GATEWAY TO RESEARCH (GTRAPI AND CERIF ONLY) APIs

Version: 3.0
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EXECUTIVE SUMMARY

This document contains a technical summary of the APIs available in the GTR release of August 2015. More API's will be added and the functioning of existing API’s will change over time and readers are asked to check the GtR web portal to ensure they are working from the most current version.

At the time of writing, the GtR project provided two APIs: GtRAPI and CERIF. Both produce outputs in XML and JSON formats. The GtRAPI is the same API that is used by the web portal and there is a direct correlation between the visible information on the web portal screens and the output from the API. The CERIF API produces XML output using the CERIF schema, provides access to all¹ the data currently held in the GtR Database and is stored in a highly structured format. Although JSON output for the CERIF API is available we would advise people to only use the XML interface. The cerif data is not currently being updated although the API is still available.

¹ Journal titles are not available in the CERIF API due to data quality issues.
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>1</td>
</tr>
<tr>
<td>API COMMON Features</td>
<td>3</td>
</tr>
<tr>
<td>Request Parameters Summary</td>
<td>3</td>
</tr>
<tr>
<td>How Pagination Works</td>
<td>4</td>
</tr>
<tr>
<td>GtRAPI</td>
<td>5</td>
</tr>
<tr>
<td>GtRAPI Overview</td>
<td>5</td>
</tr>
<tr>
<td>GtR Search Resource</td>
<td>6</td>
</tr>
<tr>
<td>Project Resource</td>
<td>13</td>
</tr>
<tr>
<td>Person Resource</td>
<td>15</td>
</tr>
<tr>
<td>Publication Resource</td>
<td>18</td>
</tr>
<tr>
<td>Organisation Resource</td>
<td>20</td>
</tr>
<tr>
<td>CERIF API</td>
<td>23</td>
</tr>
<tr>
<td>CERIF API Overview</td>
<td>23</td>
</tr>
<tr>
<td>Cerif Search Resource</td>
<td>24</td>
</tr>
<tr>
<td>CfProj Resource</td>
<td>28</td>
</tr>
<tr>
<td>CfPers Resource</td>
<td>30</td>
</tr>
<tr>
<td>CfResPubl Resource</td>
<td>32</td>
</tr>
<tr>
<td>CfOrgUnit Resource</td>
<td>34</td>
</tr>
<tr>
<td>CfClassScheme Resource</td>
<td>38</td>
</tr>
<tr>
<td>CfClass Resource</td>
<td>40</td>
</tr>
<tr>
<td>CfFund Resource</td>
<td>42</td>
</tr>
<tr>
<td>CfMeas Resource</td>
<td>43</td>
</tr>
<tr>
<td>CfPAddr Resource</td>
<td>44</td>
</tr>
<tr>
<td>CfResPat Resource</td>
<td>45</td>
</tr>
<tr>
<td>CfResProd Resource</td>
<td>46</td>
</tr>
<tr>
<td>Failure Scenarios</td>
<td>47</td>
</tr>
<tr>
<td>About Searching</td>
<td>48</td>
</tr>
<tr>
<td>Searching Overview</td>
<td>48</td>
</tr>
<tr>
<td>Search Terms in a Nutshell</td>
<td>48</td>
</tr>
</tbody>
</table>
### API COMMON FEATURES

In this section we detail some of the common elements between the APIs, such as available parameters that can be used against some resources and how pagination within result sets.

### REQUEST PARAMETERS SUMMARY

Both APIs utilise some or all of the request parameters below as part of the URL.

The following request summary provides details and examples:

<table>
<thead>
<tr>
<th>Request Parameter &amp; Defaults</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
</table>
| **term**
  *No default – mandatory parameter.* | Only used with the Search Resource. The term or phrase to be searched for. Search terms must be URL encoded (UTF-8). For more about search terms and the search engine vocabulary see [About Searching](#). | To search for the phrase: “Oxford University” encoded term=%22Oxford%20University%22 |
| **fetchSize**
  *Default: 25 – not mandatory.* | Only used on paged requests. Can have a value from 25 to 100. See [How Pagination Works](#). | fetchSize=50 |
| **page**
  *Default: 1 – not mandatory.* | Only used on paged requests. Which page of the current paged result set to fetch. See [How Pagination Works](#). | page=2 |
| **selectedSortOrder**
  *Default: DESC – not mandatory.
  GTRAPI Only* | Can have the value ASC or DESC. See [How Pagination Works](#). | selectedSortOrder=ASC |
| **selectedSortableField**
  *No default – not mandatory.
  GTRAPI Only* | Value depends on the Resource utilised. Initial request to the Resource will include a listing of sortable fields in the response. See [How Pagination Works](#). | selectedSortableField=<x>

Where `<x>` is a field provided in the `gtr:sortableFields` list from the initial response. |
| **selectedFacets**
  *No default – not mandatory.
  GTRAPI Only* | Only used with the Search Resource. Comma separated list of facet IDs that are to be applied to the Search. | selectedFacets=cmVnaW9uFFNvdXRoIhVhc3R8c3RyaW5n

Facet IDs can be found from the facets returned in the `gtr:facetGroup` list provided from the initial response. |
<table>
<thead>
<tr>
<th>Request Parameter &amp; Defaults</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>fields</strong>&lt;br&gt; Default all fields are searched – not mandatory.&lt;br&gt; <strong>GTRAPI Only</strong></td>
<td>Only used with the Search Resource&lt;br&gt; Common delimited list of fields to be searched for the provided term</td>
<td>fields=&lt;x&gt; where &lt;x&gt; is a common delimited list of fields in the gtr:searchableFields list from the the initial response</td>
</tr>
</tbody>
</table>

**HOW PAGINATION WORKS**

Paginated resources will be limited to 25 items by default. You can specify further pages with the page parameter. You can also set a custom page size up to 100 with the fetchSize parameter. For example:

http://gtr.rcuk.ac.uk/search/person?term=paul&field=1&fetchSize=25

The pagination details are contained within three HTTP response headers:


   For the search above the link header value is shown below:

   ```
   <http://gtr.rcuk.ac.uk/search/person?term=paul&fields=pro.id,pro.t,pro.a,per.fn,per.on,per.sn,per.org.n,per.pro.t,per.pro.abs,pub.t,pub.a.org.n&page=1&fetchSize=25&selectedSortableField=score&selectedSortOrder=DESC>; rel=first,
   <http://gtr.rcuk.ac.uk/search/person?term=paul&fields=pro.id,pro.t,pro.a,per.fn,per.on,per.sn,per.org.n,per.pro.t,per.pro.abs,pub.t,pub.a.org.n&page=37&fetchSize=25&selectedSortableField=score&selectedSortOrder=DESC>; rel=last,
   <http://gtr.rcuk.ac.uk/search/person?term=paul&fields=pro.id,pro.t,pro.a,per.fn,per.on,per.sn,per.org.n,per.pro.t,per.pro.abs,pub.t,pub.a.org.n&page=2&fetchSize=25&selectedSortableField=score&selectedSortOrder=DESC>; rel=next
   rel=next
   ```

   The possible rel values are:
   a. **next**: Shows the URL of the next page of results.
   b. **last**: Shows the URL of the last page of results.
   c. **first**: Shows the URL of the first page of results.
   d. **previous**: Shows the URL of the previous page of results.

   If no 'next' or 'previous' relationship exists, then these will be omitted from the Link header. The 'first' and 'last' relationships will always be present for paged requests that return an HTTP 200.

2. **Link-Pages.** An integer defining the total number of pages: Link-Pages. At the time of writing the above search returns the integer: 37

3. **Link-Records.** An integer defining the total number of records: Link-Records : At the time of writing the above search returns the integer: 911
GTRAPI

GTRAPI OVERVIEW

Refer to the GTRAPI XML Schema for details on Response Entities detailed below. The XML schema for this interface can be found at: http://gtr.rcuk.ac.uk/api

The GTRAPI exposes the following Resources:

<table>
<thead>
<tr>
<th>GtR Resource</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>search</td>
<td>Search projects, publications, people or organisations with a specific search term.</td>
<td>GtR Search Resource</td>
</tr>
<tr>
<td>organisation</td>
<td>Retrieve all organisations or a specific organisation by its identifier.</td>
<td>Organisation Resource</td>
</tr>
<tr>
<td>person</td>
<td>Retrieve all people or a specific person by their identifier.</td>
<td>Person Resource</td>
</tr>
<tr>
<td>project</td>
<td>Retrieve all projects or a specific project by its identifier.</td>
<td>Project Resource</td>
</tr>
<tr>
<td>publication</td>
<td>Retrieve all publications or a specific publication by its identifier.</td>
<td>Publication Resource</td>
</tr>
</tbody>
</table>
GTR SEARCH RESOURCE

The Search Resource can search through the four GTR Resource Entities. These are Project, Person, Publication and Organisation.

The base URL for the search interfaces follows the following standard:

   http://host:port/search/{resource entity}

where the resource entity is one of the following:

   project
   person
   publication
   organisation

**PLEASE NOTE:** the service is case sensitive so all resources must be in lowercase.
### Search Projects

<table>
<thead>
<tr>
<th>Description</th>
<th>Search all projects for a specific term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/search/project">http://host:port/search/project</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
</tbody>
</table>

#### Request Parameters

- `term` [mandatory]
- `fetchSize`
- `page`
- `selectedSortOrder`
- `selectedSortableField`
- `selectedFacets`
- `fields`

See Request Parameters Summary.

#### Example

```
http://gtr.rcuk.c.uk/search/project?term=mouse&page=2&fetchSize=25&selectedSortableField=_score&selectedSortOrder=DESC&selectedFacets=YW1vdW50fC05MljzMScyMDM2ODU0Nzc1ODA4xEmMDAwMHxyYW5nZQ==&fields=project.abs
```

### Response Entity

![Diagram of response entity](image)

**Important:**
• The gtr:project response elements contained within gtr:projectOverview will only have the following elements/attributes populated:
  
  o url
  o gtr:id
  o gtr:title
  o gtr:fun

• the gtr:personRoles response elements within the gtr:projectOverview will only contain data for the PRINCIPAL_INVESTIGATOR role.

Note: a Placeholder for an abstract snippet exists in the projectOverview schema but is currently not populated.
### Search Person

<table>
<thead>
<tr>
<th>Description</th>
<th>Search all people for a specific term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host.port/search/person">http://host.port/search/person</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>term [mandatory]</td>
</tr>
<tr>
<td></td>
<td>fetchSize page</td>
</tr>
<tr>
<td></td>
<td>selectedSortOrder</td>
</tr>
<tr>
<td></td>
<td>selectedSortableField</td>
</tr>
<tr>
<td></td>
<td>selectedFacets</td>
</tr>
<tr>
<td></td>
<td>fields</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/search/person?term=mouse&amp;selectedFacets=c3VybmbFzXqx2huc29ufH0cmJuZw==&amp;page=1&amp;fetchSize=25&amp;selectedSortableField=per.sn&amp;selectedSortOrder=DESC&amp;fields=per.on,per_fn,per.sn,per.org,n,per.pro.abs,per.pro.t">http://gtr.rcuk.ac.uk/search/person?term=mouse&amp;selectedFacets=c3VybmbFzXqx2huc29ufH0cmJuZw==&amp;page=1&amp;fetchSize=25&amp;selectedSortableField=per.sn&amp;selectedSortOrder=DESC&amp;fields=per.on,per_fn,per.sn,per.org,n,per.pro.abs,per.pro.t</a></td>
</tr>
<tr>
<td>Description</td>
<td>Search all publications for a specific term</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/search/publication">http://host:port/search/publication</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>term [mandatory]</td>
</tr>
<tr>
<td></td>
<td>fetchSize page</td>
</tr>
<tr>
<td></td>
<td>selectedSortOrder</td>
</tr>
<tr>
<td></td>
<td>selectedSortableField</td>
</tr>
<tr>
<td></td>
<td>fields</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/search/publication?term=mouse&amp;page=1&amp;fetchSize=25&amp;selectedSortableField=&amp;selectedSortOrder=&amp;fields=per.pro.abs">http://gtr.rcuk.ac.uk/search/publication?term=mouse&amp;page=1&amp;fetchSize=25&amp;selectedSortableField=&amp;selectedSortOrder=&amp;fields=per.pro.abs</a></td>
</tr>
</tbody>
</table>

### Response Entity

![Response Entity Diagram](image)

- **gtr:abstractSearchResult (extension base)**
  - **Abstract**: true
  - **resourceSetsCounts**
    - Type: gtr:resourceSetsCounts
  - **sortableFields**
    - Type: gtr:sortableFields
  - **searchableFields**
    - Type: gtr:searchableFields
  - **facetGroups**
    - Type: gtr:facetGroups
  - **suggestions**
    - Type: gtr:suggestions

- **searchResult**
  - Type: gtr:searchResult

- **gtr:results**
  - **results**
    - Type: gtr:results

- **projectOverview**
  - Type: gtr:projectOverview

- **personOverview**
  - Type: gtr:personOverview

- **organisationOverview**
  - Type: gtr:organisationOverview

- **publicationOverview**
  - Type: gtr:publicationOverview

- **gtr:results**
  - **results**
    - Type: gtr:results

Container element for the potential return results from a Search request.
Important:

- The gtr:project response elements contained within gtr:publicationOverview will only have the following elements/attributes populated:
  
  o  url
  o  gtr:id
  o  gtr:title
  o  gtr:grantCategory
  o  gtr:fund

Note: a Placeholder for an abstract snippet exists in the publicationOverview schema but is currently not populated.
<table>
<thead>
<tr>
<th><strong>Search Organisation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Paged?</strong></td>
</tr>
<tr>
<td><strong>URL can be viewed in Web Portal?</strong></td>
</tr>
<tr>
<td><strong>Base URL</strong></td>
</tr>
<tr>
<td><strong>HTTP Method</strong></td>
</tr>
<tr>
<td><strong>Request Parameters</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Example</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Response Entity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Response Entity Diagram" /></td>
</tr>
</tbody>
</table>

Container element for the potential return results from a Search request.
The Project Resource allows you to fetch a specific project by id, or a paged listing of all projects.

### Project By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a project by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/projects/">http://host:port/projects/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/projects?ref=EP/F029624/1">http://gtr.rcuk.ac.uk/projects?ref=EP/F029624/1</a></td>
</tr>
</tbody>
</table>

### Response Entity

![Response Entity Diagram]

- **projectComposition**
  - Type: gtr:projectComposition
  - LeadResearchOrganisation
    - Type: gtr:organisation
  - Project
    - Type: gtr:project
  - PersonRoles
    - Type: gtr:personRoles
    - Collaborations
      - Type: gtr:collaborations
    - OrganisationRoles
      - Type: gtr:organisationRoles

- **projectOverview**
  - Response elements from a Project query

- **abstractSnippet**
  - Type: xs:string

Closely related components of a Project.
**Project Listing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/project">http://host:port/project</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
</tbody>
</table>
| Request Parameters | fetchSize  
|                   | page  
|                   | See Request Parameters Summary. |
| Example           | http://gtr.rcuk.ac.uk/projects?page=2&fetchSize=25 |

**Response Entity**
PERSON RESOURCE

The Person Resource allows you to fetch a specific person by id, or a paged listing of all people. Within a specific person resource it is possible to search the projects related to a specific person by using the same syntax used to for search projects (see Search Projects)

### Person By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a person by their ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/person/">http://host:port/person/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>term</td>
</tr>
<tr>
<td></td>
<td>fetchSize</td>
</tr>
<tr>
<td></td>
<td>page</td>
</tr>
<tr>
<td></td>
<td>selectedSortOrder</td>
</tr>
<tr>
<td></td>
<td>selectedSortableField</td>
</tr>
<tr>
<td></td>
<td>selectedFacets</td>
</tr>
<tr>
<td></td>
<td>fields</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td>[<a href="http://gtr.rcuk.ac.uk/person/E878C1F3-5057-4935-8DA3-AC625C55A7CF?term=&amp;selectedFacets=c3RhcnR8MTMyNTM3NjAwMDAwMF8xMzU2OTk4Mzk5MDU5fHJhbmdl&amp;page=1&amp;fetchSize=25">http://gtr.rcuk.ac.uk/person/E878C1F3-5057-4935-8DA3-AC625C55A7CF?term=&amp;selectedFacets=c3RhcnR8MTMyNTM3NjAwMDAwMF8xMzU2OTk4Mzk5MDU5fHJhbmdl&amp;page=1&amp;fetchSize=25</a> &amp;selectedSortableField=&amp;selectedSortOrder=&amp;fields=](<a href="http://gtr.rcuk.ac.uk/person/E878C1F3-5057-4935-8DA3-AC625C55A7CF?term=&amp;selectedFacets=c3RhcnR8MTMyNTM3NjAwMDAwMF8xMzU2OTk4Mzk5MDU5fHJhbmdl&amp;page=1&amp;fetchSize=25">http://gtr.rcuk.ac.uk/person/E878C1F3-5057-4935-8DA3-AC625C55A7CF?term=&amp;selectedFacets=c3RhcnR8MTMyNTM3NjAwMDAwMF8xMzU2OTk4Mzk5MDU5fHJhbmdl&amp;page=1&amp;fetchSize=25</a> &amp;selectedSortableField=&amp;selectedSortOrder=&amp;fields=)</td>
</tr>
</tbody>
</table>

### Response Entity

![Response Entity Diagram](image_url)

**Important:** The gtr:project response elements contained within gtr:personOverview will only have the following elements/attributes populated:

- url
• gtr:id
• gtr:title
• gtr:file
### Person Listing

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/person">http://host:port/person</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
</tbody>
</table>

- **Request Parameters**
  - fetchSize
  - page
  See Request Parameters Summary.

- **Example**
  - http://gtr.rcuk.ac.uk/person?page=2&fetchSize=25

### Response Entity

![Response Entity Diagram](image)

A Person related to, involved in research.
PUBLICATION RESOURCE

The Publication Resource allows you to fetch a specific publication by id, or a paged listing of all publications.

### Publication By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a publication by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/publication/">http://host:port/publication/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/publication/21B244B7-6C82-4F92-9DFC-577C1E7831A8">http://gtr.rcuk.ac.uk/publication/21B244B7-6C82-4F92-9DFC-577C1E7831A8</a></td>
</tr>
</tbody>
</table>

### Response Entity

Important: The gtr:project response elements contained within gtr:publicationOverview will only have the following elements/attributes populated:

- `url`
- `gtr:id`
- `gtr:title`
- `gtr:found`
**Publication Listing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/publication">http://host:port/publication</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>fetchSize, page</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/publication?page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/publication?page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

**Response Entity**

![Diagram of publication entity](image)
ORGANISATION RESOURCE

The Organisation Resource allows you to fetch a specific organisation by id, or a paged listing of all organisations. Within a specific organisation resource it is possible to search the projects related to a specific person by using the same syntax used to for search projects (see Search Projects)

<table>
<thead>
<tr>
<th>Organisation By ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Paged?</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
</tr>
<tr>
<td>Base URL</td>
</tr>
<tr>
<td>Request Parameters</td>
</tr>
<tr>
<td>HTTP Method</td>
</tr>
<tr>
<td>Example</td>
</tr>
</tbody>
</table>

Response Entity
**Important:** The \texttt{gtr:project} response elements contained within \texttt{gtr:publicationOverview} will only have the following elements/attributes populated:

- url
- gtr:id
- gtr:title
- gtr:fund
**Organisation Listing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>URL can be viewed in Web Portal?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/publication">http://host:port/publication</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>fetchSize</td>
</tr>
<tr>
<td></td>
<td>page</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/organisation?page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/organisation?page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

**Response Entity**

![Diagram of organisation response entity](image)

Abstract representation of a resource. Resources have a related endpoint and unique identifier.
CERIF API

CERIF API OVERVIEW

Refer to the CERIF XML Schema for details on Response Entities details below.

The CERIF API exposes the following Resources:

<table>
<thead>
<tr>
<th>CERIF Resource</th>
<th>Description</th>
<th>Request Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>search</td>
<td>Search the CfProj, CfResPubl, CfPers or CfOrgUnit entities with a specific search term.</td>
<td><a href="#">Cerif Search Resource</a></td>
</tr>
<tr>
<td>cfclass</td>
<td>Retrieve all classifications or a specific classification by its identifier.</td>
<td><a href="#">CfClass Resource</a></td>
</tr>
<tr>
<td>cfclassscheme</td>
<td>Retrieve all classification schemes or a specific classification scheme by its identifier.</td>
<td><a href="#">CfClassScheme Resource</a></td>
</tr>
<tr>
<td>cffund</td>
<td>Retrieve a specific CFFund entity by its identifier.</td>
<td><a href="#">CFFund Resource</a></td>
</tr>
<tr>
<td>cfmeas</td>
<td>Retrieve a specific CfMeas entity by its identifier.</td>
<td><a href="#">CfMeas Resource</a></td>
</tr>
<tr>
<td>cforgunit</td>
<td>Retrieve all CfOrgUnit entities or a specific CfOrgUnit entity by its identifier.</td>
<td><a href="#">CfOrgUnit Resource</a></td>
</tr>
<tr>
<td>cfaddr</td>
<td>Retrieve a specific CFAddr entity by its identifier.</td>
<td><a href="#">CFAddr Resource</a></td>
</tr>
<tr>
<td>cfpers</td>
<td>Retrieve all CfPers entities or a specific CfPers entity by its identifier.</td>
<td><a href="#">CfPers Resource</a></td>
</tr>
<tr>
<td>cproj</td>
<td>Retrieve all CfProj entities or a specific CfProj entity by its identifier.</td>
<td><a href="#">CfProj Resource</a></td>
</tr>
<tr>
<td>cfrespat</td>
<td>Retrieve a specific CfResPat entity by its identifier.</td>
<td><a href="#">CfResPat Resource</a></td>
</tr>
<tr>
<td>cfresprod</td>
<td>Retrieve a specific CfResProd entity by its identifier.</td>
<td><a href="#">CfResProd Resource</a></td>
</tr>
<tr>
<td>cfrespubl</td>
<td>Retrieve all CfResPubl entities or a specific CfResPubl entity by its identifier.</td>
<td><a href="#">CfResPubl Resource</a></td>
</tr>
</tbody>
</table>
The CERIF Search Resource can search through 4 CERIF Resource Entities: CfProj, CfPers, CfResPubl and CfOrgUnit.

### Search CfProj

**Description**
Search all projects for a specific term

**Paged?**
YES

**Base URL**
http://host:port/cerif/search/cfproj

**HTTP Method**
GET

**Request Parameters**
term [mandatory]
fetchSize page
selectedSortOrder
selectedSortField
See Request Parameters Summary.

**Example**
http://gtr.rcuk.ac.uk/cerif/search/cfproj?term=mouse&page=2&fetchSize=25&selectedSortField=Relevance&selectedSortOrder=DESC

### Response Entity
### Search CfPers

<table>
<thead>
<tr>
<th>Description</th>
<th>Search all people for a specific term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/search/cfpers">http://host:port/cerif/search/cfpers</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>term fetchSize page See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/search/cfpers?term=mouse&amp;page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/cerif/search/cfpers?term=mouse&amp;page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

### Response Entity

```
<cfPers_type>
  <cfPers>
    <cfURL>
      <cfResRef>
        <cfResRef>
          <cfResRef>
            <cfResRef>
              <cfResRef>
                <cfResRef>
                  <cfResRef>
                    <cfResRef>
                      <cfResRef>
                        <cfResRef>
                          <cfResRef>
                            <cfResRef>
                              <cfResRef>
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                                                                                       <cfResRef>
                                                                                       <cfResRef>
                                                                                       <cfResRef>
### Search CfResPubl

<table>
<thead>
<tr>
<th>Description</th>
<th>Search all publications for a specific term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/search/cfrespubl">http://host:port/cerif/search/cfrespubl</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>term, fetchSize, page</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/search/cfrespubl?term=mouse&amp;page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/cerif/search/cfrespubl?term=mouse&amp;page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

### Response Entity

[Diagram of response entity]
Search CfOrgUnit

**Description**
Search all organisations for a specific term

**Paged?**
YES

**Base URL**
http://host:port/cerif/search/cforgunit

**HTTP Method**
GET

**Request Parameters**
term
fetchSize
page
See Request Parameters Summary.

**Example**
http://grtr.rcuk.ac.uk/cerif/search/cforgunit?term=mouse&page=2&fetchSize=25

---

**Response Entity**

[Diagram of response entity structure]

---

Page 27 of 50
CFPROJ RESOURCE

The CfProj Resource allows you to fetch a specific CfProj by id, or a paged listing of all CfProj.

<table>
<thead>
<tr>
<th>CfProj By ID</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Retrieve a project by its ID</td>
</tr>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfproj/">http://host:port/cerif/cfproj/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfproj/2306FD29-B224-4863-8235-425BBAE2739F">http://gtr.rcuk.ac.uk/cerif/cfproj/2306FD29-B224-4863-8235-425BBAE2739F</a></td>
</tr>
</tbody>
</table>

Response Entity

```
<cfproj>
  <cfprojid type="cfid__Type"/>
  <cfstartdate type="xsd:dateTime"/>
  <cfenddate type="xsd:dateTime"/>
  <cfacs type="xsd:string"/>
  <cfrui type="xsd:string"/>
  <cftitle type="cfmlstring__Type"/>
  <cfabstract type="cfmlstring__Type"/>
  <cfkeyw type="cfmlstring__Type"/>
  <cfproj_class type="cfcoreclasswithfraction__Type"/>
  <cfproj_fund/>  
  <cfproj_origdept/>
  <cfproj_pure/>
  <cfproj_price/>
  <cfproj_resfund/>
  <cfproj_resplan/>
  <cfproj_resplan/>
  <cfproj_visa/>
  <cfid type="cfid__Type"/>
</cfproj>
```
CfProj Listing

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfproj">http://host:port/cerif/cfproj</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>fetchSize</td>
</tr>
<tr>
<td></td>
<td>page</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfproj?page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/cerif/cfproj?page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

Response Entity

Diagram of the response entity structure with various properties and types.
The CfPers Resource allows you to fetch a specific CfPers by id, or a paged listing of all CfPers.

### CfPers By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a person by their ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>No</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfperse/">http://host:port/cerif/cfperse/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Sub Entities</td>
<td>cerif:cfPers_OrgUnit</td>
</tr>
<tr>
<td></td>
<td>cerif:cfProj_Pers</td>
</tr>
<tr>
<td></td>
<td>cerif:cfPersName_Pers</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfperse/4F786DD5-36BE-40D5-9152-8090E3D12F90">http://gtr.rcuk.ac.uk/cerif/cfperse/4F786DD5-36BE-40D5-9152-8090E3D12F90</a></td>
</tr>
</tbody>
</table>

### Response Entity

![Diagram of response entity structure]
CfPers Listing

Description | Retrieve all people
--- | ---
Paged? | YES
Base URL | http://host:port/cerif/cfpers
HTTP Method | GET
Request Parameters | fetchSize page
selectedSortOrder
selectedSortField
See Request Parameters Summary.
Example | http://gtr.rcuk.ac.uk/cerif/search/cfpers?term=moue&selectedFaces=&fetchSize=25&page=1&selectedSortableField=Relevance&selectedSortOrder=DESC

Response Entity
CFRESPUBL RESOURCE

The CFResPubl Resource allows you to fetch a specific CFResPubl by ID, or a paged listing of all CFResPubl.

<table>
<thead>
<tr>
<th>CFResPubl By ID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Paged?</strong></td>
</tr>
<tr>
<td><strong>Base URL</strong></td>
</tr>
<tr>
<td><strong>HTTP Method</strong></td>
</tr>
<tr>
<td><strong>Example</strong></td>
</tr>
</tbody>
</table>

**Response Entity**

[Diagram of response entity structure]

Page 32 of 50
**CfResPubl Listing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfrespubl">http://host:port/cerif/cfrespubl</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>fetchSize</td>
</tr>
<tr>
<td></td>
<td>page</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfrespubl?page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/cerif/cfrespubl?page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

**Response Entity**

- **CfResPubld**
  - Type: ctnu__Type
- **cResPubldDate**
  - Type: xs:dateTime
- **cRiNum**
  - Type: xs:string
- **cRiEdition**
  - Type: xs:string
- **cRiSsue**
  - Type: xs:string
- **cRiEndPage**
  - Type: xs:string
- **cRiRGN**
  - Type: xs:string
- **cRiISBN**
  - Type: xs:string
- **cRiURL**
  - Type: xs:string
- **cRiTitle**
  - Type: ctnuLangString__Type
- **cRiAbstract**
  - Type: ctnuLangString__Type
- **cRiKeywords**
  - Type: ctnuLangString__Type
- **cRiPMID**
  - Type: Identiifier
- **cRiPMID__Type**
- **cRefPubld**
  - Type: ctnu__Type
- **cRefPubldDate**
  - Type: xs:dateTime
- **cRefRiNum**
  - Type: xs:string
- **cRefRiEdition**
  - Type: xs:string
- **cRefSsue**
  - Type: xs:string
- **cRefEndPage**
  - Type: xs:string
- **cRefRGN**
  - Type: xs:string
- **cRefISBN**
  - Type: xs:string
- **cRefURL**
  - Type: xs:string
- **cRefTitle**
  - Type: ctnuLangString__Type
- **cRefAbstract**
  - Type: ctnuLangString__Type
- **cRefKeywords**
  - Type: ctnuLangString__Type
- **cRefPMID**
  - Type: Identiifier
- **cRefPMID__Type**
- **cRefId**
  - Type: ctnu__RefType
CFORGUNIT RESOURCE

The CfOrgUnit Resource and associated resources allows you to fetch a specific CfOrgUnit by id, or a paged listing of all CfOrgUnit.

**CfOrgUnit By ID**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a organisation by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cforgunit/">http://host:port/cerif/cforgunit/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cforgunit/46387D84-F71E-4B7D-8C7D-9C288F113510">http://gtr.rcuk.ac.uk/cerif/cforgunit/46387D84-F71E-4B7D-8C7D-9C288F113510</a></td>
</tr>
</tbody>
</table>

**Response Entity**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<cfOrgUnit>
  <cfOrgUnitId/>
  <cfName/>
  <cfKeyw/>
  <cfOrgUnit_Class/>
  <cfOrgUnit_ERO/>
  <cfOrgUnit_Fund/>
  <cfOrgUnit_OrgUnit/>
  <cfOrgUnit_Pidr/>
  <cfOrgUnit_MGas/>
  <cfOrgUnit_Meas/>
  <cfFcidl/>
</cfOrgUnit>
```
All CfFund for a CfOrgUnit By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all funds for an organisation (Note for GtR you can use this as a route from the Funder to all the project they fund via Grants, Studentships or fellowships)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cforgunit/">http://host:port/cerif/cforgunit/</a>&lt;id&gt;/cffund</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cforgunit/1291772D-DFCE-493A-AEE7-24F7EEAE0E9/cffund">http://gtr.rcuk.ac.uk/cerif/cforgunit/1291772D-DFCE-493A-AEE7-24F7EEAE0E9/cffund</a></td>
</tr>
</tbody>
</table>

Response Entity
All CfProj for a CfOrgUnit By ID

Description
Retrieve all projects for an organisation (In GtR you would use this to find out all the Projects for which an Organisation has a direct relationship)

Paged?
NO

Base URL
http://host:port/cerif/cforgunit/<id>/cfproj

HTTP Method
GET

Example
http://gtr.rcuk.ac.uk/cerif/cforgunit/46387D84-F71E-4B7D-8C7D-9C288F113510/cfproj

Response Entity

![Diagram of Response Entity](image-url)
CfOrgUnit Listing

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>YES</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cforgunit">http://host:port/cerif/cforgunit</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Request Parameters</td>
<td>fetchSize</td>
</tr>
<tr>
<td></td>
<td>page</td>
</tr>
<tr>
<td></td>
<td>See Request Parameters Summary.</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cforgunit?page=2&amp;fetchSize=25">http://gtr.rcuk.ac.uk/cerif/cforgunit?page=2&amp;fetchSize=25</a></td>
</tr>
</tbody>
</table>

Response Entity

![Diagram of CfOrgUnit Type]
CFCLASSSCHEME RESOURCE

The CfClassScheme Resource allows you to fetch a specific CfClassScheme by id, or all CfClassScheme.

### CfClassScheme By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a class scheme by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cherif/cfclassscheme/">http://host:port/cherif/cfclassscheme/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cherif/cfclassscheme/25D7298A-9B7C-492F-A3BF-30813BC4F88A">http://gtr.rcuk.ac.uk/cherif/cfclassscheme/25D7298A-9B7C-492F-A3BF-30813BC4F88A</a></td>
</tr>
</tbody>
</table>

### Response Entity
CfClassScheme Listing

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all class schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfclassscheme">http://host:port/cerif/cfclassscheme</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Response Entity</td>
<td>cerif:CErif/cerif:CfClassScheme</td>
</tr>
<tr>
<td>Sub Entities</td>
<td>cerif:cfClass</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfclassscheme">http://gtr.rcuk.ac.uk/cerif/cfclassscheme</a></td>
</tr>
</tbody>
</table>

Response Entity

![Diagram of CfClassScheme]
The CfClass Resource allows you to fetch a specific CfClass by id, or all CfClass.

**CfClass By ID**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a class scheme by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cefrif/cfclass/">http://host:port/cefrif/cfclass/</a>&lt;scheme_id&gt;/&lt;class_id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
</tbody>
</table>

**Response Entity**

```xml
<cfClass_Type>
  <cfClassid Type cfn_ulong_Type>
  <cfClassSchemeid Type cfn_ulong_Type>
  <cfStartDate Type xsd:dateTime>
  <cfEndDate Type xsd:dateTime>
  <cfURL Type xsd:string>
    <cfDescr Type cfnLangString_Type>
      <cfDescrSrc Type cfnLangString_Type>
      <cfTerm Type cfnLangString_Type>
      <cfRuleExpr Type cfnLangString_Type>
      <cfRuleExprOpo Type cfnLangString_Type>
      <cfTermSrc Type cfnLangString_Type>
      <cfDef Type cfnLangString_Type>
      <cfDefSrc Type cfnLangString_Type>
      <cfEx Type cfnLangString_Type>
      <cfExsrc Type cfnLangString_Type>
      <cfClass CELL Type cfnLangString_Type>
      <cfField CELL Type cfnField_Type>
  </cfDescr>
</cfURL>
</cfClass_Type>
```
**CfClass Listing**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve all class schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfclass">http://host:port/cerif/cfclass</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfclass">http://gtr.rcuk.ac.uk/cerif/cfclass</a></td>
</tr>
</tbody>
</table>

**Response Entity**

```
<cfClasssid
  Type: cfId__Type
<cfClassSchemeId
  Type: cfId__Type
<cfStartDate
  Type: xs:dateTime
<cfEndDate
  Type: xs:dateTime
<cfURI
  Type: xs:string
```

```
<cfClass__Type
  Type: cfClass__Type
<cfDescr
  Type: cNULangString__Type
<cfDescrSrc
  Type: cNULangString__Type
<cfTerm
  Type: cNULangString__Type
<cfRoleExpr
  Type: cNULangString__Type
<cfRoleExprCplp
  Type: cNULangString__Type
<cfTermSrc
  Type: cNULangString__Type
<cfDef
  Type: cNULangString__Type
<cfDefSrc
  Type: cNULangString__Type
<cfEx
  Type: cNULangString__Type
<cfExSrc
  Type: cNULangString__Type
<cfClass_Class
  Type: cfClass__Class
```
CFFUND RESOURCE

The CfFund Resource allows you to fetch a specific CfFund by id.

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a fund by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cefund/">http://host:port/cefund/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cefund/0DB56D1C-37A2-413E-B9A4-59619E0946D7">http://gtr.rcuk.ac.uk/cefund/0DB56D1C-37A2-413E-B9A4-59619E0946D7</a></td>
</tr>
</tbody>
</table>

Response Entity

```
<cfFund__Type>
  <cfFundId Type="cfID__Type"><id></id></cfFundId>
  <cfStartDate Type="xs:dateTime"><date></date></cfStartDate>
  <cfEndDate Type="xs:dateTime"><date></date></cfEndDate>
  <cfAcro Type="xs:string"><value></value></cfAcro>
  <cfAmount Type="cfAmount__Type"><currency></currency></cfAmount>
  <cfURI Type="xs:string"><url></url></cfURI>
  <cfName Type="cfMLangString__Type"><name></name></cfName>
  <cfDescr Type="cfMLangString__Type"><description></description></cfDescr>
  <cfFundClass Type="cfCoreClassWithFraction__Type"><class></class></cfFundClass>
  <cfOrgUnit Fund><orgunit></orgunit></cfOrgUnit>
  <cfProj Fund><project></project></cfProj>
```
CFMEAS RESOURCE

The CfMeas Resource allows you to fetch a specific CfMeas by id.

**CfMeas By ID**

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a measure by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfmeas/">http://host:port/cerif/cfmeas/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfmeas/E66625CD-0C95-44F2-8DE4-F82C98CB85E3">http://gtr.rcuk.ac.uk/cerif/cfmeas/E66625CD-0C95-44F2-8DE4-F82C98CB85E3</a></td>
</tr>
</tbody>
</table>

**Response Entity**

![Diagram of response entity structure]
The CFPAddr Resource allows you to fetch a specific CFPAddr by id.

### CFPAddr By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a physical address by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfpaddr/">http://host:port/cerif/cfpaddr/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfpaddr/001D03EE-97BD-4E74-8577-38293386BF84">http://gtr.rcuk.ac.uk/cerif/cfpaddr/001D03EE-97BD-4E74-8577-38293386BF84</a></td>
</tr>
</tbody>
</table>

### Response Entity

![Diagram of CFPAddr Resource](image-url)
CFRESPAT RESOURCE

The CfResPat Resource allows you to fetch a specific CfResPat by id.

### CfResPat By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a patent by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfrespatt/id%3E">http://host:port/cerif/cfrespatt/id&gt;</a></td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfrespatt/010066CE-3372-4D03-BEC8-9BEE1BC8BB75">http://gtr.rcuk.ac.uk/cerif/cfrespatt/010066CE-3372-4D03-BEC8-9BEE1BC8BB75</a></td>
</tr>
</tbody>
</table>

### Response Entity

```
<cfResPat id="id"

cfResPatType

  cfResPatId
    Type: cId_Type

  cfCountryCode
    Type: xs:string

  cfRegistrars
    Type: xs:base

  cfApprovDate
    Type: xs:date

  cfPatentNum
    Type: xs:string

  cfURL
    Type: xs:string

  cfTie
    Type: cMLLangString_Type

  cfAbs
    Type: cMLLangString_Type

  cfKeyw
    Type: cMLLangString_Type

  cfVersInfo
    Type: cMLLangString_Type

  cfProj_ResPat

  cfResPat_Cs
    Type: cCoreClassWithFraction_Type

  cfResPat_Nos
```
CFRESPROD RESOURCE

The CfResProd Resource allows you to fetch a specific CfResProd by id.

### CfResProd By ID

<table>
<thead>
<tr>
<th>Description</th>
<th>Retrieve a product by its ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paged?</td>
<td>NO</td>
</tr>
<tr>
<td>Base URL</td>
<td><a href="http://host:port/cerif/cfresprod/">http://host:port/cerif/cfresprod/</a>&lt;id&gt;</td>
</tr>
<tr>
<td>HTTP Method</td>
<td>GET</td>
</tr>
<tr>
<td>Response Entity</td>
<td>cerif:CERIF/cerif:CfResProf</td>
</tr>
<tr>
<td>Sub Entities</td>
<td>cerif:cfOrgUnit_ResProd</td>
</tr>
<tr>
<td></td>
<td>cerif:cfPers_ResProd</td>
</tr>
<tr>
<td></td>
<td>cerif:cfProj_ResProd</td>
</tr>
<tr>
<td></td>
<td>cerif:cfResProd_Meas</td>
</tr>
<tr>
<td>Example</td>
<td><a href="http://gtr.rcuk.ac.uk/cerif/cfresprod/0046B665-56BC-4E78-8224-B651D2D0C4EA">http://gtr.rcuk.ac.uk/cerif/cfresprod/0046B665-56BC-4E78-8224-B651D2D0C4EA</a></td>
</tr>
</tbody>
</table>

#### Response Entity

![Response Entity Diagram]

- cResProdId
  - Type: cfid__Type
- cURI
  - Type: xs:string
- cName
  - Type: cfMLangString__Type
- cDescr
  - Type: cfMLangString__Type
- cKeyw
  - Type: cfMLangString__Type
- cVersInfo
  - Type: cfMLangString__Type
- cProj_ResProd
  - Type: cfResProd_Meas
**FAILURE SCENARIOS**

Any requests that fail due to client or server errors will return a HTTP Status Code relevant to the type of error encountered.

The following errors are returned by the GtR application:

<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>Bad Request</td>
<td>The client provided invalid data or parameters</td>
</tr>
<tr>
<td>404</td>
<td>Not Found</td>
<td>The requested resource does not exist</td>
</tr>
<tr>
<td>500</td>
<td>Internal Server Error</td>
<td>An unexpected error has occurred on the server</td>
</tr>
</tbody>
</table>

Other HTTP Status Codes maybe returned, but are not specifically in use by the GtR application.

**Response Entity**

![Response Entity Diagram]
ABOUT SEARCHING

SEARCHING OVERVIEW

In this topic you can find out about how Search Terms work to help with custom searches and some help understanding how searching operates.

A Search term is a query that can be single or multiple words or phrases that may use operators (e.g. Wild Cards, Boolean Operators etc.) to perform simple or complex searches.

The Lucene tool is used to provide information retrieval services from the GtR database. Lucene enables complex searches known as queries.


SEARCH TERMS IN A NUTSHELL

The following table provides a summary of Lucene syntax and indicates which are implemented:

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Example Search</th>
<th>Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term</td>
<td>A single word.</td>
<td>Test</td>
<td>All documents containing test or “Test” or “TEST” or “TeST” etc.</td>
</tr>
<tr>
<td>Phrase</td>
<td>A set of terms.</td>
<td>test blood</td>
<td>All documents with “test” or “TEST” containing “blood” or “BLOOD” etc.</td>
</tr>
<tr>
<td>Quoted Phrase</td>
<td>A phrase enclosed with speech marks to indicate matching a phrase rather than the individual terms.</td>
<td>“Blood Test”</td>
<td>All documents containing the two words together</td>
</tr>
<tr>
<td>Case</td>
<td>Lucene is not case sensitive except Boolean terms (UPPER CASE).</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Not case sensitive.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wildcards *</td>
<td>? Single character wildcard</td>
<td>T?nt</td>
<td>All documents containing “Tent”, “tint”, “TNT” etc.</td>
</tr>
<tr>
<td>or ?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Multiple character wildcard</td>
<td>T*nt</td>
<td>All documents containing “Tent”, “tint”, “TNT”, “taint”, “taunt”, “talent” etc.</td>
</tr>
<tr>
<td>Field Searches</td>
<td>Not currently supported in GtR.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: You cannot use * or ? as the first character of a search.
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
<th>Example Search</th>
<th>Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuzzy Search</strong></td>
<td>Performs a likeness search for a single term. (Levenshtein Distance, or Edit Distance). For example, “<strong>term</strong>~&lt;similarity&gt;“ where “term” is the search string and (optional) similarity is a number between 0 and 1. The default value is 0.5 and the higher the number the nearer the returned items will be to the search term. See <a href="http://en.wikipedia.org/wiki/Fuzzy_search">http://en.wikipedia.org/wiki/Fuzzy_search</a>.</td>
<td>Test~0.8</td>
<td>Documents containing one or more words quite similar to “test”.</td>
</tr>
<tr>
<td><strong>Proximity Search</strong></td>
<td>Looks for terms within a certain number of words from each other. For example, “test blood” ~10 returns any instances of test and blood within 10 words of each other in a document.</td>
<td>“test blood”~10</td>
<td>Documents with “test” and “blood” within 10 words of each other.</td>
</tr>
<tr>
<td><strong>Range Search</strong></td>
<td>Not currently supported in GtR.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Boosting Terms</strong></td>
<td>You can provide a weighted relevance factor to a term or phrase using the caret character ^. The higher the boost value the more relevant the term or phrase is. Values are from greater than zero e.g. 0.1, 1, 10.</td>
<td>“test blood”^3</td>
<td>Documents related to “test blood” or “test sugar” with “test blood” matches given a higher priority.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Words are capitalised.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Boolean" /></td>
<td>These perform logic operations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OR</strong></td>
<td>returns documents where either terms/phrase exist. (OR is the default)</td>
<td>Test OR research</td>
<td>Returns documents containing either “test” or “research”.</td>
</tr>
<tr>
<td><strong>AND</strong></td>
<td>returns documents where both terms exist</td>
<td>Test AND “Blood Sugar”</td>
<td>Documents that contain both “test” and either “blood” or “sugar”.</td>
</tr>
<tr>
<td><strong>NOT</strong></td>
<td>excludes documents that contain the specified term/phrase.</td>
<td>“test AND blood” NOT</td>
<td>Documents that contain “test” and “blood” but does not return documents that contain “test” AND “sugar”.</td>
</tr>
<tr>
<td></td>
<td><strong>-</strong> returns documents that contain this term or phrase</td>
<td>+test blood</td>
<td>Returns all documents with test and these documents may contain blood.</td>
</tr>
<tr>
<td></td>
<td><strong>-</strong> excludes documents that contain this term or phrase.</td>
<td>“blood test” - “sugar test”</td>
<td>Returns documents that contain “blood test” but not “sugar”</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
<td>Example Search</td>
<td>Returns</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Grouping</strong></td>
<td>You can use parentheses to enclose terms or phrases</td>
<td>(blood or sugar or insulin) AND test</td>
<td>Returns documents that must contain results and either blood or sugar or insulin.</td>
</tr>
<tr>
<td><strong>Field Grouping</strong></td>
<td>Not currently supported in GtR.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Escape Characters</strong></td>
<td>These are used to include special characters such as + - &amp; &amp;</td>
<td></td>
<td>! ( ) [ ] ^ ~ * : \ in search terms and phrases.</td>
</tr>
</tbody>
</table>