

SAP CLOUD PLATFORM | EXTERNAL

Setup & Configuration Guide

SAP S/4HANA and SAP S/4HANA Cloud Event Consumption in SAP Cloud Platform Process Visibility

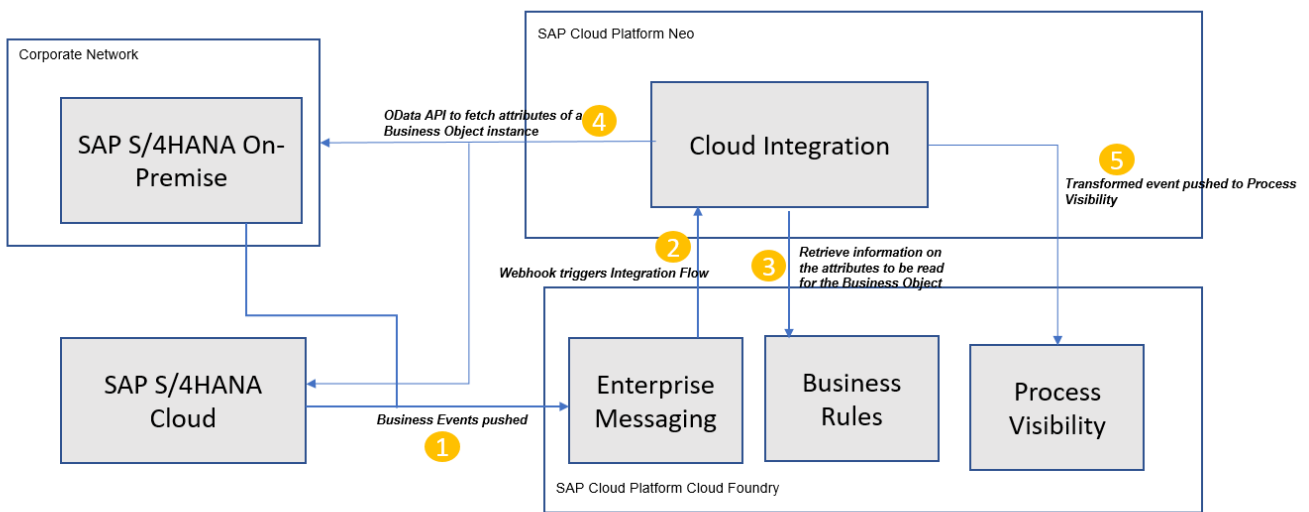
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Overview

This document provides information about the configuration steps to consume the live process package that helps in transforming business events from SAP S/4HANA (On-Premise/Cloud) and pushing them to SAP Cloud Platform Process Visibility. Once you have the business events from S/4HANA, you can use SAP Cloud Platform Process Visibility to gain visibility on an end to end process involving SAP S/4HANA Business Object as a process participant. If there is a change of state for the business object when you execute parts of the end-to-end process on SAP S/4HANA, the business events are published. To view the list of business events published in SAP S/4HANA, see [API Hub documentation](#).

Consuming this live process package involves the following steps:



Required SAP Cloud Platform Services

The live process package **SAP S/4HANA and SAP S/4HANA Cloud Event Consumption in SAP Cloud Platform Process Visibility** is intended to be used with SAP S/4HANA On-Premise (Version 2020 onwards) or SAP S/4 HANA Cloud (Version 2008 onwards).

You also require the following service subscriptions in SAP Cloud Platform:

- SAP Cloud Platform Workflow Management to orchestrate the process.
- SAP Enterprise Messaging to consume business events from SAP S/4HANA
- SAP Cloud Platform Integration (in the Neo environment).
- SAP Cloud Connector to establish access to on-premise resources.

Configure SAP S/4HANA (On-Premise/Cloud) to push business events to SAP Cloud Platform Enterprise Messaging

SAP Cloud Platform Enterprise Messaging can receive events from SAP S/4HANA (On-Premise/Cloud). Use the following blogs to perform the necessary configuration.

SAP S/4HANA On-Premise

<https://blogs.sap.com/2019/09/16/sap-enterprise-messaging-for-s4hana-on-premises/>

SAP S/4HANA Cloud:

<https://blogs.sap.com/2020/08/19/sap-s-4hana-cloud-enterprise-event-enablement-whats-new-with-cloud-2008/comment-page-1/#comment-524508>

Note: At the end of this configuration, you will have the business events from SAP S/4HANA (On-Premise/Cloud) available in the queue created using SAP Enterprise Messaging.

Subscribe and Configure Workflow Management

This live process content package requires SAP Cloud Platform Workflow Management subscription or a CPEA contract. To setup and configure SAP Cloud Platform Workflow Management service, see [Initial Setup](#).

Create Service Instances


Create service instances of SAP Cloud Platform Business Rules and SAP Cloud Platform Process Visibility. Also, create service keys for each of the service instances. For more information, see [Create Service Instances](#).

Import live process package

1. Open the SAP Cloud Platform Workflow Management application. For information on accessing the app, see

<https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/enUS/c63dffcd1cd4373bee43490c7d2e4bd.html>.

2. Import content package **SAP S/4HANA and SAP S/4HANA Cloud Event Consumption in SAP Cloud Platform Process Visibility**. For more information on importing content packages, see [How to Import a Content Package](#).



SAP S/4HANA and SAP S/4HANA Cloud Event Consumption in SAP...

This live process package helps transform and push SAP S/4HANA and SAP S/4HANA Cloud Business Events to SAP Cloud Platform Process Visibility to gain end to end visibility on processes.

[Learn more](#)

Decisions & Policies

Decisions allow to encapsulate the business logic from core applications and supports the reuse of business rules across different business processes. Decisions enable customers to adopt changes in processes without changing the underlying workflows or application logic. SAP Cloud Platform Workflow Management has decision management capabilities that enable customers to centrally manage all decisions. For more information, see [documentation](#).

Business Object Context Information Retrieval Policy

This policy enforces rules to determine the context information of the business object.

Rules involved in the policy

Rule Name: Determine Context Attributes for Retrieval

Type: Decision Table

Input:

ATTRIBUTE	TYPE	DESCRIPTION
Event Type	Element	Business event from SAP S/4HANA. See SAP API Business Hub for details on the event types for the different objects. Example: In case of Business Partner Created event, the event type is <code>'sap.s4.beh.salesorder.v1.SalesOrder.Created.v1'</code>

Output:

ATTRIBUTE	TYPE	DESCRIPTION
Context Path URL	String	Relative path of the OData API to fetch the attributes of the business object. See SAP API Business Hub for details. Example: <code>API_BUSINESS_PARTNER/A_BusinessPartner(\processInstanceId')?\$select=BusinessPartnerGrouping,BusinessPartnerName,Customer,Supplier&sap-client=002'</code> Here object ID in the original OData API URL is replaced with <code>'\processInstanceId'</code>
Business Object Key	String	Key attribute for the Business Object that returns the Object ID. This attribute is retrieved from the event and is essentially under the data node as shown below: <pre>{ "type": "sap.s4.beh.businesspartner.v1.BusinessPartner.Changed.v1", "specversion": "1.0", "source": "/default/sap.s4.beh/0000000007", "id": "506b4bc3-45f0-1eea-b5cf-4e37923b465c", "time": "2020-08-04T17:46:37Z", "datacontenttype": "application/json", "data": { "BusinessPartner": "9980001083" } }</pre>

To add a new row in the decision table or to modify an existing row , see [Manage Decisions](#).

Note: Ensure that the changes are released with a new version with revision name as “**Production**”

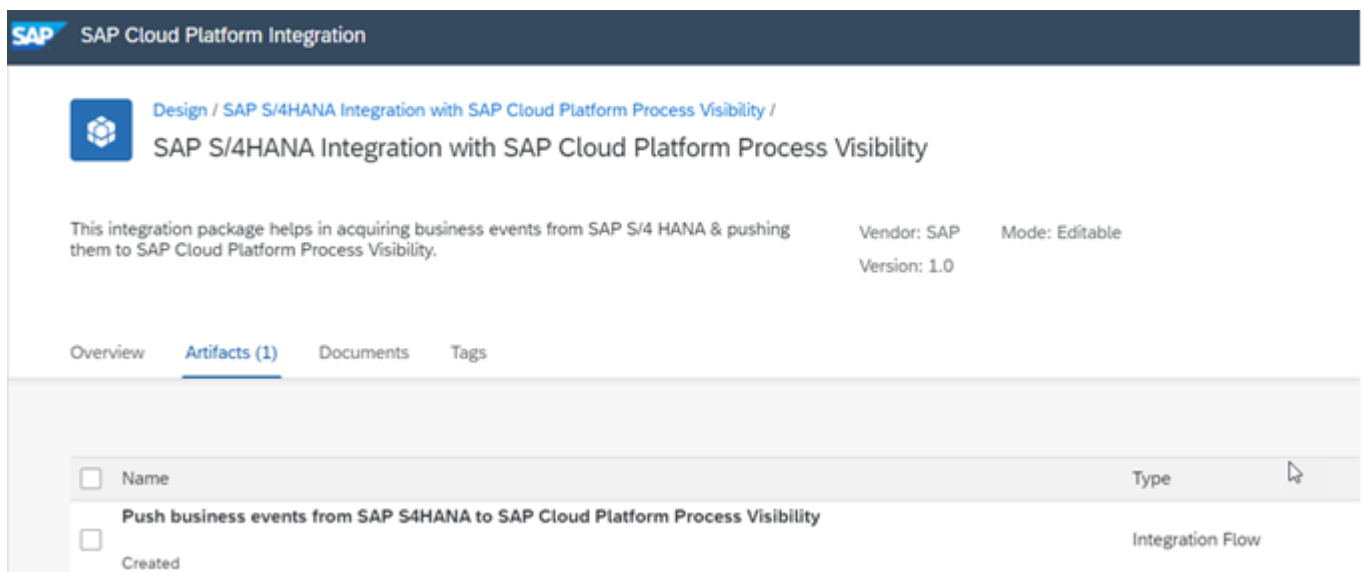
[Optional] Configure SAP Cloud Connector

If business events must be consumed from SAP S/4HANA on premise system, you need to configure SAP Cloud Connector to enable a secure tunnel for the invoking the ODATA APIs. For more information, see [Configure Cloud Connector](#)

Note: Add mapping with HTTP protocol and enable the service - sap/opu/odata/sap.

Copy, configure and deploy Integration Flow

This Live Process content package requires SAP Cloud Platform Integration in the Neo environment to consume, transform and push events to SAP Cloud Platform Process Visibility. The integration content package **SAP S/4HANA and SAP S/4HANA Cloud Integration with SAP Cloud Platform Process Visibility** is available in [SAP API Business Hub](#).



Copy the content package to your SAP Cloud Platform Integration tenant. To copy and deploy integration flows, you need the AuthGroup.IntegrationDeveloper role assigned in your tenant.

Copy pre-packaged Integration content in SAP Cloud Platform Integration

1. Access your SAP Cloud Platform Integration tenant management node (<https://<cpitenant>.hana.ondemand.com/itspaces>). Please refer [help documentation](#) on how to get tenant management node address.
2. View all pre-packaged integration flow under Discover → Integration. (<https://<cpitenant>.hana.ondemand.com/itspaces/shell/discover>)
3. Search content package “SAP S/4HANA Integration with SAP Cloud Platform Process Visibility”.
4. Click on the package “**SAP S/4HANA and SAP S/4HANA Cloud Integration with SAP Cloud Platform Process Visibility**”.
5. Click Copy to import the Integration content package to your workspace.
6. Navigate to the *Design* view (<https://<cpitenant>.hana.ondemand.com/itspaces/shell/design>) to open the imported content package.

Deploy credential artifacts

- Choose the **Operations View** tab.
- Under the **Manage Security** section, choose **Security Material**.
- From the **Create** dropdown menu, choose **OAuth2 Credentials**. Create the credentials for PVS & RULES as given below

Property Name	Value
Name	PVS
Grant Type	Client Credentials
Token Service URL	<uaa.url>/oauth/token Determine the <uaa.url> from the service key of the Process Visibility service instance. For more details, see Determine Service Configuration Parameters
Client ID	<uaa.clientid> Determine the <uaa.clientid> from the service key of the Process Visibility service instance. For more details, see Determine Service Configuration Parameters
Client Secret	<uaa.clientsecret> Determine the <uaa.clientsecret> from the service key of the Process Visibility service instance. For more details, see Determine Service Configuration Parameters
Client Authentication	Send as Request Header

Property Name	Value
Name	RULES
Grant Type	Client Credentials
Token Service URL	<uaa.url>/oauth/token Determine the <url> from the service key of the Business Rules service instance. For more details, see Determine Service Configuration Parameters
Client ID	<uaa.clientid> Determine the <clientid> from the service key of the Business Rules service instance. For more details, see Determine Service Configuration Parameters
Client Secret	<uaa.clientsecret> Determine the <clientsecret> from the service key of the Business Rules service instance. For more details, see Determine Service Configuration Parameters
Client Authentication	Send as Request Header

- Add **User Credential** with the following details.

[Overview / Manage Security Material](#)

Security Material (8)					Filter by Name or Deployed By	Create	Upload	Refresh	Help
Name	Type	Status	Deployed By	Deployed On					
S4CLOUD	User Credentials	Deployed	I057028	Sep 09, 2020, 15:07:54					
PVS	OAuth2 Client Credentials	Deployed	I057028	Jul 16, 2020, 15:05:48					
RULES	OAuth2 Client Credentials	Deployed	I057028	Jul 13, 2020, 16:20:33					

[Overview / Manage Security Material](#)

Security Material (8)		
Name	Type	Status
S4HANA	User Credentials	Deployed
PVS	OAuth2 Client Credentials	Deployed
RULES	OAuth2 Client Credentials	Deployed

Configure and deploy the Integration Flow

- Open the integration flow **“Push business events from SAP S4HANA to SAP Cloud Platform Process Visibility”**
- Click **Configure** button and set values for the **Receivers** as given below:

Receiver	Property	Value
PROCESS_VISIBILITY	CP Process Visibility Rest API host	bpmpruntime.cfapps.<datacenterID>.hana.ondemand.com e.g. bpmpruntime.cfapps.eu10.hana.ondemand.com Determine <datacenterID> from the service key of the Process Visibility service instance. For more details, see Determine Service Configuration Parameters
BUSINESS_RULES	CP Business Rules Runtime Host	bpmruleruntime.cfapps.<datacenterID>.hana.ondemand.com e.g. bpmruleruntime.cfapps.eu10.hana.ondemand.com Determine <datacenterID> from the service key of the Business Rules service instance. For more details, see Determine Service Configuration Parameters
S4HANA	S4HANA Host URL	<ul style="list-style-type: none"> • For S/4HANA On-Premise system, http:<S4HANA host>: port • For S/4HANA Cloud https:<S4HANA Cloud host>
S4HANA	Proxy Type	<ul style="list-style-type: none"> • “On-Premise” for SAP S/4HANA On-Premise • “Internet” for SAP S/4HANA Cloud

Save and Deploy all the integration flow.

Create OAuth Client in Cloud Platform Integration tenant (Neo Environment)

1. Create an OAuth client in SAP Cloud Platform Integration tenant in the Neo environment. For more information, see [Create an OAuth Client in the Neo Environment](#).
2. Assign the required SAP Cloud Platform Integration [Roles](#) to your OAuth client (oauth_client_).

Integration flow endpoint URL

Once the **Push business events from SAP S4HANA to SAP Cloud Platform Process Visibility** integration flow is deployed, from the **Monitor view**, fetch the rest endpoint URL.

The screenshot shows the SAP Cloud Platform Integration Monitor view for the integration flow "Push business events from SAP S4HANA to SAP Cloud Platform Process Visibility". The interface includes a title bar with "Restart", "Undeploy", and "Download" buttons. Below the title, it displays deployment details: "Deployed On: Sep 11, 2020, 17:34:22", "ID: Push_business_events_from_SAP_S4HANA_to_SAP_Cloud_Platform_Process_Visibility", "Deployed By: I057028", and "Version: 1.0.0". The package description is "Acquire SAP S/4 HANA business events for SAP Cloud Platform Process Visibility". A navigation bar at the bottom contains "Endpoints", "Status Details", "Artifact Details", and "Log Configuration". The "Endpoints" tab is active, showing the URL: <https://e0209-1f7map-he1sb-int.sap.rcu2.hana.ondemand.com/http/PushEventsToProcessVisibility>. A copy icon is visible on the right side of the URL.

Create Webhook

You already have a queue created using the Enterprise Messaging Hub UI. The business events are available in the queue. To transform the business events and push them to process visibility, perform the following steps

- Create Webhook

See [Manage Webhook Subscriptions](#) to create webhook by providing the following configuration:

- Queue Name: Select the queue that was created
- Quality of service: 0
- Exempt Handshake: Yes
- Webhook URL: <Provide the Integration flow endpoint> fetched from [here](#)
- Authentication: OAuth2ClientCredentials.
- Client ID & Client secret: Based on the configuration provided [here](#)

Note: Activate Webhook if it is not already active

As soon as a message is available in the queue, the webhook gets called triggering the integration flow. The Integration flow transforms the message and pushes it to SAP Cloud Platform Process Visibility.

Realizing end to end visibility on processes

With the events being acquired from SAP S/4HANA, you can now create a visibility scenario using SAP Cloud Platform Process Visibility. The SAP S/4HANA Business Object can be added as a process to the scenario. For more information, see [Get Started with SAP Cloud Platform Process Visibility](#).