**APEX REST API :-**

The [Force.com REST API](http://developer.force.com/REST) lets you use a simple and lightweight API to access Force.com data, using standard OAuth, together with a choice of data flavors – XML and JSON. The REST API is configured out of the box to suit the basic CRUD (create, read, update and delete) operations of data management.

Apex REST augments this functionality and makes it possible for developers to create your own REST-based web services using Apex. It has all of the advantages of the REST architecture, provides the ability to define custom logic and includes automatic argument/object mapping.

First we need to write the RestApi Class in the Organization of which the Data is Actually Contains.

========================================================================Example :-

* This is Sample Class which Returns the List of Records of an Custom Object when it is invoked from the Client Org.
* The url Mapping is useful to invoke the RestApi Class from the Client Org.
* Follow the Syntax of Representing the Class instead of the Class Name,Method Name & Return Type.

The Following is the URL contains the Detailed Information about REST API in Apex :-

<http://wiki.developerforce.com/page/Creating_REST_APIs_using_Apex_REST>

@RestResource(urlMapping='/MappingDataService/\*')

global with sharing class MappingData {

//Here we can use Either HttpPost or HttpGet

@HttpPost

/\*

//Method which returns the integer Value

global static integer MappingDetails(Integer x,integer y) {

return x+y;

}

\*/

//Method which returns the list of sObject Records.

global static list<sObject> MappingDetails(String MapId){

list<sobject> lstResult = [select id,name from sObject where id=:MapId];

return lstResult;

}

}

========================================================================

**Need to Config the Remote Access in the Organization which Contains the REST API class**

**Steps:-**

**Setup => Develop => Remote Access => Create New Remote Access** (which is useful to connect with the Client Org).

* Provide Required Information called Application Field, Contact Email, Callback URL at the time of Remote Access Creation and Click on Save.
* After the Remote Access is Saved "Consumer Key","Consumer Secret" will be generated for the saved Remote Access.

("Consumer key" & "Consumer Secret" is useful to invoke the REST API class from Client org)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***Code in Client Org :-**

==================================

/\* Class which Should be Written in Client's Org to Invoke the RestApi \*/

public class RestAPITest{

public void TestAPI(){

string username = 'hari@efax.com';

//user name of the Organization which contains the REST API Class

string password = 'appshark2012J1EsH3OuwFRGWPx4lAFPcliCP';

//Password along with the SecurityToken of the Organization which contains the REST API Class

/\*

(Remember the ConsumerKey should be the "Consumer Key" & clientId should be "Consumer Secret" which is Generated at the Time of Remote Access Creation)

\*/

string ConsumerKey = '3MVG9Y6d\_Btp4xp5Zrl0hBMbMXpBEb2SDVo8puXNUmq5lIBg8zcTuaPbWFKqs\_XwiJxmguKZZzdIzDGU\_B9uy';

string clientId = '3823396594056912123';

string URI = 'https://ap1.salesforce.com/services/oauth2/token?grant\_type=password&' + 'client\_id=' + ConsumerKey + '&' + 'client\_secret=' + clientId + '&' + 'username=' + username + '&' + 'password=' + password;

HttpRequest req = new HttpRequest();

req.setEndpoint(URI);

req.setMethod('POST');

Http http = new Http();

HTTPResponse res = http.send(req);

System.debug('\*\*\* After Authentication...'+res.getBody());

/\* Here we need to Get the AccessToken form the Response for that we are Parsing the Response using JSONParser \*/

string accsToken = '';

JSONParser parser1 = JSON.createParser(res.getBody());

while (parser1.nextToken() != null) {

if ((parser1.getCurrentToken() == JSONToken.FIELD\_NAME) && (parser1.getText() == 'access\_token')) {

// Get the value.

parser1.nextToken();

accsToken = parser1.getText();

}

}

system.debug('accsToken===========>'+accsToken);

//Calling Rest Service

URI = 'https://ap1.salesforce.com/services/apexrest/MappingDataService/MappingData';

req = new HttpRequest();

req.setEndpoint(URI);

req.setMethod('POST');

req.setHeader('content-type','application/json');

/\* string postData = '{ \"x\": \"9\", \"y\": \"10\" }';//Sending the Data i.e Arguments of the Methods of the RestAPI class \*/

string postData = '{ \"MapId\": \"'+SelMapId+'\"}'; //Sending the Data i.e Arguments of the Methods of the RestAPI class

req.setBody(postData);

req.setHeader('Authorization', 'OAuth ' + accsToken);

res = http.send(req);

System.debug('\*\*\*\* After Service Call.....'+res.getBody());

/\* After Getting the Response from the Another Org We need to parse the Result Using JSON Parser. \*/

string mapname = '';

string mapid = '';

JSONParser parser = JSON.createParser(res.getBody());

while (parser.nextToken() != null) {

if ((parser.getCurrentToken() == JSONToken.FIELD\_NAME) && (parser.getText() == 'Name')) {

// Get the value.

parser.nextToken();

mapname = parser.getText();

}

if((parser.getCurrentToken() == JSONToken.FIELD\_NAME) && (parser.getText() == 'Id')){

parser.nextToken();

mapid = parser.getText();

}

}

// Like that we need to Parse the Data and keep it in the Required Manner i.e stored in List or Map or Variables

}

}

**Note :-**

After Executing the Above Method You Will Get an Error i.e Need to Config the "Remote Site Settings" include the URL Shown in Debug-log in the Remote Site Settings of the Client Org.