Force.com REST API Cheatsheet

Overview

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).

Common Requests for Working with SObjects

Action	URL	HTTP Method	Request Body
Create a Record	https://*instance*.salesforce.com/services/data/v*NN.N*/sobjects/	POST	field-value pairs
Delete a Record	https://*instance*.salesforce.com/services/data/vNN.N/sobjects/*sObject*/Id	DELETE	N/A
Update a Record	https://*instance*.salesforce.com/services/data/vNN.N/sobjects/*sObject*/Id	PATCH	field-value pairs
Upsert a Record	https://*instance*.salesforce.com/services/data/vNN.N/sobjects/*sObject*/*externalIdField*/*value*	PATCH	field-value pairs
Describe Global	https://*instance*.salesforce.com/services/data/vNN.N/sobjects/	GET	N/A
Describe SObject	https://*instance*.salesforce.com/services/data/vNN.N/sobjects/*sObject/describe*	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.

Other Common Resources

Resource Name	URL	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	/*vNN.N*/	Lists available resources for the specified API version, including resource name and URI.
Limits	/vNN.N/limits/	Lists information about limits in your organization.
SObject Basic Information	/*vNN.N*/sobjects/*SObject*/	Describes the individual metadata for the specified object.
SObject Rows By External ID	/*vNN.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	/*vNN.N*/sobjects/*SObject*/Id/*blobField*	Retrieves the specified blob field from an individual record.
Query	/*vNN.N*/query/?q=*soqlQuery*	Executes the specified SOQL query. The query string must be URL-encoded.
QueryAll	/*vNN.N*/queryAll/?=*soqlQuery*	Executes the specified SOQL query. The query string must be URL-encoded. Unlike the Query resource, QueryAll will return records that have been deleted because of a merge or delete.
Search	/*vNN.N*/search/?s=*soslQuery*	Executes the specified SOSL search. The search string must be URL-encoded.
Batch	/*vNN.N*/composite/batch*	Executes up to 25 subrequests in a single request to improve your application's performance.
SObject Tree	/*vNN.N*/composite/tree/*SObject*	Creates one or more sObject trees with root records of the specified type. An sObject tree is a collection of nested, parent-child records with a single root record. Can also be used to create up to 200 unrelated records of the same type.

Force.com REST API Cheatsheet

REST API Header

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	Specifies the package version under which context an API call is made.	x-sfdc-packageversion-namespace: 2.0
Sforce-Auto-Assign	Specifies whether active assignment rules should be used when creating or updating Cases or Leads.	Sforce-Auto-Assign: TRUE
Sforce-Call-Options	Specifies client-specific options when accessing the following REST resources: SObjet Basic Information, SObject Rows, Query, QueryAll, Search, and SObject Rows by External ID	Sforce-Call-Options: client=SampleCaseSensitiveToken/100, defaultNamespace= battle
Sforce-Limit-Info	Returns limit information for the organization.	Sforce-Limit-Info: api-usage=14/5000
Sforce-Query-Options	Specifies options used in the query, such as the query results batch size.	Sforce-Query-Options: batchSize=1000

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 (").

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.

HTTP Succcess 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.

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 on Invoice_Statement__c

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/a00D0000008o6y
3IAA"
    },
    "Id" : "a00D0000008o6y3IAA",
    "Name" : "INV-0000",
    "Status__c" : "Open"
  }, {
    "attributes" : {
      "type" : "Invoice_Statement__c",
      "url" : "/services/data/v24.0/sobjects/
Invoice_Statement__c/a00D0000008o6y
DIAQ"
    },
    "Id" : "a00D0000008o6yDIAQ",
    "Name" : "INV-0002",
    "Status__c" : "Closed"
  } ]
}
```

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.
S15f0LoborG12HI1s6eEzIxLafInLZIf6RbFiwV2Pjq6 _
QHB4J64a6vSMS705Y _ sIVE _ lq _ xnLIXBXgOKPEo"
}
```

Create Multiple Records

cURL Command:

```
curl https://na1.salesforce.com/services/data/
v34.0/composite/tree/Account/ -H "Authorization:
Bearer token -H "Content-Type: application/json"
-d "@newrecords.json"
```

Example request body newrecords.json for creating four new accounts:

```
{
"records" :[{
    "attributes" : {"type" : "Account",
"referenceId" : "ref1"},
    "name" : "SampleAccount1",
    "phone" : "1111111111",
    "website" : "www.salesforce1.com",
    "numberOfEmployees" : "100",
    "type" : "Analyst",
    "industry" : "Banking"
    },{
    "attributes" : {"type" : "Account",
"referenceId" : "ref2"},
    "name" : "SampleAccount2",
    "phone" : "2222222222",
    "website" : "www.salesforce2.com",
    "numberOfEmployees" : "250",
    "type" : "Analyst",
    "industry" : "Banking"
    },{
    "attributes" : {"type" : "Account",
"referenceId" : "ref3"},
    "name" : "SampleAccount3",
    "phone" : "3333333333",
    "website" : "www.salesforce3.com",
    "numberOfEmployees" : "52000",
    "type" : "Analyst",
    "industry" : "Banking"
    },{
    "attributes" : {"type" : "Account",
"referenceId" : "ref4"},
    "name" : "SampleAccount4",
    "phone" : "4444444444",
    "website" : "www.salesforce4.com",
    "numberOfEmployees" : "2500",
    "type" : "Analyst",
    "industry" : "Banking"
    }]
}
```

Example request body newrecords.json for creating four new accounts:

```
{
    "hasErrors" : false,
    "results" : [{
     "referenceId" : "ref1",
     "id" : "001D000000K1YFjIAN"
     },{
     "referenceId" : "ref2",
     "id" : "001D000000K1YFkIAN"
     },{
     "referenceId" : "ref3",
     "id" : "003D000000K1YFlIAN"
     },{
     "referenceId" : "ref4",
     "id" : "003D000000K1YFmIAN"
     }]
}
```

Update a Record and Get Its Field Values in a Single Request

cURL Command:

```
curl https://na1.salesforce.com/services/data/
v34.0/composite/batch/ -H "Authorization: Bearer
token -H "Content-Type: application/json" -d
"@batch.json"
```

Request body batch.json file:

```
{
"batchRequests" : [
    {
    "method" : "PATCH",
    "url" : "v34.0/sobjects/account/
     001D000000K0fXOIAZ",
    "richInput" : {"Name" : "NewName"}
    },{
    "method" : "GET",
    "url" : "v34.0/sobjects/
account/001D000000K0fXOIAZ?fields=Name,
BillingPostalCode"
    }]
}
```

Response body after successfully executing the subrequests:

```
{
    "hasErrors" : false,
    "results" : [{
      "statusCode" : 204,
      "result" : null
      },{
      "statusCode" : 200,
      "result": {
        "attributes" : {
          "type" : "Account",
          "url" : "/services/data/v34.0/
sobjects/Account/001D000000K0fXOIAZ"
        },
        "Name" : "NewName",
        "BillingPostalCode" : "94105",
        "Id" : "001D000000K0fXOIAZ"
      }
    }]
}
```