How to use the SDG 6 Data Portal Application Programming Interface (API) – API documentation

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1. About the SDG 6 Data Portal API

Through the API, you can export data on all indicators contained within the SDG 6 Data Portal. You can find information about the different indicators and their data series and sources here.

2. Data structure and metadata

The exported data have the following structure and metadata:

Columns	Explanation
Goal	Sustainable Development Goal (SDG), see https://sustainabledevelopment.un.org/ for an overview of all of the SDGs and their numbering
Target	Sustainable Development Goal (SDG) target number, see https://sustainabledevelopment.un.org/ for an overview of all of the SDG targets and their numbering
Indicator	Indicator to review progress towards a specific SDG target at the global level, see https://unstats.un.org/sdgs/ for an overview of all global SDG indicators and their numbering
SeriesCode	Indicator code/series code, as per the global data source
SeriesDescription	Indicator name/series description, as per the global data source
GeoAreaCode	Geographical area code (e.g. country or area, region or other grouping)
GeoAreaName	Geographical area name (e.g. country or area, region or other grouping)
TimePeriod	Year of reporting
Value	Data value
Time_Detail	Details about the year of reporting
Source	Global data source, e.g. for SDG data: custodian agency
FootNote	Additional information about data (metadata)
Nature	Type/nature of data, e.g. for SDG data: country data (C), country adjusted data (CA), estimated data (E), modeled data (M), non-relevant (N), data nature not available (NA)
Units	Unit of data value
[Age]	Data disaggregation by age group

[Bounds]	-
[Freq]	Frequency of global reporting
[Level/Status]	Level or status associated with the specific data value, e.g. high/medium/low implementation
[Location]	Data disaggregation by location, e.g. urban/rural
[Reporting Type]	Type of reporting, e.g. for SDG data: global monitoring data (G)
[Sex]	Data disaggregation by sex, e.g. women/men
SDG 6 Data Portal level	Indicator/sub-indicator structure in the SDG 6 Data Portal

3.   API export through portal user interface

With the user interface on this page, you can make a detailed selection of which data you wish to export (e.g. for specific indicators/sub-indicators, spatial scales and years) and on which format (JSON or XML). Based on your selection, a tailor-made URL will be created.

4.   API export through API Calls

In addition to the user interface, users can also view and export the data through API calls, based on the below basic structure and examples. API keys and other authentication methods are not necessary to access the API. The API supports both "http" and "https" protocols. The API supports a URL based structure.

Besides making calls to the API using an application or custom program, the user can also put any of the example API URL endpoints given in the documentation, or make own custom calls, into a web browser and view the results. The JSON View Firefox plugin can be used to view results in JSON format directly in Firefox.

View/export data for one or more indicators

Description: The below structure/example enables the view/export of data on a specific indicator for all spatial scales and all years. Multiple indicators can be viewed/exported in the same time, and they should be separated by a comma (,).

The user specifies the desired indicator/indicators by using SDG indicator codes (e.g. 6.1.1 and 6.2.1).

Request parameter: {indicator_code}

Basic structure: https://sdg6data.org/api/indicator/{indicator_code}?_format=xml

Example single indicator (6.1.1): https://sdg6data.org/api/indicator/6.1.1?_format=xml

Example multiple indicators (6.1.1, 6.3.1 and 4.a.1):
https://sdg6data.org/api/indicator/6.1.1,6.3.1,4.a.1?_format=xml

Supported query strings

Country
Description: The below structure/example enables the view/export of data for a specific country. Multiple countries can be viewed/exported in the same time, and they should be separated by a comma.

The user specifies the desired country/countries by using country ISO-alpha3 codes.

Request parameter: country

Example multiple countries (Canada and Albania):
https://sdg6data.org/api/indicator/6.1.1?_format=json&country=CAN,ALB

Year and year range
Description: Specify for which year/year range you want to export the data. A range is indicated using the colon (:) separator.

Request parameter: date

Example year range (from 2000 to 2001):
https://sdg6data.org/api/indicator/6.1.1?_format=xml&date=2000:2001

Entire database
Description: Export the entire content of the SDG 6 Data Portal (all indicators, all spatial scales, all years).

Example: https://sdg6data.org/api/indicator/all?_format=json

Output format
Description: Specify a specific output format, either JSON or XML. This parameter is mandatory as per Drupal 8 RESTful Webservice Standards.

Request parameter: _format

Example XML: https://sdg6data.org/api/indicator/6.1.1?_format=xml

Example JSON: https://sdg6data.org/api/indicator/6.1.1?_format=json

Number of results per page
Description: Specify the number of results per page (default setting is 50).

Request parameter: per_page

Example (20 results per page): https://sdg6data.org/api/indicator/6.1.1?_format=xml&per_page=20

Number of pages with results (pagination)
Description: Specify the number of pages with results.

Request parameter: page

Example (2 pages with results): https://sdg6data.org/api/indicator/6.1.1?_format=xml&page=2

5.   Sample valid request response
Description: User views/export data on indicator 6.1.1 and all its sub-indicators for Lebanon for year 2017.

Request: https://sdg6data.org/api/indicator/6.1.1?_format=xml&country=LBN&date=2017:2017

Response: See Figure 1 and Figure 2 below for response on XML format, and Figure 3 for response on JSON format.

Response explanation: The response shows in the first node of the tree of the current page (0), the total number of pages (1), the number of items per page (50), and the total number of returned items (36). Every one of the returned items shows the detailed data related to the indicator.

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```xml
-<response>
  -<item key="0">
      <page>0</page>
      <pages>1</pages>
      <per_page>50</per_page>
      <total>36</total>
   </item>
  -<item key="1">
     +<item key="0"></item>
     +<item key="1"></item>
     +<item key="2"></item>
     +<item key="3"></item>
     +<item key="4"></item>
     +<item key="5"></item>
     +<item key="6"></item>
     +<item key="7"></item>
     +<item key="8"></item>
     +<item key="9"></item>
     +<item key="10"></item>
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     +<item key="29"></item>
     +<item key="30"></item>
     +<item key="31"></item>
     +<item key="32"></item>
     +<item key="33"></item>
     +<item key="34"></item>
     +<item key="35"></item>
   </item>
</response>
```

Figure 1 Sample valid request response on XML format, part 1

```xml
-<response>
  -<item key="0">
      <page>0</page>
      <pages>1</pages>
      <per_page>50</per_page>
      <total>36</total>
  </item>
  -<item key="1">
    -<item key="0">
        <Goal/>
        <Target/>
        <Indicator>6.1.1</Indicator>
        <SeriesCode/>
        <SeriesDescription>Drinking water, Safely managed service</SeriesDescription>
        <GeoAreaType/>
        <GeoAreaName>Lebanon</GeoAreaName>
        <GeoAreaCode>422</GeoAreaCode>
        <TimePeriod>2017</TimePeriod>
        <Value>48</Value>
        <Time_Detail/>
        <Source>WHO, UNICEF</Source>
        <FootNote/>
        <Nature/>
        <Units/>
        <Age/>
        <Bounds/>
        <Frequency/>
        <Level_Status/>
        <Location>National</Location>
        <Reporting_Type/>
        <Sex/>
       -<SDG_6_Data_Portal_level>
          6.1.1 Proportion of population using safely managed drinking water service (%) > Safely managed service > Overall > National
        </SDG_6_Data_Portal_level>
    </item>
```

Figure 2 Sample valid request response on XML format, part 2

```
JSON    Raw Data    Headers

Save  Copy  Collapse All  Expand All   ▽ Filter JSON

▼ 0:
    page:                    0
    pages:                   1
    per_page:                50
    total:                   36
▼ 1:
  ▼ 0:
      Goal:                    null
      Target:                  null
      Indicator:               "6.1.1"
      SeriesCode:              null
      SeriesDescription:       "Drinking water, Safely managed service"
      GeoAreaType:             ""
      GeoAreaName:             "Lebanon"
      GeoAreaCode:             "422"
      TimePeriod:              "2017"
      Value:                   "48"
      Time_Detail:             null
      Source:                  "WHO, UNICEF"
      FootNote:                null
      Nature:                  null
      Units:                   null
      Age:                     null
      Bounds:                  null
      Frequency:               null
      Level_Status:            null
      Location:                "National"
      Reporting_Type:          null
      Sex:                     null
    ▼ SDG_6_Data_Portal_level:   "6.1.1 Proportion of population using safely managed drinking water service (%) > Safely managed service > Overall > National"
  ▶ 1:                         {…}
  ▶ 2:                         {…}
  ▶ 3:                         {…}
```

Figure 3 Sample valid request response on JSON format