API Reference

Table of Contents

1 ONS API Overview

This section defines the components and key interfaces that enable the access to the ONS OpenAPI.

1.1 About This Release

This is the first full release of the API, though still officially tagged as a beta. This version contains most of the planned features but there are still some which may be added. For example postcode to OA lookup (currently can be done with the older NeSS Data Exchange service). Another one is HTML output for humans.

1.2 Restful Web Service

The ONS API is a RESTful web service.

Requests are made via an HTTP GET command only, no other HTTP verbs are supported.

Responses are in XML or JSON depending upon the format requested as part of the call. Generated downloads can also be in CSV or XLS.

1.3 API User Identification

Access to the ONS API for the retrieval of statistical data requires a registered account.

Upon registration a unique random authorisation key will be issued to the user. This key must be included within the URL on calls to the ONS API. This ensures that all access to the API can be verified and the user identified.

To run the example URLs in a browser you will have to replace the dummy API key with your own.

1.4 ONS OpenAPI Detail

Responses are categorised as "discovery" (what data can I have?) and "delivery" (give me some data). Discovery outputs used a bespoke XML schema and delivery outputs use an international standard XML format called SDMX, version 2.0.

1.4.1 ONS Discovery Outputs

The ONS discovery output is the ONS API output data that conforms to the ONS Discovery XSD (available for download from the API Service web site). It enables the user to query the contents of the database (e.g. list of datasets that contain ethnic group) and also return relative self-discovery information (what else can I get from here?)

1.4.1.1 Header Outputs

The header defines the encoding standard as UTF-8 and provides a reference to the ONS Discovery schema.

In addition the base URL for the self-discovery URLs is specified as http://[domain]/data where [domain] is the address of the server on which the API is hosted, and data is the context root (there was going to be a second one of metadata but instead the data root is followed by the word metadata for metadata entities).

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
  <ons xmlns=="http://data.ons.gov.uk/schemas/discovery">
    <base href="http://[domain]/data/"/>
```

1.4.1.2 Node

The node element describes the details of the request which has been made. It provides details of the additional representations which can access via the provided URLs as follows:

```
<node>
   <name><Entity Name></name>
      <url representation='xml'>
         <href>[URL].xml?[Query String Parameters]</href>
      </url>
      <url representation='json'>
         <href>[URL].json?[Query String Parameters]</href>
      </url>
      <description />
</node>
```

1.4.1.3 Linked Nodes

The linked node element provides details of the parent and children entities of the current node. The linked node elements provide details of the related node, their representations which can be used to access the entity and its relationship to the current node. Where a node is a parent node the relationship is parent and child nodes have a relationship of contains. The parent child relationships are defined in the data entity model later in the next section. This gives you a simple "where can I go next?" navigation.

```
<linkednodes>
   <linkednode>
         <name><Entity Name></name>
         <url representation='xml'>
            <href>[URL].xml?[Query String Parameters]</href>
         </url>
         <url representation='json'>
            <href>[URL].json?[Query String Parameters]</href>
         </url>
         <description />
         <relationship>[Relationship Type]</relationship>
   </linkednode>
</linkednodes>
```

1.4.1.4 List Nodes

List nodes <listnodes> are types depending upon the entity being requested and the XML being supplied. The possible content of each type of listNode is described in the ONS Discovery XSD.

Each specialised list node will contains a set of common elements these are:

- <id>   - A unique identifier for the entity
- <names> - Specified as two <name> elements, the name of the entity in English and Welsh
- <url>   - The URL representations of the entity that is being displayed, valid
              representations are XML, JSON, CSV and XLS.
- <description/> A description of the entity

In the diagrams overleaf, you can click on the nodes to go to its definition in section 2.

1.4.1.5   Data Entity Model

The data entity relationship model shown below provides the parent and child relationships for the linked nodes.

1.4.1.6   Metadata Entity Model

1.4.1.7 List Node URLs

Each list node will contain information pertaining to its child entities. Where a child entity has a URL the URLs for each representation will be included in the output.

The data used to drive the URLs will be provided in the detail of the API methods in section 2. As a general rule all URL representations are contained in a <urls> element as follows:

```
<urls>
   <url representation='xml'>
      <href>[childEntityURL].xml?[Query String Parameters]</href>
   </url>
   <url representation='json'>
      <href>[childEntityURL].json?[Query String Parameters]</href>
   </url>
</urls>
```

Where Query String Parameters is always the same parameters as received for the current API call and childEntityURL relates to the data of the child entity ID.

1.4.2   Delivery – SDMX Outputs

1.4.2.1   Header Outputs

For the majority of the output files a Header is included as defined in the SDMX version 2.0 format. This includes subjects such as sender and contact information.

SDMX <Header> Element	ONS_XML_DATA column ELEMENT	Default Value
<ID>	ID	ONS
<Test>	Test	True
<Truncated>	Truncated	False
<Sender> id attribute	Sender id	ONS
<Sender><Name>	Name	Office for National Statistics
<Sender><Contact><Name>	Contact Name	C.Contact
<Sender><Contact><Telephone>	Contact Telephone	+000.000.0000

1.4.2.2   Generic SDMX

The ONS API system outputs Generic Dataset XML as shown below. See www.sdmx.org for full documentation.

```
<Series>
     <SeriesKey>
           <Value concept="unit" value="4789" />
           <Value concept="sex" value="4729" />
           <Value concept="occupation" value="NA"/>
           <Value concept="socio_economic_classification" value="NA"/>
           <Value concept="limiting_long_term_illness" value="NA" />
           <Value concept="age="347" hours_worked" value="NA" />
           <Value concept="industry" value="NA"/>
           <Value concept="economic_activity" value="4251">
           <Value concept="area" value="A" />
     </SeriesKey>
      <Obs>
           <Time>2001</Time>
           <ObsValue value="9729" />
      </Obs>
</Series>
```

1.4.2.3 Attribute Output

There are 4 attributes recognised for each dataset these are:

- MEASURES_DIMENSION
- UNIT_MEASURE
- UNIT_MULT and
- MEASURE_TYPE

Measures_dimension is the type of thing that the data releates to, for example "persons".

Unit_measure is the unit of the thing such as "number"

Unit_mult is used to indicate if the values are (say) 1000s. A value 0 indicates no multiplier.

Measure_type is used to indicate if a count or a percentage or other type such as rank.

1.4.3 SDMX Sample Output

Example outputs are available to download from the API Service web site and can be generated from the example URLs once you have an API key.

1.4.4 Alternative Output Formats

Additional download formats are provided by the ONS API they are identified by representation URLs within the self-discovery <node> and <linknode> elements.

The [representation] element of the requesting URL (immediately after the dot and before the question mark) specifies the format of the data to download.

1.4.4.1 JSON

The JavaScript Object Notation (JSON) is automatically generated from the XML response. As such the dataset returned as the JSON response is formatted as per the XML. The exception to this is if the user specifies the alternative JSON-Stat format.

1.4.4.2 CSV

If a user requests a .CSV extension the dataset is for download only. On receipt of a .CSV request for a dataset a validation that the file exits must be executed.

The filename is made up of the following constituent parts:

- File type
- Dataset ID
- Geography Hierarchy Name
- Highest level of Geographic Coverage
- Lowest level of Geographic Coverage
- Role
- Version

An example of the filename, for illustrative purposes is:

CSV_QS611EW_2011WARDH_NAT_WD_REL_1.A.A_EN.csv

By default the request will result in the English version of the file being downloaded.

1.5   ONS API URLs

The API's URLs consists of the following parts:

http://[domain]/[context root]/[resource].[representation]?[query string]

- **Domain:** base part of URL, e.g. ons.gov.uk/ons/api
- **Context root:** data
- **Resource:** path to the item being returned, e.g. dataset/QS201EW
- **Representation:** output format, e.g. xml, json
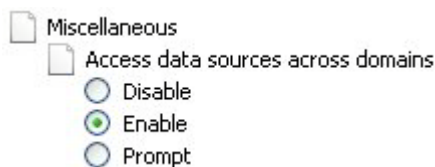- **Query String:** after the question mark, a series of parameters to further qualify the output, e.g. noobs=1000

Example: http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census

1.6   Cross-Domain Access

The API includes three provisions for cross-domain access:

1) CORS header

2) JSONP callback

3) crossdomain.xml

By default, browsers will not allow a web page on a.com to call a web service running on b.com. In older versions of Internet Explorer the answer was to enable the "access data sources across domains" option in Internet Options.

Firefox, Chrome and Internet Explorer 10+ use Cross-Origin Resource Sharing (CORS), see http://en.wikipedia.org/wiki/Cross-origin_re source_sharing . This works by the server returning an Access-Control-Allow-Origin header. A public web service such as the ONS API will use the value of "*" to allow any website to call the service, but it can be more specific.

CORS can be a little temperamental, for example there are issues with fetching XML in Google Chrome. For JSON users, the older JSONP callback method sometimes works better, even though it is effectively a cheat to pretend that the response is javascript by wrapping the JSON in a function. The query string parameter callback=[myfunction] enables this. Here the response is wrapped in a function called f1
/collections.json?context=Census&callback=f1
f1({"ons":{"base":{"@href":"});

Older javascript based development platforms such as JQuery do generally work better with JSONP.

Flash and Silverlight applications require a crossdomain.xml file to be deployed to the API's web server. The ONS API has such a file with the most permissive settings to allow all requests. Without this all web service calls will be rejected. As with CORS, for a fully public API all URIs will be permitted, but in other cases a more restrictive allowance pattern would apply.

2 ONS API Resources

2.1 Root

- Parent node: none
- Current node: ROOT
- Child nodes: CONCEPTS CONTEXTS COLLECTIONS CLASSIFICATIONS DATASETS HIERARCHIES PROMOTEDAREAS
- URI pattern: /.(xml | json)
- Parameters: none
- Schema: ONS Discovery
- Description: The root node is the "top of the tree" and the start point for self-discovery. Its direct children are links to lists of available resources.
- Examples: http://data.ons.gov.uk/ons/api/data/.xml?apikey=12345&context=Census

---

2.2 Concepts

- Parent node: ROOT
- Current node: CONCEPTS
- Child nodes: none
- URI pattern: concepts.(xml | json))
- Alternatives: Concepts by Area
- Parameters: context (mandatory), find, concept
- Schema: ONS Discovery
- Description: A concept is a high level category of classification. For example a concept of AGE might have classifications AGE_10YRS and AGE_5YRS with different bands. SDMX also requires concepts to be defined for some attributes such as observation status.
- The context parameter must be supplied. Example 1 gives the complete list of concepts used by census. For each concept, the number of dataset collections using the concept are given in the collection count value.

```xml
<concept>
    <id>3</id>
    <names>
        <name xml:lang="en">Sex</name>
        <name xml:lang="cy">Sex - Welsh</name>
    </names>
    <level>1</level>
    <parent>1</parent>
    <order>0</order>
    <collectionCount>20</collectionCount>
</concept>
```

- The find parameter searches within collection names for the text supplied, In example 2 below National Identity has a collection count of 1 because of the collection "National Identity by Religion". The concept parameter (numeric id) can be used on its own or in conjunction with the find parameter to further reduce the number of collections found – a concept will only have a non-zero collection count if one or more of its collections also uses the concept with the supplied id number. See example 3.
- Examples:
- http://data.ons.gov.uk/ons/api/data/concepts.xml?apikey=12345&context=Census [1]

- http://data.ons.gov.uk/ons/api/data/concepts.xml?apikey=12345&context=Census&find=Religion [2]
- http://data.ons.gov.uk/ons/api/data/concepts.xml?apikey=12345&context=Census&concept=3 [3]

2.3 Concepts by Area

- Parent node: ROOT
- Current node: CONCEPTS
- Child nodes: none
- URI pattern: concepts/hierarchy/{hierarchyID}/area/{areaID}.(xml | json)
- Alternatives: Concepts
- Parameters: context (mandatory), find, concept
- Schema: ONS Discovery
- Description: A variation on the concepts call (2.2) in which a particular area in a particular hierarchy is supplied. Only collections which have data for this area will be counted. This is intended for data explorer type applications where an area of interest has been selected prior to choosing a dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/concepts/hierarchy/2011STATH/area/E00115783.xml?context=Census&apikey=12345 [1]

2.4 Statistical Contexts

- Parent node: ROOT
- Current node: CONTEXTS
- Child nodes: none
- URI pattern: contexts.(xml | json)
- Parameters: none
- Schema: ONS Discovery
- Description: The database underlying the API is partitioned into four sections, called statistical contexts. See output below. Most resources require the inclusion of a context parameter on the query string (name not numeric id). This is necessary because there can be resources with the same name across contexts.

```
<contextList>
  <statisticalContext>
    <contextId>1</contextId>
    <contextName>Census</contextName>
  </statisticalContext>
  <statisticalContext>
    <contextId>2</contextId>
    <contextName>Socio-Economic</contextName>
  </statisticalContext>
  <statisticalContext>
    <contextId>3</contextId>
    <contextName>Economic</contextName>
  </statisticalContext>
  <statisticalContext>
    <contextId>4</contextId>
    <contextName>Social</contextName>
  </statisticalContext>
```

```
</contextList>
```

- Examples:

- http://data.ons.gov.uk/ons/api/data/contexts.xml?apikey=12345 [1]

2.5 Dataset Collections

- Parent node: ROOT
- Current node: COLLECTIONS
- Child nodes: COLLECTION DETAILS   HIERARCHIES
- URI pattern: collections.(xml | json)
- Alternatives: Dataset Collections By Area
- Parameters: context, find, concept, refm, firstRecord, noOfRecords
- Schema: ONS Discovery
- Description: A collection is a series of datasets identical apart from the geographic hierarchy used, and/or another differentiator such as time. The collection id is by convention the same as the dataset(s).
- The context must be supplied (example 1). The find parameter restricts the list to those with names matching the string (example 2). The concept parameter restricts the list to those using a particular concept (sex in example 3). The firstRecord and noOfRecords parameters can be used to page the list (example 4). Finally the refm parameter is a special call to return collections having a particular variable as reference metadata (example 5). It does not work for other types of reference metadata.
- Examples:

- http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census [1]

- http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census&find=Religion [2]

- http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census&concept=3 [3]

- http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census&concept=3&firstRecord=1&noOfRecords=3 [4]

- http://data.ons.gov.uk/ons/api/data/collections.xml?apikey=12345&context=Census&refm=VRBLE_000038 [5]

2.6 Dataset Collections by Area

- Parent node: ROOT
- Current node: COLLECTIONS
- Child nodes: COLLECTION DETAILS   HIERARCHIES
- URI pattern: collections/hierarchy/{hierarchyID}/area/{areaID}.(xml | json)
- Alternatives: Dataset Collections
- Parameters: context (mandatory), find, concept, refm, firstRecord, noOfRecords
- Schema: ONS Discovery
- Description: A variation on the collections call (2.5) in which a particular area in a particular hierarchy is supplied. Only collections which have data for this area will be returned. This is intended for data explorer type applications where an area of interest has been selected prior to choosing a dataset.
- Examples:

- http://data.ons.gov.uk/ons/api/data/collections/hierarchy/2011STATH/area/E00115783.xml?context=Census&apikey=12345 [1]

2.7 Classifications

- Parent node: ROOT
- Current node: CLASSIFICATIONS
- Child nodes: CLASSIFICATION
- URI pattern: classifications.(xml | json)
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: A classification is a categorisation scheme for a particular characteristic of a person or household, such as age or social class. There can be more than one classification for the same characteristic e.g. AGE_10YRS, AGE_5YRS. Each dataset has a number of dimensions and each of these dimensions implements a classification.
- The context must be supplied but there are no other parameters.
- Examples:
- http://data.ons.gov.uk/ons/api/data/classifications.xml?apikey=12345&context=Census [1]

2.8 Datasets

- Parent node: ROOT
- Current node: DATASETS
- Child nodes: DATASETDETAILS
- URI pattern: datasets.(xml | json)
- Parameters: context, from, class
- Schema: ONS Discovery
- Description: A dataset is a set of related data items. Each cell in a dataset is uniquely identified by a different combination of dimension values. Datasets available via the API are all aggregate data, so for each valid combination the number of persons, percentage of persons, number of households is held. Unit data is not available via this API.
- Datasets can vary in complexity. Most of the Census datasets are quite simple (less than 5 dimension) and represent a single "table". There will later be some "hypercubes" which have many dimensions and are intended for more flexible usage. Datasets can be downloaded in full or can be dynamically "sliced".
- When requesting a list of available datasets, the context may be supplied (example 1) but unlike most of the other calls can be omitted to get all datasets grouped by context. The from parameter is used to restrict the list to datsaets published from a certain date (example 2). There is no "to" parameter. The date format is dd-MM-yyyy.
- Finally, the class parameter can be used to limit the list to datasets using a particular classification ID (example 3).
- Examples:
- http://data.ons.gov.uk/ons/api/data/datasets.xml?apikey=12345&context=Census [1]
- http://data.ons.gov.uk/ons/api/data/datasets.xml?apikey=12345&context=Census&from=01-01-2014
- http://data.ons.gov.uk/ons/api/data/datasets.xml?apikey=12345&context=Census&class=CL_0000083

2.9   Geographic Hierarchies

- Parent node: ROOT
- Current node: HIERARCHIES
- Child nodes: HIERARCHY
- URI pattern: hierarchies.(xml | json)
- Alternatives: Dataset Hierarchies
- Parameters: find, area
- Schema: ONS Discovery
- Description: ONS normally holds its geographically coded data based on hierarchies. Each hierarchy consists of a number of levels. Members of each level are contained within a parent area of the level above. For example each Local Authority contains a number of wards. Examples of hierarchies are Administrative, Statistical, Parishes, Parliamentary Constituencies and Health Areas. Data explorer type applications will often allow the user to navigate hierarchies via a tree.
- The API offers hierarchies on a standalone basis "area first" or linked to a dataset "dataset first", these two being variations on the same entity. This one is "area first".
- The find parameter can be used to find hierarchies that contain areas whose names match the supplied string (example 2) – the matching areas are also listed in the response.
- The area parameters can be used to find hiearchies that contain a specific area by code (example 3).
- Examples:
- http://data.ons.gov.uk/ons/api/data/hierarchies.xml?apikey=12345 [1]
- http://data.ons.gov.uk/ons/api/data/hierarchies.xml?apikey=12345&find=Fareham [2]
- http://data.ons.gov.uk/ons/api/data/hierarchies.xml?apikey=12345&area=E00115783 [3]

2.10 Geographic Hierarchy

- Parent node: HIERARCHIES
- Current node: HIERARCHY
- Child nodes: HIERARCHYITEM
- URI pattern: hierarchies/hierarchy/{hierarchyID}.(xml | json)
- Alternatives: Dataset Hierarchy
- Parameters: parent, levels
- Description: ONS normally holds its geographically coded data based on hierarchies. Each hierarchy consists of a number of levels. Members of each level are contained within a parent area of the level above. For example each Local Authority contains a number of wards. Examples of hierarchies are Administrative, Statistical, Parishes, Parliamentary Constituencies and Health Areas. Data explorer type applications will often allow the user to navigate hierarchies via a tree.
- This call gives you all or part of a named hierarchy.
- The parent parameter restricts the areas found to those who are direct children of the named area (example 1). The levels parameter restricts the areas returned to those at a particular level or levels in the hierarchy. The combination of these two are useful for created a navigable area tree.
- Note that this call should not be made with no parameters for very large hierarchies like 2011STATH. Small ones such as 2011PCONH are fine (example 3)
- Examples:

- http://data.ons.gov.uk/ons/api/data/hierarchies/hierarchy/2011STATH.xml?apikey=12345&parent=E09000001 [1]
- http://data.ons.gov.uk/ons/api/data/hierarchies/hierarchy/2011STATH.xml?apikey=12345&levels=0,1 [2]
- http://data.ons.gov.uk/ons/api/data/hierarchies/hierarchy/2011PCONH.xml?apikey=12345 [3]

2.11 Geographic Hierarchy Item

- Parent node: HIERARCHY
- Current node: HIERARCHYITEM
- Child nodes: none
- URI pattern: hierarchy/{hierarchyID}/item/{areaID}.(xml | json)
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: Call to fetch a single item within a hierarchy by area code.
- Examples:
- http://data.ons.gov.uk/ons/api/data/hierarchy/2011WARDH/item/W92000004.xml?apikey=12345&context=Census [1]

2.12 Classification

- Parent node: CLASSIFICATIONS
- Current node: CLASSIFICATION
- Child nodes: none
- URI pattern: classification/{classificationID}.(xml | json)
- Parameters: context (mandatory)
- Schema: SDMX
- Description: A classification is a categorisation scheme for a particular characteristic of a person or household, such as age or social class. There can be more than one classification for the same characteristic e.g. AGE_10YRS, AGE_5YRS. Each dataset has a number of dimensions and each of these dimensions implements a classification.
- The classification is returned as an SDMX codelist element.
- Examples:
- http://data.ons.gov.uk/ons/api/data/classification/CL_0000067.xml?apikey=12345&context=Census [1]

2.13 Dataset

- Parent node: DATASETS
- Current node: DATASET
- Child nodes: SET   DWN DSD KEYFAMILY PRESENTATION DIMENSIONS DIMENSION
- URI pattern: dataset/{datasetID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff, totals, dm, pdm, jsontype
- Schema: ONS DataPackage & SDMX or JSON-Stat

- Description: A dataset is a set of related data items. Each cell in a dataset is uniquely identified by a different combination of dimension values. Datasets available via the API are all aggregate data, so for each valid combination the number of persons, percentage of persons, number of households is held. Unit data is not available via this API.

- Datasets can vary in complexity. Most of the Census datasets are quite simple (less than 5 dimension) and represent a single "table". There will later be some "hypercubes" which have many dimensions and are intended for more flexible usage. Datasets can be downloaded in full or can be dynamically "sliced".

- A number of different options exist for returning the contents of a dataset. In SDMX, the structure and data are separate messages, there is no bounding element to enable them to both be returned in a single response. However, a single response often makes life easier for client applications, so this is offered using an ONS DataPackage mini-schema to combine the outputs. The separate responses are also available using the DSD and SET entities.

- For JSON output, the jsontype query string parameter can be supplied. Allowable values are "json-stat" and "sdmx" (default if parameter not supplied). If json-stat is chosen the response is in json-stat (see http://www.json-stat.org) which is much more suitable for lightweight applications than sdmx-like json.

- There are a lot of parameters which make this response very flexible. The context and geography must be supplied, and in some cases an additional differentiator. The dataset details response tells you what differentiators exist for a dataset. A common differentiator is year so diff=2011 gives you that year's dataset.

- The totals parameter is a very powerful tool when you are querying a dataset with a lot of dimensions. With totals=true (the default) any dimensions not referenced in the dm clause (described below) will have only the total item selected. If totals=false then unreferenced dimensions will be expanded in full.

- The dm parameter can be used to specify a slice of a dataset in this format: dm/{dimensionID}={itemID},{itemID}… There can be mutitple clauses e.g. dm/age=50,60&dm/sex=M selects males aged 50 or 60. Where more than one clause is supplied an AND operation applies (no OR option). Note that the dm clause is also applied to the structure response, only returning the dimension items (codelist codes) selected.

- The pdm parameter is used for geographic subsetting and requires a parent areaID and a child area type. E.g. pdm/E92000001=RGN selects all the regions in England

- If the slicing parameters fail to reduce the number of cells to below the maximum, an error is returned. There are different limits for directly streamed data and downloads (see DWN)

- Examples:

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW.xml?apikey=12345&context=Census&geog=2011WARDH&dm/2011WARDH=E92000001

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW.xml?apikey=12345&context=Census&geog=2011WARDH&dm/2011WARDH=E92000001&totals=false

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW.xml?apikey=12345&context=Census&geog=2011WARDH&pdm/E92000001=RGN

- [add diff example when available on pre-prod]

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW.json?context=Census&apikey=12345&geog=2011WARDH&dm/2011WARDH=E92000001&jsontype=json-stat&totals=false

2.14 Dataset Data

- Parent node: DATASET
- Current node: SET
- Child nodes: none
- URI pattern: dataset/{datasetID}/set.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff, totals, dm, pdm, startobs, noobs

- Schema: SDMX

- Description: See DATASET – everything described there applies to the SET response with two main differences. Firstly the SET response is only the data part, no structure, so it is "pure" SDMX.

- The second difference is you can now page the cell output via the startobs and noobs parameters. For example startobs=1&noobs=1000 is asking for the first 1000 cells, startobs=1001&noobs=1000 is asking for the next 1000. The dm clause if present is applied before noobs.

- Examples:

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/set.xml?context=Census&geog=2011PCONH&apikey=12345&startobs=101&noobs=100 [1]

2.15 Dataset Download

- Parent node: DATASET

- Current node: DWN

- Child nodes: none

- URI pattern: dataset/{datasetID}/dwn.(xml | json | csv | xls)

- Parameters: context (mandatory), geog (mandatory), diff, totals, dm, pdm

- Schema: SDMX (json and xml), standard layout for csv and xls

- Description: Most API clients will be consuming data streamed to them, but in some cases the application will want to generate a download. For example a user has created a custom table or chart on a web site, there could be a button to save the data selection in a zip file.

- The DWN option requests a call to the "document generator" to manufacture this download file in the chosen format. If XML is requested the data and structure will be supplied in separate SDMX files within a zip. JSON is the equivalent. The CSV output is structured slightly differently (see section 1.4.4) and the XLS mirrors this.

- The output of the response is always XML, in this case the representation part of the URL is misused for expediency. The URL for the download is contained in this output. This URL is to a real file not a stream.

```
<errorMessage>Your download is available now.</errorMessage>
  <documents>
    <document>

<href>http://data.ons.gov.uk/ons/datasets/slice/csv/CSV_C_QS201EW_2011PCONH_NAT
_OA_EN.zip</href>
      <filesize>40.451171875</filesize>
    </document>
  </documents>
</dataPackage>
```

- If the slice requested is too large and error message will be returned and the user will be offered the URLs for the pre-canned full dataset downloads.

- Examples:

- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/dwn.csv?context=Census&geog=2011PCONH&apikey=12345 [1]

2.16 Dataset Structure

- Parent node: DATASET

- Current node: DSD

- Child nodes: none
- URI pattern: dataset/{datasetID}/dsd.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff, totals, dm, pdm
- Schema: SDMX
- Description: See DATASET – everything described there applies to the DSD response with two main differences. Firstly the DSD response is only the structure part, no data, so it is "pure" SDMX.
- Secondly, there are no limits to the output size as this only works via cell count. A DSD with no dm clause could be very large for some hierarchies, such as 2011STATH. To view the DSD in a browser the best bet is to pick a single area such as Wales (which is in every Census dataset) dm/2011STAT=W92000004
- Remember that the totals parameter also applies to the structure and needs to be set to false if you want all the dimensions to be fully expanded.
- Examples:
- http://10.47.112.144:7001/ons/api/data/dataset/QS201EW/dsd.xml?apikey=12345&context=Census&geog=2011WARDH&dm/2011WARDH=W92000004&totals=false

2.17 Key Family

- Parent node: DATASET
- Current node: KEYFAMILY
- Child nodes: none
- URI pattern: dataset/{datasetID}/keyfamily.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: SDMX
- Description: As part of a DSD, the Key Family is a kind of skeletal representation of the dataset, listing the dimension and attributes. It links dimensions to codelists and concepts.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/keyfamily.xml?context=Census&geog=2011STATH&apikey=12345 [1]

2.18 Dataset Presentation

- Parent node: DATASET
- Current node: PRESENTATION
- Child nodes: none
- URI pattern: dataset/{datasetID}/Presentation.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Census datasets are furnished with presentation information regarding the layout of the table which the dataset represents. This includes which dimensions go in which axis (e.g. AGE in the row) and the order of items within a dimension. For multi-segment datasets it also tells you the order in which to display the segments.
- Non-census datasets may not have a 1 to 1 relationship to a published table, but they may still have a default layout.

- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/presentation.xml?context=Census&geog=2011STATH&apikey=12345 [1]

2.19 Dataset Dimensions

- Parent node: DATASET
- Current node: DIMENSIONS
- Child nodes: DIMENSION
- URI pattern: dataset/{datasetID}/dimensions.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: This call allows the user to get a list of all the dimensions belonging to a dataset. Each of these dimensions has a unique id of CL_{7-digit number} eg. CL_0000123 except for geography dimensions which have the same name as the hierarcy, e.g. 2011WARDH.
- The dimension URLs listed each give you an SDMX codelist element with the same id.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/dimensions.xml?context=Census&geog=2011WARDH&apikey=12345 [1]

2.20 Dataset Dimension

- Parent node: DIMENSIONS
- Current node: DIMENSION
- Child nodes: none
- URI pattern: dataset/{datasetID}/dimension{dimensionID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: SDMX
- Description: Returns a single dataset dimension in the form of an SDMX codelist. This always includes all of the codes, never a subset (with the DSD resource the totals and dm parameters apply).
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/dataset/QS201EW/dimension/CL_0000067.xml?apikey=12345&context=Census&geog=2011WARDH [1]

2.21 Dataset Details

- Parent node: DATASETS
- Current node: DATASETDETAILS

- Child nodes: none
- URI pattern: datasetdetails/{datasetID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: This gives a selection of useful information about a dataset. Name, id, metadata, list of dimensions, hierarchy and lists of area types used, download URLs for the pre-canned XLS, CSV and XML full dataset zips, and whether or not the dataset is hidden.
- Hidden datasets are those which are temporarily unavailable for any reason (such as a problem with the data being investigated)
- Context, geog and (sometimes) diff parameters are required to uniquely identify the dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/datasetdetails/QS201EW.xml?context=Census&geog=2011 WARDH&apikey=12345

2.22 Dataset Hierarchies

- Parent node: COLLECTIONS
- Current node: HIERARCHIES
- Child nodes: HIERARCHY
- URI pattern: hierarchies/{datasetID}.(xml | json)
- Alternatives: Geographic Hierarchies
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: Description:ONS normally holds its geographically coded data based on hierarchies. Each hierarchy consists of a number of levels. Members of each level are contained within a parent area of the level above. For example each Local Authority contains a number of wards. Examples of hierarchies are Administrative, Statistical, Parishes, Parliamentary Constituencies and Health Areas. Data explorer type applications will often allow the user to navigate hierarchies via a tree.
- The API offers hierarchies on a standalone basis "area first" or linked to a dataset "dataset first", these two being variations on the same entity. This one is "dataset first".
- This list is all the hiearachies used by a dataset collection. For each hierarchy it gives the list of levels and area types, and the "start" URL for area tree navigation.
- Examples:
- http://data.ons.gov.uk/ons/api/data/hierarchies/QS201EW.xml?context=Census&apikey=12345

2.23 Dataset Hierarchy

- Parent node: HIERARCHIES
- Current node: HIERARCHY
- Child nodes: none
- URI pattern: hierarchy/{datasetID}.(xml | json)
- Alternatives: Geographic Hierarchy Dataset Hierarchy by Parent
- Parameters: context (mandatory), geog (mandatory), levels
- Schema: ONS Discovery

- Description: For a "dataset first" hierarchy, this gives you a list of area types and areas at a single level, a number of levels (comma separated list) or all levels (omit levels parameter).
- Examples:
- http://data.ons.gov.uk/ons/api/data/hierarchy/QS201EW.xml?context=Census&apikey=12345&geog=2011PCONH&levels=0,1 [1]

2.24 Dataset Hierarchy by Parent

- Parent node: HIERARCHIES
- Current node: HIERARCHY
- Child nodes: none
- URI pattern: hierarchy/{datasetID}/parent/{areaID}.(xml | json)
- Alternatives: Geographic Hierarchy Dataset Hierarchy
- Parameters: context (mandatory), geog (mandatory), levels
- Schema: ONS Discovery
- Description: For a "dataset first" hierarchy, this gives you a list of area types and areas that are the immediate children of the area named in the parent part of the URL.
- Sibling areas in the response will normally be the same level number, so the levels keyword is not required. It is possible that there could later be less regular hierarchies where the levels keyword could be used to further filter the response.
- Examples:
- http://data.ons.gov.uk/ons/api/data/hierarchy/QS201EW/parent/E12000001.xml?context=Census&apikey=12345&geog=2011PCONH [1]

2.25 Dataset Collection Details

- Parent node: COLLECTIONS
- Current node: COLLECTIONDETAILS
- Child nodes: DATASETDETAILS HIERARCHY
- URI pattern: collectiondetails/{datasetID}.(xml | json)
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: This gives a selection of useful information about a dataset collection. Name, id, metadata and list of dimensions. It also gives a list of hierarchies for which data is held (plus lists of area types used) and dataset details URLs for each dataset in the collection.
- Examples:
- http://data.ons.gov.uk/ons/api/data/collectiondetails/QS201EW.xml?context=Census&apikey=12345 [1]

2.26 Dataset Collection Reference Metadata

- Parent node: (ROOT)
- Current node: COLLECTIONMETADATA
- Child nodes: METADATAITEM
- URI pattern: metadata/collection/{datasetID}.(xml | json)

- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: Returns the reference metadata held for a named collection. This metadata includes the type, description, source, title and contact.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/collection/QS9105EW.xml?context=Census&apikey=12345 [1]

2.27 Dataset Reference Metadata

- Parent node: (ROOT)
- Current node: DATASETMETADATA
- Child nodes: METADATAITEM
- URI pattern: metadata/dataset/{datasetID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Returns the reference metadata held for a named dataset. This metadata includes the type, description, source, title and contact.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/dataset/QS9105EW.xml?context=Census&apikey=12345&geog=2011STATH [1]

2.28 Dataset Dimension Reference Metadata

- Parent node: (ROOT)
- Current node: DIMENSIONMETADATA
- Child nodes: METADATAITEM
- URI pattern: metadata/dataset/{datasetID}/dimension/{dimensionID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Returns the reference metadata held for a named dataset dimension. This metadata includes the type, description, source, title and contact.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/dataset/QS201EW/dimension/2011WARDH.xml?context=Census&geog=2011WARDH&diff=&apikey=12345 [1]

2.29 Dataset Dimension Item Reference Metadata

- Parent node: (ROOT)
- Current node: DIMENSIONITEMMETADATA

- Child nodes: METADATAITEM
- URI pattern: metadata/dataset/{datasetID}/dimension/{dimensionID}/item/{itemID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Returns the reference metadata held for a named dataset dimension item. This metadata includes the type, description, source, title and contact.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/dataset/QS917EW/dimension/CL_0000602/item/CI_0000006.xml?context=Census&geog=2011WARDH&diff=&apikey=12345 [1]

2.30 Dataset Segment Reference Metadata

- Parent node: (ROOT)
- Current node: SEGMENTMETADATA
- Child nodes: METADATAITEM
- URI pattern: metadata/dataset/{datasetID}/group/.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Returns the reference metadata held for a named dataset segment. This metadata includes the type, description, source, title and contact.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/dataset/QS917EW/group/1443.xml?context=Census&geog=2011WARDH&diff=&apikey=12345 [1]

2.31 Geography Dimension Reference Metadata

- Parent node: (ROOT)
- Current node: HIERARCHYMETADATA
- Child nodes: METADATAITEM
- URI pattern: metadata/hierarchy/{datasetID}.(xml | json)
- Parameters: context (mandatory), geog (mandatory), diff
- Schema: ONS Discovery
- Description: Retrieves the metadata associated with a geographic dimension in a named dataset. . This metadata includes the type, description, source, title and contact.
- Context, geog and (sometimes) diff parameters are required to uniquely identify the parent dataset.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/hierarchy/QS201EW.xml?apikey=12345&context=Census&geog=2011WARDH [1]

2.32 Reference Metadata Type

- Parent node: (ROOT)
- Current node: METADATATYPE
- Child nodes: METADATAITEM
- URI pattern: metadata/type/{typeID}.(xml | json)
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: Reference metadata items can have a number of types and this resource provides a list of items of a particular type. In the current version of the API the supported values for this call are "variable", "glossary" and "default" (example 1)
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/type/default.xml?apikey=12345&context=Census [1]

2.33 Reference Metadata Item

- Parent node: METADATATYPE
- Current node: METADATAITEM
- Child nodes: none
- URI pattern: metadata/item/{itemID}.(xml | json)
- Parameters: context (mandatory)
- Schema: ONS Discovery
- Description: Returns the content of a reference metadata item for which the ID is known.
- Examples:
- http://data.ons.gov.uk/ons/api/data/metadata/item/GLOSY_000020.xml?apikey=12345&context=Census [1]
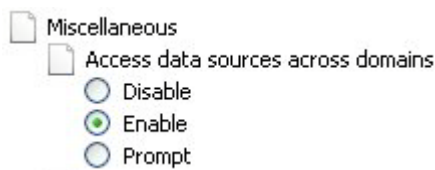
3 Other Information

3.1 Cross-Domain Access

The API includes three provisions for cross-domain access:

1) CORS header
2) JSONP callback
3) crossdomain.xml

By default, browsers will not allow a web page on a.com to call a web service running on b.com. In older versions of Internet Explorer the answer was to enable the "access data sources across domains" option in Internet Options

Firefox, Chrome and Internet Explorer 10+ use Cross-Origin Resource Sharing (CORS), see http://en.wikipedia.org/wiki/Cross-origin_re source_sharing . This works by the server returning an Access-Control-Allow-Origin header. A public web service such as the ONS API will use the value of "*" to allow any website to call the service, but it can be more specific.

CORS can be a little temperamental, for example there are issues with fetching XML in Google Chrome. For JSON users, the older JSONP callback method sometimes works better, even though it is effectively a cheat to pretend that the response is javascript by wrapping the JSON in a function. The query string parameter callback=[myfunction] enables this. Here the response is wrapped in a function called f1
/collections.json?context=Census&callback=f1
f1({"ons":{"base":{"@href":"");

Older javascript based development platforms such as JQuery do generally work better with JSONP.

Flash and Silverlight applications require a crossdomain.xml file to be deployed to the API's web server. The ONS API has such a file with the most permissive settings to allow all requests. Without this all web service calls will be rejected. As with CORS, for a fully public API all URIs will be permitted, but in other cases a more restrictive allowance pattern would apply.

3.2 Coefficient of Variation and Confidence Intervals

Observations can be marked with quality indicators such as…

http://en.wikipedia.org/wiki/Coefficient_of_variation

```
<generic:ObsValue value="1.6"/>
<generic:Value concept="COF_VARIATION" value="6.2"/>
```

http://en.wikipedia.org/wiki/Confidence_Interval

```
<generic:ObsValue value="1.6"/>
<generic:Value concept="OBS_CONFIDENCE" value="0.1111"/>
```

4   Appendix A – Error Messages

4.1.1   Error Handling

Error messages are returned as an XML fault message as follows:

```
<ns1XMLFault>
        <ns1faultstring>404: INTERNAL ERROR: Dataset Q4S201EW for context Census and hierarchy
2011WARDH not found</ns1faultstring>
</ns1XMLFault>
```

4.1.1.1   Error Reporting

There are several types of errors which are returned to users depending upon the error condition encountered.

- If there is a syntax error in the URL or query string, the API throws a 400 Bad Request and gives detail in the response
- If there is a problem with the selected output representation, it throws a 400 Bad Request and gives detail in the response
- If the syntax is valid but the resource requested could not be found, it returns a 404 Not Found and gives detail in the response
- If the request is refused due to an invalid API Key or exceeding the cell limits, or trying to get a hidden dataset, it throws a 403 Refused
- If there is a genuine system error then it returns a 500. It is unlikely that there will be a helpful text response, would need to get the stack trace from the logs to diagnose
- Downloads are a special case, a 202 means in progress and a 200 complete.
- Other errors are possible such as 406 Not Acceptable (usually a problem with the accept header) and 407 Proxy Authentication Required.

All error messages are defined in section 4.1.1.2 below.

4.1.1.2   Error Messages

To see error messages in Internet Explorer you need to uncheck the "Show friendly HTTP error messages" option. If it is checked you will only see the HTTP code.
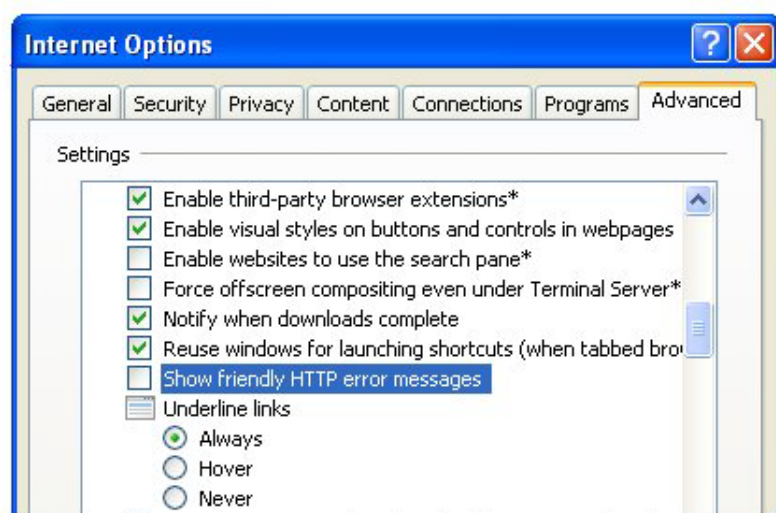
List of Error Messages

Code	Text	Notes
200	DOWNLOAD COMPLETE: Your download is available now.	If the download is small it will be complete when the response is output …
202	DOWNLOAD IN PROGRESS: Your download is being generated. It may not be available immediately.	…If not complete a 202 will be returned
400	SYNTAX ERROR: Dataset %s for context %s, hierarchy %s and differentiator %s not found	Each dataset must have a context and hierarchy and sometimes a differentiator.
	SYNTAX ERROR: Hierarchy levels must be numeric	Level = 0 is top of tree
	SYNTAX ERROR: Inavlid date supplied %d. Format should be DD-MM-YYYY	The list of datasets can be requested to start from a particular date.
	SYNTAX ERROR: Invalid URL or %s is an invalid search term	Topic search critera invalid
	SYNTAX ERROR: Invalid json type %s	jsontype must be "json-stat" or "sdmx"
	SYNTAX ERROR: Statistical context is invalid. Please check ons/api/data/contexts?apikey=0 for valid contexts.	Contexts supported are Census, Social, Economic and Socio-Economic
	SYNTAX ERROR: The dataset must be supplied for context %s	Dataset id expected and not supplied in URL
	SYNTAX ERROR: Geography code not found in URL	Missing geography code (e.g. for parent query)
	SYNTAX ERROR: The geography hierarchy must be specified	Hierarchy id expected and not supplied in URL
	SYNTAX ERROR: Multiple instances of %s for context %s and hierarchy %s found. Differentiator must be provided	There is more than one version of the dataset for the same hierarchy. Check the collection details to get the available differentiators
	SYNTAX ERROR: Start observation and number of observations should be numeric	Both values must be numbers …
	SYNTAX ERROR: Start observations and number of observations should not be negative or zero	… greater than zero
	SYNTAX ERROR: Start observations and number of observations can only be used for XML and JSON formats	Observation paging not supported for downloads
	SYNTAX ERROR: Start and number of observations must be supplied.	Both values must be supplied
	SYNTAX ERROR: Start observations and number of observations can only be used for the /set option.	Observation paging only works with the /set option (cells only)
	SYNTAX ERROR: The context must be supplied %s	Context is mandatory for most calls
	SYNTAX ERROR: Unknown Entity %s	Could be a typo such as dataser instead of dataset
	SYNTAX ERROR: The geography hierarchy must be supplied	Hierarchy id expected and not supplied in URL
	SYNTAX ERROR: Invalid Metadata Type %s	Valid metadata types are "variable" "glossary" and "default"
	REPRESENTATION ERROR: The /dsd option is not available for json-stat format	Json-stat is mixed structure and cells only
	REPRESENTATION ERROR: The /dwn option is required for CSV and XLS formats	CSV and XLS are download only
	REPRESENTATION ERROR: The /dwn option is not available for JSON format	JSON is direct streaming only, no download option
	REPRESENTATION ERROR: The /set option is not available for json-stat format	Json-stat is mixed structure and cells only
	REPRESENTATION ERROR: %s is not a supported media type for this URL	A request has been made for an unsupported media type, e.g. HTML

			is not currently available
403	REQUEST DENIED: API Key is blocked	Supplied API key is blacklisted
	REQUEST DENIED: API Key is invalid	Supplied API key is not found on the database
	REQUEST DENIED: API Key must be supplied	No API Key supplied
	DATA UNAVAILABLE: Dataset %s geog %s diff %s has been temporarily removed from public view	The requested dataset has been temporarily withdrawn, typically this will be a problem with its data
	DATA UNAVAILABLE: your request for %s observations exceeds the number of observations available to %s. You can stream up to %s observations or download up to %s observations.	Noobs is greater than the number of cells in the dataset
	DATA UNAVAILABLE: your request for data exceeds the number of observations in the %s %s.	Startobs is greater than the number of cells in the dataset
404	INTERNAL ERROR: Location dimension not found in dataset.	None of the dimensions in the current dataset is marked as "location" type (geographic).
	INTERNAL ERROR: No Classification found for context %s	The requested classification is not found under the supplied context
	INTERNAL ERROR: Geography hierarchy %s not found	The requested hierarchy is not found
	INTERNAL ERROR: Area %s not found in hierarchy %s	The requested area id is not found in the named hierarchy
	INTERNAL ERROR: No classifications found	No classifications found for current criteria
	INTERNAL ERROR: No Concepts found for context %s	No concepts found for the current criteria
	INTERNAL ERROR: Collection details for %s not found	Collection details for named collection not found
	INTERNAL ERROR: Dataset %s for context %s and hierarchy %s not found	Named dataset not found for the specified context and hierarchy
	INTERNAL ERROR: Dataset %s not found on database for context %s	Named dataset not found for the specified context.
	INTERNAL ERROR: No reference metadata held for dataset %s hierarchy %s differentiator %s	No reference metadata available for named dataset (with differentiator)
	INTERNAL ERROR: No reference metadata held for dataset %s hierarchy %s	No reference metadata available for named dataset (no differentiator)
	INTERNAL ERROR: No datasets found for %s	No datasets found for context
	INTERNAL ERROR: No datasets found for %s for %s	No datasets found for classification
	INTERNAL ERROR: No datasets found	No datasets found for any context
	INTERNAL ERROR: No reference metadata held for %s for dataset %s hierarchy %s differentiator %s	No reference metadata available for named dimension (with differentiator)
	INTERNAL ERROR: No reference metadata held for %s for dataset %s hierarchy %s	No reference metadata available for named dimension (no differentiator)
	INTERNAL ERROR: No reference metadata held for %s/%s for dataset %s hierarchy %s differentiator %s	No reference metadata available for named dimension item (with differentiator)
	INTERNAL ERROR: No reference metadata held for %s/%s for dataset %s hierarchy %s	No reference metadata available for named dimension item (no differentiator)
	INTERNAL ERROR: Dimension not found on database for context %s	Xxxxxx
	INTERNAL ERROR: Dimension %s not found for dataset %s	Specified dimension not part of named dataset
	INTERNAL ERROR: Dimension %s for dataset %s not found	Specified dimension not part of named dataset
	INTERNAL ERROR: %s is invalid, no concepts found	No concepts match criteria
	INTERNAL ERROR: %s not found	ID not found (generic message)

		INTERNAL ERROR: Invalid dimension item code %s	Dimension item code not found
		INTERNAL ERROR: Area %s not found in hierarchy %s	Sepecified area id not found in named hierarchy
		INTERNAL ERROR: Invalid area type %s	Area type not valid. The details of each hierarchy includes a list of area types.
		INTERNAL ERROR: No collections found for context %s	Names concept has no collections in it.
		INTERNAL ERROR: no such dimension %s.	Dimension not found
		INTERNAL ERROR: Data not found in database for context %s	No data found on database for named context
		INTERNAL ERROR: No statistical contexts found	No statistical context found on database
		INTERNAL ERROR: Geography hierarchy %s not found	Named hierarchy not found
		INTERNAL ERROR: No hierarchies found	No hieararchies found on database
		INTERNAL ERROR: No data found for the URL parameters context %s dataset %s hierarchy %s differentiator %s	No data found matching these criteria (with differentiator)
		INTERNAL ERROR: No data found for the URL parameters context %s dataset %s hierarchy %s	No data found matching these criteria (no differentiator)
		INTERNAL ERROR: No topics found on database for context %s	No topics found for named context
		INTERNAL ERROR: No reference metadata held for collection %s	No reference metadata found for named collection
		INTERNAL ERROR: Group %s not found for dataset %s hierarchy %s differentiator %s	Segment not found (with differentiator)
		INTERNAL ERROR: Group %s not found for dataset %s hierarchy %s differentiator %s	Segment not found (no differentiator)
		INTERNAL ERROR: No reference metadata held for group %s for dataset %s hierarchy %s differentiator %s	No segment reference metadata found (with differentiator)
		INTERNAL ERROR: No reference metadata held for group %s for dataset %s hierarchy %s	No segment reference metadata found (no differentiator)
500		INTERNAL ERROR: Download file generation failed due to system error	An unexpected error has occurred during the creation of a download
		INTERNAL ERROR: Classification not found due to system error for context %s (persistence)	Classification(s) not retrieved due to persistence error
		INTERNAL ERROR: Collection or dimitems not found due to system error (persistence)	Collection(s) not retrieved due to persistence error
		INTERNAL ERROR: Concept not found due to system error (persistence)	Concept(s) not retrieved due to persistence error
		INTERNAL ERROR: Hierarchies not found due to system error (persistence)	Hierarchy item(s) not retrieved due to persistence error