

# Steps to design event driven architecture components using Event Portal

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## Vision

### Envisioning Event-Driven Architecture Through a Design-First Approach

By exploring AEM Event Portal and its design-first methodology, it becomes possible to:

1. Design the ideal business process before writing any code
2. Model events as business capabilities rather than technical artifacts
3. Establish a shared vocabulary across teams
4. Visualize the entire ecosystem before implementation

## Goals

Event Portal Designer lets you design applications with event flows and runtime parameters, then promote them to operational event brokers by automatically generating and deploying the required broker configurations (queues, ACLs, client profiles) with governance approval.

Therefore, the goal of the workshop is to achieve the following:

**Step1:** Import the pre-designed application domain and enable Event Model Mesh.

**Step2:** Generate/Configure the required broker configurations like queue, access controls and client profiles

**Step3:** Promote the configurations to the operational AEM broker.

## Prerequisite

- We will use the same AEM Broker you created initially for this workshop.

## Step1: Initial AEM Event Portal Setup

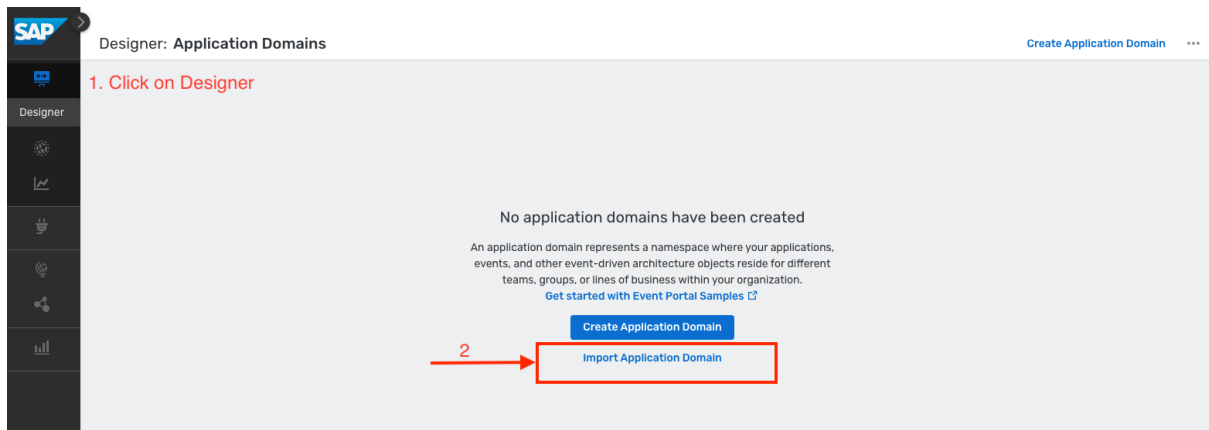
### Importing Application Domain

Download the application from [aem-sap-integration](https://github.com/SolaceLabs/aem-sap-integration) GitHub repository -

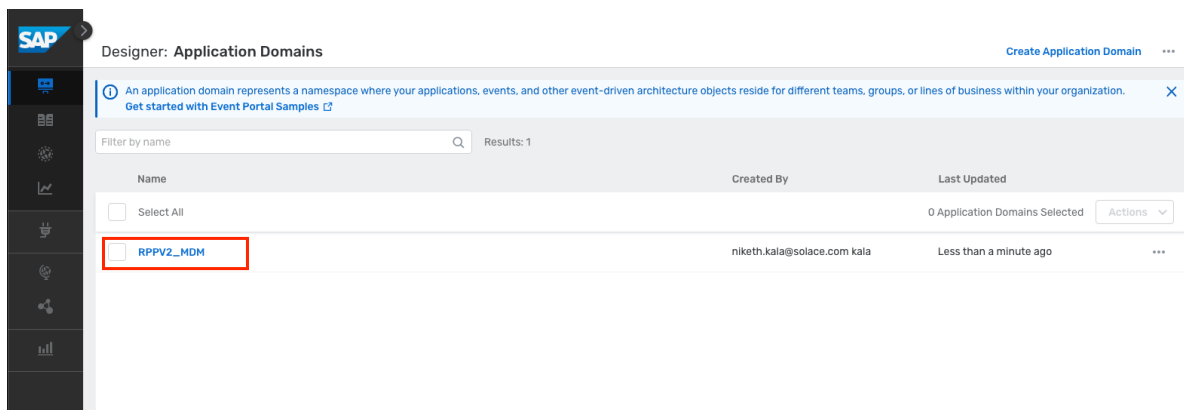
<https://github.com/SolaceLabs/aem-sap-integration/tree/main/deployables/epdesign>

The file name to import is RPPV2\_MDM.json

- Download the file
- Import the application domain json file

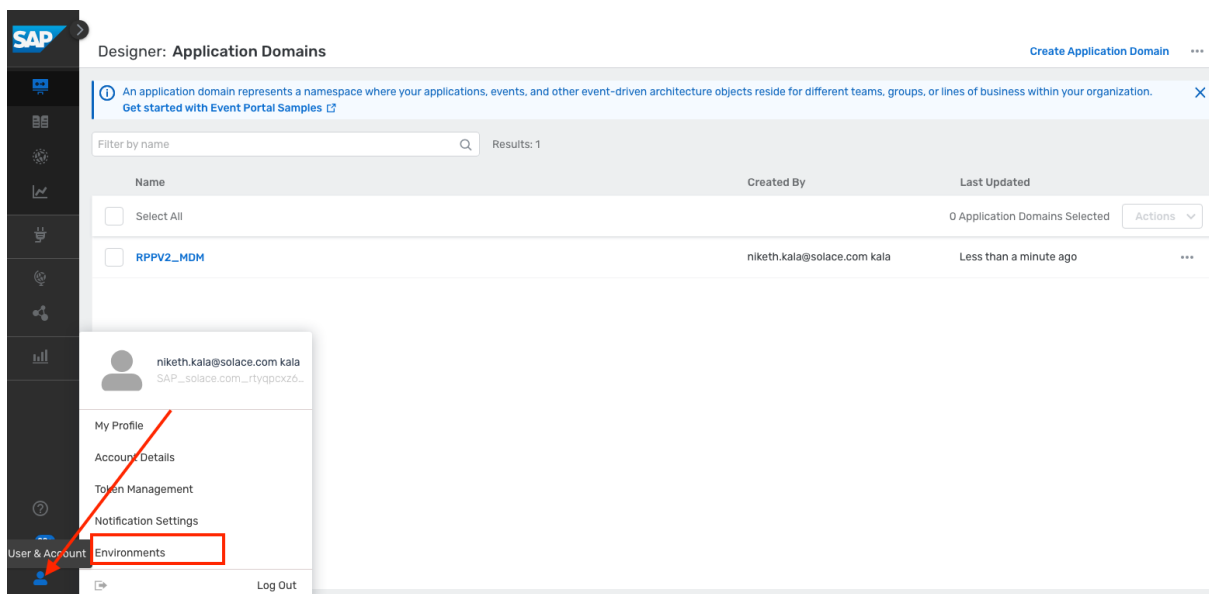


Once added, the application domain should look like below

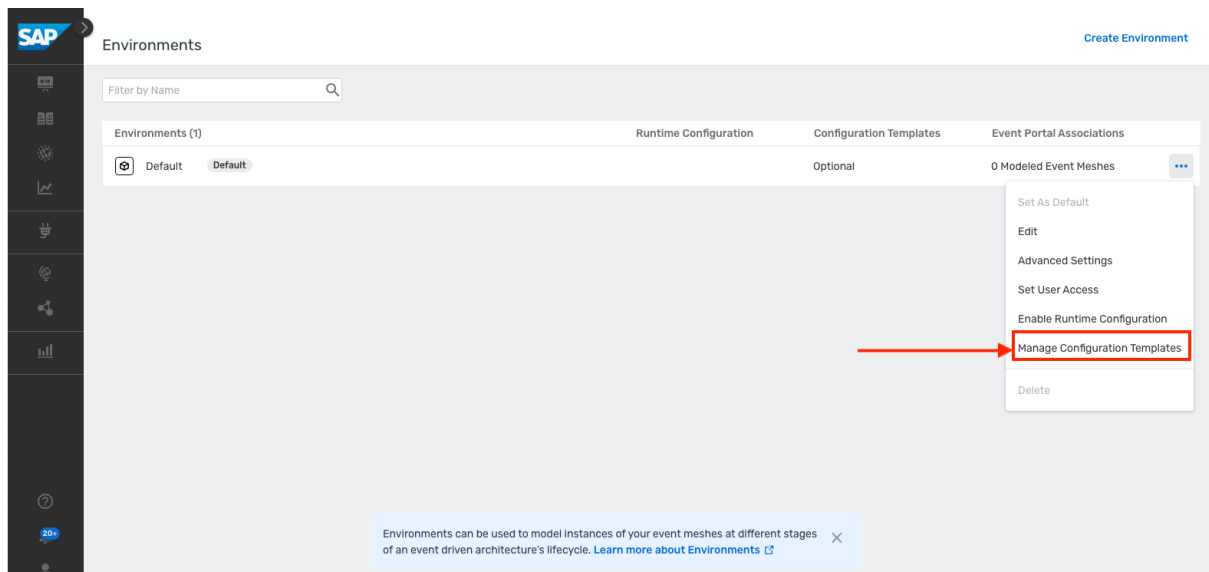


## Enable Model Mesh – Runtime Event Manager

In bottom left corner, click User & Account and select option Environments

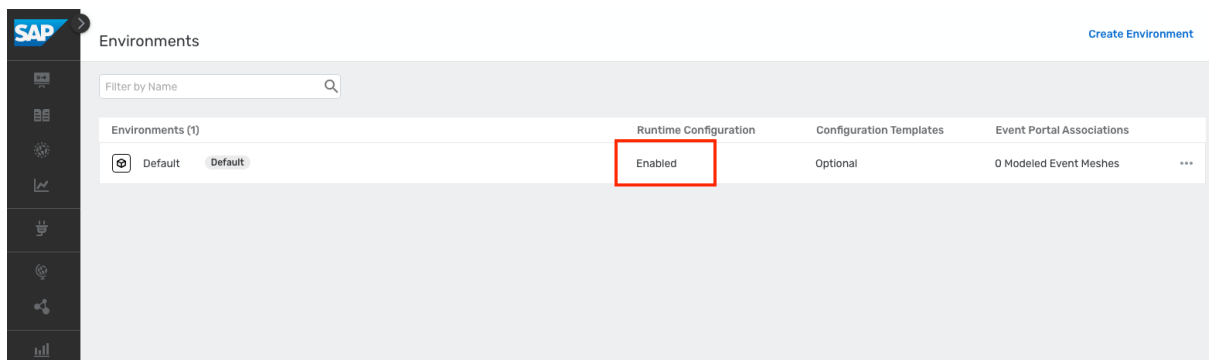


Make sure to enable Runtime Configuration.



The screenshot shows the SAP Environments page. A table lists the environment 'Default' with a 'Runtime Configuration' status of 'Optional'. A dropdown menu is open for the 'Default' environment, and the 'Manage Configuration Templates' option is highlighted with a red box and a red arrow. Other options in the menu include 'Set As Default', 'Edit', 'Advanced Settings', 'Set User Access', 'Enable Runtime Configuration', and 'Delete'.

Environments (1)	Runtime Configuration	Configuration Templates	Event Portal Associations
Default	Optional	Optional	0 Modeled Event Meshes

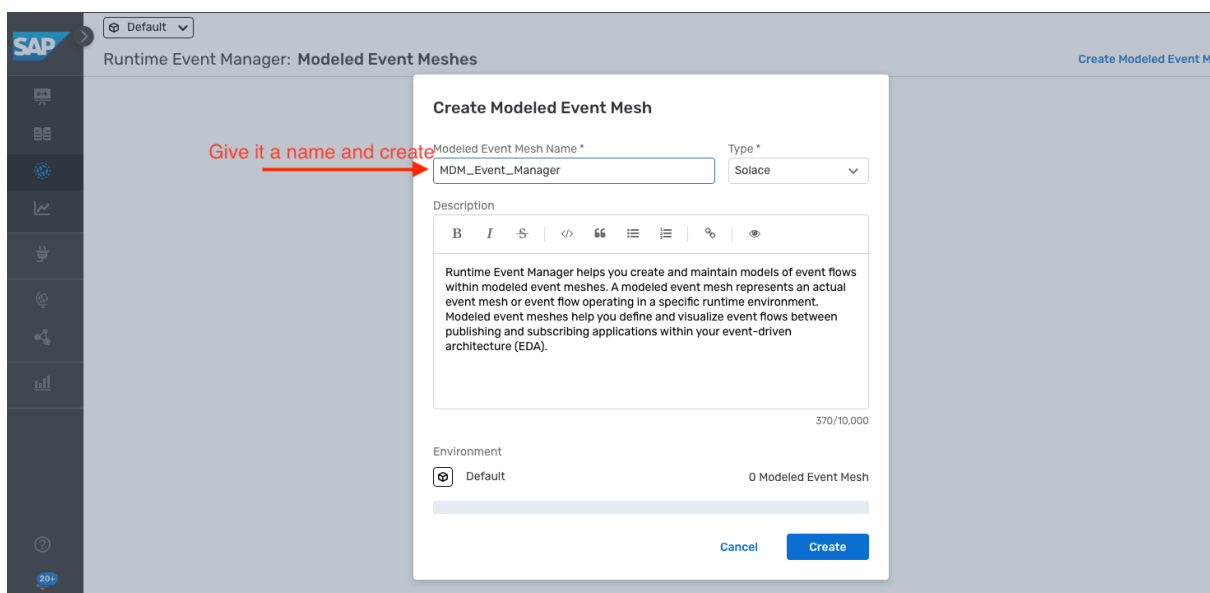
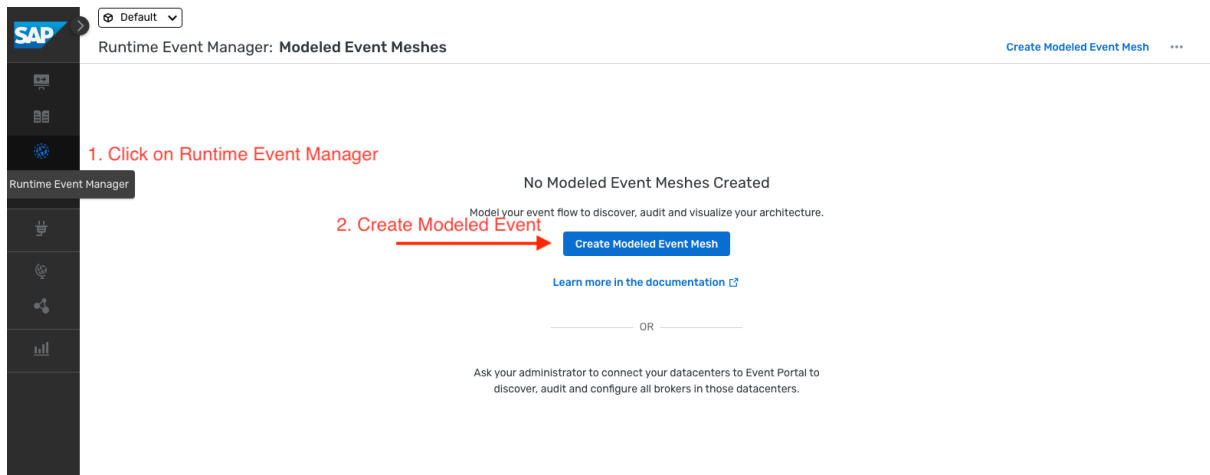


The screenshot shows the SAP Environments page after the configuration change. The 'Runtime Configuration' status for the 'Default' environment is now 'Enabled', which is highlighted with a red box.

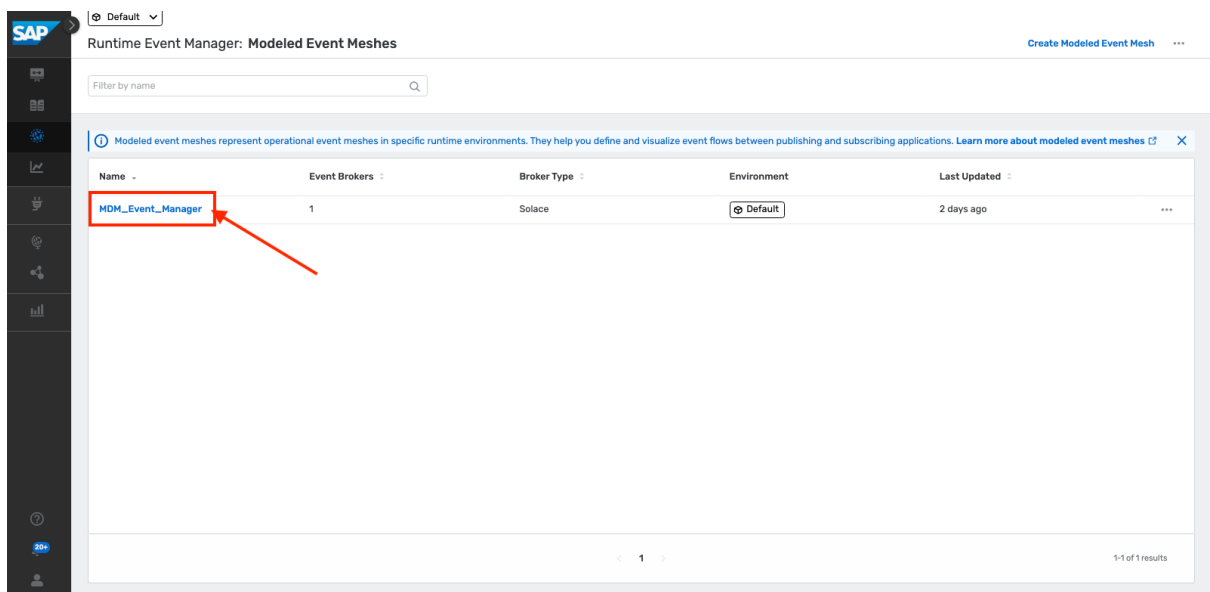
Environments (1)	Runtime Configuration	Configuration Templates	Event Portal Associations
Default	Enabled	Optional	0 Modeled Event Meshes

## Create Modeled event Mesh

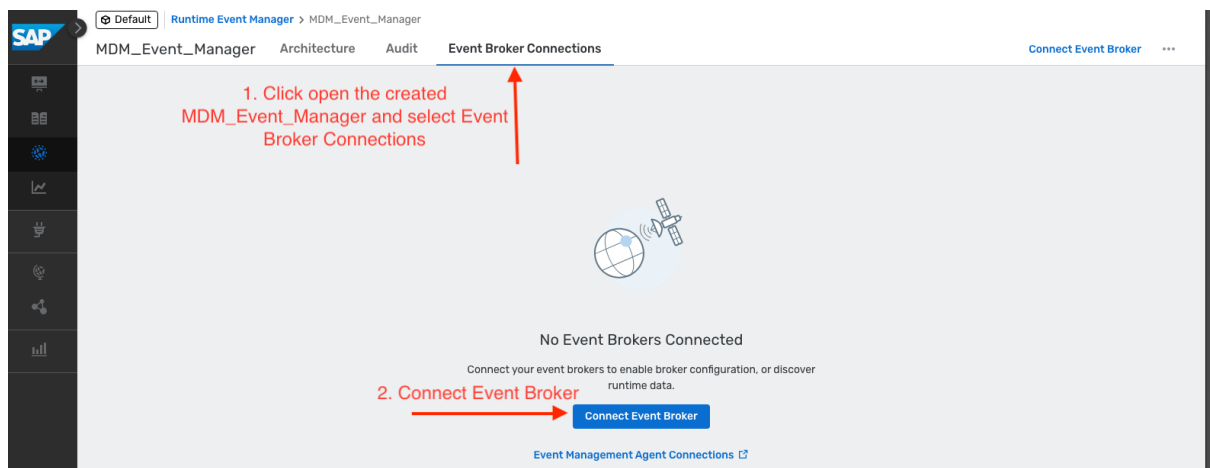
Click on Runtime Event manager and create a Modeled Event Mesh with a name – **MDM\_Event\_Manager**



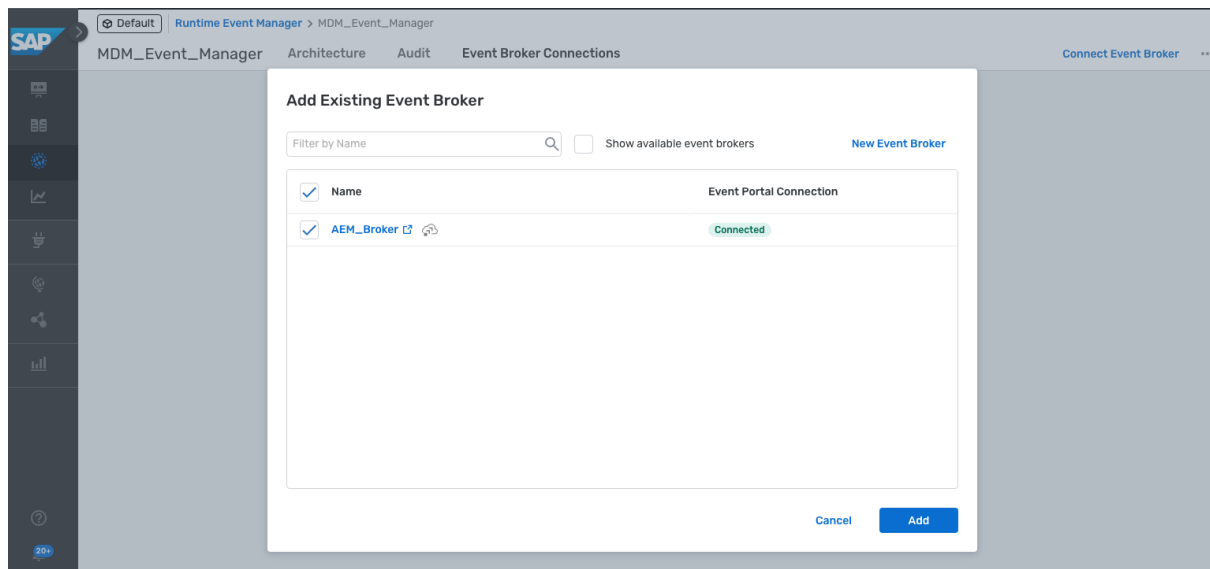
## 1. Open the MDM\_Event\_Manager and select Event Broker Connections



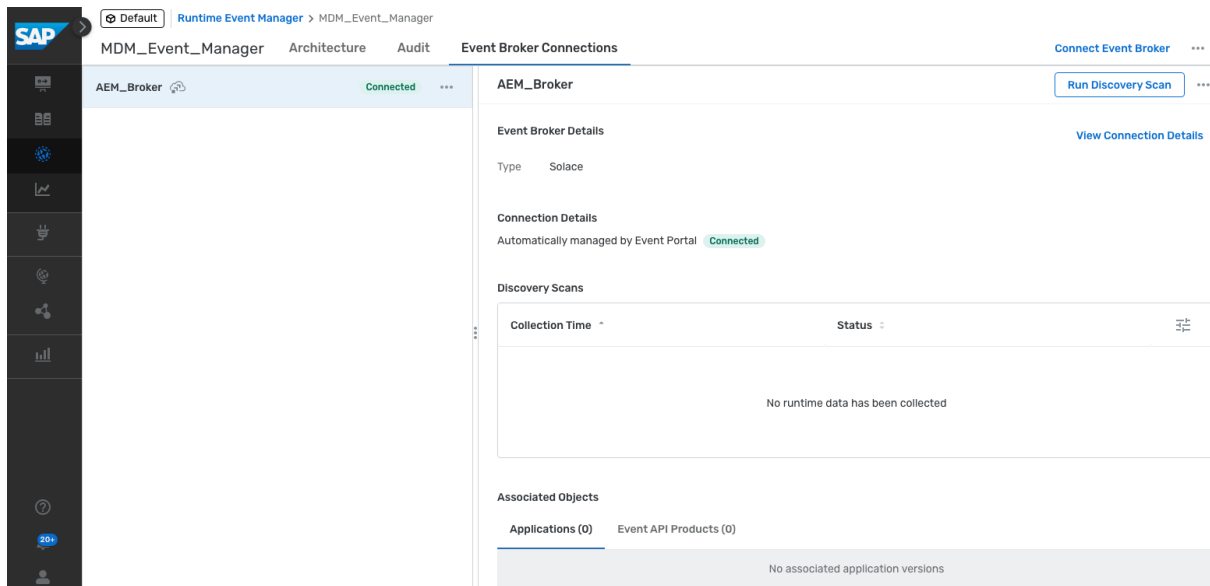
## 2. Connect the Event Broker created earlier.



## Add the selected Event Broker



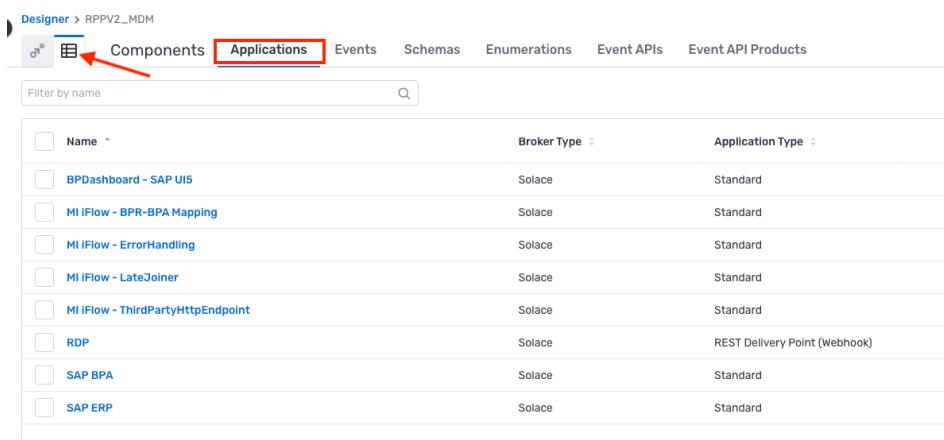
After adding the AEM Broker to the model mesh, it will look like the below picture.



At this point we have completed our Initial setup and have imported **the Application Domain, Enabled Runtime Configuration** and created the **Runtime Event Manager**

## Quick tour of Components

**Applications:** Client applications that connect to event brokers to publish or consume events, including standard apps and REST Delivery Points for webhook integrations.



**Events:** Objects that define event types with topic addresses for routing and optional schemas, enabling message flow between publishing and subscribing applications.

Designer > RPPV2\_MDM

Components Applications **Events** Schemas Enumerations Event APIs Event API Products [Create Event](#) ...

Filter by name

0 Selected [Actions](#)

<input type="checkbox"/>	Name ^	Broker Type ^	Shared ^	Access Approval ^	# of Versions	
<input type="checkbox"/>	<b>BP created</b> Latest sap / businesspartner / created / V1 / (businessPartnerType) / (country) / (city)	Solace	Not Shared	Auto-Approved	1	...
<input type="checkbox"/>	<b>BP CreationApproved</b> Latest sap / businesspartner / creationApproved / V1 / (businessPartnerType) / (country) / (city)	Solace	Not Shared	Auto-Approved	1	...
<input type="checkbox"/>	<b>BP CreationRejected</b> Latest sap / businesspartner / creationRejected / V1 / (businessPartnerType) / (country) / (city)	Solace	Not Shared	Auto-Approved	1	...
<input type="checkbox"/>	<b>BP CreationRequested</b> Latest sap / businesspartner / creationRequested / V1 / (businessPartnerType) / (country) / (city)	Solace	Not Shared	Auto-Approved	1	...
<input type="checkbox"/>	<b>BP CreationRequestMapped</b> Latest sap / businesspartner / creationRequestMapped / V1 / (businessPartnerType) / (country) / (city)	Solace	Not Shared	Auto-Approved	1	...

**Schema:** Components that define the data structure and semantics of event payloads and ensuring consistent data understanding across publishers and subscribers

Designer > RPPV2\_MDM

Components Applications Events **Schemas** Enumerations Event APIs Event API Products [Create Schema](#) ...

Filter by name

0 Selected [Actions](#)

<input type="checkbox"/>	Name ^	Shared ^	# of Versions	Schema Type ^	
<input type="checkbox"/>	<b>BusinessPartnerApproved</b>	Not Shared	1	JSON Schema	...
<input type="checkbox"/>	<b>BusinessPartnerCreationRequested</b>	Not Shared	1	JSON Schema	...
<input type="checkbox"/>	<b>BusinessProcessAutomation</b>	Not Shared	1	JSON Schema	...

Event APIs and Event API Products can be used to expose and manage AsyncAPI interfaces within organizations, or with external partners through your APIM vendor.

**Note** that Event APIs and Event API Products are advanced topics that will not be covered by this demonstration design.

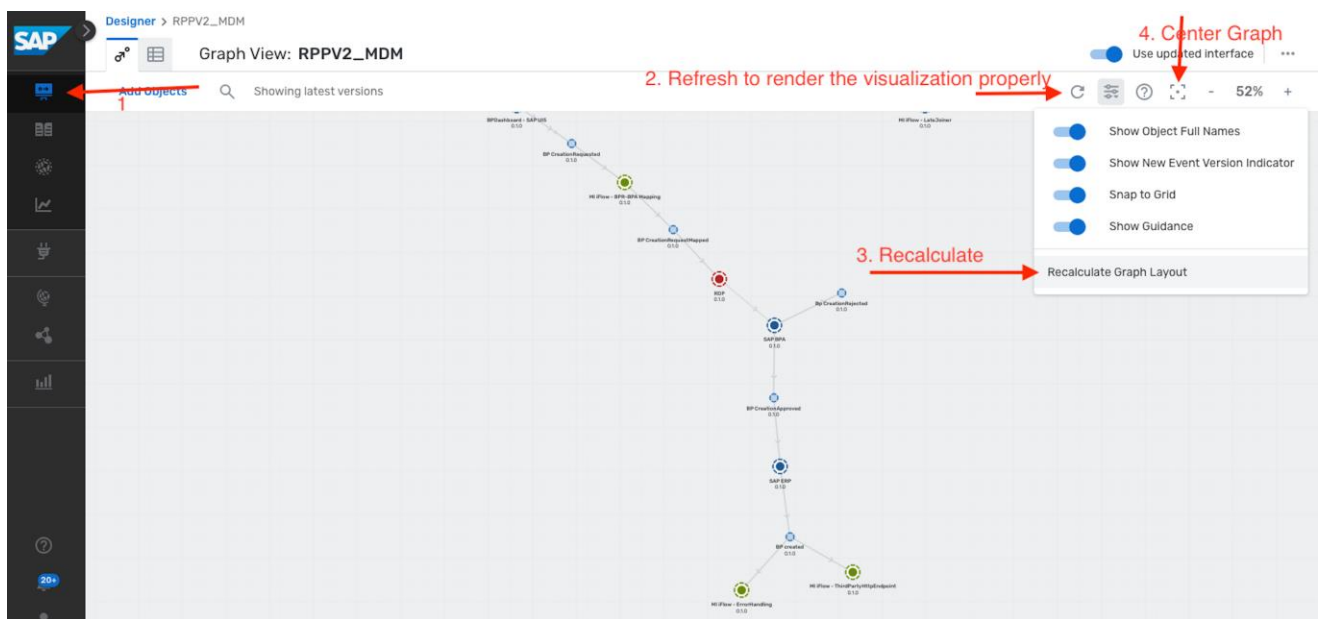
## Step 2: Configuring and Promoting Applications

### EP Design Graph view

Open the imported Application Domain and visualize the ecosystem of this use case before implementation. The steps in the below screenshot are to get familiarize with the options you can adjust the rendering according to your needs.

**Note:** Rendering of visualization can be different







## Applications, QueueNames and Client Profile Details

Each application's queue names and client credentials (username and password) are detailed in the table below, and the configuration must follow the order indicated in the diagram.

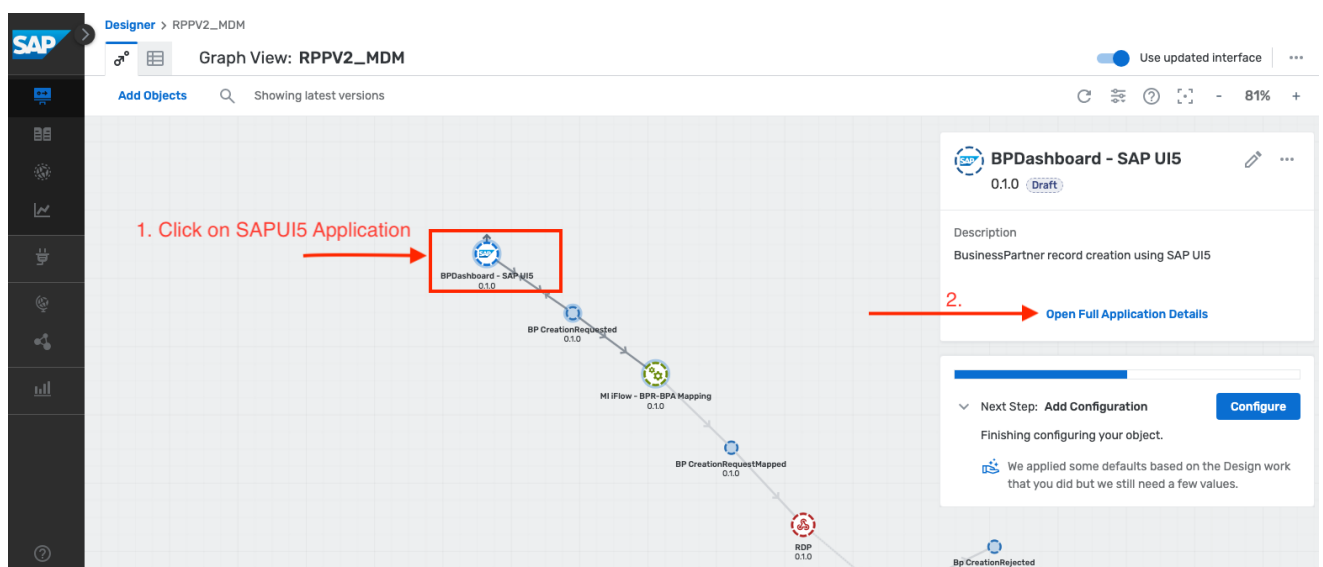
	Application	QueueName	ClientUsername	Pwd
1	BPCreate-SAP UI5		user1	user123\$
2	MI iFlow BPA-BPA Mapping	bpr_bpa_mapping.bp_creation_request	user2	user123\$
3	RDP	rdp.bp_mapped_creation_request	user3	user123\$
4	SAP BPA		user4	user123\$
5	SAP ERP	erp.bp_creation_approved	user5	user123\$
6	3rdParty HttpEndpoint	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\$

For each application, the following steps need to be carried out:

- Review the design details, including events, consumers, and subscriptions - that were generated after importing the application domain.
- Define access controls and assign queue names, if required.
- Promote the finalized configuration to the AEM broker.

## 1. BPCreate-SAP UI5

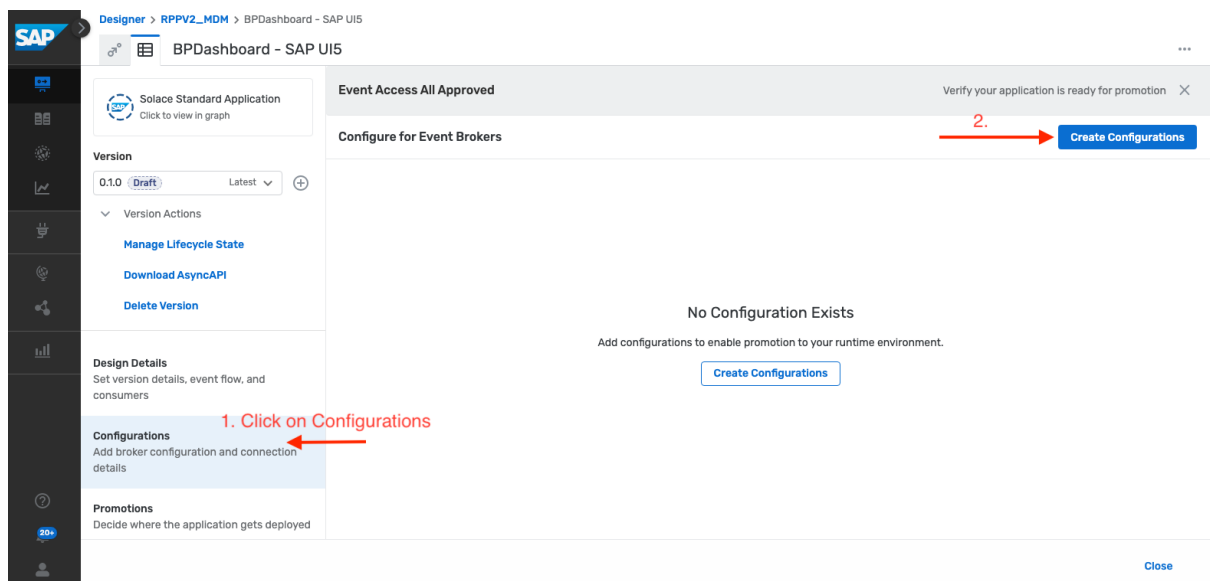
a) Open BP Create SAP UI5 Application by one click



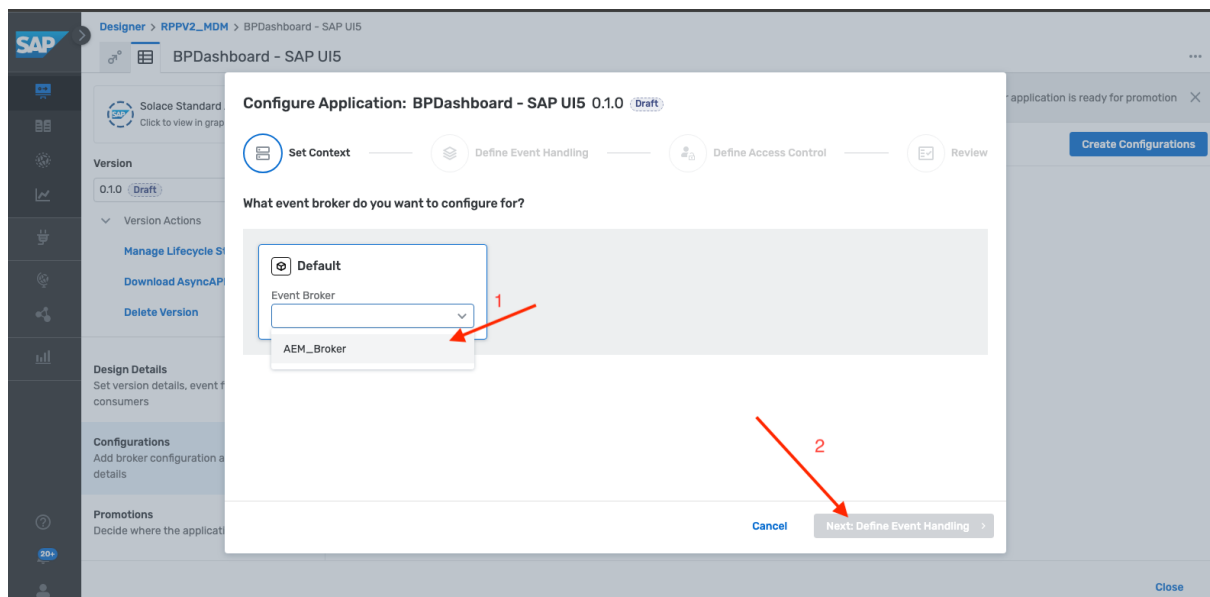
You can see some information is automatically populated based on the application domain which we imported.

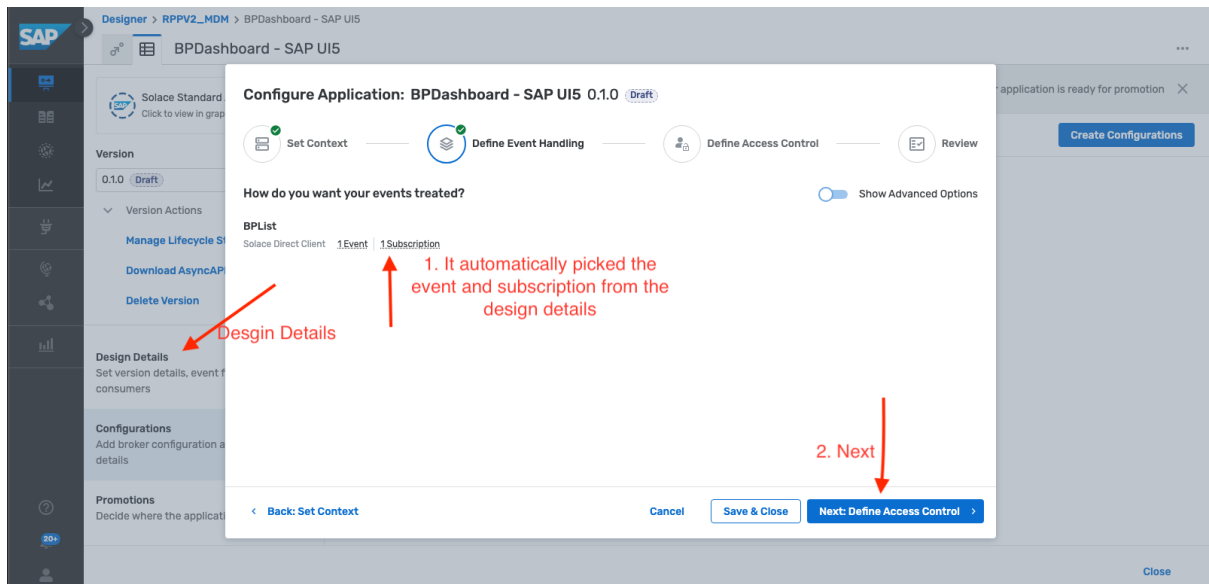
The screenshot shows the 'Design Details' tab for the 'BPDashboard - SAP UI5' application. The 'Events' section is highlighted with a red box. Red arrows point to the 'BP CreationRequested' event, with text indicating that 'Pub/Sub Events automatically listed based on design'. The 'Events' section shows a table with columns for 'Published Events' and 'Subscribed Events'. The 'Published Events' table has one row: 'BP CreationRequested' (0.1.0 Draft) with a path 'sap / businesspartner / creationRequested / V1 / (businessPartnerType) / (country) / (city)'. The 'Subscribed Events' table also has one row: 'BP CreationRequested' (0.1.0 Draft) with the same path. The 'Design Details' section on the left shows 'Version: 0.1.0 (Draft)' and 'Description: BusinessPartner record creation using SAP UI5'.

## b) Configure the access controls

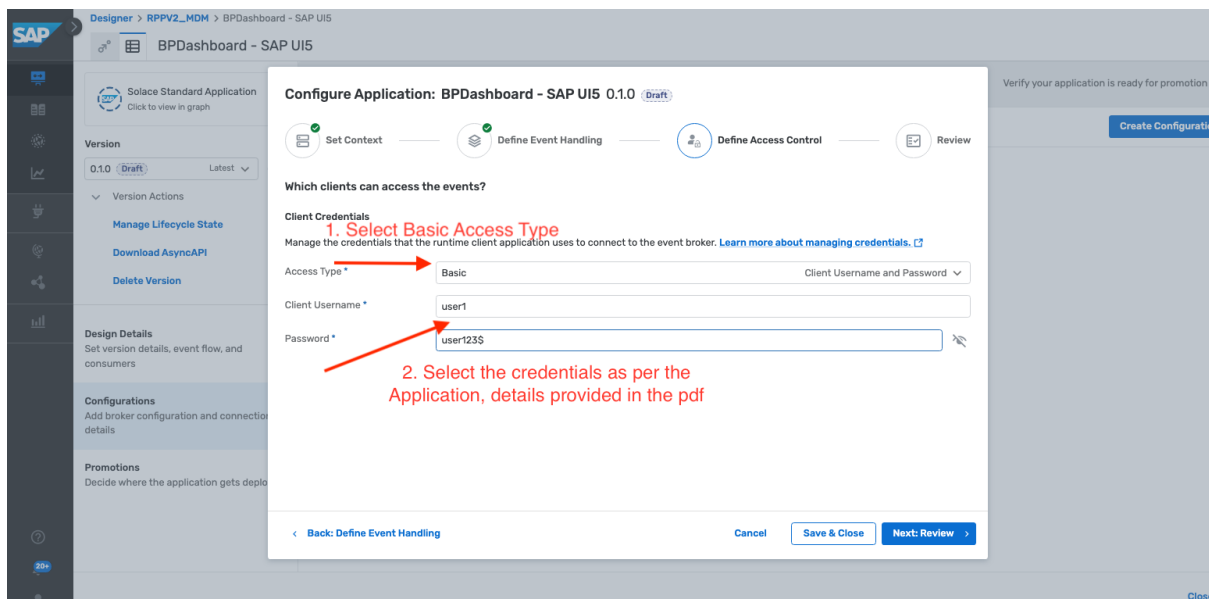


## c) Select the AEM Broker to which we want to push the configuration

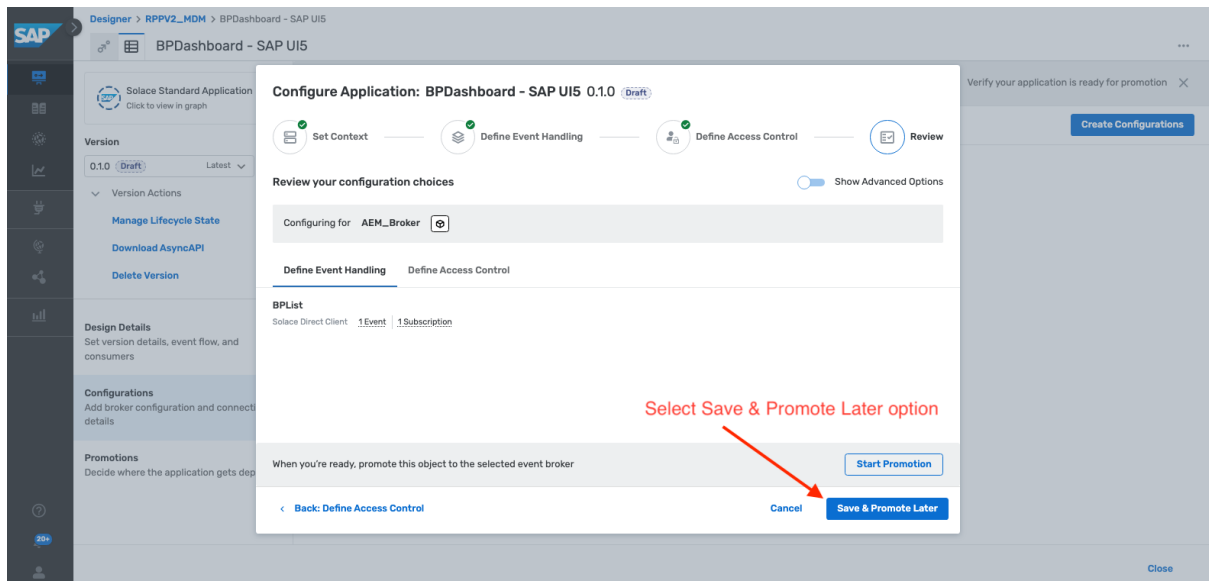




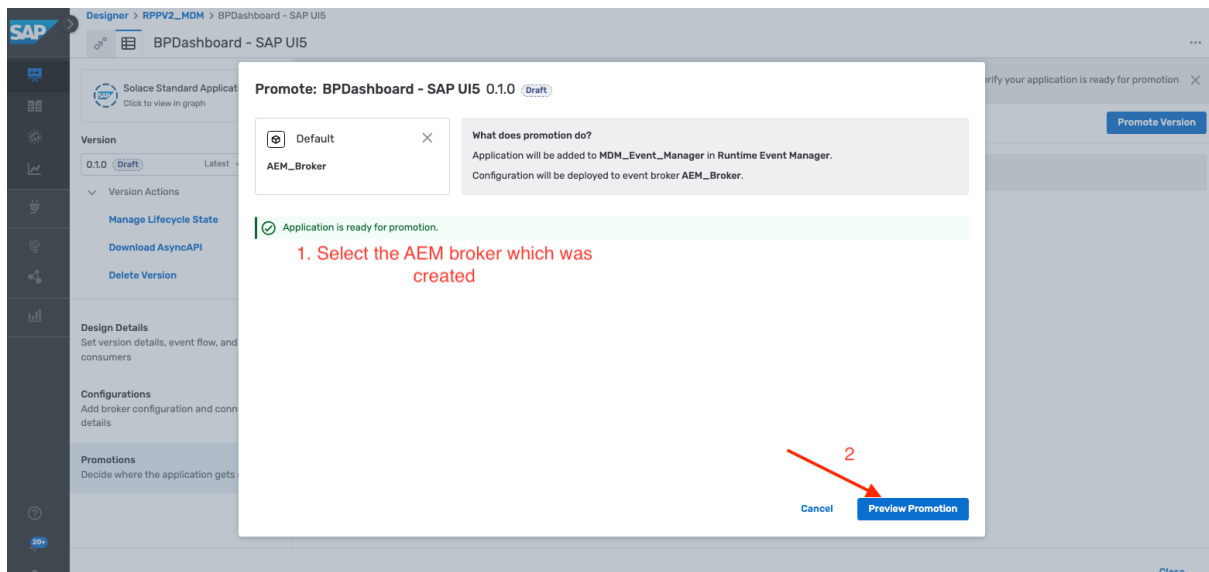
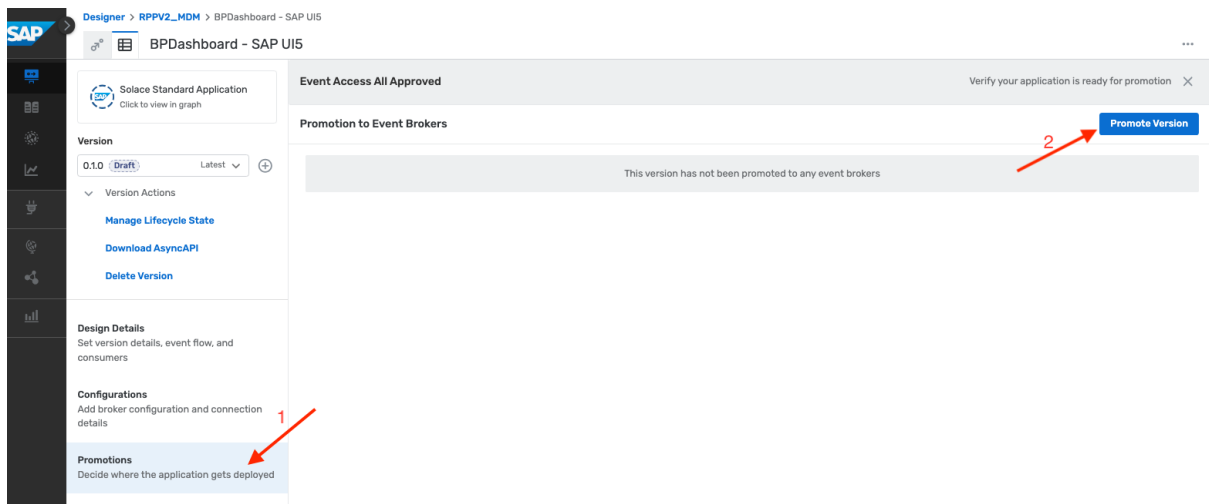
- d) Enter the client username and password as per the details mentioned here for this particular application - [Applications, QueueNames and Client Profile Details](#)



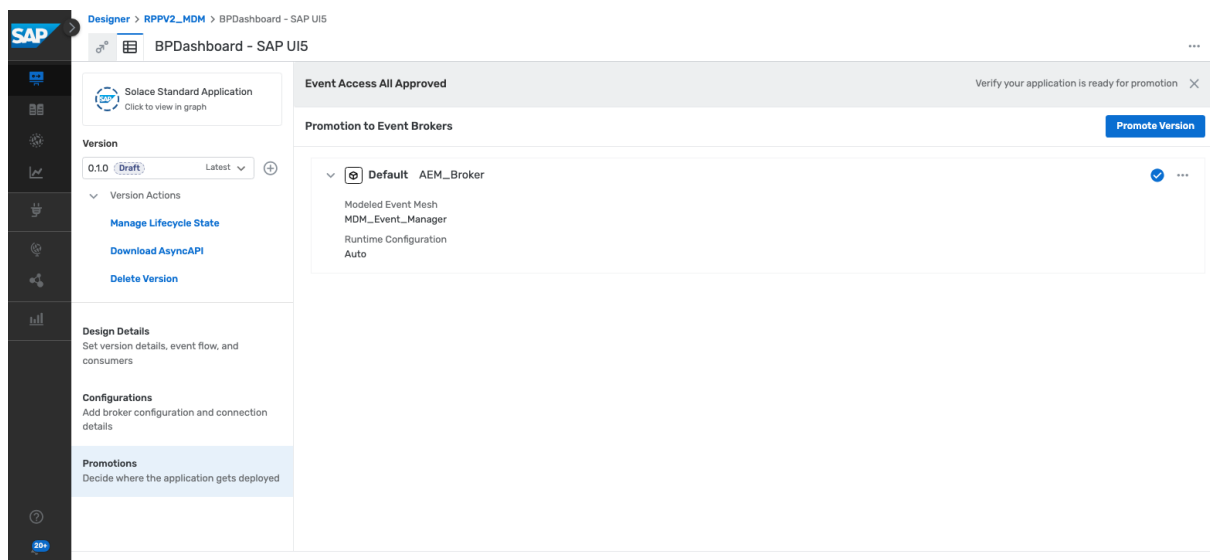
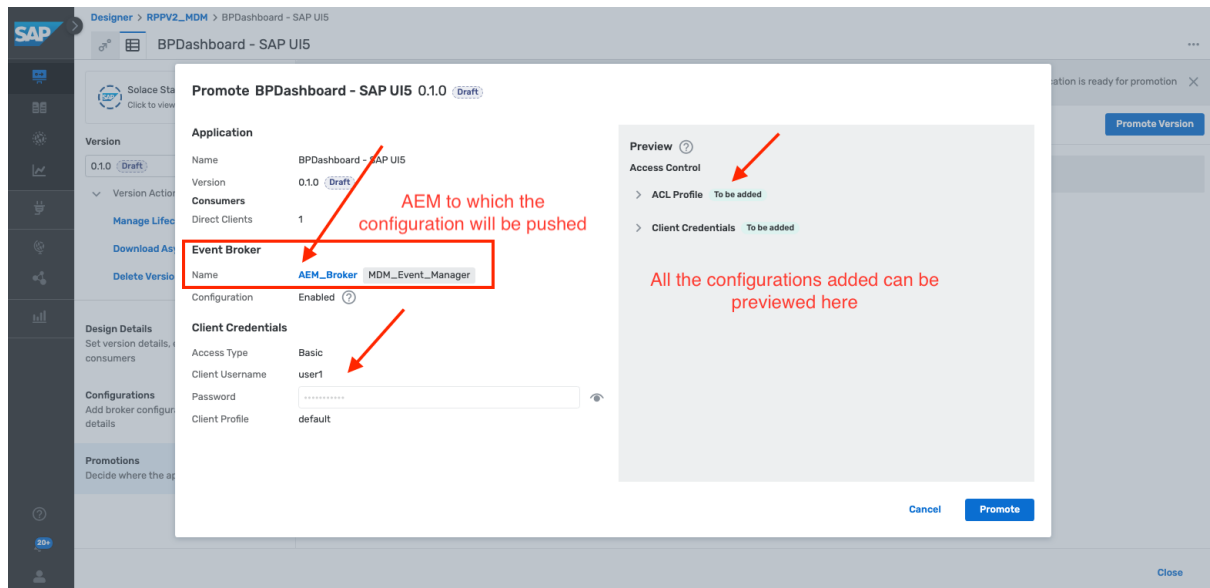
- e) select Save & Promote Later option



- f) Go to Promotions, validation and preview the changes made before you push the configuration to the selected broker.



- g) Click on Promote. Note: All the configurations which will be promoted can be previewed here before it gets pushed to the AEM broker.



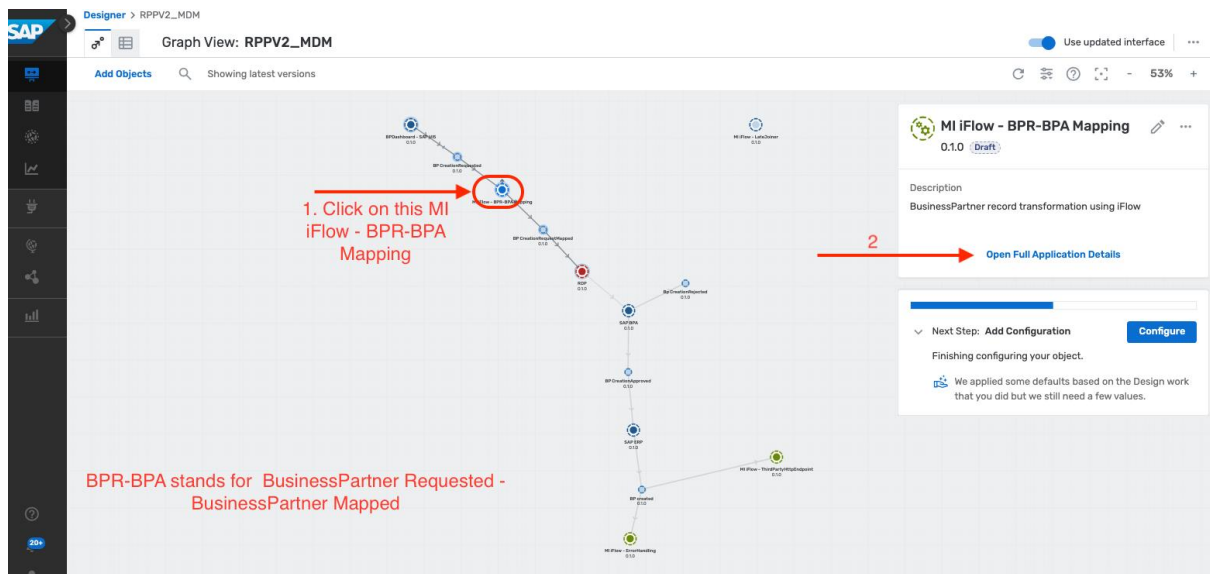
Congratulations, you have successfully promoted Application – BPCreate – SAPUI5 which can now publish events to the AEM Broker.

UI5 Dashboard link - <https://solacedemo-uf1dchbp.launchpad.cfapps.ca10.hana.ondemand.com/c2093459-426f-4c9e-a73c-7c583c931ea5.BPCreate.BPCreate-1.0.0/index.html>

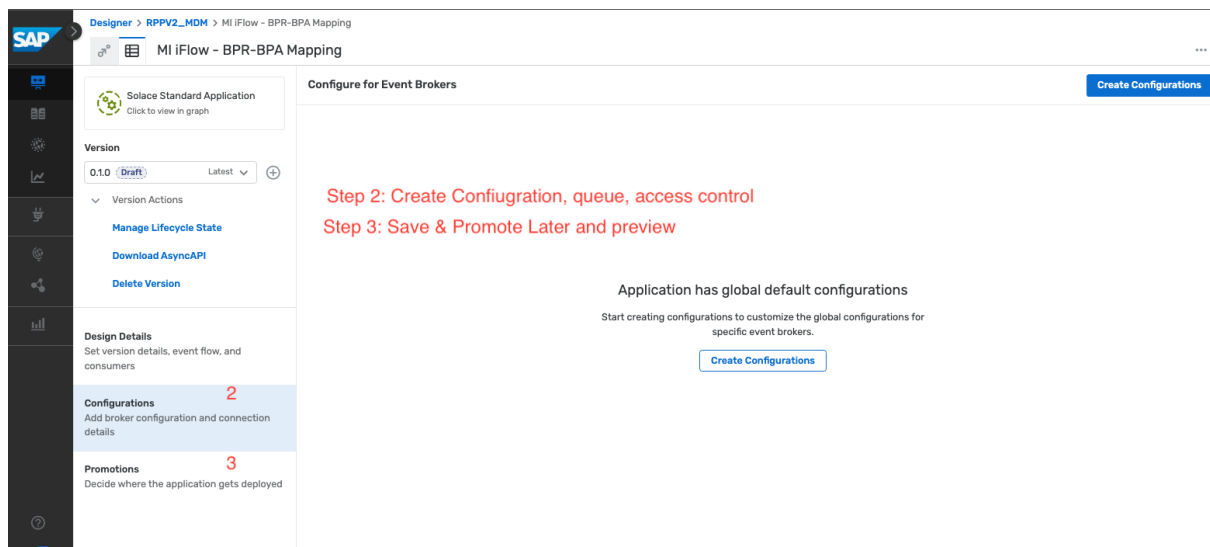
## 2. MI iFlow – BPR-BPA Mapping

BPR- BPA stands for Business Partner Requested – Business Partner Approved Mapping

- a) Click and open the MI iFlow – BPR-BPA Mapping application from the Graph view.

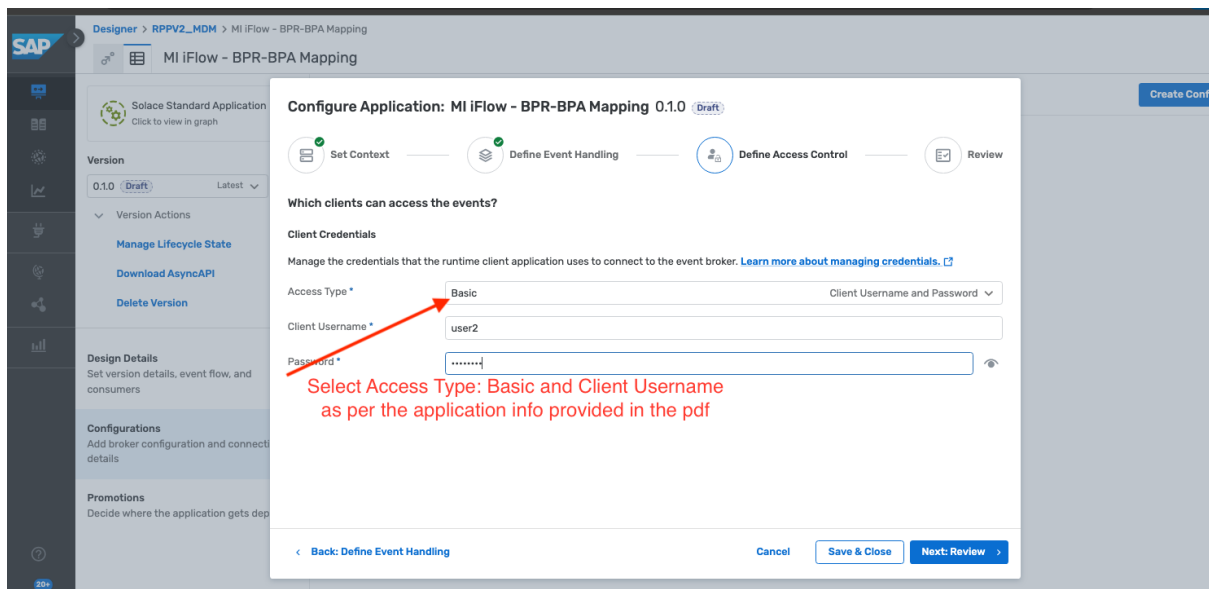
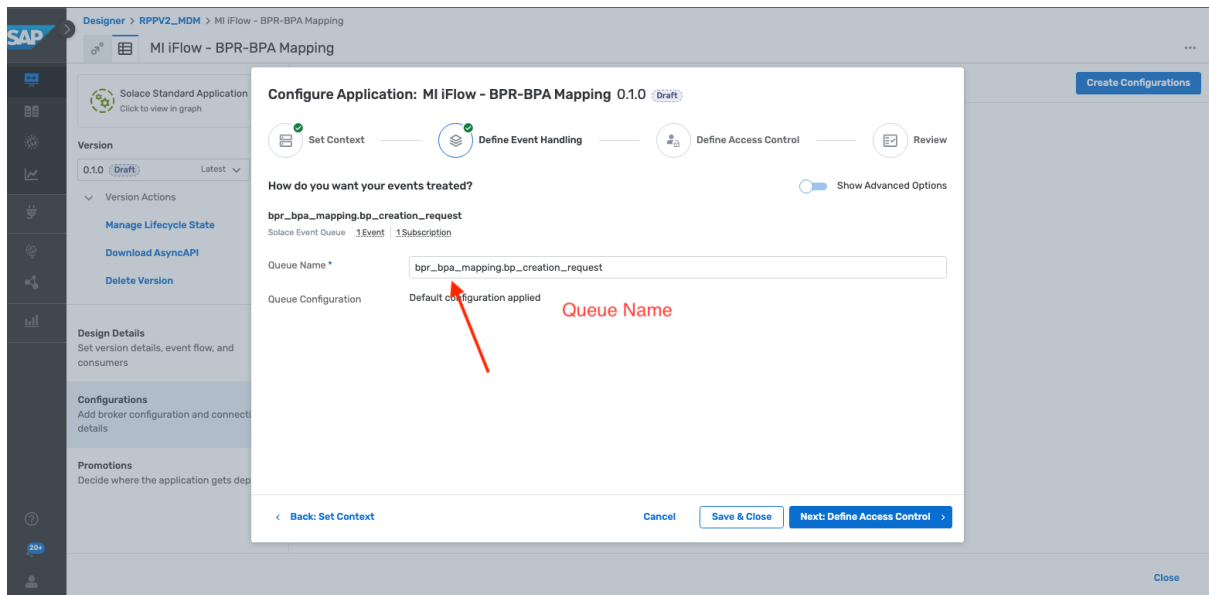


b) Follow the same steps of configuring and promoting this application.

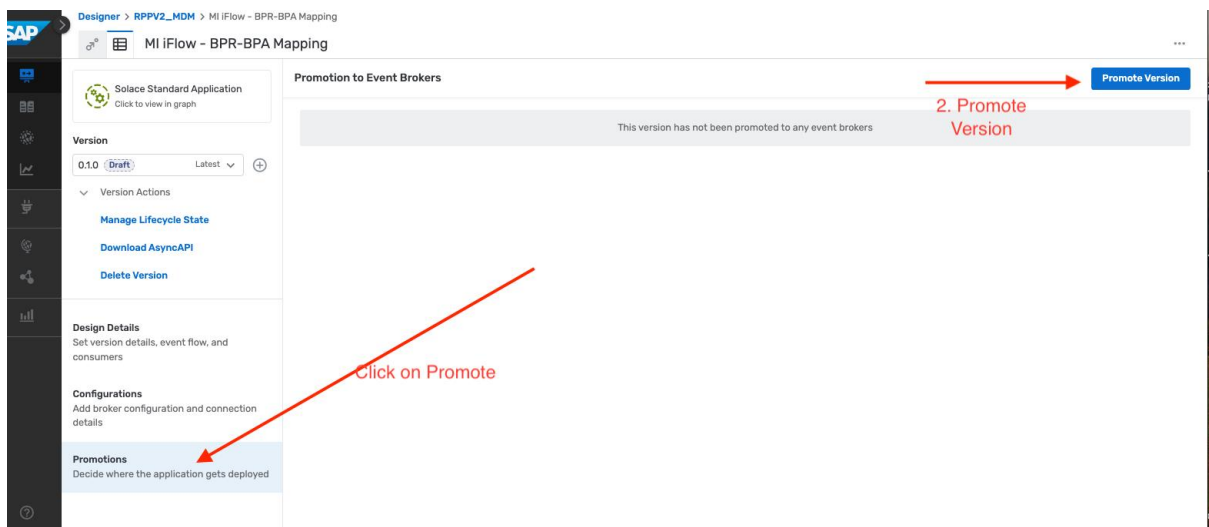


- c) As this is a consumer application, it is also creating a queue based on the Imported Application Domain mapping.
- d) Fill the Queue Name and Access Control as provided here for this application - [Applications, QueueNames and Client Profile Details](#)

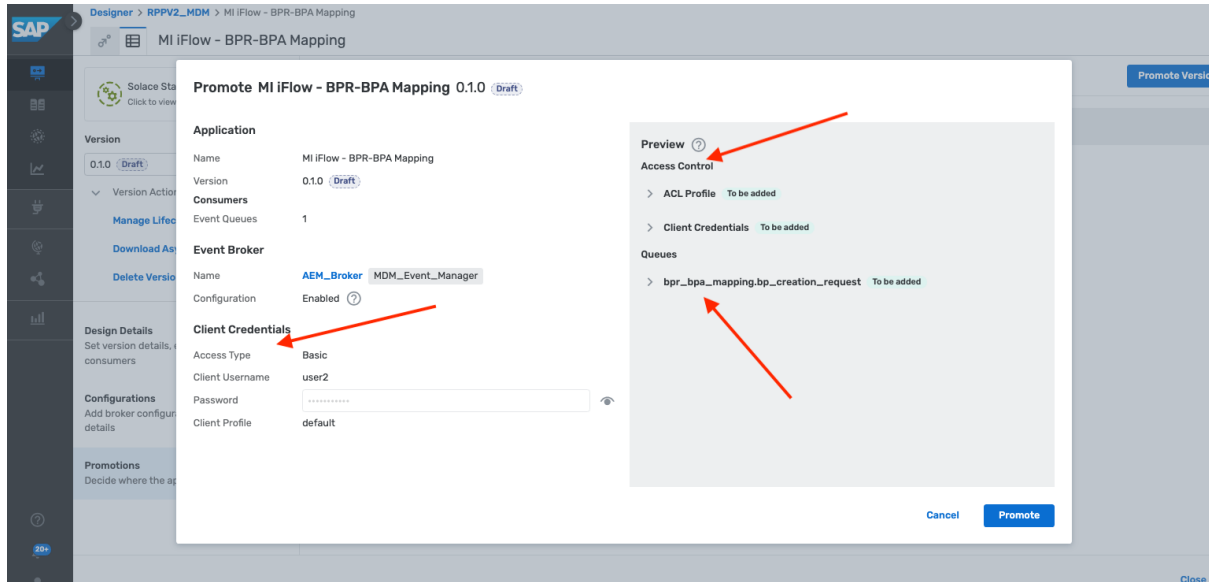




## e) Save & Promote Later



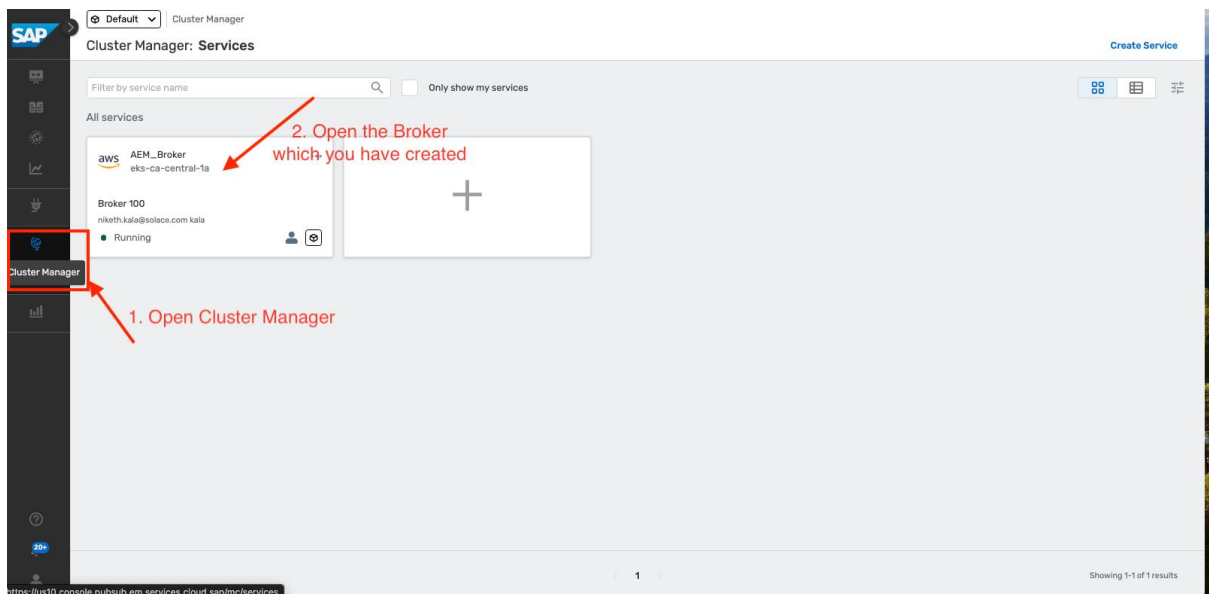
- f) Select the broker where we want to promote and Preview Promotion
- g) As this application is a consumer events from the publisher – BPCreate- SAPUI5, notice it also has a queue name for guaranteed/persistent messaging.
- h) Promote the application to the AEM Broker



## Validation

Let's validate the configurations which we have promoted on the AEM broker. The below screenshot is specifically showing the configurations of Application **MI iFlow – BPA-BPA Mapping**

Open the AEM Broker from the Cluster manager



# Open Broker Manager

**Service Details: AEM\_Broker**

**Active Connections:** 18.0%

**Guaranteed Messaging Endpoints:** 8.0%

**Queue Usage:** 0.0%

**Availability and Versioning:**

- Service State: Running
- Event Broker Service Version: 10.25.0.74-13
- Service ID: t105fmonxez
- High Availability: Single Node
- Created By: niketh.kala@solace.com
- Service Creation Time: 26/09/2025, 11:30:54
- Meta-Link Encryption: Disabled

**DMR Cluster:**

- Hostname: mr-connection-zzd8x3fa9.messaging.solace.cloud
- Cluster Name: cluster-eks-ca-central-1a-5858ichtmqd
- Cluster Password: \*\*\*\*\*
- Message VPN: scott-s-demo
- Primary Router Name: t105fmonxezprimary

**Management Access:**

- Basic Authentication
- LDAP Authentication
- SSO Authentication

[Open broker web console](#)

[Open Broker Manager](#)

**Queues | bpr\_bpa\_mapping.bp\_creation\_request**

**Subscriptions**

1 Subscriptions

Search by topic

Topic

sap/businesspartner/creationRequested/V1/>

Queue is subscribed to topic

**Queues**

Search by name

Queue Name	Incoming	Outgoing	Access Type	Partition Count	Messages Queued (%)	Messages Queued (msgs)	Messages Queued (MB)	Messages Queued Quota (MB)	Consumers	Replay State	Durable
Transformer_Source	On	On	Exclusive	0	0	0	0	5,000	1	N/A	Yes
bpr_bpa_mapping.bp_creation_request	On	On	Exclusive	0	0	0	0	5,000	1	N/A	Yes
erp.bp_creation_approved	On	On	Exclusive	0	0	0	0	5,000	1	N/A	Yes
error_handling.bp_created	On	On	Exclusive	0	0	0	0	5,000	2	N/A	Yes
error_handling.bp_created_b...	On	On	Exclusive	0	1	0.0005	5,000	0	N/A	Yes	Yes
error_handling.bp_created_d...	On	On	Exclusive	0	1	0.0004	5,000	0	N/A	Yes	Yes
http_endpoint.bp_created	On	On	Exclusive	0	0	0	5,000	2	N/A	Yes	Yes
rdp.bp_mapped_creation_re...	On	On	Exclusive	0	1	0.0004	5,000	1	N/A	Yes	Yes

Open this created queue

Click on Queues

The Client Username and ACL Profiles created for the application MI iFlow BPA-BPA Mapping has been created.

The image consists of two screenshots from the SAP AEM\_Broker interface, showing the configuration of ACL Profiles and Client Usernames.

**Top Screenshot: ACL Profiles**

The top screenshot shows the 'ACL Profiles' tab. The left sidebar has 'Access Control' highlighted. The main table lists ACL Profiles with columns: ACL Profile, Action, Client Connect Default, Publish Default Action, Subscribe Default Action, and Subscribe Share Name Default Action. The profile 'app-gonmdp5ncsd' is highlighted with a red box. A red arrow points to the 'Access Control' menu item with the text '1. Open Access Control'. Another red arrow points to the 'app-gonmdp5ncsd' profile with the text '2. Open ACL Profile'. A third red arrow points to the 'app-gonmdp5ncsd' profile with the text 'Client Username - user2 has its ACL created'.

ACL Profile	Action	Client Connect Default	Publish Default Action	Subscribe Default Action	Subscribe Share Name Default Action
#acl-profile	Allow	Allow	Allow	Allow	Allow
app-335c4annm52	Allow	Disallow	Disallow	Allow	Allow
app-4d6dof0184c	Allow	Disallow	Disallow	Allow	Allow
app-cvt8c3yxbea	Allow	Disallow	Disallow	Allow	Allow
app-fvyqgrcu9g	Allow	Disallow	Disallow	Allow	Allow
app-gonmdp5ncsd	Allow	Disallow	Disallow	Allow	Allow
app-uswbgp306og	Allow	Disallow	Disallow	Allow	Allow
default	Allow	Allow	Allow	Allow	Allow

**Bottom Screenshot: Client Usernames**

The bottom screenshot shows the 'Client Usernames' tab. The left sidebar has 'Access Control' highlighted. The main table lists Client Usernames with columns: Client Username, Client Profile, ACL Profile, Enable, Subscription Manager, and Dynamic. The user 'user2' is highlighted with a red box. A red arrow points to the 'Client Usernames' tab with the text 'open ClientUsernames'. A second red arrow points to the 'user2' row with the text 'Applicatoin MI iFlow - BPR-BPA Mapping's Client username - user2 created'.

Client Username	Client Profile	ACL Profile	Enable	Subscription Manager	Dynamic
#client-username	#client-profile	#acl-profile	Yes	No	No
#rdp/RDP	default	#acl-profile	Yes	No	No
default	default	default	No	No	No
solace-cloud-client	default	default	Yes	No	No
user1	default	app-4d6dof0184c	Yes	No	No
user2	default	app-gonmdp5ncsd	Yes	No	No
user3	default	app-335c4annm52	Yes	No	No
user5	default	app-fvyqgrcu9g	Yes	No	No
user6	default	app-cvt8c3yxbea	Yes	No	No
user7	default	app-uswbgp306og	Yes	No	No

## Appendix

### Check Runtime Event Manager

Check the runtime manager to see review which Application configurations are currently pushed into the local AEM broker

**SAP** Default

Runtime Event Manager: Modeled Event Meshes

Create Modeled Event Mesh ...

Filter by name

**Open Runtime Event Manager**

Modeled event meshes represent operational event meshes in specific runtime environments. They help you define and visualize event flows between publishing and subscribing applications. [Learn more about modeled event meshes](#)

Name	Event Brokers	Broker Type	Environment	Last Updated
<a href="#">MDM_Event_Manager</a>	1	Solace	Default	3 days ago

1-1 of 1 results

**SAP** Default Runtime Event Manager > MDM\_Event\_Manager

MDM\_Event\_Manager Architecture Audit Event Broker Connections

Applications (7) Events (6)

Filter by name

BPDashboard - SAP UIS 0.1.0 (Draft) RPPV2\_MDM ... 1 Published Events

MI iFlow - BPR-BPA Mapping 0.1.0 (Draft) RPPV2\_MDM ... 1 Published Events

MI iFlow - ErrorHandling 0.1.0 (Draft) RPPV2\_MDM ... 1 Published Events

MI iFlow - ThirdPartyHttpE... 0.1.0 (Draft) RPPV2\_MDM ... 0 Published Events

RDP 0.1.0 (Draft) RPPV2\_MDM ... 0 Published Events

SAP BPA 0.1.0 (Draft) RPPV2\_MDM ... 2 Published Events

SAP ERP 0.1.0 (Draft) RPPV2\_MDM ... 1 Published Events

1-7 of 7 results

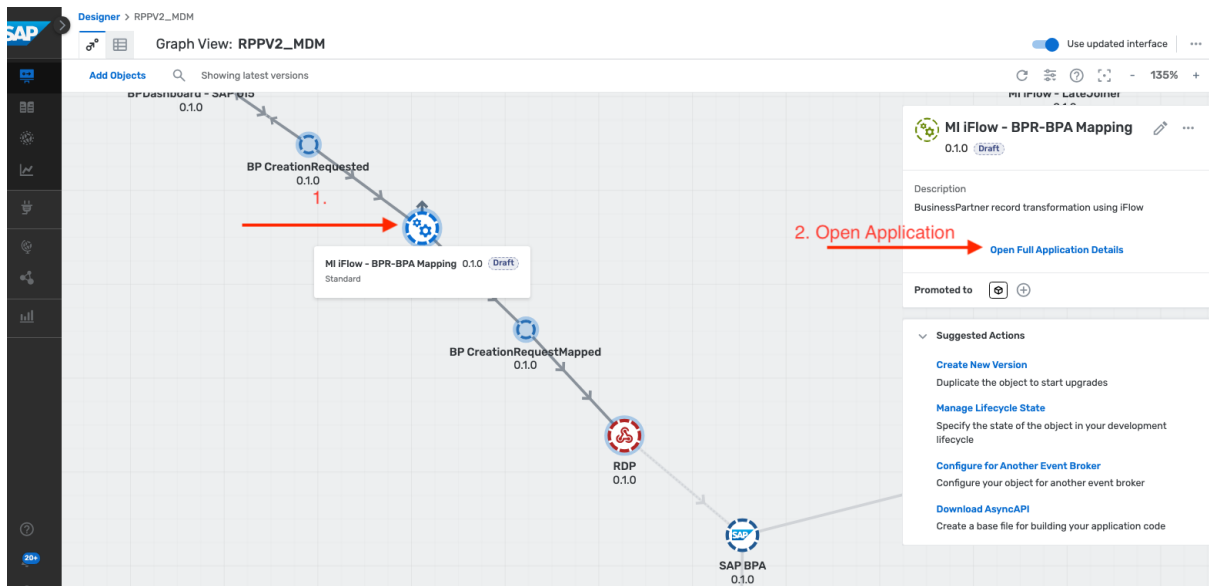
Showing All Event Flows

This is the view when of all application which are configured on broke

```

graph LR
    BP_CreationRequestMapped[BP CreationRequestMapped 0.1.0] --> MI_iFlow_BPR_BPA_Mapping[MI iFlow - BPR-BPA Mapping 0.1.0]
    MI_iFlow_BPR_BPA_Mapping --> BP_CreationRequested[BP CreationRequested 0.1.0]
    BP_CreationRequested --> BPDashboard_SAP_UIS[BPDashboard - SAP UIS 0.1.0]
    BP_CreationRequested --> SAP_BPA[SAP BPA 0.1.0]
    SAP_BPA --> BP_CreationRejected[BP CreationRejected 0.1.0]
    SAP_BPA --> BP_created[BP created 0.1.0]
    BP_created --> MI_iFlow_ErrorHandling[MI iFlow - ErrorHandling 0.1.0]
    MI_iFlow_ErrorHandling --> BP_CreationApproved[BP CreationApproved 0.1.0]
    BP_CreationApproved --> Business_Error[Business Error 0.1.0]
    MI_iFlow_ErrorHandling --> MI_iFlow_ThirdPartyHttpEndpoint[MI iFlow - ThirdPartyHttpEndpoint 0.1.0]
    MI_iFlow_ThirdPartyHttpEndpoint --> SAP_ERP[SAP ERP 0.1.0]
  
```

## Removing a Promoted Application from the Broker



Designer > RPPV2\_MDM > MI iFlow - BPR-BPA Mapping

MI iFlow - BPR-BPA Mapping

Promote to Event Brokers

Promote Version

Version: 0.1.0 Draft Latest

Version Actions

- Manage Lifecycle State
- Download AsyncAPI
- Delete Version

Design Details  
Set version details, event flow, and consumers

Configurations  
Add broker configuration and connection details

Promotions  
Decide where the application gets deployed

1

2. This deletes the configuration which was promoted earlier from the local AEM broker

Remove Application

Close