

Graphite API Reference

INTRODUCTION

The API calls listed in this document describe a RESTful design to primary resources (starting with concept management) in Graphite with their respective HTTP request methods, GET, PUT, POST, DELETE, etc.

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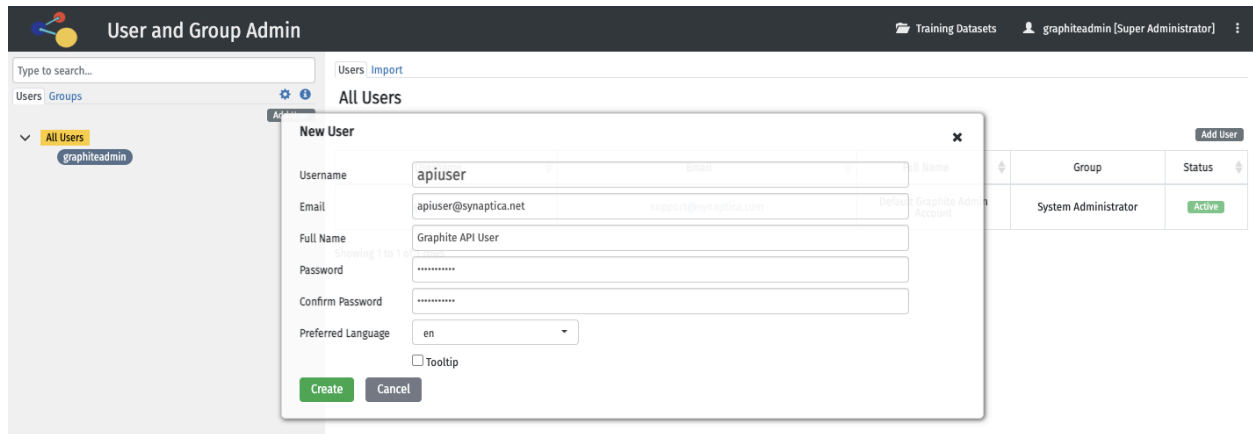
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1 Setting Up an API User in Graphite

Graphite user credentials are required to access the API. Log in as a Graphite administrator on the frontend application. Under *User and Group Admin*, click the *Add User* button to create a new user. Assign a secure password with sufficient length and entropy.

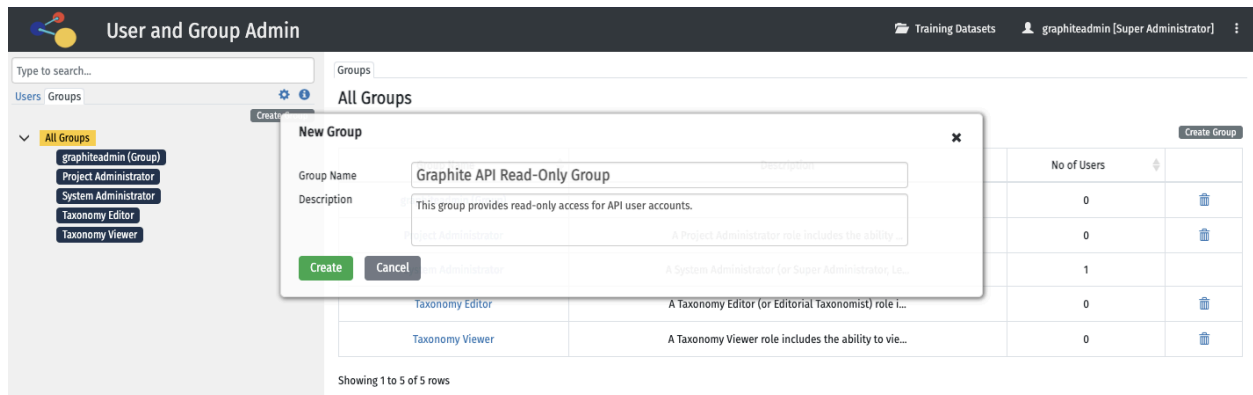


The screenshot shows the 'User and Group Admin' interface. The 'Users' tab is selected, and the 'All Users' table is visible. A 'New User' modal form is open, allowing the creation of a new user. The form fields are as follows:

Field	Value
Username	apiuser
Email	apiuser@synaptica.net
Full Name	Graphite API User
Password	*****
Confirm Password	*****
Preferred Language	en
Tooltip	☐

The 'Create' button is highlighted in green.

Once the new user is created, click the *Groups* tab, followed by the *Create Group* button, to create a new group and begin assigning access permissions.

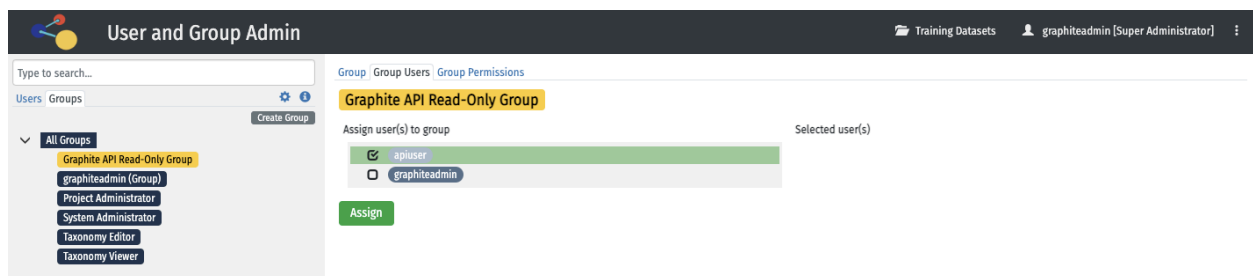


The screenshot shows the 'User and Group Admin' interface. The 'Groups' tab is selected, and the 'All Groups' table is visible. A 'New Group' modal form is open, allowing the creation of a new group. The form fields are as follows:

Field	Value
Group Name	Graphite API Read-Only Group
Description	This group provides read-only access for API user accounts.

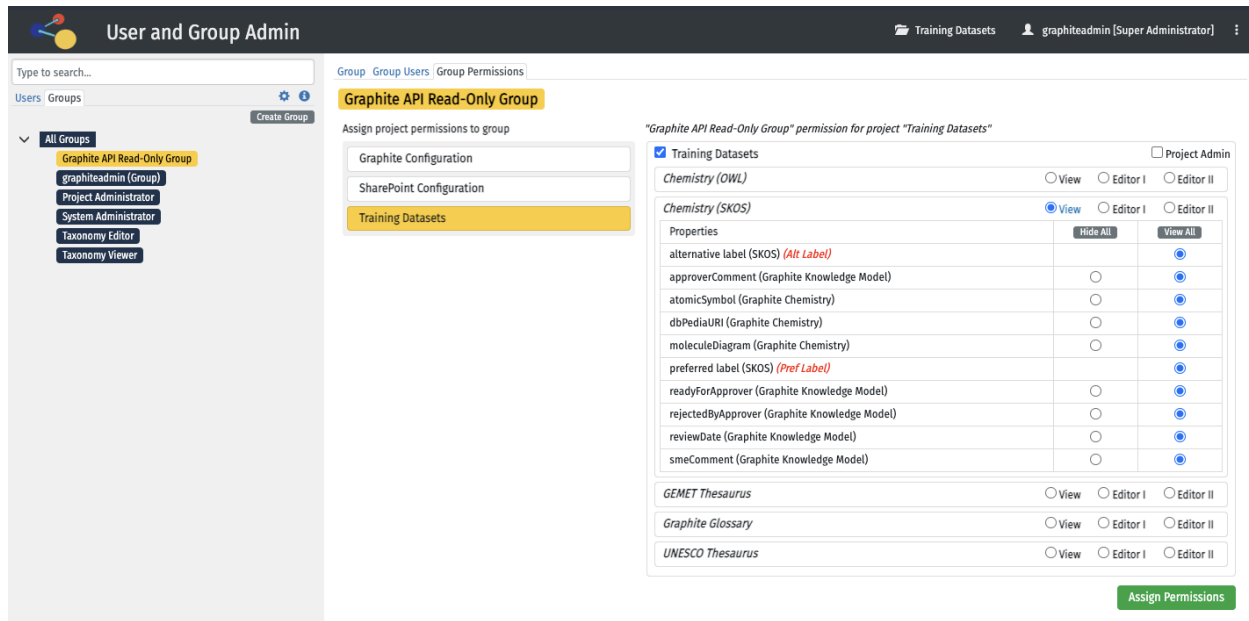
The 'Create' button is highlighted in green.

Under the *Group Users* tab, assign the API user to this group.



The screenshot shows the 'User and Group Admin' interface. The 'Groups' tab is selected, and the 'All Groups' table is visible. The 'Graphite API Read-Only Group' is selected. The 'Group Users' tab is active, showing the 'Assign user(s) to group' section. The 'apiuser' is selected, and the 'Assign' button is highlighted in green.

Click the *Group Permissions* tab and assign one or more projects to the newly created API group. In the example below, we assign read-only permissions to only one scheme, *Chemistry (SKOS)*, in the *Training Datasets* project.



The screenshot shows the 'User and Group Admin' interface. On the left, a sidebar lists groups, with 'Graphite API Read-Only Group' selected. The main area is titled 'Group Permissions' and shows the 'Assign project permissions to group' section. The 'Training Datasets' project is selected. Under the 'Training Datasets' section, the 'Chemistry (SKOS)' scheme is selected with 'View' permissions. Other schemes like 'Chemistry (OWL)', 'GEMET Thesaurus', 'Graphite Glossary', and 'UNESCO Thesaurus' are listed with 'View', 'Editor I', and 'Editor II' options. An 'Assign Permissions' button is at the bottom right.

1.1 Security Considerations

Graphite user accounts are created on the frontend application and assigned to user groups which define access permissions to the Graphite instance. For security reasons, user groups should be configured with minimum permissions settings required by the users assigned to those groups. Furthermore, the Graphite administrator should routinely recycle passwords and deactivate user accounts that are no longer required.

The Graphite REST API does not support single sign-on (SSO), even if SSO is configured as the login method for the front-end application. Therefore it is important that the REST endpoints only be exposed to authorized IP addresses. More information can be found in the security hardening guidelines section in *Graphite Installation and Administration Guide*.

If a user with SSO wishes to access the API using their own credentials, they can request a password by visiting:

<https://hostname/graphite/forgotPassword>

An email will be sent to the user with instructions to set a new password. Once the password is set, they can use it to authenticate with the API.

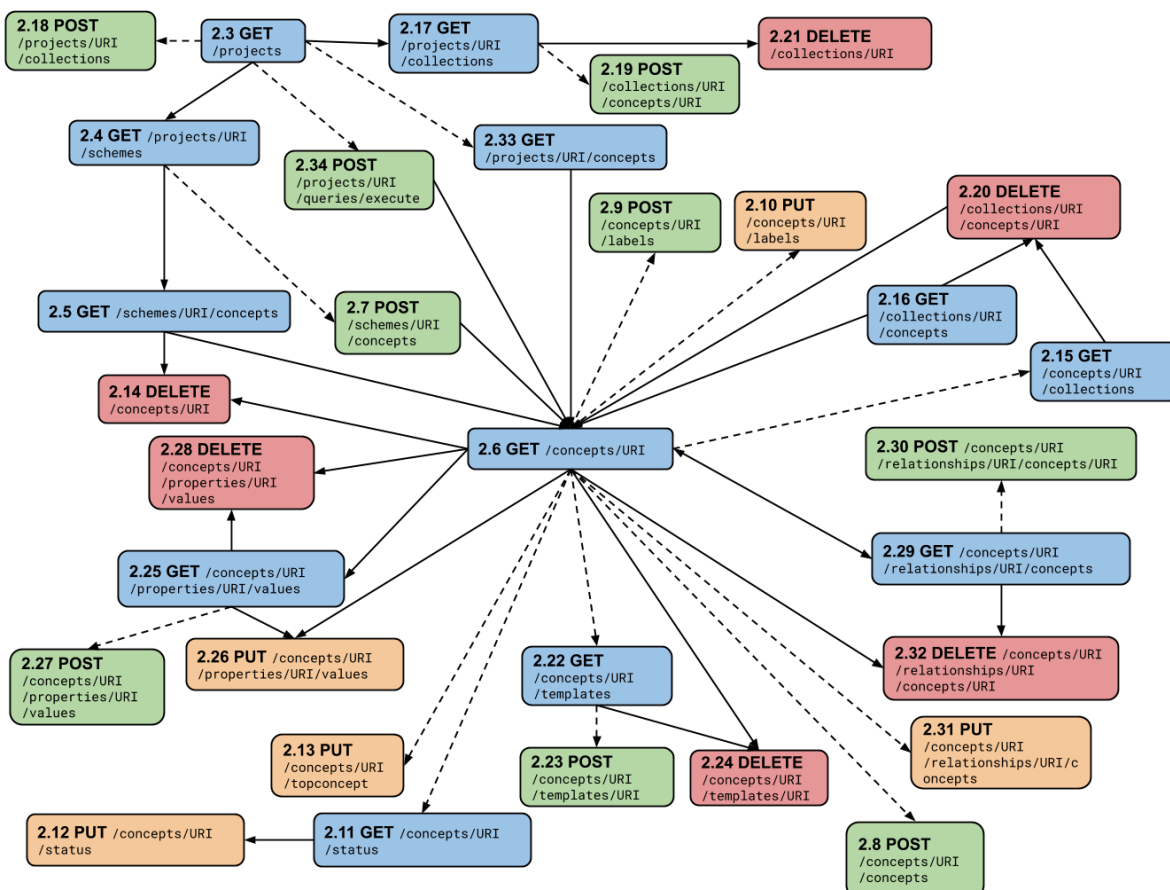
1.2 Testing API Connectivity

Obtain the URL of your Graphite instance, e.g. <https://demo.synaptica.net>, and API user credentials. We can test the setup with curl by making a call to retrieve all Graphite projects accessible by the user, *apiuser*.

```
curl -u apiuser:kXrG4QVzB26nandqJ4d -X GET https://demo.synaptica.net/rest/v2/projects
```

2 Graphite API with Hypermedia Linking (HATEOAS)

2.1 Graphite Concept Management



3 Graphite RESTful API Reference

3.1 Generic HTTP Response Status Codes

Status Code	Reason Phrase (Message)	Description
200	OK	Request is successfully carried out and the response body is not empty.
400	Bad Request	Malformed request. (Refer to the specific API call for the response message.)
401	Unauthorized	Invalid Graphite login credentials.
403	Forbidden	User does not have sufficient permissions for the resource requested.
404	Not Found	The resource does not exist.
405	Method Not Allowed	Request method is not supported for the requested resource.
500	Internal Server Error	Unexpected condition encountered on the server.

3.2 Error Response Body

JSON Response Structure
<pre>{ "error": { "code": "", "message": "", "description": "" } }</pre>

3.3 Get All Projects for a User

3.3.1 HTTP Request

Request Format

GET https://hostname/rest/v2/projects

Request Sample

```
curl -u username:password -X GET https://demo.synaptica.net/rest/v2/projects
```

3.3.2 Parameters

Parameter is not applicable to this method.

3.3.3 Request Body

Request body is not applicable to this method.

3.3.4 Response Body

JSON Response Structure

```
{
  "links": {
    "self": {
      "href": "/rest/version/projects",
      "method": "GET"
    }
  },
  "projects": [{
    "uri": string,
    "label": string,
    "isPublic": boolean,
    "links": {
      "getSchemes": {
        "href": "/rest/version/projects/encoded_project_uri/schemes",
        "method": "GET"
      },
      "getCollections": {
        "href": "/rest/version/projects/encoded_project_uri/collections",
        "method": "GET"
      }
    }
  }]
}
```

```

    }
  }
}
```

3.3.5 Response Body Description

JSON Property Name	Value	Description
links	object	Links of available actions on the schemes.
projects[]	array	The list of project objects under the user.
projects[].uri	string	The URI of the project.
projects[].label	string	The label of the project.
projects[].isPublic	boolean	Whether the project is a public project.
projects[].links	object	Links of available actions on the project.

3.4 Get All Schemes Under a Project

3.4.1 HTTP Request

Request Format

GET https://hostname/rest/v2/projects/**encoded_project_uri**/schemes

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fproje
ct%2Fjdfgi4vd3qw0d/schemes
```

3.4.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.
Optional query parameters		
edit	boolean	Filter the response based on whether the user has permission to edit a scheme.
showdescription	boolean	Show or hide the scheme description.

3.4.3 Request Body

Request body is not applicable to this method.

3.4.4 Response Body

JSON Response Structure

```
{
```

```

    "links": {
      "self": {
        "href": "/rest/version/project/encoded_project_uri/schemes",
        "method": "GET"
      }
    },
    schemes: [{
      "uri": string,
      "label": string,
      "description": string,
      "links": {
        "getConcepts": {
          "href": "/rest/version/schemes/encoded_scheme_uri/concepts",
          "method": "GET"
        }
      }
    }]
  }
}

```

3.4.5 Response Body Description

JSON Property Name	Value	Description
links	object	Links of available actions on the schemes.
schemes[]	array	The list of scheme objects in the project.
schemes[].uri	string	The URI of the scheme.
schemes[].label	string	The label of the scheme.
schemes[].links	object	Links of available actions on the scheme.

3.5 Get All Concepts Under a Scheme

3.5.1 HTTP Request

Request Format

GET https://hostname/rest/v2/schemes/**encoded_scheme_uri**/concepts

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/schemes/https%3A%2F%2Fdemo.synaptica.net%2Fconcept_scheme%2Fjeds32qegarr/concepts
```

3.5.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_scheme_uri	string	URL-encoded (percent-encoded) URI of the scheme.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.
total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to separate the calls between resources and total count.

expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding origin, status, collections, properties, relationships, lastUpdated, and propertyPaths for a concept. Refer to Appendices for the detailed syntax.
includeddeletedconcepts	boolean	To specify whether to include deleted concepts in the return list. The default value is false.

3.5.3 Request Body

Request body is not applicable to this method.

3.5.4 Response Body

JSON Response Structure

```
{
  "language": string,
  "limit": int,
  "offset": int,
  "size": int,
  "total": int,
  "links": {
    "self": {
      "href": "/rest/version/schemes/encoded_scheme_uri/concepts",
      "method": "GET"
    }
  },
  "concepts": [{
    "uri": string,
    "origin": string,
    "label": string,
    "links": {
      "get": {
        "href": "/rest/version/concepts/encoded_concept_uri",
        "method": "GET"
      },
      "delete": {
        "href": "/rest/version/concepts/encoded_concept_uri",
        "method": "DELETE"
      }
    }
  }]
}
```

3.5.5 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
links	object	Links of available actions on the concepts.
limit	int	The limit of the number of concepts to be returned.
offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested in the scheme.
concepts[]	array	The list of concept objects in the scheme.
concepts[].uri	string	URI of the concept.
concepts[].label	string	Label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].links	object	Links of available actions on the concept.

3.5.6 Error Response Message

Error Message	Description
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.
Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.

3.6 Get Details of a Concept by URI

3.6.1 HTTP Request

Request Format

GET https://hostname/rest/v2/concepts/*encoded_concept_uri*

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconce
pt%2Fjaurpn3o8prnj
```

3.6.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
project	string	A valid project URI. Object concepts are filtered based on the specified project.

3.6.3 Request Body

Request body is not applicable to this method.

3.6.4 Response Body

JSON Response Structure

```
{
  "uri": string,
  "origin": string,
  "scheme": string,
  "label": string,
  "language": string,
  "status": string,
  "isTopConcept": boolean,
  "createdBy": string,
  "createdAt": string,
  "modifiedBy": string,
  "modifiedAt": string,
  "links": {
    "self": {
      "href": "/rest/version/concepts/encoded_concept_uri",
      "method": "GET"
    },
    "delete": {
      "href": "/rest/version/concepts/encoded_concept_uri",
      "method": "DELETE"
    }
  },
  "labels": [{
    "label": string,
    "language": string
  }],
  "resourceTypes": [{
    "uri": string,
    "label": string
  }],
  "templates": [{
    "uri": string,
    "label": string,
    "links": {
      "delete": {
        "href":
"/rest/version/concepts/encoded_concept_uri/templates/encoded_template_uri",
        "method": "DELETE"
      }
    }
  }],
  "properties": [{
    "uri": string,
    "datatype": string,
    "label": string,
    "values": [],
    "links": {
      "getAll": {
        "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
        "method": "GET"
      }
    }
  }
}
```

```

    },
    "updateAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "PUT"
    },
    "deleteAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "DELETE"
    }
  }
},
"relationships": [{
  "uri": string,
  "label": string,
  "links": {
    "getAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/relationships/encoded_relationship_uri/co
ncepts ",
      "method": "GET"
    }
  },
  "concepts": [{
    "uri": string,
    "label": string,
    "links": {
      "get": {
        "href": "/rest/version/concepts/encoded_concept_uri",
        "method": "GET"
      },
      "unassign": {
        "href":
"/rest/version/concepts/encoded_concept_uri/relationships/encoded_relationship_uri/co
ncepts/encoded_concept_uri",
        "method": "DELETE"
      }
    }
  ]
}],
"collections": [{
  "uri": string,
  "label": string,
  "links": {
    "unassign": {
      "href":
"/rest/version/collections/encoded_collection_uri/concepts/encoded_concept_uri",
      "method": "DELETE"
    }
  }
}],
"propertyPaths": [{
  "label": string,
  "values": [
    {

```



```

    "relationshipUri": string,
    "objectUri": string,
    "objectLabel": string,
    "propertyUri": string,
    "datatype": string,
    "value": {
      "label": string,
      "language": string
    }
  },
  {
    "relationshipUri": string,
    "objectUri": string,
    "objectLabel": string,
    "propertyUri": string,
    "datatype": string,
    "value": varies
  }
}
  ]
}

```

3.6.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
origin	string	The Origin URI of the concept. Returns an empty string if there is no origin URI.
scheme	string	The URI of the scheme that the concept belongs to.
label	string	The RDFS label of the concept. Value of null indicates that the label for the language tag is unavailable.
language	string	Language of the labels in this JSON object.
status	string	The workflow status of the concept.
isTopConcept	boolean	Boolean indication of whether the concept is a top concept of its concept scheme.
createdBy	string	The user who created the concept.

createdAt	string	The time at which the concept was created.
modifiedBy	string	The user who last modified the concept.
modifiedAt	string	The most recent time that the concept was modified.
links	object	The list of Links of available actions on the concept.
labels[]	array	The list of label objects of the concept.
labels[].label	string	Label of the concept.
labels[].language	string	The language of the label.
resourceTypes[]	array	The list of resource Types objects that are assigned to the concept.
resourceTypes[].uri	string	The URI of the resource Type.
resourceTypes[].label	string	The label of the resource Type.
templates[]	array	The list of templates objects that are assigned to the concept.
templates[].uri	string	The URI of the template.
templates[].label	string	The label of the template.
templates[].links	object	Links of available actions on the template.
properties[]	array	The list of property objects of the concept.
properties[].uri	string	URI of the property of the concept.
properties[].datatype	string	Datatype URI of the property of the concept.
properties[].label	string	Label of the property of the concept.
properties[].values[]	array	The list of values of the property of the concept. The possible values of item in the array are boolean, number (including integer and float), and string (for string, date, time, dateTime and URI). Refer to Appendices for the sample response body structure.
properties[].links	object	Links of available actions on the property of the concept.
relationships[]	array	The list of relationship objects for the concept.

relationships[].uri	string	URI of the relationship of the concept.
relationships[].label	string	Label of the relationship of the concept.
relationships[].links	object	Links of available actions on the relationship of the concept.
relationships[].concepts[]	array	The list of concept objects under this relationship.
relationships[].concepts[].uri	string	URI of the concept under the relationship.
relationships[].concepts[].label	string	Label of the concept under the relationship. Value of null indicates that the label for the language tag is unavailable.
relationships[].concepts[].links	object	Links of available actions on the concept under the relationship.
collections[]	array	The list of collection objects assigned to a concept.
collections[].uri	string	URI of the collection.
collections[].label	string	Label of the collection.
collections[].links	object	Links of available actions on the collection.
propertyPaths[]	array	The list of property paths of the concept.
propertyPaths[].label	string	The label of the property path.
propertyPaths[].values[]	array	The list of flattened property path value objects.
propertyPaths[].values[].relationshipUri	String	The URI of the relationship under the property path of the value.
propertyPaths[].values[].objectUri	String	The URI of the object under the relationship of the property path of the value.
propertyPaths[].values[].objectLabel	String	The label of the object under the relationship of the property path of the value. The label will only show when the display language is available.
propertyPaths[].values[].propertyUri	String	The URI of the property under the object that is directly connected to the property path value.
propertyPaths[].values[].datatype	String	The datatype URI of the property path value.

propertyPaths[].values[].value[]	varies	One of the values of the property path. The possible types of value are boolean, number (including integer and float), and string (for string, date, time, dateTime and URI). Samples of different formats of values: Boolean: {"value": [true]} Integer: {"value": [1, 2, 3]} Float: {"value": [1.01, 2.02, 3.03]} DateTime: {"value": ["2018-01-31T12:44:00+00:00"]} Date: {"value": ["2018-01-31"]} Time: {"value": ["12:44:00+00:00"]} Any URI: {"value": ["https://www.sample.com"]} String: {"value": [{"value": "string_in_en", "language": "en"}]} XML Literal: {"value": ["<?xml version='1.0'>\r\n<catalog>\r\n <book id='bk101'>\r\n<author>Gambardella, Matthew</author>\r\n<title>XML Developer's Guide</title>\r\n<genre>Computer</genre>\r\n<price>44.95</price>\r\n<publish_date>2000-10-01</publish_date>\r\n <description>An in-depth look at creating applications with XML.</description>\r\n</book>\r\n</catalog>"]}]}
--	---------------	---

3.7 Create a Top Concept Under a Concept Scheme

3.7.1 HTTP Request

Request Format

POST https://hostname/rest/v2/schemes/**encoded_scheme_uri**/concepts

Request Sample

```
curl -H "Content-Type:application/json" -u username:password -X POST -d '{
  "labels":[{"value":"the concept label","language":"en"}],
  "templates":["https://demo.synaptica.net/templates/jb3bsqba8otj9s"],
  "resourceTypes":["http://www.w3.org/2004/02/skos/core#Concept"],
  "uri":"https://demo.synaptica.net/6dfcf527-1b21-eb53-0df1-177e853be935",
  "properties": [
    {"uri":"https://demo.synaptica.net/core#string","values":[{"value":"String
insert from API","language":"en"}] },
    {"uri":"https://demo.synaptica.net/core#boolean","values":[true]},
    {"uri":"https://demo.synaptica.net/core#integer","values":[2345]},
    {"uri":"https://demo.synaptica.net/core#date","values":["2018-04-01"]},
    {"uri":"https://demo.synaptica.net/core#xml-literal","values":["<?xml
version='1.0'>\r\n<catalog>\r\n  <book id='bk101'>\r\n
<author>Gambardella, Matthew</author>\r\n    <title>XML Developer's
Guide</title>\r\n    <genre>Computer</genre>\r\n    <price>44.95</price>\r\n
<publish_date>2000-10-01</publish_date>\r\n    <description>An in-depth look at
creating applications with XML.</description>\r\n  </book>\r\n</catalog>"]}]
  ],
  "relationships": [
    {"uri":"https://demo.synaptica.net/core#relation-a",
      "concepts":[
        {"uri":"https://demo.synaptica.net/concept#c7b24cdf-7aa2-808e-1db1-47d0007f761e"},
        {"uri":"https://demo.synaptica.net/concept#5409f33f-9934-d86b-f75c-871550ad5b2b"}
      ]
    },
    {"uri":"https://demo.synaptica.net/core#relation-c",
      "concepts":[
        {"uri":"https://demo.synaptica.net/concept#5409f33f-9934-d86b-f75c-871550ad5b2b"}
      ]
    }
  ],
  "status": "Published",
  "collections": [{"uri":
"https://demo.synaptica.net/collections#f77ae237d00b75045b467181eb29b354"}]}
```

```
}'  
https://demo.synaptica.net/rest/v2/schemes/https%3A%2F%2Fdemo.synaptica.net%2Fconcept_scheme%2Fjb3boxi55p9ty/concepts
```

3.7.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_scheme_uri	string	URL-encoded (percent-encoded) URI of the scheme.

3.7.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
labels[]	array	The list of label objects of the new concept.
labels[].value	string	Label of the concept.
labels[].language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
Optional properties		
resourceTypes	array	A list of resource types URIs to be assigned to the concept.
templates	array	A list of template URIs to be assigned to the concept.
uri	string	Custom URI for the new concept. Special characters <, >, ', ", ^, {, }, are not supported. URIs without http or https are not supported (e.g. file://demo.synaptica.net/xyz, ftp://demo.synaptica.net/xyz, www.demo.synaptica.net/xyz are not supported).
properties[]	array	The list of property objects of the concept.
properties[].uri	string	URI of the property of the concept.
properties[].values[]	array	The list of values of the property of the concept. The possible values of items in the array are boolean, number

		(including integer and float), and string (for string, date, time, dateTime, URI and XML Literal).
relationships[]	array	The list of relationship objects for the concept.
relationships[].uri	string	URI of the relationship of the concept.
relationships[].concepts[]	array	The list of concept objects under this relationship.
relationships[].concepts[].uri	string	URI of the concept under the relationship.
status	string	The workflow status of the concept.
collections[]	array	The list of collection objects for the concept.
collections[].uri	string	URI of the collection.

3.7.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }</pre>

3.7.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	The list of Links of available actions on the concept.

3.7.6 Error Response Message

Error Message	Description
URI not Unique	The URI provided already exists in the Graphite instance.

Malformed URI	The URI provided is an invalid URI.
Duplicate Labels	Labels were not unique in the scheme.
Invalid Labels	The request body property "labels" must be provided. / The request body property "labels" must be in array format. / Labels cannot be blank or contain only whitespace character. /
Cardinality Violation	The number of values of the preferred label does not fulfil minimum and maximum cardinality constraints.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Invalid Resource Type Assignment	Unsupported resource types. / Duplication in resource types. / The request body property "resourceTypes" must be in array format.
Invalid Template Assignment	The templates provided are not permitted. / The request body property "templates" must be in array format.
Status not Supported	The status provided is not a valid status for the concept. Currently supported status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn".
Invalid Status	Status cannot be blank.
Invalid Properties	The properties provided are not permitted. / The request body property "properties" must be in array format. / Expecting template(s) / The request body property "properties[].values[]" cannot be empty. / The request body property "properties[].values" must be in array format. / The request body property "properties[].values" must be present. / The request body property "properties[].uri" must be a URI. / The request body property "properties[].uri" cannot be empty.
Invalid Values	Values cannot be blank or contain only whitespace character.
Invalid Datatype Format	Invalid data format was provided or the data were not matching the data type of the property.
Invalid Relationships	The relationships provided are not permitted. / The request body property "relationships" must be in array format. / The request body property "relationships[].uri" must be a URI. / The request body property "relationships[].uri" cannot be empty. / The request body property "relationships[].concepts[]" must be in array format. / The request body property "relationships[].concepts[]" must be present. / The request body property "relationships[].concepts[].uri" must be a URI. / The request body property "relationships[].concepts[].uri" cannot be empty.
Invalid Collection Assignment	The request body property "collections[].uri" must be a URI.

Invalid CIDER Endpoint	Invalid response or error returned from external endpoint. Unable to retrieve ID for concept.
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.8 Create a Concept Under a Concept

3.8.1 HTTP Request

Request Format

POST https://hostname/rest/v2/concepts/**encoded_concept_uri**/concepts

Request Sample

```
curl -H "Content-Type:application/json" -u username:password -X POST -d '{
  "labels":[{"value":"the concept label","language":"en"}],
  "resourceTypes":["http://www.w3.org/2004/02/skos/core#Concept"],
  "templates":["https://demo.synaptica.net/templates/jb3bsqba8otj9s"],
  "hierarchies":["http://www.w3.org/2004/02/skos/core#broader"],
  "uri":"https://demo.synaptica.net/6dfcf527-1b21-eb53-0df1-177e853be935",
  "properties": [
    {"uri":"https://demo.synaptica.net/core#string","values":[{"value":"String
insert from API","language":"en"}] },
    {"uri":"https://demo.synaptica.net/core#boolean","values":[true]},
    {"uri":"https://demo.synaptica.net/core#integer","values":[2345]},
    {"uri":"https://demo.synaptica.net/core#date","values":["2018-04-01"]},
    {"uri":"https://demo.synaptica.net/core#xml-literal","values":["<?xml
version='1.0'>\r\n<catalog>\r\n  <book id='bk101'>\r\n
<author>Gambardella, Matthew</author>\r\n    <title>XML Developer's
Guide</title>\r\n    <genre>Computer</genre>\r\n    <price>44.95</price>\r\n
<publish_date>2000-10-01</publish_date>\r\n    <description>An in-depth look at
creating applications with XML.</description>\r\n  </book>\r\n</catalog>"]}]
  ],
  "relationships": [
    {"uri":"https://demo.synaptica.net/core#relation-a",
     "concepts":[
      {"uri":"https://demo.synaptica.net/concept#c7b24cdf-7aa2-808e-1db1-47d0007f761e"},
      {"uri":"https://demo.synaptica.net/concept#5409f33f-9934-d86b-f75c-871550ad5b2b"}
    ]
    },
    {"uri":"https://demo.synaptica.net/core#relation-c",
     "concepts":[
      {"uri":"https://demo.synaptica.net/concept#5409f33f-9934-d86b-f75c-871550ad5b2b"}
    ]
    },
    {"status": "Published",
     "collections": [{"uri":
"https://demo.synaptica.net/collections#f77ae237d00b75045b467181eb29b354"}]}
```

```
}'  
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconc  
ept_scheme%2Fjb3bxoi55p9ty/concepts
```

3.8.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.8.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
labels[]	array	The list of label objects of the new concept.
labels[].value	string	Label of the concept.
labels[].language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
hierarchies[]	array	A list of hierarchical relationship URIs.
Optional properties		
resourceTypes	array	A list of resource type URIs to be assigned to the concept.
templates	array	A list of template URIs to be assigned to the concept.
uri	string	Custom URI for the new concept. Special characters <, >, ', ", ^, {, }, are not supported. URIs without http or https are not supported (e.g. file://demo.synaptica.net/xyz, ftp://demo.synaptica.net/xyz, www.demo.synaptica.net/xyz are not supported).
properties[]	array	The list of property objects of the concept.
properties[].uri	string	URI of the property of the concept.
properties[].values []	array	The list of values of the property of the concept. The possible values of item in the array are boolean, number (including integer and float), and string (for string, date,

		time, dateTime, URI and XML Literal).
relationships[]	array	The list of relationship objects for the concept.
relationships[].uri	string	URI of the relationship of the concept.
relationships[].concepts[]	array	The list of concept objects under this relationship.
relationships[].concepts[].uri	string	URI of the concept under the relationship.
status	string	The workflow status of the concept.
collections[]	array	The list of collection objects for the concept.
collections[].uri	string	URI of the collection.

3.8.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }</pre>

3.8.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	The list of Links of available actions on the concept.

3.8.6 Error Response Message

Error Message	Description
URI not Unique	The URI provided already exists in the Graphite instance.
Malformed URI	The URI provided is an invalid URI.

Duplicate Labels	Labels were not unique in the scheme.
Invalid Labels	The request body property "labels" must be provided. / The request body property "labels" must be in array format. / Labels cannot be blank or contain only whitespace character. /
Invalid Hierarchies Assignment	The request body property "hierarchies" must be provided. / The request body property "hierarchies" must be in array format. / The hierarchies provided are not permitted.
Cardinality Violation	The number of values of the preferred label does not fulfil minimum and maximum cardinality constraints.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Invalid Resource Type Assignment	Unsupported resource types. / Duplication in resource types. / The request body property "resourceTypes" must be in array format.
Invalid Template Assignment	The templates provided are not permitted. / The request body property "templates" must be in array format.
Status not Supported	The status provided is not a valid status for the concept. Currently supported status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn".
Invalid Status	Status cannot be blank.
Invalid Properties	The properties provided are not permitted. / The request body property "properties" must be in array format. / Expecting template(s) / The request body property "properties[].values[]" cannot be empty. / The request body property "properties[].values" must be in array format. / The request body property "properties[].values" must be present. / The request body property "properties[].uri" must be a URI. / The request body property "properties[].uri" cannot be empty.
Invalid Values	Values cannot be blank or contain only whitespace character.
Invalid Datatype Format	Invalid data format was provided or the data were not matching the data type of the property.
Invalid Relationships	The relationships provided are not permitted. / The request body property "relationships" must be in array format. / The request body property "relationships[].uri" must be a URI. / The request body property "relationships[].uri" cannot be empty. / The request body property "relationships[].concepts[]" must be in array format. / The request body property "relationships[].concepts[]" must be present. / The request body property "relationships[].concepts[].uri" must be a URI. / The request body property "relationships[].concepts[].uri" cannot be empty.
Invalid Collection	The request body property "collections[].uri" must be URI.

Assignment	
Invalid CIDER Endpoint	Invalid response or error returned from external endpoint. Unable to retrieve ID for concept.
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.9 Append Concept Labels

3.9.1 HTTP Request

Request Format

POST https://hostname/rest/v2/concepts/**encoded_concept_uri**/labels

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X POST -d
'{"labels":[{"value": "label in en", "language": "en"},
{"value": "label in zh", "language": "zh"}]}'
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconce
pt%2Fjaurpn3o8prnj/labels
```

3.9.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.9.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
labels[]	array	The list of label objects of the new concept.
labels[].value	string	Label of the concept.
labels[].language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .

3.9.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }</pre>

3.9.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	Links of available actions on the concept.

3.9.6 Error Response Message

Error Message	Description
Duplicate Labels	Labels were not unique in the scheme.
Invalid Labels	The request body property "labels" must be provided. / The request body property "labels" must be in array format. / Labels cannot be blank or contain only whitespace character. /
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Cardinality Violation	The number of values of the preferred label does not fulfil minimum and maximum cardinality constraints.
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

Note: This API call appends a label in the language specified. If a label in that language already exists, a cardinality violation error is returned.

3.10 Replace the Labels of a Concept

3.10.1 HTTP Request

Request Format

PUT https://hostname/rest/v2/concepts/**encoded_concept_uri**/labels

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X PUT -d
'{"labels":[{"value": "label in en", "language": "en"},
{"value": "label in zh", "language": "zh"}]}'
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurnp3o8prnj/labels
```

3.10.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.10.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
labels[]	array	The list of label objects of the new concept.
labels[].value	string	Label of the concept.
labels[].language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the

		Appendices.
--	--	-----------------------------

3.10.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }</pre>

3.10.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	Links of available actions on the concept.

3.10.6 Error Response Message

Error Message	Description
Duplicate Labels	Labels were not unique in the scheme.
Invalid Labels	The request body property "labels" must be provided. / The request body property "labels" must be in array format. / Labels cannot be blank or contain only whitespace character. /
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

Note: This API call replaces only labels of the language specified. It does not remove labels in other languages.

3.11 Get the Workflow Status of a Concept

3.11.1 HTTP Request

Request Format

GET https://hostname/rest/v2/concepts/**encoded_concept_uri**/status

Request Sample

```
Curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurnpn3o8prnj/status
```

3.11.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.11.3 Request Body

Request body is not applicable to this method.

3.11.4 Response Body

JSON Response Structure

```
{
  "uri": string,
  "status": string,
  "links": {
    "self": {
      "href": "/rest/version/concepts/encoded_concept_uri/status",
      "method": "GET"
    },
    "update": {
      "href": "/rest/version/concepts/encoded_concept_uri/status",
      "method": "PUT"
    }
  }
}
```

```
}  
  }  
}
```

3.11.5 Response Body Description

JSON Property Name	Value	Description
uri	string	The URI of a concept.
status	string	Workflow status of a concept.
links	object	Links of available actions on the workflow status of a concept.

3.12 Replace the Workflow Status of a Concept

3.12.1 HTTP Request

Request Format

PUT https://hostname/rest/v2/concepts/**encoded_concept_uri**/status

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X PUT -d '{"status": "Approved"}' https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/status
```

3.12.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.12.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
status	string	Workflow status of the concept. Valid status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn". Note: Workflow status is case-insensitive.

3.12.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }</pre>

3.12.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	Links of available actions on the concept.

3.12.6 Error Response Message

Error Message	Description
Status not Supported	The status provided is not a valid status for the concept. Currently supported status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn".
Invalid Status	The request body property "status" must be provided. / Status cannot be blank.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.13 Replace the Top Concept Status of a Concept

3.13.1 HTTP Request

Request Format

PUT https://hostname/rest/v2/concepts/**encoded_concept_uri**/topconcept

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X PUT -d
'{"isTopConcept": false}'
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconce
pt%2Fjaurpn3o8prnj/topconcept
```

3.13.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.13.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
isTopConcept	boolean	Boolean indicator of whether the concept is a top concept of its concept scheme.

3.13.4 Response Body

JSON Response Structure

```
{
  "uri": string,
  "links": {
```

```

    "self": {
      "href": "/rest/version/concepts/encoded_concept_uri",
      "method": "GET"
    }
  }
}

```

3.13.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the concept.
links	object	Links of available actions on the concept.

3.13.6 Error Response Message

Error Message	Description
No Broader Relationship	The top concept cannot be unassigned as non-top concept as there are no parent/broader relationship established on the concept.
Invalid Top Concept Status	The top concept status is not supporting value other than boolean. / The request body property "isTopConcept" must be provided
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.14 Delete a Concept by URI

3.14.1 HTTP Request

Request Format

DELETE https://hostname/rest/v2/concepts/*encoded_concept_uri*

Request Sample

```
curl -u username:password -X DELETE  
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconc  
ept%2Fjaurpn3o8prnj
```

3.14.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.14.3 Request Body

Request body is not applicable for this method.

3.14.4 Response Body

An empty response body will be returned if successful.

3.14.5 Error Response Message

Error Message	Description
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.15 Get All Collections Assigned to a Concept

3.15.1 HTTP Request

Request Format

GET https://hostname/rest/v2/concepts/**encoded_concept_uri**/collections

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurnp3o8prnj/collections
```

3.15.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.15.3 Request Body

Request body is not applicable to this method.

3.15.4 Response Body

JSON Response Structure

```
{
  "links": {
    "self": {
      "href": "/rest/version/concepts/encoded_concept_uri/collections",
      "method": "GET"
    }
  },
  "collections": [{
    "uri": string,
    "label": string,
    "links": {
```

```
        "unassign": {
          "href":
"/rest/version/collections/encoded_collection_uri/concepts/encoded_concept_uri",
          "method": "DELETE"
        }
      }
    }
  }
}
```

3.15.5 Response Body Description

JSON Property Name	Value	Description
links	object	Links of available actions on the collection.
collections[]	array	The list of collection objects assigned to a concept.
collections[].uri	string	URI of the collection.
collections[].label	string	Label of the collection.
collections[].links	object	Links of available actions on the collection.

3.16 Get All Concepts Under a Collection

3.16.1 HTTP Request

Request Format

GET https://hostname/rest/v2/collections/**encoded_collection_uri**/concepts

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/collections/https%3A%2F%2Fdemo.synaptica.net%2Fcollection%2Fjerw8qbt42mh2/concepts
```

3.16.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_collection_uri	string	URL-encoded (percent-encoded) URI of the collection.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.
total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to

		separate the calls between resources and total count.
expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding origin, status, scheme, properties, relationships, and lastUpdated for a concept. Refer to Appendices for the detailed syntax.

3.16.3 Request Body

Request body is not applicable to this method.

3.16.4 Response Body

JSON Response Structure

```
{
  "language": string,
  "limit": int,
  "offset": int,
  "size": int,
  "total": int,
  "links": {
    "self": {
      "href": "/rest/version/collections/encoded_collection_uri/concepts",
      "method": "GET"
    }
  },
  "concepts": [{
    "uri": string,
    "origin": string,
    "label": string,
    "links": {
      "get": {
        "href": "/rest/version/concepts/encoded_concept_uri",
        "method": "GET"
      },
      "unassign": {
        "href":
"/rest/version/collections/encoded_collection_uri/concepts/encoded_concept_uri",
        "method": "DELETE"
      }
    }
  }]
}
```

3.16.5 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
links	object	Links of available actions on the concepts.
limit	int	The limit of the number of concepts to be returned. The default value is 1000.
offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested in the collection.
concepts[]	array	List of concept objects in the collection.
concepts[].uri	string	URI of the concept.
concepts[].label	string	Label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].links	object	Links of available actions on the concept.

3.16.6 Error Response Message

Error Message	Description
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.
Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.

3.17 Get a List of Collections Under a Project

3.17.1 HTTP Request

Request Format

GET https://hostname/rest/v2/projects/**encoded_project_uri**/collections

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fprojec
t%2Fjdfgi4vd3qw0d/collections
```

3.17.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.

3.17.3 Request Body

Request body is not applicable to this method.

3.17.4 Response Body

JSON Response Structure

```
{
  "links": {
    "self": {
      "href": "/rest/version/projects/encoded_project_uri/collections",
      "method": "GET"
    }
  },
  "collections": [{
    "uri": string,
    "label": string,
    "links": {
```

```
        "delete": {
          "href": "/rest/version/collections/encoded_collection_uri",
          "method": "DELETE"
        }
      }
    }
  }
}
```

3.17.5 Response Body Description

JSON Property Name	Value	Description
links	object	Links of available actions on the collection.
collections[]	array	List of collection objects under the project.
collections[].uri	string	URI of the collection.
collections[].label	string	Label of the collection.
collections[].links	object	Links of available actions on the collection.

3.18 Create a New Collection Under a Project

3.18.1 HTTP Request

Request Format

POST https://hostname/rest/v2/projects/**encoded_project_uri**/collections

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X POST -d
'{"label": "new collection label"}'
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fprojec
t%2Fjdfgi4vd3qw0d/collections
```

3.18.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.

3.18.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
label	string	Label of the new collection.

3.18.4 Response Body

JSON Response Structure

```
{
  "uri": string
}
```

3.18.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the collection.

3.18.6 Error Response Message

Error Message	Description
Duplicate Label	Label of the new collection is not unique under the project.
Invalid Label	The label cannot be empty. / The request body property "label" must be provided.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.19 Assign a Concept Under a Collection

3.19.1 HTTP Request

Request Format

POST

`https://hostname/rest/v2/collections/encoded_collection_uri/concepts/encoded_concept_uri`

Request Sample

```
curl -u username:password -X POST
https://demo.synaptica.net/rest/v2/collections/https%3A%2F%2Fdemo.synaptica.net%2Fcollection%2Fjerw8qbt42mh2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurn3o8prnj
```

3.19.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_collection_uri	string	URL-encoded (percent-encoded) URI of the collection.
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept to be assigned into the collection.

3.19.3 Request Body

Request body is not applicable to this method.

3.19.4 Response Body

An empty response body will be returned if successful.

3.20 Remove a Concept from a Collection

3.20.1 HTTP Request

Request Format

DELETE

`https://hostname/rest/v2/collections/encoded_collection_uri/concepts/encoded_concept_uri`

Request Sample

```
curl -u username:password -X DELETE
https://demo.synaptica.net/rest/v2/collections/https%3A%2F%2Fdemo.synaptica.net%2Fcollection%2Fjerw8qbt42mh2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurn3o8prnj
```

3.20.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_collection_uri	string	URL-encoded (percent-encoded) URI of the collection.
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.20.3 Request Body

Request body is not applicable to this method.

3.20.4 Response Body

An empty response body will be returned if successful.

3.21 Delete an Existing Collection

3.21.1 HTTP Request

Request Format

DELETE https://hostname/rest/v2/collections/*encoded_collection_uri*

Request Sample

```
curl -u username:password -X DELETE  
https://demo.synaptica.net/rest/v2/collections/https%3A%2F%2Fdemo.synaptica.net%2Fcollection%2Fjerw8qbt42mh2
```

3.21.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_collection_uri	string	URL-encoded (percent-encoded) URI of the collection.

3.21.3 Request Body

Request body is not applicable to this method.

3.21.4 Response Body

An empty response body will be returned if successful.

3.22 Get All Templates of a Concept

3.22.1 HTTP Request

Request Format

GET https://hostname/rest/v2/concepts/**encoded_concept_uri**/templates

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/templates
```

3.22.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.

3.22.3 Request Body (JSON)

Request body is not applicable to this method.

3.22.4 Response Body

JSON Response Structure

```
{
  "links": {
    "self": {
      "href": "/rest/version/concepts/encoded_concept_uri/templates",
      "method": "GET"
    }
  },
  "templates": [{
    "uri": string,
    "label": string,
    "links": {
      "unassign": {
        "href":
"/rest/version/concepts/encoded_concept_uri/templates/encoded_template_uri",
```

```

    "method": "DELETE"
  }
}
}

```

3.22.5 Response Body Description

JSON Property Name	Value	Description
templates[].uri	string	URI of a template.
templates[].label	string	Label of a template.
links	object	Links of available actions on get all templates of a concept.

3.23 Assign a Template to a Concept

3.23.1 HTTP Request

Request Format

POST

`https://hostname/rest/v2/concepts/encoded_concept_uri/templates/encoded_template_uri`

Request Sample

```
curl -u username:password -X POST
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/templates/https%3A%2F%2Fdemo.synaptica.net%2Ftemplates%2Fjb3bsqba8otj9s
```

3.23.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_template_uri	array	URL-encoded (percent-encoded) URI of the template to assign to the concept.

3.23.3 Request Body (JSON)

Request body is not applicable to this method.

3.23.4 Response Body

An empty response body will be returned if successful.

3.23.5 Error Response Message

Error Message	Description
Invalid Template Assignment	The template is valid but it is not assigned to the scheme of the concept. / The template already has been assigned to the concept.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.24 Delete a Template Assignment on a Concept

3.24.1 HTTP Request

Request Format

DELETE

`https://hostname/rest/v2/concepts/encoded_concept_uri/templates/encoded_template_uri`

Request Sample

```
curl -u username:password -X DELETE
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/templates/https%3A%2F%2Fdemo.synaptica.net%2Ftemplates%2Fjb3bsqba8otj9s
```

3.24.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_template_uri	string	URL-encoded (percent-encoded) URI of the template.

3.24.3 Request Body

Request body is not applicable for this method.

3.24.4 Response Body

An empty response body will be returned if successful.

3.24.5 Error Response Message

Error Message	Description
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.25 Get All Values of a Datatype Property of a Concept

3.25.1 HTTP Request

Request Format

GET

```
https://hostname/rest/v2/concepts/encoded_concept_uri/properties/encoded_property_uri/values
```

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurnp3o8prnj/properties/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b8s7q9ju9p/values
```

3.25.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_property_uri	string	URL-encoded (percent-encoded) URI of the property.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .

3.25.3 Request Body

Request body is not applicable for this method.

3.25.4 Response Body

JSON Response Structure

```
{
  "uri": string,
  "datatype": string,
  "label": string,
  "values": [],
  "links": {
    "self": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "GET"
    },
    "updateAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "PUT"
    },
    "deleteAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "DELETE"
    }
  }
}
```

3.25.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the property of the concept.
datatype	string	Datatype URI of the property of the concept.
label	string	Label of the property of the concept.
values[]	array	The list of values of the property of the concept. The possible values of item in the array are boolean, number (including integer and float), and string (for string, date, time, dateTime and URI).

		Sample data of different format of values: Boolean: {"values": [true]} Integer: {"values": [1, 2, 3]} Float: {"values": [1.01, 2.02, 3.03]} DateTime: <pre>{"values": ["2018-01-31T12:44:00+00:00"]}</pre> Date: {"values": ["2018-01-31"]} Time: {"values": ["12:44:00+00:00"]} Any URI: <pre>{"values": ["https://www.sample.com"]}</pre> String: {"values": [{"value": "string_in_en", "language": "en"}]} XML Literal: {"values": ["<?xml version='1.0'>\r\n<catalog>\r\n <book id='bk101'>\r\n <author>Gambardella, Matthew</author>\r\n <title>XML Developer's Guide</title>\r\n <genre>Computer</genre>\r\n <price>44.95</price>\r\n <publish_date>2000-10-01</publish_date>\r\n <description>An in-depth look at creating applications with XML.</description>\r\n </book>\r\n</catalog>"]}]}
links	object	Links of available actions on the property of the concept.

3.26 Replace All Values of a Datatype Property of a Concept

3.26.1 HTTP Request

Request Format

PUT

`https://hostname/rest/v2/concepts/encoded_concept_uri/properties/encoded_property_uri/values`

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X PUT -d
'{"values":[{"value": "string_in_en", "language": "en"}]}'
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/properties/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b8s7q9ju9p/values
```

3.26.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_property_uri	string	URL-encoded (percent-encoded) URI of the property.

3.26.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
values[]	array	An array of the new values for the property. The values must match with the data type of the property. The possible values of item in the array are:- object (for string literals, with two properties, "value" to indicate the string, and "language" to indicate the language tag of the string)

		• boolean (only support a single value), • number (for integer and float), and • string (for date, time, dateTime and URI). Supported formats for dateTime, date & time:- • dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) • date: YYYY:MM:DD (eg. 2018-01-31) • time: HH:mm:ssZ (eg. 00:00:01+00:00) *Time Zone is optional Sample data of different format of values: Boolean: {"values": [true]} Integer: {"values": [1, 2, 3]} Float: {"values": [1.01, 2.02, 3.03]} DateTime : {"values": ["2018-01-31T12:44:00+00:00"]} Date: {"values": ["2018-01-31"]} Time: {"values": ["12:44:00+00:00"]} Any URI: {"values": ["https://www.sample.com"]} String: {"values": [{"value": "string_in_en", "language": "en"}]} XML Literal: {"values": [{"<?xml version='1.0'>\r\n<catalog>\r\n <book id='bk101'>\r\n <author>Gambardella, Matthew</author>\r\n <title>XML Developer's Guide</title>\r\n <genre>Computer</genre>\r\n <price>44.95</price>\r\n <publish_date>2000-10-01</publish_date>\r\n <description>An in-depth look at creating applications with XML.</description>\r\n </book>\r\n</catalog>"}]}
--	--	---

3.26.4 Response Body

JSON Response Structure

```
{
  "uri": string,
  "links": {
    "self": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "GET"
    }
  }
}
```



```
}

```

3.26.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the property of the concept.
links	object	Links of available actions on the property of the concept.

3.26.6 Error Response Message

Error Message	Description
Invalid Datatype Format	Invalid data format was provided or the data were not matching the data type of the property.
Cardinality Violation	The number of values of the property does not fulfil minimum and maximum cardinality constraints.
Duplicate Labels	The property is assigned as pref label or alt label and the labels were not unique among the pref labels and alt labels in a scheme.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Invalid Values	The request body property "values" must be provided. / The request body property "values" must be in array format. / Values cannot be blank or contain only whitespace character.
Property is Preferred Label	The current request cannot modify the datatype property because it is the preferred label of the concept. Please use the requests for updating concept labels.
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.27 Append Values to a Datatype Property of a Concept

3.27.1 HTTP Request

Request Format

POST

https://hostname/rest/v2/concepts/**encoded_concept_uri**/properties/**encoded_property_uri**/values

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X POST -d
'{"values":[{"value": "string_in_en", "language": "en"}]}'
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/properties/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b8s7q9ju9p/values
```

3.27.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_property_uri	string	URL-encoded (percent-encoded) URI of the property.

3.27.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
values[]	array	An array of the new values for the property. The values must match with the data type of the property. The possible values of item in the array are:- - object (for string literals, with two properties, "value" to indicate the string, and "language" to indicate the language tag of the string) - boolean (only support a single value),

		• number (for integer and float), and • string (for date, time, dateTime and URI). Supported formats for dateTime, date & time:- • dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) • date: YYYY:MM:DD (eg. 2018-01-31) • time: HH:mm:ssZ (eg. 00:00:01+00:00) *Time Zone is optional Sample data of different format of values: Boolean: {"values": [true]} Integer: {"values": [1, 2, 3]} Float: {"values": [1.01, 2.02, 3.03]} DateTime : {"values": ["2018-01-31T12:44:00+00:00"]} Date: {"values": ["2018-01-31"]} Time: {"values": ["12:44:00+00:00"]} Any URI: {"values": ["https://www.sample.com"]} String: {"values": [{"value": "string_in_en", "language": "en"}]} XML Literal: {"values": ["<?xml version='1.0'>\r\n<catalog>\r\n <book id='bk101'>\r\n <author>Gambardella, Matthew</author>\r\n <title>XML Developer's Guide</title>\r\n <genre>Computer</genre>\r\n <price>44.95</price>\r\n <publish_date>2000-10-01</publish_date>\r\n <description>An in-depth look at creating applications with XML.</description>\r\n </book>\r\n</catalog>"]}]} Note: If there is an existing value in the boolean datatype property, please use the request "Replace All Values of a Datatype Property of a Concept" to update the value.
--	--	---

3.27.4 Response Body

JSON Response Structure
<pre> { "uri": string, "links": { "self": { "href": "/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values", "method": "GET" } } }</pre>

3.27.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the property of the concept.
links	object	Links of available actions on the property of the concept.

3.27.6 Error Response Message

Error Message	Description
Invalid Datatype Format	Invalid data format was provided or the data were not matching the data type of the property.
Cardinality Violation	The number of values of the property does not fulfil minimum and maximum cardinality constraints.
Duplicate Labels	The property is assigned as pref label or alt label and the labels were not unique among the pref labels and alt labels in a scheme.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .
Invalid Values	The request body property "values" must be provided. / The request body property "values" must be in array format. / Values cannot be blank or contain only whitespace character.
Property is Preferred Label	The current request cannot modify the datatype property

	because it is the preferred label of the concept. Please use the requests for updating concept labels.
Invalid String Value	An invalid entry is detected in a string value of the JSON request body.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.28 Clear All Values of a Datatype Property of a Concept

3.28.1 HTTP Request

Request Format
DELETE <code>https://hostname/rest/v2/concepts/<i>encoded_concept_uri</i>/properties/<i>encoded_property_uri</i>/values</code>

Request Sample
<pre>curl -u username:password -X DELETE https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/properties/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b8s7q9ju9p/values</pre>

3.28.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept.
encoded_property_uri	string	URL-encoded (percent-encoded) URI of the property.

3.28.3 Request Body

Request body is not applicable for this method.

3.28.4 Response Body

An empty response body will be returned if successful.

3.28.5 Error Response Message

Error Message	Description
Cardinality Violation	The number of values of the property does not fulfil minimum and maximum cardinality constraints.
Property is Preferred Label	The current request cannot modify the datatype property because it is the preferred label of the concept. Please use the requests for updating concept labels.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.29 Get All Concepts Under a Relationship of a Concept

3.29.1 HTTP Request

Request Format

GET

```
https://hostname/rest/v2/concepts/encoded_concept_uri/relationships/encoded_relation  
ship_uri/concepts
```

Request Sample

```
curl -u username:password -X GET  
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconc  
ept%2Fjaurnp3o8prnj/relationships/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc  
1b8s7q9ju9p/concepts
```

3.29.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept as the subject of the relationship.
encoded_relationship_uri	string	URL-encoded (percent-encoded) URI of the relationship.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.

total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to separate the calls between resources and total count.
expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding origin, status, scheme, properties, relationships, and lastUpdated for a concept. Refer to Appendices for the detailed syntax.

3.29.3 Request Body

Request body is not applicable for this method.

3.29.4 Response Body

JSON Response Structure

```
{
  "language": string,
  "limit": int,
  "offset": int,
  "size": int,
  "total": int,
  "uri": string,
  "label": string,
  "links": {
    "self": {
      "href":
"/rest/version/concepts/encoded_concept_uri/relationships/encoded_relationship_uri/co
ncepts",
      "method": "GET"
    }
  }
  "concepts": [{
    "uri": string,
    "origin": string,
    "label": string,
    "links": {
      "get": {
        "href": "/rest/version/concepts/encoded_concept_uri/",
        "method": "GET"
      },
      "unassign": {
        "href":
"/rest/version/concepts/encoded_concept_uri/relationships/encoded_relationship_uri/co
ncepts/encoded_concept_uri",
        "method": "DELETE"
      }
    }
  }
}
```

```

    }
  }
}
```

3.29.5 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
uri	string	URI of the relationship of the concept.
label	string	Label of the relationship of the concept.
links	object	Links of available actions on the relationship of the concept.
limit	int	The limit of the number of concepts to be returned.
offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested under the relationship.
concepts[]	object	List of concept objects under the relationship.
concepts[].uri	string	URI of the concept under the relationship.
concepts[].label	string	Label of the concept under the relationship. Value of null indicates that the label for the language tag is unavailable.
concepts[].links	object	Links of available actions on the concept under the relationship.

3.29.6 Error Response Message

Error Message	Description
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.
Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.

3.30 Assign a Relationship for a Concept to another Concept

3.30.1 HTTP Request

Request Format

POST

```
https://hostname/rest/v2/concepts/encoded_concept_1_uri/relationships/encoded_relati  
onship_uri/concepts/encoded_concept_2_uri
```

Request Sample

```
curl -u username:password -X POST  
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconce  
pt%2Fjaurpn3o8prnj/relationships/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b  
8s7q9ju9p/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prni
```

3.30.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_1_u ri	string	URL-encoded (percent-encoded) URI of the concept as the subject of the relationship.
encoded_relationshi p_uri	string	URL-encoded (percent-encoded) URI of the relationship.
encoded_concept_2_u ri	string	URL-encoded (percent-encoded) URI of the concept as the object of the relationship.

3.30.3 Request Body (JSON)

Request body is not applicable for this method.

3.30.4 Response Body

An empty response body will be returned if successful.

3.30.5 Error Response Message

Error Message	Description
Circular Reference	The establishment of the relationship would create the circular reference condition which is not allowed in a concept hierarchy.
Relationship not Allowed	Establishing of the relationship from a concept to another concept is not allowed.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.31 Replace All Concepts under a Relationship

3.31.1 HTTP Request

Request Format

PUT

`https://hostname/rest/v2/concepts/encoded_concept_uri/relationships/encoded_relation
ship_uri/concepts`

Request Sample

```
curl -u username:password -X PUT -d '{"concepts":[{"uri":  
"https://demo.synaptica.net/a9d84538-ad29-85e0-dfad-c5b5a944c444"}]}'  
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconce  
pt%2Fjaurpn3o8prnj/relationships/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b  
8s7q9ju9p/concepts
```

3.31.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_uri	string	URL-encoded (percent-encoded) URI of the concept as the subject of the relationship.
encoded_relationship_uri	string	URL-encoded (percent-encoded) URI of the relationship.

3.31.3 Request Body (JSON)

Property Name	Value	Description
Required properties		
concepts[]	array	An array of the concept objects under the relationship.
concepts[].uri	string	URI of the concept under the relationship.

3.31.4 Response Body

An empty response body will be returned if successful.

3.31.5 Error Response Message

Error Message	Description
Circular Reference	The establishment of the relationship would create the circular reference condition which is not allowed in a concept hierarchy.
Relationship not Allowed	Establishing of the relationship from a concept to another concept is not allowed.
Invalid Relationship Assignment	The request body property "concepts[].uri" array values must be in URI format.
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.32 Remove a Relationship for a Concept to Another Concept

3.32.1 HTTP Request

Request Format

DELETE

https://hostname/rest/v2/concepts/*encoded_concept_1_uri*/relationships/*encoded_relationship_uri*/concepts/*encoded_concept_2_uri*

Request Sample

```
curl -u username:password -X DELETE
https://demo.synaptica.net/rest/v2/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnj/relationships/https%3A%2F%2Fdemo.synaptica.net%2Fpredicate%2Fjc1b8s7q9ju9p/concepts/https%3A%2F%2Fdemo.synaptica.net%2Fconcept%2Fjaurpn3o8prnk
```

3.32.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_concept_1_uri	string	URL-encoded (percent-encoded) URI of the concept as the subject.
encoded_relationship_uri	string	URL-encoded (percent-encoded) URI of the relationship.
encoded_concept_2_uri	string	URL-encoded (percent-encoded) URI of the concept as the object.

3.32.3 Request Body

Request body is not applicable for this method.

3.32.4 Response Body

An empty response body will be returned if successful.

3.32.5 Error Response Message

Error Message	Description
Invalid Timezone Configuration	The Graphite configuration contains an invalid timezone setting.

3.33 Search Concepts by Label

3.33.1 HTTP Request

Request Format

GET https://hostname/rest/v2/projects/**encoded_project_uri**/concepts

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fproje
ct%2Fjdfgi4vd3qw0d/concepts
```

3.33.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.
Required query parameters		
mode	string	The type of search. Available modes of search are "smart", "begins", "contains", "exact". The default mode is "smart".
phrase	string	The search phrase used to match the concept label.
Optional query parameters		
language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.

total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to separate the calls between resources and total count.
expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding status, scheme, properties, relationships, and lastUpdated for a concept. Refer to Appendices for the detailed syntax.

3.33.3 Request Body (JSON)

Parameter is not applicable to this method.

3.33.4 Response Body

JSON Response Structure
<pre>{ "language": string, "limit": int, "offset": int, "size": int, "total": int, "concepts": [{ "uri": string, "label": string, "links": { "get": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }], "values": [{"value": string, "language": string}] }</pre>

3.33.5 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
limit	int	The limit of the number of concepts to be returned.

offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested in the search result.
concepts[]	array	List of concept objects from the search.
concepts[].uri	string	URI of the concept.
concepts[].label	string	Label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].links	object	Links of available actions on the concept.
concepts[].values[]	array	List of matching alternative labels of the concepts.
concepts[].values[].value	string	The string value of the matching alternative labels.
concepts[].values[].language	string	The language tag of the matching alternative labels.

3.33.6 Error Response Message

Error Message	Description
Invalid Search Mode	The type of search mode is not supported. Available modes of search in Graphite currently are "smart", "begins", "contains" and "exact".
Invalid Search Phrase	The search phrase cannot be empty. / When using the "smart" mode, at least one of the keywords in the search phrase must have more than one character.
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.
Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language tags in Graphite are listed in the Appendices .

3.34 Concept Advanced Search

3.34.1 HTTP Request

Request Format

POST https://hostname/rest/v2/projects/**encoded_project_uri**/queries/execute

Request Sample

```
curl -H "Content-Type: application/json" -u username:password -X POST -d '{
  "label": "keyword",
  "language": "en",
  "mode": "smart",
  "collections": { "uri": [ "https://demo.synaptica.net/collection/collection-a" ], "exclude": false },
  "schemes": [ "https://demo.synaptica.net/concept_scheme/scheme-a" ],
  "templates": [ "https://demo.synaptica.net/template/template-a", "https://demo.synaptica.net/template/template-b" ],
  "predicates": [
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#string" ], "value": "keyword", "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#boolean" ], "value": false, "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#integer" ], "from": 1, "to": 999999, "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#float" ], "from": 0.1, "to": 99.9, "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#relationship" ], "value": "keyword", "exclude": true },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#date" ], "from": "2020-01-01", "to": "2020-02-23", "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#datetime" ], "from": "2020-01-01T00:00:00+00:00", "to": "2020-02-23T23:59:59+00:00", "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#time" ], "from": "00:00:01", "to": "23:59:59", "exclude": false },
    { "uri": [ "https://demo.synaptica.net/graphite_predicate#anyuri" ], "value": "https://www.google.com", "exclude": true } ],
  "createdBy": [ "https://demo.synaptica.net/user/jijzm3u45jim0" ],
  "createdStartDateTime": "2018-04-01T00:00:00+00:00",
  "createdEndDateTime": "2018-06-01T00:00:00+00:00",
  "modifiedBy": [ "https://demo.synaptica.net/user/jijzm3u45jim0" ],
  "modifiedStartDateTime": "2018-04-01T00:00:00+00:00",
  "modifiedEndDateTime": "2018-06-01T00:00:00+00:00",
}
```

```
"status":["Approved"]}]'
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fprojec
t%2Fjdfgi4vd3qw0d/queries/execute
```

3.34.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.
Optional query parameters		
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.
total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to separate the calls between resources and total count.
expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding status, scheme, properties, relationships, and lastUpdated for a concept. Refer to Appendices for the detailed syntax.

3.34.3 Request Body (JSON)

Property Name	Value	Description
Optional properties		
label	string	The search phrase to match within the concept label.
mode	string	The type of search. Available modes of search are "smart", "begins", "contains", "exact" . The default mode is "smart".

language	string	To indicate the language of the labels to be returned in the response body. The default language is "en". Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
createdBy[]	array	A list of URI of the users who created the concept to be matched.
createdStartDateTime	string	The lower boundary of date and time inclusively at which the concept was created to be matched. The format of the date time string is the same as the data type property used. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional Optional to include both createdStartDateTime and createdEndDateTime. Note: Ensure that the datetime format is consistent. If timezone is included, the same format must be used in other date time fields.
createdEndDateTime	string	The upper boundary of date and time inclusively at which the concept was created to be matched. The format of the date time string is the same as the data type property used. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional Optional to include both createdStartDateTime and createdEndDateTime. Note: Ensure that the datetime format is consistent. If timezone is included, the same format must be used in other date time fields.
modifiedBy[]	array	A list of URI of the users who last modified the concept to be matched.
modifiedStartDateTime	string	The lower boundary of date and time inclusively to be matched at which the concept was modified. The format of the date time string is the same as the data type property used. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional Optional to include both modifiedStartDateTime and modifiedEndDateTime. Note: Ensure that the datetime format is consistent. If

		timezone is included, the same format must be used in other date time fields.
modifiedEndDateTime	String	The upper boundary of date and time inclusively to be matched at which the concept was modified. The format of the date time string is the same as the data type property used. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional Optional to include both modifiedStartDateTime and modifiedEndDateTime. Note: Ensure that the datetime format is consistent. If timezone is included, the same format must be used in other date time fields.
status[]	array	A list of status of the concept to be matched. Valid status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn".
schemes[]	array	A list of schemes URIs of the concept to be matched.
collections.uri[]	array	A list of collections URIs to be matched with the concept assigned to the concept.
collections.exclude	boolean	Boolean indicator of whether the collections to exclude or not.
templates[]	array	A list of templates URIs to be matched with the concept assigned to the concept.
resourceTypes[]	array	A list of resourceTypes URIs to be matched with the concept assigned to the concept.
predicates[]	array	A list of predicate objects to be matched with the concept that contains it.
predicates[].uri[]	string	A list of URI of the predicates to be matched with the same criteria.
predicates[].value	string	The value of the predicate to be matched. All the data type properties other than the types of integer, float, date, time and datetime will be using this to do an exact match of values. Supported format for date and time:- - dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) - date: YYYY:MM:DD (eg. 2018-01-31) - time: HH:mm:ssZ (eg. 00:00:01+00:00) Time Zone is optional

		Note: Search will only yield results with matching format, either dateTime, date or time.
predicates[].from	string/ number	The lower boundary of the range of the value of the predicate to be matched. The data type property of date, time and datetime are using string type, whereas the integer and float type are using number.
predicates[].to	string/ number	The upper boundary of the range of the value of the predicate to be matched. The data type property of date, time and datetime are using string type, whereas the integer and float type are using number.
predicates[].exclude	boolean	Boolean indicator of whether the predicates to exclude or not.

3.34.4 Response Body

JSON Response Structure
<pre> { "language": string, "limit": int, "offset": int, "size": int, "total": int, "concepts": [{ "uri": string, "label": string, "links": { "get": { "href": "/rest/version/concepts/encoded_concept_uri", "method": "GET" } } }], "values": [{"value": string, "language": string}] }</pre>

3.34.5 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
limit	int	The limit of the number of concepts to be returned.

offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested in the search result.
concepts[]	array	List of concept objects from the search.
concepts[].uri	string	URI of the concept.
concepts[].label	string	Label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].links	object	Links of available actions on the concept.

3.34.6 Error Response Message

Error Message	Description
Invalid Search Mode	The type of search mode is not supported. Available modes of search in Graphite currently are "smart", "begins", "contains" and "exact".
Invalid Search Phrase	The search phrase cannot be empty. / When using the "smart" mode, at least one of the keywords in the search phrase must have more than one character.
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.
Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.
Invalid Status	Status filter must be in array format. / Concept status cannot have duplicate values. / Unsupported concept status.
Invalid Resource Type	ResourceTypes filter must be in array format. / ResourceTypes filter accept only URI.
Invalid Template	Templates filter must be in array format. / Templates filter accept only URI.
Invalid Scheme	Schemes filter must be in array format. / Schemes filter accept only URI.
Invalid Collection	Collections filter must be in array format. / Collection exclude must be in boolean format. / Collections filter accept only URI.
Invalid Created-by	User filter must be in array format. / User filter accepts only URI.

Invalid Modified-by	User filter must be in array format. / User filter accepts only URI.
Invalid Created DateTime	Created start date filter only accepts 'dateTime' format. / Created start date filter cannot be empty. / Created end date filter only accepts 'dateTime' format. / Created end date filter cannot be empty. / Created date filter only accepts 'dateTime' format. / Created date filter cannot be empty.
Invalid Modified DateTime	Modified start date filter only accepts 'dateTime' format. / Modified start date filter cannot be empty. / Modified end date filter only accepts 'dateTime' format. / Modified end date filter cannot be empty. / Modified date filter only accepts 'dateTime' format. / Modified date filter cannot be empty.
Invalid Predicate	Predicates filter must be in array format. / Predicate exclude must be boolean format. / Predicate URI must be array format or it must be present. / Predicate URI must be URI format and it cannot be empty. / Invalid predicate or same datatype predicates URI are accepted. / Only Same datatype predicates URI are accepted. / Predicates value must be present based on respective data-type and cannot be empty. / Property Date filter only accepts 'date' format. / Property Time filter only accepts 'Time' format. Property dateTime filter only accepts 'dateTime' format.
Unsupported Language Tag	There was invalid language tag used for labels. All supported language Tags in Graphite are listed in the Appendices .

4 Appendices

4.1 Supported Languages for Labels

No.	Language Tags	Languages
1	bg	Bulgarian
2	bs	Bosnian
3	cs	Czech
4	da	Danish
5	de	German
6	el	Modern Greek
7	en	English
8	es	Spanish, Castilian
9	et	Estonian
10	fi	Finnish
11	fr	French
12	ga	Irish
13	hr	Croatian
14	hu	Hungarian
15	it	Italian
16	ja	Japanese
17	ko	Korean
18	lt	Lithuanian
19	lv	Latvian

20	mk	Macedonian
21	mt	Maltese
22	nb	Norwegian Bokmål
23	nl	Dutch, Flemish
24	nn	Norwegian Nynorsk
25	no	Norwegian
26	pl	Polish
27	pt	Portuguese
28	ro	Romanian, Moldavian, Moldovan
29	sk	Slovak
30	sl	Slovenian
31	sq	Albanian
32	sr	Serbian
33	sv	Swedish
34	tr	Turkish
35	zh	Chinese

4.2 Detailed Syntax for Expand Query Parameter

The field name of the concept is specified as the argument to be expanded in the response body. A comma "," is used as the delimiter to specify multiple fields to be expanded. The space character, " " is normally encoded as "%20" or "+" in the URL. Most of the unintended space characters, " " within this expand query parameter will be ignored if it does not create ambiguity in the parsing process.

Be aware that the URI of properties and relationships are pre-encoded before passing it as query parameters. For instance, to retrieve all the concepts of a scheme with a property extended, the CURL command is similar to below:

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/schemes/https%3A%2F%2Fdemo.synaptica.net%2Fconcept_scheme%2Fjeds32qegarr/concepts?expand=properties%28filter%3Duri%20in%20%28%27http%253A%252F%252Fexample.com%252Fpredicate%252F1%27%29%29
```

The following are examples of the format and their respective meaning:

- Include all the properties for all the concepts in the same response.

```
?expand=properties
```

- Include all the relationships for all the concepts in the same response.

```
?expand=relationships
```

- Include concept's status workflow for all the concepts in the same response.

```
?expand=status
```

- Include concept's scheme URI for all the concepts in the same response.

```
?expand=scheme
```

- Include the concept origin URI for all concepts in the response.

```
?expand=origin
```

- Include the concept metadata for all concepts in the response.

```
?expand=lastUpdated
```

- Include all the collections for all the concepts in the same response.

```
?expand=collections
```

Note: This is only available for Get All Concepts under a Scheme

- Include all the property paths for all the concepts in the same response.

```
?expand=propertyPaths
```

- Include all the properties and all the relationships for all the concepts in the same response.

```
?expand=properties,relationships
```

- Include one property with URI "http://example.com/predicate/1" for all the concepts in the same response, if applicable.

```
?expand=properties(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F1'))
```

- Include one relationship with URI "http://example.com/predicate/3" for all the concepts in the same response, if applicable.

```
?expand=relationships(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F3'))
```

- Include all the properties and one relationship with URI "http://example.com/predicate/3" for all the concepts in the same response, if applicable.

```
?expand=properties,  
relationships(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F3'))
```

- Include one property with URI "http://example.com/predicate/1" and one relationship with URI "http://example.com/predicate/3" for all the concepts in the same response, if applicable.

```
?expand=properties(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F1')),  
relationships(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F3'))
```

- Include two properties with URI "http://example.com/predicate/1" and URI "http://example.com/predicate/2" for all the concepts in the same response, if applicable.


```
?expand=properties(filter=uri in ('http%3A%2F%2Fexample.com%2Fpredicate%2F1',  
'http%3A%2F%2Fexample.com%2Fpredicate%2F1'))
```

Refer to [4.6 Sample Properties Response Body Structure](#).

4.3 Details of the Sorting Criteria for Orderby Query Parameter

4.3.1 labelrelevance **(DEPRECATED - DO NOT USE)**

- The sorting criteria of "labelrelevance" is based on the following 6 rules as per the order shown:
 - 1) case-insensitive exact match on the concept preferred label
 - 2) case-insensitive exact match on the concept alternative label
 - 3) case-insensitive begin match on the concept preferred label
 - 4) case-insensitive begin match on the concept alternative label
 - 5) case-insensitive contain match on the concept preferred label
 - 6) case-insensitive contain match on the concept alternative label
- The concept that fulfills a prior criterion will appear first in the list and will be excluded in the later criterion.
- Concepts under the same criterion are sorted based on label among each other.
- The same sorting logic applies regardless of the label search mode.
- Concepts that fulfill none of the above criteria will be shown last.

4.4 Migration Compatibility

While most request and response structures of the API calls in version 2 are compatible with version 1, certain fields have been renamed or removed in version 2. The following is a list of items that need to be modified for applications written with version 1 to work with version 2.

- Removal of unsupported calls in links.
- All fields named "classes" in the path, request and response must be renamed to "templates".
- The "language" parameter field in calls related to search now includes validation checks. Make sure that only supported language tags are used in the request.
- Error messages and descriptions of all the calls have been restructured and rephrased.

4.5 Supplementary API Calls

The API calls listed in this section are ancillary to the core API calls for Graphite, and are intended to provide convenience to developers as well as performant execution. They may not be inline with the structure or format of standard Graphite API calls documented above. Supplementary API calls may be adopted into the standard list of API calls in future versions of Graphite.

4.5.1 Typeahead Autocomplete for Tagging

View all concepts that are permitted to establish a relationship from a scheme.

4.5.1.1 HTTP Request

Request Format

POST https://hostname/rest/v2/getPermittedRelationship

Request Sample

```
curl -u username:passwd -X POST -d
'{
  "searchItem": "keyword",
  "language": "en",
  "scheme": "https://demo.synaptica.net/rest/v2/scheme/demoscheme",
  "relationship": "https://demo.synaptica.net/rest/v2/demorelationship",
  "status": ["candidate", "approved"],
  "mode": "smart"
}' https://demo.synaptica.net/rest/v2/getPermittedRelationship?orderby=label+desc
```

4.5.1.2 Request Body (JSON)

Property Name	Value	Description
Optional properties		
mode	string	The type of the search. Available modes of search are "smart", "begins", "contains", "exact". The default mode is "smart". The "smart" mode will also ignore any word that is less than 3 characters in the search phrase.

Required properties		
searchItem	string	The search phrase to match within the pref label and alt labels of the concepts in the target scheme of the permitted relationship.
language	string	To indicate the language of the labels to be returned in the response body. Empty language tag refers to labels without a language tag. All supported language tags in Graphite are listed in the Appendices .
status[]	array	A list of status of the concepts to be matched in the target scheme of the permitted relationship. Valid status codes in Graphite are "Candidate", "Approved", "Published" and "Withdrawn".
relationship	string	The URI of the relationship permitted from the source scheme to the target schemes .
scheme	string	The scheme URIs of the source scheme of the permitted relationship.

4.5.1.3 Response Body

JSON Response Structure
<pre>{ "language": string, "limit": int, "concepts": [{ "uri": string, "label": string, "matchedLabels": [] , "schemeLabel": string, "schemeUri": string, }] }</pre>

4.5.1.4 Response Body Description

JSON Property Name	Value	Description
language	string	Language of the labels in this JSON object.
limit	int	The limit of the number of concepts to be returned. The value of the limit for this call is always "10" and cannot be changed.

concepts[]	array	List of concept objects from the search.
concepts[].uri	string	URI of the concept.
concepts[].label	string	The preferred label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].matchedLabels[]	array	A list of concept alternative labels and preferred label of the concept that has matched with the search phrase.
concepts[].schemeLabel	string	The scheme label of the returned concepts.
concepts[].schemeUri	string	The scheme URI of the returned concepts.

4.5.1.5 Error Response Message

Error Message	Description
Invalid Search Mode	The type of search mode is not supported. Available modes of search in Graphite currently are "smart", "begins", "contains" and "exact".
Invalid Search Phrase	The search phrase cannot be empty. / When using the "smart" mode, at least one of the keywords in the search phrase must have more than one character.
Invalid Status	Status filter must be in array format. / Concept status cannot have duplicate values. / Unsupported concept status.
Invalid Scheme	Scheme filter accepts only URI.
Invalid Relationship	Relationship filter accepts only URI.
Unsupported Language Tag	There was an invalid language tag used for labels. All supported language Tags in Graphite are listed in the Appendices .

Reminder: It is good practice to implement a delaying mechanism in the front-end component that is using this API call so that the call will not be triggered on every keypress in the search field.

4.5.2 Update Concept Label Index **(DEPRECATED - DO NOT USE)**

Trigger custom label index for Concepts or Schemes.

4.5.2.1 HTTP Request

Request Format

PUT https://hostname/rest/v2/concept-label-index

Request Sample

```
curl -u username:passwd -X PUT -H "Content-Type: application/json" -d
'{
  "resources": [
    "http://demo.synaptica.net/concept_scheme/5596a5eb-25f5-4ffa-841b-8bc147dd2ef7"
  ]
}' https://demo.synaptica.net/rest/v2/concept-label-index
```

4.5.2.2 Request Body (JSON)

Property Name	Value	Description
Required properties		
resources[]	array	A list of resource IRIs to be updated/refreshed. (Resource IRIs can either be scheme IRIs or concept IRIs.)

4.5.2.3 Response Body

An empty response body will be returned if successful.

4.5.2.4 Error Response Message

Error Message	Description
Invalid Resources	The request body property "resources" must be an array. The request body property "resources[]" cannot be empty. The request body property "resources[]" array values must be in IRI format. The resources provided are not permitted.
Bad Request	Invalid JSON format.

4.5.3 Refresh Scheduler

Repopulate the Cron table registration of scheduled tasks of this Graphite instance.

4.5.3.1 HTTP Request

Request Format
POST https://hostname/rest/v2/refresh-scheduler

Request Sample
<pre>curl -u username:passwd -X POST https://demo.synaptica.net/rest/v2/refresh-scheduler</pre>

4.5.3.2 Request Body (JSON)

Request body is not applicable for this method.

4.5.3.3 Response Body

An empty response body will be returned if successful.

4.5.4 Clear Scheduler

Clear all the scheduled tasks of this Graphite instance from the Cron table.

4.5.4.1 HTTP Request

Request Format

POST https://hostname/rest/v2/clear-scheduler

Request Sample

```
curl -u username:passwd -X POST https://demo.synaptica.net/rest/v2/clear-scheduler
```

4.5.4.2 Request Body (JSON)

Request body is not applicable for this method.

4.5.4.3 Response Body

An empty response body will be returned if successful.

4.5.5 Export Concepts under a Scheme in CSV format

Retrieve concept details under a scheme in CSV format.

4.5.5.1 HTTP Request

Request Format

POST https://hostname/rest/v2/export-scheme

Request Sample

```
curl -u username:passwd -X POST -H "Content-Type: application/json" -d '{
  "project"      : "http://demo.synaptica.net/project/jugxjrxj1v2h9",
  "scheme"       :
  "http://demo.synaptica.net/concept_scheme/3f9ad7e7-997e-4364-84b7-2be09fa4874a",
  "format"       : "csv",
  "language"     : "en",
  "showUri"      : false,
  "showCollections" : false,
  "showResourceTypes" : false,
```

```

"showTemplates"      : false,
"showSchemeName"     : false,
"showStatus"         : false,
"showPropertyPaths"  : false,
"showOrigin"         : true,
"properties"         :[
"http://www.w3.org/2004/02/skos/core#altLabel",
"http://www.w3.org/2004/02/skos/core#definition",
"http://www.w3.org/2004/02/skos/core#example"
],
"relationships"      :[
"http://www.w3.org/2004/02/skos/core#broader",
"http://www.w3.org/2004/02/skos/core#related"
]
}' https://demo.synaptica.net/rest/v2/export-scheme

```

4.5.5.2 Request Body (JSON)

Property Name	Value	Description
Required properties		
project	string	The URI of the scheme's project.
scheme	string	The URI of the scheme to be export.
format	string	The format of the payload. Supported formats are "csv", "csv-unique-property-columns", "csv-unique-property-columns-verbose" for Comma-separated values.
language	string	Language of the labels to be returned in the CSV file. All supported language tags in Graphite are listed in the Appendices in API document.
showUri	boolean	Specify whether to include URI columns for all resources of concepts.
showCollections	boolean	Specify whether to include collection columns for all concepts.
showTemplates	boolean	Specify whether to include template columns for all concepts.
showResourceTypes	boolean	Specify whether to include the resource type columns for all concepts.

showSchemeName	boolean	Specify whether to include scheme name columns for all object concepts.
showStatus	boolean	Specify whether to include status column for all concepts.
showPropertyPaths	boolean	To specify whether to include property path columns for all concepts.
showOrigin	boolean	Specify whether to include Origin URI column for all concepts.
properties[]	array	A list of properties to be exported with the concept that contains it.
relationships[]	array	A list of relationships to be exported with the concept that contains it.

4.5.5.3 Response Body

CSV file will be returned as the payload, if the call is successful.

4.5.5.4 Error Response Message

Error Message	Description
Bad Request	Invalid JSON format.

4.5.6 Search Audit Logs under a Scheme and Project **(DEPRECATED - DO NOT USE)**

Search Concepts from Scheme audit log.

4.5.6.1 HTTP Request

Request Format
POST https://hostname/rest/v2/projects/encoded_project_iri/schemes/encoded_scheme_iri/logs/search

Request Sample

```
curl -u username:passwd -X POST -H "Content-Type: application/json" -d
'{
  "users"          : [ "https://demo.synaptica.net/user/jijzm3u45jim0" ],
  "startDateTime"  : "2018-04-01T00:00:00+00:00",
  "endDateTime"    : "2018-04-02T00:00:00+00:00",
  "action"         : "concept.property.updated",
  "filter"         : {
  "properties" : [
    "http://www.w3.org/2004/02/skos/core#altLabel",
    "http://www.w3.org/2004/02/skos/core#definition",
    "http://www.w3.org/2004/02/skos/core#example"
  ]
  }
}'
https://demo.synaptica.net/rest/v2/projects/http%3A%2F%2Fdemo.synaptica.net%2Fproj
ect%2Fjugxjrxj1v2h9/schemes/http%3A%2F%2Fdemo.synaptica.net%2Fconcept_scheme%2F3f9
ad7e7-997e-4364-84b7-2be09fa4874a/logs/search
```

4.5.6.2 Parameters

Parameter Name	Value	Description
Path Parameters		
project_encoded_iri	string	The URI of the project that contains the Scheme with the logs.
scheme_encoded_iri	string	The URI of the Scheme with the logs.
Optional Query Parameters		
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.
total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to

		separate the calls between resources and total count.
--	--	---

4.5.6.3 Request Body (JSON)

Property Name	Value	Description
Required Properties		
startDateTime	string	The lower boundary of date and time inclusively at which the concept was modified to be matched. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional If timezone is included, the same format must be used in endDateTime field.
endDateTime	string	The upper boundary of date and time inclusively at which the concept was modified to be matched. Supported format for date and time:- dateTime: YYYY:MM:DDTHH:mm:ssZ (eg. 2018-01-31T12:44:00+00:00) Time Zone is optional If timezone is included, the same format must be used in startDateTime field.
action	string	The action that has been performed on the concept. Refer to the following table for the supported actions.
Optional Properties		
users[]	array	A list of URI of the users who created the concept to be matched.
filter	object	Extra parameter to filter in more granular level in supported actions. Refer to the following table for the structure of the supported filters.

4.5.6.4 Currently Supported Actions with Filter Structure in Request

"action":	"filter":	Description
concept.status.updated	(not applicable)	To search the logs of Concept status changes.

concept. property. updated	{ "properties": ["{property_uri}"] }	To search the logs of Concept Property value changes.
concept. relationship. updated	{ "relationships": ["{relationship_uri}"] }	To search the logs of Concept Relationship object changes.
concept. collection. updated	(not applicable)	To search the logs of Concept Collection assignment changes.

4.5.6.5 Response Body

JSON Response Structure
<pre>{ "limit": int, "offset": int, "size": int, "total": int, "logs": [{ "conceptUri": string, "action": string, "user": string, "dateTime": string, "deletedValue": object, "insertedValue": object }] }</pre>

4.5.6.6 Response Body Description

JSON Property Name	Value	Description
limit	int	The limit of the number of logs to be returned.
offset	int	The distance between the first filtered log and the first requested log in the response.
size	int	The total number of logs returned by the call.
total	int	The total number of logs that can be requested in the search result.

logs[]	array	The list of log entries that fulfilled the search criteria.
logs[].conceptUri	string	The Concept that is updated.
logs[].action	string	The action of the changes of the log. Refer to the following table for the supported actions.
logs[].user	array	The URI of the user that initiated the action of the log
logs[].dateTime	string	The timestamp of the log when the action occurred.
logs[].deletedValues	array	The old values of the action that has been removed from the Concept. Refer to the following table for the structure of the values.
logs[].insertedValues	array	The new values of the action that has been added to the Concept. Refer to the following table for the structure of the values.

4.5.6.7 Currently Supported Actions with Deleted/Inserted Values Structure in Response

"action":	"filter":	Description
concept. status. updated	<pre>{ "status": "{concept_status}" }</pre>	The status of the Concept has been updated..
concept. property. updated	<pre>[{ "propertyUri": "{property_uri}", "values": [{property_value}] }]</pre>	The values of the Properties of the Concept have been updated. Refer to Predicate Value Structure in REST API document's appendices.
concept. relationship. updated	<pre>[{ "relationshipUri": "{relationship_uri}", "objectUris": [{"object_concept_uri"}] }]</pre>	The object Concepts of the relationships of the Concept have been updated.
concept. collection. updated	<pre>{ "collectionUris": ["{collection_uri}"] }</pre>	The Collections assigned to the Concept have been updated.

4.5.6.8 Error Response Message

Error Message	Description
Invalid User	User filter must be in array format. User filter accepts only URI.
Invalid DateTime	startDatetime only accepts 'dateTime' format. startDatetime cannot be empty. endDatetime only accepts 'dateTime' format. endDatetime cannot be empty.
Invalid Action	Action is invalid or not supported.
Invalid Filter	Property filter must be in array format. Property filter accepts only URI. Relationship filter must be in array format. Relationship filter accepts only URI. Filter for this action is not supported.

4.5.7 Get All Saved Queries Under a Project

4.5.7.1 HTTP Request

Request Format

GET https://hostname/rest/v2/projects/**encoded_project_uri**/saved-queries

Request Sample

```
curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/projects/https%3A%2F%2Fdemo.synaptica.net%2Fprojec
t%2Fjdfgi4vd3qw0d/saved-queries
```

4.5.7.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_project_uri	string	URL-encoded (percent-encoded) URI of the project.

4.5.7.3 Request Body

Request body is not applicable to this method.

4.5.7.4 Response Body

JSON Response Structure

```
{
  "links": {
    "self": {
      "href": "/rest/version/project/encoded_project_uri/saved-queries",
      "method": "GET"
    }
  },
  "saved-queries": [{
    "uri": string,
    "title": string,
    "atTime": string,
    "createdBy": string,
    "modifiedBy": string,
  ]
}
```

```

    "links": {
      "getConcepts": {
        "href":
"/rest/version/saved-queries/encoded_saved_queries_uri/concepts",
        "method": "GET"
      }
    }
  }
}

```

4.5.7.5 Response Body Description

JSON Property Name	Value	Description
links	object	Links of available actions on the saved query.
saved-queries[].uri	string	The URI of the saved query.
saved-queries[].title	string	The label of the saved query.
saved-queries[].atTime	string	The time at which the saved query was created or modified.
saved-queries[].createdBy	string	The user who created the saved query.
saved-queries[].modifiedBy	string	The user who last modified the saved query.
saved-queries[].links	object	Links of available actions on the saved query.

4.5.8 Get All Concepts in a Saved Query

4.5.8.1 HTTP Request

Request Format

GET https://hostname/rest/v2/saved-queries/**encoded_saved_query_uri**/concepts

Request Sample

```

curl -u username:password -X GET
https://demo.synaptica.net/rest/v2/saved-queries/https%3A%2F%2Fdemo.synaptica.net%2F
saved_query%2Fb742a31d-0411-58f1-588a-e51e331e4f2d/concepts

```


4.5.8.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_saved_query_uri	string	URL-encoded (percent-encoded) URI of the saved query.
Optional query parameters		
limit	int	To specify the maximum number of concepts that can be included in the response for a single request. The default value is 1000.
offset	int	To specify the number of concepts to be skipped starting from the first concept when requesting a list of concepts. The default value is 0.
total	boolean	To specify whether to include an additional field to indicate the total number of concepts that can be requested without pagination. The default value is false. Warning: Calculating the total for a large resource set is potentially resource-intensive. The developer may want to separate the calls between resources and total count.
expand	field	To specify the additional fields to be returned for each of the concepts in the response. Currently, this parameter supports only expanding status, collections, properties, relationships, and lastUpdated for a concept. Refer to Appendices for the detailed syntax.

4.5.8.3 Request Body

Request body is not applicable to this method.

4.5.8.4 Response Body

JSON Response Structure
<pre>{ "limit": int, "offset": int, "size": int, "total": int, "concepts": [{ "uri": string,</pre>

```

    "label": string,
    "values": [{"value": string, "language": string}],
    "links": {
      "get": {
        "href": "/rest/version/concepts/encoded_concept_uri",
        "method": "GET"
      }
    }
  }
}

```

4.5.8.5 Response Body Description

JSON Property Name	Value	Description
limit	int	The limit of the number of concepts to be returned.
offset	int	The distance between the first concept and the first requested concept.
size	int	The total number of concepts returned by the call.
total	int	The total number of concepts that can be requested in the scheme.
concepts[]	array	The list of concept objects in the saved query search results.
concepts[].uri	string	URI of the concept.
concepts[].label	string	Label of the concept. Value of null indicates that the label for the language tag is unavailable.
concepts[].values[]	array	List of matching alternative labels of the concepts.
concepts[].values[].label	string	The string value of the matching alternative labels.
concepts[].values[].language	string	The language tag of the matching alternative labels.
concepts[].links	object	Links of available actions on the concept.

4.5.8.6 Error Response Message

Error Message	Description
Invalid Offset	The query parameter "offset" accepts positive integer only. / The query parameter "offset" cannot be less than zero.

Invalid Limit	The query parameter "limit" accepts positive integer only. / The query parameter "limit" cannot be less than zero.
----------------------	--

4.5.9 Get Details of a Scheme by URI

4.5.9.1 HTTP Request

Request Format
GET https://hostname/rest/v2/schemes/ <i>encoded_scheme_uri</i>

Request Sample
<pre>curl -u username:password -X GET https://demo.synaptica.net/rest/v2/schemes/https%3A%2F%2Fdemo.synaptica.net%2Fscheme concept%2Fjaurpn3o8prnj</pre>

4.5.9.2 Parameters

Parameter Name	Value	Description
Path parameters		
encoded_scheme_uri	string	URL-encoded (percent-encoded) URI of the scheme.
Optional query parameters		
showdescription	boolean	Show or hide the scheme description.

4.5.9.3 Request Body

Request body is not applicable to this method.

4.5.9.4 Response Body

JSON Response Structure
<pre>{ "uri": string, "label": string, "description": string,</pre>

```

"links": {
  "self": {
    "href": "/rest/version/schemes/encoded_scheme_uri",
    "method": "GET"
  }
},
"languageTags": [
  '',
  'bg',
  'bs',
  'cs',
  'da',
  'de',
  'el',
  'en'
],
"resourceTypes": [{
  "uri": string,
  "label": string,
  "isDefault": int
}],
"templates": [{
  "uri": string,
  "label": string,
  "isDefault": int
}],
"properties": [{
  "uri": string,
  "datatype": string,
  "label": string,
  "isPrefLabel": int,

  "isAltLabel": int
}],
"hierarchicalRelationships": [{
  "broaderUri": string,
  "broaderLabel": string,
  "narrowerUri": string,
  "narrowerLabel": string
}],
"associativeRelationships": [{
  "uri": string,
  "label": string
}]
}

```

4.5.9.5 Response Body Description

JSON Property Name	Value	Description
uri	string	URI of the scheme.
label	string	The RDFS label of the scheme.

links	object	Link to scheme details.
languageTags[]	array	The list of supported language.
resourceTypes[]	array	The list of resource Types objects that are assigned to the scheme.
resourceTypes[].uri	string	The URI of the resource Type.
resourceTypes[].label	string	The label of the resource Type.
resourceTypes[].isDefault	boolean	Indicate the default resource Type for the scheme.
templates[]	array	The list of templates objects that are assigned to the scheme.
templates[].uri	string	The URI of the template.
templates[].label	string	The label of the template.
templates[].isDefault	boolean	Indicate the default template for the scheme.
properties[]	array	The list of property objects permitted to the scheme.
properties[].uri	string	URI of the property permitted to the scheme.
properties[].datatype	string	Datatype URI of the property permitted to the scheme.
properties[].label	string	Label of the property permitted to the scheme.
properties[].isPrefLabel	boolean	Indicate the prefLabel of the property permitted to the scheme.
properties[].isAltLabel	boolean	Indicate the altLabel of the property permitted to the scheme.
hierarchicalRelationships[]	array	The list of permitted hierarchical relationship objects for the scheme.
hierarchicalRelationships[].broaderUri	string	URI of the permitted broader relationship of the scheme.
hierarchicalRelationships[].broaderLabel	string	Label of the permitted broader relationship of the scheme.
hierarchicalRelationships[].narrowerUri	string	URI of the permitted narrower relationship of the scheme.
hierarchicalRelationships[].narrowerLabel	string	Label of the permitted narrower relationship of the scheme.

.narrowerLabel		scheme.
assocaitiveRelationships[]	array	The list of permitted associative relationship objects for the scheme.
assocaitiveRelationships[].uri	string	URI of the permitted associative relationship of the scheme.
assocaitiveRelationships[].label	string	Label of the permitted associative relationship of the scheme.

4.5.10 Good-to-Go (GTG)

4.5.10.1 HTTP Request

Request Format

GET https://hostname/rest/v2/gtg

Request Sample

```
curl -X GET https://demo.synaptica.net/rest/v2/gtg
```

4.5.10.2 Request Body

Request body is not applicable to this method.

4.5.10.3 Response Body

JSON Response Structure

```
{
  "gtg": "OK",
  "message": "200 - OK"
}
OR
{
  "gtg": "UNAVAILABLE",
  "message": "503 - Service Unavailable"
}
```

4.5.10.4 Response Body Description

JSON Property Name	Value	Description
gtg	string	indicates the current operational status of the Graphite service. A value of "OK" signifies that Graphite is able to at least read from the database. "UNAVAILABLE" indicates that the service is currently not operational.
message	string	Provides information on the HTTP response status code. "200 - OK" indicates a successful operation, whereas "503 - Service Unavailable" suggests that the service is currently down and unable to process requests.

4.5.11 Health Check

4.5.11.1 HTTP Request

Request Format
GET https://hostname/rest/v2/health

Request Sample
curl -X GET https://demo.synaptica.net/rest/v2/health

4.5.11.2 Request Body

Request body is not applicable to this method.

4.5.11.3 Response Body

JSON Response Structure
<pre>{ "status": "OK", "message": "Service is Fully Operational" }</pre> OR

```
{
  "status": "WARNING",
  "message": "Write operations are unavailable. Service is in Read-Only mode."
}
OR
{
  "status": "ERROR",
  "message": "Service Unavailable"
}
```

4.5.11.4 Response Body Description

JSON Property Name	Value	Description
status	string	Reflects the overall operational level of the Graphite service. "OK" indicates the service is fully functional, "WARNING" denotes limited functionality (i.e., the service is operational but only in a read-only mode), and "ERROR" signifies a critical issue where the service is completely unavailable.
message	string	Elaborates on whether the service is fully operational, restricted to read-only access (indicating that write operations are temporarily disabled), or completely unavailable, implying both read and write operations cannot be executed.

4.5.12 Transfer Concept

Move concepts across schemes.

4.5.12.1 HTTP Request

Request Format

PATCH https://hostname/rest/v2/transfer-concept

Request Sample

```
curl -u username:passwd -X POST -d
'{
  "Concepts":
  ["https://demo.synaptica.net/graphite_concept/4c93846b-5498-ba94-82c8-5468c063464c"],
  "target":
  "https://demo.synaptica.net/concept_scheme/4236fa54-180f-0d1a-6442-a6221689dc73",
  "project":
  "https://demo.synaptica.net/project/ca682d3f-1c0e-f4a9-f29e-9c4dddad3ec4",
  "includeSubordinate" : "true"
}' https://demo.synaptica.net/rest/v2/transfer-concept
```

4.5.12.2 Request Body (JSON)

Property Name	Value	Description
Required properties		
concepts[]	array	A list of concepts URI to be transferred to the target scheme or concept.
target	string	The URI of the target scheme or concept.
hierarchies[]	array	A list of broader predicates URI to apply, applicable only if the target is a concept. <i>This property must be specified when transferring concepts to another concept.</i>
project	string	The URI of the project where the concepts and target scheme or concept belong to.
includeSubordinate	boolean	Boolean indicator of whether the transfer will include all the child concepts for a selected concept. Only applicable to a single concept selection. <i>This property should be included for single-concept transfers. Defaults to false, if excluded. This property must not be used for multi-concept transfers.</i>

4.5.12.3 Response Body

JSON Response Structure

```
{
  "warnings":{
    "mismatched_relationship":["string"],
    "mismatched altLabel":["string"],
```

```

    "mismatched property":["string"]
  }
}

```

4.5.12.4 Response Body Description

JSON Property Name	Value	Description
warnings.mismatched relationship[]	array	List of mismatched relationship URI.
warnings.mismatched property[]	array	List of mismatched property URI.
warnings.mismatched altLabel[]	array	List of mismatched altLabel URI.

4.5.12.5 Error Response Message

Error Message	Description
Invalid Include Subordinate	The request body property "includeSubordinate" is not supported for batch transfer.
Invalid Hierarchies Assignment	The request body property "hierarchies" is not supported for concept scheme transfer.
Invalid Scheme Assignment	Concepts must not belong to the target scheme.
Invalid Hierarchy Assignment	The hierarchy {invalid broader URI} is not allowed for the transfer.
Circular Reference	Unable to transfer concept. Circular reference detected in target scheme.

4.5.13 Refresh Ruleset

Recreate Elasticsearch Connector and Refresh Ruleset of this Graphite instance.

4.5.13.1 HTTP Request

Request Format

```
PUT https://hostname/rest/v2/refresh-ruleset
```

Request Sample

```
curl -u username:passwd -X PUT https://demo.synaptica.net/rest/v2/refresh-ruleset
```

4.5.13.2 Request Body (JSON)

Request body is not applicable for this method.

4.5.13.3 Response Body

An empty response body will be returned if successful.

4.6 Sample Properties Response Body Structure

Sample response body with properties values:

- [3.5 Get All Concepts Under a Scheme](#) with the *expand* parameter
- [3.6 Get Details of a Concept by URI](#)
- [3.16 Get All Concepts Under a Collection](#) with the *expand* parameter
- [3.29 Get All Concepts Under a Relationship of a Concept](#) with the *expand* parameter
- [3.33 Search Concepts by Label](#) with the *expand* parameter
- [3.34 Concept Advanced Search](#) with the *expand* parameter
- [4.5.8 Get All Concepts in a Saved Query](#) with the *expand* parameter

4.6.1 Response Body for String datatype

JSON Response Structure

```
...
  "properties": [{
    "uri": string,
    "datatype": string,
    "label": string,
    "values": [{
      "Value": "string1",
      "language": "string"
    }, {
      "Value": "string2",
      "language": "string"
    }
  ],
  "links": {
    "getAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "GET"
    },
    "updateAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "PUT"
    },
    "deleteAll": {
      "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
      "method": "DELETE"
    }
  }
}],
...
```

4.6.2 Response Body for non-string datatype

JSON Response Structure

```

...
  "properties": [{
    "uri": string,
    "datatype": string,
    "label": string,
    "values": [
      "string1", "string2"
    ],
    "links": {
      "getAll": {
        "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
        "method": "GET"
      },
      "updateAll": {
        "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
        "method": "PUT"
      },
      "deleteAll": {
        "href":
"/rest/version/concepts/encoded_concept_uri/properties/encoded_property_uri/values",
        "method": "DELETE"
      }
    }
  ]},
...

```

4.6.3 Response Body Description

JSON Property Name	Value	Description
properties[]	array	The list of property objects of the concept.
properties[].uri	string	URI of the property of the concept.
properties[].datatype	string	Datatype URI of the property of the concept.
properties[].label	string	Label of the property of the concept.
properties[].values[]	array	The list of values of the property of the concept. The possible values of item in the array are boolean, number (including integer and float), and string (for string, date, time, dateTime and URI).

		Sample data of different format of values: Boolean: {"values": [true]} Integer: {"values": [1, 2, 3]} Float: {"values": [1.01, 2.02, 3.03]} DateTime: {"values": ["2018-01-31T12:44:00+00:00"] } Date: {"values": ["2018-01-31"]} Time: {"values": ["12:44:00+00:00"]} Any URI: {"values": ["https://www.sample.com"]} String: {"values": [{"value": "string_in_en", "language": "en"}]} XML Literal: {"values": ["<?xml version=\"1.0\"?>\r\n<catalog>\r\n <book id=\"bk101\">\r\n <author>Gambardella, Matthew</author>\r\n <title>XML Developer's Guide</title>\r\n <genre>Computer</genre>\r\n <price>44.95</price>\r\n <publish_date>2000-10-01</publish_date>\r \n <description>An in-depth look at creating applications with XML.</description>\r\n </book>\r\n</catalog>"]}]}
properties[].links	object	Links of available actions on the property of the concept.

4.7 Sample Property Paths Response Body Structure

Sample of response body with property paths values:

- [3.5 Get All Concepts Under a Scheme](#) with the *expand* parameter
- [3.6 Get Details of a Concept by URI](#)
- [3.16 Get All Concepts Under a Collection](#) with the *expand* parameter
- [3.29 Get All Concepts Under a Relationship of a Concept](#) with the *expand* parameter
- [3.33 Search Concepts by Label](#) with the *expand* parameter
- [3.34 Concept Advanced Search](#) with the *expand* parameter
- [4.5.8 Get All Concepts Under a Saved Query Search Results](#) with *expand* parameter

4.7.1 Response Body for String datatype

JSON Response Structure

```
...
  "propertyPaths": [{
    "label": string,
    "values": [
      {
        "relationshipUri": string,
        "objectUri": string,
        "objectLabel": string,
        "propertyUri": string,
        "datatype": string,
        "value": {
          "label": string,
          "language": string
        }
      }
    ]
  }],
...
```

4.7.2 Response Body for non-string datatype

JSON Response Structure

```
...
  "propertyPaths": [{
    "label": string,
```

```

    "values": [
      {
        "relationshipUri": string,
        "objectUri": string,
        "objectLabel": string,
        "propertyUri": string,
        "datatype": string,
        "value": varies
      }
    ]
  },
  ...

```

4.7.3 Response Body Description

JSON Property Name	Value	Description
propertyPaths[]	array	The list of property paths of the concept.
propertyPaths[].label	string	The label of the property path.
propertyPaths[].values[]	array	The list of flattened property path value objects.
propertyPaths[].values[].relationshipUri	String	The URI of the relationship under the property path of the value.
propertyPaths[].values[].objectUri	String	The URI of the object under the relationship of the property path of the value.
propertyPaths[].values[].objectLabel	String	The label of the object under the relationship of the property path of the value. The label will only show when the display language is available.
propertyPaths[].values[].propertyUri	String	The URI of the property under the object that is directly connected to the property path value.
propertyPaths[].values[].datatype	String	The datatype URI of the property path value.
propertyPaths[].values[].value[]	varies	One of the values of the property path. The possible types of value are boolean, number (including integer and float), and string (for string, date, time, dateTime and URI). Samples of different formats of values:

		Boolean: {"value": [true]} Integer: {"value": [1, 2, 3]} Float: {"value": [1.01, 2.02, 3.03]} DateTime: {"value": ["2018-01-31T12:44:00+00:00"]}
		Date: {"value": ["2018-01-31"]}
		Time: {"value": ["12:44:00+00:00"]}
		Any URI: {"value": ["https://www.sample.com"]}
		String: {"value": [{"value": "string_in_en", "language": "en"}]}
		XML Literal: {"value": ["<?xml version='1.0'>\r\n<catalog>\r\n <book id='bk101'>\r\n <author>Gambardella, Matthew</author>\r\n <title>XML Developer's Guide</title>\r\n <genre>Computer</genre>\r\n <price>44.95</price>\r\n <publish_date>2000-10-01</publish_date>\r\n \r\n <description>An in-depth look at creating applications with XML.</description>\r\n </book>\r\n</catalog>"]}

4.8 Sample Metadata Response Body Structure

Samples of response body with metadata values:

- [3.5 Get All Concepts Under a Scheme](#) with *expand=lastUpdated* parameter
- [3.16 Get All Concepts Under a Collection](#) with *expand=lastUpdated* parameter
- [3.29 Get All Concepts Under a Relationship of a Concept](#) with *expand=lastUpdated* parameter
- [3.33 Search Concepts by Label](#) with *expand=lastUpdated* parameter
- [3.34 Concept Advanced Search](#) with *expand=lastUpdated* parameter
- [4.5.8 Get All Concepts Under a Saved Query Search Results](#) with *expand=lastUpdated* parameter

4.8.1 Response Body for String datatype

JSON Response Structure

```

...
  "metadata":{
    "createdBy": string,
    "createdAt": string,
    "modifiedBy": string,
    "modifiedAt": string
  },
...

```

4.8.2 Response Body Description

JSON Property Name	Value	Description
concepts[].metadata	object	List of concept's created by, create at, modified by and modified at information.
concepts[].metadata.createdBy	string	The user URI of the creator.
concepts[].metadata.createdAt	String	The date and time of concept creation.
concepts[].metadata.modifiedBy	String	The user URI of the last modifier.
concepts[].metadata.modifiedAt	String	The date and time of the last modification.