



# Create and Expose REST API Proxies in IBM API Management (Cloud)

API Developer Lab | Miracle Innovation Labs

**Manasa Sutapalli**

Lead Researcher API M, MIL  
Miracle Software Systems, Inc.

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## Create and Expose REST API Proxies in IBM API Management

### Goal

The goal of this lab is to take a REST API created in Strongloop and expose that as a managed API from IBM API Management.

### Pre-Requisites

- Active Account for IBM API Management
- Active Account to Cloud9
- Completion of Part1/2 of the lab

### Technology Involved

- IBM API Management
- REST
- Strongloop

Download the tutorial at <https://github.com/MiracleLabs/IotWorkshop>

## #1 | Access IBM API Management

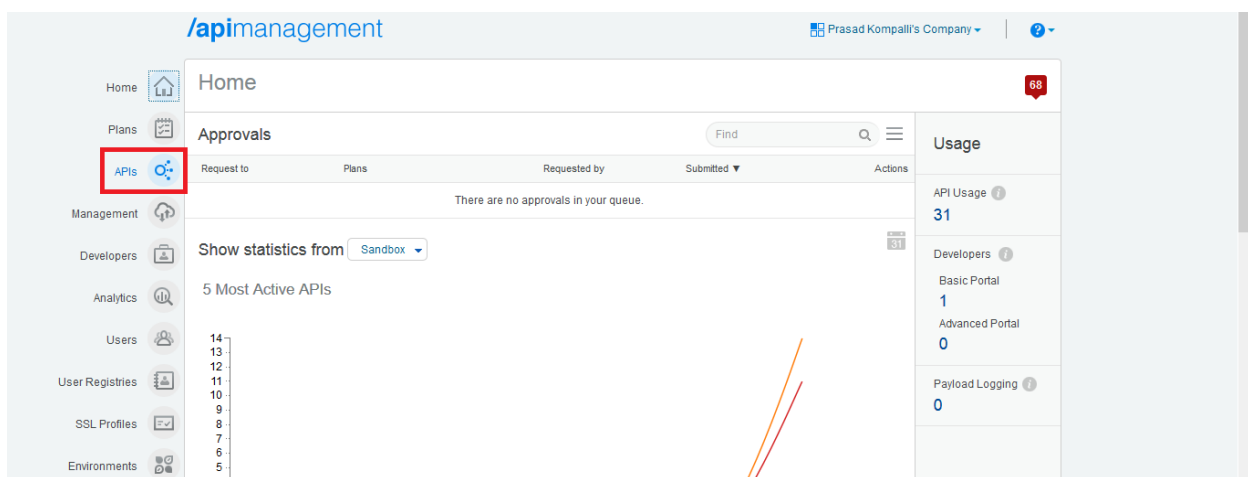
Open new browser and navigate to the URL to sign in (or) register for the API M Service, <https://apim.ibmcloud.com/apimanager>

The screenshot shows the IBM API Management sign-in page. At the top, there is an IBM logo on the left, a search bar in the center, and a menu icon on the right. Below the header, the text "Sign in to IBM" is centered. Underneath, there are two input fields: "Enter your IBMid" and "Forgot IBM ID?". Below these, there are two more input fields: "Password" and "Forgot password?". A blue "Sign in" button is centered below the password field. At the bottom, there are two links: "New? Create an IBMid." and "Help and FAQ".

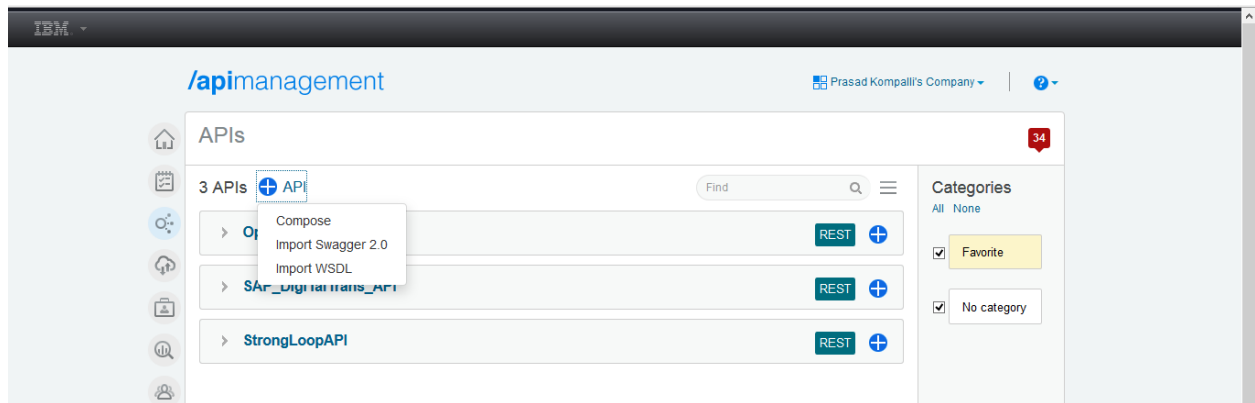
After you sign in, the API Manager Home page will be displayed. The home screen displays activity graphs for the most active APIs and Applications.

## #2 | Create an API Proxy for the StrongLoop API

Click on the APIs icon from the navigation pane. This will take you into the Draft APIs view, from here **you can add new REST or SOAP APIs and edit existing ones.**

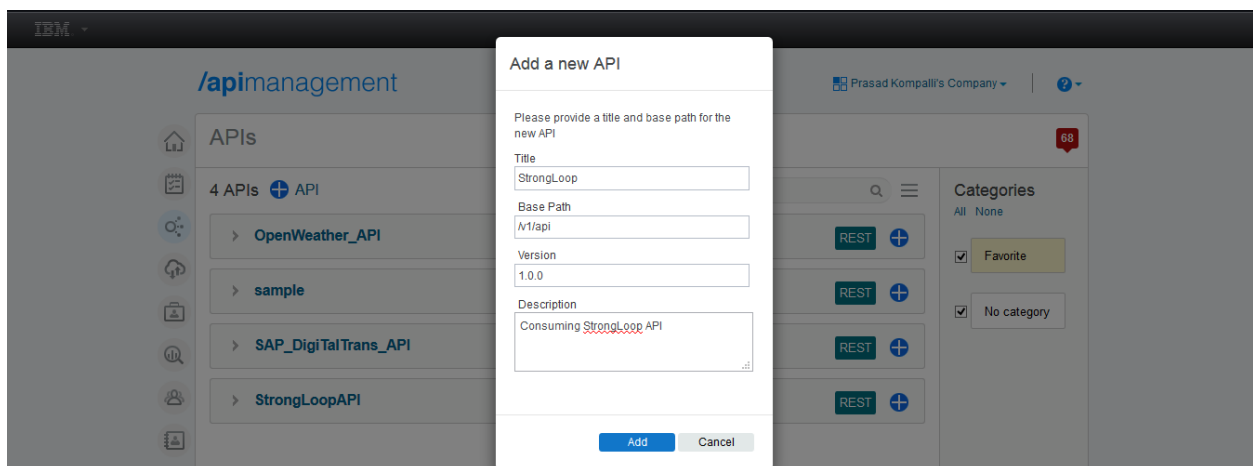


Click on the **+API** button to create a new REST API and select Compose from the list to create a REST API. Fill the fields as shown below. Click the Add button. This will add the API to the Draft APIs list.

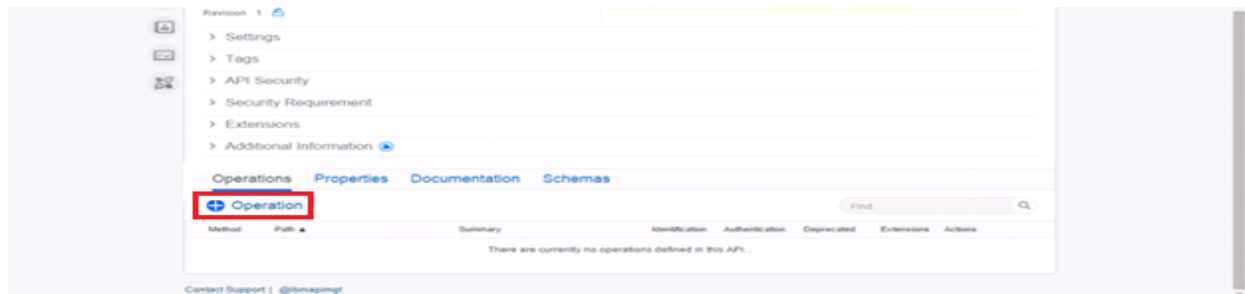


Field Name	Value
API Name(Title)	rpiapi
Path	/v1/getrpi
API Description	Proxy fort he RPi Strongloop REST API

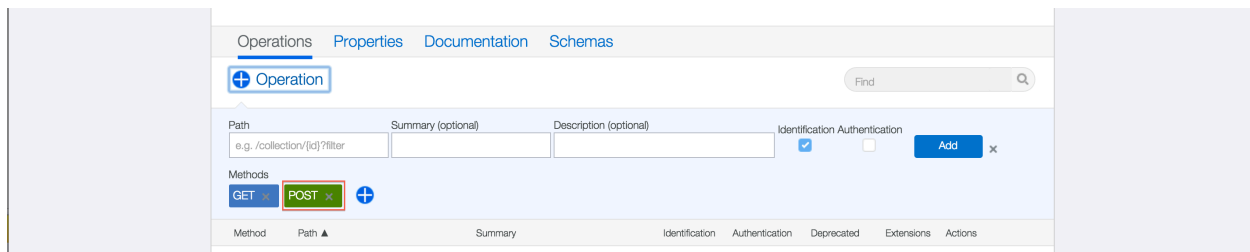
**Note :** The Path specified here will become part of the URL which will eventually be called so will need to be valid for this use.



Click on the “**Operations**” pane for defining the API.

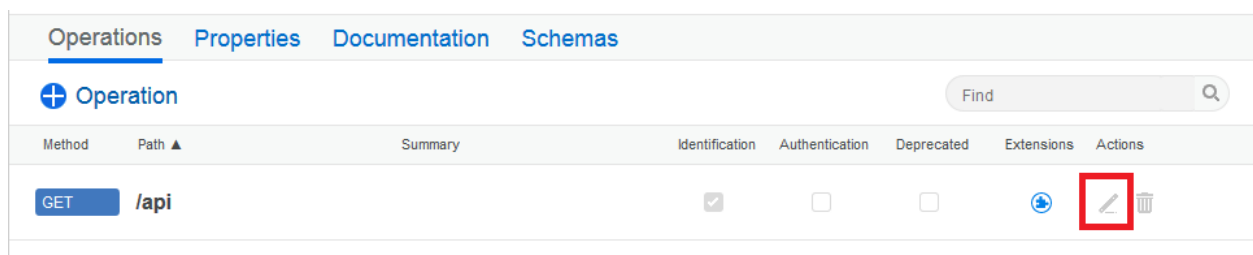


By default, the HTTP methods **GET** and **POST** are displayed. Remove the POST method by clicking the ‘X’ inside of the GET button and then populate the fields of the Operation for that API.

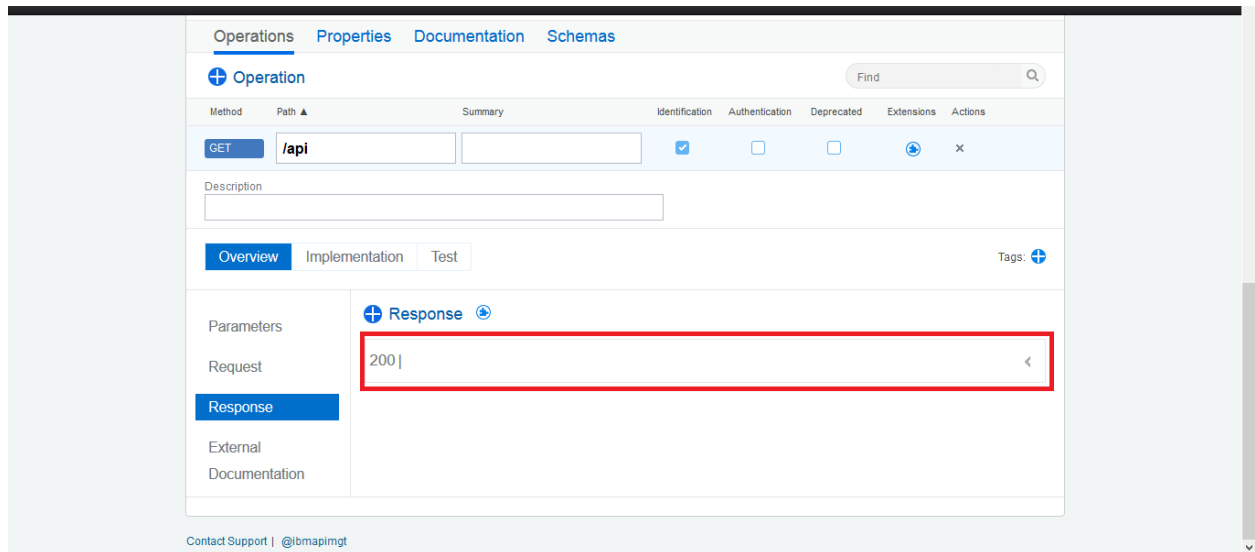


Field Name	Value
Path	/gettemp
Summary	Get the temperature data from the RPi
Description	Get the temperature data from the RPi

Now that the api resource has been defined, click on the **Edit** icon to edit the resource details.

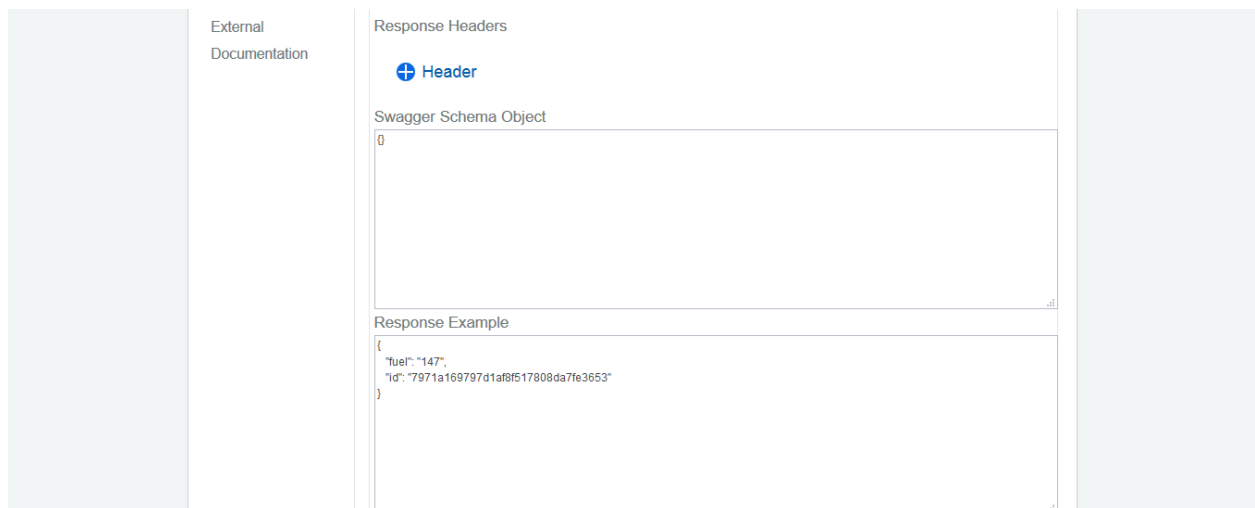


In this resource we don't need to add any request (or) response headers. So the next step is to add a Response Body to define the structure of the request.



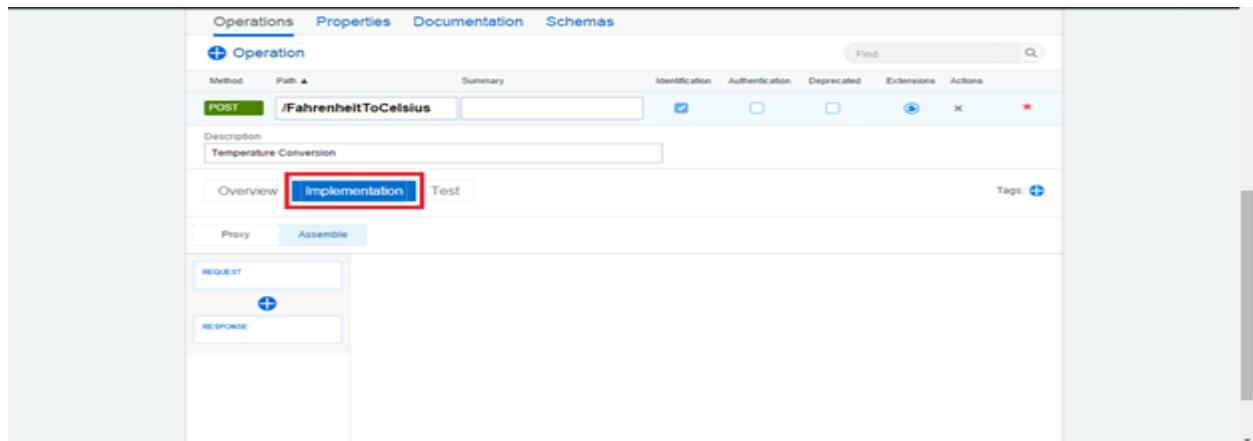
Type the JSON format in **Response Body** as below and click outside the box to automatically have the response formatted.

```
{ "Fuel" : "149"  
  "name" : "mypi"  
  "id" : "7971a169797d1af8f517808da7fe3653" }
```

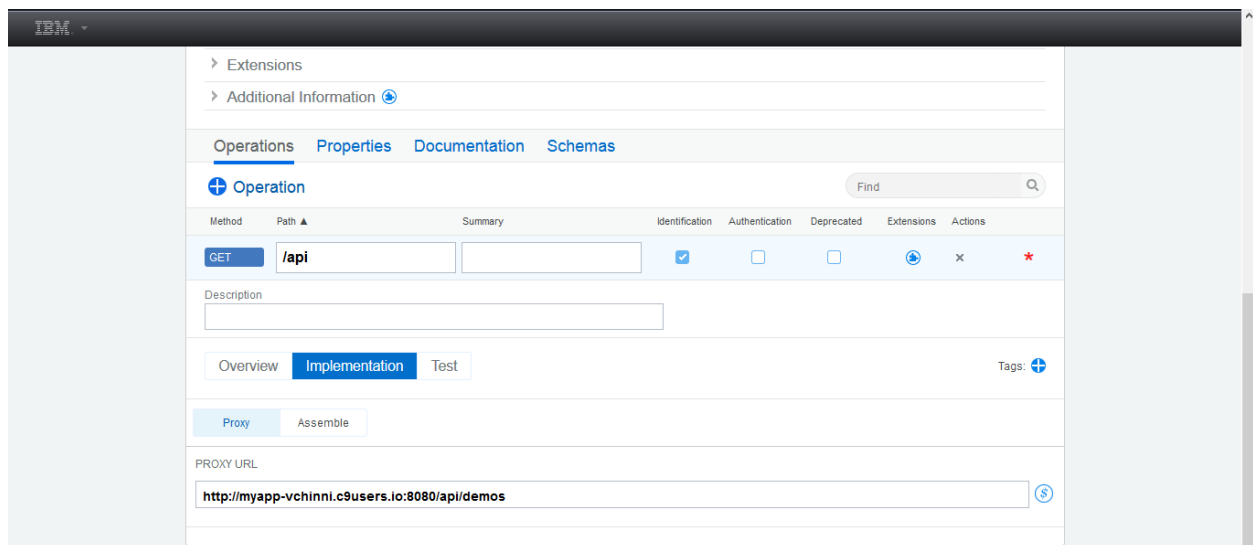


## #3 | Add a Proxy URL

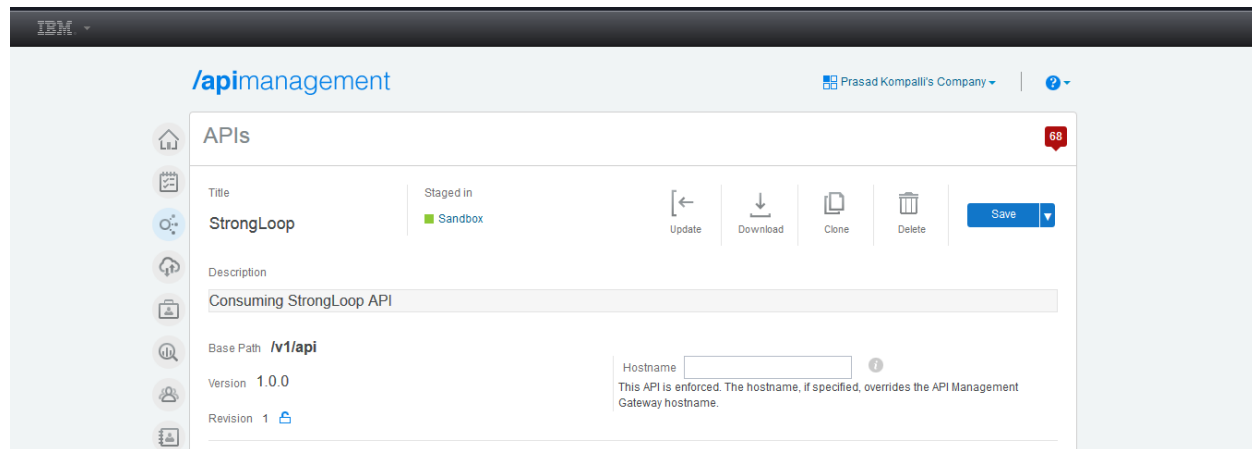
Click on Implementation tab.



Click the Proxy tab for giving the Proxy URL, which is the REST API URL that you generated in StrongLoop.

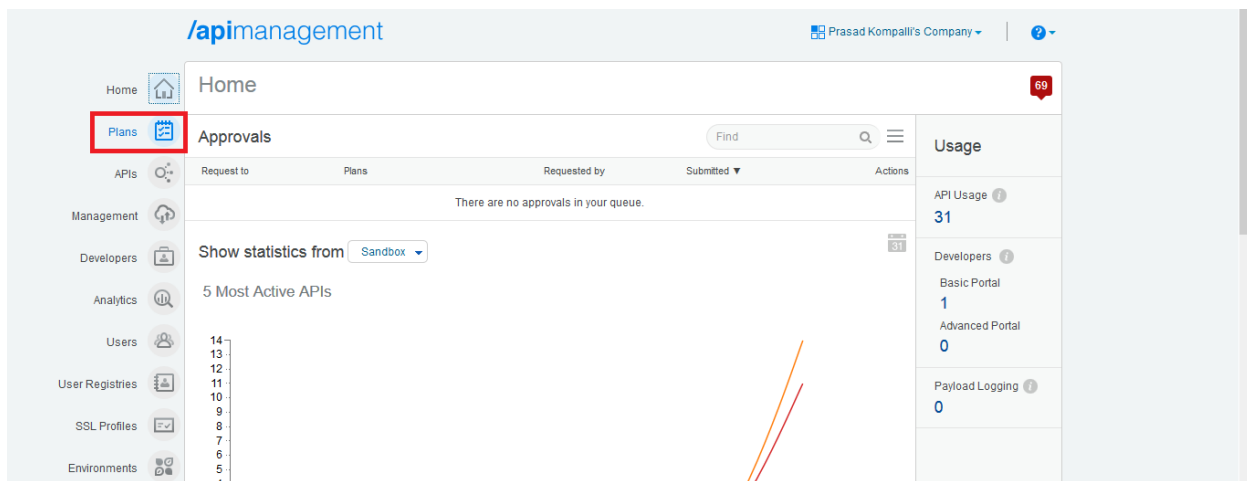


Now scroll up and click the save API button.



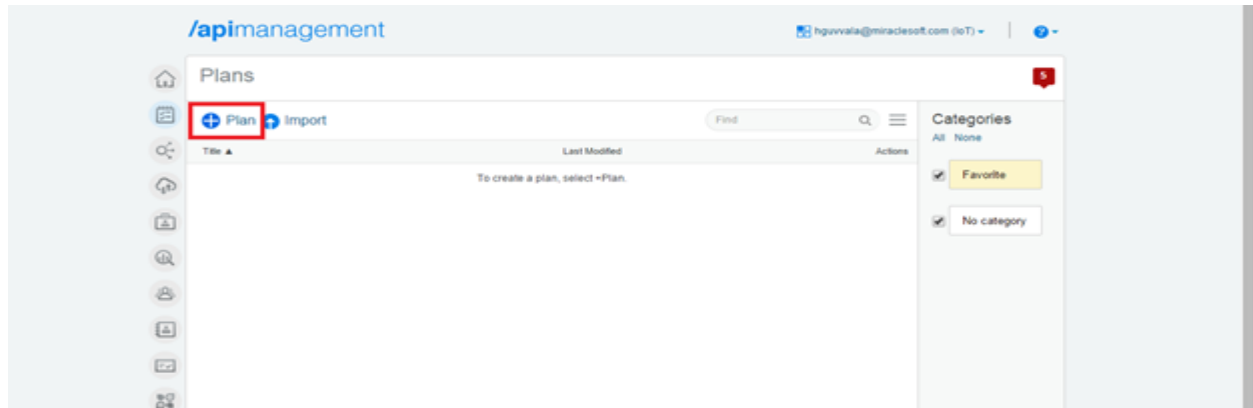
You have now defined your StrongLoop REST API. Before you can test the resource from within the API Manager UI you will need to add it to a Plan.

Select **Plans** from the Navigation Pane.

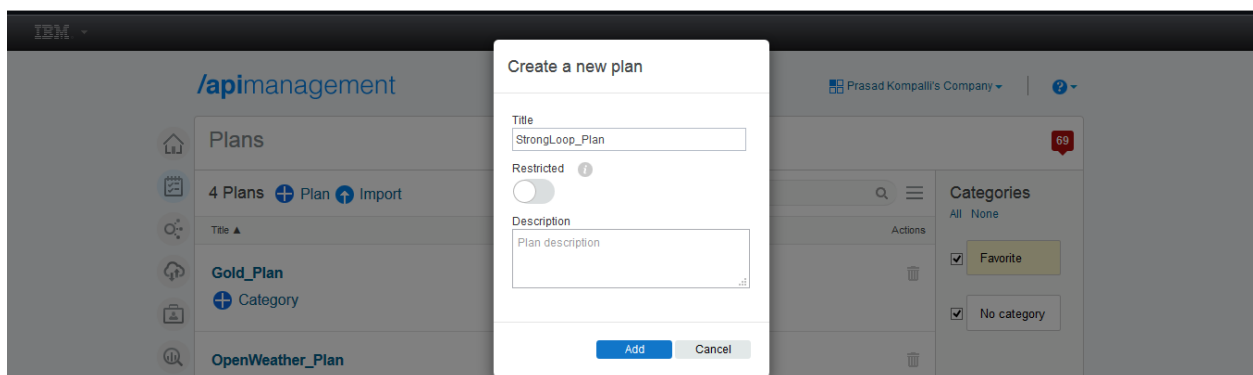




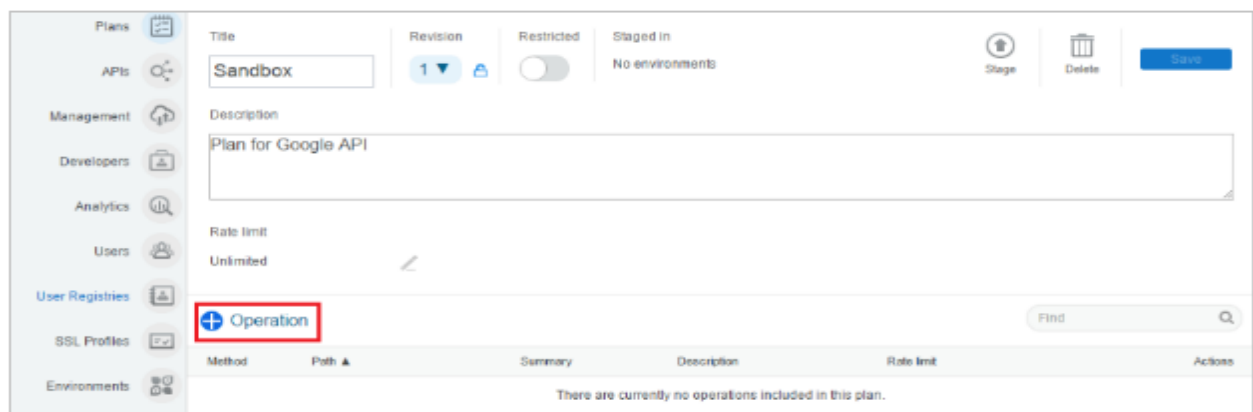
Click on **+Plan** for creating Plan.



Specify the Plan name and Description for creating the plan.



In order to expose the resource you have created you need to add it to the Public plan. Click **+ Operation**.



Ensure that **the API you created** is the selected API in the left hand column, then select the **GET** resource you previously created. Click **Add**.

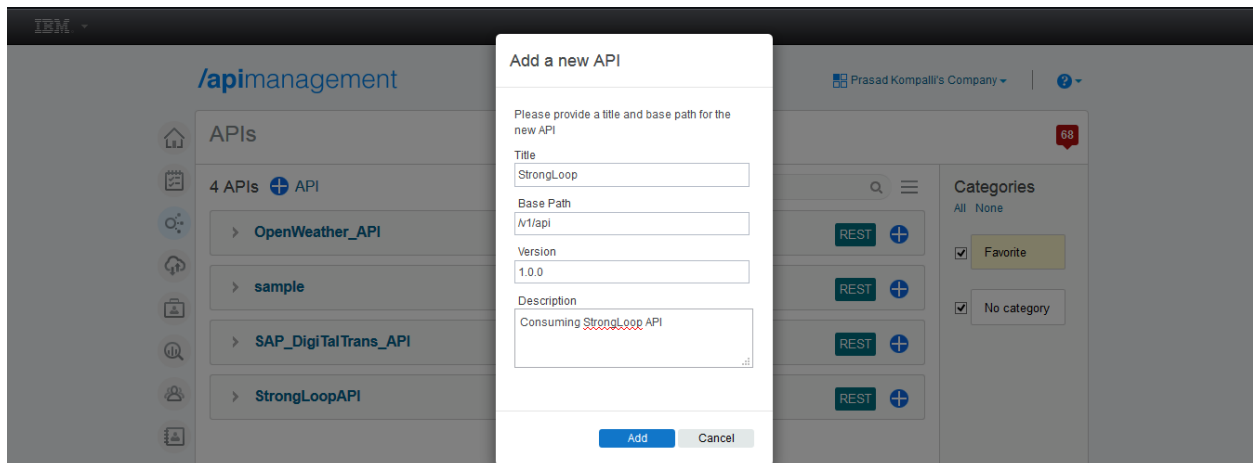
Method	Path
GET	/api

The resource is added to the your plan. Click on **Save** to save your Plan.

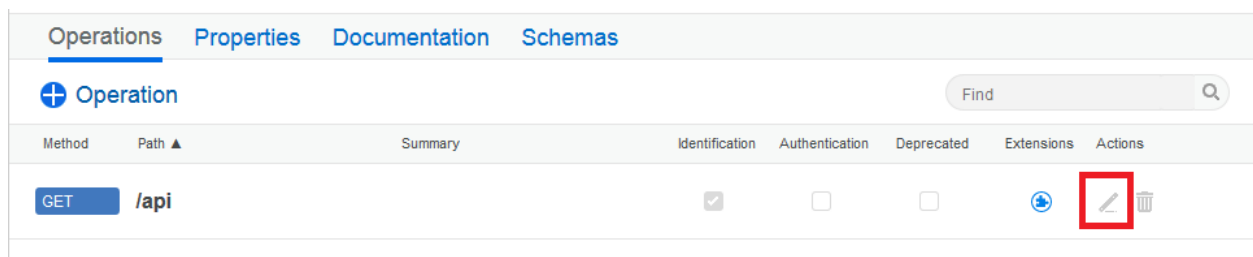
Stage the plan in Sandbox Environment.

## #4 | Test the Resource

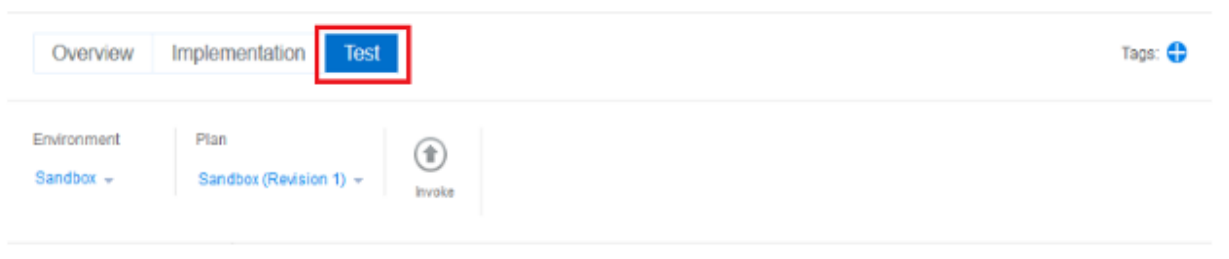
To test your REST resource to ensure that it is defined and implemented correctly, select APIs from the navigation pane.



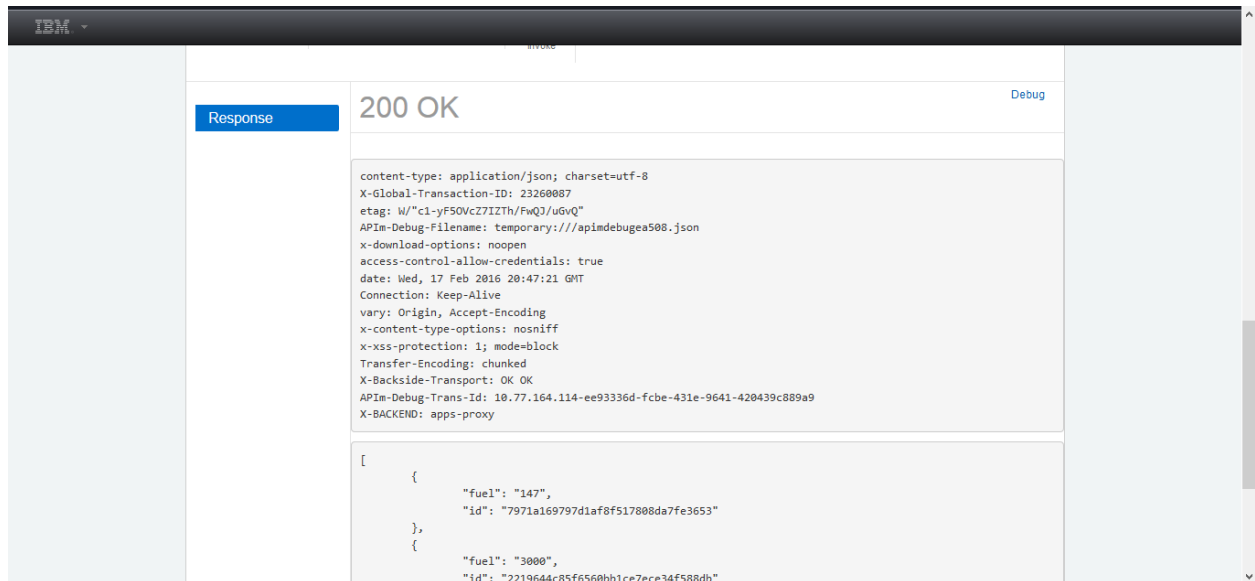
Click the edit icon for the GET resource. To edit the API click on the API Operation and go to the edit screen.



Click the **Test** tab and then invoke your API GET Resource.



You should be able to see a 200 result as shown below if your API Proxy Invoke Call is succesful.



Now that you have added your API to the Management Portal you can apply throttling, security policies, authorization, monetize your API and also expose it to Developers to use and innovate with your IoT Data 😊