

INTEGRATION OF IBM API MANAGEMENT WITH SAP.

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[API Management Resources](#)

[Miracle Software Systems, Inc](#)

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INTRODUCTION

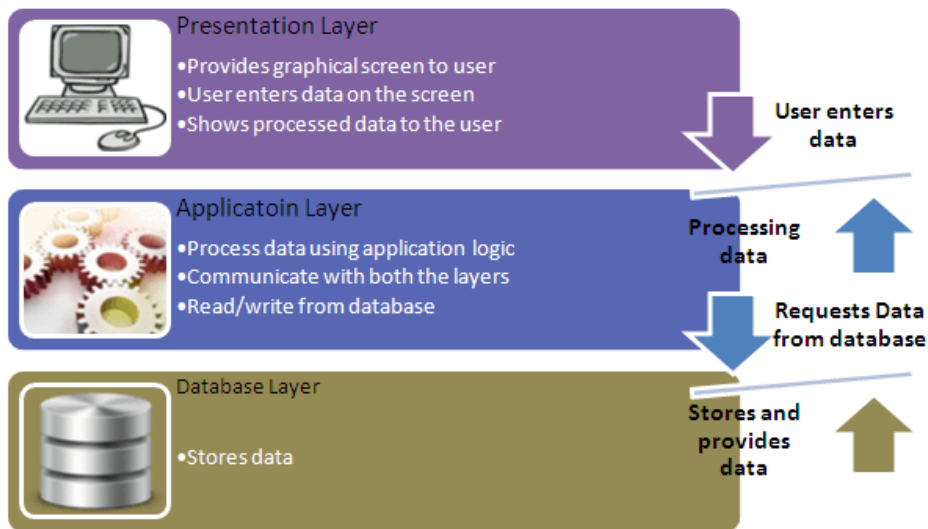
SAP (Systems, Applications & Products in Data Processing) is a German multinational software corporation that makes to manage business operations and customer relations.

SAP is the fourth largest company in the world.

Advantages:

1. Flexibility.
2. Customized solutions to suit your business.
3. Highly integrated with other modules.
4. Industry specific modules with a deep insight.
5. Continuous support.

SAP Architecture



Steps to create API :

Create an account in IBM API Management

Specify the credentials and Sign in.

Sign in to IBM

Enter your IBMid [Forgot IBM ID?](#)

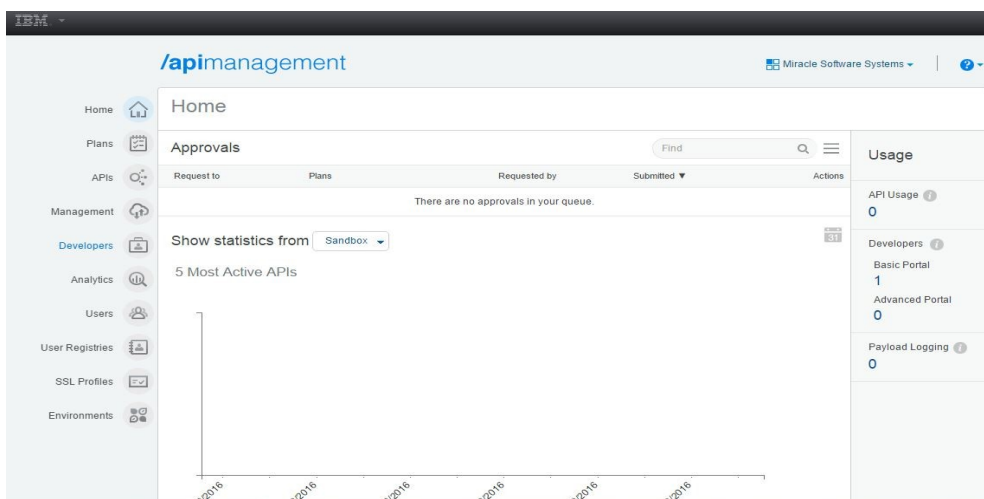
ch.umadevi93@gmail.com

Password [Forgot password?](#)

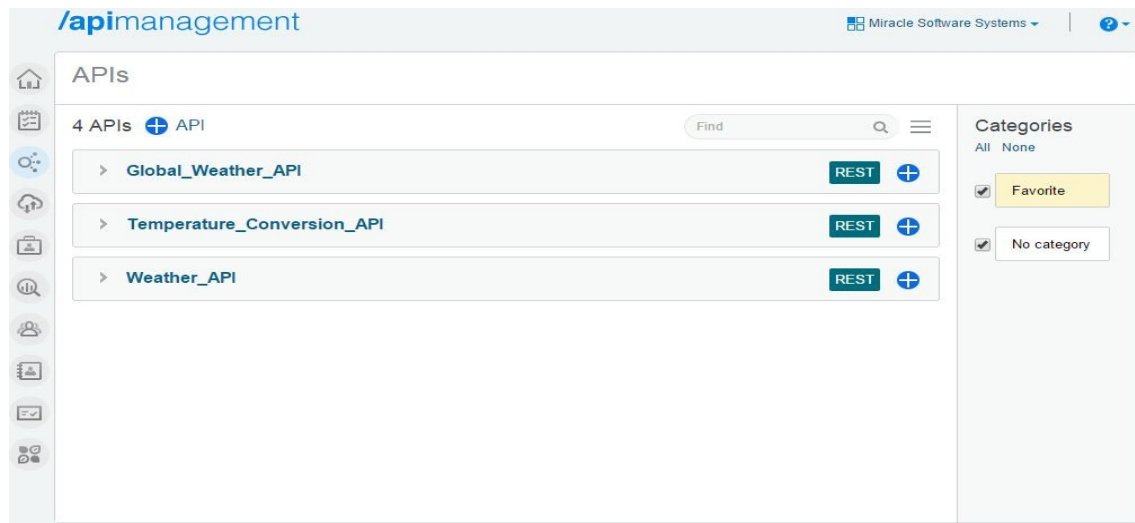
Sign in

[New? Create an IBMid.](#) [Help and FAQ](#)

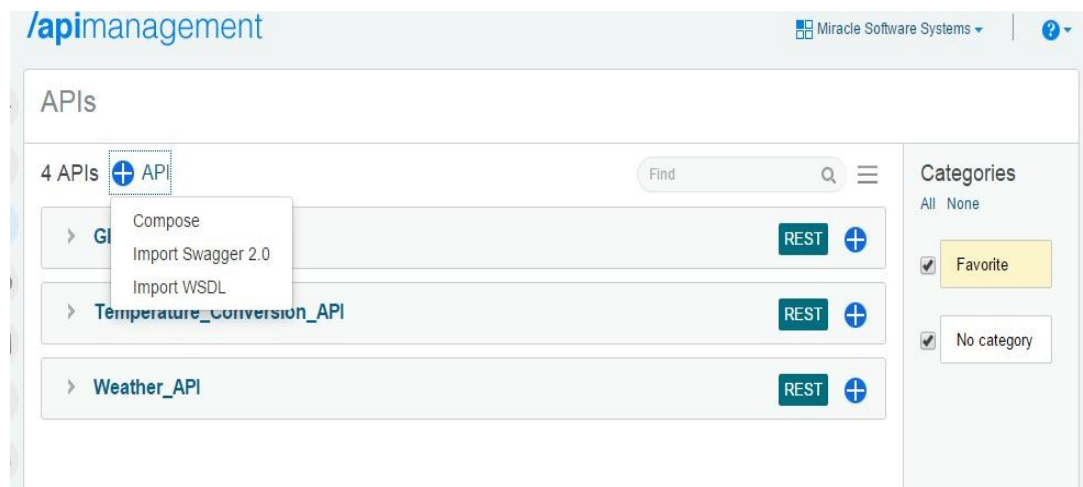
After that you will get the below screen.



Now click on 'APIs' to create new proxy API.



Click on '+' and then click on compose to create new API



Enter the Title, Base path and click on add to compose the API.

Add a new API

Please provide a title and base path for the new API

Title
SAP_REST_Integrate_API

Base Path
/report

Version
1.0.0

Description
API description

Add Cancel

Click '+' operation and then enter the path, and then click on save.

Base Path /report

Version 1.0.0

Revision 1

Hostname This API is enforced. The hostname, if specified, overrides the API Management Gateway hostname.

- Settings
- Tags
- API Security
- Security Requirement
- Extensions
- Additional Information

Operations Properties Documentation Schemas

+ Operation

Find

Path	Summary (optional)	Description (optional)	Identification Authentication
/zsubmit/v?tcodes=zalvreport&v	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>

Methods

GET +

Add x

Now, Click on edit button and then click on response in overview tab.

The screenshot shows the API management console interface. At the top, there are tabs for 'Operations', 'Properties', 'Documentation', and 'Schemas'. Below these, there's a search bar and a 'Find' button. The main section displays the 'Overview' tab for an operation. The operation's method is 'GET' and its path is '/zsubmitalv?tcode='zalvr'. There are checkboxes for 'Identification', 'Authentication', and 'Deprecated', and buttons for 'Extensions' and 'Actions'. Below this, there's a 'Description' field. The 'Parameters' section is expanded, showing a table with columns 'Name', 'Description', and 'Required'. Two parameters are listed: 'tcode' and 'variant', both marked as required.

Name	Description	Required
tcode		<input checked="" type="checkbox"/>
variant		<input checked="" type="checkbox"/>

Now, copy the response from the browser when we hit the URL in Response example as shown in below.

The screenshot shows the 'Response' tab in the API management console. The status code is 200. The 'Response Headers' section is empty. The 'Swagger Schema Object' section shows an empty object. The 'Response Example' section shows a JSON object with the following structure:

```
{
  "description": "Z_ALV_SUB",
  "alvMetadata": [
    {
      "row_pos": "0 ",
      "col_pos": "1 ",
      "fieldname": "VBELN",
      "tablename": "",
      "currency": "",
      "cfieldname": ""
    }
  ]
}
```


Now click on implementation tab and then enter the URL in proxy.

The screenshot shows the 'Implementation' tab of an API management console. At the top, there are tabs for 'Operations', 'Properties', 'Documentation', and 'Schemas'. Below these is a search bar labeled 'Find'. The main area displays a table of API operations. The first row is highlighted and shows a 'GET' method for the path '/zsubmitalv?tcode='zalvr'. To the right of the path are checkboxes for 'Identification', 'Authentication', and 'Deprecated', and icons for 'Extensions' and 'Actions'. Below the table is a 'Description' field. Further down, there are tabs for 'Overview', 'Implementation' (which is selected), and 'Test'. At the bottom, there is a 'Proxy' tab and an 'Assemble' button. A 'PROXY URL' field is visible, containing the URL 'http://192.168.1.101:8000/sap/bc/zsubmitalv?tcode=zalvreport&variant=123'.

Click on plan to create a new plan.

The screenshot shows a 'Create a new plan' dialog box. It has a title bar that says 'Create a new plan'. Inside, there is a 'Title' field with the text 'SAP_REST_Integrate_Plan'. Below the title field is a 'Restricted' toggle switch, which is currently turned off. There is also a 'Description' field with the text 'Plan description'. At the bottom of the dialog box, there are two buttons: 'Add' and 'Cancel'.

Now click on Add operation and select the respected API as shown below.

Add operations

Baggage_Sample_API

Global_Weather_API

SAP_REST_Integrate_API

Temperature_Conversion_API

Weather_API

Revision: 1

Find

<input checked="" type="checkbox"/>	Method	Path
<input checked="" type="checkbox"/>	GET	/zsubmitlv? tcode='zslvreport'&variant='123'

Add Cancel

Save the created plan and then click on stage and select the sandbox.

Title

SAP_REST_In...

Revision

1

Restricted

☐

Staged in

Sandbox

Stage

Delete

Save

Description

Rate limit

Unlimited

+ Operation

Find

Method	Path	Summary	Description	Rate limit	Actions
SAP_REST_Integrate_API (Revision 1) - /report					
GET	/zsubmitlv? tcode='zslvreport'&variant='123'			Unlimited	

Now click on APIS and Click on response in implementation tab and then click on map values to map.

The screenshot shows the 'Implementation' tab of an API configuration interface. On the left, there's a 'REQUEST' section with a 'RESPONSE' button. The main area is titled 'Return...' and has a dropdown menu set to '200'. Below this, there are three panels: 'Available values', 'Transformation', and 'Input variables'. The 'Available values' panel lists 'Request', 'Parameters', 'xy tcode' (with sample 'zalvreport'), and 'xy variant' (with sample '123'). The 'Transformation' panel shows a visual mapping flow with a green line and a plus sign. The 'Input variables' panel lists various fields like '123 Status', 'body', 'JSON', 'xy description', 'alvMetadata', 'xy row_pos', 'xy col_pos', 'xy fieldname', 'xy labname', 'xy currency', 'xy cfieldname', and 'xy quantity'.

Save the API. Click on Test to test the API.

The screenshot shows the 'Test' tab of the API configuration interface. At the top, there are tabs for 'Operations', 'Properties', 'Documentation', and 'Schemas'. Below them is a search bar and a table with columns: 'Method', 'Path', 'Summary', 'Identification', 'Authentication', 'Deprecated', 'Extensions', and 'Actions'. The first row shows a 'GET' method for the path '/zsubmitlv?tcode='zalvreport''. Below this is a 'Description' field. The 'Test' tab is active, and there's a 'Tags' section. Under 'Environment', 'Sandbox' is selected. Under 'Plan', 'SAP_REST_Integrate_Plan (Revision 1)' is selected. An 'Invoke' button is present. The 'Parameters' section is expanded, showing a table with columns: 'Name', 'Description', 'Required', and 'Value'. The table has two rows: 'tcode' with value 'zalvreport' and 'variant' with value '123'.

Now click on invoke.

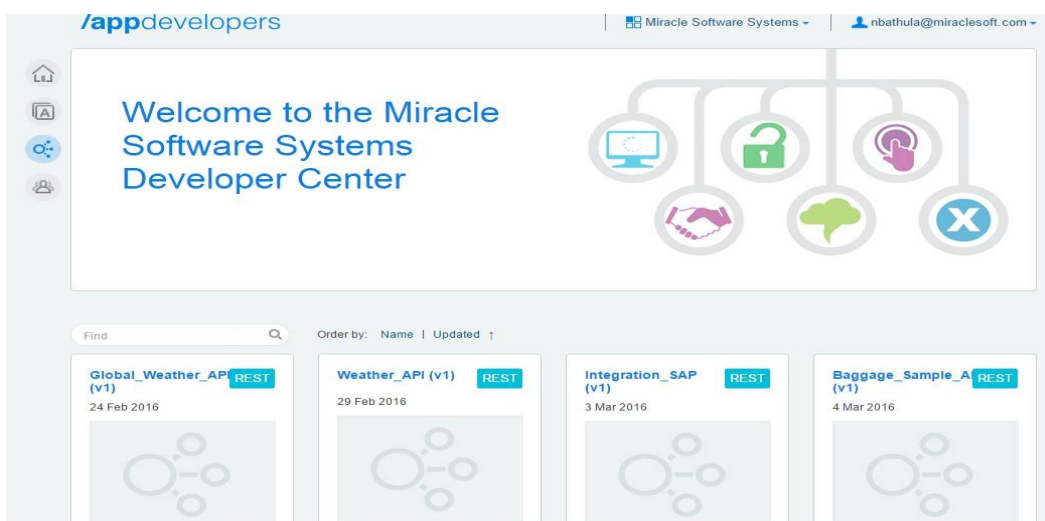
Description	
<input type="text"/>	
Overview Implementation Test Tags:	
Environment	Plan
Sandbox ▾	SAP_REST_Integrate_Plan (Revision 1) ▾ Invoke
Parameters	200 OK Debug
Response	<pre>X-Global-Transaction-ID: 107385345 Date: Fri, 04 Mar 2016 17:22:15 GMT Transfer-Encoding: chunked X-Backside-Transport: OK OK APIM-Debug-Trans-Id: 10.77.164.33-295e688b-46d2-4056-85b9-928bb498f1e1 APIM-Debug-Filename: temporary:///apimdebug86802.json Content-Type: application/json Connection: Keep-Alive { "description": "zalvreport" }</pre>

Testing :

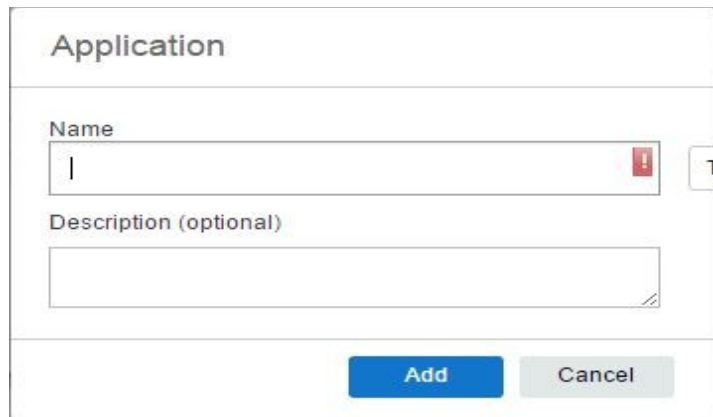
Once we got the response we will go the environment and then click on portal.

The screenshot shows the 'Environments' configuration page. On the left, there's a sidebar with 'Environment' and 'Sandbox APIGMT_GATEWAY'. The main area has tabs for 'Configuration', 'Portal', and 'Permissions', with 'Portal' selected. A 'Save' button is in the top right. Under 'Basic Developer Portal', the 'Portal URL' is 'https://developer.apim.ibmcloud.com/miracle-software-systems13/sb'. Below it, 'Customize URL' is 'https://example.com'. There are also sections for 'Advanced Developer Portal' and 'Other', each with a 'URL' field set to 'https://example.com'.

Now click on the basic url and then it will go to the developer portal. If you are new user click on join and enter the details and then sign in.

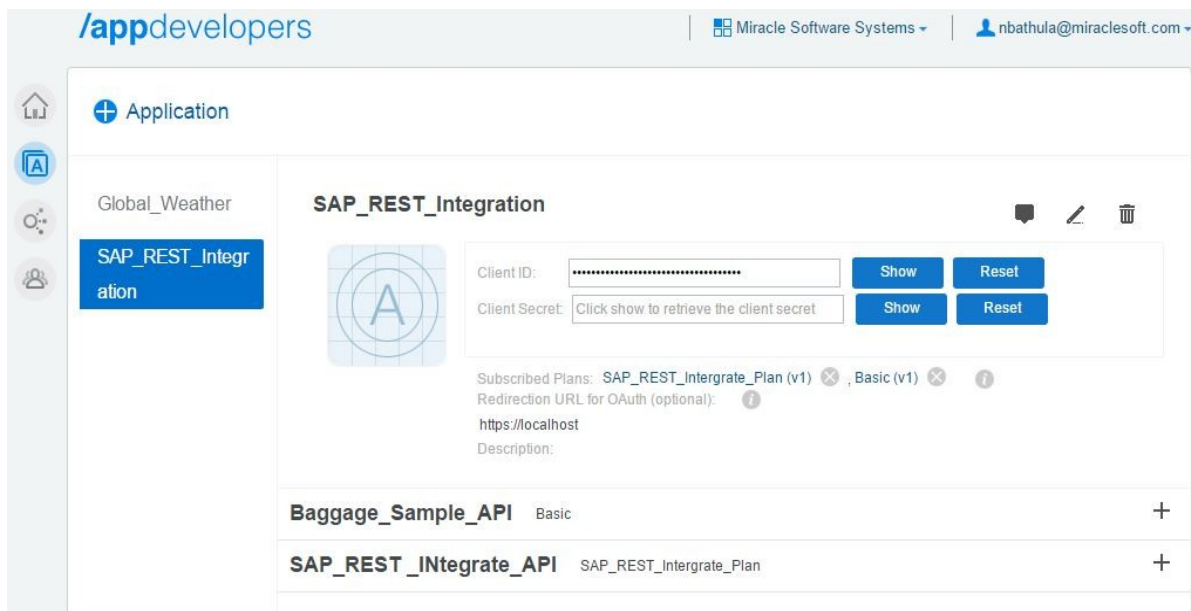


Now click on Application and create a new Application.



The screenshot shows a form titled "Application". It has two input fields: "Name" and "Description (optional)". The "Name" field contains a single character "I". To the right of the "Name" field is a red warning icon and a tooltip that says "The name must be at least 3 characters long". At the bottom of the form are two buttons: "Add" (blue) and "Cancel" (grey).

Copy the client_ID which we have to use when the proxy url generated.



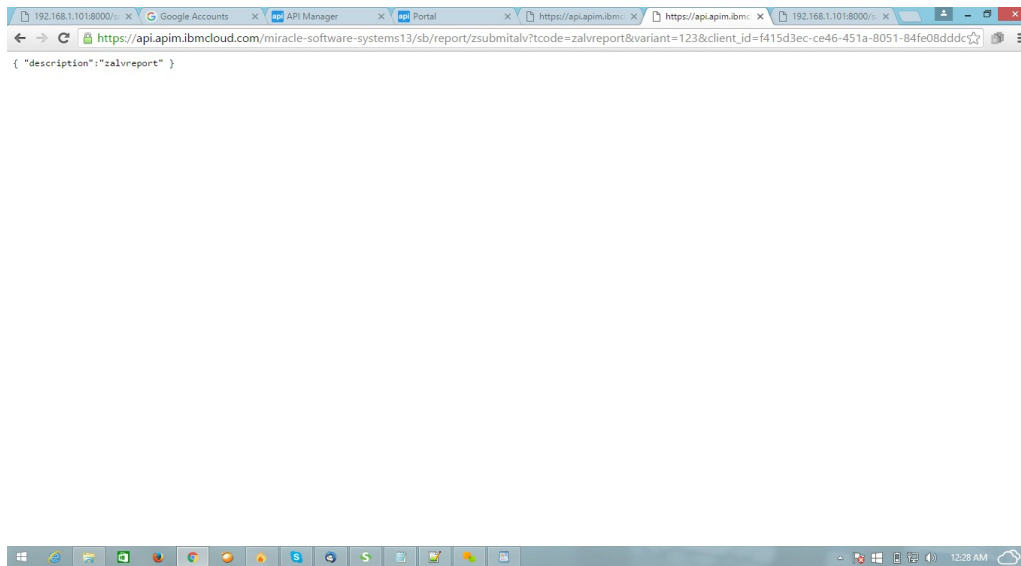
The screenshot shows the "appdevelopers" dashboard. The top navigation bar includes the "/appdevelopers" logo, a user profile icon, and the email "nbathula@miraclesoft.com". The left sidebar has a "Global_Weather" link and a "SAP_REST_Integration" link. The main content area shows the details for the "SAP_REST_Integration" application. It includes a "Client ID" field with a "Show" button, a "Client Secret" field with a "Show" button, and a "Subscribed Plans" section showing "SAP_REST_Integrate_Plan (v1)" and "Basic (v1)". Below this is a "Redirection URL for OAuth (optional)" field with the value "https://localhost". At the bottom, there is a table listing the application's components:

Component	Plan	Action
Baggage_Sample_API	Basic	+
SAP_REST_INtegrate_API	SAP_REST_Integrate_Plan	+

Click on API which we have created and select the respected and use the plan.

Click on '+' Details and then click on invoke to get proxy URL.

Click on the proxy url which is generated and give the client_id which is copied and then the response will be generated as shown below.



Reference Links:

SAP:

<http://www.saponlinetutorials.com/what-is-sap-erp-system-definition/>

<http://blog.nexright.com/api-management/api-management-sap/>

SAP Architecture:

<http://www.guru99.com/learning-sap-architecture.html>

API:

https://www-01.ibm.com/support/knowledgecenter/SSWHYP_4.0.0/com.ibm.apimgmt.api.onprem.doc/api_create.html