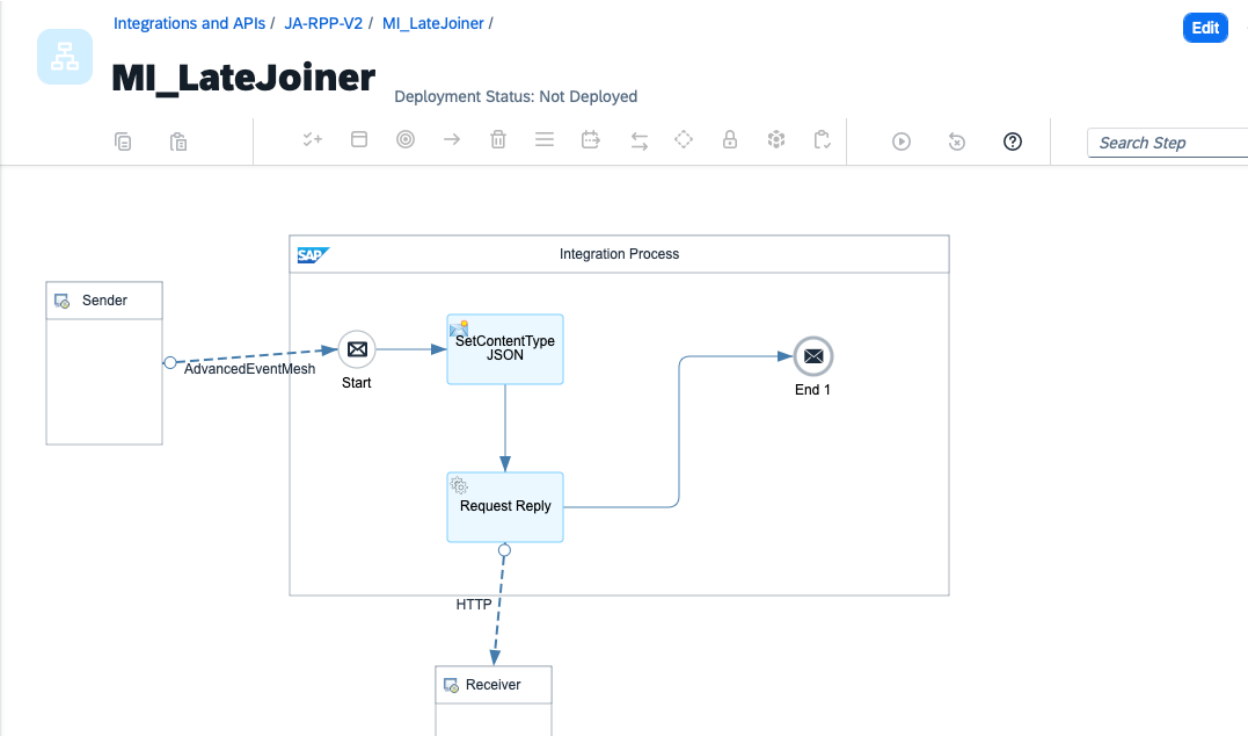
Table of Contents

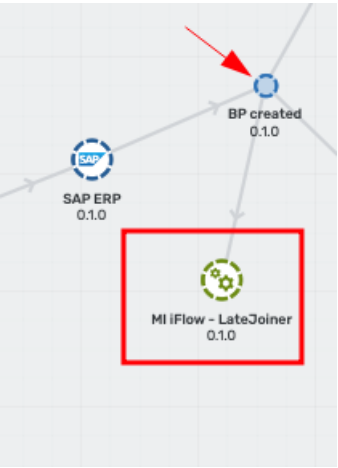
1 Overview of MI_LateJoiner



In this exercise, the requirement is to send all historical ***BPCreate*** events to an external 3rd Party HTTP Endpoint. We will not configure any error handling here as this is just a basic iFlow. We will delve into details about error handling in the *MI iFlow ErrorHandling* workshop. Note though that you get error handling 'out of the box' even though we don't configure any error specific handling behaviour. Although this is a basic iFlow, it illustrates the powerful concept that you can replay old events and use these to drive any application.

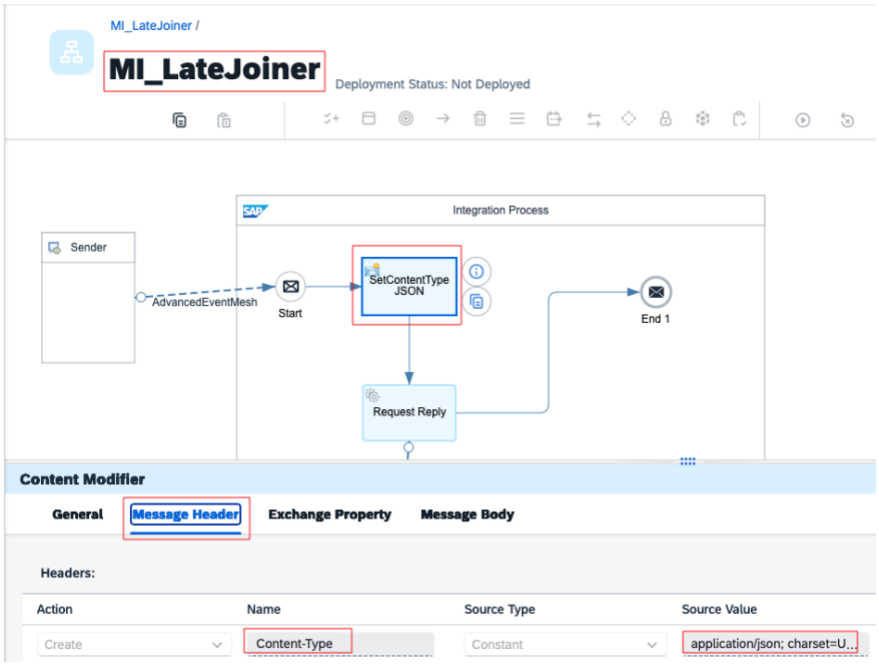
The replay mechanism is triggered and all historical ***BP Created*** events (Golden records) published from the SAP ERP system are dumped onto the queue this iFlow reads from - ***late_joiner.bp_created***.

Use the 'Replay' word document to guide you through the steps to replay these events.



The iFlow calls a mock service and which will respond with a HTTP 200 (ok) status code. Since a successful response is received from the HTTP endpoint service, the iFlow will send an *'ack'* to the broker and so the broker will remove the message from the input queue. In the *MI iFlow ErrorHandling* workshop, we will talk about how to handle unsuccessful responses from the HTTP Endpoint service.

The iFlow that you will download in 1.2.6 below has most of the configuration already in place (so once again, **not much typing to do!**). The iFlow uses the Sender ***SAP AEM Adapter*** to get events from the `late_joiner.bp_created` queue on your AEM instance.

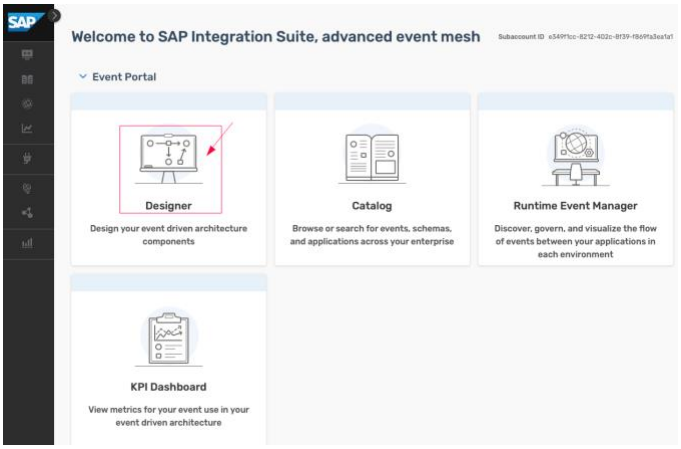


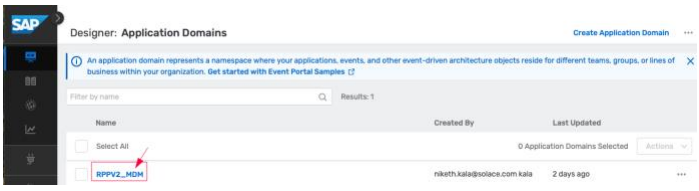
The ***Content Modifier transformation step*** marks the content of the message as JSON so that the REST endpoint can correctly identify the message as JSON.

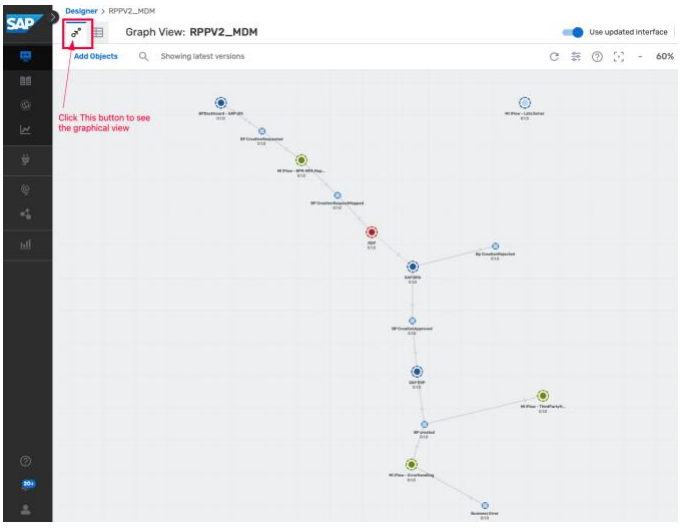
1.1 Promote supporting components from Event Portal

In the next series of steps, you will go through the process of pushing (promoting) all the required components that are required to support the deployment of the iFlow to your AEM instance. You will not be able to successfully deploy the iFlow unless all these are present. The components that will be pushed are ***A***ccess***C***ontrol***L***ists, Topics, Queues, Usernames, ACL Profiles.

1.1.1 Navigate to the Event Portal and select the Application Domain







1.1.2 Application Queue Names and Client Profile Details

Each application's queue name and client credentials (username and password) are detailed in the table below. The configuration must follow the order indicated in the diagram. So, you must configure "*BPCreate-SAP UI5"* before "*MI iFlow BPA-BPA Mapping"* and so on…In this step, we will configure the topics and queues for the Late Joiner iFlow

	Application	QueueName	ClientUsername	Pwd
1	BPCreate-SAP UI5		user1	user123$
2	MI iFlow BPA-BPA Mapping	bpr_bpa_mapping.bp_creation_request	user2	user123$
3	RDP	rdp.bp_mapped_creation_request	user3	user123$
4	SAP BPA		user4	user123$
5	SAP ERP	erp.bp_creation_approved	user5	user123$
6	3rdParty HttpEndpoint	http_endpoint.bp_created	user6	user123$
7	Error Handling	error_handling.bp_created error_handling.bp_created_dmq error_handling.bp_created_business_error	user7	user123$
8	LateJoiner	late_joiner.bp_created	user8	user123$

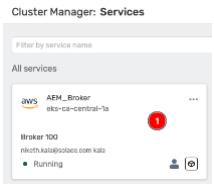
1.1.3 Configure the MI Late Joiner Application

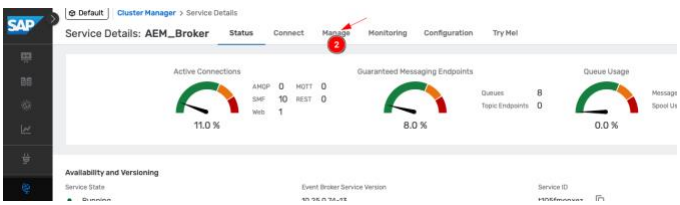
In this exercise, **you** will need to do a little more work than previously to join the Late Joiner application with the rest of the EP design! You will also configure the ACL and assign events and topics using your experience from previous exercises. ☺

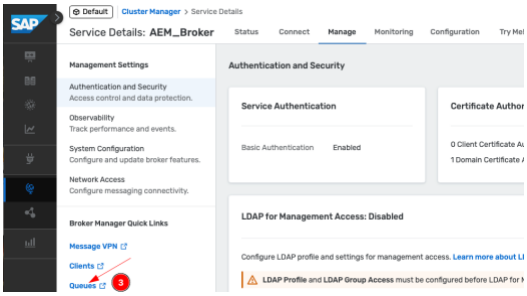
1.1.4 Validate Access Control, profile, Client Credentials, Application Queue Names and then promote the Late Joiner application.

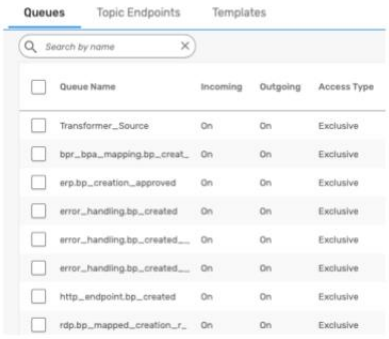
If all has gone well, you will now have successfully promoted Application – MI Late Joiner to your AEM Broker!

You can verify that these have all been deployed as expected by checking on your AEM instance Cluster Manager => Manage => Queues



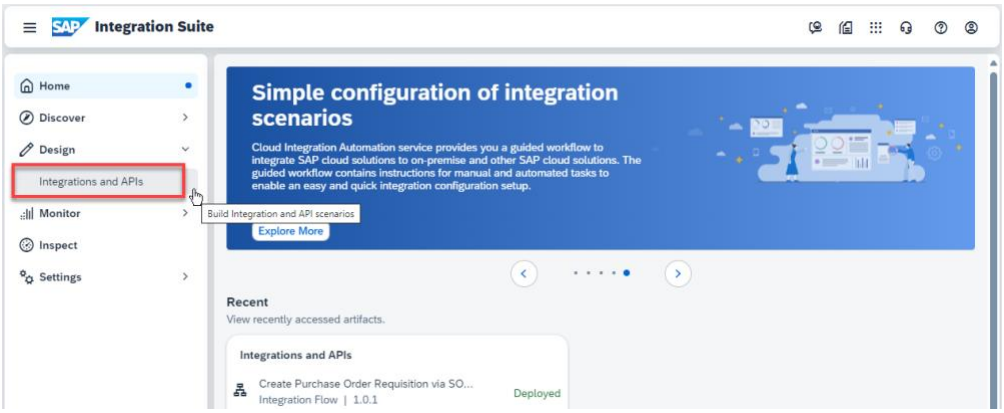






1.2 Set up packages within Integration Suite, cloud integration

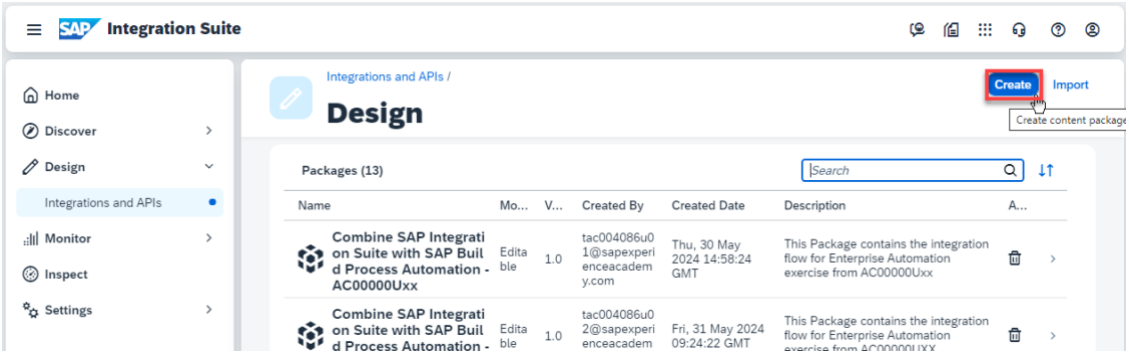
1.2.1 From your SAP Integration Suite tenant service, click on Design section in the left-hand menu. Now click on "Integration and APIs" under Design -



1.2.2 Create the integration package (if you've not already created one)

After clicking on "Integration and APIs" you will see a "Design" window on the right-hand side of the screen. This is where you will create your own package.

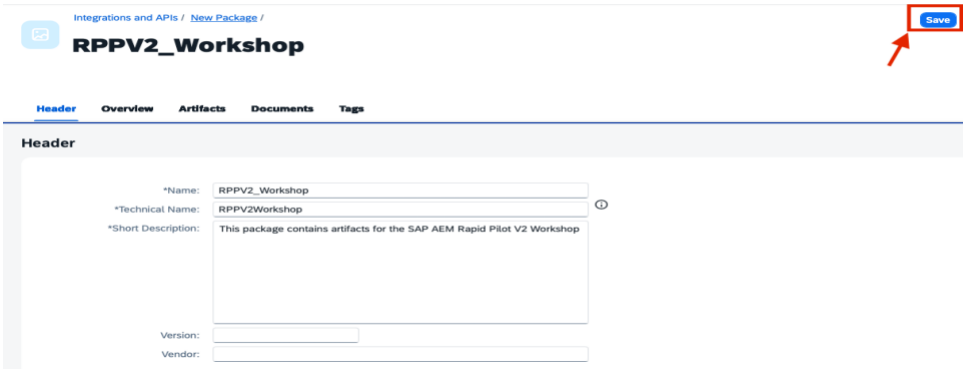
1.2.3 Click on Create to create an integration package.



1.2.4 Provide the following details:

⇒ Name: RPPV2_Workshop
⇒ Technical Name will be auto-filled with RPPV2Workshop
⇒ Short description: "*This package contains artifacts for the SAP AEM Rapid Pilot V2 Workshop.*"

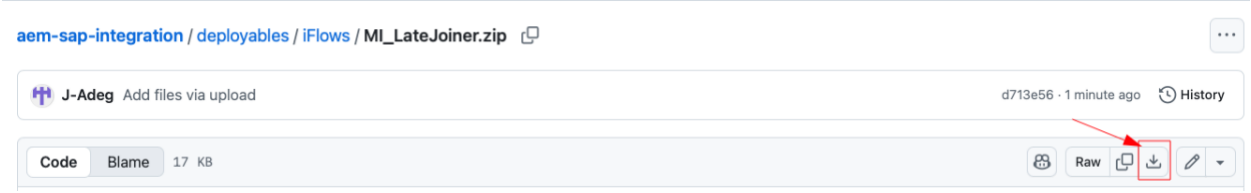
1.2.5 Click on Save once finished.



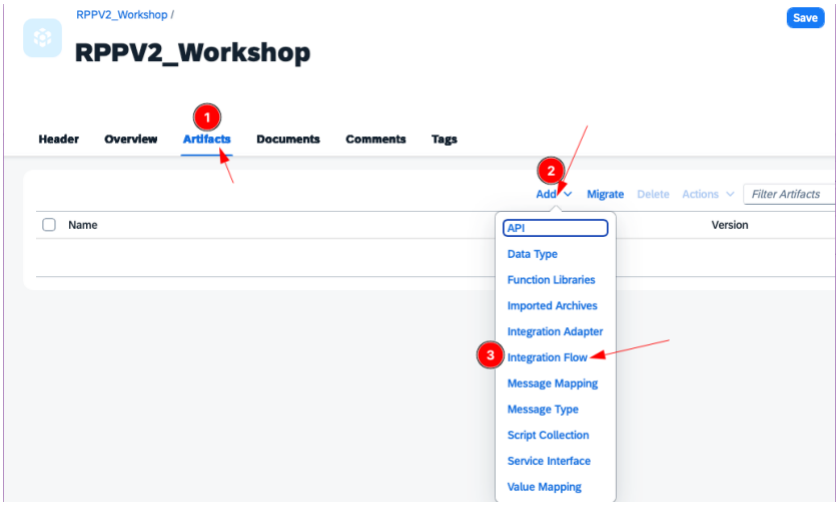
Within an integration package, you can add several artifacts: REST APIs, OData APIs, integration flows, mappings, and more. In our case, we will import templates for integration flows that will be used in the workshop.

1.2.6 Download the iFlow template for the final iFlow **MI_LateJoiner** by clicking on the download link below and then click on the Download raw file icon as shown in the screenshot below; this will download the file to the location you have configured for downloads on your browser

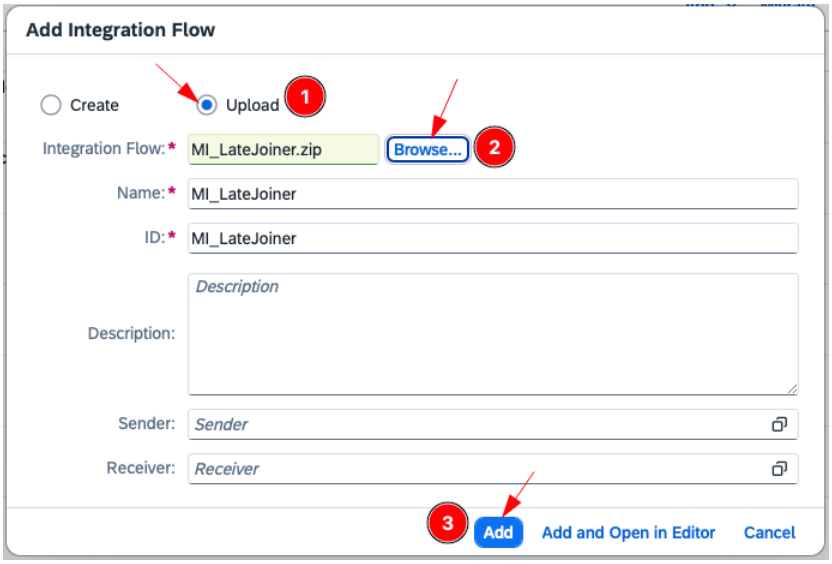
https://github.com/SolaceLabs/aem-sap-integration/blob/d713e56afdad0ad481c461032dfba658e9fb39da/deployables/iFlows/MI_LateJoiner.zip



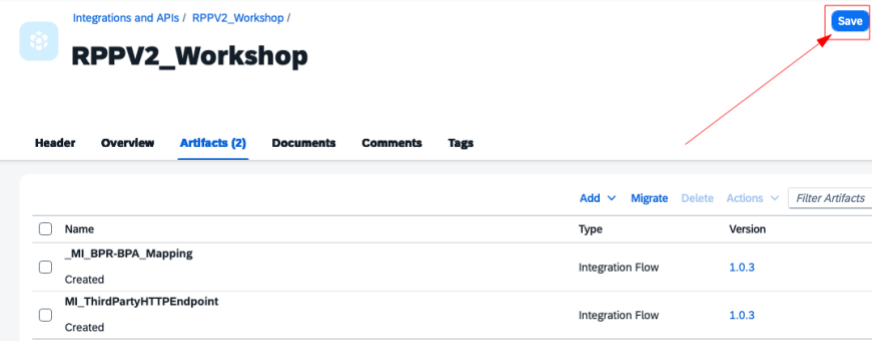
1.2.7 You now need to bring up the dialogue to import that iFlow template file that you downloaded into your package:



1.2.8 The dialogue for importing the previously downloaded file is now visible as shown in the screenshot below. Upload the file…



1.2.9 The imported iFlow template is now in your package. Save it

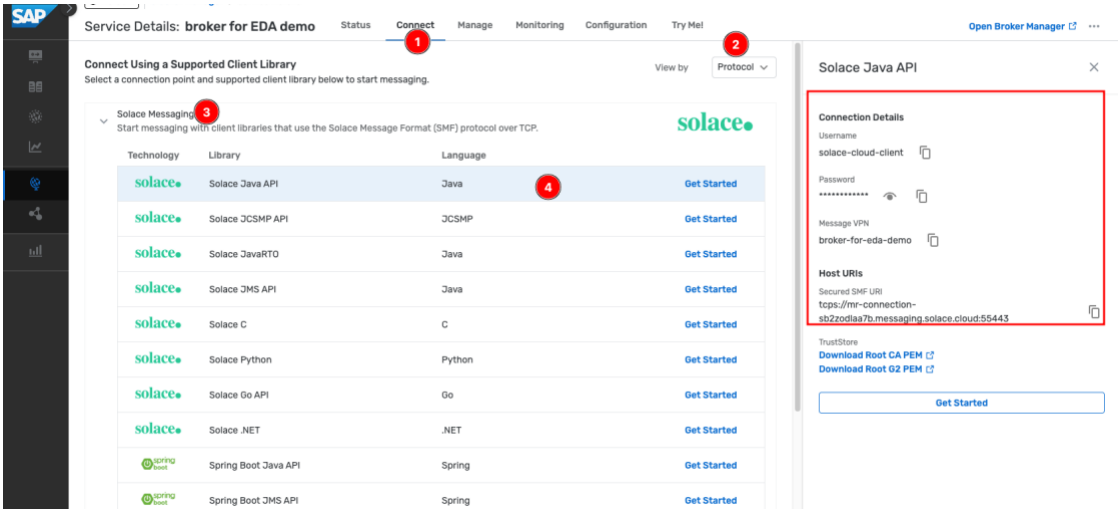


1.3 Gathering AEM instance connection credentials

The iFlow will need to be configured with the connection credentials (URL, vpn name, password) for **your** AEM instance before it can be deployed so we will gather all these details first.

1.3.1 Obtain AEM Broker Connection Credentials

Before heading back to Integration Suite, let's head to our **Advanced Event Mesh Console** and go to **Cluster Manager** -> **{your service}**. Select the connection point and protocol that you want to use to connect your Integration Suite flows by going to the "Connect" tab, order by protocol, then click on Solace Messaging. Make a note of the connectivity details underneath "Solace Messaging" (click on the section to open it up). You will need these details in the next steps when configuring your iFlows.

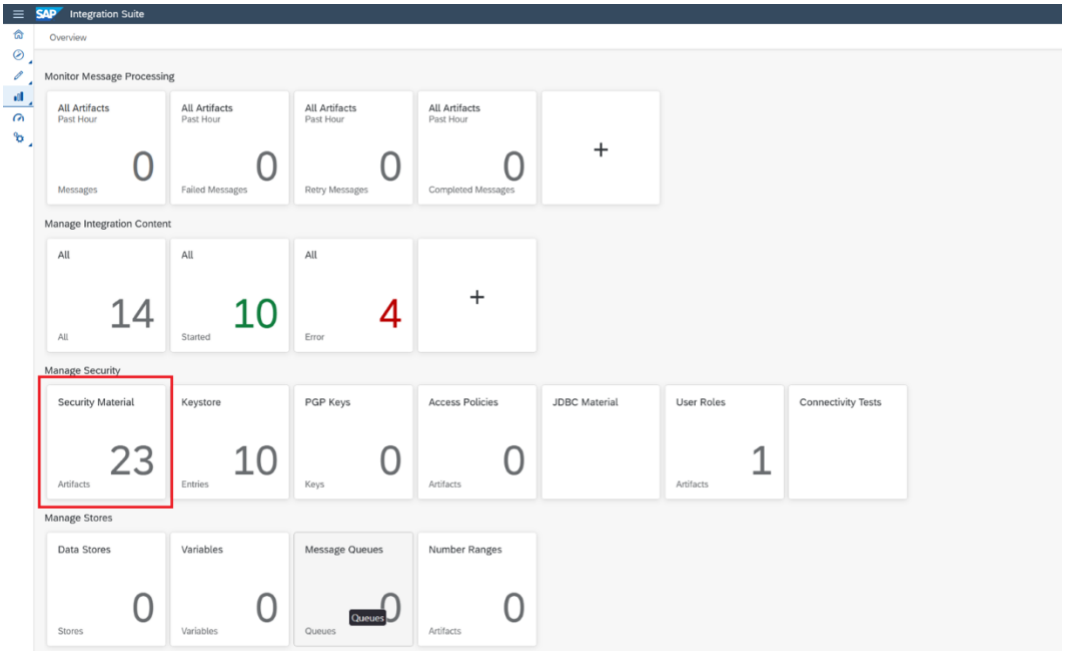


The connect tab lists all the various connectivity details for the various supported protocols. The SAP Integration AEM adapter uses Solace Messaging Format, which is AEM's very own protocol with a broad feature set support. Solace Message Format (SMF) is the underlying messaging protocol for SAP Integration Suite, advanced event mesh.

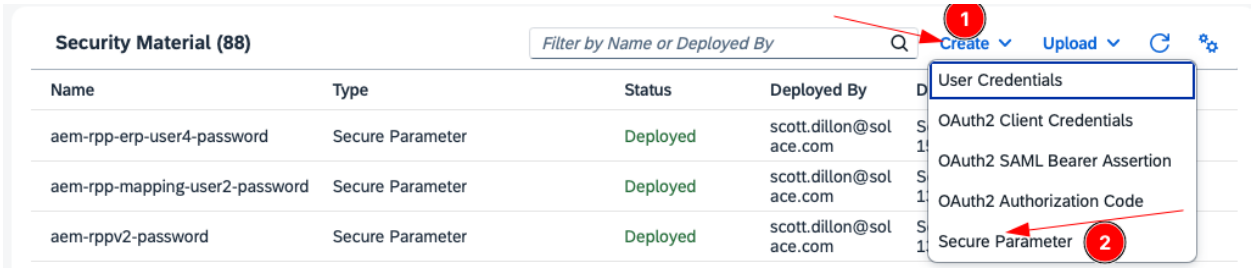
1.3.2 Security Configuration

Rather than entering the AEM instance password directly on the iFlow and making it visible to everyone with access to the iFlow, you will create a **SecureParameter** which will store the password securely and we then just reference this in our iFlows.

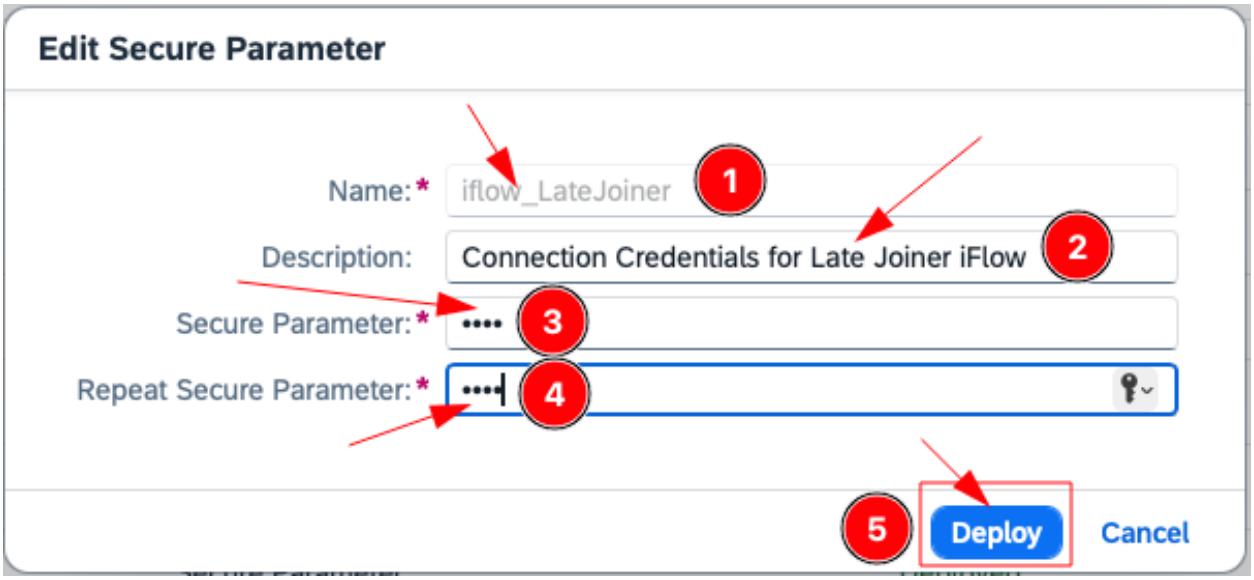
Go to Integration Suite **-> Monitor** -> **Manage Security** -> **Security Material**.



In here, create security credentials for your AEM broker service.
Create **SecureParameter** `iflow_LateJoiner` for the iFlow:



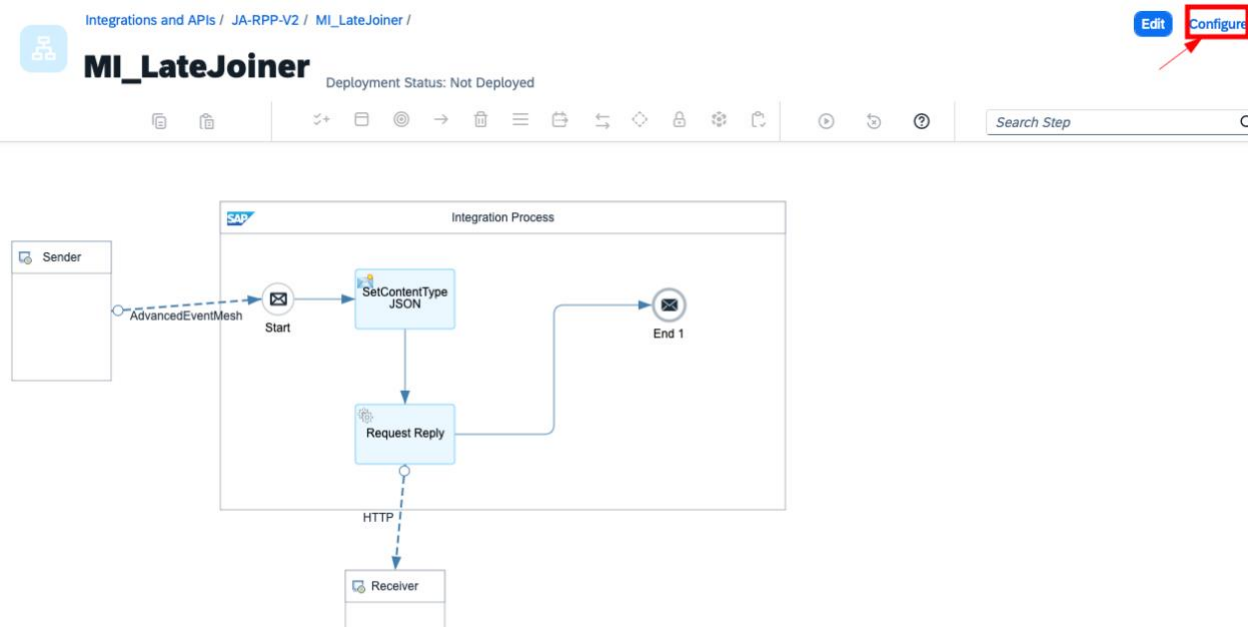
The credentials are:
Name: **iflow_LateJoiner**
SecureParameter: **user123$**



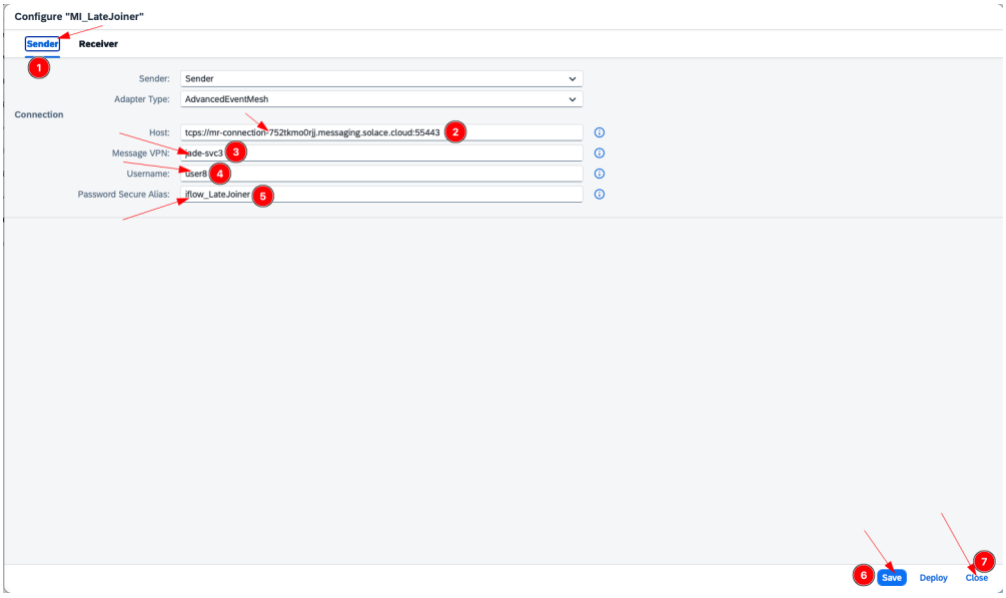
1.4 Add security and connection credentials for MI_LateJoiner

1.4.1 Navigate to the iFlow – Go to Integration Suite -> Design -> Integrations and APIs -> RPPV2_Workshop -> Artifacts -> MI_LateJoiner

1.4.2 Click on the Configure button to configure the AEM Adapter connection credentials

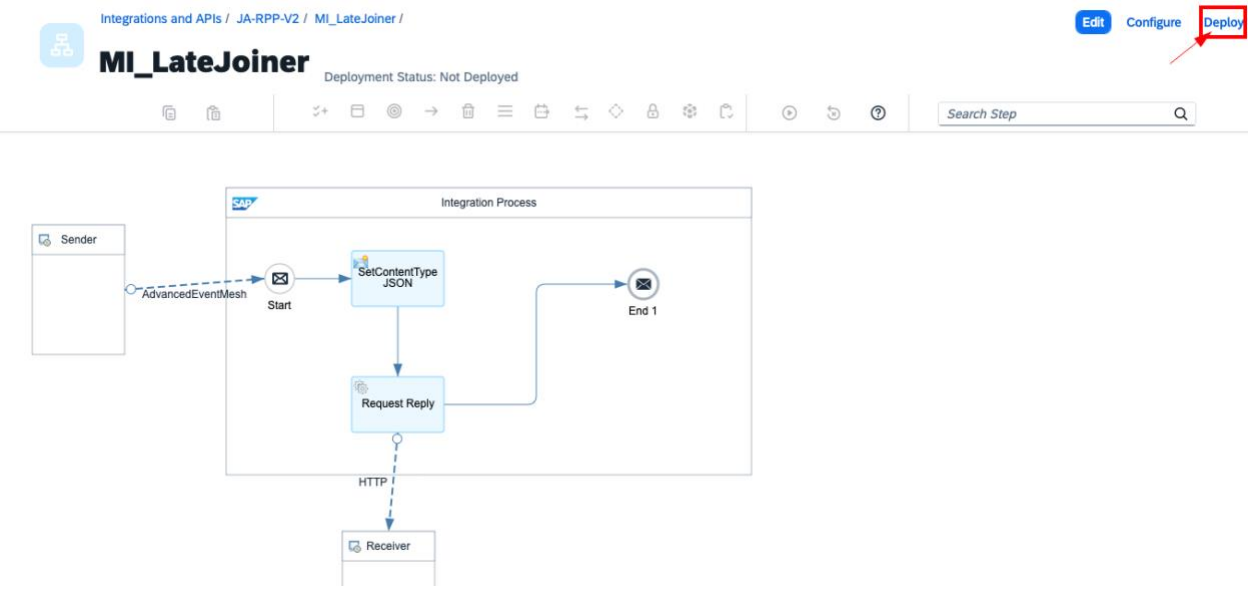


1.4.2.1 **Click on the Sender tab** and populate the connection credentials.



1. Click on the Sender tab
2. Type in the ***AEM connection url*** you obtained from 1.3.1 above
3. Type in the ***message vpn*** you obtained from 1.3.1 above
4. Type in the ***user id*** that you used to create the Secure Alias in 1.3.2 above
5. Type in the name of the Password Parameter you created in 1.3.2 above
6. Click on Save
7. Click on Close

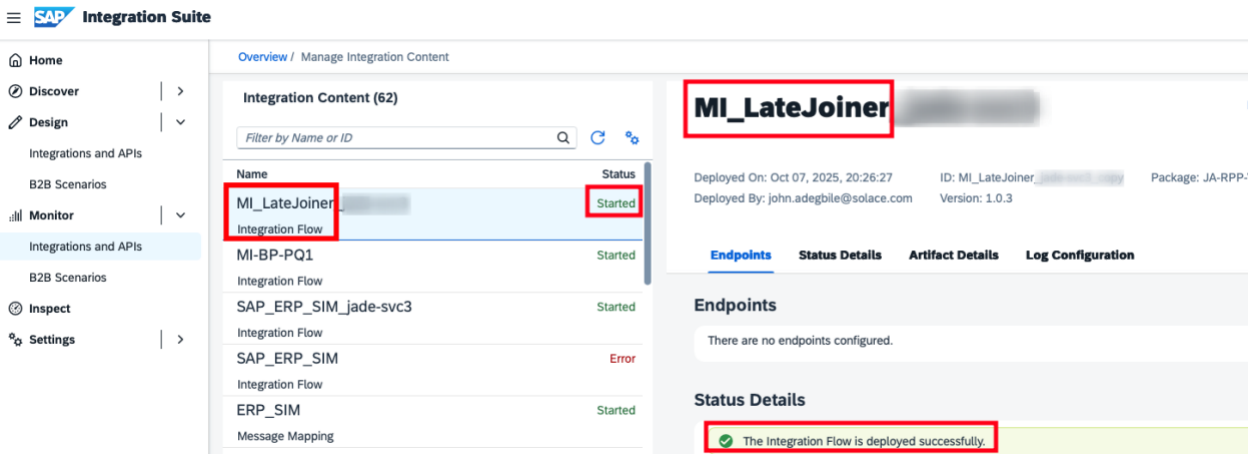
1.5 Deploy the iFlow



1.5.1 Check on the Deployment progress

Make sure the iFlow goes to a Started state. Use the instructions and screenshots below to guide you.

Go to **Integration Suite -> Monitor -> Integrations and APIs -> Manage Integration Content**



1.6 Test the MI_LateJoiner iFlow

Two of the easiest ways to test your iFlow are 1) Use the TryMe utility, 2) Use the Replay Log. The how-tos for these 2 utilities are shown in sections 1.6.1 and 1.6.3 below.
When (not if ☺) you need to troubleshoot if you don't get a response or your message is not processed, refer to the instructions in section 1.6.2 below.

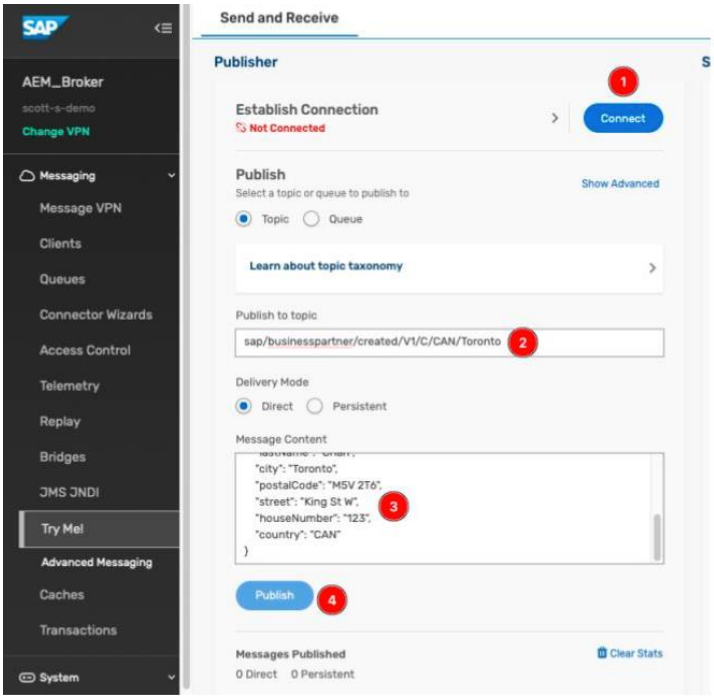
1.6.1 Test by using the TryMe tab

Access the TryMe utility by using the instructions in section 2 below.
After you have navigated to the TryMe utility and connected to your AEM instance, you can paste the sample message below into the publisher window to invoke your iFlow. The topic you publish to is sap/businesspartner/created/V1/{businessPartnerType}/{country}/{city}. So for the sample message below, the topic will be:

sap/businesspartner/created/V1/C/CAN/Toronto

```
{
"partnerId": "0001234567",
"validTo": "2025-12-31T23:59:59Z",
"addressNumber": "0000123456",
"validFrom": "2025-01-01T00:00:00Z",
"businessPartnerType": "C",
"firstName": "Alex",
"lastName": "Chan",
"city": "Toronto",
"postalCode": "M5V 2T6",
"street": "King St W",
"houseNumber": "123",
"country": "CAN"
}
```

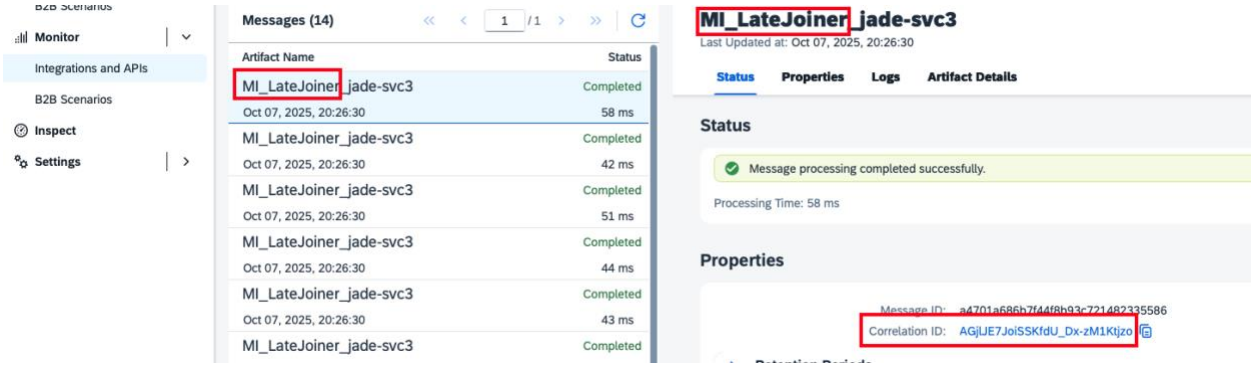
The iFlow will process the event message and publish it to the topic sap/businesspartner/created/V1/C/CAN/Toronto. To confirm that your request has been sent and a response has been sent from the REST service, we (the SAP AEM team) will show your request and response on the mock server.



1.6.2 Finding out if your iFlow has processed a message

Go to **Integration Suite -> Monitor -> Integrations and APIs -> Monitor Message Processing**

This is always the place to look to see whether your iFlow has failed or succeeded at processing a message.



If your iFlow failed during processing, you will see a status of failed. Clicking on the link for the failed message will give more information on the cause of the failure.

There will probably be several requests being sent to the mock server from all the participants but we will still be able to track your request to the mock server. It would help us to track your specific request quicker if you can **let us know the correlation id from the message as indicated in the screenshot above**.

1.6.3 Test by using the Replay Functionality

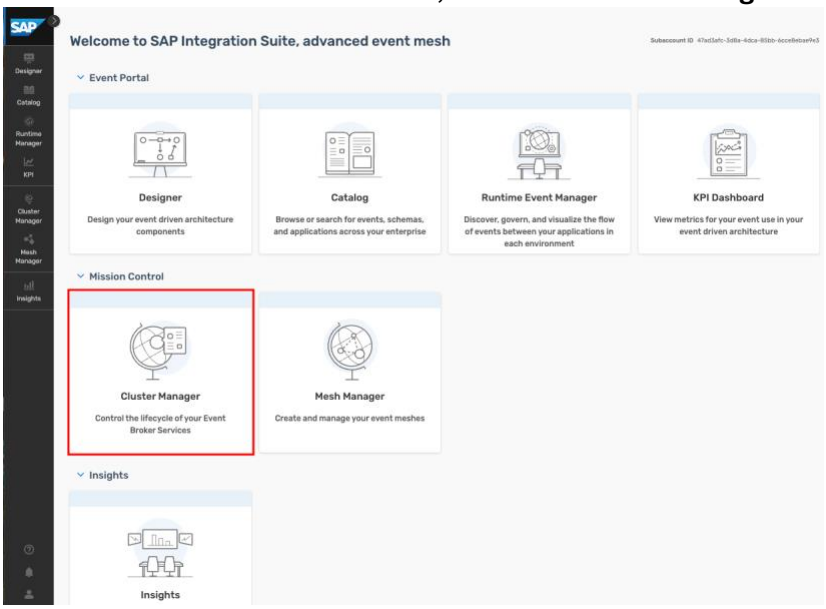
The method for replaying historical events is detailed in the ‘Replay’ Word document.

2 APPENDIX – CONNECTING TO THE TRY ME UTILITY

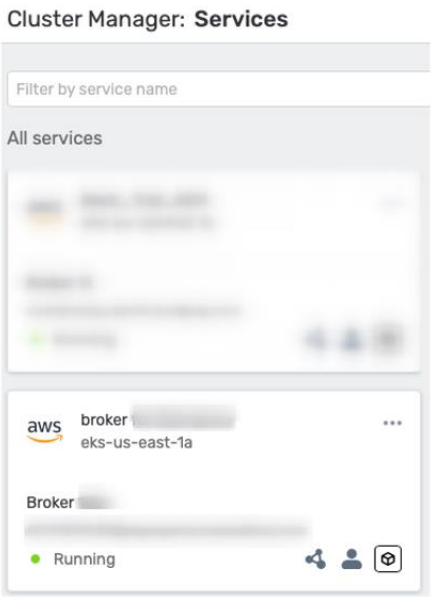
2.1 Obtain connection credentials

The Try Me! utility is a JavaScript application for quickly getting up and running with testing smart topics. The application uses Web Sockets and so you'll need to select the appropriate connection credentials.

From within the main AEM console, click on **Cluster Manager**

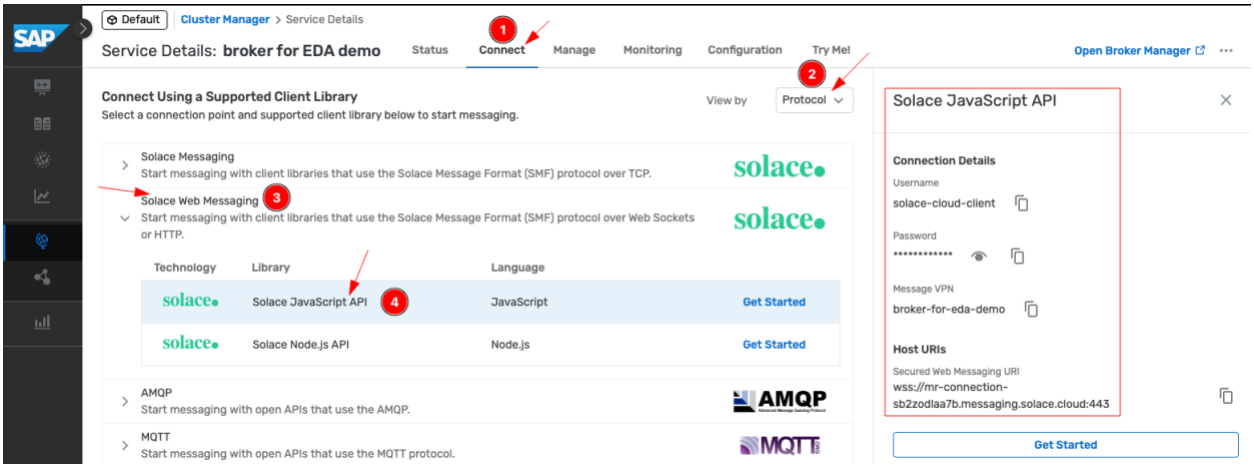


Next, select the AEM broker that you created for this workshop. The screenshot below is just an example. Your AEM instance name and Cloud Provider name will depend on what you chose!

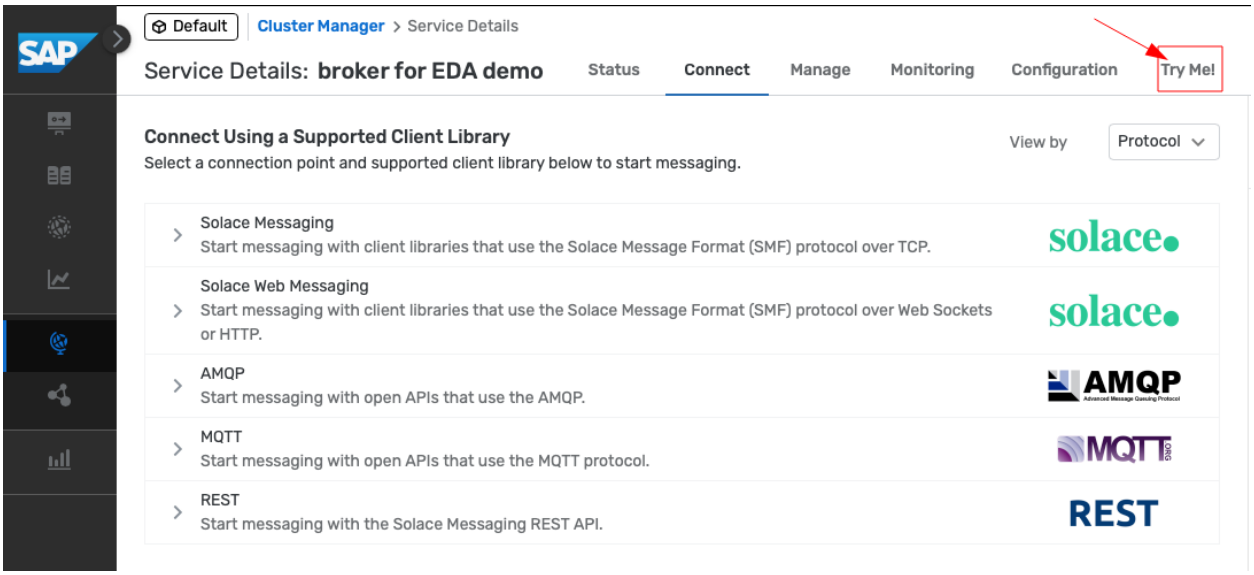


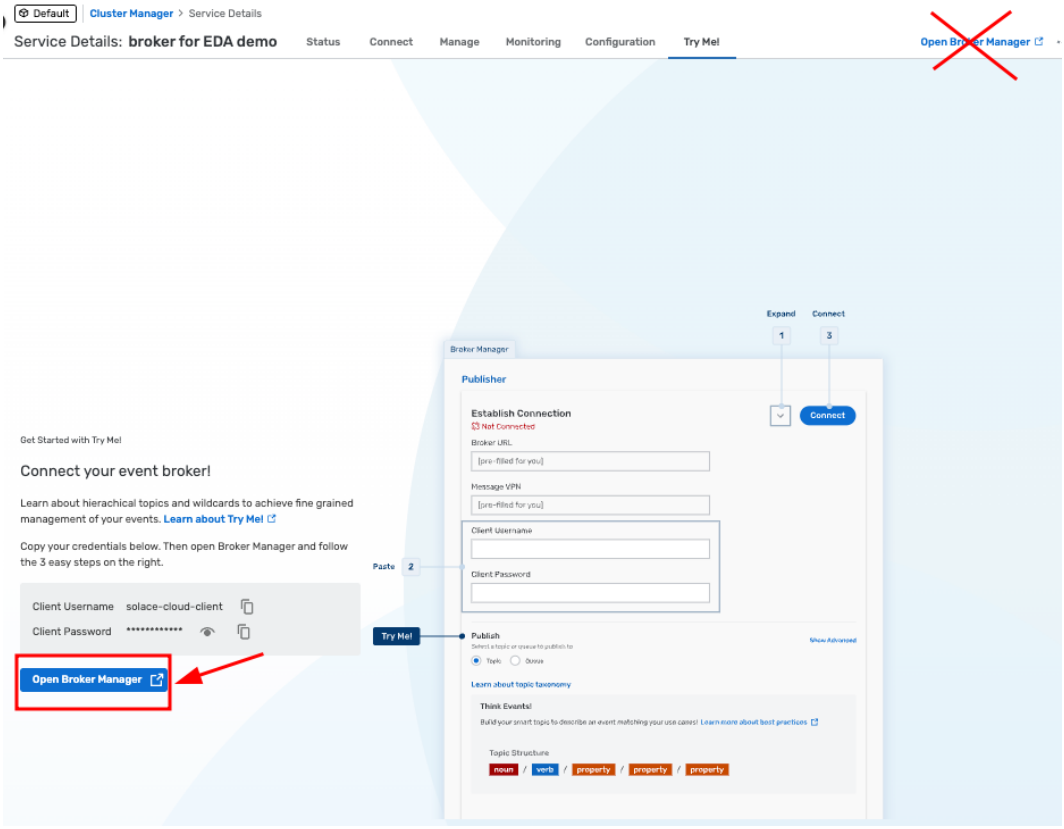
After selecting your AEM instance,
1 - click on the "Connect" tab
2 - order by protocol
3 - click on Solace Web Messaging.
4 - click on “Solace JavaScript API” to reveal the connection credentials

Make a note of the connectivity details underneath "Solace JavaScript API.

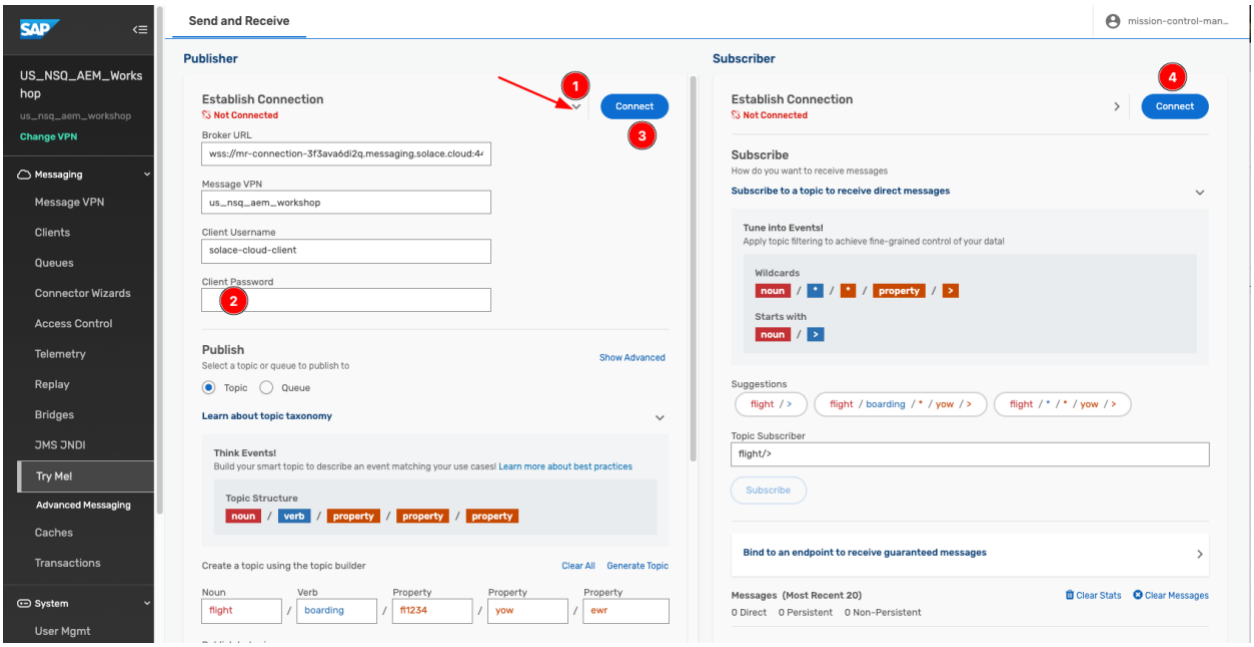


You will use these credentials within the ***Try Me Tab***. Select the ***Try Me Tab*** and proceed with “Open Broker Manager”.





Once the Broker Manager is open, select the “Try Me” option from the left side of the menu. You will then use the credentials that you copied above to populate the left side of the screen...AKA the Publisher Side. Once the publisher side says “connected”, you can simply hit the “Connect” button on the right side to also connect your subscriber.



You are now connected to the AEM service with a publisher and subscriber utilities that can be used to send/receive messages.