOWN
13. DISABILITY_STATUS
14. ACTIVITY
15. PRODUCT

Thus, the key has the following structure:

[FREQ].[REPORTING_TYPE].[SERIES].[REF_AREA].[SEX].[AGE].[URBANISATION].[INCOME_WEALTH_Q
UANTILE].[EDUCATION_LEV].[OCCUPATION].[CUST_BREAKDOWN].[COMPOSITE_BREAKDOWN].[DIS
ABILITY_STATUS].[ACTIVITY].[PRODUCT]

- If there is no filter on a dimension, do not provide a value for that dimension.
- To have the query return observations that match a single value in a particular dimension, insert that value in the placeholder for that dimension. For example, the following key will return all observations with SERIES= SI_POV_DAY1:

..SI_POV_DAY1.....

- To have the query return observations that match any of several values in a particular dimension, separate those values with a plus sign. For example, the following key will return all observations where SERIES is SI_POV_DAY1, SI_POV_EMP1, or SI_POV_NAHC:

..SI_POV_DAY1+ SI_POV_EMP1+ SI_POV_NAHC.....

² It is often useful to [create a prototype query with the SDMX Browser](#) and further refine it manually.

Examples with the DF_SDG_GLH dataflow

- Retrieving data for Series “SI_POV_NAHC” (Proportion of population living below the national poverty line) and REF_AREA dimension “800” (Uganda), “765” (Thailand) and “826” (UK), limited to the years from 2000 to 2015:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_NAHC.800+765+826.....?startPeriod=2000&endPeriod=2015
- The same as above, but with data returned as CSV:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_NAHC.800+765+826.....?startPeriod=2000&endPeriod=2015&format=csv
- The same as above, yet only with data since 2010 and in the default format:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_NAHC.800+765+826.....?startPeriod=2010
- The same as above, yet only with data for Series “SI_POV_EMP1” (Employed population below international poverty line) and “SI_POV_NAHC” (Proportion of population living below the national poverty line):
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_EMP1+SI_POV_NAHC.800+765+826.....?startPeriod=2010
- The same as above, yet only for data until 2010 included:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_EMP1+SI_POV_NAHC.800+765+826.....?endPeriod=2010
- The same as above, yet without any time filtering i.e. fetching the whole time series:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_EMP1+SI_POV_NAHC.800+765+826.....
- The same as above, yet without any REF_AREA filtering, i.e. fetching all available REF_AREA:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_EMP1+SI_POV_NAHC.....
- The same as above, but in SDMX 2.1 Structure-Specific format:
http://data.un.org/WS/rest/data/DF_SDG_GLH/..SI_POV_EMP1+SI_POV_NAHC...../?format=structurespecificdata