

# SDMX 2.1 RESTful web services cheat sheet

Structural metadata queries: <https://ws-entry-point/resource/agencyID/resourceID/version/itemID?queryStringParameters>

Default

<b>resource</b>	The type of metadata to be returned. Values: datastructure, metadatastructure, categoryscheme, conceptscheme, codelist, hierarchicalcodelist, organisationscheme, agency scheme, dataproviderscheme, dataconsumerscheme, organisationunitscheme, dataflow, metadataflow, reportingtaxonomy, provisionagreement, structureset, process, categorisation, contentconstraint, attachmentconstraint, actualconstraint, allowedconstraint, structure	
<b>agencyID</b>	Agency maintaining the artefact (e.g.: SDMX)	all
<b>resourceID</b>	Artefact ID (e.g.: CL_FREQ)	all
<b>version</b>	Artefact version (e.g.: 1.0)	latest
<b>itemID</b>	ID of the item (for item schemes) or hierarchy (for hierarchical codelists) to be returned.	all
<b>detail</b>	Desired amount of information. Values: allstubs, referencestubs, allcompletestubs, referencecompletestubs, referencepartial, full.	full
<b>references</b>	References to be returned with the artefact. Values: none, parents, parentsandsiblings, children, descendants, all, any type of resource.	none

Data queries: <https://ws-entry-point/resource/flowRef/key/providerRef?queryStringParameters>

Default

<b>resource</b>	data or metadata	
<b>flowRef</b>	Dataflow ref (e.g. ECB, EXR, latest)	
<b>key</b>	Key of the series to be returned (e.g: D.NOK.EUR.SP00.A). Wildcarding (e.g: D. .EUR.SP00.A) and OR (e.g: D.NOK+RUB.EUR.SP00.A) supported.	all
<b>providerRef</b>	Data provider (e.g.: ECB)	all
<b>startPeriod</b>	Start period (inclusive). ISO8601 (e.g. 2014-01) or SDMX reporting period (e.g. 2014-Q3).	
<b>endPeriod</b>	End period (inclusive). ISO8601 (e.g. 2014-01-01) or SDMX reporting period (e.g. 2014-W53).	
<b>updatedAfter</b>	Last time the query was performed. Used to retrieve deltas. Must be percent-encoded (e.g.: 2009-05-15T14%3A15%3A00%2B01%3A00)	
<b>firstNObservations</b>	Maximum number of observations starting from the first observation	
<b>lastNObservations</b>	Maximum number of observations counting back from the most recent observation	
<b>dimensionAtObservation</b>	Id of the dimension attached at the observation level	TIME_PERIOD
<b>detail</b>	Desired amount of information to be returned. Values: full, dataonly, serieskeysonly, nodata	full
<b>includeHistory</b>	Whether to return vintages	false

Legend: **Mandatory path parameter** / **Optional path parameter** / **Query string parameter (all optional)**

For *available data* queries, cf. <https://github.com/sdmx-twg/sdmx-rest/wiki/Data-Availability>

## Useful HTTP headers

If-Modified-Since	Get the data only if something has changed
Accept	Select the desired format
Accept-Encoding	Compress the response

## Supported formats

SDMX-ML Generic Data	application/vnd.sdmx.genericdata+xml;version=2.1
SDMX-ML StructureSpecific Data	application/vnd.sdmx.structurespecificdata+xml;version=2.1
SDMX-JSON	application/vnd.sdmx.data+json;version=1.0.0
SDMX-CSV	application/vnd.sdmx.data+csv;version=1.0.0
SDMX-ML Structure	application/vnd.sdmx.structure+xml;version=2.1
SDMX-ML Schemas	application/vnd.sdmx.schema+xml;version=2.1
SDMX-ML Generic Metadata	application/vnd.sdmx.genericmetadata+xml;version=2.1
SDMX-ML StructureSpecific Meta	application/vnd.sdmx.structurespecificmetadata+xml;version=2.1

## Period formats

Daily/Business	YYYY-MM-DD
Weekly	YYYY-W[01-53]
Monthly	YYYY-MM
Quarterly	YYYY-Q[1-4]
Semi-annual	YYYY-S[1-2]
Annual	YYYY

## Useful response codes

200 (OK)	Life is good
304 (No change)	No change since the timestamp supplied in the <b>If-Modified-Since</b> header
400 (Syntax error)	Your query checking you must
401 (Login needed)	Only available on a need to know basis
403 (Semantic error)	The syntax of the query is OK but it makes no sense anyway. Tolerated only on April Fools
404 (Not found)	No results. Mostly harmless, especially if you used <b>updatedAfter</b>
406 (Invalid format)	Not a supported format. No worries, SDMX is all you need
413 (Results too large)	You know greed is a sin, right?
414 (URI too long)	Write short sentences
500 (Server error)	Someone somewhere is having a bad day
501 (Not implemented)	Feature coming soon in a web service near you
503 (Unavailable)	Try again later.

## Tips and tricks

- **Trust but verify!** Check the identity of the web service by connecting over https.
- **Know your mime type!** Specify the output format you want, using the **HTTP Accept** header. Else, the web service will determine the format and this choice may change over time (for example, when new versions of SDMX are released).
- **Laziness is a virtue!** Don't lose time, resources and bandwidth processing the response if nothing has changed! Use the **updatedAfter** parameter if you can handle deltas, or the **If-Modified-Since** header otherwise.
- **Travel light!** Compress the response, using the **HTTP Accept-Encoding** header.
- **The answer is 42.** Or not. Check the status code of the response. It's not always 200 (or 42).
- **Read The Fine Manual.** Check the SDMX RESTful specification (Section 7): [http://sdmx.org/?page\\_id=10](http://sdmx.org/?page_id=10)
- **Contact us!** You think a killer feature is missing? Drop us a line at [twg@sdmx.org](mailto:twg@sdmx.org).