ANALYTICS

Analytics REST API Cheat Sheet

Overview

The Analytics REST API provides simple and easy-to-use APIs to interact with Salesforce reports. Each resource in the REST API is a named URI that's used with an HTTP GET or POST method.

All resources are accessed using a generic interface over HTTP with a base URI that follows your Force.com URI. The Analytics REST API supports JSON.

For more detailed information, see the Analytics REST API Developer Guide at *http://bit.ly/salesforceanalyticsapiguide*

Constructing the URL

All Analytics API resources are accessed using:

- A base URI for your company (for example, https://na1.salesforce.com)
- Version information (for example /services/data/v29.0/analytics)
- A named resource (for example, /reports)

Put together, an example of the full URL to the resource is:
https://na1.salesforce.com/services/data/v29.0/analytics/reports/

Authentication

The Analytics API uses OAuth 2.0 for authentication. The return from a successful authentication includes an access token, which can be used for subsequent calls to the Analytics API resources. For information on setting up authentication, see *http://www.salesforce.com/us/developer/docs/api_rest/Content/intro_understanding_authentication.htm*

Resources

Resource	Description	Method	Request Body
`/analytics/reports`	List all recently used, supported reports.	GET	N/A
`/analytics/reports/<reportId>/describe`	Retrieve report, report type, and related metadata for the specified report.	GET	N/A
`/analytics/reports/<reportId>`	Run the specified report.	GET	N/A
`/analytics/reports/<reportId>`	Run the specified report with dynamic filters.	POST	Report Metadata
`/analytics/reports/<reportId>/instances`	Run the specified report asynchronously.	POST	N/A
`/analytics/reports/<reportId>/instances`	Run the specified report asynchronously with filters.	POST	Report Metadata
`/analytics/reports/<reportId>/instances`	List the 200 most recent run instances of the specified report.	GET	N/A
`/analytics/reports/<reportId>/instances/<instanceId>`	Fetch the specified run instance of the specified report.	GET	N/A

Examples

Run a Report Synchronously
To run a report, use GET with the reportId parameter and your OAuth header. This example runs the report with the ID `00OD0000001ZbP7MAK`.

```
curl -s -H 'Authorization: OAuth token ...' https://
na1.salesforce.com/services/data/v29.0/analytics/
reports/00OD0000001ZbP7MAK
```

To include details, not just the aggregated values, append `?includeDetails=true` after the report ID. This is equivalent to toggling the Show Details button in the user interface.

Run a Report Asynchronously
Use POST with the reportId parameter to run a report asynchronously. The system returns an instance ID.

```
curl -s -H 'Authorization: OAuth token ...' https://
na1.salesforce.com/services/data/v29.0/analytics/
reports/00OD0000001ZbP7MAK/instances -X POST -d ''
```

To get the results of your asynchronous run, poll the report run instance with GET.

```
curl -s -H 'Authorization: OAuth token ...' https://
na1.salesforce.com/services/data/v29.0/analytics/
reports/00OD0000001ZbP7MAK/instances/instance_id
```

Run a Report with Dynamic Filters
To apply dynamic filters to your report, send back the report metadata object, with edited filters.

Here's some typical metadata that your report run might have returned:

```
'{reportMetadata":{"name":"CaseGeoReport","id":"00OV0000000OPPYMA
4","developerName":"CaseGeoReport","reportType":{"type":"CaseList
","label":"Cases"},"reportFormat":"MATRIX","reportBooleanFilter":
null,"reportFilters":[{"column": "OPEN", "operator":"equals", "va
lue":"True"}],"detailColumns":["ACCOUNT.NAME","SUBJECT","CREATED_
DATE","AGE","OPEN","CLOSED"],"currency":null,"aggregates":["RowCo
unt"],"groupingsDown":[{"name":"CONTACT2.COUNTRY_CODE","sortOrder
":"Asc","dateGranularity":"None"}],"groupingsAcross":[{"name":"OW
NER","sortOrder":"Asc","dateGranularity":"None"}]}}'
```

Change the filter and run the report. It will look like this. (This example is synchronous, but an asynchronous run works the same way.)

```
curl -s -H 'Authorization: OAuth token ...' https://
na1.salesforce.com/services/data/v29.0/analytics/
reports/00OV0000000OPPYMA4 -X POST -d '{reportMetadata":{"name":"
CaseGeoReport","id":"00OV0000000OPPYMA4","developerName":"CaseGeo
Report","reportType":{"type":"CaseList","label":"Cases"},"reportF
ormat":"MATRIX","reportBooleanFilter":null,"reportFilters":[{"col
umn": "OPEN", "operator":"equals", "value":"False"}],"detailColum
ns":["ACCOUNT.NAME","SUBJECT","CREATED_DATE","AGE","OPEN","CLOSED
"],"currency":null,"aggregates":["RowCount"],"groupingsDown":[{"n
ame":"CONTACT2.COUNTRY_CODE","sortOrder":"Asc","dateGranularity":
"None"}],"groupingsAcross":[{"name":"OWNER","sortOrder":"Asc","da
teGranularity":"None"}]}}
```

Error Codes

HTTP Error Code	Error Message
400	Badly formatted metadata body in POST
400	Filter validation error
400	Missing metadata in POST body for filters
400	No selected report columns
400	Too many report columns, aggregates, or formulas
403	Any limit error
403	API disabled for org
404	Invalid instance
404	Invalid report ID
415	Unsupported media type
500	Report instance metadata changed
501	Invalid historical report format
501	Invalid report format

Fact Maps

A report run returns a fact map. Values in the fact map are expressed as keys, which you can use to visualize the report data. The pattern for fact map keys varies by report format, as shown here.

Report Format	Fact Map Key Pattern
Tabular	`T!T` The grand total of a report. Both record data values and the grand total are represented by this key.
Summary	`<FirstLevelRowGrouping_SecondLevelRowGrouping_ThirdLevelRowGrouping>!T` T refers to the row grand total.
Matrix	`<FirstLevelRowGrouping_SecondLevelRowGrouping>!<FirstLevelColumnGrouping_SecondLevelColumnGrouping>`

Summary Report Fact Map

Here's how the fact map represents a summary report with three groupings.

Fact Map Key	Description
`0!T`	Summary for the value of opportunities in the Prospecting stage (first-level grouping).
`1_0!T`	Summary of the probabilities for the Manufacturing opportunities in the Needs Analysis stage (second-level grouping).

Opportunity Name	Account Name	Amount	Type	Probability (%)	Fiscal Period	Age
Stage: Prospecting **(1 record)**						
		$45,000.00				
Industry: Manufacturing **(1 record)**						
		$45,000.00				
Acme - Widgets	Acme	$45,000.00	New Business	10%	Q2-2013	177
Stage: Needs Analysis **(1 record)**						
		$105,000.00				
Industry: Manufacturing **(1 record)**						
		$105,000.00				
Global Gadgets	Global Media	$105,000.00	Existing Business	20%	Q2-2013	184

0!T

1_0!T

Matrix Report Fact Map

Here's an example of some fact map keys for data in a matrix report with a couple of row and column groupings.

Fact Map Key	Description
`0!0`	Total opportunity amount in the Prospecting stage in Q4 2010.
`0_0!0_0`	Total opportunity amount in the Prospecting stage in the Manufacturing sector in October 2010.
`2_1!1_1`	Total value of opportunities in the Value Proposition stage in the Technology sector in February 2011.
`T!T`	Grand total summary for the report.

Sum of Amount		Close Date	Q4 CY2010				Q1 CY2011				Grand Total
Stage	**Industry**	**Close Date (2)**	**October 2010**	**November 2010**	**December 2010**	**Subtotal**	**January 2011**	**February 2011**	**March 2011**	**Subtotal**	
Prospecting	Manufacturing	Sum of Amount	$0.00	$50,000.00	$0.00	**$50,000.00**	$0.00	$0.00	$0.00	**$0.00**	**$50,000.00**
	Subtotal	Sum of Amount	$0.00	$50,000.00	$0.00	**$50,000.00**	$0.00	$0.00	$0.00	**$0.00**	**$50,000.00**
Needs Analysis	Manufacturing	Sum of Amount	$0.00	$0.00	$0.00	**$0.00**	$0.00	$120,000.00	$0.00	**$120,000.00**	**$120,000.00**
	Subtotal	Sum of Amount	$0.00	$0.00	$0.00	**$0.00**	$0.00	$120,000.00	$0.00	**$120,000.00**	**$120,000.00**
Value Proposition	Manufacturing	Sum of Amount	$0.00	$0.00	$20,000.00	**$20,000.00**	$0.00	$0.00	$0.00	**$0.00**	**$20,000.00**
	Technology	Sum of Amount	$0.00	$0.00	$0.00	**$0.00**	$0.00	$20,000.00	$0.00	**$20,000.00**	**$20,000.00**
	Subtotal	Sum of Amount	$0.00	$0.00	$20,000.00	**$20,000.00**	$0.00	$20,000.00	$0.00	**$20,000.00**	**$40,000.00**
Id. Decision Makers	Manufacturing	Sum of Amount	$0.00	$0.00	$0.00	**$0.00**	$40,000.00	$0.00	$0.00	**$40,000.00**	**$40,000.00**
	Subtotal	Sum of Amount	$0.00	$0.00	$0.00	**$0.00**	$40,000.00	$0.00	$0.00	**$40,000.00**	**$40,000.00**
Negotiation/Review	Technology	Sum of Amount	$0.00	$0.00	$100,000.00	**$100,000.00**	$0.00	$0.00	$0.00	**$0.00**	**$100,000.00**
	Subtotal	Sum of Amount	$0.00	$0.00	$100,000.00	**$100,000.00**	$0.00	$0.00	$0.00	**$0.00**	**$100,000.00**
Closed Won	Manufacturing	Sum of Amount	$0.00	$400,000.00	$0.00	**$400,000.00**	$0.00	$0.00		**$0.00**	**$400,000.00**
	Subtotal	Sum of Amount	$0.00	$400,000.00	$0.00	**$400,000.00**	$0.00	$0.00		**$0.00**	**$400,000.00**
	Grand Total	Sum of Amount	$0.00	$450,000.00	$120,000.00	**$570,000.00**	$40,000.00	$140,000.00	$0.00	**$180,000.00**	**$750,000.00**

0_0!0_0

0!0

2_1!1_1

T!T

For more detail about decoding fact maps, see the Analytics REST API Developer Guide at http://bit.ly/salesforceanalyticsapiguide