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What you will learn: Overview

Day 2 of 5. Topics covered :

SAP event driven architecture artifacts visualized using the Event Portal

- Explore the Event Portal and learn how to import objects.
- Learn how to create a design so that your events can be mapped and understood.

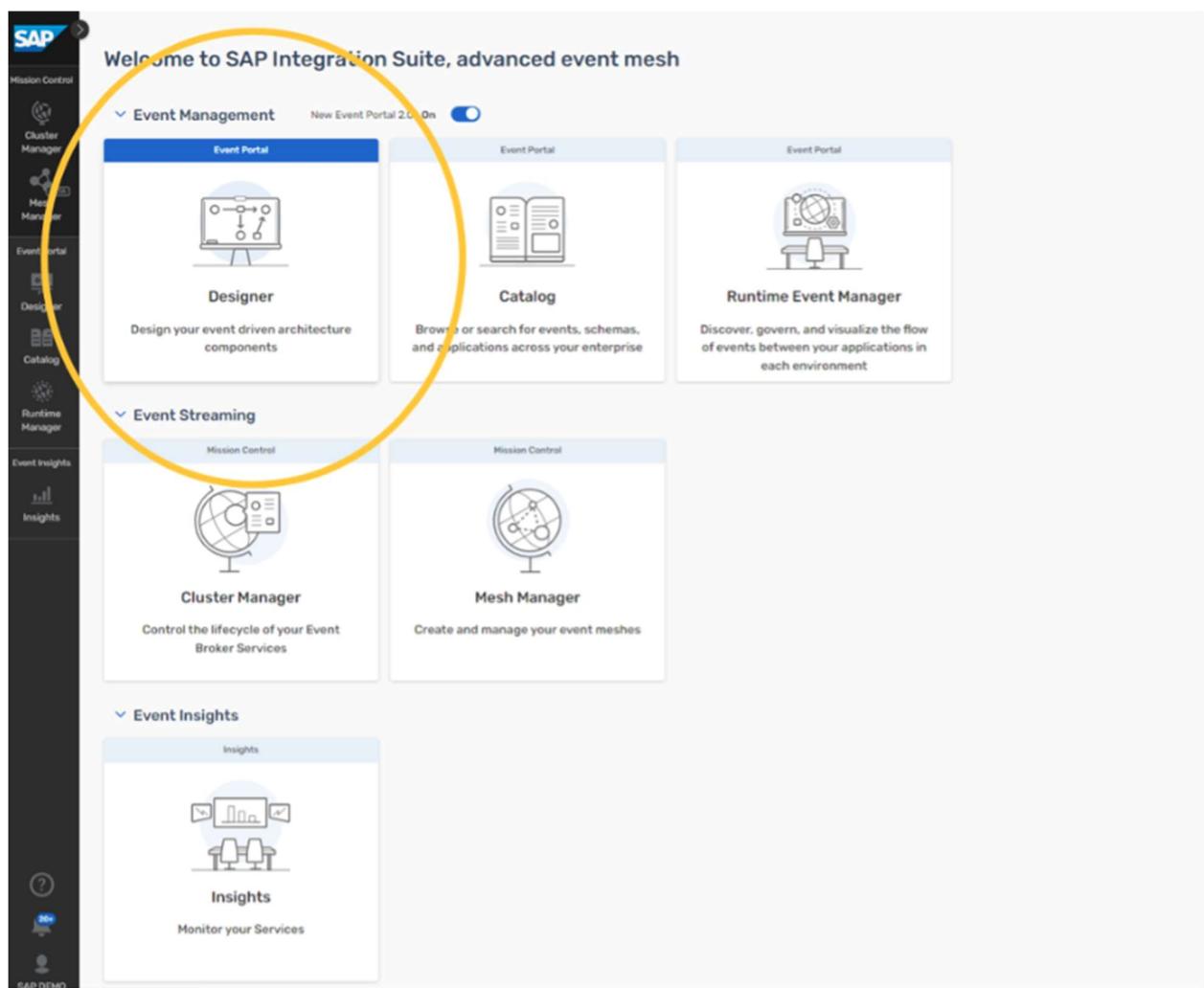
Prerequisites

Complete all activities in day#1. You access and use the same broker you setup previously as well as the simulator push events.

AEM Portal Setup

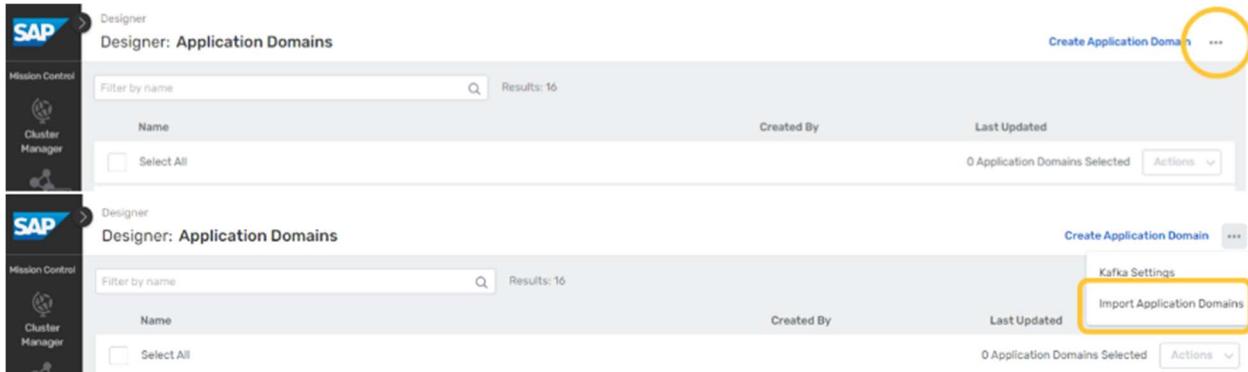
In this task, you will be importing the design representing the events for this rapid evaluation. This design is an example, and not a full implementation. The intent is to have enough design for an evaluation while allowing easy understanding of the concepts being demonstrated. The level of detail in the model is "medium size," meaning that there are enough attributes to enable the demonstration, but it is not the full schema for the SAP objects involved.

1. From the SAP AEM Console, open the Cluster Manager.



2. Import the demo domain from the provided export file.

Pull down the menu extension in the Application Domains view and select the import function.



Download [btp_aem_demo.json](#) to your file system and import it:

Importing Application Domain

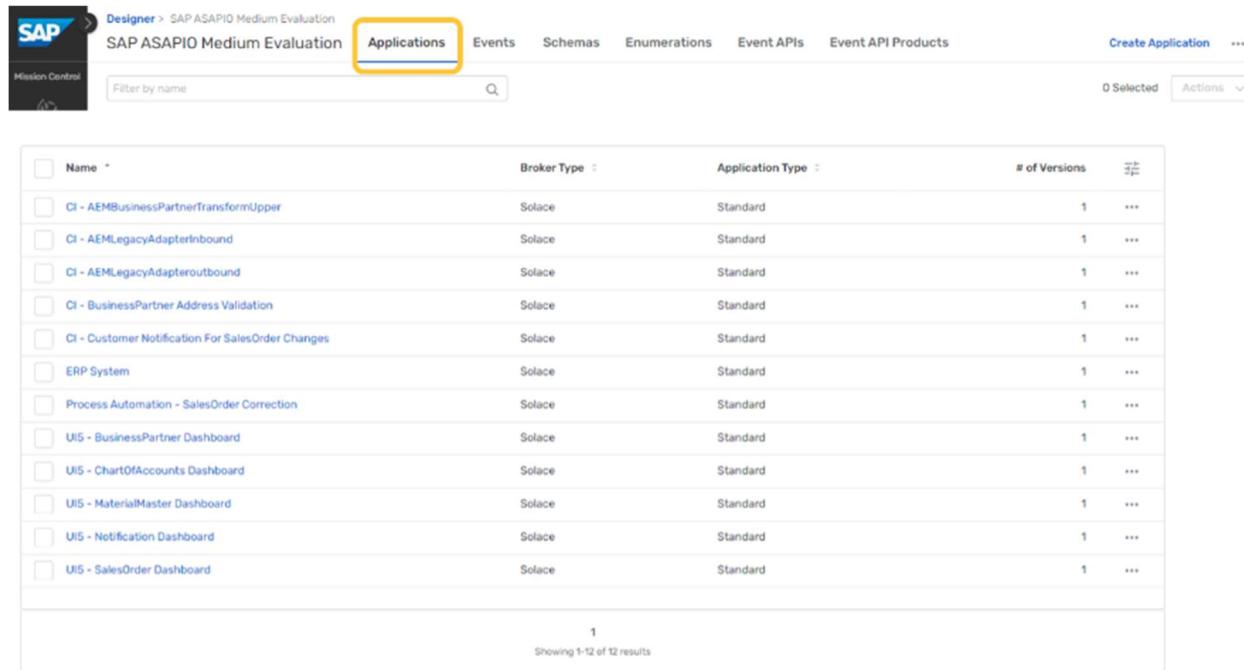
The import may take several minutes.

After the import is complete, you will see the evaluation domain in the domains list.



3. Take a quick tour of the domain model.

The initial view of the domain will be of the Applications tab.
You will see several modeled applications in the list related to the demo.



The screenshot shows the SAP ASAPIO Medium Evaluation Designer interface. The top navigation bar includes 'Designer > SAP ASAPIO Medium Evaluation', 'SAP ASAPIO Medium Evaluation', 'Applications' (which is highlighted with a yellow box), 'Events', 'Schemas', 'Enumerations', 'Event APIs', 'Event API Products', 'Create Application', and a '...' button. Below the navigation is a search bar with 'Filter by name' and a magnifying glass icon. To the right is a '0 Selected' button and an 'Actions' dropdown menu. The main content area displays a table of applications:

| Name * | Broker Type | Application Type | # of Versions | ... |
|---|-------------|------------------|---------------|-----|
| CI - AEMBusinessPartnerTransformUpper | Solace | Standard | 1 | *** |
| CI - AEMLegacyAdapterInbound | Solace | Standard | 1 | *** |
| CI - AEMLegacyAdapteroutbound | Solace | Standard | 1 | *** |
| CI - BusinessPartner Address Validation | Solace | Standard | 1 | *** |
| CI - Customer Notification For SalesOrder Changes | Solace | Standard | 1 | *** |
| ERP System | Solace | Standard | 1 | *** |
| Process Automation - SalesOrder Correction | Solace | Standard | 1 | *** |
| UI5 - BusinessPartner Dashboard | Solace | Standard | 1 | *** |
| UI5 - ChartOfAccounts Dashboard | Solace | Standard | 1 | *** |
| UI5 - MaterialMaster Dashboard | Solace | Standard | 1 | *** |
| UI5 - Notification Dashboard | Solace | Standard | 1 | *** |
| UI5 - SalesOrder Dashboard | Solace | Standard | 1 | *** |

At the bottom of the table, it says 'Showing 1-12 of 12 results'.

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.

Clicking on the Events tab, you will see a listing of events defined for the domain.

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The screenshot shows the SAP ASAPIO Medium Evaluation Designer interface. The top navigation bar includes links for Designer, Applications, Events (which is highlighted with a yellow box), Schemas, Enumerations, Event APIs, and Event API Products. Below the navigation is a search bar labeled 'Filter by name' and a 'Create Event' button. A sidebar on the left is titled 'Mission Control' and lists 'Event Portals'. The main content area displays a table of events. The columns include Name, Shared, # of Versions, and Actions. The table lists 17 events, such as 'Business Partner Address Checked', 'Business Partner Change Event', and 'Chart Of Accounts Create Event'. At the bottom of the table, it says 'Showing 1-17 of 17 results'.

Clicking on the Schemas tab, you will see 5 schemas.

The screenshot shows the SAP ASAPIO Medium Evaluation Designer interface with the Schemas tab selected (highlighted with a yellow box). The top navigation bar includes links for Designer, Applications, Events, Schemas (which is highlighted with a blue box), Enumerations, Event APIs, and Event API Products. Below the navigation is a search bar labeled 'Filter by name' and a 'Create Schema' button. A sidebar on the left is titled 'Mission Control' and lists 'Event Portals'. The main content area displays a table of schemas. The columns include Name, Shared, # of Versions, Schema Type, and Actions. The table lists 5 schemas: Business Partner Schema, Chart Of Accounts Schema, Material Schema, Notification Schema, and Sales Order Schema. At the bottom of the table, it says 'Showing 1-5 of 5 results'.

For simplicity, we have defined one schema for use by all events dealing with each object.
Clicking on the Enumerations tab, you will see one enum.

The screenshot shows the SAP ASAPIO Medium Evaluation Designer interface with the Enumerations tab selected (highlighted with a blue box). The top navigation bar includes links for Designer, Applications, Events, Schemas, Enumerations (which is highlighted with a blue box), Event APIs, and Event API Products. Below the navigation is a search bar labeled 'Sales' and a 'Create Enumeration' button. A sidebar on the left is titled 'Mission Control' and lists 'Event Portals'. The main content area displays a table of enumerations. The columns include Name, Shared, # of Versions, and Actions. The table lists 1 enumeration: SalesOrderRejectedReasonCodeEnum. At the bottom of the table, it says 'Showing 1-1 of 1 results'.

Enums are used in the model to show a finite set of possible values.

For example, this one is defined to hold a concise set of rejected reason code values for sales orders. Moving back to the Events tab, we can use the search box near the top to filter down to the event(s) we want to find. For example, typing "Sales" here results in a live search that filters the list down to just Sales Order related events.

| Name | Shared | # of Versions | Actions |
|-----------------------------------|------------|---------------|---------|
| Sales Order Address Checked Event | Not Shared | 1 | ... |
| Sales Order Change Event | Not Shared | 1 | ... |
| Sales Order Create Event | Not Shared | 1 | ... |
| Sales Order Retry Event | Not Shared | 1 | ... |
| SalesOrderRejected Event | Not Shared | 1 | ... |

Clicking on the Sales Order Create event in this view will drill into the definition of that event.

| Name | Shared | # of Versions | Actions |
|-----------------------------------|------------|---------------|---------|
| Sales Order Address Checked Event | Not Shared | 1 | ... |
| Sales Order Change Event | Not Shared | 1 | ... |
| Sales Order Create Event | Not Shared | 1 | ... |
| Sales Order Retry Event | Not Shared | 1 | ... |
| SalesOrderRejected Event | Not Shared | 1 | ... |

This provides an overview of the event details including the version, state, description, topic address, schema reference, and reference-by links.

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The screenshot shows the SAP ASAPIO Designer interface for a Sales Order Create Event. The event version details are displayed, including the version (1.0.0 Draft), broker type (Solace), and topic address (sap.com / salesorder / create / V1 / {salesOrg} / {distributionChannel} / {division} / {customerId}). The schema is linked to a Sales Order Schema 1.0.0 Draft. The event is referenced by one application and no APIs. It was last updated on 2023-10-09 07:58:54 by Karl Ossoliniq.

Version & State:

Designer can be used to manage the version and state of model objects and tracks their relationships for you, enabling full SDLC (software development lifecycle) visibility. It also serves as a collaboration space that allows you to leverage events you create more effectively to derive new value for the business.

Broker Type & Topic Address:

For AEM services (broker type = Solace), the topic address is a string with "/" separators that enables dynamic routing and filtering. Following best practice guidelines for creating topic strings is critical to your EDA success.

The general format is **ORG/DOMAIN/VERB/VERSION/{ATTRIBUTE1}/{ATTRIBUTE2}/...**

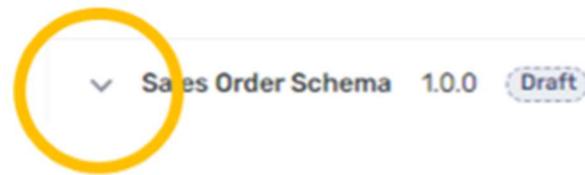
Topics are a powerful mechanism employed by AEM to perform dynamic routing in an event mesh, moving copies of events only where they are needed. It also enables consuming clients to filter events within topics using subscriptions and wildcard characters (*, >).

This capability avoids client applications having to implement brittle, complex filtering logic to reject unwanted events.

Next, click on the referenced schema to expand your view.

Schema Details

Schema



The referenced schema can be displayed as content in this view.

Now click on the expanded menu in this section and select Open Schema.

A screenshot of the "Schema Details" view. At the top, it shows "Schema", "Sales Order Schema", "1.0.0", and a "Draft" status. Below this, there's a "Schema Type" section indicating "JSON Schema" and a note that it's "Not shared across application domains". Under the "Content" heading, there is a code editor window displaying a JSON schema. The code starts with a line number 1 and includes properties like \$id, \$schema, title, type, properties, and items. To the right of the code editor, there is a vertical scroll bar. On the far right, there is a small toolbar with three dots and a button labeled "Open Schema", which is also highlighted with a yellow box.

This takes you directly to the Schema tab content. Here, you can see a more detailed description and have control to edit, create a version, and adjust the state of the schema.

The description includes links to references used to define the objects in the demonstration.

If you click on the expander, you can view just the schema text in a larger view without opening it for editing.

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Designer > SAP ASAPIO Medium Evaluation > Sales Order Schema

Sales Order Schema

> Schema Details: Not Shared

Edit Schema Details

Versions (1) Edit This Version ...

v1(1)

1.0.0 Draft ...

Schema Version Details

Version 1.0.0 Draft Change State

Version Name None

Description Data Structure

A sales order object in SAP has a large number of data elements - Here are a few examples:
OCRMPCATHDR = Prod. catalog number
OBPP_POITEM = Item Number in Order Document
OCRMPAVSCHW = Material Availability Date (Requested)
This sample implementation is for demonstration purpose only, and does not implement the full object with all attributes.
The full list can be found at
https://help.sap.com/saphelp_scm700_4hp02/helpdata/en/4acd595deb1c36e10000000a42189b/content.htm?no_cache=true

Background

The sales order business object (object type BUS2032) is a request from a customer to a company asking for a specific quantity of materials to be delivered, or services to be rendered, on a given date.

A sales order is sent to a sales area, and this sales area is then responsible for fulfilling the contract.
https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE/0f18dddf28764f5fb807ecd80549044cc/6422b753128eb44ce1000000a174cb4.html

Content

```
1  {
2    "$id": "https://sap.com/SalesOrderV1.schema.json",
3    "$schema": "https://json-schema.org/draft/2020-12/schema",
4    "title": "SalesOrderV1",
5    "type": "object",
6    "properties": {
7      "orderHeader": {
8        "type": "array",
9        "items": [
10          {
11            "type": "object",
12            "properties": {
13              "salesOrderNumber": {
14                "type": "string"
15              }
16            }
17          }
18        ]
19      }
20    }
21  }
```

The Designer tool will be a useful way to explore the demonstration data throughout your evaluation.

4. Practice using the Catalog. The Catalog is an important collaboration feature that allows you to quickly find objects across domains. Let's use this tool to find the Sales Order events

again. From the SAP AEM Console, open the Catalog:

The screenshot shows the SAP Integration Suite interface with a sidebar containing 'Mission Control' sections for Cluster Manager, Mesh Manager, Event Portal Designer, Catalog, and Runtime Manager. The main area is titled 'Welcome to SAP Integration Suite, advanced event mesh'. It features three cards under 'Event Management': 'Event Portal Designer' (with a 'Designer' icon), 'Event Portal Catalog' (with a 'Catalog' icon), and 'Event Portal Runtime Event Manager' (with a 'Runtime Event Manager' icon). A yellow circle highlights the 'Catalog' card. Below these are sections for 'Event Streaming' (Cluster Manager and Mesh Manager) and 'Event Insights' (Insights). The 'Events' tab in the Catalog section is also highlighted with a yellow box.

After clicking on the Events tab, enter "Sales Order" into the search box:

The screenshot shows the SAP Catalog interface. At the top, there are tabs for Catalog, Applications, Events (which is highlighted with a yellow box), Schemas, Enumerations, Event APIs, and Event API Products. Below the tabs is a search bar containing the text 'Sales Order', which is also highlighted with a yellow box. A dropdown menu is visible below the search bar.

You will see the filtering of the live search as you type. Next, get more specific and "Create" to the search string. This will narrow your results to Sales Order related events:

| Name | Shared | Application Domain | Subscribing Applications | Publishing Applications | # of Versions |
|--|------------|------------------------------|--------------------------|-------------------------|-------------------|
| Sales Order Create Event Latest sap.com / salesorder / create / V1 / (salesOrg) / (distributionChannel) / (division) / (customerId) | Not Shared | SAP ASAPIO Medium Evaluation | 1 | 1 | 1 matched 1 ... |

Finally, click on the filter icon next to the search box to see how results can be filtered:

The screenshot shows the SAP AEM Catalog interface. At the top, there is a navigation bar with tabs: Catalog, Applications, Events (which is selected), Schemas, Enumerations, Event APIs, and Event API Products. Below the navigation bar is a search bar with a magnifying glass icon and a filter icon (a funnel icon) highlighted with a yellow box. Underneath the search bar is a 'Filters' section with three dropdown menus: Application Domains (No Filters), States (No Filters), and Shared (No Filters). On the right side of the filters section is a 'Add Filters' button.

5. Visualize your imported design with a modeled event mesh. Event Portal includes a powerful tool called the Runtime Manager. One of the functions of this tool is to associate a domain model with a "modeled event mesh" running on your launched AEM event services. This allows the Runtime Manager to display a visualization of the interactions between applications and events.

While there are many additional powerful features of Runtime Manager, our evaluation will focus just on visualization.

From the SAP AEM Console, open the Runtime Manager:

The screenshot shows the SAP Integration Suite advanced event mesh welcome screen. On the left is a sidebar with icons for Mission Control, Cluster Manager, Mesh Manager, Event Portal, Designer, Catalog, Runtime Manager, Event Insights, and Insights. The main area has a title 'Welcome to SAP Integration Suite, advanced event mesh'. It contains several cards:

- Event Management**: Includes 'Event Portal' (Designer: Design your event driven architecture components) and 'Event Portal' (Catalog: Browse or search for events, schemas, and applications across your enterprise).
- Event Streaming**: Includes 'Mission Control' (Cluster Manager: Control the lifecycle of your Event Broker Services) and 'Mission Control' (Mesh Manager: Create and manage your event meshes).
- Event Insights**: Includes 'Insights' (Monitor your Services).

A yellow circle highlights the 'Runtime Event Manager' card, which is described as 'Discover, govern, and visualize the flow of events between your applications in each environment'.

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Click on Create Modeled Event Mesh top right:

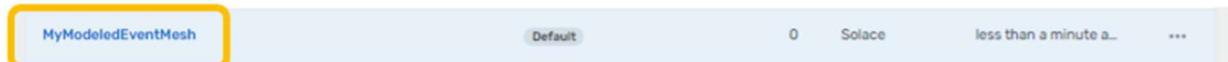


Enter the name of your modeled event mesh and click on Create:

Create Modeled Event Mesh

The screenshot shows the 'Create Modeled Event Mesh' form. The 'Modeled Event Mesh Name' field contains 'MyModeledEventMesh' and is highlighted with a yellow box. The 'Type' dropdown is set to 'Solace'. The 'Description' rich text area is empty. The 'Environment' dropdown is set to 'Default'. A modal window titled 'Environments in SAP Integration Suite, advanced event mesh' provides information about environments. At the bottom right, there is a blue 'Create' button which is highlighted with a yellow box.

Now click on your MEM to open it:



Note that there are no objects in your MEM.

In the Event Broker Connections tab, click on Connect Event Broker:



Use the search box to filter to your services, mark the checkboxes for both and click Add:

Add Existing Event Broker

| Event Brokers | Event Management Agents |
|---|-------------------------|
| <input checked="" type="checkbox"/> MyMesh-Svc1 | None |
| <input checked="" type="checkbox"/> MyMesh-Svc2 | None |

Add

You will see both of your brokers listed in the modeled event mesh. For the scope of this evaluation, we will not be exercising the Discovery Scan or Audit capabilities.

| Event Broker Details |
|---|
| Type: Solace Hostname: Message VPN: |

Event Management Agent

No Event Management Agents
An Event Management Agent is required before data can be gathered from the event broker.
Connect to an Event Management Agent

Associated Objects

Applications (0) Event API Products (0)

Next, navigate back to the Designer and open the **BTP AEM Demo** domain. Under the Applications tab, you will see all the modeled applications. **For each application**, perform the following actions:

- Click on the application's row where it says "Standard" for application type.
- In the preview pane to the right, select the "Add to Environment" extended menu action for version 1.0.0 of the application object.
- Leaving the Default environment selected, pick your Modeled Event Mesh from the second pull down and both of your event mesh services from the Event Broker menu, then click Add.

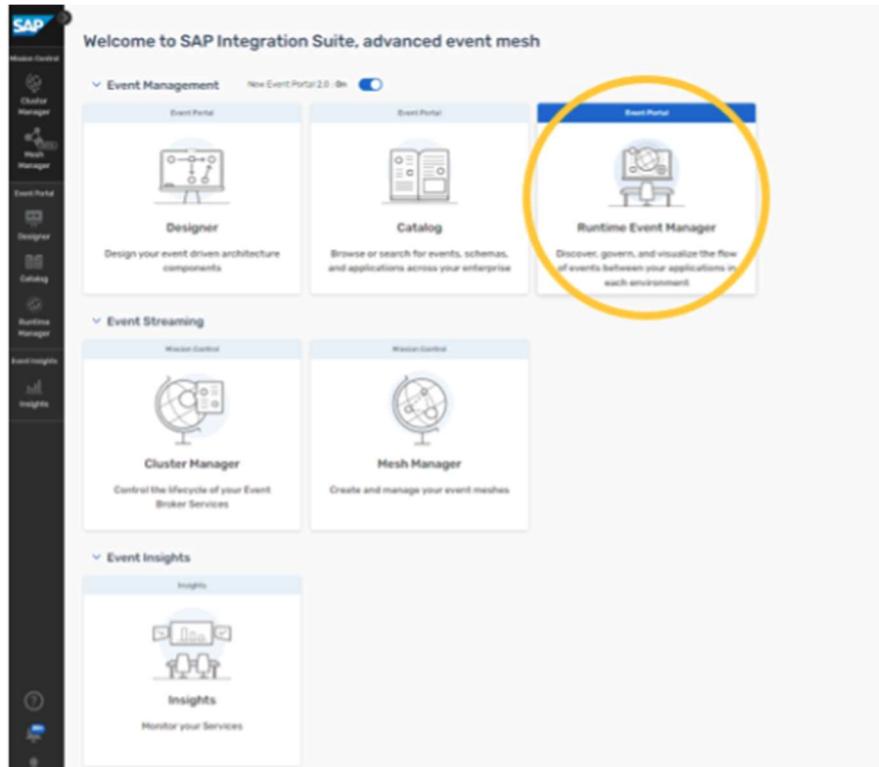
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The screenshot shows the AEM Designer interface with the 'Applications' tab selected. On the left, a list of applications is displayed, with 'CI - AEMBusinessPartnerTransformUpper' highlighted. The 'Application Type' column for this application is labeled 'Standard' and is highlighted with a yellow box. On the right, the 'CI - AEMBusinessPartnerTransform...' application details are shown, including its broker type (Solace), last updated date (8 days ago by Christian Holtfurth), and a 'Versions (1)' section showing a single draft version (1.0.0). Below this, there is an 'Add to Environment' button, which is also highlighted with a yellow box. In the foreground, a modal dialog titled 'Add to Environment' is open. It contains fields for 'Environment' (set to 'Default'), 'Modeled Event Mesh' (set to 'MyModeledEventMesh'), and 'Event Broker' (set to 'MyMesh-Svc1'). The 'Selected Application' field is set to 'CI - AEMBusinessPartnerTransformUpper 1.0.0'. At the bottom of the dialog are 'Cancel' and 'Add' buttons, with the 'Add' button being highlighted with a yellow box.

This will add the modeled applications to your modeled event mesh. Since these applications reference the events, and those events reference the schemas, all of your model will now be associated with your modeled event mesh.

Finally, navigate back to the Runtime Manager and your modeled event mesh to see the default visualization:

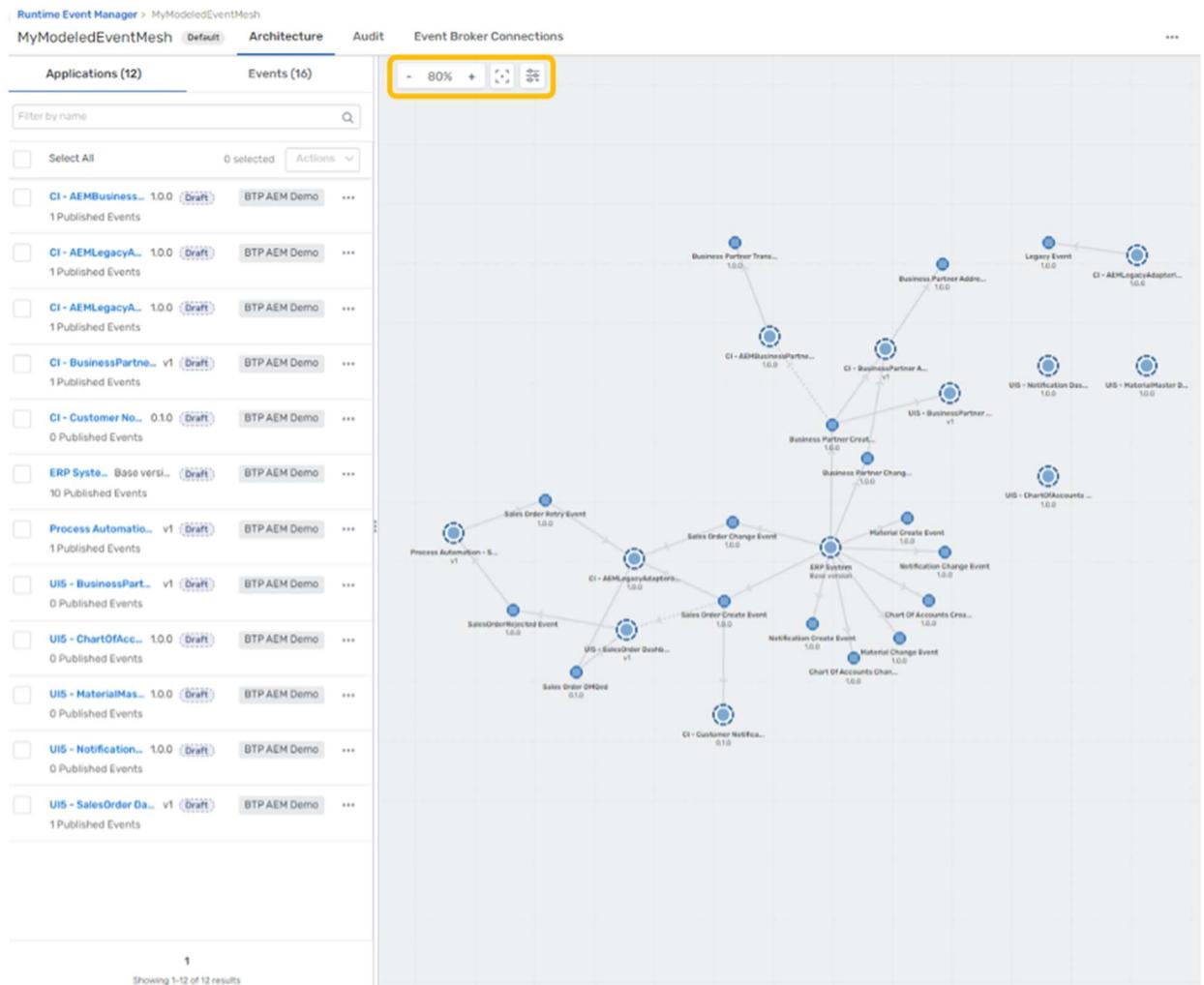
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The applications are connected to one another with flow lines through the events which they are exchanging. This provides an overview of the interactions being modeled by the design.

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You can use the view controls to zoom, center and change visualization settings:



You can also re-arrange and save your visualization layout to organize the relationships to your preferences. If you like the changes, click on Publish Layout to save them.

▼ Layout Changed

Publishing changes updates the graph layout
for all users in your organization.

[Discard Changes](#)

[Publish Layout](#)

Takeaways

- Import objects into the Event portal
- Explored the Event portal

- Viewed the artifacts relevant to the business examples being used in the workshop
- Easy reuse of existing events

