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ENTERPRISE PERFORMANCE MANAGEMENT CLOUD

File Transfer EPM-FTP Using Integration Cloud

Sample OIC Integration Flow (File transfer to EPM Cloud from FTP location) Implementation Guide

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Table of Contents

Introduction

This document describes step-by-step instructions on how to transfer a file from any FTP/SFTP location to EPM cloud using Oracle Integration Cloud (OIC). This flow is a scheduled orchestration. It makes use of a standard FTP and REST adapter in Oracle Integration Cloud.

The file is read from the FTP location and then transferred to EPM cloud via a REST adapter connection. Refer to EPM documentation for the REST service used in this flow.

https://docs.oracle.com/cloud/latest/epm-common/PREST/toc.htm

https://docs.oracle.com/cloud/latest/epm-common/PREST/upload.htm#PREST-lcm_rest_apis_3

This sample integration flow works on EPM Cloud release 18.03 or later and OIC 18.1.5 or later. In the package, there is an implementation guide, which has the step-by-step instructions. There is an OIC archive file - you import the archive to your OIC environment, make necessary configurations, and the integration will work.

To download the package, please access this article on Oracle Cloud Customer Connect. If it's your first time accessing Oracle Cloud Customer Connect, you will need to register by clicking the "Register" button at the top right.

This sample integration is not part of the standard Oracle product. Oracle will not maintain it for future changes or the particular requirements. If you need to update the integration, please refer to OIC documentation.

Pre-requisite

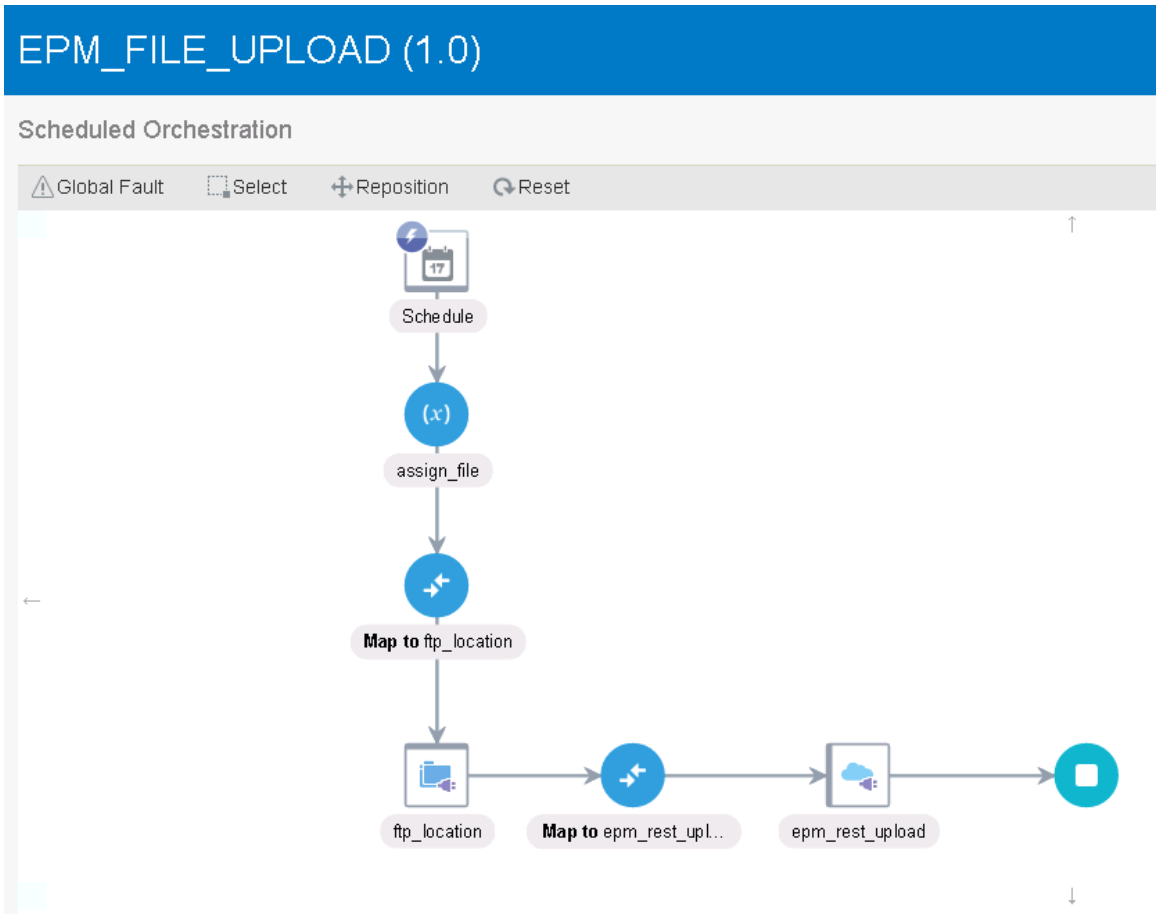
Oracle Integration Cloud 18.1.5

Oracle EPM Cloud 18.03

Publicly accessible FTP/SFTP server

Integration Flow

Below is the integration flow.



It is a simple flow that is triggered by the schedule, downloads the file from the FTP location and then uploads it to EPM Cloud.

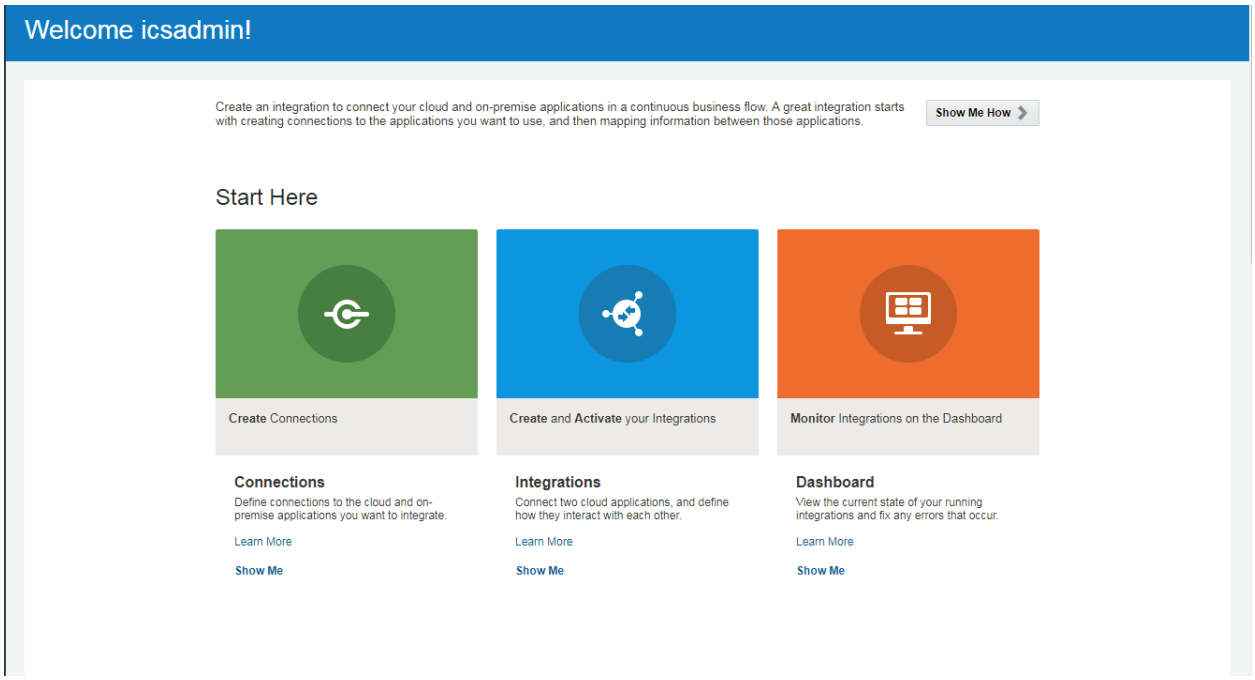
Configure the Integration

Import the Integration

The installation package contains “EPM_FILE_UPLOAD_01.00.0000.iar”, an OIC integration archive file.

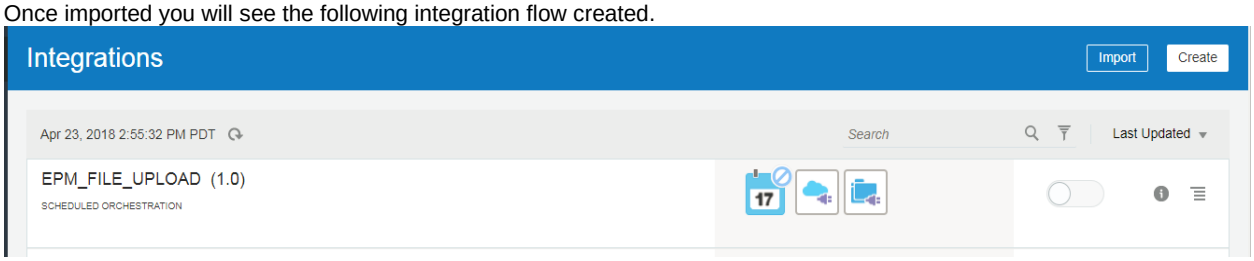
Download the package to your local disk.

Log in to your OIC service and open the “Integrations” page.

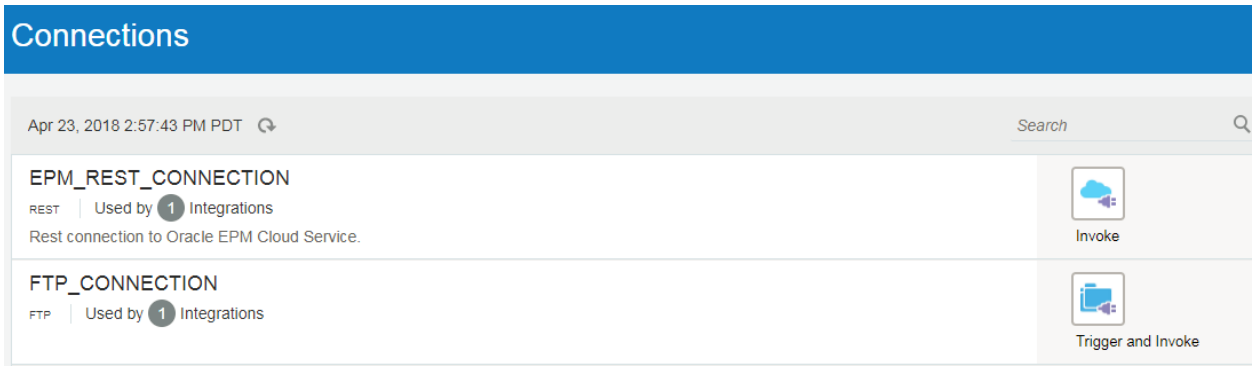


On the top right, click **Import**, then select "EPM_FILE_UPLOAD_01.00.0000.iar". Click **Import** to import the archive to your OIC, as shown below.

Once imported you will see the following integration flow created.



Two connections with names "EPM_REST_CONNECTION" and "FTP_CONNECTION" will appear under the Connection page.

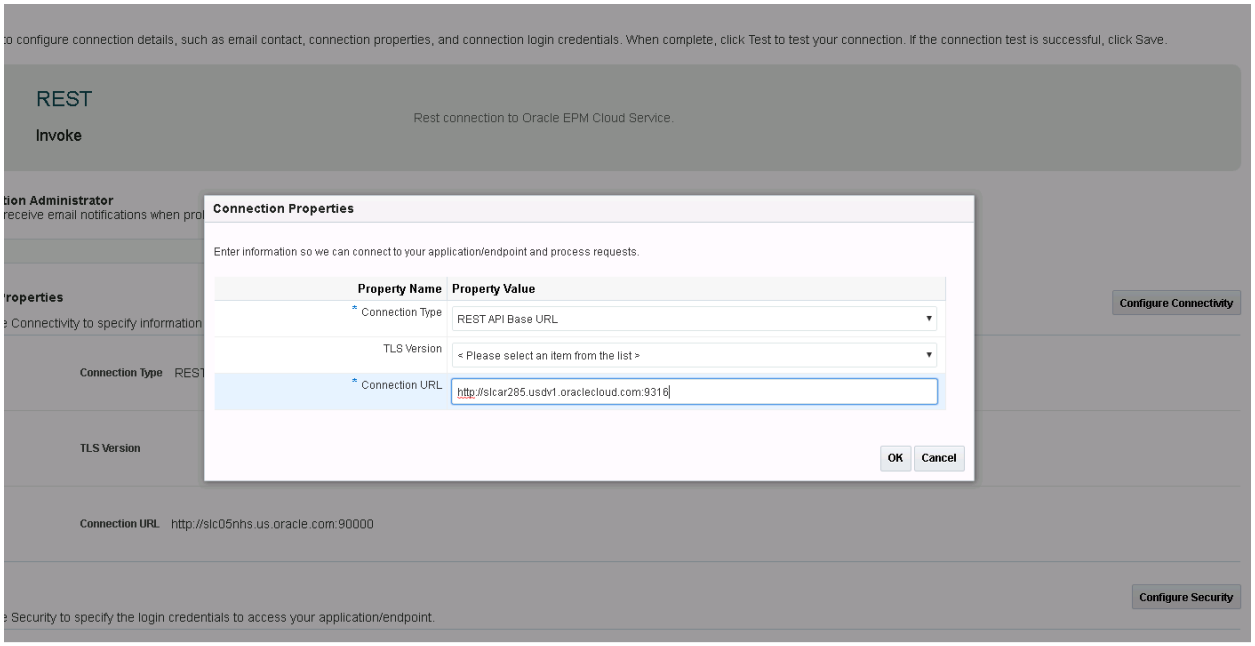


Edit the Connections

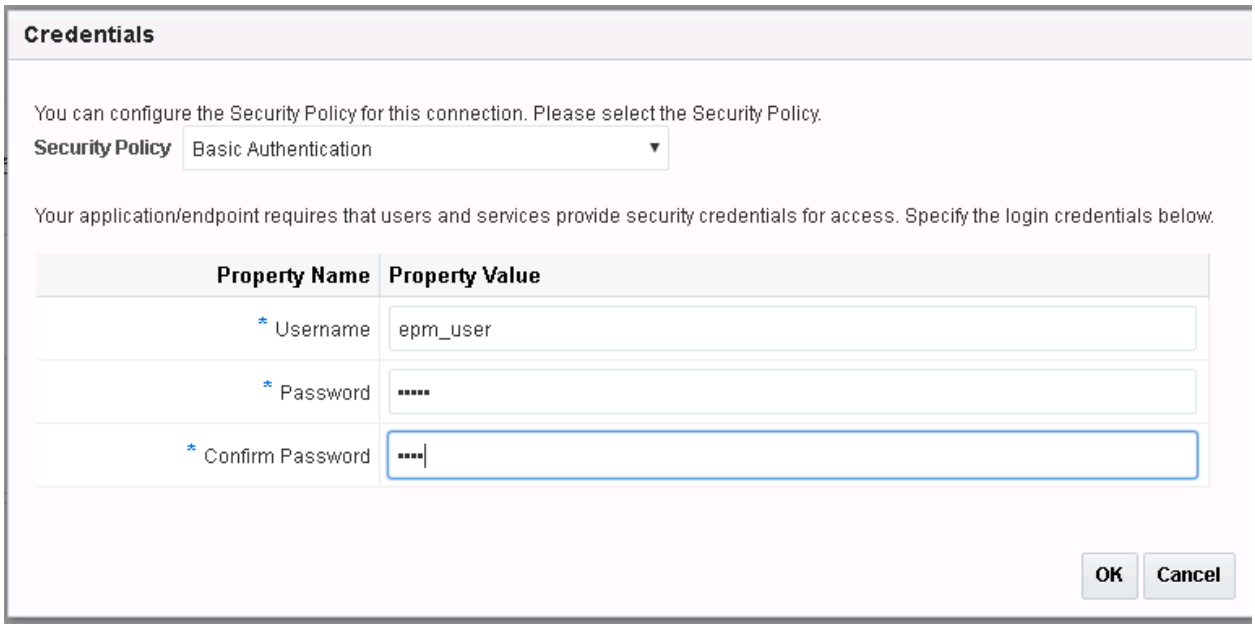
Navigate to the Connections page and click the **Edit** menu to edit the connections as shown below.

EPM_REST_CONNECTION Connection

On the Edit connection page for "EPM_REST_CONNECTION", click **Configure Connectivity**. Enter your EPM Cloud service URL, for example: https://planning-xyzcom.stg-pbcs.us1.oraclecloud.com. Click **OK** to close the dialog.



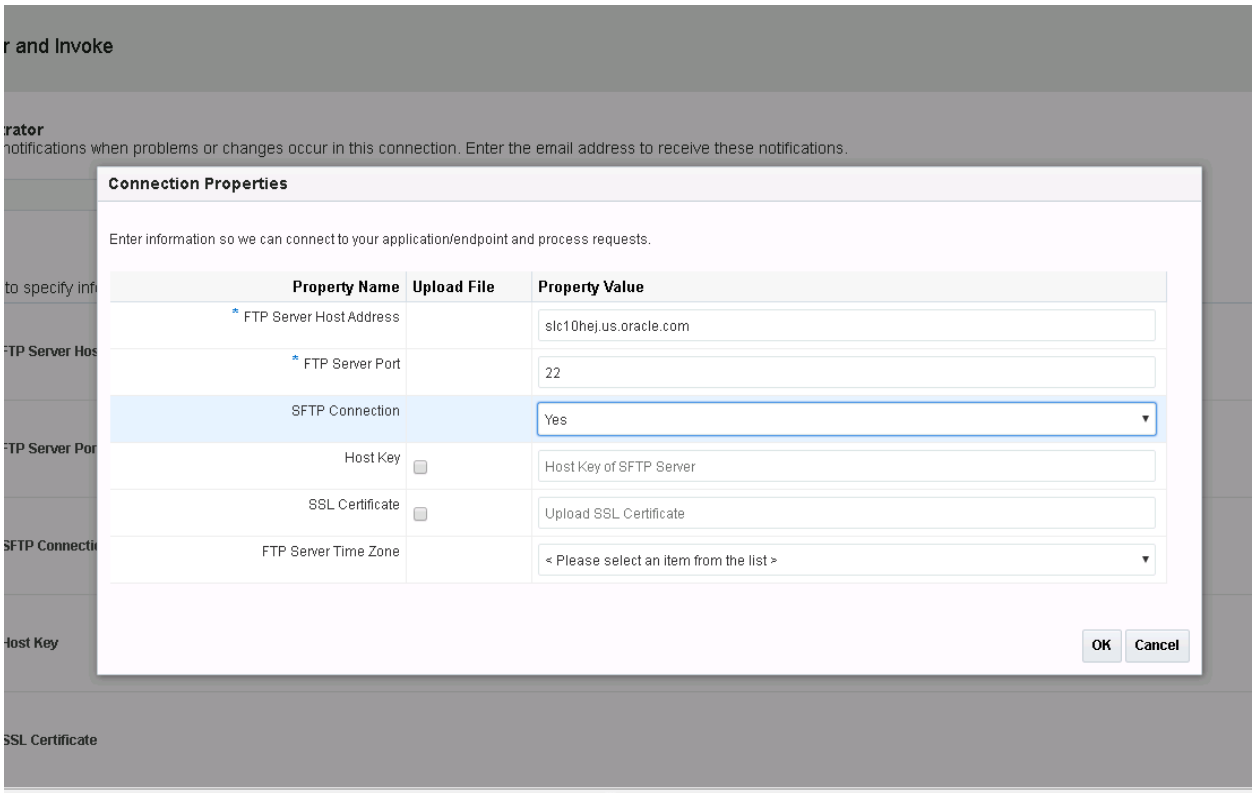
Click **Configure Security** and then provide the user credentials for your EPM cloud service. Then click **OK**.



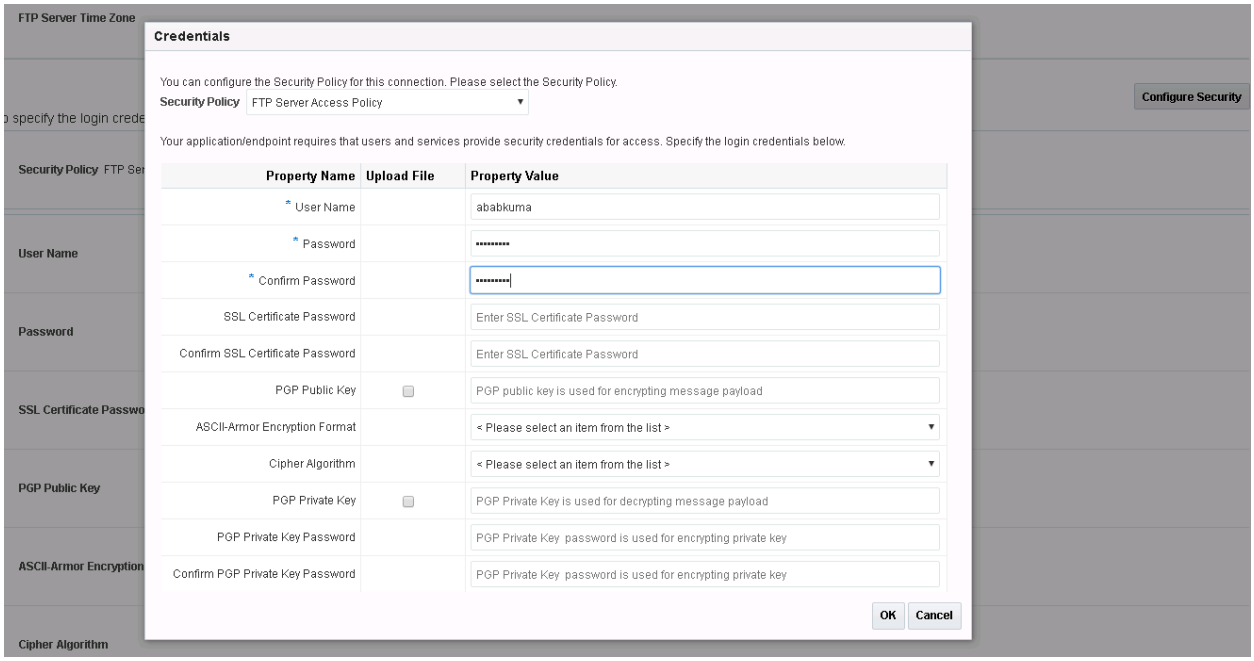
Click **Test**, **Save and Close**.

FTP_CONNECTION Connection

On the Edit connection page for "FTP_CONNECTION", click **Configure Connectivity**. Enter FTP/ SFTP server details and click **OK**.



Click **Configure Security** and provide the credentials/certificate details depending on the FTP/SFTP server you are using.

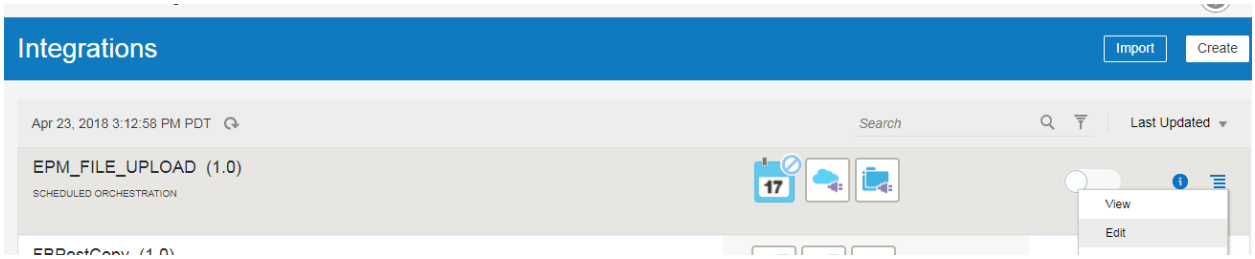


Click **OK** to close the dialog.

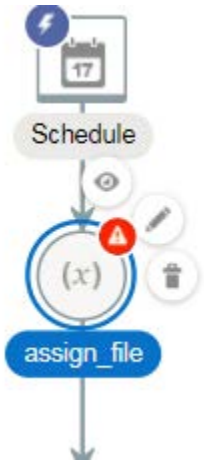
Then click Test and make sure the connection is successful. Click **Save and Close**.

Modify the Integration

Only a minor modification is needed to get this integration working. Navigate to the Integration page and click on **Edit** next to the integration name “EPM_FILE_UPLOAD”



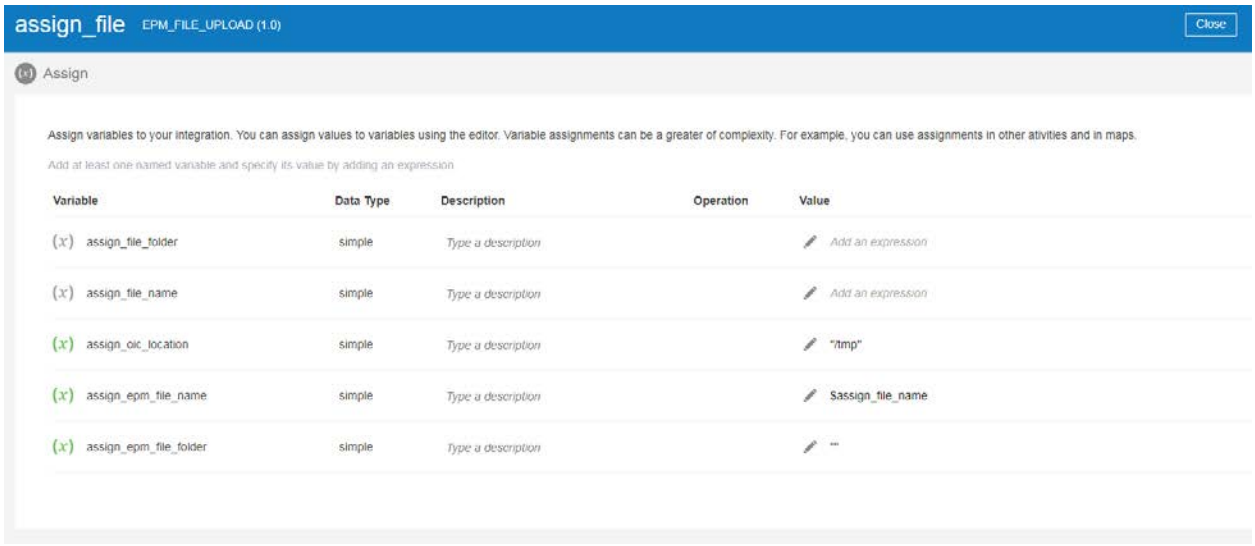
Click on “**assign_file**” and then click the **Edit** icon.



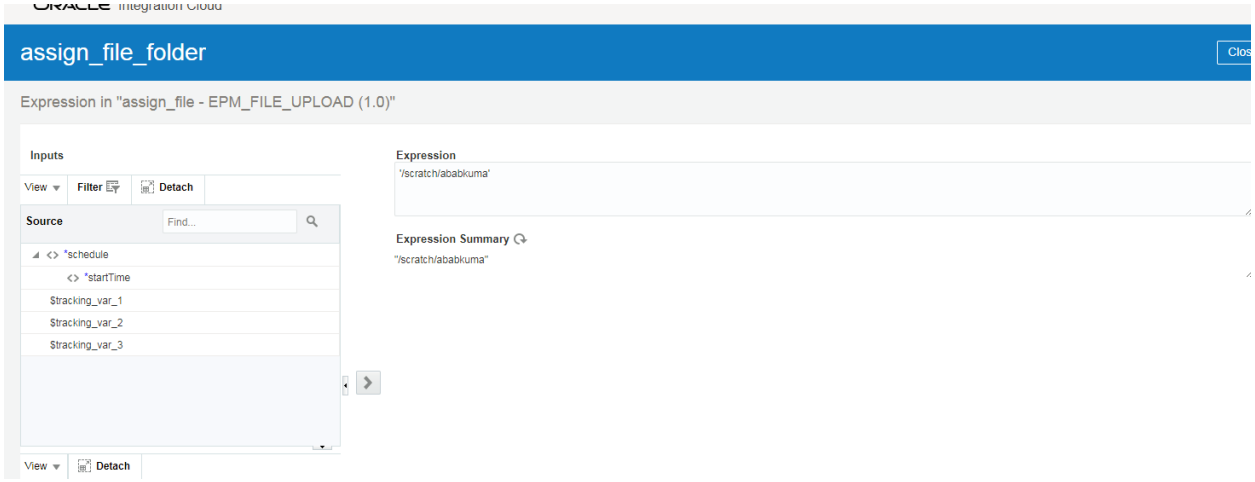
The following variables need to be modified.

Name	Description	Sample value	Modification
assign_file_folder	This is the folder location on FTP server where the file is located.	'/Data/Jan/records'	Required
assign_file_name	This is the file which has to be downloaded from ftp location.	'dataFile.dat'	Required
assign_oic_location	This is the temporary location on OIC where the file would be downloaded.	'/tmp'	Optional
assign_epm_file_name	The name to be used while saving the file on EPM. By default it is equal to the file name on ftp location, for example assign_file_name. You can provide a new file name if desired.	$assign_file_name or 'newDataFile.dat'	Optional
assign_epm_file_folder	The folder in EPM cloud where the file has to be uploaded. This is optional.	'/inbox/Jan'	Optional

To modify any of these, click on the **Edit** icon on the table row under the Value column.



Then enter the value under Expression text box and click **Close**.

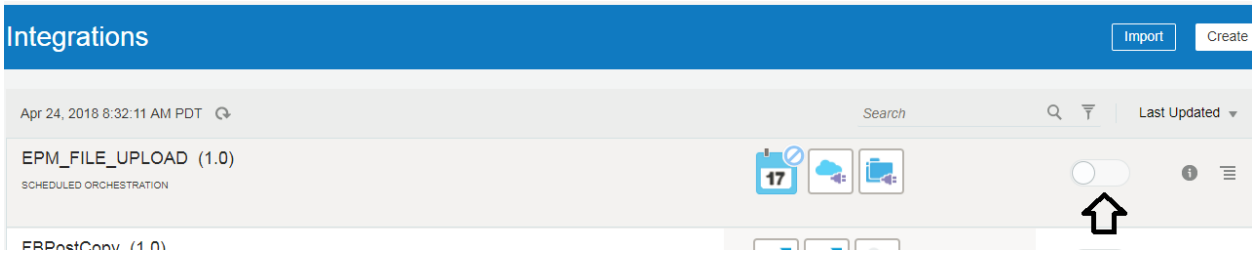


Repeat the steps for all the required/desired fields and then click **Close**.

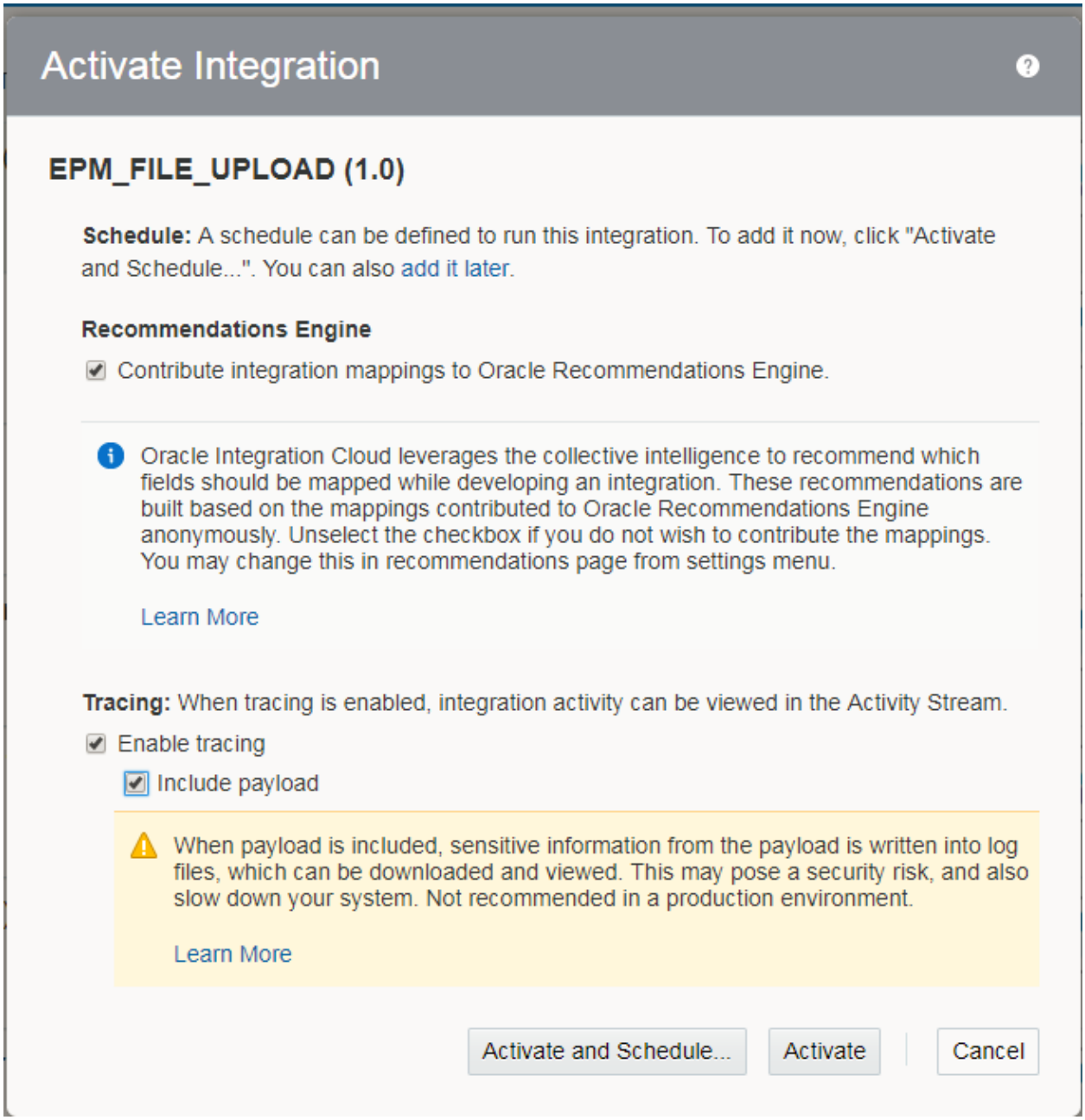
Save the integration by clicking on **Save** and then click **Close** to close the integration.

Activate the Integration

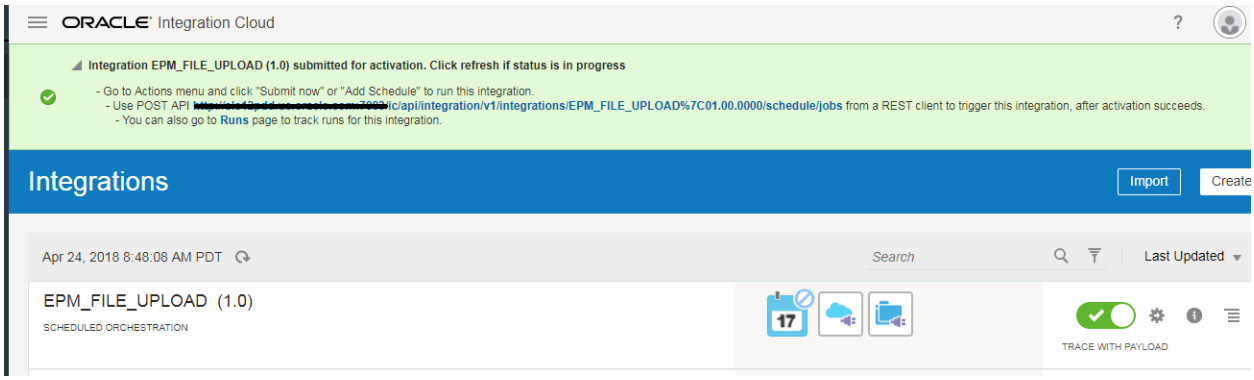
On the Integration page, click on **Activate** to activate the integration flow.



The below dialog will pop-up, asking if you want to enable the tracing and include payload with Activation. “Include payload” will write the sensitive information into OIC log files. It could be used in the testing but is not recommended in production. Click **Activate** here; you can add the schedule later.

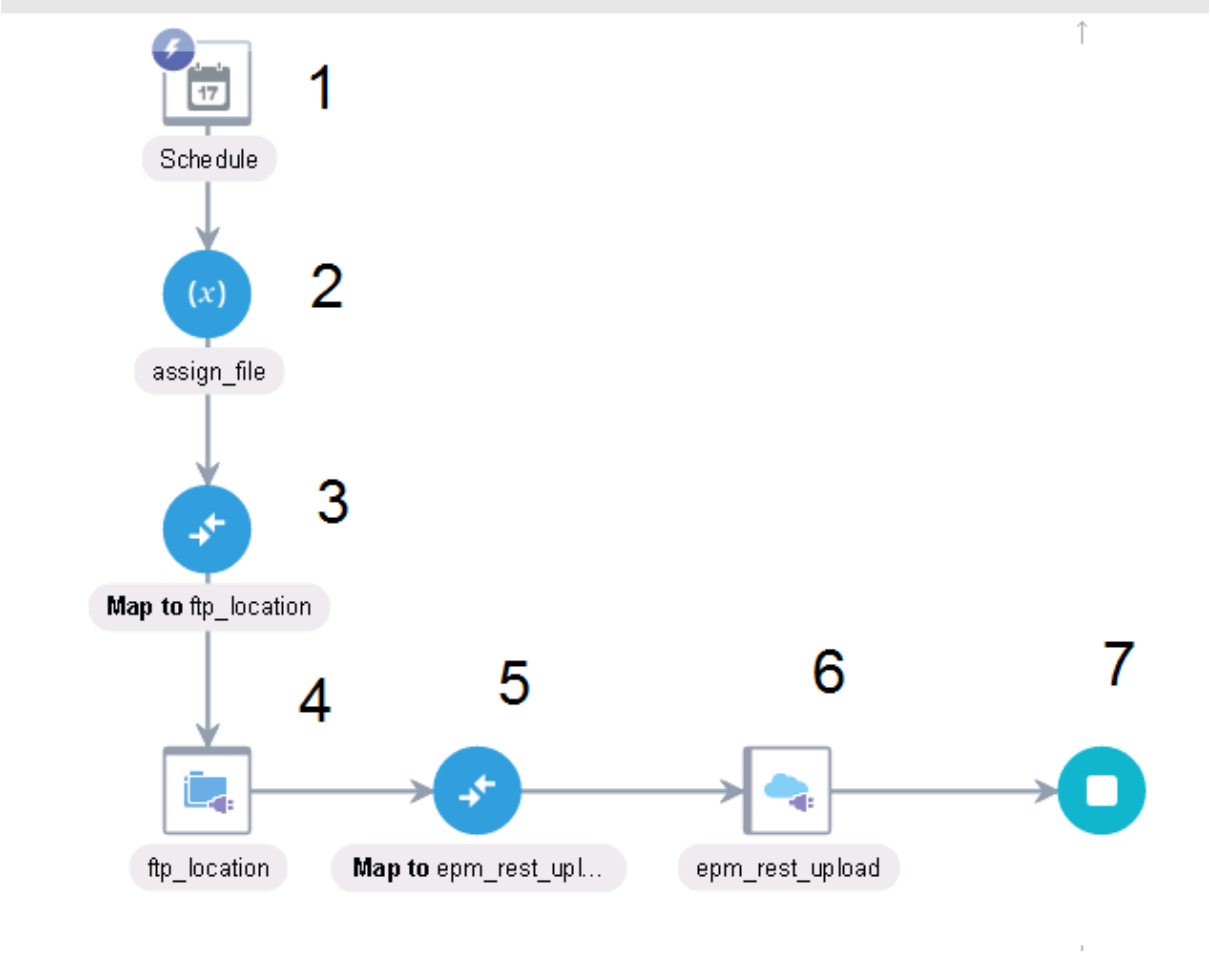


On successful activation, the button will change to green.



Integration Steps

Below are the detailed steps of the sample integration. To configure or run the integration, you do not need to walk through all the steps. To update the integration or build more features upon the sample, you can go through each step.

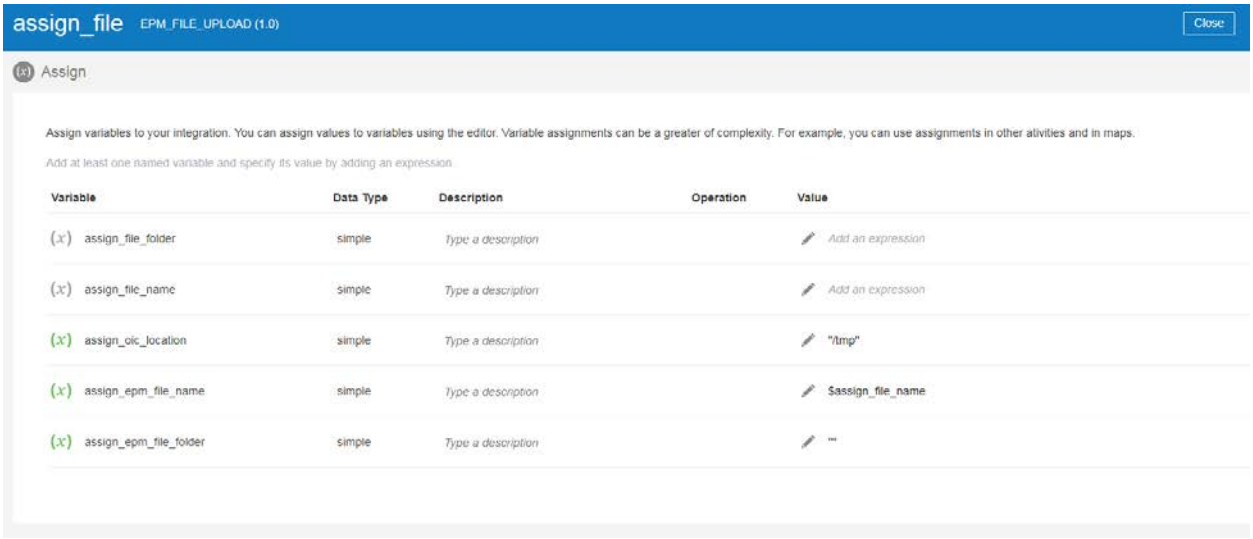


Step 1

Indicates this is a scheduled “Orchestration” type integration.

Step 2

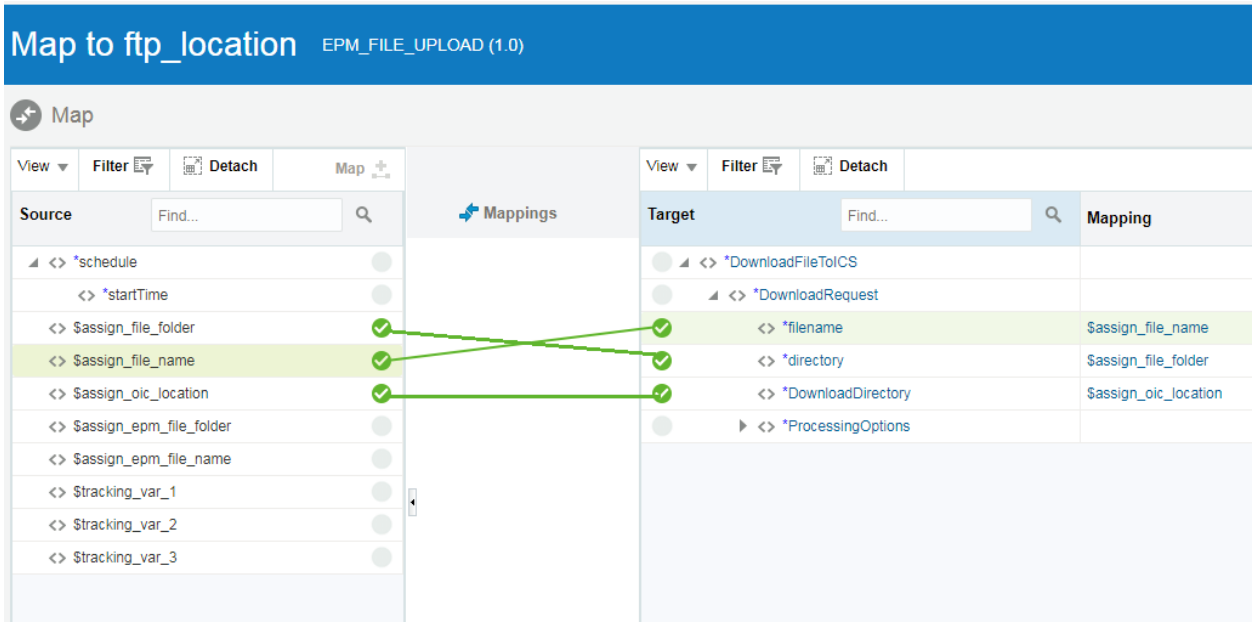
This is the Assignment step to initialize a few variables used later in the integration flow.



These variables are already covered in the section “Modify the integration”.

Step 3

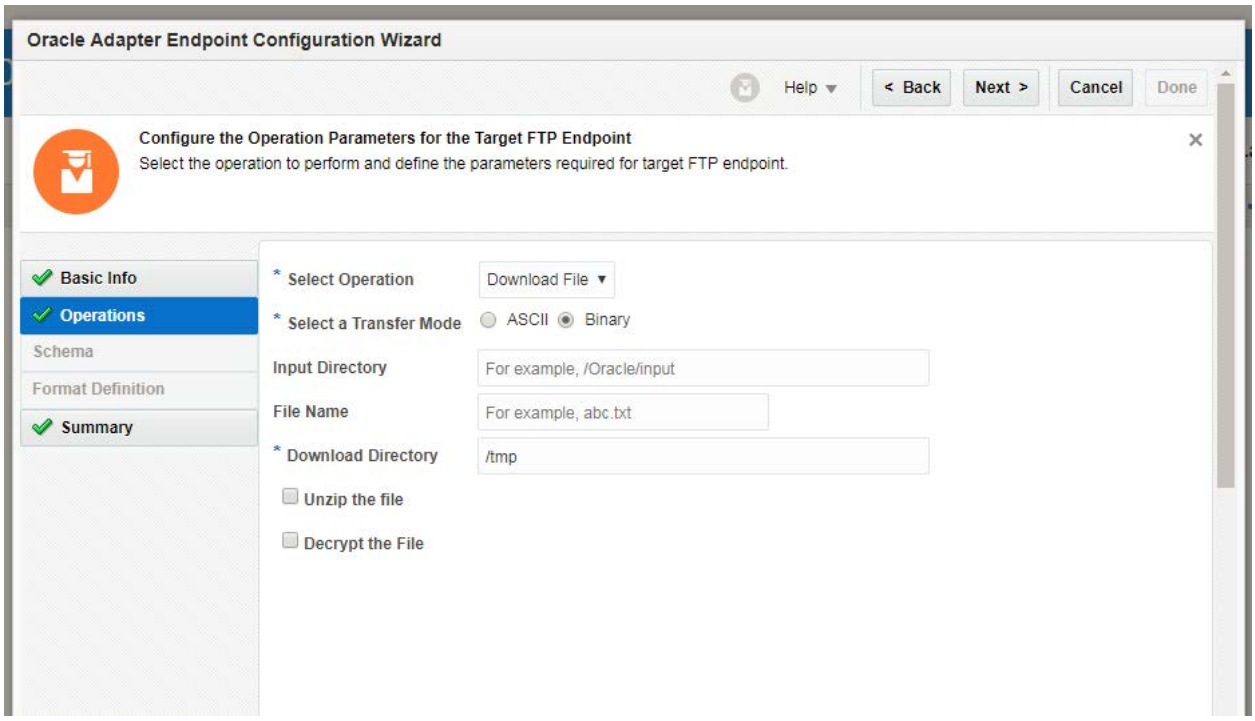
This is mapping to the request schema for Download File Operation from FTP location. The variables initialized in previous steps are mapped directly to corresponding fields in Download File Request.



Step 4

The FTP endpoint specifies:

- Operation as “Download File”
- Transfer mode is “Binary”.
- The Input directory and File name are the folder and file name present in FTP location. These are optional and specified during mapping in previous step.
- Download directory is the location in OIC where the file would be downloaded before sending to EPM.



Step 5

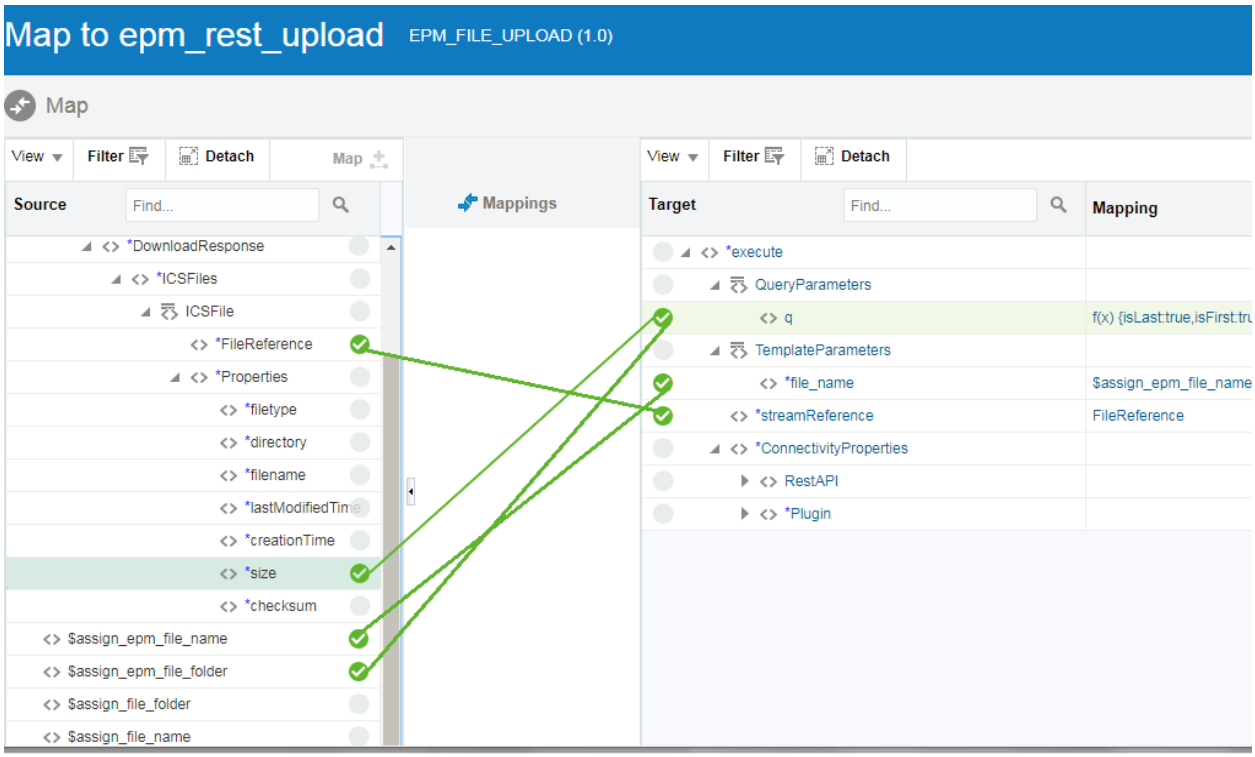
This is the mapping to Request schema for REST service to upload the file to EPM.

- The “File Reference” represents the stream of the file downloaded from FTP location. This is mapped directly to the “streamReference, for example the application-octet stream of the REST request used to upload the file to EPM.
- The variable $assign_epm_file_name is mapped to the path parameter “file_name” of the REST request.
- There is a query parameter “q” required for REST request. The value of “q” is determined based on two parameters: “size” of the file, “$assign_epm_file_folder” variable.
- If the destination EPM folder where the file has to be uploaded is not specified, “$assign_epm_file_folder” would be empty and then the value of q is constructed as following string:

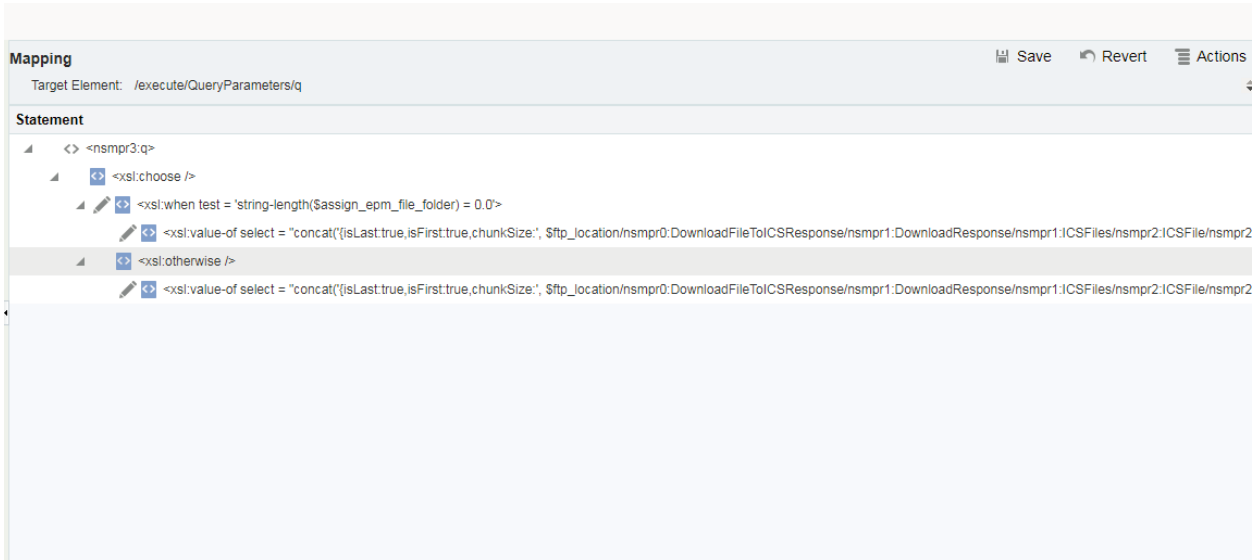
```
{isLast:true,isFirst:true,chunkSize:size}
```

- If the destination EPM folder is specified, “$assign_epm_file_folder” would not be empty and then the value of q is constructed as following string:

```
{ isLast:true,isFirst:true,chunkSize:size, extDirPath: "$assign_epm_file_folder" }
```



If you click on “q” , you can see the functions used to construct the value.



Step 6

This step specifies the REST endpoint details to upload the file to EPM. Refer to EPM documentation for details on the REST service used for upload.

https://docs.oracle.com/cloud/latest/epm-common/PREST/upload.htm#PREST-lcm_rest_apis_3

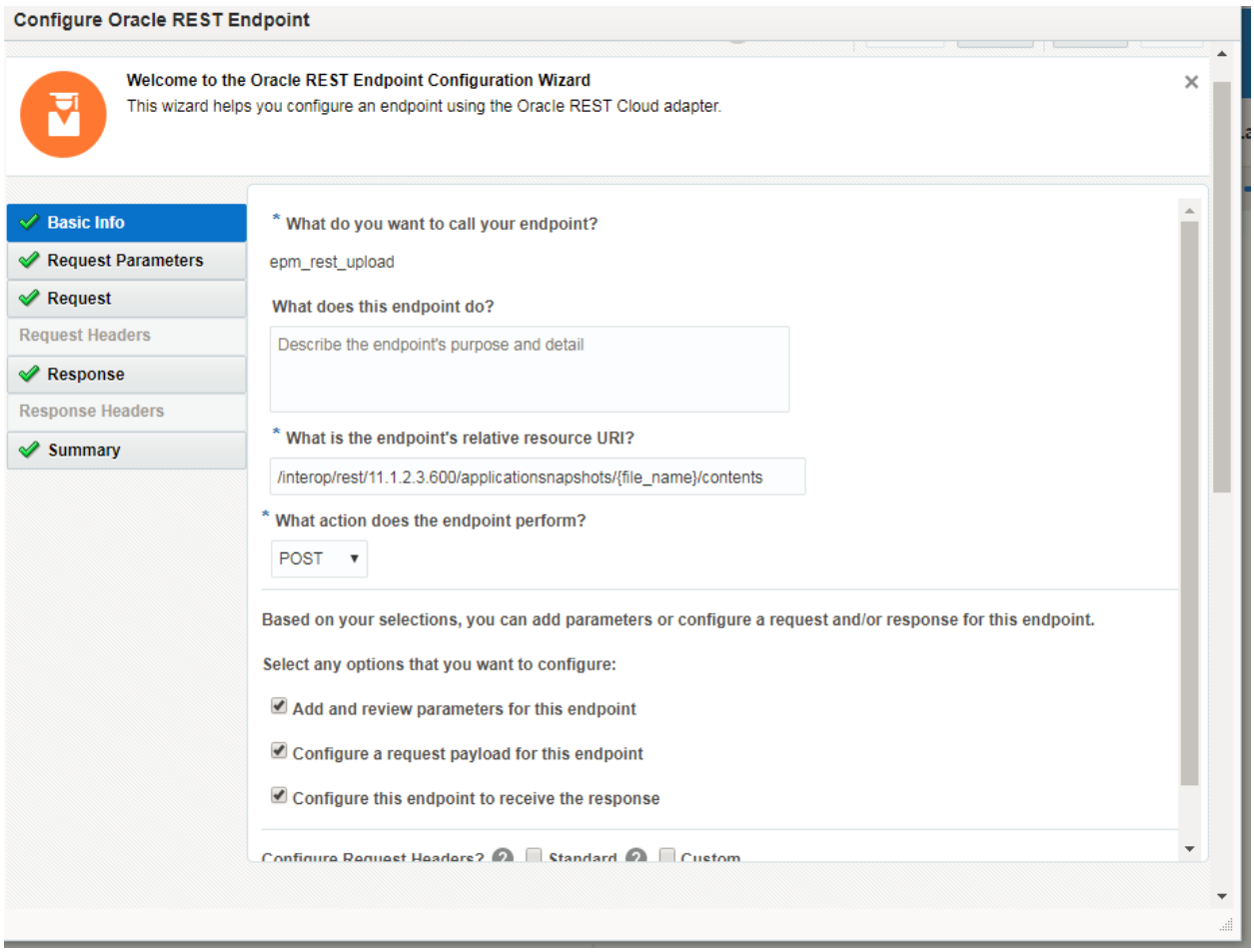
The EPM REST URL for upload is "/interop/rest/11.1.2.3.600/applicationsnapshots/{*file_name*}/contents" where {*file_name*} is a path parameter.

The operation action type is "POST".

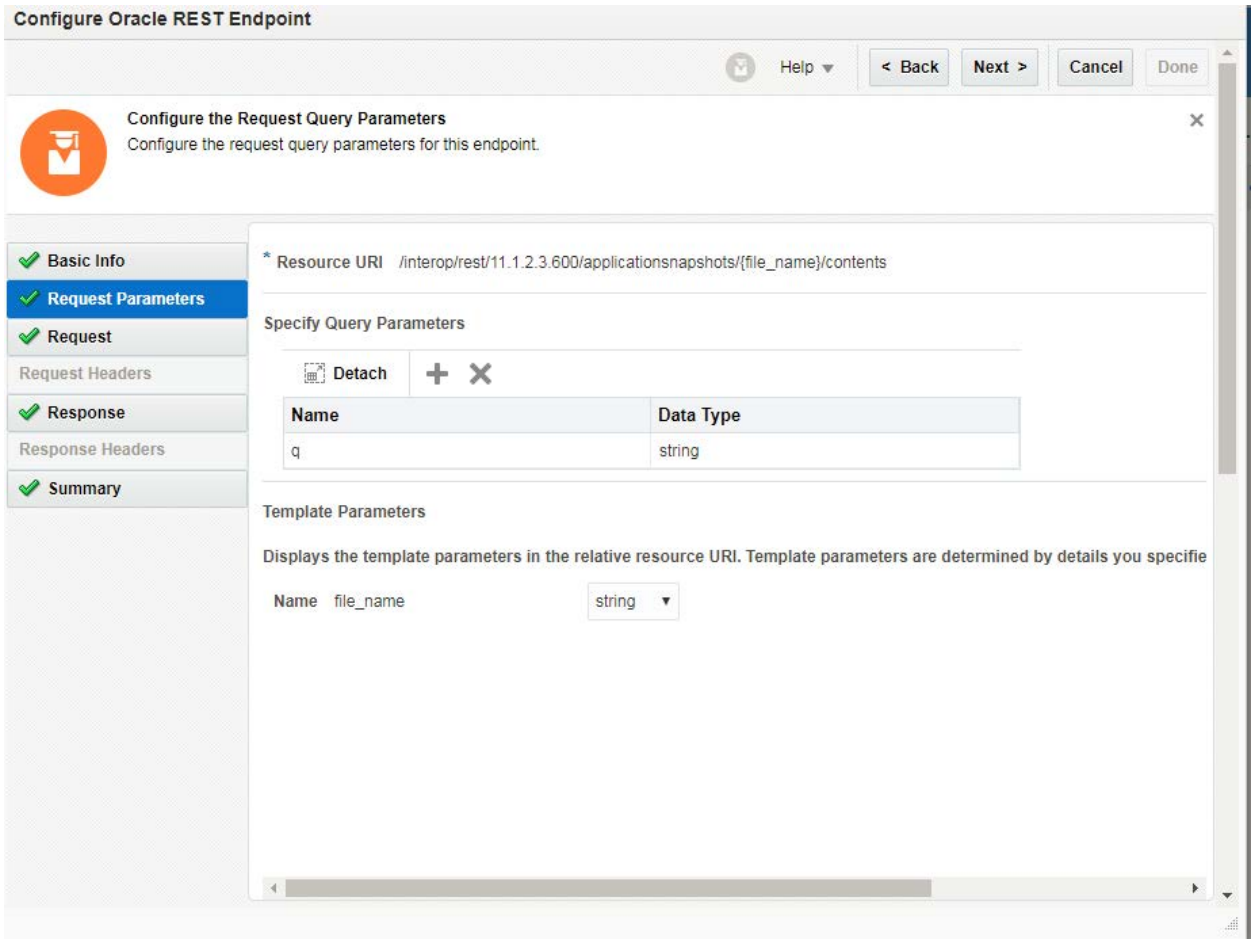
To specify the query parameter, "Add and review parameters for this endpoint" is checked.

To specify request payload type, "Configure a request payload for this endpoint" is checked.

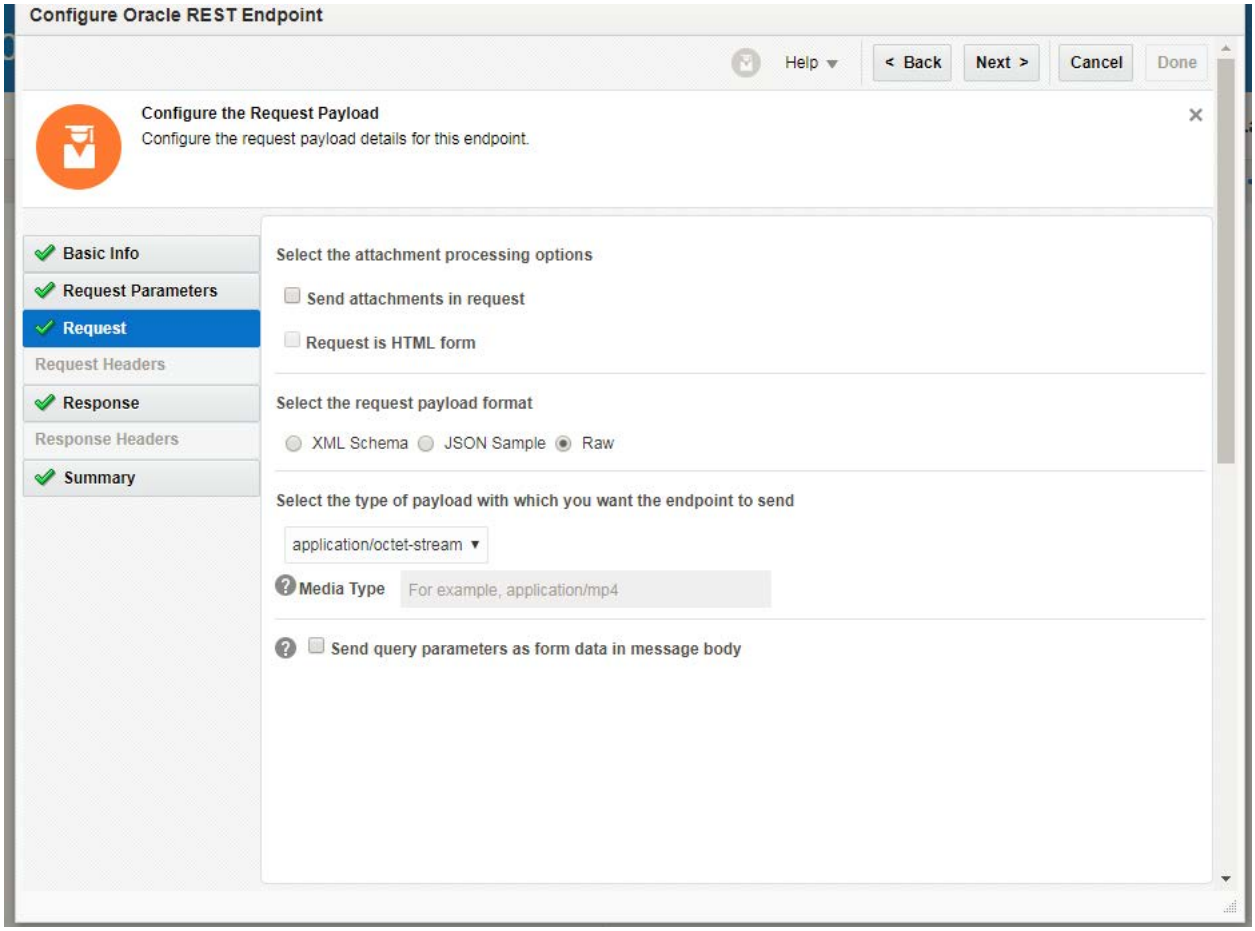
To specify the response type and schema, "Configure this endpoint to receive the response" is checked.



EPM upload REST service has a request query parameter named “q”. The format of “q” is explained in the previous step.

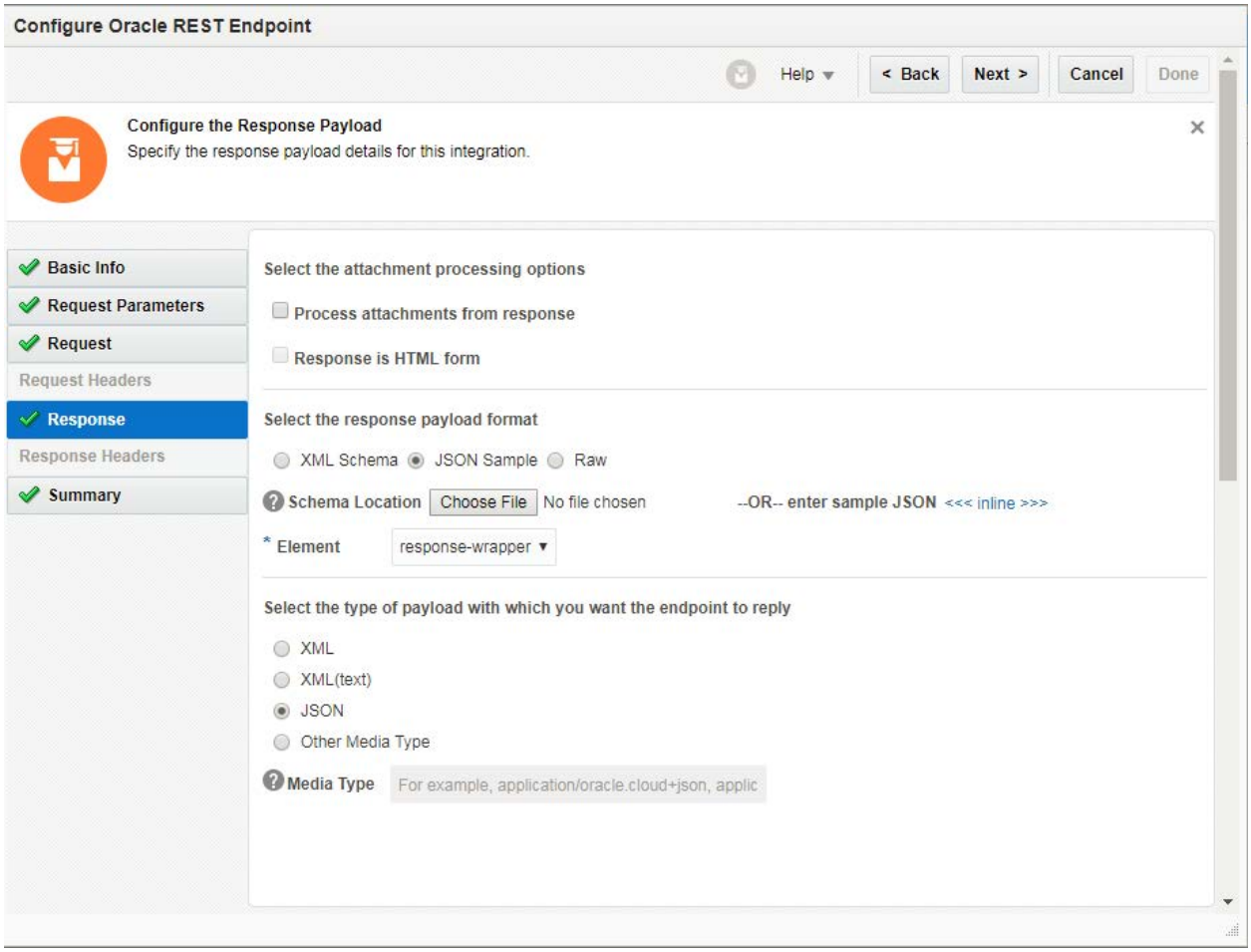


EPM upload REST service accepts file contents as “application/octet-stream”, so the payload format is selected as “Raw” and media type is specified as “application/octet-stream”.

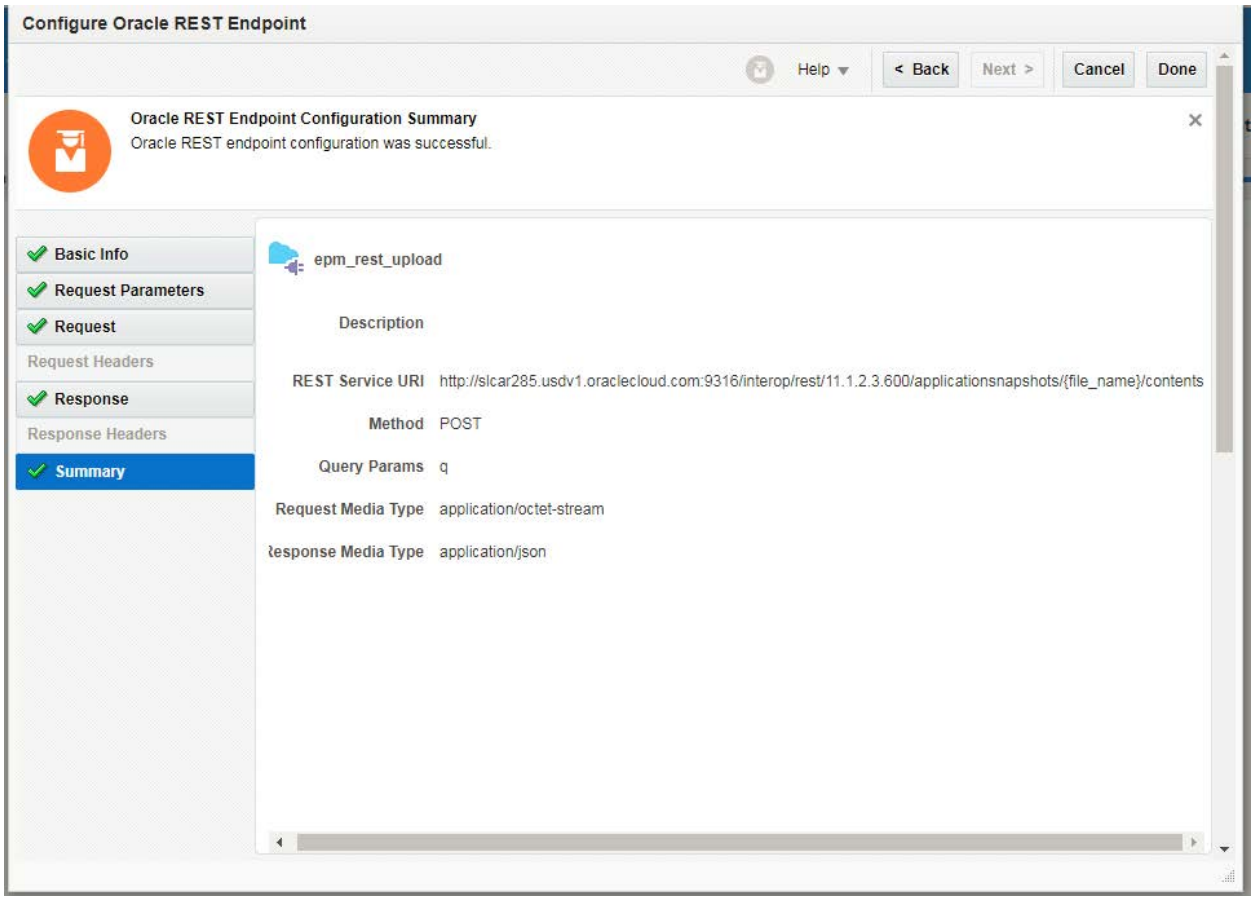


EPM upload REST service returns a response as JSON content. Following is the sample JSON:

```
{
   "status":0,
   "details":null,
   "links":[
      {
         "data":null,
         "action":"POST",
         "href":"null",
         "rel":"self"
      }
   ]
}
```



Summary page looks like this:



Step 7

End of integration

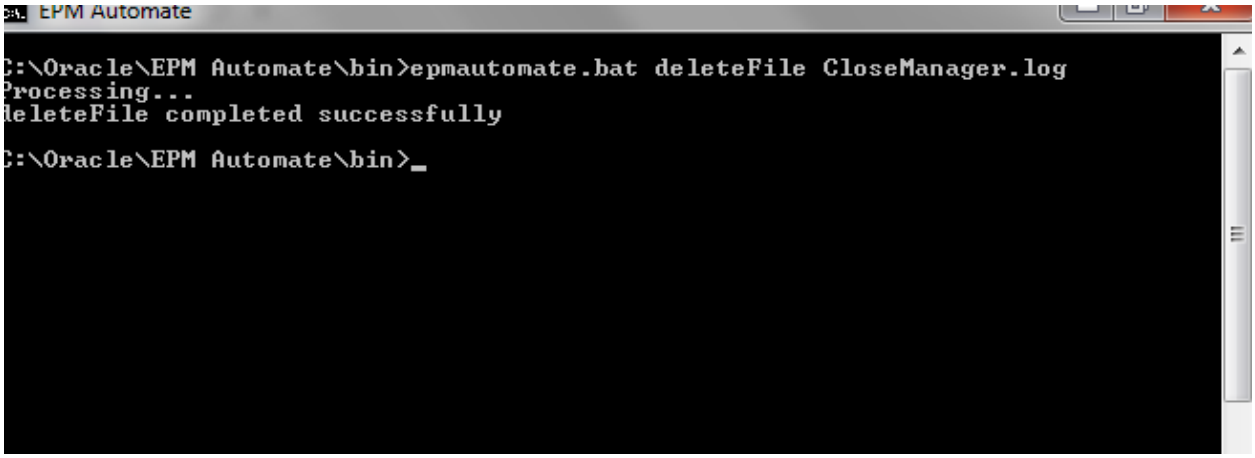
Run the Integration

Prepare the file

Make sure the file you want to transfer and that you specified in the integration flow Step 2 is available in the FTP location within the specified folder.

Delete the File in EPM cloud

Make sure the file does not exist on EPM cloud. You can use the EPM Automate utility to remove the file from EPM Cloud if it already exists.

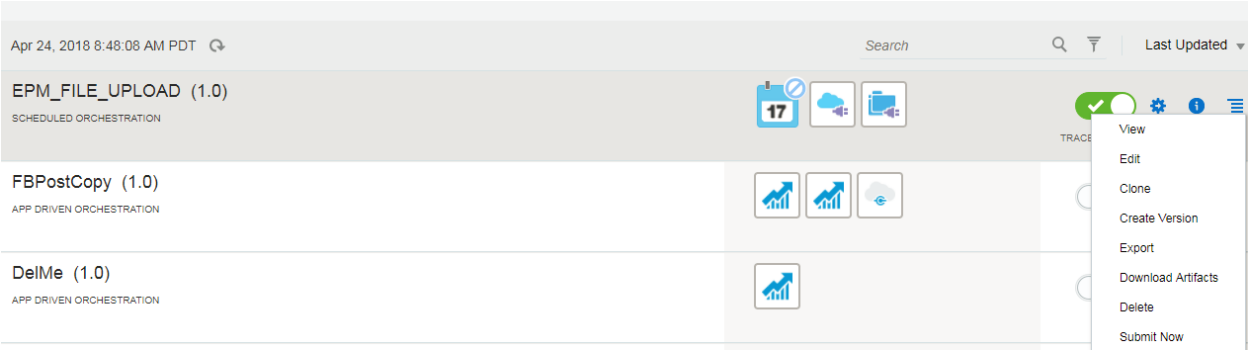


Refer to the following documentation for EPM Automate:

https://docs.oracle.com/cloud/latest/epm-common/CEPMA/toc.htm

Run the integration

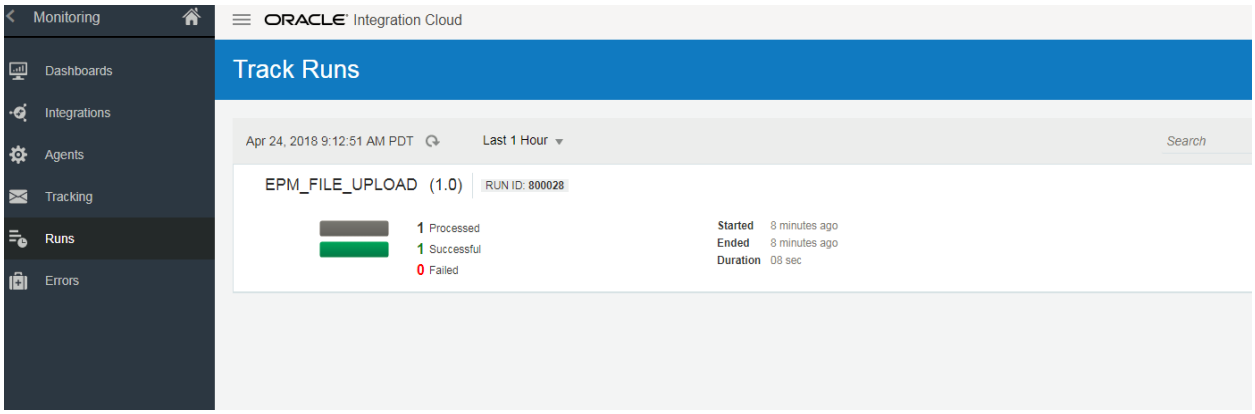
For testing purposes, click **Submit Now** from the menu to run the integration right away instead of scheduling. In production, you will define a schedule to run the integration regularly.



Check the Result

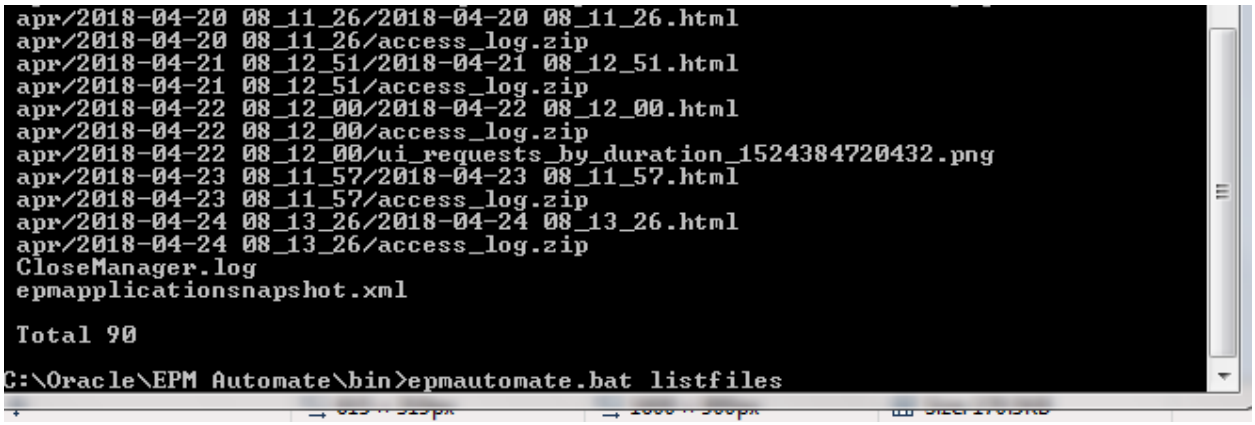
OIC

You can check the status of the integration from the Monitoring page in OIC.



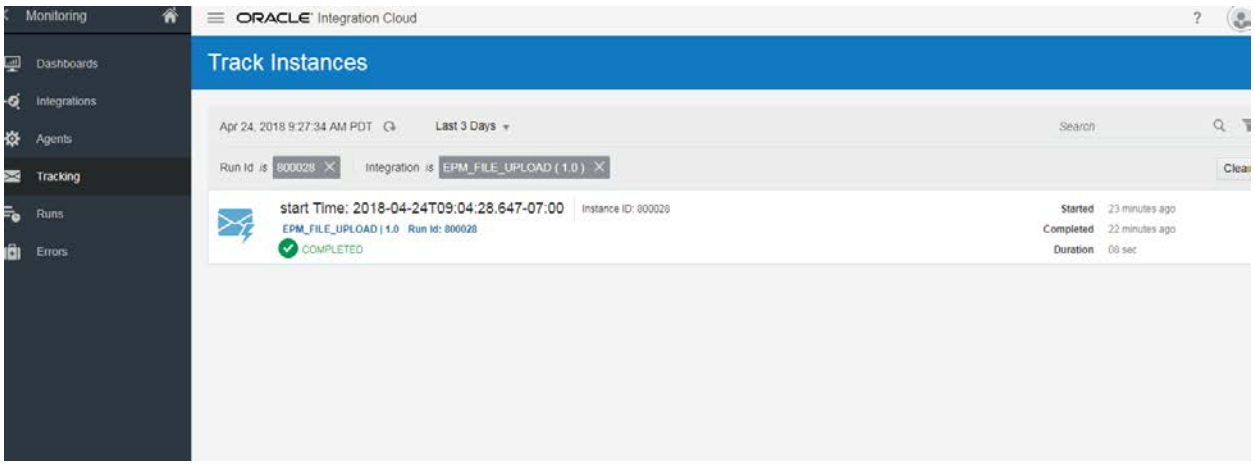
EPM

You can also check that the file is successfully uploaded to your EPM Cloud service using EPM Automate.

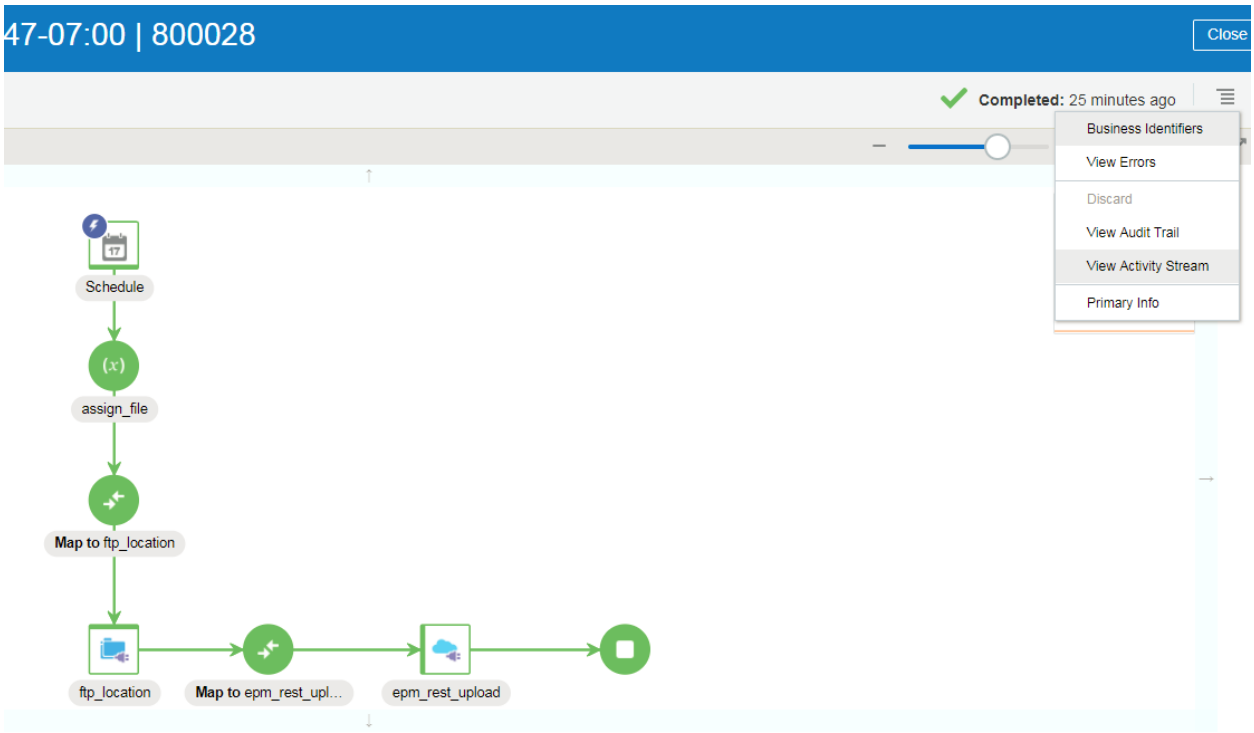


Debugging

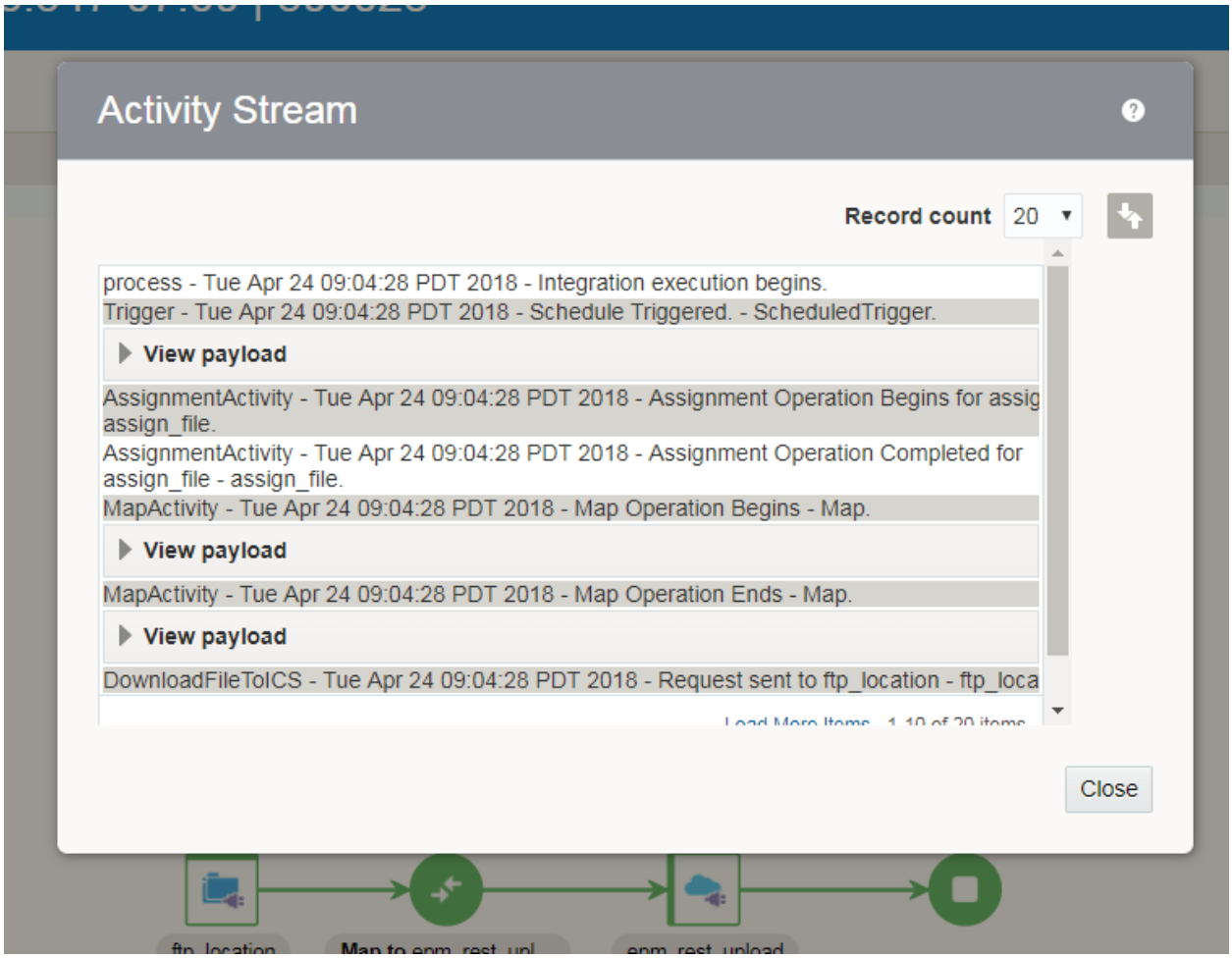
You can view the messages generated during the flow execution by going to the Tracking page on OIC if tracing was enabled during activation.



Click on the business identifier, for example, “start time: xxxx”. Then click **View Activity Stream** from the menu.



Inspect the messages flow between the steps of integration flow.



Security

The below user accounts are used in the sample integration. It is the responsibility of the customer to manage the accounts and security.

User Account	Use to
FTP/SFTP user account	Access customer's FTP/SFTP site
OIC user account	Login, import, modify, and run the integration.
EPM Cloud user account	Invoke the REST service on EPM cloud to upload the file

Useful information

Integration Cloud

https://docs.oracle.com/en/cloud/paas/integration-cloud-service

EPM Cloud

https://cloud.oracle.com/epm-cloud

EPM REST service

https://docs.oracle.com/cloud/latest/epm-common/PREST/toc.htm

https://docs.oracle.com/cloud/latest/epm-common/PREST/upload.htm#PREST-lcm_rest_apis_3

EPM Automate

https://docs.oracle.com/cloud/latest/epm-common/CEPMA/toc.htm

REST Adapter

https://docs.oracle.com/en/cloud/paas/integration-cloud-service/icsre/getting-started-rest-adapter.html

FTP Adapter

https://docs.oracle.com/en/cloud/paas/integration-cloud-service/icsft/getting-started-oracle-ftp-cloud-adapter.html

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