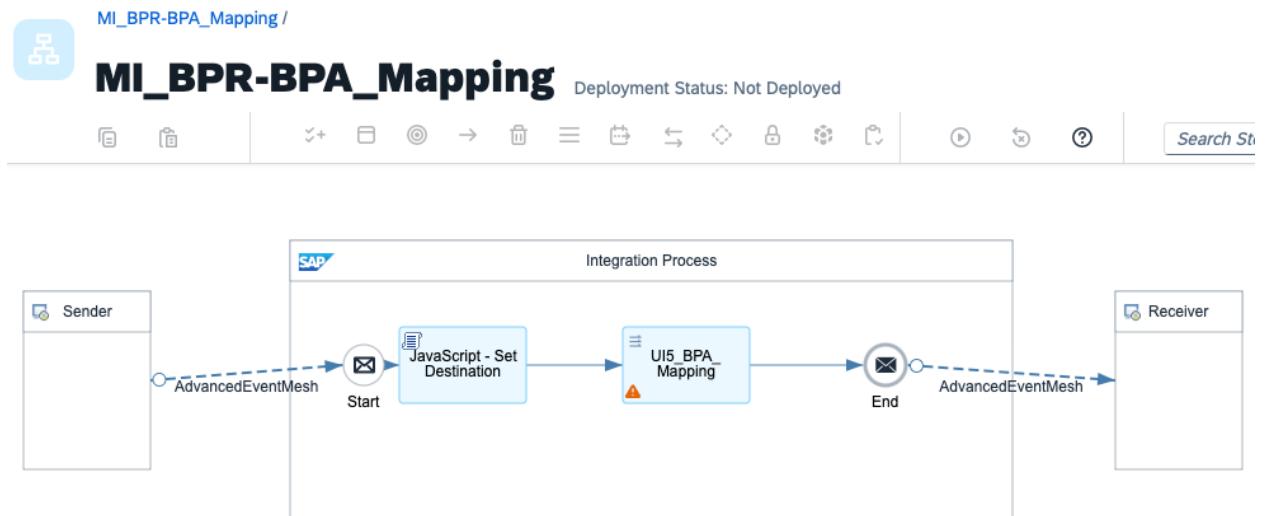


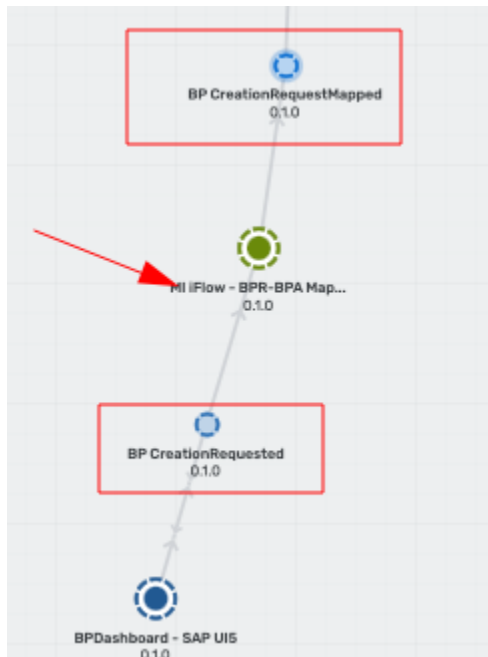
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1 Overview of BPR-BPA Mapping iFlow



In this exercise, the requirement is to map an event message from one format to another (a common business scenario). This iFlow maps **BP CreationRequested** events to **BP CreationRequestMapped** events.



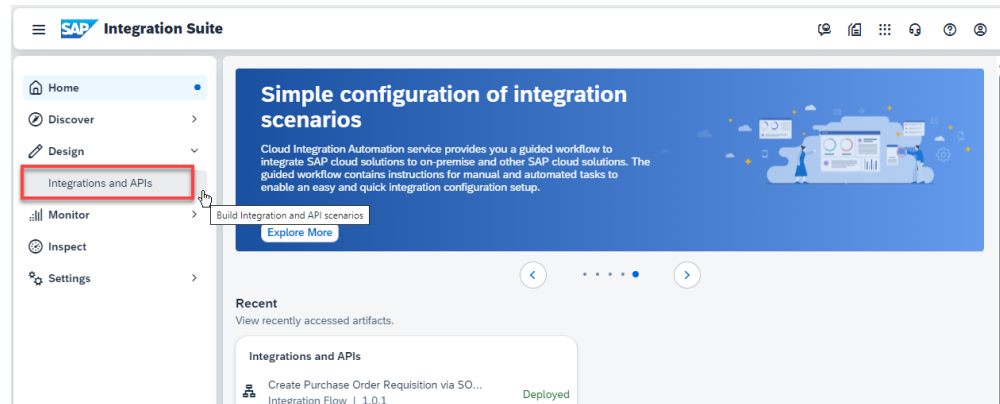
The iFlow that you will download in 1.1.6 below has most of the configuration already in place (so **you won't have much typing to do!**). The iFlow uses the Sender **SAP AEM Adapter** to get events from the queue on your AEM instance. Within the iFlow, a **message mapping flow step** is used to achieve this transformation.

The simple **javascript transformation step** is used to derive the destination topic from the source topic and the message content.

In the Receiver **SAP AEM Adapter** configuration, the destination is derived from the value evaluated in the javascript step.

1.1 Set up packages within Integration Suite, cloud integration

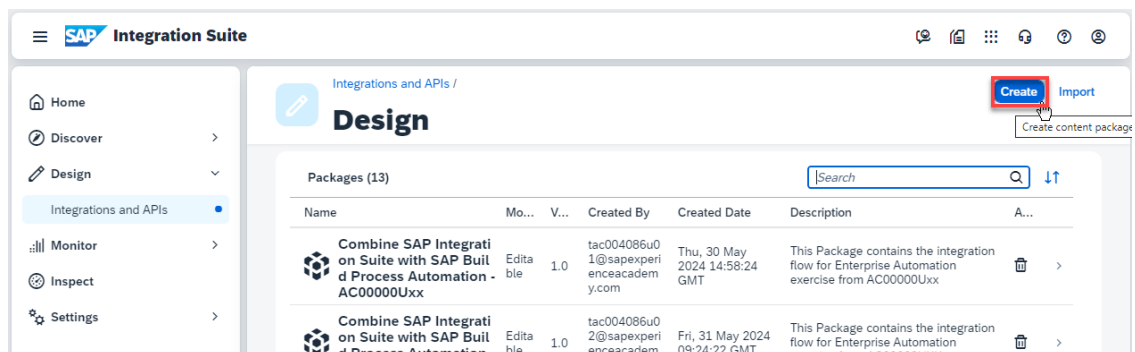
1.1.1 From your SAP Integration Suite tenant service, click on Design section in the left-hand menu. Now click on “Integration and APIs” under Design -



1.1.2 Create the integration package

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.

1.1.3 Click on Create to create an integration package.



1.1.4 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.”

1.1.5 Click on Save once finished.

Integrations and APIs / New Package /

RPPV2_Workshop

Header Overview Artifacts Documents Tags

Header

*Name: RPPV2_Workshop

*Technical Name: RPPV2Workshop

*Short Description: This package contains artifacts for the SAP AEM Rapid Pilot V2 Workshop

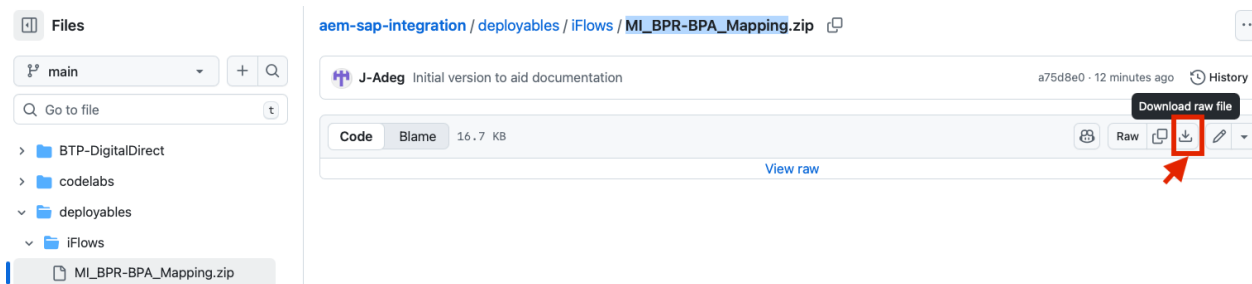
Version:

Vendor:

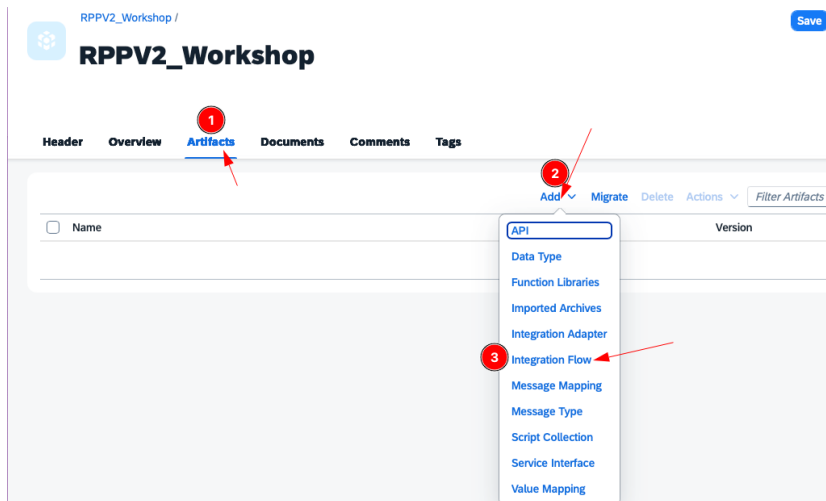
Within an integration package, you can add several artifacts: REST APIs, OData APIs, integration flows, mappings, and more. In our case, we will import templates for integration flows that will be used in the workshop.

- 1.1.6 Download the iFlow template for the first flow **MI_BPR-BPA_Mapping** 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

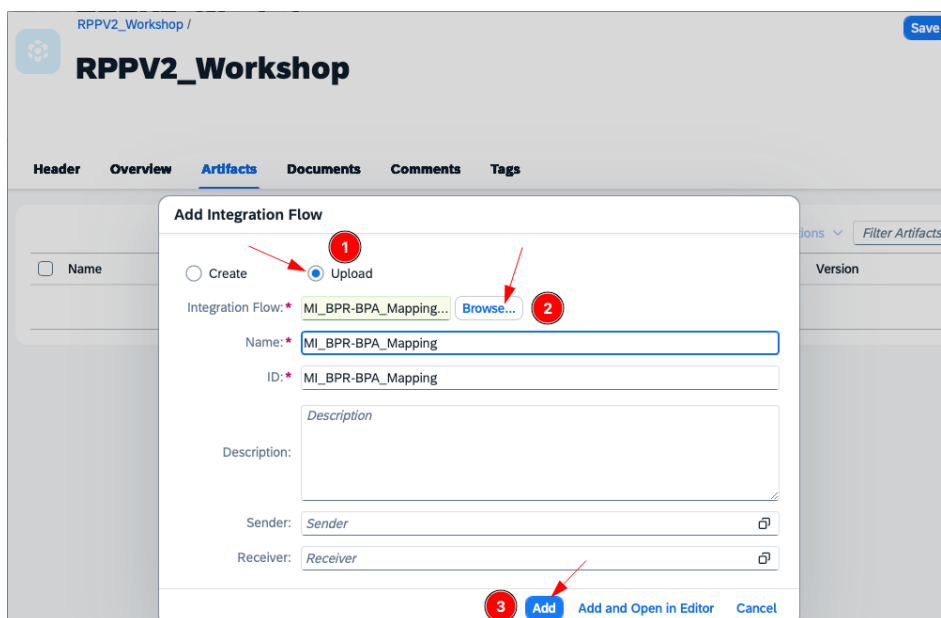
https://github.com/SolaceLabs/aem-sap-integration/blob/eb186e58bf39296a9eeb339e38a9064feba2ca03/deployables/iFlows/MI_BPR-BPA_Mapping.zip



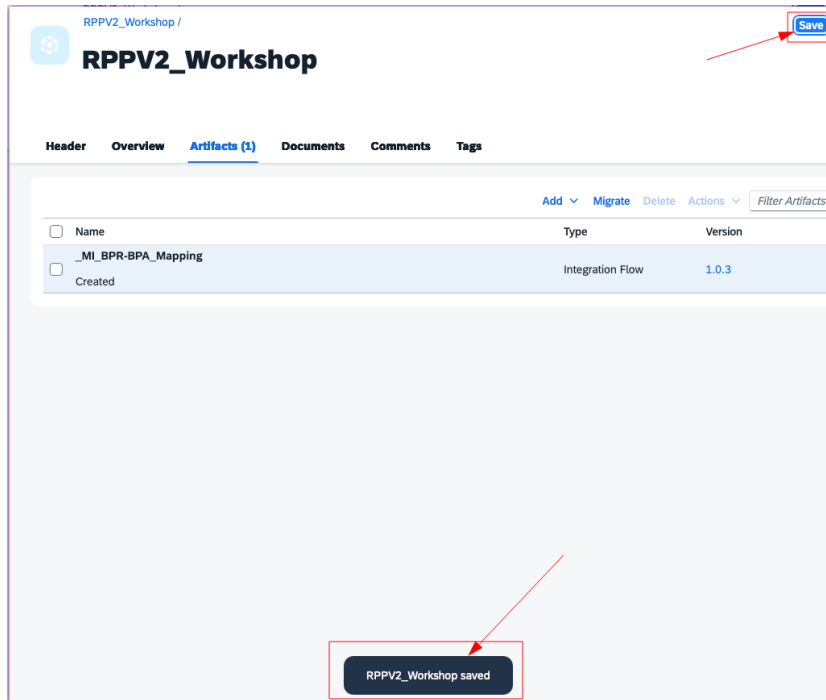
1.1.7 You now need to bring up the dialogue to import that iFlow template file that you downloaded into your package:



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



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

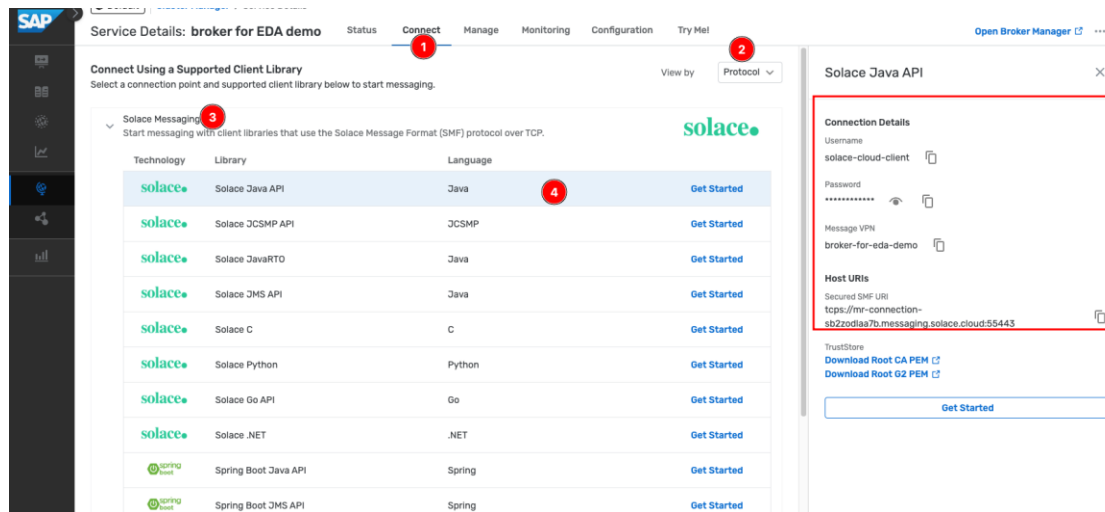


1.2 Gathering AEM instance connection credentials

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.

1.2.1 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.

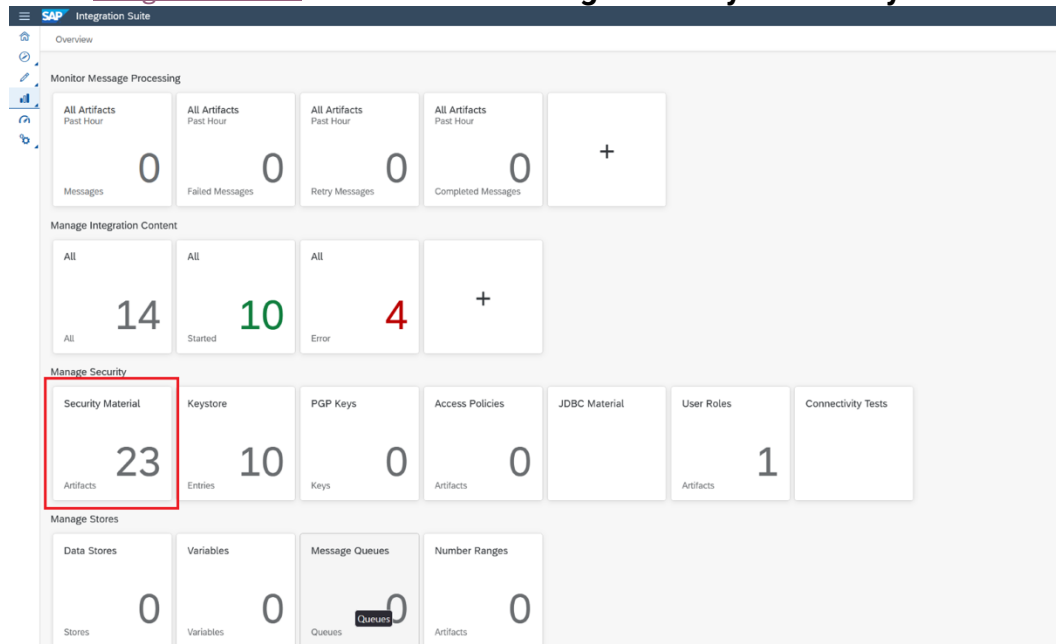


The connect tab lists all the various connectivity details for the various supported protocols. The SAP Integration AEM adapter uses Solace Messaging Format, which is AEM's very own protocol with a broad feature set support. [Solace Message Format](#) (SMF) is the underlying messaging protocol for SAP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

1.2.2 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_BPR-BPA` for the iFlow:

Security Material (88)					Filter by Name or Deployed By	Q	1 Create	Upload	Refresh	Settings
Name	Type	Status	Deployed By	Deployed On						
aem-rpp-erp-user4-password	Secure Parameter	Deployed	scott.dillon@solace.com	11/11/2020 1:11 PM						
aem-rpp-mapping-user2-password	Secure Parameter	Deployed	scott.dillon@solace.com	11/11/2020 1:11 PM						
aem-rppv2-password	Secure Parameter	Deployed	scott.dillon@solace.com	11/11/2020 1:11 PM						

User Credentials
 OAuth2 Client Credentials
 OAuth2 SAML Bearer Assertion
 OAuth2 Authorization Code
 Secure Parameter 2

The credentials are:

User: **iflow_BPR-BPA**

Password: **user123\$**

Edit Secure Parameter

Name: * iflow_BPR-BPA 1

Description: Connection credentials for BPR-BPA mapping 2

Secure Parameter: * ... 3

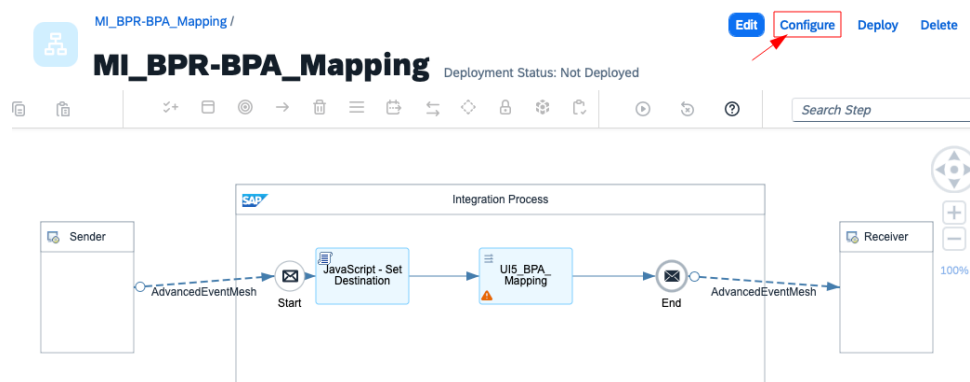
Repeat Secure Parameter: * ... 4

5 Deploy Cancel

1.3 Add security and connection credentials to the MI_BPR-BPA_Mapping iFlow

1.3.1 Navigate to the iFlow – Go to Integration Suite -> Design -> Integrations and APIs -> RPPV2_Workshop -> Artifacts -> MI_BPR-BPA_Mapping

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



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

Configure "MI_BPR-BPA_Mapping"

Sender **Receiver**

Sender: Sender

Adapter Type: AdvancedEventMesh

Connection

Host: tcps://mr-connection-zzdg8vd3fa9.messaging.solace.cloud:55443

Message VPN: scott-s-demo

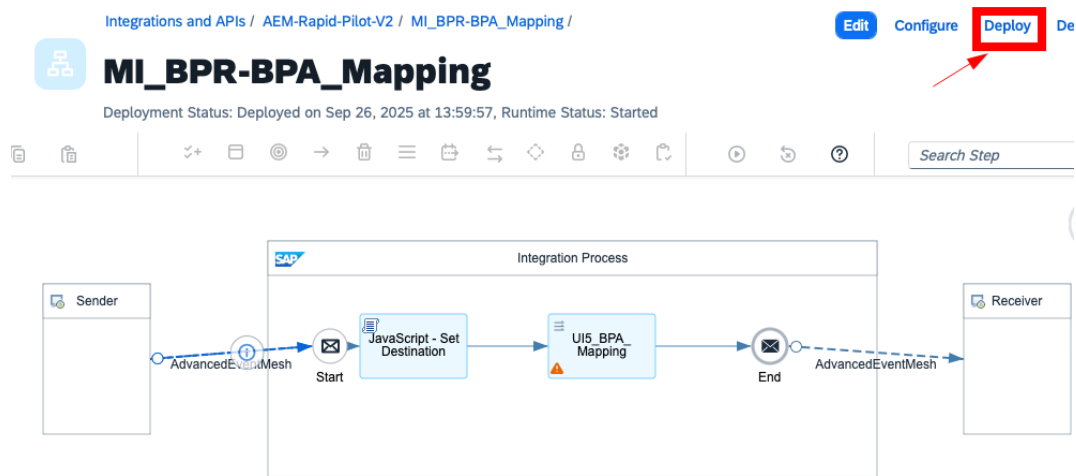
Username: user2

Password Secure Alias: iflow_BPR-BPA

Save Deploy Close

1. Click on the Sender tab
2. Type in the **AEM connection url** you obtained from 1.2.1 above
3. Type in the **message vpn** you obtained from 1.2.1 above
4. Type in the **user id** that you used to create the Secure Alias in 1.2.2 above
5. Type in the name of the Password Parameter you created in 1.2.2 above
6. Click on Save
7. **Click on the Receiver tab** and just verify that the details there are exactly as they are on the Sender tab.
8. Click on Close

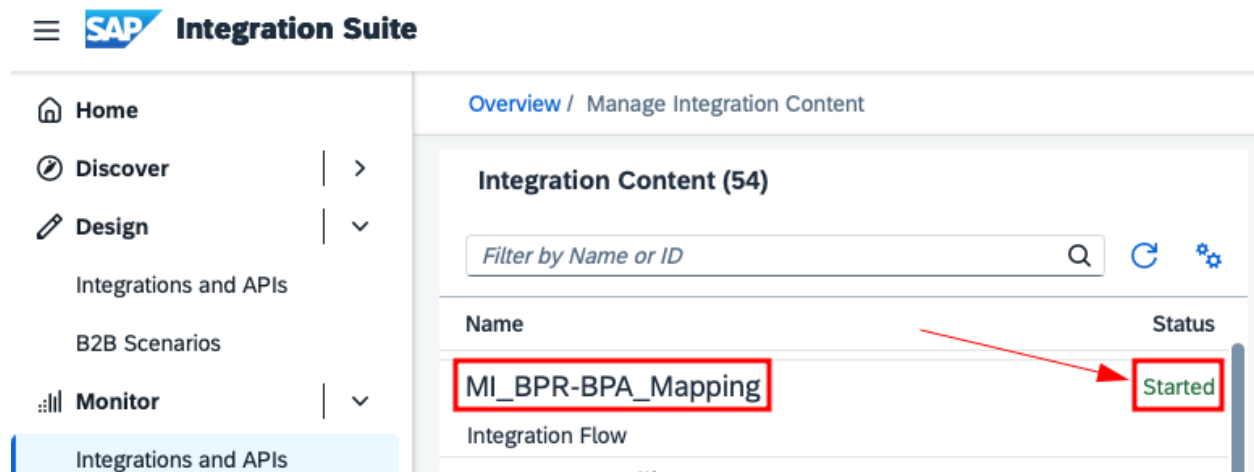
Deploy the iFlow



1.3.3 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**



1.4 Test the MI_BPR-BPA_Mapping iFlow

Two of the easiest ways to test your iFlow are 1) Use the TryMe utility, 2) Use the UI5 application. The *how-tos* for these 2 utilities are shown in sections 1.4.1 and 1.4.2 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 1.4.3 below.

1.4.1 Test by using the TryMe tab

Access the TryMe utility by using the instructions in section 2 below.

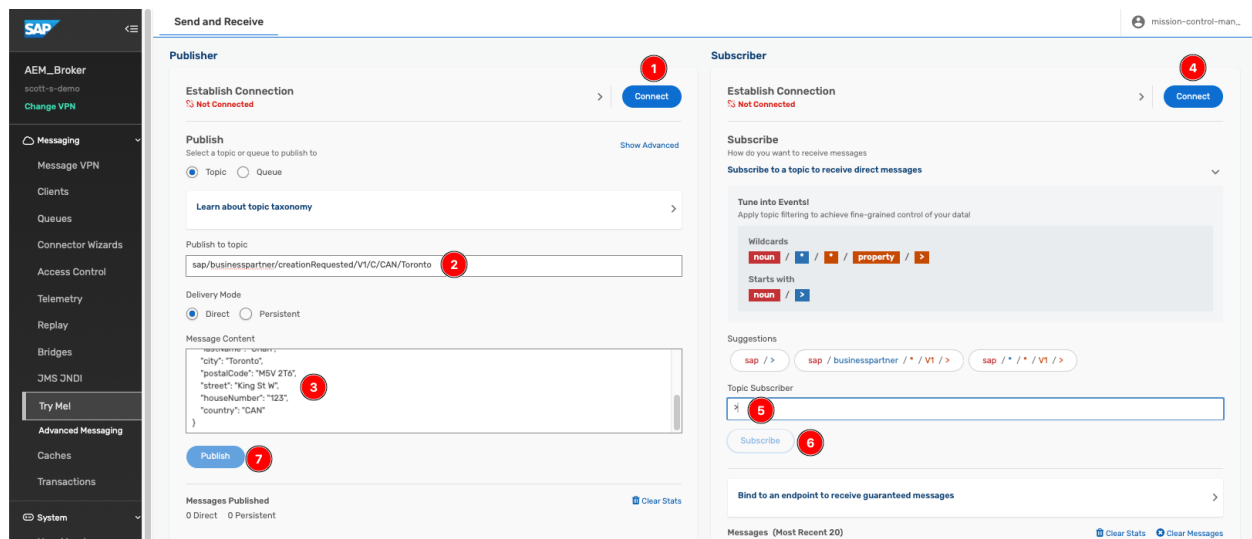
After you have navigated to the TryMe utility and connected to your AEM instance, you can paste the sample message below into the publisher window to invoke your iFlow. The topic you publish to is `sap/businesspartner/creationRequested/V1/{businessPartnerType}/{country}/{city}`.

So for the sample message below, the topic will be:

`sap/businesspartner/creationRequested/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/creationRequestMapped/V1/C/CAN/Toronto`. To see the response, you can connect to the subscriber tab and subscribe to this topic. Alternatively, you can subscribe to all topics to receive any and every event message being sent to you AEM broker; do you remember what the wildcard character is for subscribing to everything? ☺



If everything goes well, the response you will see in the subscriber window of the TryMe utility will be similar to:



```
{
  "data": {
```

```
    "firstName": "Alex",
    "lastName": "Chan",
    "country": "CAN",
    "city": "Toronto",
    "street": "King St W",
    "postalCode": "M5V 2T6",
    "addressNumber": "0000123456",
    "houseNumber": "123",
    "partnerId": "0001234567",
    "validFrom": "2025-01-01T00:00:00ZT00:00:00Z",
    "businessPartnerType": "C",
    "validTo": "2025-12-31T23:59:59ZT00:00:00Z"
  },
  "subject": "businessPartner/0001234567",
  "specversion": "1.0",
  "source": "sap.s4.businesspartner",
  "id": "50c7clf0-9185-4a7c-89b8-e60c860e8a1c",
  "type": "cust.ext.S4.BP.Change.v3"
}
```

1.4.2 Test by using the UI5 application

1.4.2.1 Access the UI5 app from the following URL

<https://solacedemo-uf1dchbp.launchpad.cfapps.ca10.hana.ondemand.com/c2093459-426f-4c9e-a73c-7c583c931ea5.BPCreate.BPCreate-1.0.2/index.html>

Simple Master Data Entry - Business Partner Create

Web Messaging Url | VPN Name | Username | Password | **Connect**

Simple Business Partner Creation
Please fill in all fields

Entry Form

BP Type: *
Select

First Name: *
First Name

Last Name: *
Last Name

City: *
Select

Postal Code: *
Select

Street: *
Street

House Number: *
House Number

Country: *
Select

Submit

Business Partners
Real Time Business Partner Created

All

No items available

Queue Browser
List of messages queued for late joiner use case on queue 'late_joiner.bp_created'

No items available

1.4.2.2 Connect with your Broker details

To connect with your broker details:

- Open your broker and select the "connect" tab at the top, then under "view by" order by Protocol, then click on "Solace Web Messaging", then click on Javascript. All details needed for connecting the dashboard to your AEM broker will now be revealed.

SAP | Default | Cluster Manager > Service Details

Service Details: AEM_Broker | Status | **Connect** | Manage | Monitoring | Configuration | Try Me | **Open Broker Manager**

Connect Using a Supported Client Library
Select a connection point and supported client library below to start messaging.

View by: Protocol

Solace Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over TCP.

Solace Web Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over Web Sockets or HTTP.

Technology	Library	Language	
solace	Solace JavaScript API	JavaScript	Get Started
solace	Solace Node.js API	Node.js	Get Started

AMQP
Start messaging with open APIs that use the AMQP.

MQTT
Start messaging with open APIs that use the MQTT protocol.

REST
Start messaging with the Solace Messaging REST API.

Connect Using Management Tools

Solace JavaScript API

Connection Details

Username: solace-cloud-client

Password: *****

Message VPN: scott-s-demo

Host URIs: Secured Web Messaging URI: wss://mr-connection-zzdg6xd3fa9.messaging.solace.cloud:443

Get Started

- Now, you can copy and paste each input into the fields at the top of the dashboard and then finally click "Connect".


- If your credentials are entered correctly, you will get a "Success" message that will verify that you are connected properly to the dashboard. If you do not see a "Success" message, then try again and make sure your details are correct for each input.

After you have populated all the fields and clicked on submit, a business partner create event will be sent to your iFlow and the response will be published to

sap/businesspartner/creationRequestMapped/V1/{businessPartnerType}/{country}/{city}

You can see the response by subscribing to the above topic in the TryMe utility. See instructions in 1.4.1 above.

BP
CREATE

 **Simple Business Partner Creation**
Please fill in all fields

Entry Form

BP Type: * 1

Select

First Name: * 2

First Name

Last Name: * 3

Last Name

City: * 4

Select

Postal Code: * 5

Select

Street: * 6

Street

House Number: * 7

House Number

Country: * 8

Select

9 Submit

1.4.3 Troubleshooting when message processing fails

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

For a successful response, you should see something like:

The screenshot shows the SAP Integration Suite interface. The left sidebar contains navigation options: Home, Discover, Design, Integrations and APIs, B2B Scenarios, Monitor (selected), Inspect, and Settings. The main area is titled 'Overview / Monitor Message Processing'. It features a filter bar with options for Time (Past 24 Hours), Status (All), Type (All), Package (All), Artifacts (MI_...), and ID (Message, Correlation o...). Below the filter bar, a table lists messages. The first message, 'MI_BPR-BPA_Mapping', is highlighted and shows a status of 'Completed' with a processing time of 9 ms. To the right, the 'Status' section for 'MI_BPR-BPA_Mapping' shows a green checkmark and the message 'Message processing completed successfully.' with a processing time of 9 ms.

If you don't get a response, check on the error logs for the iFlow in Integration Suite

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

Have a look at the logs and troubleshoot any errors.

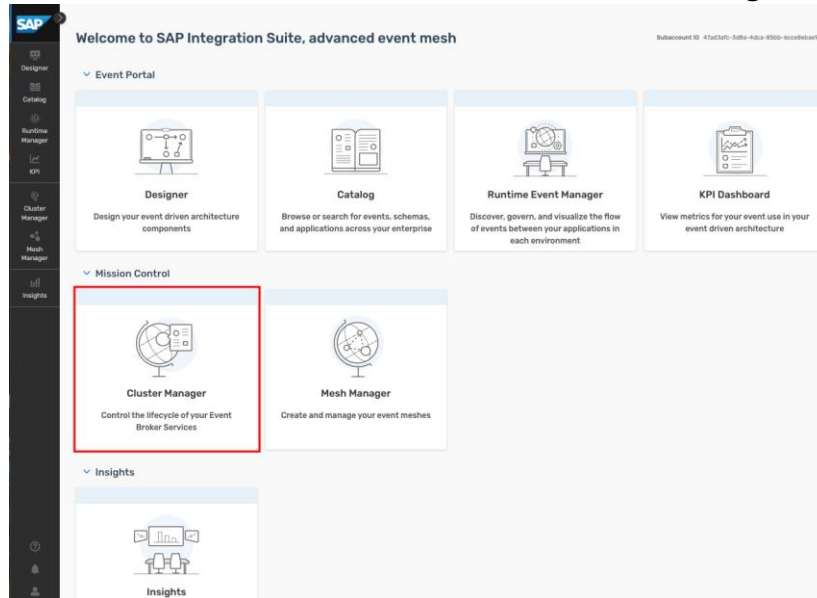
The screenshot shows the SAP Integration Suite interface. The left sidebar contains navigation options: Home, Discover, Design, Integrations and APIs, B2B Scenarios, Monitor (selected), Inspect, and Settings. The main area is titled 'Overview / Monitor Message Processing'. It features a filter bar with options for Time (Past Week), Status (F...), Type (All), Package (All), Artifacts (3 Items), and ID (Message, Correlation o...). Below the filter bar, a table lists messages. The first message, 'MI_BPR-BPA_Mapping_test', is highlighted and shows a status of 'Failed' with a processing time of 88 ms. To the right, the 'Status' section for 'MI_BPR-BPA_Mapping_test' shows a red X and the message 'Message processing failed.' with a processing time of 88 ms. Below this, the 'Error Details' section shows a Java exception: 'java.lang.IllegalStateException: SendProcessor has not been started: sap-aem://foo? authenticationType=BASIC&deliveryMode=DIRECT&destinationName=%24%7Bheader.destination%7D&mqEligible=true&sendpointType=TOPIC&host=tcps%3A%2F%2Fmr-connection-752tkm0rjj.messaging.solace.cloud%3A55443&messageType=AUTOMATIC&messageVpn=jade-svc3&password=xxxxxx&requestReply=false&username=solace-cloud-client'.

2 APPENDIX – CONNECTING TO THE TRY ME UTILITY

2.1 Obtain connection credentials

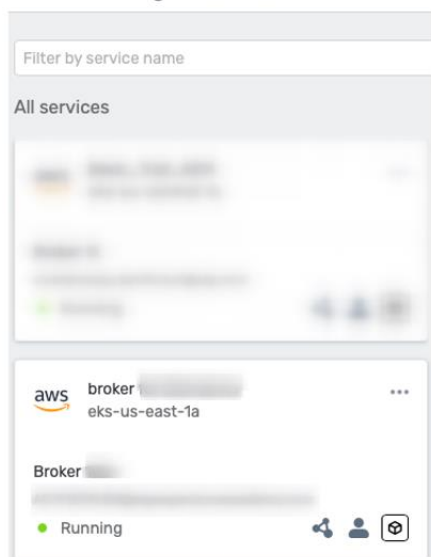
The Try Me! utility is a JavaScript application for quickly getting up and running with testing smart topics. The application uses Web Sockets and so you'll need to select the appropriate connection credentials.

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!

Cluster Manager: Services



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".

SAP Cluster Manager > Service Details

Service Details: **broker for EDA demo** Status **Connect** Manage Monitoring Configuration Try Me! [Open Broker Manager](#)

Connect Using a Supported Client Library
Select a connection point and supported client library below to start messaging.

View by: Protocol

Solace Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over TCP.

Solace Web Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over Web Sockets or HTTP.

Technology	Library	Language	
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solace	Solace Node.js API	Node.js	Get Started

AMQP
Start messaging with open APIs that use the AMQP.

MQTT
Start messaging with open APIs that use the MQTT protocol.

Solace JavaScript API

Connection Details

Username
solace-cloud-client

Password

Message VPN
broker-for-eda-demo

Host URIs
Secured Web Messaging URI
wss://mr-connection-sb2zodiaa7b.messaging.solace.cloud:443

[Get Started](#)

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

SAP Cluster Manager > Service Details

Service Details: **broker for EDA demo** Status **Connect** Manage Monitoring Configuration **Try Me!**

Connect Using a Supported Client Library
Select a connection point and supported client library below to start messaging.

View by: Protocol

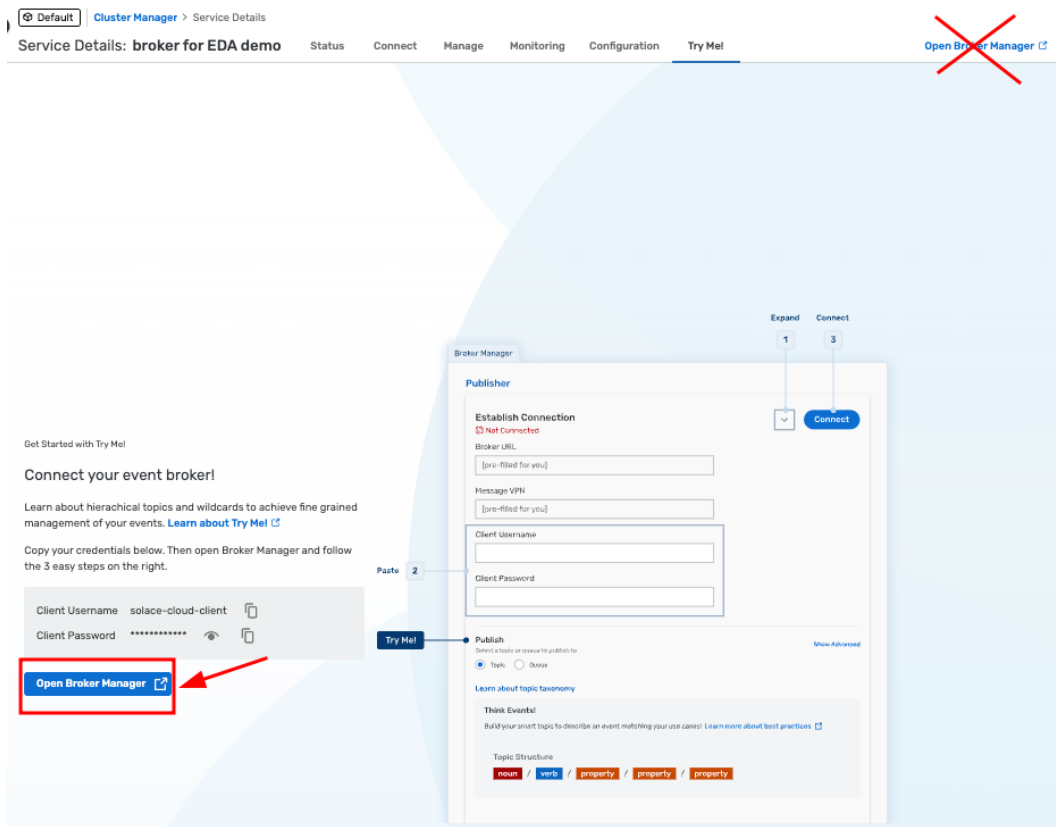
Solace Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over TCP.

Solace Web Messaging
Start messaging with client libraries that use the Solace Message Format (SMF) protocol over Web Sockets or HTTP.

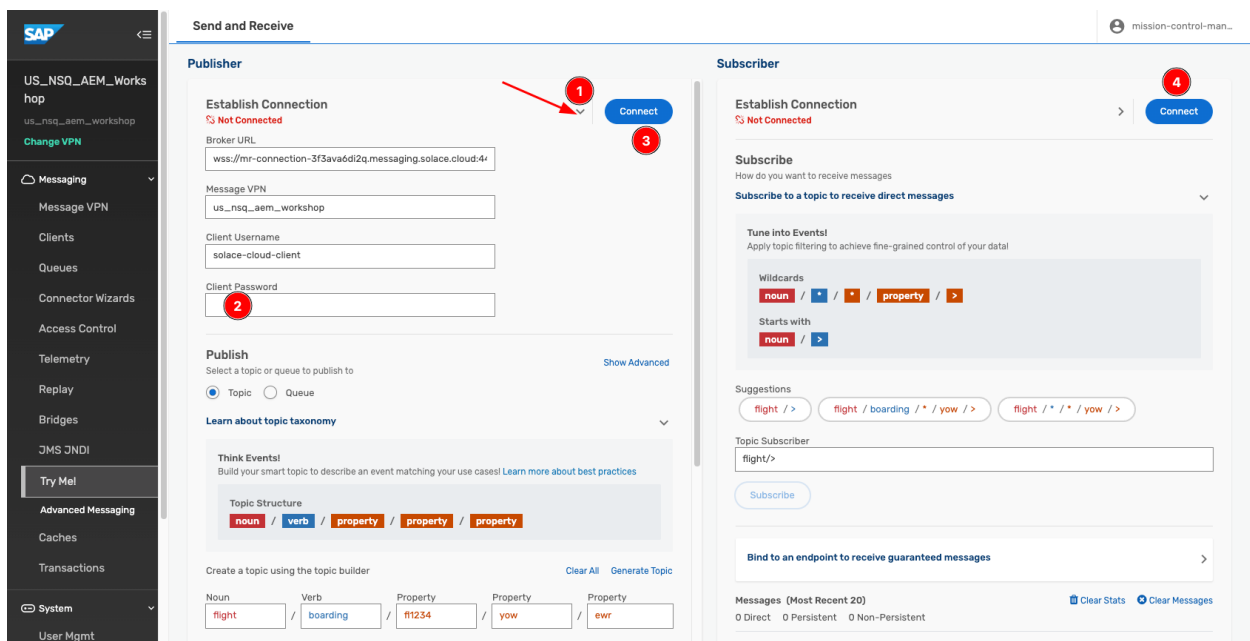
AMQP
Start messaging with open APIs that use the AMQP.

MQTT
Start messaging with open APIs that use the MQTT protocol.

REST
Start messaging with the Solace Messaging REST API.



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.