SAP Business Technology Platform | EXTERNAL

Setup Guide
Manage Invoices without Purchase Order

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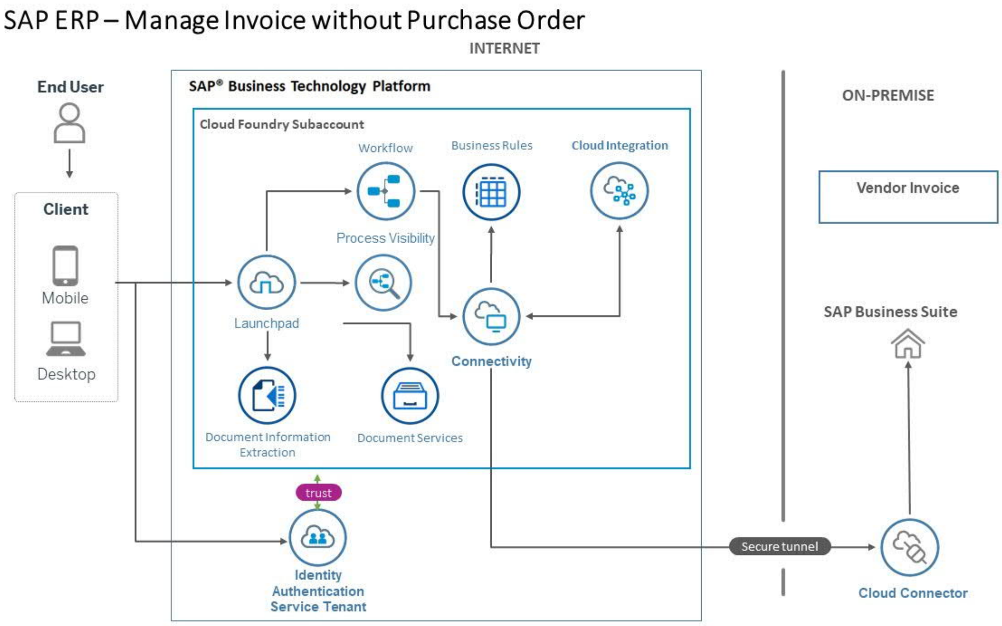
Overview

This document provides information about configuration steps to consume the Live Process Package **Manage Invoice without Purchase Order**. The main audience of this document are technical IT Administrators and Developers.

This content package enables SAP ERP customers to automate Manage Non-PO Vendor Invoice process using SAP Workflow Management without additional development in SAP ERP. Salient features of this content package are

- Plug and Play with SAP ERP without additional development.
- Net new process variants can be configured in a low-code no-code approach.
- Agent determination achieved in any of the following ways - using Business Rules, or SAP ERP, or external systems.
- Validate Line item attributes using Business Rules.
- Achieve process visibility with key process performance indicators out-of-the-box.
- Determine which process variant to trigger and whom to assign the approval tasks using Business Rules
- Pre-built integration content to call the RFC in SAP ERP from SAP Workflow Management.
- Line Item data validated using Business Rules before approval.
- Approvers are determined using a Business Rule / external system.
- Processor and approvers are notified via email.
- Approvers have two decision options (Approve, Reject), and based on the decision, the next approval step will be created or terminate the approval process.
- Vendor Invoice will be updated in SAP ERP.



Manage Invoice without Purchase Order application helps customer to post Invoice data into ERP, and check and display an existing invoice. For creation and change of the invoice, customers can enable approval process before updating in SAP ERP. The application provides flexibility in choosing process variants depending on attributes like *Post Invoice, Check Invoice, Plant, Tax Calculation* etc. When a Non-PO vendor invoice is created or changed in the application, pre-configured Process Variants are triggered in SAP Workflow Management.

Account executive/Invoice processor, Approvers, Procurement Team are the target users of the user interfaces explained in this document

Required SAP Business Technology Platform Services

The following SAP BTP services are required to consume the content package to Manage Invoices without Purchase Order in SAP ERP 6.0 and above:

- SAP BTP, Cloud Foundry Runtime
- SAP Workflow Management
- SAP Business Application Studio
- SAP Integration suite (Cloud Integration Capabilities)
- SAP Cloud Portal service / SAP Launchpad service
- SAP Document Management Service
- SAP Document Information Extraction (optional)
- SAP Cloud Identity Services - Identity Authentication (optional)
  (or equivalent Identity and Authentication service)

Setup and Configuration

Configure SAP Workflow Management

Manage Non-PO Vendor Invoice content package requires SAP Workflow Management subscription or a CPEA contract. Follow the setup and configuration section of SAP Workflow Management.

https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/d7910e2bf7f64afc9d0eb21b0cc9e84d.html

Configure Workflow Email Destination

Configure workflow email destination. For more information on configuring destination, see configure workflow email destination.

Configure Workflow Destination

To start the item process variant, you need to maintain a destination for the Workflow with the following parameters:

Name	Workflow
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	https://api.workflow.<region-host>.hana.ondemand.com/workflow-service/rest
Client ID	<ClientID>
Client Secret	<clientSecret>
Token Service URL	<uaa.url>/oauth/token

Please refer help documentation how to get URL, ClientID, Client Secret and Token Service URL. For more information refer to how to create a HTTP destination and how to use Workflow APIs.

Configure Business Rules Destination

An HTTP destination is required in the Cloud Foundry account where SAP Workflow Management is subscribed. Configure destination with details as shown below. Please make sure the URL formatted as {rule_runtime_url}/rules-service. Please refer how to create a HTTP destination and how to access business rules APIs using OAuth 2.0 Authentication (client credentials)

Name	BusinessRules
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<rule_runtime_url>/rules-service
Client ID	<Client ID>
Client Secret	<Client Secret>
Token Service URL	<uaa.url>/oauth/token

Please refer help documentation how to get URL, Client ID, Client Secret and Token Service URL.
For more information refer to how to create a HTTP destination and how to access business rules APIs using OAuth 2.0 Authentication (client credentials).

Configure OAuth2ClientCredentials Business Rules Destination (Service Instance)

Create new Destination to call Business Rules Service APIs using a Service route from SAP UI5 Component.

- Click New Destination.
- Select **Service Instance** as Destination Configuration.
- Select Service Instance as BusinessRules.
- Enter Name as BusinessRules_CFLP and click Next button.
- Click **Save** button.

Configure OAuth2ClientCredentials Workflow Destination (Service Instance)

Create new Destination to call Workflow Service APIs using a Service route from SAP UI5 Component.

- Click New Destination.
- Select **Service Instance** as Destination Configuration.
- Select Service Instance as Workflow.
- Enter Name as Workflow_CFLP and click Next button.
- Click **Save** button

Configure Document Management Service Repository

SAP Document Management service, in short Document Management, is the content management solution on the Cloud Foundry environment of SAP Business Technology Platform. For the Non-PO Vendor Invoice live process package, you need to subscribe to 'Document Management, integration option' in order to upload the invoice and other supporting documents for the approval process.

Create and configure root Document Management Service repository by following the steps described in Initial Setup for Document Management, Integration Option and Connect to Document Management, Repository Option Using API (incl. Prerequisites).

Save generated Repository ID from the response to be used the destination configuration as described in the next section.

Configure Document Management Destination

Configure a Document Management Service destination with the following parameters.

Name	bpmworkflowruntime_attachments
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<endpoints.ecmservice.url>/browser/<Repository_ID>/root/
Client ID	<Client ID>
Client Secret	<Client Secret>
Token Service URL	<uaa.url>/oauth/token

Populate Client ID and Client Secret with the values from the Service Key created on the previous step (see Create Service Keys Using the Cockpit).

To make sure that the users can upload and view the document, assign the roles “SDM_Admin” or “SDM_User” to the users.

Configure Document Information Extraction [Optional]

SAP Document Information Extraction in cloud foundry environment helps you to automate the extraction of relevant information from the incoming invoices using OCR and machine learning capabilities. Once the machine learning model is enriched to identify your vendor and employee, it can automatically match the invoice to the enriched data.

Note: that this is an optional service for the live process package.

Name	DocumentInfoExtraction

Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<url>+<swagger> [Example - https://aiservices-dox.cfapps.sap.hana.ondemand.com/document-information-extraction/v1/]
Client ID	<Client ID>
Client Secret	<Client Secret>
Token Service URL	<uaa.url>/oauth/token

Note: The following role collection - Document_Information_Extraction_UI_End_User is required to access the Document Information Extraction UI. For more information please refer to the following help guide - User Guide for Document Information Extraction UI

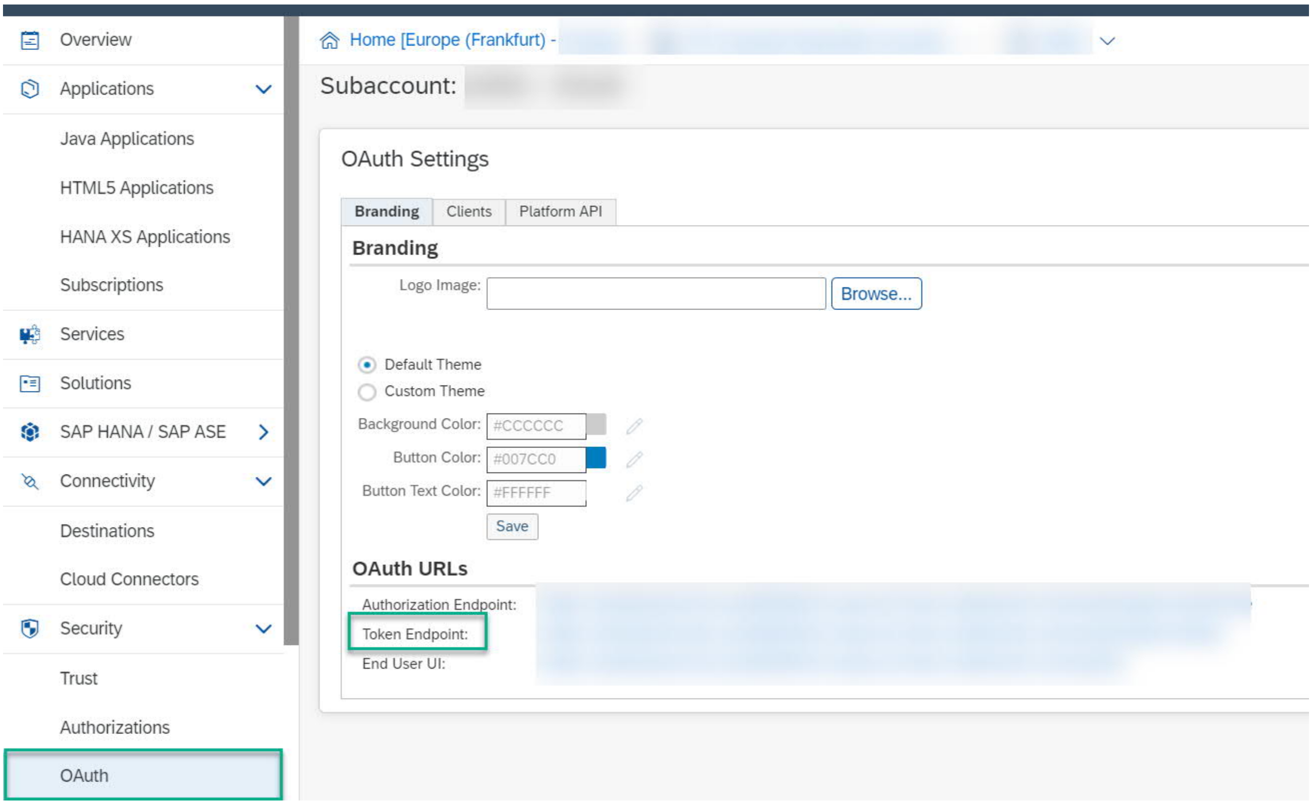
Configure Integration Destination

A HTTP destination is required in the Cloud Foundry account where SAP Workflow Management is subscribed.

Name	CPI
Type	HTTP
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
URL	<runtime.url>
Client ID	
Client Secret	
Token Service URL	<oauth.url.for.clientCredentials>

Refer to this link how to get your Integration tenant runtime url.

If you would like to use OAuthClientCredentials flow, then create an OAuth client in SAP Integration Neo tenant and enter Client ID and Client Secret. Token Service Url is available in your SAP Integration Neo account as showed below.



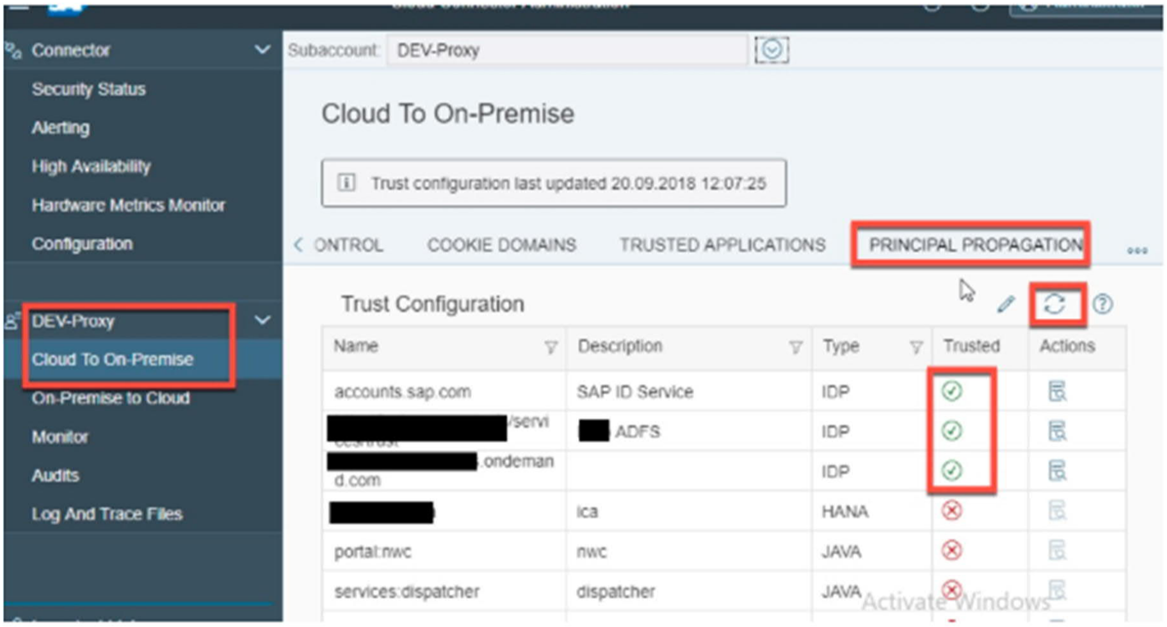
Assign the required roles to your OAuth client (oauth_client_<client ID>).

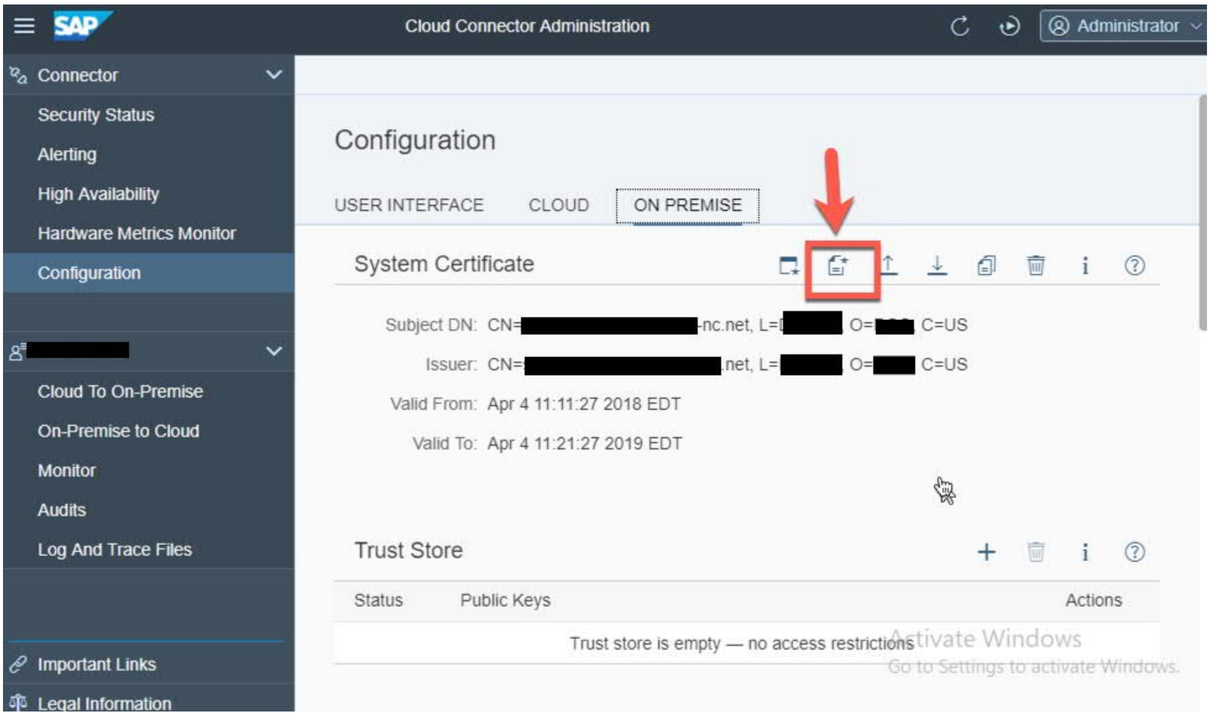
Configure SAP ERP Destination

Create an RFC destination with the following properties in the account where SAP Integration service is subscribed. Please refer how to create an RFC destination.

Name	<ANYNAME> **Note**: You can name it as you wish but maintain the destination name in the integration flow configuration.
Type	RFC
Proxy Type	OnPremise
User	<ECCUSER>
Password	
Repository User	
Repository Password	
Location ID	<uaa.url>/oauth/token
Additional Property	Name: jco.client.ashost Value: <abapServerHost> Name: jco.client.client Value: <client id> Name: jco.client.sysnr Value: <systemNumber>

For implementing Principal propagation customer needs to synchronize the IDP in SAP cloud connector, create the destination of type IDP and import the self-signed CA certificates.





Follow these steps in the SAP ERP (ECC) to enable Principal propagation

1. Import Cloud Connector (SCC) System certificate in STRUSTSSO2 transaction under SSL Server Standard. This established the trust between the backend and SCC
2. Maintain subject, issuer, cert rule parameter details in default profile – RZ10 transaction
3. Create the rule-based mapping using sample X.509 certificate – CERTRULE transaction
4. Restart ICM

Configure Cloud Connector

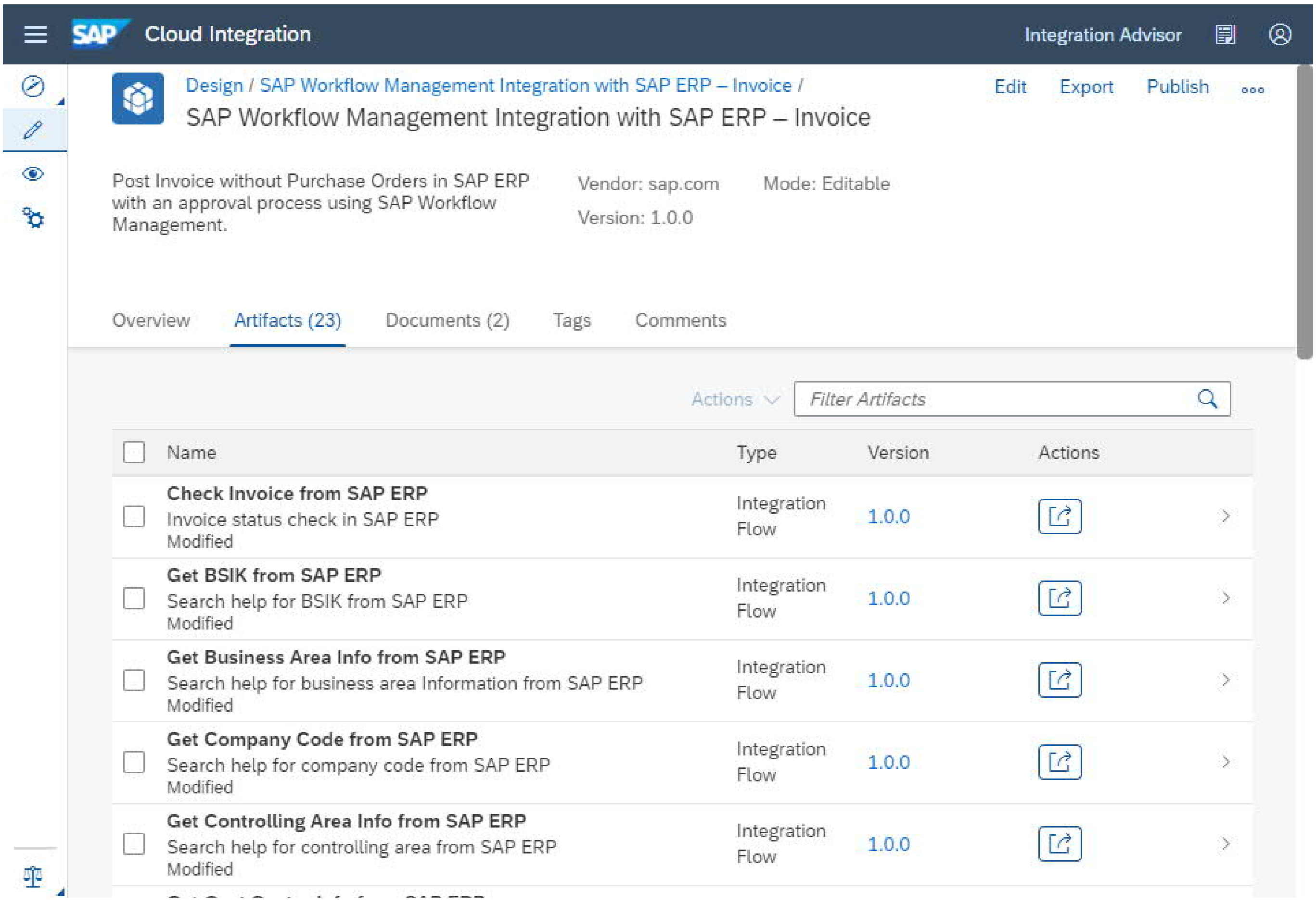
Configure your SAP Integration Suite account and ERP system in Cloud Connector to enable secure tunnel for RFC calls. Please refer the help documentation to configure Cloud Connector.

Customer needs to expose the Following BAPI's in cloud connector to be able to access the function modules

- BAPI_GL_ACC_GETLIST
- BAPI_COMPANYCODE_GETLIST
- MMPUR_UI_GET_SUPPLIERS
- BAPI_BUSINESSAREA_GETLIST
- BAPI_PROFITCENTER_GETLIST
- BAPI_COSTCENTER_GETLIST
- /SAPNEA/SMAPI_PLANT_GETLIST
- RFC_READ_TABLE
- BPAR_C_FI_TERM_OF_PAYMENT_KEY
- BAPI_CONTROLLINGAREA_FIND
- FI_TAX_SERVICES_CALCULATE
- BAPI_ACC_DOCUMENT_POST
    - This BAPI is used to post the invoice into the ERP after the approvals
- BAPI_ACC_DOCUMENT_CHECK
- BAPI_VENDOR_GETDETAIL
- BAPI_COMPANYCODE_GETDETAIL
- BAPI_USER_GETLIST
- BAPI_EXCHRATE_GETCURRENTRATES

Import, Configure and Deploy Integration Content

This live process content package requires **SAP Integration Suite (Cloud Integration Capabilities)** to create, modify and release Non-PO Vendor Invoice line items. An integration content package **SAP Workflow Management Integration with SAP ERP – Invoice** is available in SAP API Business hub to integrate SAP Workflow Management with SAP ERP. The following Integration models are available in this package. All integration models are using RFC Adapter to call the required APIs in SAP ERP.

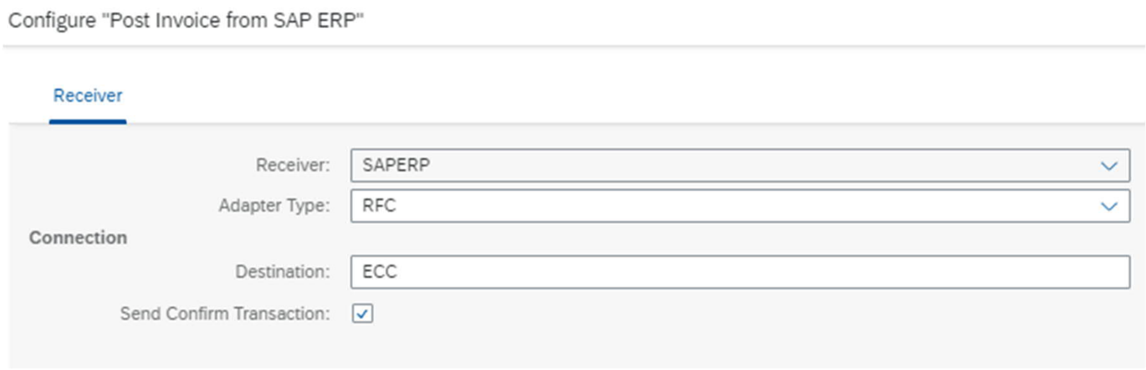


Import the Content package to your SAP Integration Suite tenant.
To be able to import and deploy integration flows, you need the **AuthGroup.IntegrationDeveloper** role assigned in your tenant.

Import Prepackaged Integration content using SAP Integration Suite

- Access your SAP Integration Tenant management node. Please refer [help documentation] on how to get Tenant management node address.
- Please refer help documentation on how to [import content packages].
- View all pre-packaged integration flow under **Discover->Integration**

- Search content package **'SAP Workflow Management Integration with SAP ERP – Invoice'**
- Click on the package SAP Workflow Management Integration with SAP ERP – Invoice
- Click **Copy** to import the Integration content package to your workspace.
- Navigate to **Design** to open the imported content package.
- For each Integration models, select Externalized Parameters, set configured value as RFC Destination created in the section **Configure SAP ERP Destination**



- Deploy the integration model

These Integration models are used from the Live Process content package **Manage Invoices without Purchase Order**.

Import, Configure and Deploy SAPUI5 Content

Setup SAPUI5 Application

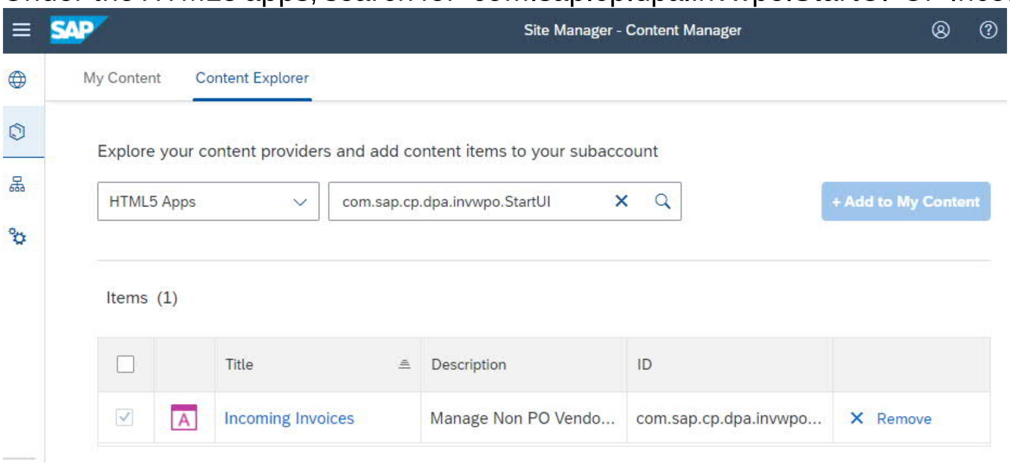
Import SAPUI5 Content

The Manage Invoices without Purchase Order content package requires an SAPUI5 application to manage incoming invoices and for the approval process. You can download the source code of the SAPUI5 applications from the [SAP Workflow Samples repository in GitHub](). Follow the instruction as maintained in the GitHub to import both SAPUI5 apps into the SAP BTP tenant using SAP Web IDE or SAP Business Application Studio.

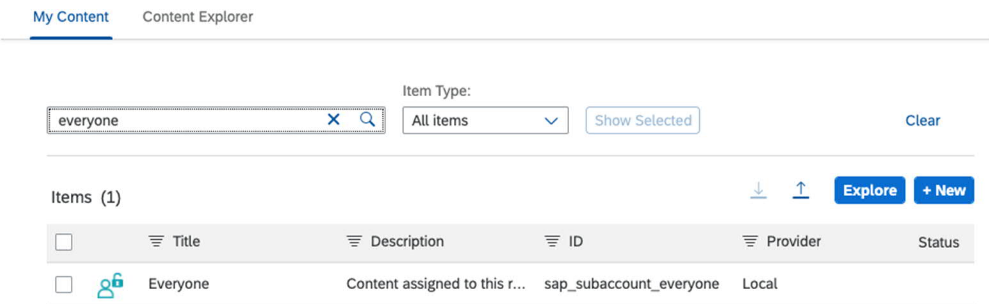
Configure SAP Central Fiori Launchpad Site

If you plan to use SAP Launchpad service, then configure [SAP Central Fiori Launchpad Site with Workflow Applications]() using help documentation.
Perform the following steps to add the Vendor Onboarding app as a tile in the launchpad site:

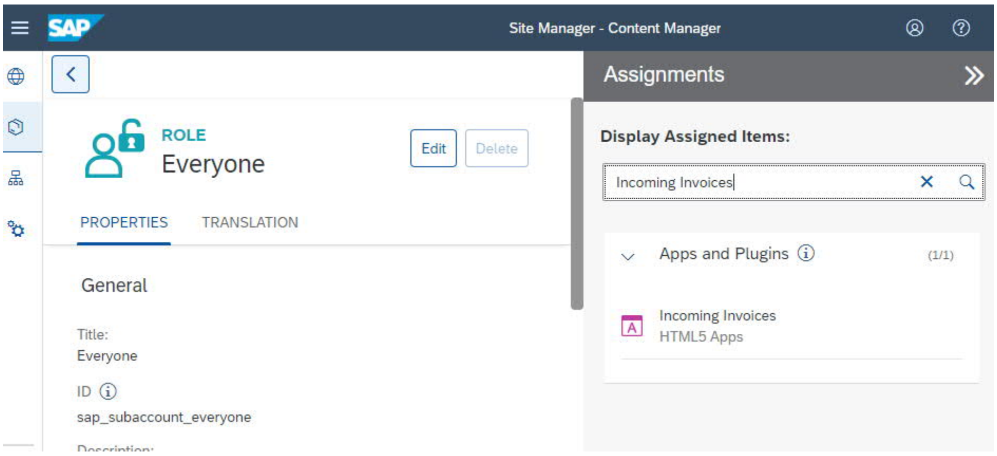
- Open SAP Launchpad site manager application.
- Select Content Manager
- Go to Content Explorer tab.
- Under the HTML5 apps, search for ‘com.sap.cp.dpa.invwpo.StartUI’ Or ‘Incoming Invoices’



- Select the app from the result and click ‘Add to My Content’ button to include the UI5 component.
- Go to My Content tab, and search for the role to which you want to add the app (for example, the default role called everyone).



- Click the role from the result table and navigate into it.
- Click the Edit button.
- Search for the app ‘Incoming Invoices’ and click the + button to assign the app to the role.



- Save the changes to enable the app permission based on user role.
- You can either create a new group and add the Incoming Invoices app to that group or you can add the Incoming Invoices app to an existing group.

Please refer help documentation to know more about configuring start UI tile on Central Fiori Launchpad.

Import, Configure and Deploy Header Workflow

Deploy the Header Workflow

Follow the ReadMe steps mentioned in the same GitHub link above to deploy the workflow.

Non-PO Vendor Invoice Header Process – This header workflow provides a generic approval process for vendor invoice creation in SAP ERP with invoice validations. Validations of the invoice are done against SAP ERP and by using business rules.

The header workflow determines process variants depending on Cost Objects. An Invoice cost object is a combination of invoice’s item fields, specifically, a combination of cost center, profit centre, business area and plant.

For vendor invoice creation one header workflow can call multiple process variants for approval process depending on invoice cost objects. If invoice validation fails or approval process is declined or mentioned as not responsible by approver, a rework task will be assigned to the initiator of the Invoice Posting.

Import and Activate the Value Help Business Rules

The Business Rule – **Polices for Non PO Vendor Invoice Search Help** contains rules to assist in value help used in Manage Invoices application. Learn how to import and activate the business rules by following the instructions here.