



How To use REST API inside Sales Cloud

[Opportunity REST WS](#)

[GET](#)

[POST](#)

[PATCH](#)

[Using a 3th party REST API webservice inside Sales Cloud](#)

Abstract

The following document presents the usage of a REST API inside Sales Cloud in groovy scripting.

The document will take as example Opportunity REST Api and present GET , POST and PATCH operations and also will take a free public 3th party REST API and show its usage inside sales Cloud.

Opportunity REST WS

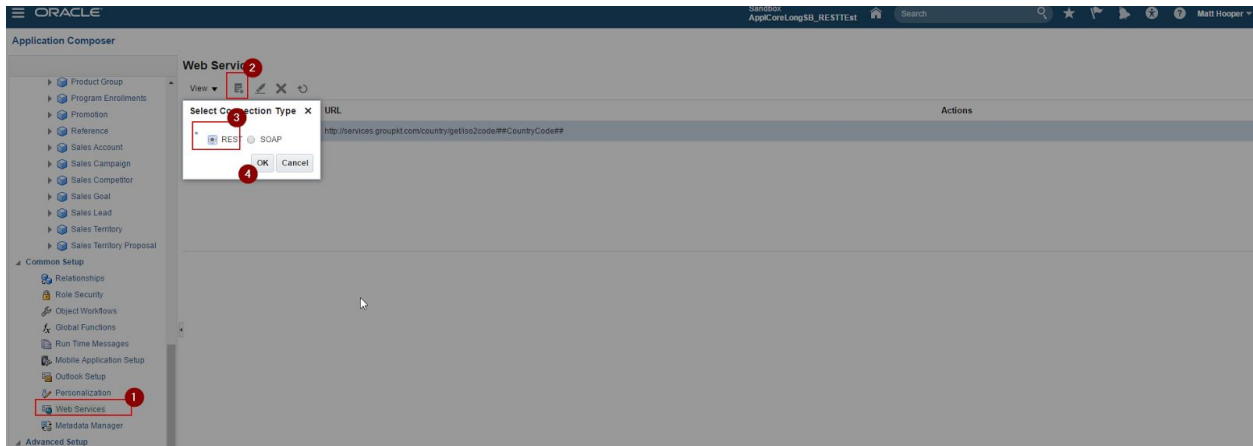
WS Documentation:

http://docs.oracle.com/cloud/farel11/salescs_gs/FAAPS/op-salesApi-resources-11.1.11-opportunities-%7BOptyNumber%7D-get.html#examples

GET

Next we need to Register the Ws and its operation that we want to use inside sales cloud.

- 1 - Go to Navigator
- 2 -Application Composer
- 3- Sales
- 4- Web Services
- 5 - Click Create Web Service Reference
- 6 - Select REST from the popup



7 - Set Variable Name something suggestive.

8 - URL:

`https://CRM POD/salesApi/resources/latest/opportunities/##OptyNumber##`

9 - Select Invoke with basic authentication

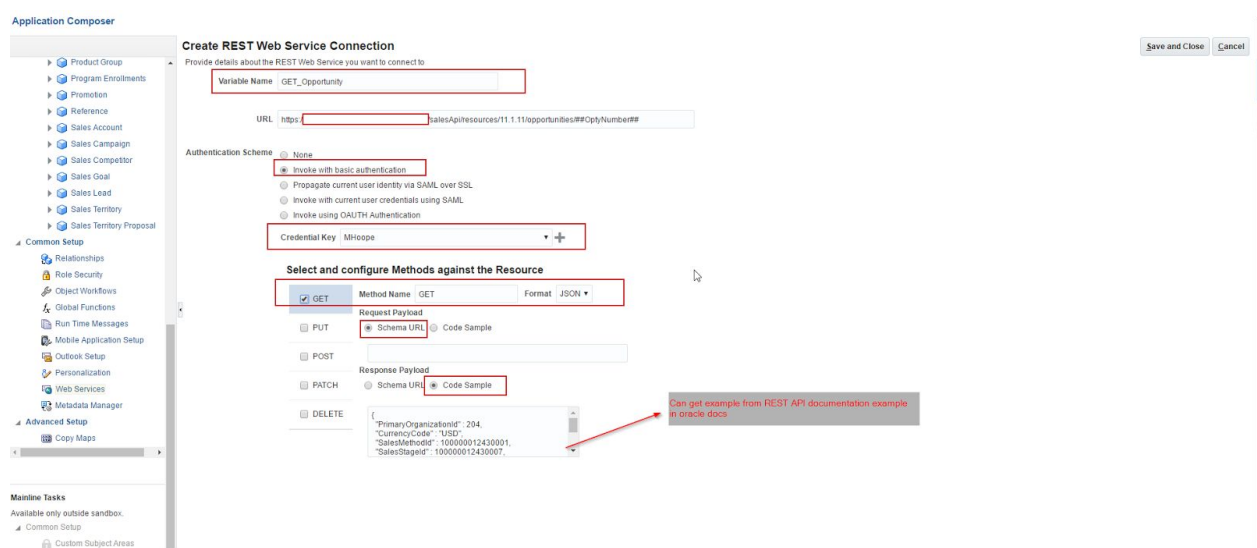
10 - create your Credential Key(Should be your admin user, since Ws are used across the environment so it should be a user with a lot of access)

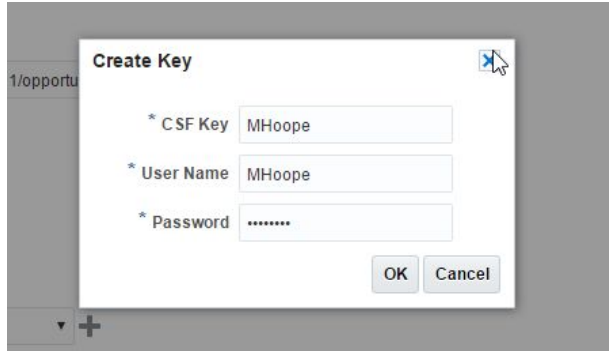
11 - Select GET Method

12 - Format JSON

13 - Select Schema URL

14 - Select Response Payload Code Sample and you need to provide an respons example that you can get from the official REST documentation in Oracle Docs





Example of Response:

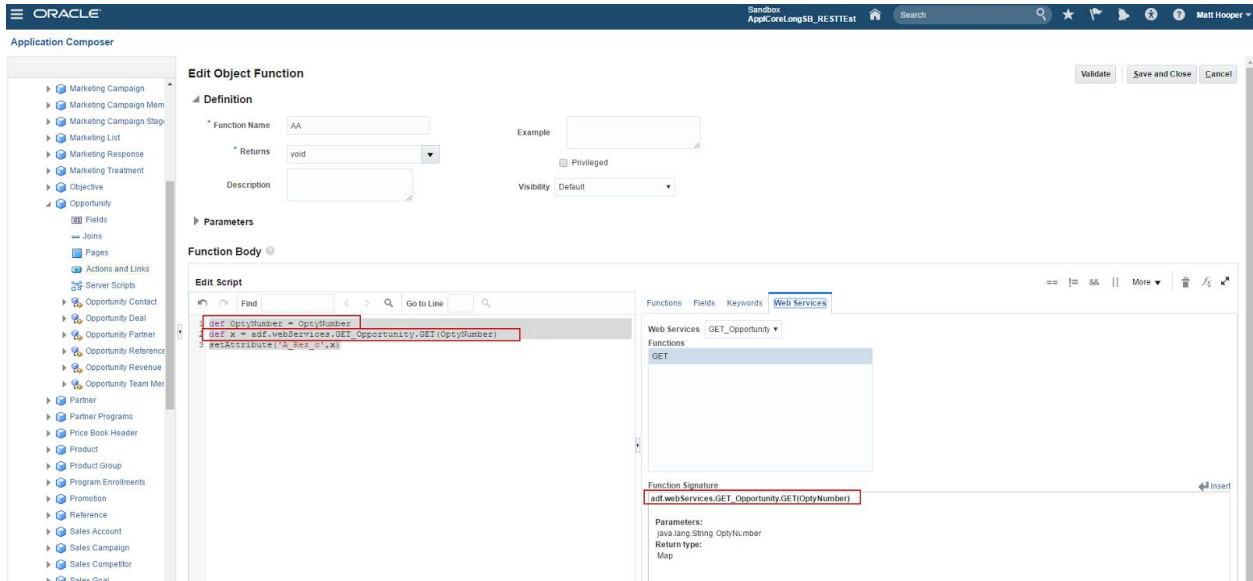
```
{
  "PrimaryOrganizationId" : 204,
  "CurrencyCode" : "USD",
  "SalesMethodId" : 100000012430001,
  "SalesStageId" : 100000012430007,
  "Name" : "Major Server Upgrade",
  "OptyId" : 300100111705686,
  "OptyNumber" : "CDRM_332708",
  "OwnerResourcePartyId" : 3807
}
```

15 - Save and Close



Now you can use this REST GET WS operation into your script.

In this example I will call the WS from a action button on opportunity and display the response in a custom field on the opportunity page.



Code:

```
def OptyNumber = OptyNumber
def x = adf.webServices.GET_Opportunity.GET(OptyNumber)
setAttribute('A_Rez_c',x)
```

The result is:



My Status Not Connected

Opportunities

Edit Opportunity: TestThis Actions Save Save and Close Cancel AA

Summary

Name: TestThis
 Account:
 Primary Contact:
 Owner: Matt Hooper
 Attachments: None
 Primary Partner:

Competitors:
 Revenue: 0.00 USD
 Worst Case: 0.00 USD
 Best Case: 0.00 USD
 Currency: USD
 Status: Open

Win/Loss Reason:
 Close Date: 4/4/17
 Sales Method: Standard Sales Process
 Sales Stage: 01 - Qualification
 Win Probability (%): 11

```
A_Rez [BudgetAvailableDate=null, BudgetedFlag=false, PrimaryOrganizationId=5106, ChampionFlag=false, CreatedBy=MHooper,
CreationDate=2017-03-15T20:31:02+00:00, CurrencyCode=USD, SalesMethodId=10000012430001, SalesStageId=10000012430007,
CustomerAccountId=null, DealHorizonCode=null, DecisionLevelCode=null, Description=null, LastUpdateDate=2017-03-
15T20:31:17:556+00:00, LastUpdateBy=MHooper, LastUpdateOpn=null, Name=TestThis, OpportunityId=300100089818871,
OpnNumber=CDRM_78501, OwnerResourcePartyId=10001001456985, PrimaryContactId=null, KeyContactId=null,
ReasonWonLostCode=null, RiskLevelCode=null, StatusCode=OPEN, StrategicLevelCode=null, PrimaryRevenueId=300100089818872,
TargetPartyId=null, TargetPartyName=null, SalesMethod=Standard Sales Process, SalesStage=01 - Qualification, Description=Looking
for the Right Contacts, Characteristics, Determining the Need, Budget and Sponsor, AverageDaysInStage=30, MaximumDaysInStage=800,
PhaseCd=QUALIFICATION-DISCOVERY, QuotaFactor=3, RcmdWinProb=0, StageStatusCd=OPEN, StgOrder=1, EffectiveDate=2017-04-04,
Revenue=0, WinProb=11, SourceType=OPPORTUNITY, PrimaryContactPartyName=null, PrimaryContactFormattedPhoneName=null,
PrimaryContactEmailAddress=null, Comments=null, PartyName=Matt Hooper, PartyNumbers=null, DownsideAmount=0, UpsideAmount=0,
EmailAddress=sendmail-test-discard@oracle.com, LookupCategory=OPEN, ExpectAmount=0, ForecastOverrideCode=NEVER,
SalesChannelCd=ZFM_DIRECT_CHANNEL_TYPES, LineOfBusinessCode=null, PartyUniqueName=1-null, SalesAccountUniqueName=null,
PrimaryPartnerOrgPartyName=null, PrimaryPartnerId=null, RegistrationStatus=null, RegistrationType=null, Registered=NO,
UpdateFlag=true, DeleteFlag=true, Selected=null, links=(rel=self, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501, name=opportunities, kind=item,
properties=(@odata.metadata=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501, name=opportunities, kind=item,
@odata.type=ACED0005737200136A6176612E67574696C2E41727261794C6973747881D21D99C7619D03000149000473697A6578
70000000277040000002737200116A6176612E6C616E672E496E746567657212E2A0A4F781873802000149000576616C756578720
0106A6176612E5C616E672E4E756D2657286AC851D0894E0860200078700000001737200186F87281636C6526A626F2E5466F6D
61696E74E4E756C65675655696C1C8D0A8EE8020014900046D53514C5478706549647870000000C78), (rel=canonical, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501, name=opportunities, kind=item),
(rel=loy, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501/loy/SalesStage/OV,
name=SalesStage/OV, kind=collection), (rel=loy, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501/loy/CustomerAccount/Picker/OV,
name=CustomerAccount/Picker/OV, kind=collection), (rel=loy, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501/loy/Lob/Search/lookup/PVO,
name=Lob/Search/lookup/PVO, kind=collection), (rel=loy, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501/loy/Obj/StrategicValue/OV,
name=Obj/StrategicValue/OV, kind=collection), (rel=loy, href=https://sc08bff.dev.oraclecorp.com:10616/salesApi/resources/11.1.11/opportunities/CDRM_78501/loy/RevenueSalesChannel/lookup/OV,
name=RevenueSalesChannel/lookup/OV, kind=collection), (rel=loy,
```

As you can see we have a response

POST

Will create a new Opportunity by just specifying the Name

Application Composer

Edit REST Web Service Connection

Provide details about the REST Web Service you want to connect to

Variable Name: POST_Opportunity

URL: https://salesapisources/latest/opportunities

Authentication Scheme: None Invoke with basic authentication Propagate current user identity via SAML over SSL Invoke with current user credentials using SAML Invoke using OAuth2 Authentication

Credential Key: MHooper

Select and configure Methods against the Resource

GET PUT POST PATCH DELETE

Method Name: POST Format: JSON

Request Payload: Schema URL Code Sample

Response Payload: Schema URL Code Sample

```
{
  "Name": "Major Application Upgrade"
}
```

```
[BudgetAvailableDate: null, BudgetedFlag:
false, PrimaryOrganizationId: 254, ChampionFlag:
false, CreatedBy: "SALES_ADMIN", CreationDate:
"2015-06-04T03:38:27-07:00", CurrencyCode:
"USD", SalesMethodId:
```

Payload Code Sample Example:

```
{"Name" : "Major Application Upgrade"}
```

Response Code Sample

```
{  
  BudgetAvailableDate: null,  
  BudgetedFlag: false,  
  PrimaryOrganizationId: 204,  
  ChampionFlag: false,  
  CreatedBy: "SALES_ADMIN",  
  CreationDate: "2015-06-04T03:08:27-07:00",  
  CurrencyCode: "USD", SalesMethodId: 100000012430001,  
  SalesStageId: 100000012430007,  
  Name: "Major Application Upgrade",  
  OptyId: 300100111705686  
}
```

Using it in the Action Button code:

Edit Object Function

Definition

- Function Name: AA
- Returns: void
- Description: [Empty]

Parameters

Function Body

```
1 def opty = adf.webServices.POST_Opportunity  
2 try{  
3   // Create new Opportunity object by passing Opportunity name  
4   // Set Content-Type request header  
5   def Name = {Name:'TestNewOpptyREST'}  
6   def httpHeaders={'Content-Type':'application/vnd.oracle.adf.resourceitem+json'}  
7   opty.requestHTTPHeaders=httpHeaders  
8   def newOppty = opty.POST(Name)  
9  
10 }catch(Exception e){  
11   println("Headers:"+opty.responseHTTPHeaders)  
12   println("-----")  
13   println("Status:"+opty.statusCode)  
14   println("-----")  
15   println("Error:"+e)  
16   println("-----")  
17 }
```

Web Services: POST_Opportunity

Functions

- POST

Function Signature

adf.webServices.POST_Opportunity.POST(Name)

Parameters:

- Map Name
- Return type: Map

Code:

```
def opty = adf.webServices.POST_Opportunity
try{
  // Create new Opportunity object by passing Opportunity name
  // Set Content-Type request header
  def Name =[Name:'TesNewOptyREST']
  def httpHeaders=['Content-Type':'application/vnd.oracle.adf.resourceitem+json']
  opty.requestHTTPHeaders=httpHeaders
  def newOpty = opty.POST(Name)
}catch(Exception e){
  println("Headers:"+opty.responseHTTPHeaders)
  println("-----")
  println("Status:"+opty.statusCode)
  println("-----")
  println("Error:"+e)
  println("-----")
}
```

Overview

Opportunities Analytics

Search Saved Search: My Open Opportunities

Record Set: Equals Records I own Close Period: Equals All

Name: Starts with * Close Date: Between 1/1/15 - 12/31/22

* Status: Equals Open

Actions View Format Perform Mass Update

| Name | Revenue | Currency | Account | Primary Contact | Close Date | Sales Stage | Win Probability |
|-----------|---------|----------|---|---------------------------|------------|--------------------|-----------------|
| CountryWS | 0.00 | USD | | | 4/4/17 | 01 - Qualification | 22% |
| TestThis | 0.00 | USD | | | 4/4/17 | 01 - Qualification | 11% |
| Test | 0.00 | USD | Automotive_101389442 (WARRENVILLE, ...) | James Party>Contact Party | 12/22/15 | 01 - Qualification | 0% |

Opportunities

Edit Opportunity: TestThis

Actions

Summary

| | | |
|---|-----------------------------------|---------------------------------------|
| * Name: <input type="text" value="TestThis"/> | Competitors: <input type="text"/> | Win/Loss Reason: <input type="text"/> |
| Account: <input type="text"/> | Revenue: 0.00 USD | * Close Date: 4/4/17 |
| Primary Contact: <input type="text"/> | Worst Case: 0.00 USD | Sales Method: Standard Sales Proces |
| Owner: Matt Hooper | Best Case: 0.00 USD | Sales Stage: 01 - Qualification |
| Attachments: None | Currency: USD | Win Probability (%): 11 |
| Primary Partner: <input type="text"/> | Status: Open | A_Rez: <input type="text"/> |

Show More

Revenue Items

Forecast Criteria: (Probability > 75%)

Actions View Format

| Close Date | Forecast Type | Product Name | Quantity | Estimated Price | Revenue | Status | Win Probability (%) | Indicators |
|---------------------|---------------|--------------|----------|-----------------|---------|--------|---------------------|------------|
| No data to display. | | | | | | | | |

Overview

Opportunities Analytics

Search Saved Search: My Open Opportunities Required

Record Set: Equals Records I own Close Period: Equals All

Name: Starts with Close Date: Between 1/1/15 - 12/31/22

Status: Equals Open

Search **Reset** **Save...** **Add Fields** **Reorder**

Actions View Format + 📄 📄 📄 ✖ 🔄 Perform Mass Update

| Name | Revenue | Currency | Account | Primary Contact | Close Date | Sales Stage | Win Probability |
|----------------|---------|----------|---|---------------------------|------------|--------------------|-----------------|
| CountryWS | 0.00 | USD | | | 4/4/17 | 01 - Qualification | 22% |
| TestThis | 0.00 | USD | | | 4/4/17 | 01 - Qualification | 11% |
| TestNewOpyREST | 0.00 | USD | | | 4/4/17 | 01 - Qualification | 0% |
| Test | 0.00 | USD | Automotive_101389442 (WARRENVILLE, ...) | James Party>Contact Party | 12/22/15 | 01 - Qualification | 0% |

As you can see a New Opportunity was Created when AA button was pressed

PATCH

Will use Opportunity Patch Operation to update the Name of the Opportunity Opened.

Application Composer

Edit REST Web Service Connection **Save and Close** **Cancel**

Provide details about the REST Web Service you want to connect to

Variable Name: PATCH_Opportunity

URL: https://[]/salesApi/resources/11.1.11/opportunities/#OpyNumber#

Authentication Scheme: None Invoke with basic authentication Propagate current user identity via SAML over SSL Invoke with current user credentials using SAML Invoke using OAuth Authentication

Credential Key: MHoopes

Select and configure Methods against the Resource

GET Method Name: PATCH Format: JSON

PUT Request Payload: Schema URL Code Sample

POST ("Name": "Major Application and Server Upgrade")

PATCH Response Payload: Schema URL Code Sample

DELETE

```
{
  "BudgetAvailableDate": null,
  "BudgetedFlag": false,
  "PrimaryOrganizationId": 204,
  "ChampionFlag": false,
  "CreatedBy": "SALES_ADMIN",
  "CreationDate": "2015-09-04T03:08:27-07:00",
  "CurrencyCode": "USD",
  "SalesMethodId": null
}
```

Mainline Tasks
Available only outside sandbox.

Payload Code Sample Example:

```
{"Name" : "Major Application Upgrade"}
```

Response Code Sample

```
{  
  BudgetAvailableDate: null,  
  BudgetedFlag: false,  
  PrimaryOrganizationId: 204,  
  ChampionFlag: false,  
  CreatedBy: "SALES_ADMIN",  
  CreationDate: "2015-06-04T03:08:27-07:00",  
  CurrencyCode: "USD", SalesMethodId: 100000012430001,  
  SalesStageId: 100000012430007,  
  Name: "Major Application Upgrade",  
  OptyId: 300100111705686  
}
```

Code in the Action Button:

The screenshot displays the 'Application Composer' interface. On the left is a navigation tree with categories like 'Marketing Campaign Step', 'Marketing List', 'Marketing Response', 'Marketing Treatment', 'Objective', 'Opportunity', 'Partner', 'Partner Programs', 'Price Book Header', 'Product', 'Product Group', 'Program Enrollments', 'Promotion', 'Reference', 'Sales Account', 'Sales Campaign', 'Sales Competitor', 'Sales Goal', 'Sales Lead', and 'Sales Territory'. The 'Opportunity' category is expanded, showing sub-items like 'Fields', 'Joins', 'Pages', 'Actions and Links', 'Server Scripts', 'Opportunity Contact', 'Opportunity Deal', 'Opportunity Partner', 'Opportunity Reference', 'Opportunity Revenue', and 'Opportunity Team Mer'.

The main area is titled 'Edit Object Function' and contains the following fields:

- Function Name:** AA
- Returns:** void
- Description:** (empty)
- Example:** (empty)
- Privileged:** (checkbox, unchecked)
- Visibility:** Default

Below these fields is the 'Function Body' section with an 'Edit Script' editor. The script contains the following code:

```
1 def opty = adf.webServices.PATCH_Opportunity  
2 try  
3   // Create new Opportunity object by passing Opportunity name  
4   // Set Content-Type request header  
5   def OptyNumber = OptyNumber  
6   def Name = (Name: PATCH_NEW_NAME)  
7   def HttpHeaders = {'Content-Type': 'application/vnd.oracle.edf.resource+json'}  
8   opty.requestHttpHeaders = HttpHeaders  
9   def newOpty = opty.PATCH(OptyNumber, Name)  
10  
11 } catch (Exception e) {  
12   println("Headers:" + opty.responseHttpHeaders)  
13   println("-----")  
14   println("Status:" + opty.statusCode)  
15   println("-----")  
16   println("Error:" + e)  
17   println("-----")  
18 }
```

On the right side of the editor, there is a 'Web Services' panel showing the 'PATCH_Opportunity' function signature:

```
Function Signature  
adf.webServices.PATCH_Opportunity.PATCH(OptyNumber, Name)  
  
Parameters:  
java.lang.String OptyNumber  
Map Name  
Return type:  
Map
```

At the top right of the dialog are buttons for 'Validate', 'Save and Close', and 'Cancel'.

```

def opty = adf.webServices.PATCH_Opportunity
try{
  // Create new Opportunity object by passing Opportunity name
  // Set Content-Type request header
  def OptyNumber = OptyNumber
  def Name =[Name:'PATCH_NEW_NAME']
  def httpHeaders=['Content-Type':'application/vnd.oracle.adf.resourceitem+json']
  opty.requestHTTPHeaders=httpHeaders
  def newOpty = opty.PATCH(OptyNumber, Name)

}catch(Exception e){
  println("Headers:"+opty.responseHTTPHeaders)
  println("-----")
  println("Status:"+opty.statusCode)
  println("-----")
  println("Error:"+e)
  println("-----")
}

```

The Result

Opportunities

Edit Opportunity: CheageName

Summary

Name CheageName

Account

Primary Contact

Owner Matt Hooper

Attachments None

Primary Partner

Competitors

Revenue 0.00 USD

Worst Case 0.00 USD

Best Case 0.00 USD

Currency USD

Status Open

Win/Loss Reason

Close Date 4/4/17

Sales Method Standard Sales Proces

Sales Stage 01 - Qualification

Win Probability (%) 11

A_Rez

Save Save and Close Cancel AA

Revenue Items

Forecast Criteria: (Probability > 75)

View Recommendations Browse Sales Catalog

| Close Date | Forecast Type | Product Name | Quantity | Estimated Price | Revenue | Status | Win Probability (%) | Indicators |
|---------------------|---------------|--------------|----------|-----------------|---------|--------|---------------------|------------|
| No data to display. | | | | | | | | |

Additional Details

Activity Center

As you can see name changed, which means opportunity was updated via PATCH REST Operation

The screenshot shows the 'Edit Opportunity' interface in Salesforce. The opportunity name is 'PATCH_NEW_NAME'. The 'Name' field is highlighted with a red box. The page includes sections for 'Summary', 'Revenue Items', and 'Additional Details'. The 'Revenue Items' table is empty, with columns for Close Date, Forecast Type, Product Name, Quantity, Estimated Price, Revenue, Status, Win Probability (%), and Indicators. The 'Forecast Criteria' is set to '(Probability > 75)'. The 'Status' is 'Open'.

Using a 3th party REST API webservice inside Sales Cloud

For this example I will be using a REST WS that is public and free that will get a country code and return the name of the country and few informations about that country.

The REST WS used is this one:

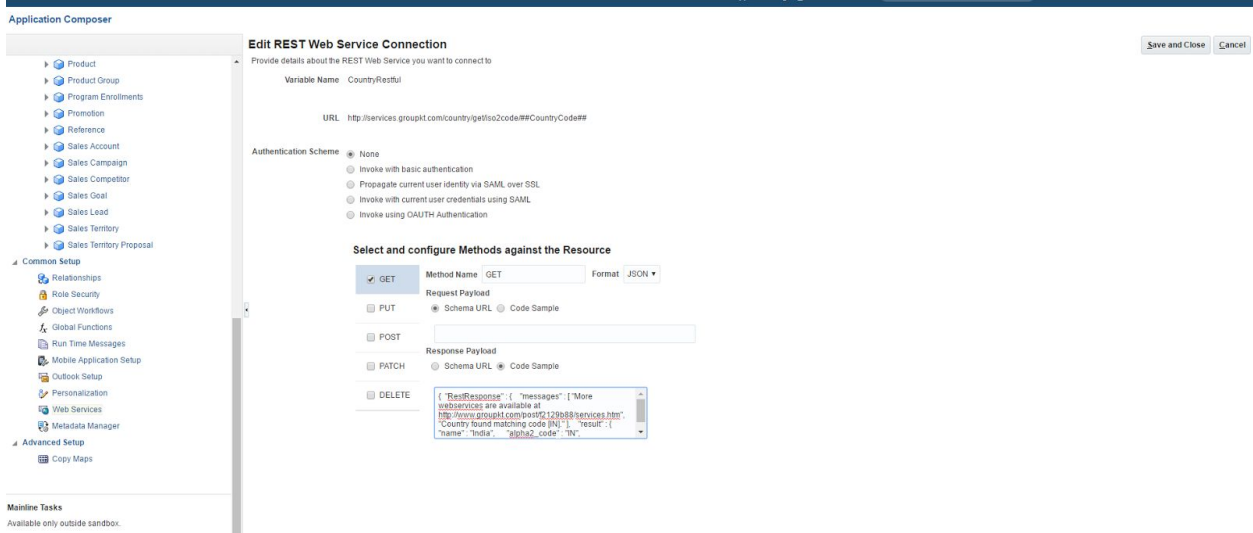
URL: <http://services.groupkt.com/country/get/iso2code/##CountryName##>

You can find it free at this address :

<http://www.groupkt.com/post/c9b0ccb9/country-and-other-related-rest-webservices.htm>

As before you must register this Ws in Sales Cloud, but unlike the previous examples you will chose none for authentication as it is public and free and does not require authentication for it to be used.

This Webservice also supports only GET Operation, so that is what we will use.

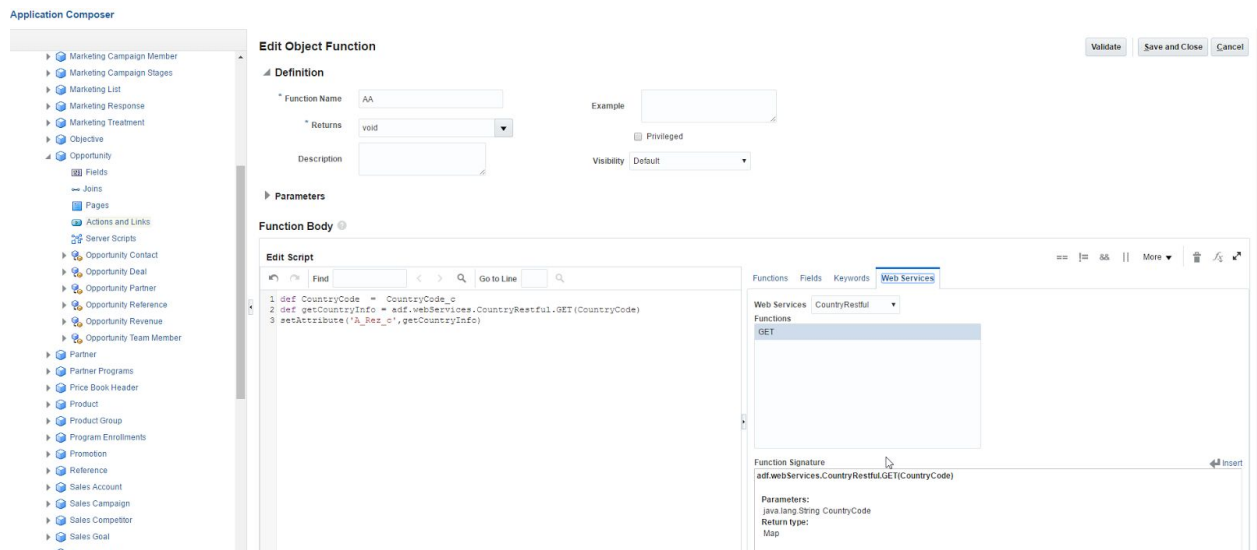


You can sue as Response Payload Code Sample the following:

```
{ "RestResponse" : { "messages" : [ "More webservicess are available at
http://www.groupkt.com/post/f2129b88/services.htm", "Country found matching code [IN]." ],      "result" :
{      "name" : "India",      "alpha2_code" : "IN",      "alpha3_code" : "IND" } } }
```

Next I will use this in the same Action Button as before.

However the Setup will be that I will type a Country code in a Custom Text field and Return the result in a Long Text Field for that country code.



```
def CountryCode = CountryCode_c
def getCountryInfo = adf.webServices.CountryRestful.GET(CountryCode)
setAttribute('A_Rez_c',getCountryInfo)
```

So it gets the country code from field CountryCode_c and feeds it into the webservice, the response will populate the field A_Rez_c

The result is as below:

The screenshot shows a CRM interface for editing an opportunity. The form is titled "Edit Opportunity: PATCH_NEW_NAME". On the right side, there are action buttons: "Save", "Save and Close", "Cancel", and "AA" (highlighted with a red circle 2). The form is divided into several sections:

- Summary:** Includes fields for Name (PATCH_NEW_NAME), Account, Primary Contact, Owner (Matt Hooper), Attachments (None), Primary Partner, and Competitors.
- Financials:** Revenue (0.00 USD), Worst Case (0.00 USD), Best Case (0.00 USD), Currency (USD), Status (Open), Win/Loss Reason, and Close Date (4/4/17).
- Sales Method:** Standard Sales Process.
- Sales Stage:** 01 - Qualification.
- Win Probability:** 11.
- A_Rez:** A text area containing a JSON response: `{messages:[{More webservices are available at http://www.groupit.com/post#2129b68#services.htm. Country found matching code [GB]}, result={name=United Kingdom of Great Britain and Northern Ireland, alpha2_code=GB, alpha3_code=GB}]}` (highlighted with a red circle 3).
- CountryCode:** A field containing the value "GB" (highlighted with a red circle 1).