SAP Build Process Automation

# Cancel Customer Invoice
## Configuration and User Guide

# Contents

This document contains 3 sections. Each section covers different information about this template content package.

1. **Overview**: In this section, you will get quick overview of the use case, what are high-level components used and how the template works in nutshell. Prerequisite section provides information of different services of SAP Business Technology Platform that are required to use this template.

2. **Configuration Guide** It contain sections which will guide you to setup your (a) SAP Business Technology Platform Account with destination, cloud connector, user roles etc., (b) Integration Content via SAP Integration Suite, (c) SAPUI5 application via SAP Business Application Studio and (d) Import and configure the template using SAP Build Process Automation design studio and (e) SAP Work Zone to access the My Inbox or Task Center and other applications.

3. **User Guide**: This section provides details about different artefacts that are used in this template like process definition, decision diagram, action project details, forms, email notifications etc. to better understand how different capabilities are used in this template.

**Note**:

- Learning contents are published only for demo and reference purposes. We do not provide any support to learning / sample content.
- This documentation is not a detailed guide to setup SAP Business Technology Platform services. It assumes that IT admin who is setting the content is skilled with SAP Business Technology Platform environment. **Configuration section must be followed.**
- This template content is to accelerate your solution development. You must modify this template according to your requirements to achieve the desired business goal. To use this template content, you need to have basic knowledge and understanding of SAP Build Process Automation, SAP Integration Suite, and its capabilities.

# Overview

This document provides technical information about what needs to be configured to make the package - Cancel Customer Invoice approval process content package run. The main audience of this document are technical personas like IT Administrators or Developers.

Cancel Customer Invoice content package for SAP S/4HANA automates Cancel Customer Invoice Approvals in a flexible and transparent approach. It provides flexibility in executing a specific variant of the process depending on attributes such as company code, customer number etc. When a Cancel Customer Invoice is created in SAP S/4HANA and is configured for external approval, a pre-configured process variant is triggered in SAP Workflow Management or SAP Build Process Automation based on configurable business conditions. The Cancel Customer Invoice is performed based on the approvals and validations performed in the process.

**This content package can be used with both SAP S/4HANA Cloud Private Edition (2023 onwards) and   S/4HANA Cloud Public Edition (2502 onwards)**

**Features:**

- Decisions provides flexibility in determining approvers

- Automatic email notification to parties involved.

- Out-of-the-box visibility into key process performance indicator

**Process Flow Diagram**
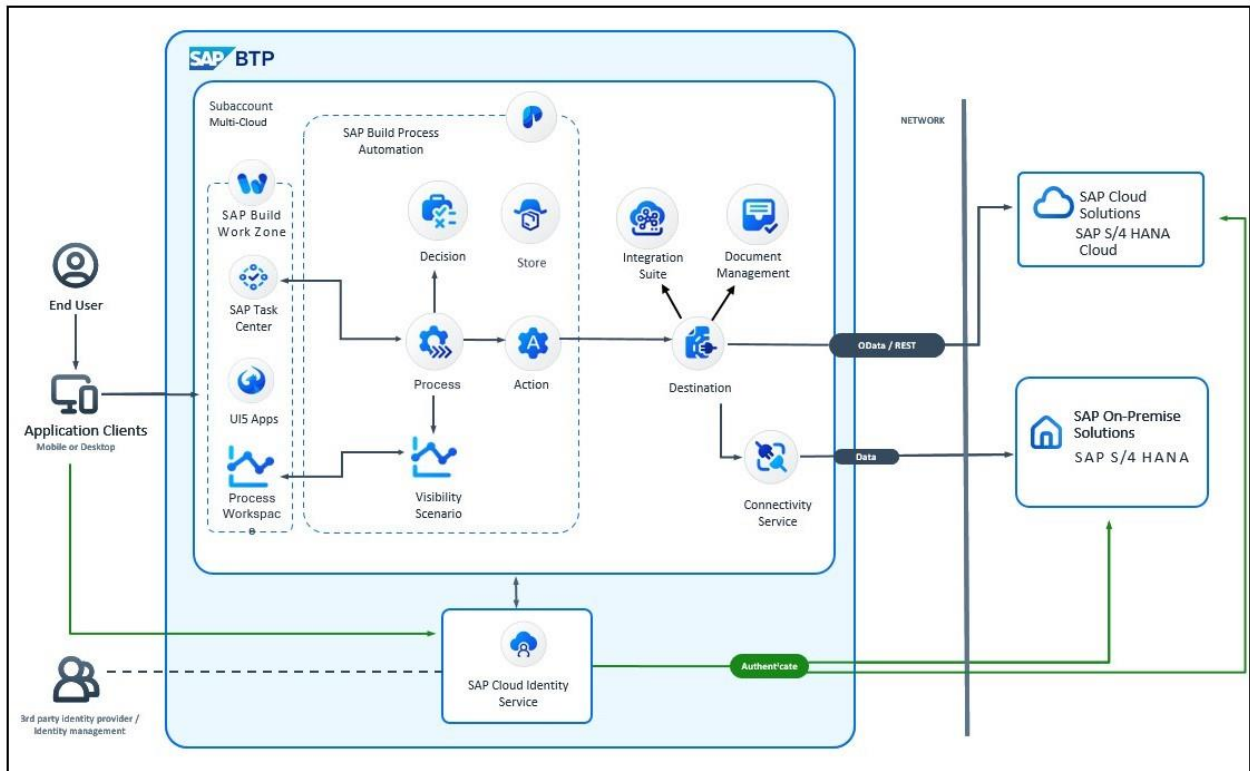


**Solution flow :**

1. The requestor opens the non-cancelled invoice in the start UI, provides the relevant cancellation reason and triggers the process for approval.
2. The invoice is validated against the business condition maintained in decision.
3. After successful validation a task is sent to the designated approver for approval.
   - Approve: If approved, the invoice will be cancelled in SAP S/4HANA system, and a notification is sent to the requestor confirming successful cancellation.
   - Reject: If rejected, the invoice will not be cancelled, and the requestor receives a notification with the reason for rejection.

**Note:**
- The process can be triggered via a Start UI.
- My Inbox Application must be accessed through Work Zone.

# Required SAP Business Technology Platform Services

The following SAP Business Technology Platform services are required to consume the **Cancel Customer Invoice**:

- SAP Build Process Automation
- SAP Connectivity service
- SAP Business Application Studio
- SAP Application Runtime Service
- SAP Integration Suite
- SAP Work Zone, standard or advanced
- SAP Cloud Identity Services - Identity Authentication (optional)
- SAP Business Technology Platform, Cloud Foundry runtime.

# Prerequisites

For this template to run successfully the following prerequisites are needed

- Get Access to BTP Account.
- Need Valid S/4HANA User.
- This template requires Integration package SAP Build Process Automation Integration with SAP S/4 HANA for Cancel Customer Invoice to run. You can download this package separately from the store. The guide to set-up and configure integration package is mentioned along with the integration package itself.

# Configuration Guide

**Cancel Customer Invoice** template requires SAP Build Process Automation subscription and Destination Setup for SAP Build Process Automation. Follow the setup and configuration section.

## Setup SAP S/4HANA

### Setup Communication

NOTE: This Section is needed only if you are connecting to SAP S/4HANA Cloud, Public Edition.

To run this template, you must have a communication user, create communication arrangements between the communication user and the following communication scenarios, and assign those communication arrangements to a communication system.

Steps to create communication system and communication arrangement are available in below documentation links:

How to Create Communication Systems | SAP Help Portal

How to Create a Communication Arrangement | SAP Help Portal

Configuration and Role Details for accessing "Communication Systems" application.

Configuration and Role Details for accessing "Communication Arrangements" application

List of communication scenarios to be configured.

| Communication Scenario | Related API |
|---|---|
| Billing Document - Read, Cancel, GetPDF | Overview | Billing Document - Read, Cancel, GetPDF | SAP Business Accelerator Hub |

## Setup Business Technology Platform Cockpit

### Configure SAP Build Process Automation Destination

To Access the SAP Build process Automation, you can configure the destination. Please create destination accordingly

| Destination Property | Value |
|---|---|
| Name | sap_process_automation_service |
| Type | HTTP |
| URL | <" endpoints"."api"> |

| | |
|---|---|
| Client ID | <"uaa"."clientid"> |
| Client Secret | <"uaa"."clientsecret"> |
| Token Service URL | <"uaa"."url">/oauth/token |
| Proxy Type Internet | Internet |
| Authentication | OAuth2ClientCredentials |

Add the property **sap.processautomation.enabled** as **true** to view the destination in the SAP Build Process Automation tenant. Please refer [help document](#) for more details.

## Configure SAP S/4HANA Destination

This content package can be used with both SAP S/4HANA Cloud Private Edition (2023 onwards) and S/4HANA Cloud Public Edition (2502 onwards). Destinations can be created accordingly.

| Destination Property | Value |
|---|---|
| Name | <Name> |
| Type | HTTP |
| URL | <SAP S/4HANA endpoint><br><br>Example: https://<s4system-name>-api.xxxxxxxx |
| Proxy Type Internet | Internet |
| Authentication | Basic Authentication |
| Username | <Username> of the SAP S/4HANA Communication User |
| Password | <Password> of the SAP S/4HANA Communication User |

## Configure SAP Integration Suite Destination

Configure Destination to connect to Integration Suite destination cloud system.

| Destination Property | Value |
|---|---|
| Name | IntegrationSuite |
| Type | HTTP |
| URL | <Integration Suite Destination endpoint><br><br>https://<CPI>.hana.ondemand.com |
| Proxy Type Internet | Internet |
| Authentication | Basic Authentication |
| Username | <Username> of the SAP S/4HANA Communication User |
| Password | <Password> of the SAP S/4HANA Communication User |

## Configure SAP Build Process Automation Email Destination

Mail notifications are used in this template to send notifications to requestor, approver, and admin during different stages of the process. Follow the instructions to setup mail destination in your SAP Business Technology Platform Account.

Configuring destination, [Configure Mail Destination](#)

- For more information refer to Create [HTTP Destinations](#) and [OAuth User Token Exchange Authentication.](#)

## User Roles Configuration

To access this template, the business user will need these roles:

| Role Collection Name | Purpose |
|---|---|
| TaskCenterAdmin | Permission to execute calls to the connector status API and monitor configured destinations and running background jobs. |
| Process Automation Developer | Standard Business User, can model and publish processes |
| ProcessAutomationParticipant | To execute (like accessing MyInbox, running the automations, etc.) this content package, you need to have this role assigned to the respective user. |
| ProcessAutomationAdmin | To perform process admin activities like accessing monitoring applications etc., you need to have this role assigned to the respective user. |
| Business_Application_Studio_Administrator | Allows administrators to manage (export and delete) user data. |
| Business_Application_Studio_Developer | Allows developers to load and develop applications using SAP Business Application Studio. |

For more information about SAP Build Process Automation roles, see [Authorizations.](#)

## Cloud Connector Configuration

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP Business Technology Platform tenant. Please refer the help documentation to [configure Cloud Connector.](#)

Services/Resources that need to be exposed from SAP S/4HANA on-premise using Cloud Connector.

| Resources | Protocol | Backend-Type |
|---|---|---|
| /sap/opu/odata/sap/API_BILLING_DOCUMENT_SRV/A_BillingDocument | OData | SAP S/4HANA |
| /sap/opu/odata/sap/API_BILLING_DOCUMENT_SRV/Cancel | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_BILLINGDOCUMENT_CDS/ZZ1_BillingDocument | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_BILLINGTYPE_CDS/ZZ1_BillingType | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_BILLINGDOCUMENTITEM_CDS/ZZ1_BillingDocumentItem | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_SALESORGN_CDS/ZZ1_SalesOrg | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_DISTRIBUTIONCHANNEL_CDS/ZZ1_DistributionChannel | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_DIVISION_CDS/ZZ1_Division | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_REGION_CDS/ZZ1_Region | OData | SAP S/4HANA |
| /sap/opu/odata/sap/ZZ1_COUNTRY_CDS/ZZ1_Country | OData | SAP S/4HANA |

| /sap/opu/odata/sap/ZZ1_INVOICEDOCUMENT_CDS/ZZ1_InvoiceDocument | RFC | SAP S/4HANA |
|---|---|---|

# Setup Content Package

## Import SAP Build Process Automation content

Standard automation packages released by SAP will be available at the store. To know more about the store visit SAP Build Process Automation Store .

This template can be downloaded from the Store:
1. Navigate to the Store in your SAP Build Process Automation account.
2. Select the Project Type filter as "Business Process."
3. In the Search bar type "**Cancel Customer Invoice**"
4. Select the "Create from Template" button to add the template into your lobby.
5. After successfully adding the template, navigate back to the lobby to find the "**Cancel Customer Invoice**" template available for use.

**Caution**: Be sure to select the **Project Type** as "**Business Process**" in the filters.

## Import and deploy TASK UI application

The content package requires the SAP UI5 user interface which is available in Cancel Customer Invoice Process content package. Below are details of Task UI application

Task UI Application: Customer-Invoice-cancellation-Approval

Following steps can be followed to utilize the SAP UI5 application provided with this process package:

- Download the SAPUI5 application Task UI from the imported store project.
- Open Business Application Studio and import the previously downloaded SAPUI5 project.
- Build SAPUI5 project using mta.yaml file and the generated project (generated mtar file will be available in the mta_archieves folder) file can be deployed.

# Configuration & Modification

Once you have added the content to your lobby, you will find the project in your project list. Adapt the content template based on your requirements.

## Configure Decisions

There are 3 decisions in this template. We can configure as required.

**1.** Determine Approver

Decision to determine the approver who will take decision on the customer invoice cancellation approval process. To modify the decision:
- In process editor, double click to open the decision.
- Select the rule from the decision diagram.
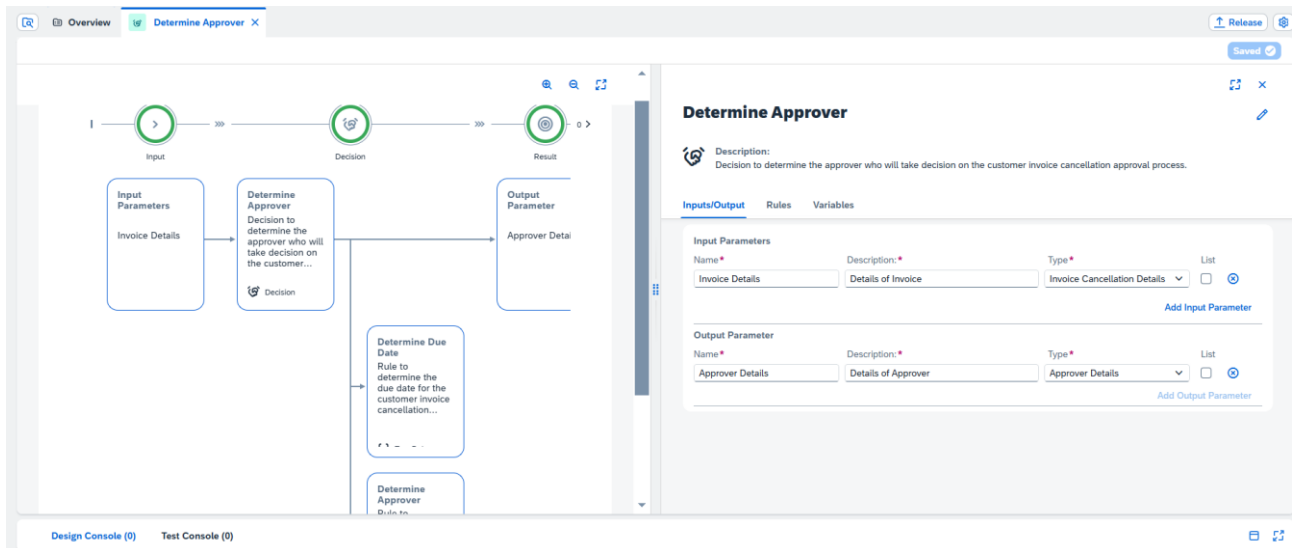
- Edit the rule to add more rows or update existing value.

## 2.    Determine Process Administrator

Decision to determine the process administrator for the customer invoice cancellation approval process.



## 3.    Validate Invoice Details

Decision to validate the invoice for the customer invoice cancellation approval process.
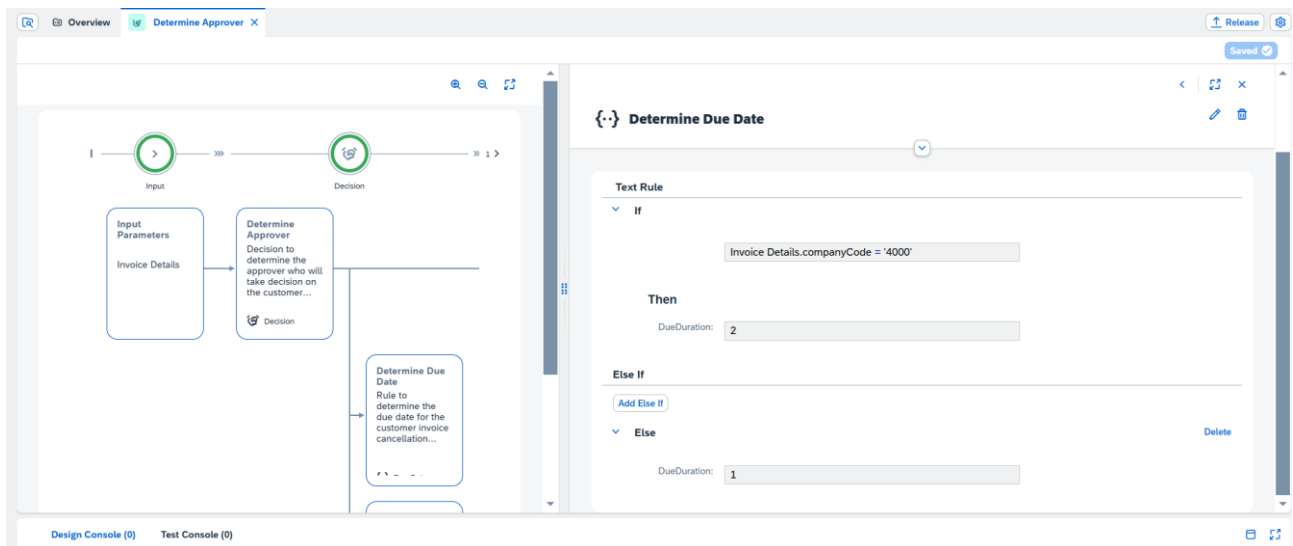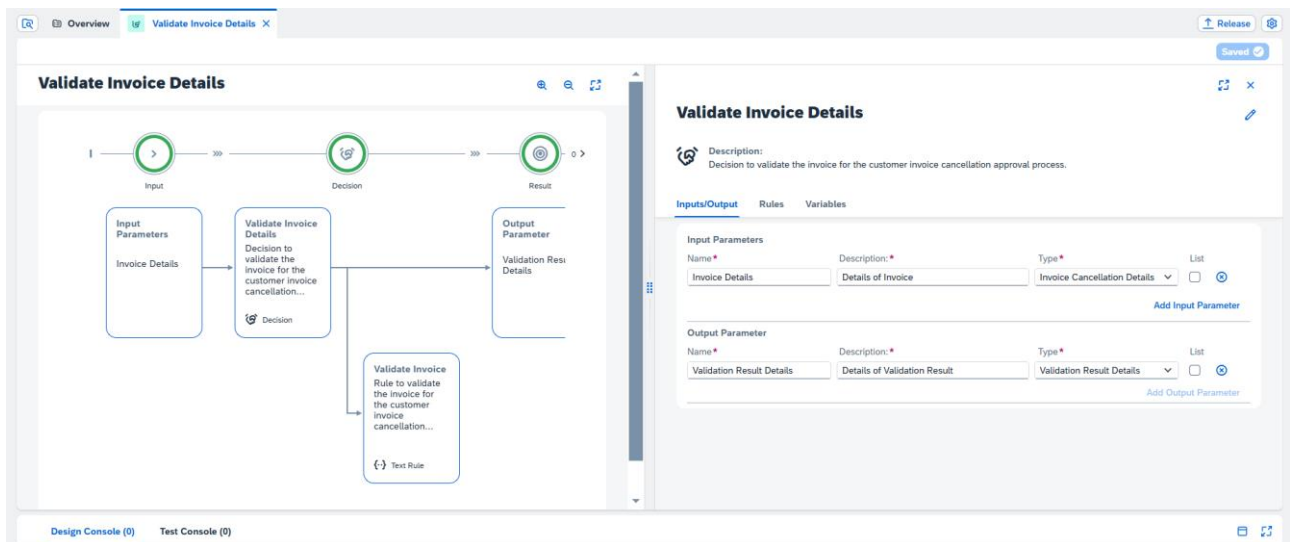
## Configure Email

Email notifications are sent to requestor and approver at different places during process and task execution. All the email artefacts in the process have default template body which can be modified.

To update the email body content, do the following:

- Select the mail artefact in the process.
- From the **Settings** in the right-side panel, check the **Mail Header** to confirm the **To** field (or email recipients) and the **Subject**. You can adjust the subject and recipient, if needed.
- You may also add someone in **CC**.
- Click to Open '**Mail Body Editor**'.

Mail Body

Dear Admin,
Please assign an approver for `< > levelName` in your BTP My Inbox application.
**Invoice cancellation request details:**
Company Code: `< > companyCode`
Company Code Name: `< > companyDesc`
Invoice No: `< > invoiceNo`
Amount: `< > amount`
Currency: `< > currency`
Billing Date: `< > billingDate`
Posting Date: `< > postingDate`
Sold To Party: `< > customer`
Sold To Party Name: `< > customerDesc`
Sales Organization: `< > salesOrganization`
Sales Org. Name: `< > salesDesc`
Distribution Channel: `< > distributionChannel`
Dist. Channel Name: `< > disChanelDesc`
Division: `< > division`
Division Name: `< > divDesc`
Cancel Reason: `< > cancelReason`
**This is a system generated email, please do not respond to it.**

[ Close ]

- The mail editor allows you to write and adjust text according to your needs. You can also reuse information that has been collected during the process. If you want to use additional process context data, you can simply drag the fields from the left menu to the editor on the right.

For more information on email configuration and text, refer to this link

In case any further extension needs to be made then follow the reference links below.

**Create Process**
Create a Business Process | SAP Help Portal

**Create Forms**
Create a Form | SAP Help Portal

**Create Automation**
Create an Automation | SAP Help Portal

**Create Decision**
Create a Decision | SAP Help Portal

**Create Process Visibility Scenario**
Create a Visibility Scenario | SAP Help Portal

# Release and Deploy the Process

After configuring your process, it's time to publish, test and run it. To run a process, you must first release and deploy it.

**Release** - This locks the version of your process, meaning that no further edits can be made to that version.
At this stage, the process can't be run and isn't available to participants yet.
To release a version of your process:

- First ensure that the status is listed as 'Editable'.
- Then click 'Release'.

For more information please visit: SAP Build Process Automation

**Note:** If this is the first time you've released the process, a version labelled 1.0.0 is released. For subsequent
releases, you're prompted to select a version type before the process is released.

**Import Destination**
Actual destinations that are created in SAP BTP cockpit will be required when you deploy the process.
This destination will be mapped to the destination environment variables during deployment.

To configure destination,

- Click on **Control Tower.**
- Select **Destinations** from the right panel.
- Click **Add**

Select the destinations created in the setup section to be added.
For more information and screen shots, please refer to the below link: Manage Destinations

**Deploy** – This takes a released version of a process and enables it to be actively run and monitored. A deployed version of this approval process unlocks the request form, allowing participants to submit requests and the approvers to view items in their inbox.

To deploy a released version of your process,
- First ensure that the status is listed as 'Released'.
- Then click '**Deploy'**.

For more information and screen shots, please refer to the below link: Deploy Project

To deploy your project, you will be prompted to provide a destination as an environment variable. Select the destination from the drop-down and fill other environment variables as well.

- **IntegrationSuite**: Business Technology Platform destination to connect with destination.

**Note**: If you do not map your destination environment variable with actual SAP Business Technology Platform destination during deployment, then the process will enter erroneous state when it tries to connect to the external system.

# Configure and Deploy Start UI

The content package requires the SAP UI5 user interface which is available in **Cancel Customer Invoice** content package. Below are details of Start UI application

Start UI Application:  Customer-Invoice-cancellation-ManageInvoice

Following steps can be followed to utilize the SAP UI5 application provided with this process package:

- Download the SAPUI5 application Start UI from the imported store project.

- Open Business Application Studio and import the previously downloaded SAPUI5 project.

- The definition id can be found in the Monitoring section, inside Process and Workflow Definitions. You need to enter the project name and go to the main process. The ID mentioned in the process would be the definition id. Refer determine the workflow definition ID for more details

- This definition id must be updated in Start UI application. It will be maintained either in the i18n file or controller.js file. Please refer below screenshot

```
//Function to Check whether the selected invoice is in declined or rejected state at approval  step
checkRunningWFApprovalStep: function (oPayload, taskID) {
    var oController = this;
    var aItemData = oPayload.InvoiceCancellationDetails;
    var businessKey = aItemData.businessKey;
    var sMsgInprocess = oController.getView().getModel("i18n").getResourceBundle().getText("cancelInProcess", [businessKey]);
    var urlEnd = "?definitionId=us.build.pacontent.dev.cancelcustomerinvoice.mainProcessToCancelCustomerInvoice&businessKey=" + bus
    var oReturn = {};
    return new Promise(function (resolve, reject) {
        jQuery.ajax({
            url: oController._getWorkflowRuntimeBaseURL() + "/workflow-instances" + urlEnd,
            method: "GET",
            contentType: "application/json",
            async: true,
            headers: {
                "X-CSRF-Token": "Fetch"
            },
            success: function (data) {
```

- Build SAPUI5 project using mta.yaml file and the generated project (generated mtar file will be available in the mta_archieves folder) file can be deployed.

## Configure SAP Work Zone

Configure SAP Work Zone to access the start UI for this automation.
Once SAP Work zone is configured, perform the following steps to create the tile for the start UI:

1. Open content manager and click on the HTML5 Apps.
2. Select the Import Financial Data Start UI from the list of apps and choose Add.
3. Add the relevant roles to the user. Cancel Customer Invoice Start UI will be available to the user as a tile in the SAP Work Zone.

If you plan to use SAP Work Zone service, then configure SAP Work Zone with SAP Build Process Automation Applications using help documentation.

# User Guides

## Capabilities

The following are the capabilities of this template:
For detailed information about different artifacts, please refer help documentation

| Type | Name | Description |
|------|------|-------------|
| Decision | Determine Approver | Decision to determine the approver who will take decision on the customer invoice cancellation approval process. |

| Decision | Determine Process Administrator | Decision to determine the process administrator for the customer invoice cancellation approval process. |
|---|---|---|
| Decision | Validate Invoice Details | Decision to validate the invoice for the customer invoice cancellation approval process. |
| Process | Cancel Customer Invoice | Process to cancel customer invoice in the SAP S/4HANA system. |
| Process | Validate Invoice Cancellation Details | Process to validate customer invoice cancellation request before sending for approval. |
| Form | Admin Form - Business Error or Exception | Admin form for process administrator to retry execution on business error or exception. |
| Form | Admin Form - User Assignment | Admin form for process administrator to assign task owner. |
| Form | Cancel Customer Invoice Approval UI | Approval task UI for approver to take decision on the customer invoice cancellation approval process. |
| Data type | Approver Details | Data type for maintaining approver details like user details, approval required and due duration. |
| Data type | History Details | Data type for maintaining history details like user id, role, action, comment and date. |
| Data type | Invoice Cancellation Details | Data type for maintaining customer invoice cancellation request details. |
| Data type | User Details | Data type for maintaining user details like email id, user id and group id. |
| Data type | Validation Result Details | Data type for maintaining validation details like status and message. |

## Actions

### Cancel Customer Invoice - Cancel Invoice Action

This service enables you to cancel customer invoice in SAP S/4HANA system. This service is based on CPI endpoint.

| Method | API | API Path | Purpose |
|---|---|---|---|
| POST | /http/Wfm/CancelCustomerInvoice | /http/Wfm/CancelCustomerInvoice | Cancel customer invoice in SAP S/4HANA. |

# Appendix

# Custom CDS View and Custom communication scenario

To call the APIs related to Cancel Customer Invoice, the following CDS Views and custom communication scenarios along with communication arrangement should be enabled for the communication user. The SAP S/4HANA custom communication scenario consists of the external API details which was used to display the billing document details, division, distribution channel, company code, net value, sales organization, invoice type and value help used in Cancel Customer Invoice application. This application is developed based on CDS as external ODATA API and creation of custom communication scenario.

The creation of Custom CDS View as external API's and custom communication scenario are provided below.

**Creation of CDS View Billing Document (ZZ1_BillingDocument)**

Package Name: SAP S/4HANA Cloud for Sales for I_BillingDocument CDS and SAP S/4HANA Cloud for Cross Applications for I_BusinessUserBasic CDS

Label: BillingDocument

Name: ZZ1_BillingDocument

1. Login to S4HANA cloud Fiori Launchpad with required credentials.
2. Go to Extensibility business group and click on Custom CDS Views tile
3. Click on Create button, it will open the pop-up. Provide Label and Name as mentioned above. Choose Standard CDS View option from scenario dropdown and click on button create in pop-up window.
4. Select Primary Data Source, a popup will open with list of CDS Views. Provide the Standard CDS view name as I_BillingDocument in search field and press enter. Select the required CDS to continue.
5. In case to use multiple CDS in Data Sources tab, click on Add button and select Associated Data Sources which opens pop-up. Provide the Standard CDS view name ZZ1_BillingType in search field and Click "OK".
6. To add more associated data sources, again click on Add button and select Associated Data Sources which opens pop-up. Select the desired CDS Views, ZZ1_BillingDocumentItem, ZZ1_SalesOrg, ZZ1_DistributionChannel, ZZ1_Division, ZZ1_Region, ZZ1_Country, I_BusinessUserBasic and click OK.
7. After selection of primary and secondary data sources, click on Join condition icon 🔗 which open Define Join Conditions pop-up, click Add button and make relationship between two data sources by selection of similar fields in Field of Associated Data Source popup and change cardinality as per requirement of CDS Views.

Define Join Conditions: Perform the join condition between these data sources as listed below:

i) Name: ZZ1_BillingType

Alias: _ZZ1_BillingType

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| BillingDocumentType | Equal | Field | I_BillingDocument.BillingDocumentType |

ii) Name: ZZ1_BillingDocumentItem

Alias: _ZZ1_BillingDocumentItem

Cardinality: Zero or More[0..*]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| BillingDocument | Equal | Field | I_BillingDocument.BillingDocument |

iii) Name: ZZ1_SalesOrg

Alias: _ZZ1_SalesOrg

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| SalesOrganization | Equal | Field | I_BillingDocument.SalesOrganization |

iv)Name: ZZ1_DistributionChannel

Alias: _ZZ1_DistributionChannel

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| DistributionChannel | Equal | Field | I_BillingDocument.DistributionChannel |

v)Name: ZZ1_Division

Alias: _ZZ1_Division

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| Division | Equal | Field | I_BillingDocument.Division |

vi)Name: ZZ1_Region

Alias: _ZZ1_Region

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| Region | Equal | Field | I_BillingDocument.Region |
| Country | Equal | Field | I_BillingDocument.Country |

vii)Name: ZZ1_Country

Alias: _ZZ1_Country

Cardinality: Zero or One[0..1]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| Country | Equal | Field | I_BillingDocument.Country |

viii)Name: ZZ1_BusinessUserBasic

Alias: _ZZ1_BusinessUserBasic

Cardinality: Zero or More[0..*]

| Data Source Field | Operator | Value Type | Value |
|---|---|---|---|
| UserID | Equal | Field | I_BillingDocument.CreatedByUser |

8. Go to Elements tab, click add button and select Elements from submenu and select required fields from multiple CDS and click Ok button.

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | BillingDocument | I_BillingDocument.BillingDocument | Billing Document |

Elements to be added are mentioned in below table.

| OFF | BillingDocumentType | I_BillingDocument.BillingDocumentType | Billing Type |
|-----|---------------------|----------------------------------------|--------------|
| OFF | SDDocumentCategory | I_BillingDocument.SDDocumentCategory | SD Document Category |
| OFF | BillingDocumentCategory | I_BillingDocument.BillingDocumentCategory | Billing Category |
| OFF | BillingDocumentDate | I_BillingDocument.BillingDocumentDate | Billing Date |
| OFF | BillingDocumentIsCancelled | I_BillingDocument.BillingDocumentIsCancelled | Canceled |
| OFF | CancelledBillingDocument | I_BillingDocument.CancelledBillingDocument | Canceled Bill. Do |
| OFF | TotalNetAmount | I_BillingDocument.TotalNetAmount | Net Value |
| OFF | TransactionCurrency | I_BillingDocument.TransactionCurrency | Document Curre |
| OFF | CustomerTaxClassification9 | I_BillingDocument.CustomerTaxClassification9 | Tax Class.9 Cust |
| OFF | PayerParty | I_BillingDocument.PayerParty | Payer |
| OFF | SoldToParty | I_BillingDocument.SoldToParty | Sold-to Party |
| OFF | PostingDate | I_BillingDocument._AccountingDocument.PostingDate | Posting Date |
| OFF | SoldToPartyName | I_BillingDocument._SoldToParty.CustomerName | SoldToParty Nam |
| OFF | PayerPartyName | I_BillingDocument._PayerParty.CustomerName | Payer Name |
| OFF | BillingDocumentTypeName | _ZZ1_BillingType.BillingDocumentTypeName | Description |
| OFF | CompanyCode | I_BillingDocument.CompanyCode | Company Code |
| OFF | PurchaseOrderByCustomer | I_BillingDocument.PurchaseOrderByCustomer | Customer Refere |
| OFF | SalesOrganization | I_BillingDocument.SalesOrganization | Sales Organizatio |
| OFF | DistributionChannel | I_BillingDocument.DistributionChannel | Distribution Chan |
| OFF | Division | I_BillingDocument.Division | Division |
| OFF | Region | I_BillingDocument.Region | Region |
| OFF | CreatedByUser | I_BillingDocument.CreatedByUser | Created By |
| OFF | CreationDate | I_BillingDocument.CreationDate | Created On |
| OFF | LastChangeDate | I_BillingDocument.LastChangeDate | Changed On |
| OFF | Country | I_BillingDocument.Country | Dest. Country/Re |
| OFF | BillingDocumentType_1 | I_BillingDocument.BillingDocumentType | Billing Type |
| OFF | SalesOrganizationName | _ZZ1_SalesOrg.SalesOrganizationName | Sales Organizatio Description |
| OFF | DistributionChannelName | _ZZ1_DistributionChannel.DistributionChannelName | Distribution Chan Description |
| OFF | DivisionName | _ZZ1_Division.DivisionName | Division Descrip |
| OFF | County | I_BillingDocument.County | County Code |
| OFF | Country_1 | I_BillingDocument.Country | Dest. Country/Re |
| OFF | RegionName | _ZZ1_Region.RegionName | Description |
| OFF | CountryName | ZZ1_Country.CountryName | Country/Region Name |
| OFF | CompanyCodeName | I_BillingDocument._CompanyCode.CompanyCodeName | Company Name |
| OFF | ManualInvoiceMaintIsRelevant | I_BillingDocument.ManualInvoiceMaintIsRelevant | Man. Invoice Mai |
| OFF | ShippingCondition | I_BillingDocument.ShippingCondition | Shipping Conditio |
| OFF | InvoiceListType | I_BillingDocument.InvoiceListType | Invoice List Type |
| OFF | PersonFullName | _I_BusinessUserBasic.PersonFullName | Description |
| OFF | _PayerParty | I_BillingDocument._PayerParty | _PayerParty |
| OFF | _ZZ1_BillingDocumentItem | _ZZ1_BillingDocumentItem | BillingDocumentI |
| OFF | _CompanyCode | I_BillingDocument._CompanyCode | _CompanyCode |
| OFF | _SalesOrganization | I_BillingDocument._SalesOrganization | _SalesOrganizati |
| OFF | _Division | I_BillingDocument._Division | _Division |
| OFF | _Region | I_BillingDocument._Region | _Region |
| OFF | _Country | I_BillingDocument._Country | _Country |
| OFF | _BillingDocumentType | I_BillingDocument._BillingDocumentType | _BillingDocumen |

9. Click on Publish button present on Footer.

**Creation of CDS View Billing type (ZZ1_BillingType)**
Package Name:  SAP S/4HANA Cloud for Sales
Label: BillingType

Name: ZZ1_BillingType

Repeat step 1 to 3 as mentioned above in ZZ1_BillingDocument CDS
For 4th step select primary data source as I_BillingDocumentTypeText
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

Repeat step 9 by publishing CDS View

**Creation of CDS view Billing Document Item (ZZ1_BilllingDocumentItem)**
Package Name:  SAP S/4HANA Cloud for Sales
Label: BillingDocumentItem
Name: ZZ1_BillingDocumentItem

Repeat step 1 to 3 as mentioned above in ZZ1_BilllingDocument CDS
For 4th step select primary data source as I_BilllingDocumentItem as shown in Step 4 above.
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | BillingDocumentType | I_BillingDocumentTypeText.BillingDocumentType | Billing Type |
| ON | Language | I_BillingDocumentTypeText.Language | Language |
| OFF | BillingDocumentTypeName | I_BillingDocumentTypeText.BillingDocumentTypeName | Description |
| OFF | _Language | I_BillingDocumentTypeText._Language | _Language |
| OFF | _BillingDocumentType | I_BillingDocumentTypeText._BillingDocumentType | _BillingDocumentType |

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | BillingDocument | I_BillingDocumentItem.BillingDocument | Billing Document |
| ON | BillingDocumentItem | I_BillingDocumentItem.BillingDocumentItem | Item |
| OFF | BillingQuantity | I_BillingDocumentItem.BillingQuantity | Billed Quantity |
| OFF | BillingQuantityUnit | I_BillingDocumentItem.BillingQuantityUnit | Sales Unit |
| OFF | BillingQuantityInBaseUnit | I_BillingDocumentItem.BillingQuantityInBaseUnit | Billing Qty in SKU |
| OFF | BaseUnit | I_BillingDocumentItem.BaseUnit | Base Unit of Measure |
| OFF | NetAmount | I_BillingDocumentItem.NetAmount | Net Value |
| OFF | TransactionCurrency | I_BillingDocumentItem.TransactionCurrency | Document Currency |

| | | | |
|---|---|---|---|
| OFF | BillingDocumentItemText | I_BillingDocumentItem.BillingDocumentItemText | Item Description |
| OFF | Product | I_BillingDocumentItem.Product | Product |
| OFF | _ProductText | I_BillingDocumentItem._ProductText | _ProductText |

Repeat step 9 by publishing CDS View

**Creation of CDS View Sales Organization (ZZ1_SalesOrg)**
Package Name:  SAP S/4HANA Cloud for Sales
Label: SalesOrganization
Name: ZZ1_SalesOrg


Repeat step 1 to 3 as mentioned above in ZZ1_BillingDocument CDS
For 4th step, select primary data source as I_SalesOrganizationText as shown in Step 4 above.
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | SalesOrganization | I_SalesOrganizationText.SalesOrganization | Sales Organization |
| ON | Language | I_SalesOrganizationText.Language | Language Key |
| OFF | SalesOrganizationName | I_SalesOrganizationText.SalesOrganizationName | Sales Organization Description |
| OFF | _Language | I_SalesOrganizationText._Language | _Language |
| OFF | _SalesOrganization | I_SalesOrganizationText._SalesOrganization | _SalesOrganization |

Repeat step 9 by publishing CDS View
**Creation of CDS View Distribution Channel (ZZ1_DistributionChannel)**
Package Name:  SAP S/4HANA Cloud for Sales
Label: DistributionChannel
Name: ZZ1_DistributionChannel

Repeat step 1 to 3 as mentioned above in ZZ1_BillingDocument CDS
For 4th step select primary data source as I_DistributionChannelText as shown in Step 4 above.
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | DistributionChannel | I_DistributionChannelText.DistributionChannel | Distribution Channel |
| ON | Language | I_DistributionChannelText.Language | Language Key |
| OFF | DistributionChannelName | I_DistributionChannelText.DistributionChannelName | Distribution Channel Description |
| OFF | _Language | I_DistributionChannelText._Language | _Language |
| OFF | _DistributionChannel | I_DistributionChannelText._DistributionChannel | _DistributionChannel |

Repeat step 9 by publishing CDS View

**Creation of CDS View Division (ZZ1_Division)**
Package Name:  SAP S/4HANA Cloud for Sales
Label: Division
Name: ZZ1_Division

Repeat step 1 to 3 as mentioned above in Open Delivery Items CDS
For 4th step select primary data source as I_DivisionText as shown in Step 4 above.
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|-----|-------|------|-------|
| ON | Division | I_DivisionText.Division | Division |
| ON | Language | I_DivisionText.Language | Language Key |
| OFF | DivisionName | I_DivisionText.DivisionName | Division Description |
| OFF | _Language | I_DivisionText._Language | _Language |
| OFF | _Division | I_DivisionText._Division | _Division |

Repeat step 9 by publishing CDS View

## Creation of CDS View Region (ZZ1_Region)
Package Name:  SAP S/4HANA Cloud for Cross Applications
Label: Region
Name: ZZ1_Region

Repeat step 1 to 3 as mentioned above in ZZ1_BillingDocument CDS
For 4th step select primary data source as I_RegionText as shown in Step 4 above. Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|-----|-------|------|-------|
| ON | Country | I_RegionText.Country | Country/Region Key |
| ON | Region | I_RegionText.Region | Region |
| ON | Language | I_RegionText.Language | Language Key |
| OFF | RegionName | I_RegionText.RegionName | Description |
| OFF | _Country | I_RegionText._Country | _Country |
| OFF | _Region | I_RegionText._Region | _Region |
| OFF | _Language | I_RegionText._Language | _Language |

Repeat step 9 by publishing CDS View

## Creation of CDS View Country (ZZ1_Country)
Package Name:  SAP S/4HANA Cloud for Cross Applications
Label: Country
Name: ZZ1_Country

Repeat step 1 to 3 as mentioned above in ZZ1_BillingDocument CDS
For 4th step select primary data source as I_CountryText as shown in Step 4 above. Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

| Key | Alias | Path | Label |
|-----|-------|------|-------|
| ON | Country | I_CountryText.Country | Country/Region Key |
| ON | Language | I_CountryText.Language | Language Key |
| OFF | CountryName | I_CountryText.CountryName | Country/Region Name |
| OFF | _Country | I_CountryText._Country | _Language |
| OFF | _Language | I_CountryText._Language | _Country |

Repeat step 9 by publishing CDS View

**Creation of CDS View Invoice Document (ZZ1_InvoiceDocument)**
Label: InvoiceDocument
Name: ZZ1_ InvoiceDocument
Repeat step 1 to 2 as mentioned above in ZZ1_BillingDocument CDS
For 3rd step select External API option from dropdown while creating the CDS view, as shown in Step 3 above.

| Key | Alias | Path | Label |
|---|---|---|---|
| ON | BillingDocument | ZZ1_BillingDocument.BillingDocument | Billing Document |
| OFF | BillingDocument_1 | ZZ1_BillingDocument.BillingDocument | Billing Document |
| OFF | BillingDocumentType | ZZ1_BillingDocument.BillingDocumentType | Billing Type |
| OFF | SDDocumentCategory | ZZ1_BillingDocument.SDDocumentCategory | SD Document Category |
| OFF | BillingDocumentCategory | ZZ1_BillingDocument.BillingDocumentCategory | Billing Category |
| OFF | BillingDocumentDate | ZZ1_BillingDocument.BillingDocumentDate | Billing Date |
| OFF | BillingDocumentTypeName | ZZ1_BillingDocument.BillingDocumentTypeName | Description |
| OFF | PayerPartyName | ZZ1_BillingDocument.PayerPartyName | Payer Name |
| OFF | SoldToPartyName | ZZ1_BillingDocument.SoldToPartyName | SoldToParty Name |
| OFF | PostingDate | ZZ1_BillingDocument.PostingDate | Posting Date |
| OFF | SoldToParty | ZZ1_BillingDocument.SoldToParty | Sold-to Party |
| OFF | PayerParty | ZZ1_BillingDocument.PayerParty | Payer |
| OFF | CustomerTaxClassification9 | ZZ1_BillingDocument.CustomerTaxClassification9 | Tax Class.9 Customer |
| OFF | TransactionCurrency | ZZ1_BillingDocument.TransactionCurrency | Document Currency |
| OFF | TotalNetAmount | ZZ1_BillingDocument.TotalNetAmount | Net Value |
| OFF | CancelledBillingDocument | ZZ1_BillingDocument.CancelledBillingDocument | Canceled Bill. Doc. |
| OFF | BillingDocumentIsCancelled | ZZ1_BillingDocument.BillingDocumentIsCancelled | Canceled |
| OFF | CompanyCode | ZZ1_BillingDocument.CompanyCode | Company Code |
| OFF | Division | ZZ1_BillingDocument.Division | Division |
| OFF | DistributionChannel | ZZ1_BillingDocument.DistributionChannel | Distribution Channel |
| OFF | SalesOrganization | Y1_BillingDocument.SalesOrganization | Sales Organization |
| OFF | PurchaseOrderByCustomer | ZZ1_BillingDocument.PurchaseOrderByCustomer | Customer Reference |
| OFF | Region | ZZ1_BillingDocument.Region | Region |
| OFF | CreatedByUser | ZZ1_BillingDocument.CreatedByUser | Created By |
| OFF | CreationDate | ZZ1_BillingDocument.CreationDate | Created On |
| OFF | LastChangeDate | ZZ1_BillingDocument.LastChangeDate | Changed On |
| OFF | BillingDocumentType_1 | ZZ1_BillingDocument.BillingDocumentType | Billing Type |
| OFF | SalesOrganizationName | ZZ1_BillingDocument.SalesOrganizationName | Sales Organization Description |
| OFF | DistributionChannelName | ZZ1_BillingDocument.DistributionChannelName | Distribution Channel Description |

| | | | |
|---|---|---|---|
| OFF | DivisionName | ZZ1_BillingDocument.DivisionName | Division Description |
| OFF | County | ZZ1_BillingDocument.County | County Code |
| OFF | Country | ZZ1_BillingDocument.Country | Dest. Country/Region |
| OFF | RegionName | ZZ1_BillingDocument.RegionName | Description |
| OFF | CountryName | ZZ1_BillingDocument.CountryName | Country/Region Name |

For 4th step select primary data source as ZZ1_BillingDocument as shown in Step 4 above.
Steps 5, 6 & 7 are not required as it is single data source
Repeat step 8 by selecting required fields in Elements tab as shown in below table

## Creation of Custom Communication Scenario

1. Login to SAP S/4HANA cloud Fiori Launchpad with required credentials.
2. Go to Extensibility in toolbar and click Custom Communication Scenarios tile.
3. Click on New button which opens pop-up window. Provide communication scenario ID as BillingDocument and description as Billing Document.
4. Click on Add button in Inbound services and select required CDS from Add services pop-up and click on OK button.
5. Click on Publish button present on Footer, it will enable the Create Arrangement button after successful publish.
6. Click on Create Arrangement button, it will navigate to new Fiori app Communication arrangement by open pop-up new communication arrangement. Click on Create button.
7. Enter Communication system and Username created in SAP S/4HANA system. Refer here to know how to create Communication user and Communication System
8. Save the Communication Arrangement and status should change to Active. For more details, refer here how to create Communication Arrangement

## Support

There is no support available for template content. If you experience general issues with SAP Build Process Automation, please follow the links below:

- Troubleshoot Support Guided Answer
- Test an Automation Help portal Article
- Test an Application Help portal Article
- Get traces Support Guided Answer

If the issue persists, please raise an incident via SAP Support Portal on **BPI-PA-BPC** component.

This template can be modified using SAP Process Automation. For example: add decisions to determine the approver based on a certain business logic or add an action to post collected information to backend SAP system. Refer help portal for more details.

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