

# Reports and Dashboards REST API Cheatsheet



## Overview

The Salesforce Reports and Dashboards REST API provides simple and easy-to-use APIs to interact with Salesforce reports and dashboards. Each resource in the REST API is a named URI that's used with an HTTP GET, POST, or PUT method. All resources are accessed using a generic interface over HTTP with a base URI that follows your Force.com URI. The Reports and Dashboards REST API supports JSON. For more detailed information, see the Reports and Dashboards API Developer Guide at [https://developer.salesforce.com/docs/atlas.en-us.api\\_analytics.meta/api\\_analytics/](https://developer.salesforce.com/docs/atlas.en-us.api_analytics.meta/api_analytics/)

## Constructing the URL

All Reports and Dashboards API resources are accessed using:

- A base URI for your company (for example, <https://na1.salesforce.com>)
- Version information (for example [/services/data/v37.0/analitics](https://na1.salesforce.com/services/data/v37.0/analitics))
- A named resource (for example, [/reports](https://na1.salesforce.com/services/data/v37.0/analitics/reports/) or [/dashboards](https://na1.salesforce.com/services/data/v37.0/analitics/dashboards/))

Put together, an example of the full URL to the resource is:  
<https://na1.salesforce.com/services/data/v37.0/analitics/reports/>

## Authentication

The Reports and Dashboards 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 Reports and Dashboards API resources. For information on setting up authentication, see "Web Service Authorization with OAuth" at [https://developer.salesforce.com/page/Getting\\_Started\\_with\\_the\\_Force.com\\_REST\\_API/](https://developer.salesforce.com/page/Getting_Started_with_the_Force.com_REST_API/)

## Reports Resources

Resource	Description	Method	Request Body
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/">/analitics/reports</a>	List all recently used, supported reports.	GET	N/A
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;/describe">/analitics/reports/&lt;reportId&gt;/describe</a>	Retrieve report, report type, and related metadata for the specified report.	GET	N/A
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;">/analitics/reports/&lt;reportId&gt;</a>	Run the specified report.	GET	N/A
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;">/analitics/reports/&lt;reportId&gt;</a>	Run the specified report with dynamic filters.	POST	Report Metadata
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;/instances">/analitics/reports/&lt;reportId&gt;/instances</a>	Run the specified report asynchronously.	POST	N/A
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;/instances">/analitics/reports/&lt;reportId&gt;/instances</a>	Run the specified report asynchronously with filters.	POST	Report Metadata
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;/instances">/analitics/reports/&lt;reportId&gt;/instances</a>	List the 200 most recent run instances of the specified report.	GET	N/A
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/reports/&lt;reportId&gt;/instances/&lt;instanceId&gt;">/analitics/reports/&lt;reportId&gt;/instances/&lt;instanceId&gt;</a>	Fetch the specified run instance of the specified report.	GET	N/A

## Dashboards Resources

Resource	Description	Method
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/dashboards/">/analitics/dashboards</a>	List all recently used dashboards.	GET
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/dashboards/&lt;dashboardId&gt;">/analitics/dashboards/&lt;dashboardId&gt;</a>	Retrieve metadata, data, and status for the specified dashboard.	GET
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/dashboards/&lt;dashboardId&gt;">/analitics/dashboards/&lt;dashboardId&gt;</a>	Trigger a dashboard refresh.	PUT
<a href="https://na1.salesforce.com/services/data/v37.0/analitics/dashboards/&lt;dashboardId&gt;/status">/analitics/dashboards/&lt;dashboardId&gt;/status</a>	Retrieve status for the specified dashboard.	GET

## Reports 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 000D0000001ZbP7MAK.

```
curl -s -H 'Authorization: Bearer token ...' https://na1.salesforce.com/services/data/v37.0/analitics/reports/000D0000001ZbP7MAK
```

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 and an empty payload to run a report asynchronously. The system returns an instance ID.

```
curl -s -H 'Authorization: Bearer token ...' https://na1.salesforce.com/services/data/v37.0/analitics/reports/000D0000001ZbP7MAK/instances -X POST -d ''
```

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

```
curl -s -H 'Authorization: Bearer token ...' https://na1.salesforce.com/services/data/v37.0/analitics/reports/000D0000001ZbP7MAK/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": "000V0000000PPYMA4", "developerName": "CaseGeoReport", "reportType": { "type": "CaseList", "label": "Cases", "reportFormat": "MATRIX", "reportBooleanFilter": null, "reportFilters": { "column": "OPEN", "operator": "equals", "value": "True" }, "detailColumns": { "ACCOUNT.NAME", "SUBJECT", "CREATED_DATE", "AGE", "OPEN", "CLOSED", "currency": null, "aggregates": { "RowCount": { "name": "CONTACT2.COUNTRY_CODE", "sortOrder": "Asc", "dateGranularity": "None" }, "grouping sAcross": { "name": "OWNER", "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: Bearer token ...' https://na1.salesforce.com/services/data/v37.0/analitics/reports/000V0000000PPYMA4 -X POST -d '{ "reportMetadata": { "name": "CaseGeoReport", "id": "000V0000000PPYMA4", "developerName": "CaseGeoReport", "reportType": { "type": "CaseList", "label": "Cases", "reportFormat": "MATRIX", "reportBooleanFilter": null, "reportFilters": { "column": "OPEN", "operator": "equals", "value": "False" }, "detailColumns": { "ACCOUNT.NAME", "SUBJECT", "CREATED_DATE", "AGE", "OPEN", "CLOSED", "currency": null, "aggregates": { "RowCount": { "name": "CONTACT2.COUNTRY_CODE", "sortOrder": "Asc", "dateGranularity": "None" }, "groupingsAcross": { "name": "OWNER", "sortOrder": "Asc", "dateGranularity": "None" } } } } }
```

# Reports and Dashboards REST API Cheatsheet

## Dashboards Examples

### Get a List of Recently Used Dashboards

To get a list of recently used dashboards, use GET on the Dashboard List resource.

```
curl -s -H 'Authorization: Bearer token ...'  
https://na1.salesforce.com/  
services/data/v37.0/analytics/dashboards
```

Here's an example of the dashboard information that might be returned.

```
{  
  "id" : "01ZD00000007QeuMAE",  
  "name" : "Adoption Dashboard", "statusUrl" :  
    "/services/data/v37.0/analytics/  
dashboards/01ZD00000007QeuMAE/status", "url" :  
    "/services/data/v37.0/analytics/  
dashboards/01ZD00000007QeuMAE"  
}, {  
  "id" : "01ZD00000007QevMAE",  
  "name" : "Global Sales Dashboard", "statusUrl" :  
    "/services/data/v37.0/analytics/  
dashboards/01ZD00000007QevMAE/status", "url" :  
    "/services/data/v37.0/analytics/  
dashboards/01ZD00000007QevMAE"  
}
```

### Refresh a Dashboard

To refresh a dashboard, use PUT on the Dashboard Results resource.

```
curl -s -H 'Authorization: Bearer token ...'  
https://na1.salesforce.com/services/data/v37.0/analytics/  
dashboards/01ZD00000007S89MAE -X PUT
```

The response contains the status URL for the refreshed dashboard.

```
{  
  "statusUrl" : "/services/data/v37.0/analytics/  
dashboards/01ZD00000007S89MAE/status"  
}
```

### Get Dashboard Status

To get the status of a dashboard, use GET on the Dashboard Status resource.

```
curl -s -H 'Authorization: Bearer token ...'  
https://na1.salesforce.com/services/data/v37.0/analytics/  
dashboards/01ZD00000007S89MAE/status
```

The response contains the status for each component, along with the refresh date and time. The components are listed in the order in which they were refreshed.

```
{  
  "componentStatus" : [ {  
    "componentId" : "01aD0000000J7M7",  
    "refreshDate" : "2014-03-10T17:26:07.000+0000",  
    "refreshStatus" : "IDLE"  
  }, {  
    "componentId" : "01aD0000000J7M9",  
    "refreshDate" : "2014-03-10T17:26:08.000+0000",  
    "refreshStatus" : "IDLE"  
  }, {  
    "componentId" : "01aD0000000J7MB",  
    "refreshDate" : "2014-03-10T17:26:09.000+0000",  
    "refreshStatus" : "IDLE"  
  } ]  
}
```

### Get Dashboard Results

To get dashboard metadata, data, and status, use GET on the Dashboard Results resource.

```
curl -s -H 'Authorization: Bearer token ...' https://  
na1.salesforce.com/  
services/data/v37.0/analytics/  
dashboards/01ZD00000007S89MAE
```

Here's an example of the result information that might be returned.

```
{  
  "componentData" : [ {  
    "componentId" : "01aD0000000a36LIAQ",  
    "reportResult" : {  
      // Report result data omitted for brevity.  
    },  
    "status" : {  
      "dataStatus" : "DATA",  
      "errorCode" : null,  
      "errorMessage" : null,  
      "errorSeverity" : null,  
      "refreshDate" : "2014-04-10T20:37:43.000+0000",  
      "refreshStatus" : "IDLE"  
    }  
  } ],  
  "dashboardMetadata" : {  
    "attributes" : {  
      "dashboardId" : "01ZD00000007S89MAE",  
      "dashboardName" : "Simple Dashboard",  
      "statusUrl" : "/services/data/v37.0/analytics/  
dashboards/01ZD00000007S89MAE/status",  
      "type" : "Dashboard"  
    },  
    "canChangeRunningUser" : false,  
    "components" : [ {  
      "componentData" : 0,  
      "footer" : null,  
      "header" : null,  
      "id" : "01aD0000000a36LIAQ",  
      "properties" : {  
        "aggregateName" : "s!AMOUNT",  
        "maxRows" : null,  
        "sort" : {  
          "column" : "TYPE",  
          "sortOrder" : "asc"  
        },  
        "visualizationProperties" : { },  
        "visualizationType" : "Bar"  
      },  
      "reportId" : "000D00000001g2nWMAQ",  
      "title" : null,  
      "type" : "Report"  
    } ],  
    "description" : null,  
    "developerName" : "Simple_Dashboard",  
    "filters" : [ {  
      "name" : "Amount",  
      "options" : [ {  
        "alias" : null,  
        "endValue" : null,  
        "id" : "01CD00000004CBioAM",  
        "operation" : "greaterThan",  
        "startValue" : null,  
        "value" : "USD 2000000"  
      } ],  
      "selectedOption" : null  
    } ],  
    "id" : "01ZD00000007S89MAE",  
    "layout" : {  
      "columns" : [ {  
        "components" : [ 0 ]  
      } ]  
    },  
    "name" : "Simple Dashboard",  
    "runningUser" : {  
      "displayName" : "Allison Wheeler",  
      "id" : "005D000000016V2qIAE"  
    }  
  }  
}
```

## Reports 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.

## Dashboards Error Codes

Dashboard-level error messages are returned in the response header, and component-level error messages are returned as part of the component status object.

### Dashboard-level Errors

When a dashboard-level error occurs, the response header contains an HTTP response code and one of the following error messages.

HTTP Error Code	Error Message
400	The running user for this dashboard doesn't have permission to run reports. Your system administrator should select a different running user for this dashboard.
400	The running user for this dashboard is inactive. Your system administrator should select an active user for this dashboard.
400	You don't have permission to view data as this user.
400	Your organization has reached the limit for dynamic dashboards, or doesn't have access. Ask your administrator to enable dynamic dashboards or convert them to dashboards with a specific running user.
400	You can't refresh this dashboard. A refresh is already in progress.

### Component-level Errors

If an error occurs at the component level, the `errorCode`, `errorMessage`, and `errorSeverity` properties of the component status field are populated. The `errorSeverity` property distinguishes between errors and warnings. Errors are blocking issues that prevent the query from returning any data. Warnings are non-blocking issues; queries will finish, but they might return incomplete data.

The following table shows the possible values for the error fields.

HTTP Error Code	Error Message	errorSeverity
201	This component must have a type and a data source.	Error
202	The source report isn't available; it's been deleted or isn't in a folder accessible to the dashboard's running user.	Error
203	This report can no longer be edited or run. Your administrator has disabled all reports for the custom object, or its relationships have changed.	Error
205	The source report is based on a report type that is inaccessible to the dashboard's running user.	Error
208	Unable to run source report because its definition is invalid.	Error
209	This report cannot be used as the source for this component. If it is a summary or matrix report, add one or more groupings in the report. If it is a tabular report with a row limit, specify the Dashboard Settings in the report.	Error
210	This row-limited tabular report cannot be used as the source for this component. Use the dashboard component editor to specify the data you want to display, or specify the Dashboard Settings in the report.	Error
211	To use this row-limited tabular report as the source, edit the report and specify the Name and Value under Dashboard Settings. When updating the report, make sure you are the running user of the dashboard.	Error
212	Groupings and combination charts are not available for a row-limited tabular report. Set "Group By" to None and deselect "Plot Additional Values."	Error
300	The results below may be incomplete because the underlying report produced too many summary rows, and the sort order of the component is different from the sort order in the underlying report. Try adding filters to the report to reduce the number of rows returned.	Error
301	Results may be incomplete because the source report had too many summary rows. Try filtering the report to reduce the number of rows returned.	Warning
302	The component can't be displayed because the source report exceeded the time limit.	Warning
303	The component can't be displayed because the source report exceeded the time limit.	Error
304	The component can't be displayed because the dashboard filter raises the number of source report filters above the limit. Reduce the number of report filters and try again.	Error
305	The component can't be displayed because the field(s) you chose for the filter are unavailable.	Error
308	You can't filter this component because data is in the joined report format. To filter the component, change its report format.	Error
309	The underlying report uses a snapshot date that is out of range.	Error

## 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

This example shows how the values in a summary report are represented in the fact map.

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

  

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

## 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 from Manufacturing 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	\$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	\$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
		Subtotal	\$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	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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00	\$0.00	\$20,000.00	\$40,000.00
Negotiation/Review	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	\$0.00	\$0.00	\$0.00	\$0.00	\$40,000.00	\$0.00	\$0.00	\$40,000.00	\$40,000.00
Closed Won	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	\$0.00	\$0.00	\$100,000.00	\$100,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$100,000.00
Grand Total	Manufacturing	Sum of Amount	\$0.00	\$400,000.00	\$0.00	\$400,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$400,000.00
		Subtotal	\$0.00	\$400,000.00	\$0.00	\$400,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$400,000.00
<b>Grand Total</b>		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