Force.com REST API Cheat Sheet

Overview

The Force.com REST API provides you with a powerful Web services API that you can use to interact with Force.com.

Each resource in REST API is a named URI that's used with an HTTP method: HEAD, GET, POST, PATCH, or DELETE. All resources are accessed using a generic interface over HTTP with a base URI that follows your Force.com or Database.com URI. REST API supports authentication using OAuth 2.0 and supports both JSON and XML (JSON is the default).

REST Requests

Action	URL	HTTP Method	Request Body
Create	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`	POST	field-value pairs
Delete	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`*`Obj`*`/`*`Id`*	DELETE	N/A
Update	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`*`Obj`*`/`*`Id`*	PATCH	field-value pairs
Upsert	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`*`Obj`*`/`*`externalIdField`*`/`*`value`*	PATCH	field-value pairs
SOQL Query	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/query/?q=`*`soqlQuery`*	GET	N/A
SOSL Search	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/search/?q=`*`soslQuery`*	GET	N/A
Describe	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`	GET	N/A
Describe SObject	`https://`*`instance`*`.salesforce.com/services/data/v`*`NN.N`*`/sobjects/`*`Obj`*	GET	N/A

HTTP requests to a REST API resource should contain the following information:
An HTTP method (HEAD, GET, POST, PATCH, or DELETE).
A session ID or an OAuth 2.0 access token used to authenticate the request.
An HTTP ACCEPT header that indicates the resource format (JSON or XML), or a .json or .xml extension to the URI. The default is JSON.
The Force.com or Database.com REST resource.
Any JSON or XML data containing information needed for the request, such as the data required when updating a record.

Resources

Resource Name	URI	Description
Versions	`/`	Lists summary information about each Salesforce version currently available, including the version, label, and a link to each version's root.
Resources by Version	`/v`*`NN.N`*`/`	Lists available resources for the specified API version, including resource name and URI.
Describe Global	`/v`*`NN.N`*`/sobjects/`	Lists available objects and their metadata for your organization's data.
SObject Basic Information	`/v`*`NN.N`*`/sobjects/`*`SObject`*`/`	Describes the individual metadata for the specified object.
SObject Describe	`/v`*`NN.N`*`/sobjects/`*`SObject`*`/describe`	Completely describes the individual metadata at all levels for the specified object.
SObject Rows	`/v`*`NN.N`*`/sobjects/`*`SObject`*`/id/`	Accesses records based on the specified object ID. Retrieves, creates, updates, or deletes records.
SObject Rows By External ID	`/v`*`NN.N`*`/sobjects/`*`SObjectName`*`/`*`fieldName`*`/`*`fieldValue`*	Creates new records or updates existing records (upserts records) based on the value of a specified external ID field.
SObject Blob Retrieve	`/v`*`NN.N`*`/sobjects/`*`SObject`*`/id/`*`blobField`*	Retrieves the specified blob field from an individual record.
Query	`/v`*`NN.N`*`/query/?q=`*`soqlQuery`*	Executes the specified SOQL query. The query string must be URL-encoded.
Search	`/v`*`NN.N`*`/search/?s=`*`soslQuery`*	Executes the specified SOSL search. The search string must be URL-encoded.

REST API Headers

REST API supports the following headers:

Header	Description	Example
Content-Type	Specifies whether the request is formatted as JSON or XML.	Content-Type: application/json
Authorization	Used to authenticate the request.	Authorization: OAuth sessionId
X-Pretty-Print	Formats the response in a more readable format with line breaks and indentation.	X-PrettyPrint:1
Accept	Indicates the resource format which can be either JSON or XML.	Accept: application/xml
X-Sfdc-PackageVersion-*PackageName*	Specifies the package version under which context an API call is made.	X-Sfdc-PackageVersion-MyPackage: 2.0

HTTP Error Codes

When errors occur, the response header contains an HTTP code, and the response body typically contains the error code, the message accompanying that error, and the field or object where the error occurred.

300	The value used for an external ID exists in more than one record. The response body contains the list of matching records.
400	The request could not be understood, usually because the JSON or XML body has an error.
401	The session ID or OAuth token used has expired or is invalid. The response body contains the message and errorCode.
403	The request has been refused. Verify that the logged-in user has appropriate permissions.
404	The requested resource could not be found. Check the URI for errors, and verify that there are no sharing issues.
405	The method specified in the Request-Line is not allowed for the resource specified in the URI.
415	The entity specified in the request is in a format that is not supported by specified resource for the specified method.
500	An error has occurred within Force.com, so the request could not be completed. Contact salesforce.com Customer Support.

HTTP Success Codes

When a request is successful, the response header contains an HTTP code, and the response body contains a Boolean success value.

200	The request has been successfully processed.
201	The request has been successfully processed and the resource has been created.
204	The request has been successfully processed, but no content is returned in the response body. This code is returned after a resource is successfully deleted.

HTTP Methods

REST API supports the following HTTP methods:

GET	Retrieves information, such as basic resource summary information.
HEAD	Retrieves resource metadata.
PATCH	Updates a record.
POST	Creates a new object.
DELETE	Deletes a record.

Examples

Following are some examples of calling REST API using cURL. Replace *token* with your session ID. Depending on your platform, if the *token* contains an exclamation mark (!), it should be escaped with a backslash (\!) when used in cURL commands. Depending on your platform, request headers may require single quotes (') or double quotes (").

Create an Invoice Statement

cURL Command

```
curl https://instance.salesforce.com/services/data/v24.0/sobjects/Invoice_Statement__c/ -H "Content-Type:application/json" -d
"{\"Description__c\" : \"New invoice statement\"}" -H "Authorization: OAuth token" -H "X-PrettyPrint:1"
```

Response (JSON)

```
{
    "id" : "a00D0000008oLd7IAE",
    "errors" : [ ],
    "success" : true
}
```

Update Status__c Field on an Invoice Statement

cURL Command
```
curl https://instance.salesforce.com/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6yDIAQ -H "Authorization: OAuth token" -H "Content-Type: application/json" -d "{\"Status__c\" : \"Open\"}" -X PATCH -H "X-PrettyPrint:1"
```

Response (JSON)
```
N/A
```

Delete an Invoice Statement

cURL Command
```
curl https://instance.salesforce.com/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008oLd7IAE -H "Authorization: OAuth token" -H "X-PrettyPrint:1" -X DELETE
```

Response (JSON)
```
N/A
```

Search for a String

cURL Command
```
curl https://instance.salesforce.com/services/data/v24.0/search/?q=FIND+%7Bcountry%7D -H "Authorization: OAuth token" -H "X-PrettyPrint:1"
```

Response (JSON)
```
[ {
  "attributes" : {
    "type" : "Invoice_Statement__c",
    "url" : "/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6yDIAQ"
  },
  "Id" : "a00D0000008o6yDIAQ"
} ]
```

Execute a Query

cURL Command
```
curl https://instance.salesforce.com/services/data/v24.0/query?q=SELECT+Id,+Name,+Status__c+FROM+Invoice_Statement__c -H "Authorization: OAuth token" -H "X-PrettyPrint:1"
```

Response (JSON)
```
{
  "done" : true,
  "totalSize" : 3,
  "records" : [ {
    "attributes" : {
      "type" : "Invoice_Statement__c",
      "url" : "/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6y3IAA"
    },
    "Id" : "a00D0000008o6y3IAA",
    "Name" : "INV-0000",
    "Status__c" : "Open"
  }, {
    "attributes" : {
      "type" : "Invoice_Statement__c",
      "url" : "/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6yDIAQ"
    },
    "Id" : "a00D0000008o6yDIAQ",
    "Name" : "INV-0002",
    "Status__c" : "Closed"
  } ]
}
```

Get Basic Object Information for Invoice Statement

cURL Command

```
curl https://instance.salesforce.com/services/data/v24.0/sobjects/Invoice_Statement__c -H "Authorization: OAuth token" -H
"X-PrettyPrint:1"
```

Response (JSON)

```
{
    "objectDescribe" : {
      "name" : "Invoice_Statement__c",
      "updateable" : true,
      "keyPrefix" : "a00",
      "label" : "Invoice Statement",
      "custom" : true,
      "urls" : {
        "sobject" : "/services/data/v24.0/sobjects/Invoice_Statement__c",
        "describe" : "/services/data/v24.0/sobjects/Invoice_Statement__c/describe",
        "rowTemplate" : "/services/data/v24.0/sobjects/Invoice_Statement__c/{ID}"
      },
      "searchable" : true,
      "labelPlural" : "Invoice Statements",
      "layoutable" : true,
      "activateable" : false,
      "createable" : true,
      "deprecatedAndHidden" : false,
      "deletable" : true,
      "customSetting" : false,
      "feedEnabled" : false,
      "mergeable" : false,
      "queryable" : true,
      "replicateable" : true,
      "retrieveable" : true,
      "undeletable" : true,
      "triggerable" : true
    },
    "recentItems" : [ {
      "attributes" : {
        "type" : "Invoice_Statement__c",
        "url" : "/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6y8IAA"
      },
      "Id" : "a00D0000008o6y8IAA",
      "Name" : "INV-0001"
    }, {
      "attributes" : {
        "type" : "Invoice_Statement__c",
        "url" : "/services/data/v24.0/sobjects/Invoice_Statement__c/a00D0000008o6yDIAQ"
      },
      "Id" : "a00D0000008o6yDIAQ",
      "Name" : "INV-0002"
    } ]
}
```

OAuth Username/Password Authentication

cURL Command

```
curl https://login.salesforce.com/services/oauth2/token -d 'grant_type=password&client_id=REMOTE_ACCESS_CLIENT_ID&client_
secret=REMOTE_ACCESS_CLIENT_SECRET&username=user@example.com&password=********' -H "X-PrettyPrint: 1"
```

Response (JSON)

```
{
"id" : "https://login.salesforce.com/id/00D50000000IZ3ZEAW/00550000001fg5OAAQ",
"issued_at" : "1322006414073",
"instance_url" : "https://instance.salesforce.com",
"signature" : "3/FtJxcTxvpwJx8Tloc/4oNVz1hhzIuppTCOQdrJSjA=",
"access_token" : "00D50000000IZ3Z!AQ0AQNag4tr.S15f0LoborG12HIls6eEzIxLafInLZIf6RbFiwV2Pjq6_QHB4J64a6vSMS705Y_sIVE_lq_xnLIXBXgOKPEo"
}
```