

Open Data API

As part of the latest upgrade to the Stat-Xplore software, we have now launched an Open Data API which is the latest addition to the Stat-Xplore suite. Each registered user will receive a unique API key which will allow you to freely harness Stat-Xplore data in your own applications.

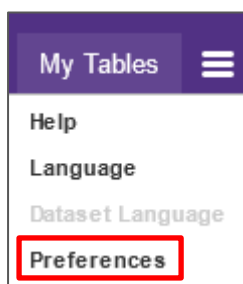
The Open Data API will support data publishers in opening your data to the world by embracing the use of live reports, data visualisations and infographics. You can build your own third-party interactive reports and applications that retrieve data direct from Stat-Xplore and automatically update every time we release new data.

It is a standards-based REST API service that requires third-party software to manage your requests. Below you can find a complete reference guide to all Open Data API endpoints.

Endpoint	https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1
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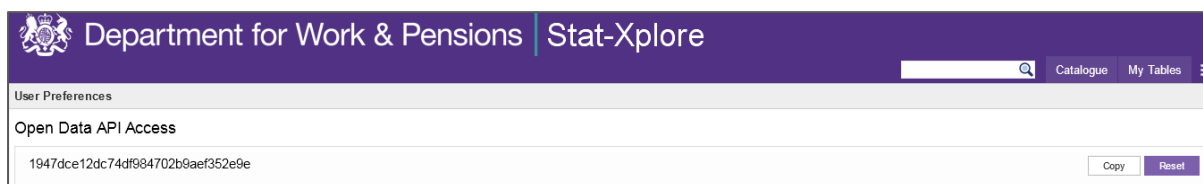
In order to use the Open Data API, you must first obtain an API key. This is used for authorisation and must be submitted in an `APIKey` header in every request you make to the Open Data API.

Obtain your API Key



To get your key, login to Stat-Xplore and select the **Preferences** option from the menu on the top right:

You can click **Copy** to copy the key to the clipboard, or use the **Reset** button to revoke this key and generate a new one.



Global Headers

Standard Request Headers (apply to all REST endpoints)

Accept-Language	The language that labels will be returned in.
APIKey	The API Key used to authenticate your request. This is obtainable through Preferences in Stat-Xplore and is required for all requests.

Standard Response Headers (apply to all REST endpoints)

X-RateLimit	The rate limit configured for the Stat-Xplore server. This is currently set at 100 requests per hour.
X-RateLimit-Remaining	The number of remaining requests for the current rate limiting period. If you hit zero, you will not be able to submit any further requests using this API Key until the limit resets.
X-RateLimit-Reset	The time when the rate limit will next be reset. This is expressed as a UNIX timestamp in milliseconds (i.e. the number of milliseconds since 1 January 1970).

Rest Endpoints

The Open Data API for Stat-Xplore is a JSON REST API. Within this, it has 4 root REST Endpoints. These are as follows:

/info	Provides general information about Stat-Xplore. At present, this endpoint provides information about the datasets languages currently configured in Stat-Xplore.
/schema	Provides specific information about all folders and databases available to you within Stat-Xplore, along with their fields, measures, value sets and values.
/table	Allows you the functionality to submit queries and receive the results in JSON format (this is equivalent to creating a table in Stat-Xplore).
/rate_limit	Access to the API is subject to rate limits. This endpoint provides information about the limit that applies to you, how many requests you have remaining and the length of time before the rate limit will be reset.

/info

Overview

Endpoint	https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/info
HTTP Method	GET

Extra Request Headers (apply specifically to this REST endpoint)

If-None-Match	If you provide a known Etag value, then (if the response has not changed) this endpoint will return a 304 response instead of the response body. Note: 304 responses do not count towards your rate limit usage. If not set, the request will count towards your rate limit usage.
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Extra Response Headers (apply specifically to this REST endpoint)

Etag	The checksum of the response. You can store this and use it in the If-None-Match header in subsequent requests. This will allow you to check whether the resource has changed without affecting your rate limit.
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/schema

The /schema endpoint returns specific information about Stat-Xplore datasets that are available to you, and their fields and measures.

Overview

Endpoint	https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/schema
HTTP Method	GET

Extra Request Headers (apply specifically to this REST endpoint)

If-None-Match	If you provide a known Etag value, then (if the response has not changed) this endpoint will return a 304 response instead of the response body. Note: 304 responses do not count towards your rate limit usage. If not set, the request will count towards your rate limit usage.
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Extra Response Headers (apply specifically to this REST endpoint)

Etag	The checksum of the response. You can store this and use it in the If-None-Match header in subsequent requests. This will allow you to check whether the resource has changed without affecting your rate limit.
Link	If the response returns a large number of child values then it may be subject to pagination (by default, this occurs if there are over 100 child values). When the response is paginated, this header will contain a link to the next page of results. If this header is not returned then this indicates either that the response was not paginated, or that the current response contains the last page of results.

Response Body

The root endpoint, /schema, returns details of all datasets and folders at the root level of Stat-Xplore. For example, the following response indicates that there are six folders installed at the root level that you have permission to access: Benefit Cap, Housing Benefit, NINo Registrations, Personal Independence Payment, Sanction Decisions and Universal Credit.

```
{
  "id": "str:folder:root",
  "label": "Stat-Xplore Tables",
  "location": "https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Aroot",
  "type": "FOLDER",
  "children": [
    {
      "id": "str:folder:fbc",
      "label": "Benefit Cap",
      "location": "https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Afbc",
```



```
    "type": "FOLDER"
  },
  {
    "id": "str:folder:fhb",
    "label": "Housing Benefit",
    "location": "https://sw.stat-
xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Afhb",
    "type": "FOLDER"
  },
  {
    "id": "str:folder:fNINO",
    "label": "NINo Registrations",
    "location": "https://sw.stat-
xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3AfNINO",
    "type": "FOLDER"
  },
  {
    "id": "str:folder:fpip",
    "label": "Personal Independence Payment",
    "location": "https://sw.stat-
xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Afpip",
    "type": "FOLDER"
  },
  {
    "id": "str:folder:fsanc",
    "label": "Sanction Decisions",
    "location": "https://sw.stat-
xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Afsanc",
    "type": "FOLDER"
  },
  {
    "id": "str:folder:fuc",
    "label": "Universal Credit",
    "location": "https://sw.stat-
xplore.dwp.gov.uk/webapi/rest/v1/schema/str%3Afolder%3Afuc",
    "type": "FOLDER"
  }
]
}
```



/table

The /table endpoint allows you to submit table queries and receive the results.

Overview

Endpoint	https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/table
HTTP Method	POST

Extra Request Headers (apply specifically to this REST endpoint)

Content-Type	Must be set to application/json and is required in all requests.
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Request Body

The body of the request contains your query. It must be in JSON format and contain the following objects:

Object	Description
database	The ID of the database you wish to query.
measures	An array of IDs of all the measures you want to return.
recodes	<p>Optional. An object containing recodes for any of the fields specified in the request.</p> <p>Use this object for the following reasons:</p> <ul style="list-style-type: none">You require results for specific field values in a value set. For example, you are querying age band and you only require values for customers in the following age groups: 16-19 and 20-24.You require combinations of field values to appear in a single cell. For example, you are querying age band and you wish to merge age groups 16-19 and 20-24 into one category: 16-24. <p>For each field you wish to recode you need to include the field's ID as a key and within that object set a map property to an array of all the field value IDs you want to return for this field. Each field value itself must be specified as an array: to combine field values into a custom group, simply specify multiple value IDs within that array.</p> <p>The example below shows a recode for the Age Band field. In this example the API will return only one field value for the Age Band field: Ages 16-19 and 20-24 are combined into a single value.</p> <p>You can omit the recodes object entirely from your request, in which case all field values will be returned for all fields.</p> <p>If you choose to include the recodes object then you only need to specify the fields you actually want to recode. Any fields that are included in your request in the dimensions object, but not specified in the recodes object will simply have all available field values returned.</p>
dimensions	<p>An array of IDs of the fields in each dimension (e.g., row, column, wafer) of your table.</p> <p>Each dimension must be specified as an array: to combine fields within an axis, simply specify multiple field IDs within that array.</p>



As shown here, all IDs specified in the request need to be in the ID format that is returned by the /schema endpoint.

The following is an example of a request to the API to obtain a table of combined Age Band and Employment Status from the Universal Credit Caseload dataset:

```
{
  "database": "str:database:UC_Monthly",
  "measures": [
    "str:count:UC_Monthly:V_F_UC_CASELOAD_FULL"
  ],
  "recodes": {
    "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE": {
      "map": [
        "str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:1",
        "str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:2"
      ]
    },
    "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE": {
      "map": [
        "str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE:C_UC_EMPLOYMENT:1"
      ]
    }
  },
  "dimensions": [
    "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE",
    "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE"
  ]
}
```



Response Body

The response contains the results of your table query. It contains the following objects:

Object	Returns																
query	<p>The query that was submitted. This object contains the database, measures, recodes, and dimensions objects from your query.</p> <p>The recodes object is returned in the response even if you did not include it in the query, or did not specify recodes for all fields. The response will contain the full list of returned field values for any fields that were not recoded in the original request. This allows you to use the recodes object in the response to determine what the returned cell values represent.</p> <p>For example, the above sample query requests a table containing Age Band and Employment Status, and specifies a recode for both. However, if we had not have specified a recode for Employment Status, the recodes object in the response would have included all field values for Employment Status, as well as the two specified field values for Age Band.</p> <p>Also, if a database has a mandatory field, this will always be included in your output (even if you did not include the recode or dimension in your query). This will also be visible in the recodes section of your return.</p>																
database	<p>Details of the dataset that was queried:</p> <table><tr><td>Id</td><td>The ID of the database</td></tr><tr><td>annotationKeys</td><td>An array of keys to annotations for this dataset. If any annotations are available, their descriptions will be returned in the "annotationMap" object.</td></tr></table>	Id	The ID of the database	annotationKeys	An array of keys to annotations for this dataset. If any annotations are available, their descriptions will be returned in the "annotationMap" object.												
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annotationKeys	An array of keys to annotations for this dataset. If any annotations are available, their descriptions will be returned in the "annotationMap" object.																
fields	<p>Details of the fields that were queried:</p> <table><tr><td>URI</td><td>The Open Data ID of this field. This matches the ID format this is returned by the /schema endpoint.</td></tr><tr><td>label</td><td>The display name for this field. This is the label that is displayed in Stat-Xplore.</td></tr><tr><td>items</td><td><p>An array containing all the field values returned for this field:</p><table><tr><td>type</td><td>The field type i.e. RecodeItem</td></tr><tr><td>labels</td><td>The display name for this field item. In most cases there will be a single label. However, if you have used the recodes in the query to combine multiple field items into a single value, then this will contain the labels of each constituent field value.</td></tr><tr><td>annotationKeys</td><td>As above.</td></tr><tr><td>uris</td><td>The Open Data ID of this field item. Matches the ID format returned by the /schema endpoint.</td></tr></table></td></tr><tr><td>annotationKeys</td><td>As above.</td></tr></table>	URI	The Open Data ID of this field. This matches the ID format this is returned by the /schema endpoint.	label	The display name for this field. This is the label that is displayed in Stat-Xplore.	items	<p>An array containing all the field values returned for this field:</p> <table><tr><td>type</td><td>The field type i.e. RecodeItem</td></tr><tr><td>labels</td><td>The display name for this field item. In most cases there will be a single label. However, if you have used the recodes in the query to combine multiple field items into a single value, then this will contain the labels of each constituent field value.</td></tr><tr><td>annotationKeys</td><td>As above.</td></tr><tr><td>uris</td><td>The Open Data ID of this field item. Matches the ID format returned by the /schema endpoint.</td></tr></table>	type	The field type i.e. RecodeItem	labels	The display name for this field item. In most cases there will be a single label. However, if you have used the recodes in the query to combine multiple field items into a single value, then this will contain the labels of each constituent field value.	annotationKeys	As above.	uris	The Open Data ID of this field item. Matches the ID format returned by the /schema endpoint.	annotationKeys	As above.
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labels	The display name for this field item. In most cases there will be a single label. However, if you have used the recodes in the query to combine multiple field items into a single value, then this will contain the labels of each constituent field value.																
annotationKeys	As above.																
uris	The Open Data ID of this field item. Matches the ID format returned by the /schema endpoint.																
annotationKeys	As above.																



measures	<p>An array containing all the measures (summation options) returned for this query. For each measure, the API returns:</p> <table><tr><td>uri</td><td>The Open Data ID of this measure. Matches the ID format returned by the /schema endpoint.</td></tr><tr><td>label</td><td>The display name for this measure. This is the label that is displayed in Stat-Xplore.</td></tr></table>	uri	The Open Data ID of this measure. Matches the ID format returned by the /schema endpoint.	label	The display name for this measure. This is the label that is displayed in Stat-Xplore.
uri	The Open Data ID of this measure. Matches the ID format returned by the /schema endpoint.				
label	The display name for this measure. This is the label that is displayed in Stat-Xplore.				
cubes	<p>An array containing the results of the query. There will be one item in this array for each measure you requested.</p> <p>Each item specifies the measure, and then provides the values for each cell in the cube for that measure.</p>				
annotationMap	<p>Any annotations that apply to this query. If there are annotations for the dataset or its fields, then the annotation keys and descriptions will be returned in this object.</p>				

For example, the following response is returned for the example query shown in the **Request Body** section above:

```
{
  "query": {
    "database": "str:database:UC_Monthly",
    "measures": ["str:count:UC_Monthly:V_F_UC_CASELOAD_FULL"],
    "recodes": {
      "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE":
        { "map":
          [ ["str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE:C_UC_EMPLOYMEN
T:1"] ] },
      "str:field:UC_Monthly:F_UC_DATE:DATE_NAME": { "map":
        [ ["str:value:UC_Monthly:F_UC_DATE:DATE_NAME:C_UC_DATE:201510"] ] },
      "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE": { "map": [
        [
          "str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:1",
          "str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:2"
        ] ] }
    },
    "dimensions": [
      ["str:field:UC_Monthly:F_UC_DATE:DATE_NAME"],
      ["str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE"],
      ["str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE"]
    ]
  },
  "database": {
    "id": "UC_Monthly",
    "annotationKeys": [
      "I",
      "II",
      "III"
    ]
  }
}
```



```
    },
    "fields": [
      {
        "uri": "str:field:UC_Monthly:F_UC_DATE:DATE_NAME",
        "label": "Month",
        "items": [
          {
            "type": "RecodeItem",
            "labels": ["October 2015"],
            "annotationKeys": ["p"],
            "uris":
["str:value:UC_Monthly:F_UC_DATE:DATE_NAME:C_UC_DATE:201510"]
          }
        ],
      },
      {
        "uri": "str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE",
        "label": "Age (bands and single year)",
        "items": [
          {
            "type": "RecodeItem",
            "labels": [
              "16-19",
              "20-24"
            ],
            "uris":
["str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:1",
"str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:AGE_CODE:C_UC_AGE_BAND:2"]
          }
        ],
      },
      {
        "uri":
"str:field:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE",
        "label": "Employment indicator",
        "items": [
          {
            "type": "RecodeItem",
            "labels": ["In employment"],
            "uris":
["str:value:UC_Monthly:V_F_UC_CASELOAD_FULL:EMPLOYMENT_CODE:C_UC_EMPLOYMENT:1"]
          }
        ],
      },
      "measures": [
        {
          "uri": "str:count:UC_Monthly:V_F_UC_CASELOAD_FULL",
          "label": "Universal Credit Caseload"
        }
      ],
      "cubes": {
        "str:count:UC_Monthly:V_F_UC_CASELOAD_FULL": {
          "values": [[[20636]]],
          "precision": 0
        }
      },
      "annotationMap": {
```



"II": "A limited test of the Digital Service for Universal Credit was launched in Sutton, South London on 26th November 2014. Claimants will manage their Universal Credit claim online to monitor payments, communicate with their work coach and record work search progress. Please note that this publication does not currently include statistics covering this area.\t\t",

"p": "Figures marked \"p\" are provisional. These figures will be subject to revision in subsequent releases. It is the expectation that provisional figures will be within one per cent of their revised figure in future releases.",

"III": "Figures provided for starts show the Jobcentre Plus office recorded at the start of the claim, whereas the figures for caseload are representative of the current Jobcentre Plus office that the claimant is attending. It is possible for people to have started on Universal Credit in one office and have moved to another office during their claim, and for this reason, the caseload can be higher than the starts figure for any particular office, however it is more noticeable when numbers are low.",

"I": "Caseload figures relate to the second Thursday of each month."
}
}

/rate_limit

Access to the Open Data API is subject to rate limiting: if you submit too many requests within a short period of time, you will be unable to submit further requests to the API until your limit resets. This is to ensure that the API performs well for all users and that it is not possible for a single application to overload the server.

By default, the Open Data API is configured to allow any given API key to submit up to 100 requests per hour.

Caching: You are recommended to implement a local caching mechanism to reduce the number of requests you need to make to the server.

With the exception of the /table endpoint, all responses from the Open Data API return an ETag header. To check whether a resource has changed, your application can include this with subsequent requests in the If-None-Match header. If the resource has not changed, then the Open Data API will return a HTTP 304 Not Modified response. 304 responses do not count towards your rate limit.

Check Your Rate Limit: The /rate_limit endpoint returns information about your current rate limit (100 per hour for any registered Stat-Xplore user). In addition, all requests return the 3 X-RateLimit headers, allowing you to check your rate limit at any time without having to submit a specific request.

Note: Submitting a request to the /rate_limit endpoint **does not** count towards your rate limit.

Overview

Endpoint	https://sw.stat-xplore.dwp.gov.uk/webapi/rest/v1/rate_limit
HTTP Method	GET

Response Body

Following is an example response. In this example the API key has 100 requests remaining (from a configured rate limit of 100). This allocation will be reset at UNIX timestamp 1451001600000 (25/12/2015 at midnight UTC).

```
{
  "limit": 100,
  "remaining": 100,
  "reset": 1451001600000
}
```