SAP CLOUD PLATFORM | EXTERNAL

Configuration Guide

Business Partner Payment Data Change Approval

THE BEST RUN

Table of Contents

Overview

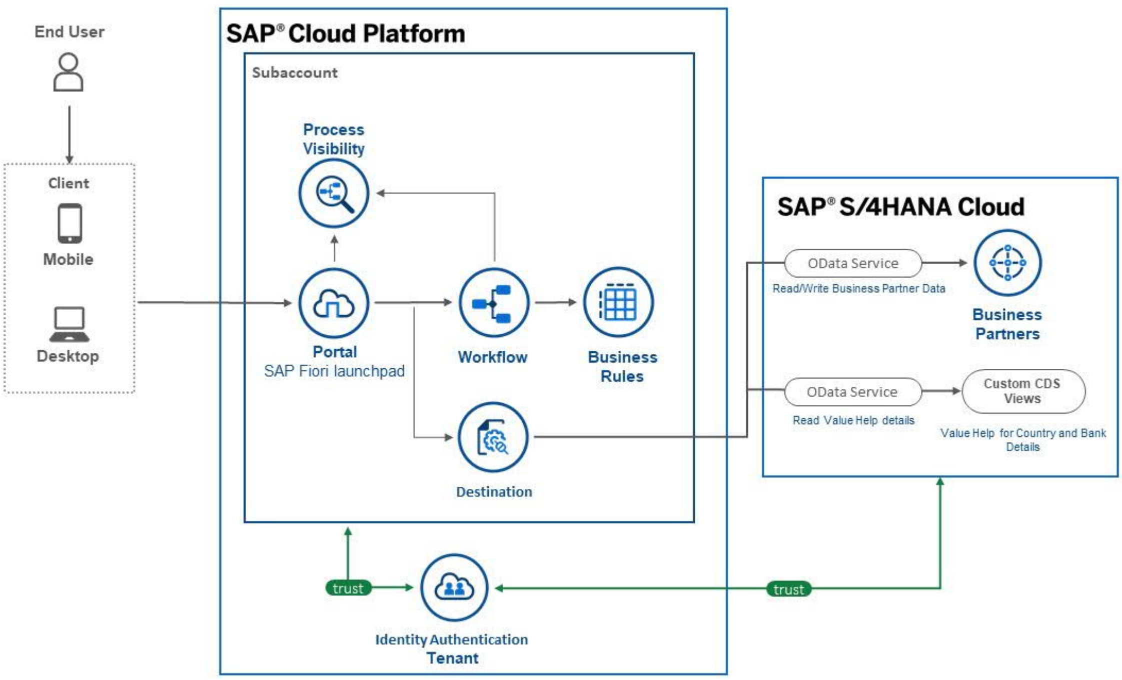
This document provides technical information about what needs to be configured to make the Live Process Package - Business Partner Payment Data Change Approval run. The main audience of this document are technical personas, like IT Administrators or Developers. The document tells what needs to be done to make the solution run. It mainly focusses on technical configuration like destinations for example.

It also focusses on business configuration that can be done by a key user or Business Process Expert, like how to configure a variant, a decision or visibility scenario.

The Live Process Content package enables customers to accelerate the digitalization of their business partner payment data change approvals in a transparent way and provide flexibility to meet business requirements. It includes Processes, Decisions and Visibility content enabling customers to flexibly configure process variants in a low code no code approach.

Payment information of business partners are maintained and used for automated payment runs at the end of the month. Since the pay-outs are fully automated, they could potentially be used for fraud by changing the bank information on a business partner to a different bank account. To prevent any misuse, the workflow application, ensures a four-eye principle by enabling an approval process for every payment data change.

Business Partner Payment Data Changes Approval Process with Workflow Management



Steps Involved:

1. The requester pulls up the existing payment details (registered bank data) of the business partner
2. The necessary changes are made to the business partner's bank details used for payment.
3. An approval is triggered based on a business rule that determines the appropriate person[s] to approve the changes.
4. Once the changes are approved, (by the authorized persona[s]), the business partner data is modified with the payment data changes in the S/4HANA Cloud system.

Process Steps in template:

1. Retrieve payment details of the business partner, perform the necessary changes, and push it for approval. This process step is optional. It can be replaced with a standalone application or triggered from the S/4HANA Cloud System through an extension of the workflow.
2. Approval step[s] based on type of changes, country/region of the business partner, business partner category and the desired level of approval (i.e. Approval Level can represent hierarchy such as local management, VP approval etc.)
3. Commit Payment Detail Changes to the S/4HANA Cloud system. This is an automated process that calls the OData services exposed by S/4HANA Cloud system for SAP Business Partner records. A payload with a list of changes corresponding to New Records, Updated Records and Records to be deleted is passed to process step.

Disclaimer

SAP Cloud Platform Workflow Management shall not be used to store or process sensitive personal data. This service can be used if you have a legal ground to process personal data.

Required SAP Cloud Platform Services

The following SAP Cloud Platform services are required to consume the content package Payment Detail Changes for Business Partner

- SAP Cloud Platform Workflow management
- SAP Cloud Platform Portal
- SAP Cloud Platform Identity Authentication Service (Or equivalent Identity and Authentication service)
- SAP S/4HANA Cloud for Business Partner Data Management

Setup and Configuration

Business Partner Payment Data Change Approval content package requires SAP Cloud Platform 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.

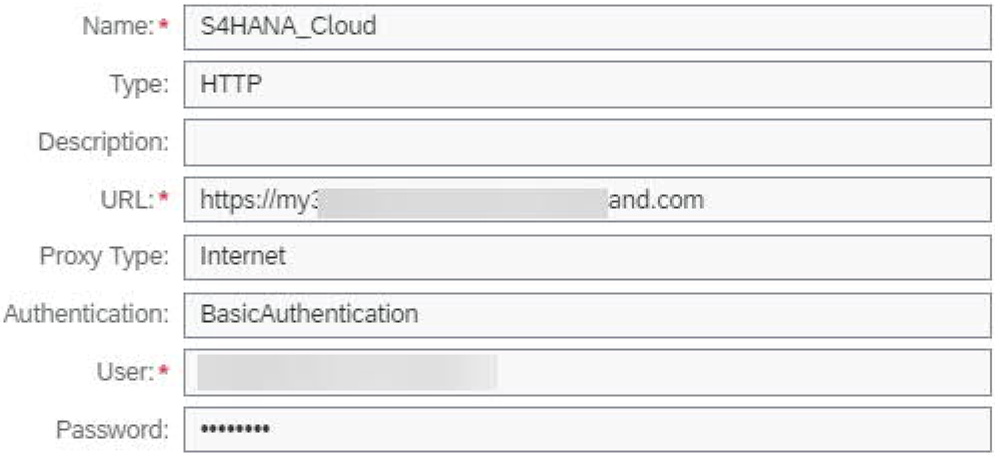
Configure Business Rules Destination

Configure a business Rules destination with name as "BusinessRules" with Type as HTTP, Proxy Type as Internet and authentication as OAuth2ClientCredentials. Please make sure the URL formatted as {rule_runtime_url}/rules-service. Please refer how to create an HTTP destination and how to access business rules APIs using OAuth 2.0 Authentication (client credentials)

Name:*	BusinessRules
Type:	HTTP
Description:	
URL:*	https://bpmruleruntime. om/rules-ser...
Proxy Type:	Internet
Authentication:	OAuth2ClientCredentials
Client ID:*	sb-clone-d8 4|bpmrulebr...
Client Secret:*	••••••••
Token Service URL:*	https://bpm- and.com/oauth/t...
Token Service User:	
Token Service Password:	

Configure a Destination to SAP S/4HANA Cloud system

Configure a destination with the name as "S4HANA_Cloud", with Type as HTTP, Proxy Type as Internet and authentication as BasicAuthentiacation. Please refer how to [create an HTTP destination]



Create and Configure the Core Data Services to populate the Value Helps

The Custom Task UIs based on SAP UI5 use a couple of backend services to populate the value helps for Country/Region information and Bank Details in those Countries/Regions.

Country Value Help URL –

{S4HANA_Cloud}/sap/opu/odata/sap/YY1_COUNTRIES_ISO_CDS/YY1_COUNTRIES_ISO

Bank Data Value Help URL –

{S4HANA_Cloud}/sap/opu/odata/sap/API_BANKDETAIL_SRV/A_BankDetail

Create the necessary Custom CDS Views in your S/4HANA Cloud system in order to use the Live Process Package. Refer to the Appendix for more details

Custom Task UIs and Fiori Launchpad configured with Destination Service

The live process package utilizes SAPUI5's rich UI capabilities in the Custom Task UI. The Custom Task UI Application and a preconfigured FLP application with My Inbox app is published in the Public GIT here https://github.com/SAP-samples/cloud-workflow-samples/tree/master/cf-paymentdatachanges-lp

Deploy and configure the applications accordingly.

Live Process Artifacts

Process content package

A process content package consists of process steps, process templates and process variants. Refer to the help documentation about these artifacts.

A business process consists of steps that can be executed independently. A process step within such a business process would consist of set of activities which adds value to the business.

All the activities involved in such a business process step are grouped and represented as a Process Step. Table 1 represents the list of steps defined to use in Business Partner Payment Data Change Approval process.

A process step is added to a process template with a constraint model. The constraint model defines the number of times a process step could occur in a new process variant.

Table 1. Process Steps.

Process Steps	Cardinality	Detailed Description
RequestPaymentDataChanges	0..1	This is an optional step as signified by the cardinality. The Business Partner details are retrieved from S/4HANA Cloud and necessary modifications for the Payment Data (i.e. Bank data) are performed. This step can occur at most once, and it must be the first step in a process variant.
ApprovePaymentDataChanges	1.. N	Approval of the Business Partner Payment Data Change Request. This step can occur multiple times in a process variant. It is possible to rename the step to appropriate approval roles. The desired approval role (level) can be provided as an additional parameter. Conform to naming the additional parameter as 'Level N' where N = 1, 2, 3… If any alternate naming convention is preferred, care should be taken to modify the business Rules accordingly.
CommitPaymentDataChanges	1..1	Post processing after completion of all the configured approval steps. This step can occur only once, and it should be the last step in a process variant.

Table 2. Process Step Properties.

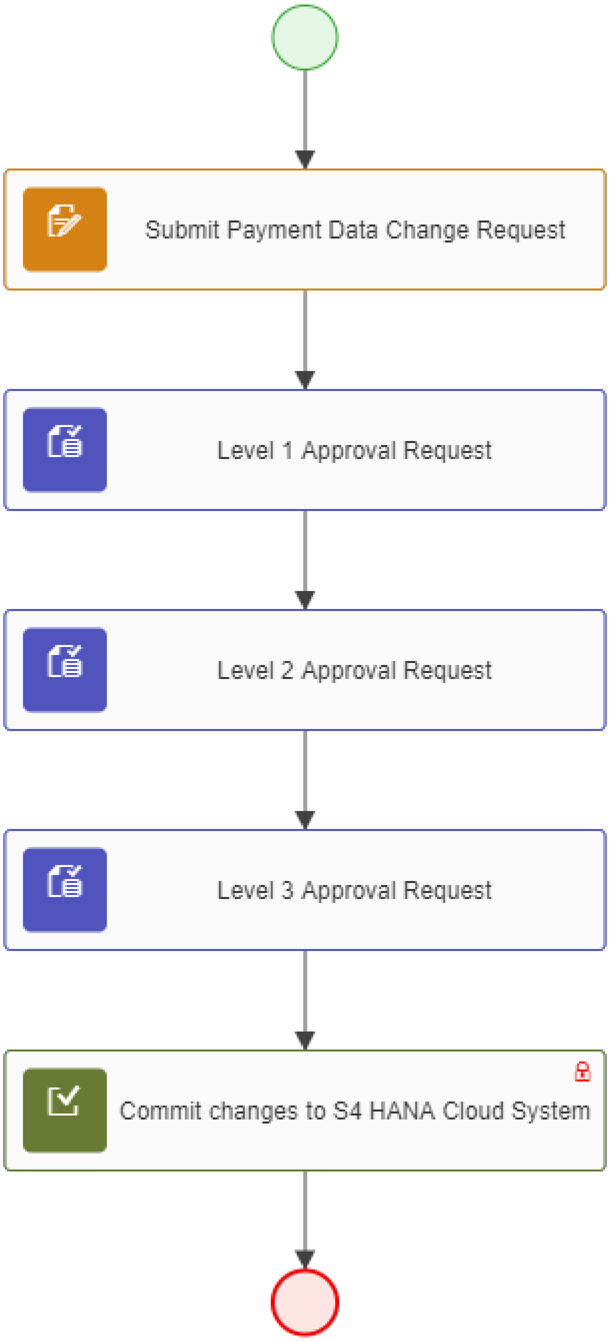
Process Step	Properties	Detailed Description
ApprovePaymentDataChanges	Approval Level	The role/hierarchy of the approver. This text is used to determine the authorized persona who will approve the change request. An example would be - Local Management as represented by Level 1, Area Management as represented by Level 2 and Global Management as represented by Level 3.

Table 3. Process Attributes.

Process Attributes	Detailed Description
Business Partner Category	Business Partner Category which is 1 for Organization and 2 for Individual
Country/Region	Country / Region of the Business Partner

Process Variants

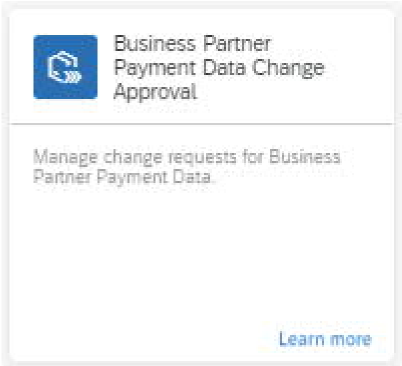
A process variant consists of multiple process steps configured by a Line of business expert. It is possible to create multiple process variants depending on the desired number of approval steps and persona roles to configure. An example of a Business Partner Payment Data Change Approval Process Variant is given below. Refer to help documentation about how to import content packages and configure a process variant.



Import Business Partner Payment Data Change Approval

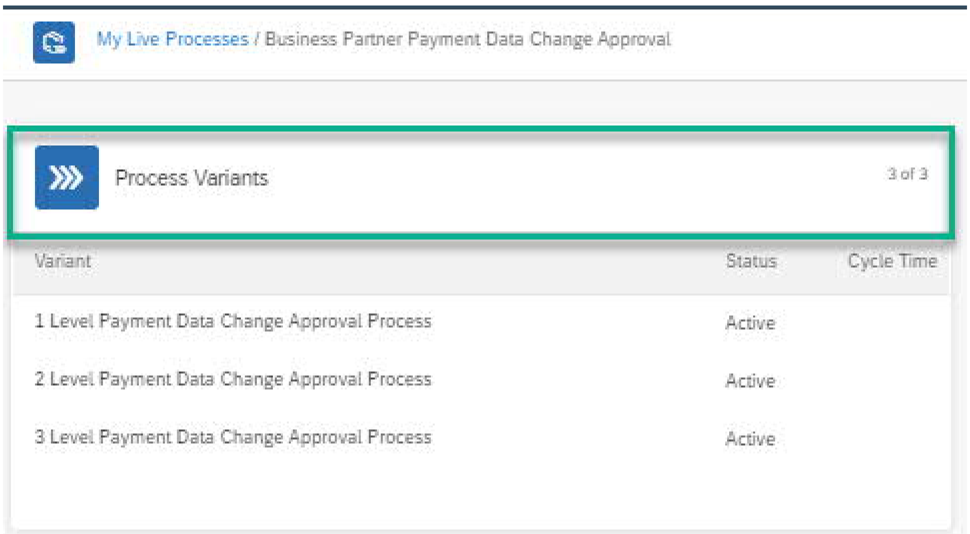
1. Open the SAP Cloud Platform Workflow Management application. For information on accessing the app, see https://help.sap.com/viewer/6f55baaf330443bd8132d071581bbae6/Cloud/en-US/c63dffcfd1cd4373bee43490c7d2e4bd.html.

2. Import content package Business Partner Payment Data Change Approval Process. Please refer the standard help document about how to import a content package

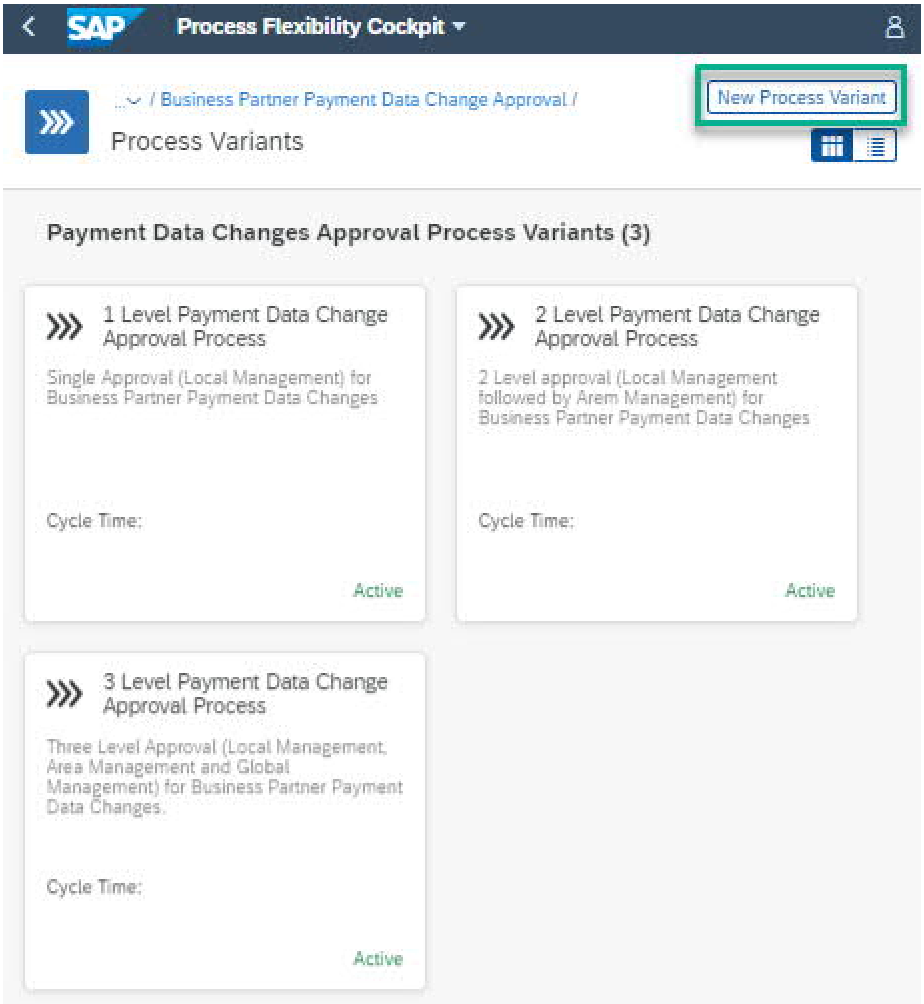


3. Create a new variant of Business Partner Payment Data Change Approval process. Please refer the standard help documentation about how to create new Process Variants.

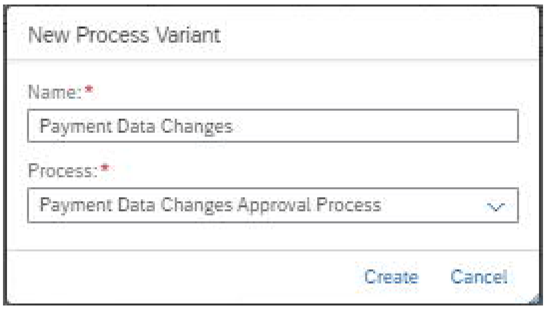
   Open content package Business Partner Payment Data Change Approval process in Process Flexibility Cockpit and click Process Variants.



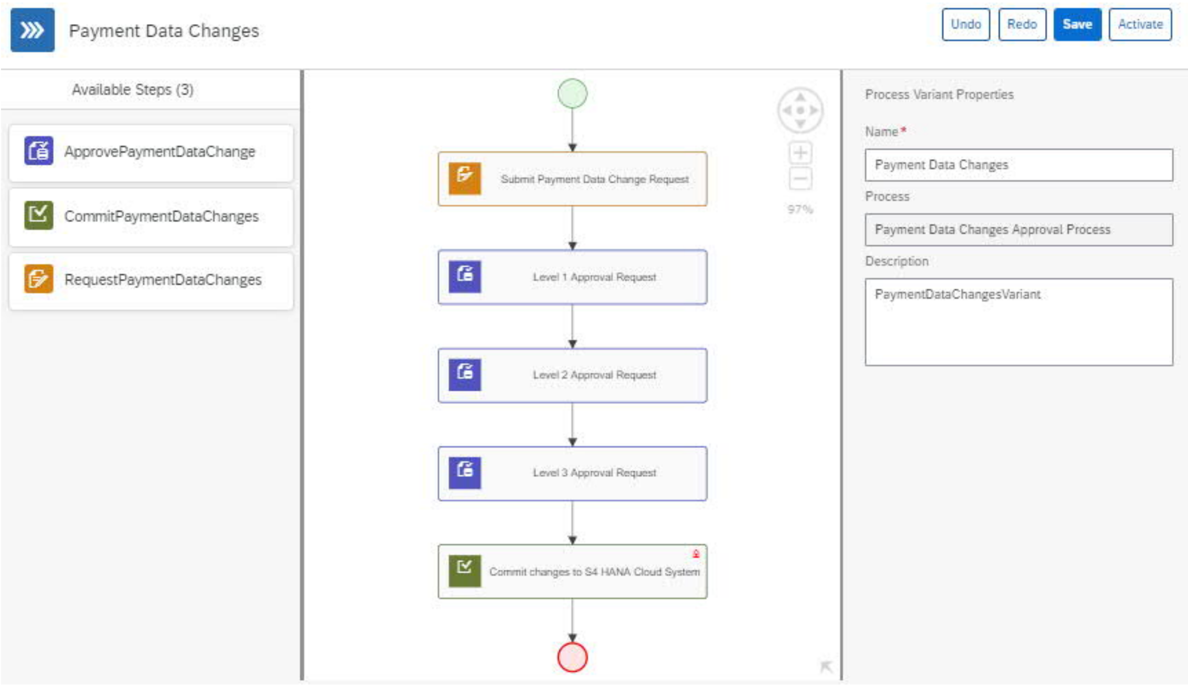
Click New Process Variant



Provide an appropriate name for the new Process Variant and select Enter Name of the new Process Variant and select Payment Data Changes Approval Process as the Process.

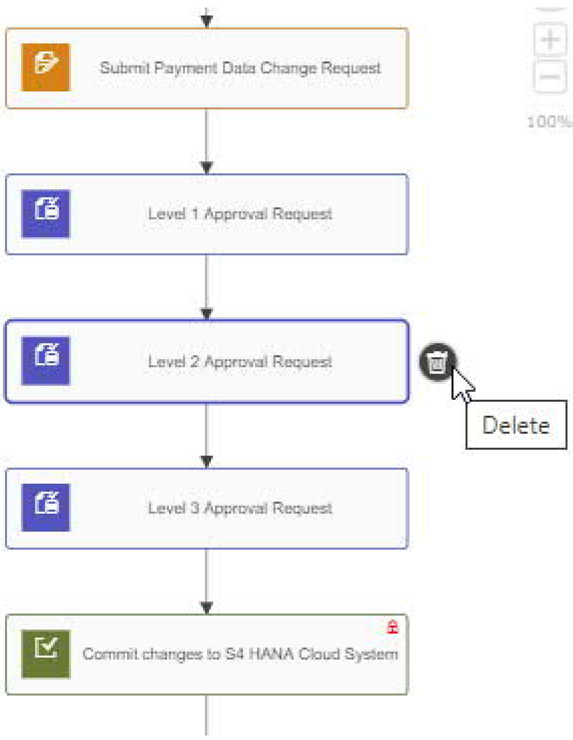


The process variant editor enables Line of Business Experts to configure the newly created Process variants.

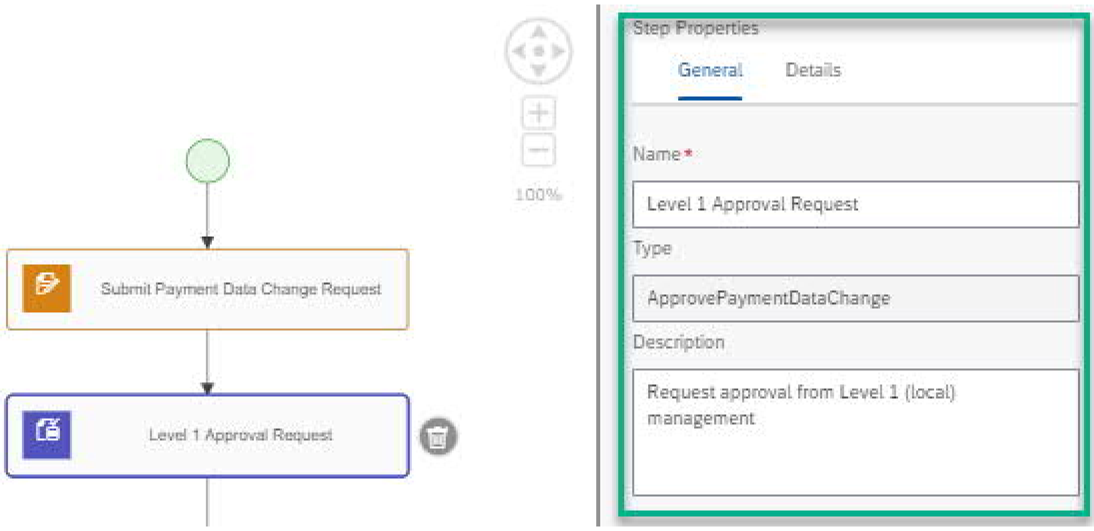


Modify or Delete Approval Steps

1. To delete a process step (example, Level 2 Approval Request step), select the step and delete it.

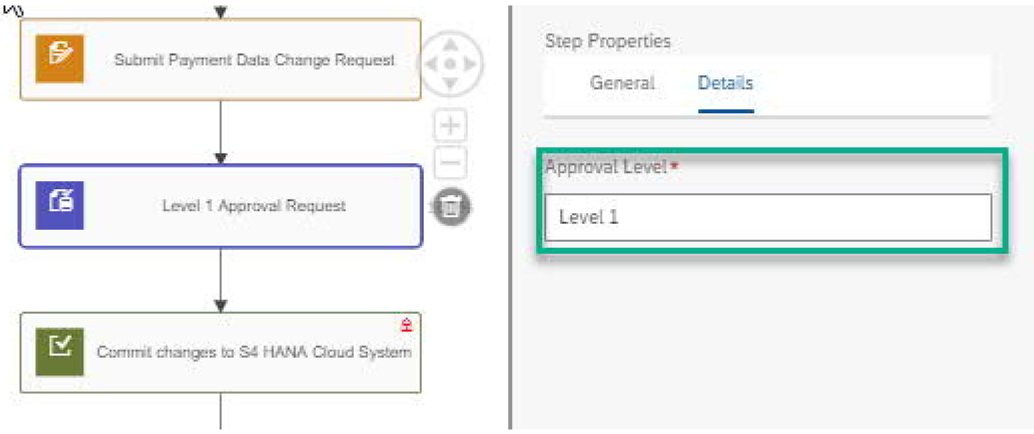


2. To modify a process step, select the process step and modify the data in the Step Properties



Note, for Approval Steps, we have a predefined parameter called Approval Level that is used in the business Rules to decide the recipients of the approval step.

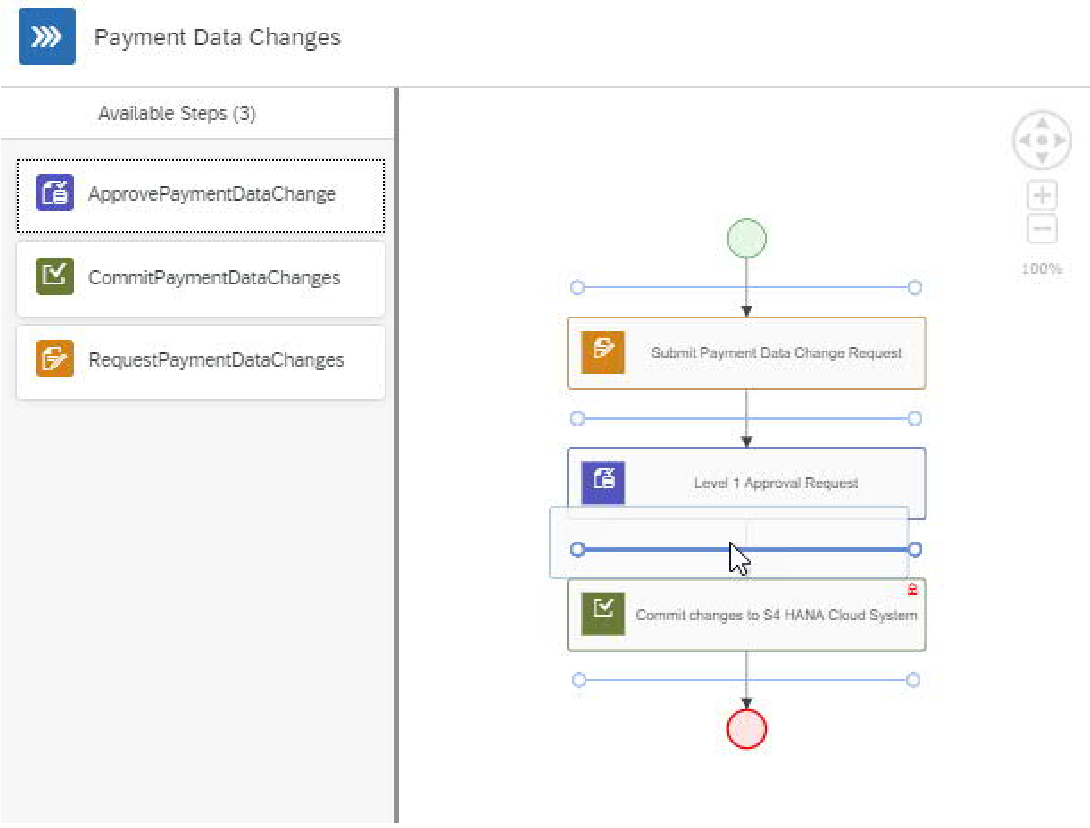
This can be seen in the Details tab of the Step Properties.



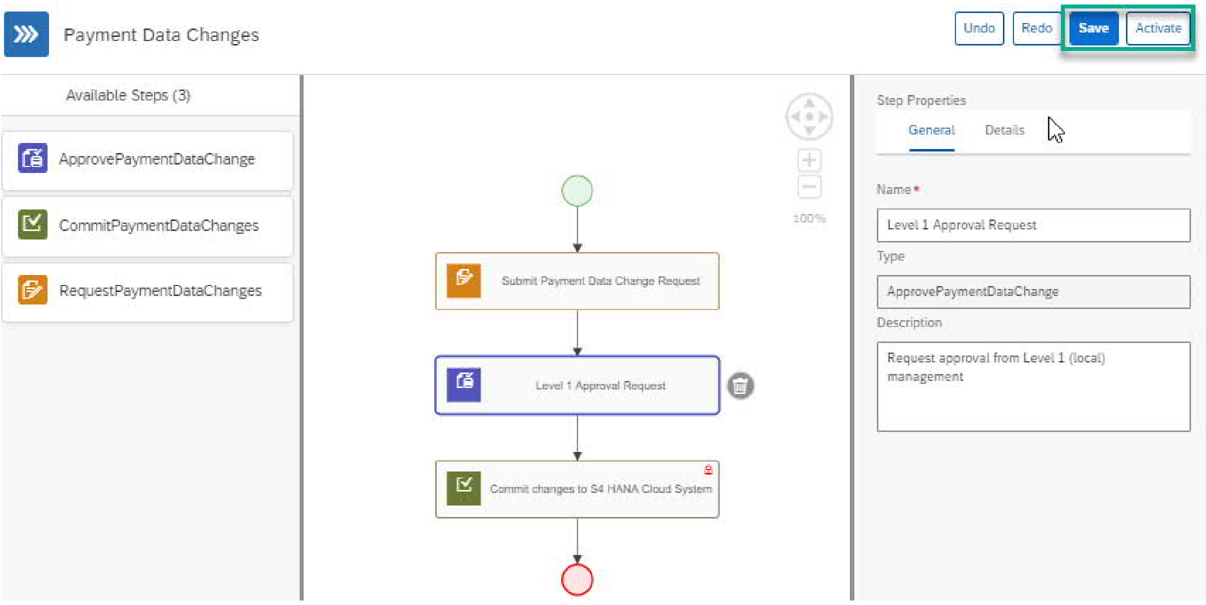
Add new Approval Step to Process Variant

1. To add a process step, simply drag and drop the desired step from the Available Steps onto the process flow in the desired order.

   Note: exercise caution while arranging the process steps. They are executed according to their occurrence in the flow.



2. Save and activate the Process Variant



Activating the process variant generates a Workflow and deploys it to your cloud platform account. You can see the newly deployed Workflow definition in Monitor Workflow – Workflow Definitions application in your Fiori Launch pad.

Decisions & Policies

Decisions and policies allow to encapsulate the business logic from core applications.

In Business Partner Payment Data Change Approval process, customers can configure the decisions to determine the recipients of the approval request.

Payment Data Changes Approval Policy

This policy enforces rules used to determine the approvers of the payment data changes done to the business partner.

The rule is orchestrated by first executing a text rule to determine whether the list of changes done to the Business Partner Payment Data has any changes of type Deletion, Update or Creation.

The response of the text rule is used as input to the decision table rule, along with other input data – Business Partner Details and Approval Level. The result of the rule is the Approval Group ID to which the authorized approver is assigned. This user group Id will be used as the recipient of the Approval Step user task.

Rules involved in the policy

Rule Name: Decide Modification Type

Type: Text Rule

Input:

ATTRIBUTE	TYPE	DESCRIPTION
List of Banking Data Changes	Collection	Abstracted list of changes done to the business partner payment data. The abstraction ensures only the necessary attribute (Status) is consumed from the workflow context. Type of modification done to the Bank Data Entry 1. ToBeCreate – Creating a new bank record 2. ToBeChanged – Update an existing bank record 3. ToBeDeleted – Delete an existing bank record

Result: Modification Type [Internal; used as input to subsequent rule execution]

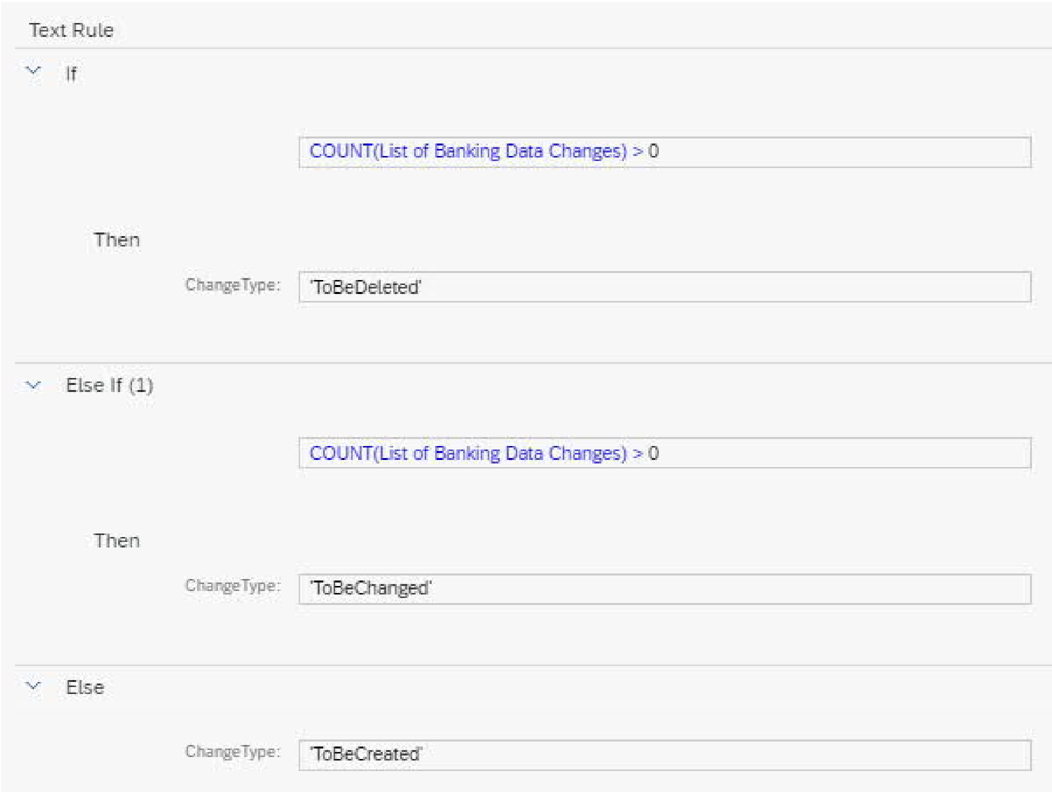
ATTRIBUTE	TYPE	DESCRIPTION
Modification Type	String	Depending on the rule, return the type of change done to the record

Rule Definition

The Decide Modification Type policy is defined as a text rule.

The sample decision performs an aggregation on the collection and counts the number of records being deleted, changed or created. If there is any deletion, the result is set to ‘ToBeDeleted’, else if there are any changes (no deletions), the result is set to ‘ToBeChanged, else, if there are creations (no delete, no changes), the result is set to ‘ToBeCreated’

The result of this rule is used in the subsequent rule execution. This is how the rule is orchestrated.



Rule Name: Determine Payment Data Change Approvers

Type: Decision Table

Input:

ATTRIBUTE	TYPE	DESCRIPTION
Business Partner Details	Structure	Details about the Business Partner Category and Region • Business Partner Country/Region – Region of the business partner. This is used to assign the approval step to the designated regional management • Business Partner Category – Individual or Organization. This is used to assign the approval based

		on with necessary attention to the type of business partner
Approval Level	String	Desired approval level assigned to the process step. The prescribed format is 'Level N' where N is 1, 2, 3… If any changes are done to this variable, make sure that the proper value is provided to the Approval Step while configuring the Process Variant.
Modification Type	String	Result of the 'Decide Modification Type' rule

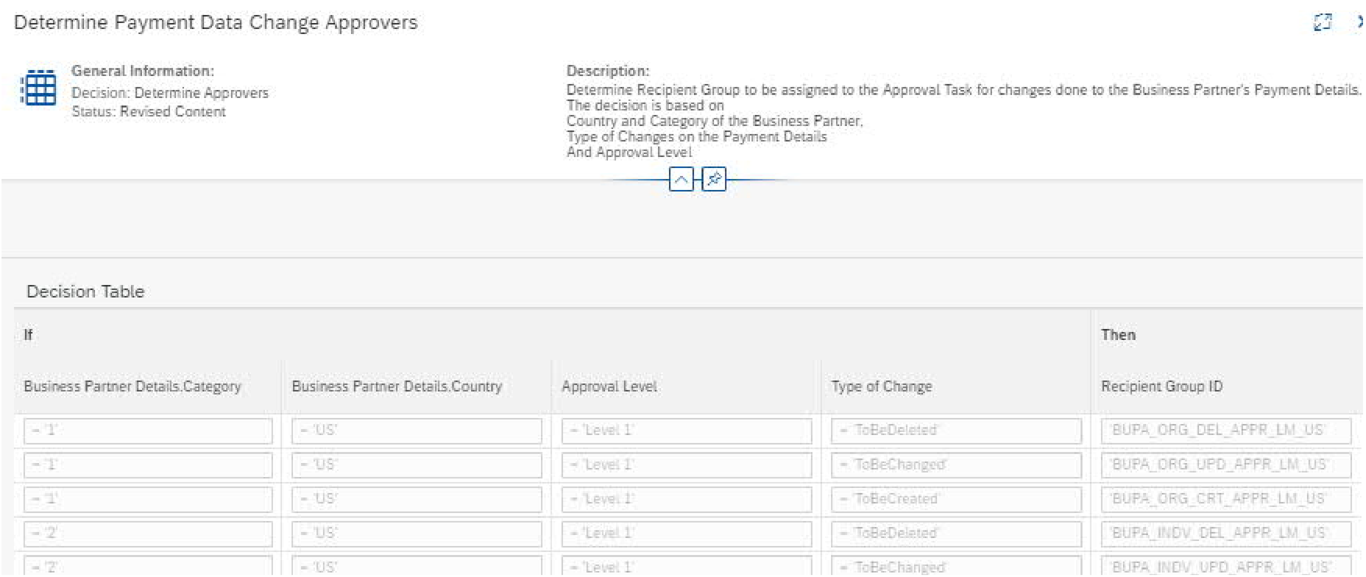
Result:

ATTRIBUTE	TYPE	DESCRIPTION
Approver Group ID	String	A group ID that is assigned to the authorized persona. Group IDs in an Identity Provider service allows for grouping of users based on roles and responsibilities. The customer can change values based on their IDP configurations. Alternatively, the group ids used in the business decision can be maintained in the customer's IDP system.

Rule Definition

The Determine Payment Data Change Approvers is defined as a decision table.

The sample decision returns the Approval Group ID based on the Business Partner Category, Business Partner Country/Region, Approval Level and Type of changes done to the business partner



Determine Payment Data Change Approvers

General Information:
Decision: Determine Approvers
Status: Revised Content

Description:
Determine Recipient Group to be assigned to the Approval Task for changes done to the Business Partner's Payment Details.
The decision is based on
Country and Category of the Business Partner,
Type of Changes on the Payment Details
And Approval Level

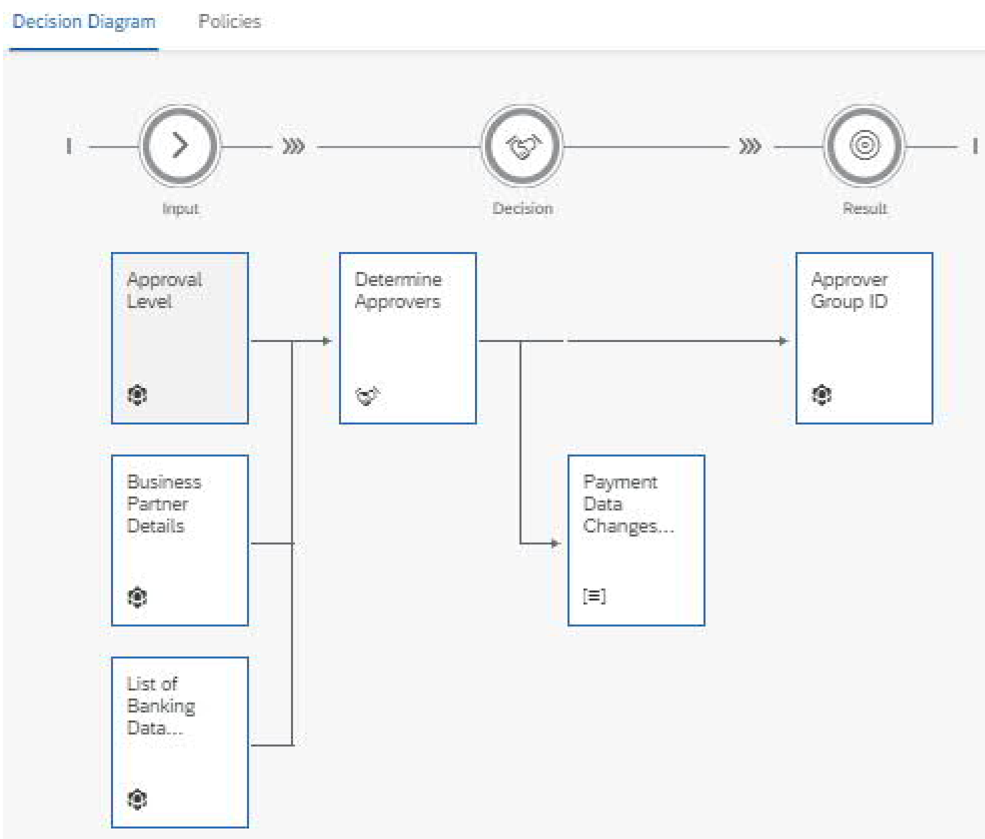
Decision Table

If				Then
Business Partner Details.Category	Business Partner Details.Country	Approval Level	Type of Change	Recipient Group ID
= '1'	= 'US'	= 'Level 1'	= 'ToBeDeleted'	'BUPA_ORG_DEL_APPR_LM_US'
= '1'	= 'US'	= 'Level 1'	= 'ToBeChanged'	'BUPA_ORG_UPD_APPR_LM_US'
= '1'	= 'US'	= 'Level 1'	= 'ToBeCreated'	'BUPA_ORG_CRT_APPR_LM_US'
= '2'	= 'US'	= 'Level 1'	= 'ToBeDeleted'	'BUPA_INDV_DEL_APPR_LM_US'
= '2'	= 'US'	= 'Level 1'	= 'ToBeChanged'	'BUPA_INDV_UPD_APPR_LM_US'

Consider the following while modifying the decision table:

- You can add or remove conditions for additional Business Partner Country/Region.
- Ideally, there are two types of business partner categories maintained in the S/4HANA system. 1 – Individual, 2 - Organization
- The value defined for the condition “Approval Level” should match the input as provided in the approval step property – Approval Level while defining the variant.
- The Recipient Group ID can either be created in the identity management software/service, or, can be replaced with the groups that are already defined in it.

Rule service Name: Determine Approvers



Payment Data Changes Approval Policy

Policy to decide whom the Approval Task of Business Partner Payment Changes should be assigned to.

Priority:
50.00

Rules

Name	Description	Type	Changed On
Decide Modification Type	Find out if the changes done to the Business Partner Payment details involves any Deletions, Creations or Updates. Subsequently, the result of this rule is used to orchestrate the subsequent Determine Approvers rule.	Text Rule	
Determine Payment Data Change Approvers	Determine Recipient Group to be assigned to the Approval Task for changes done to the Business Partner's Payment Details. The decision is based on Country and Category of the Business Partner, Type of Changes on the Payment Details And Approval Level	Decision Table	

Process Visibility

Process visibility enables Process Owners and Process Operators to gain real time visibility on processes and key process performance indicators. Process visibility capability in SAP Cloud Platform Workflow Management enables customers gain out of the box process visibility into their deployed processes. Please refer help documentation for more details.

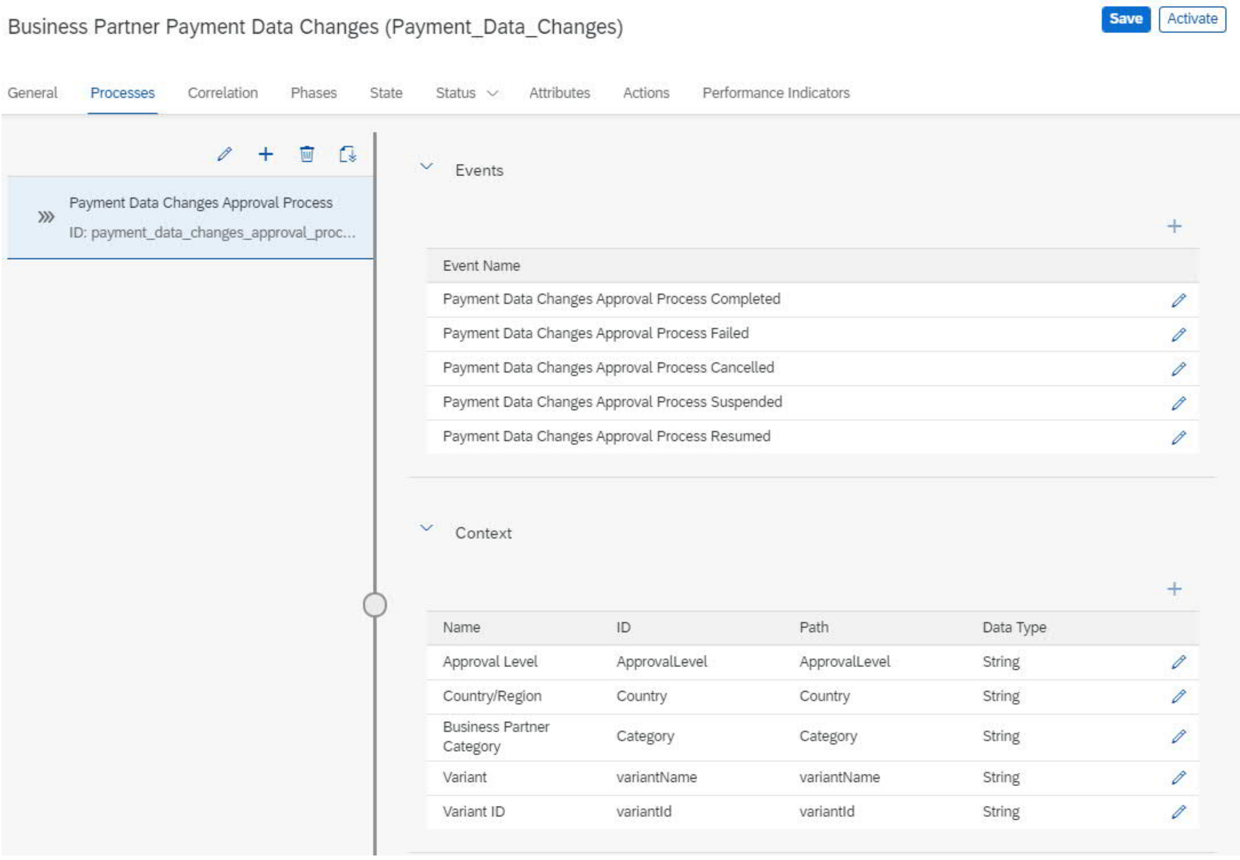
Business Partner Payment Data Changes

The content package provides out of the box visibility on all the deployed process variants of Business Partner Payment Data Changes Approval process. A process owner or line of business expert will be able to enhance the visibility scenario.

Configure Visibility Scenarios

1. Go to Process Flexibility Cockpit
2. Select Business Partner Payment Data Change Approval
3. Click Visibility Scenarios
4. Select Business Partner Payment Data Changes

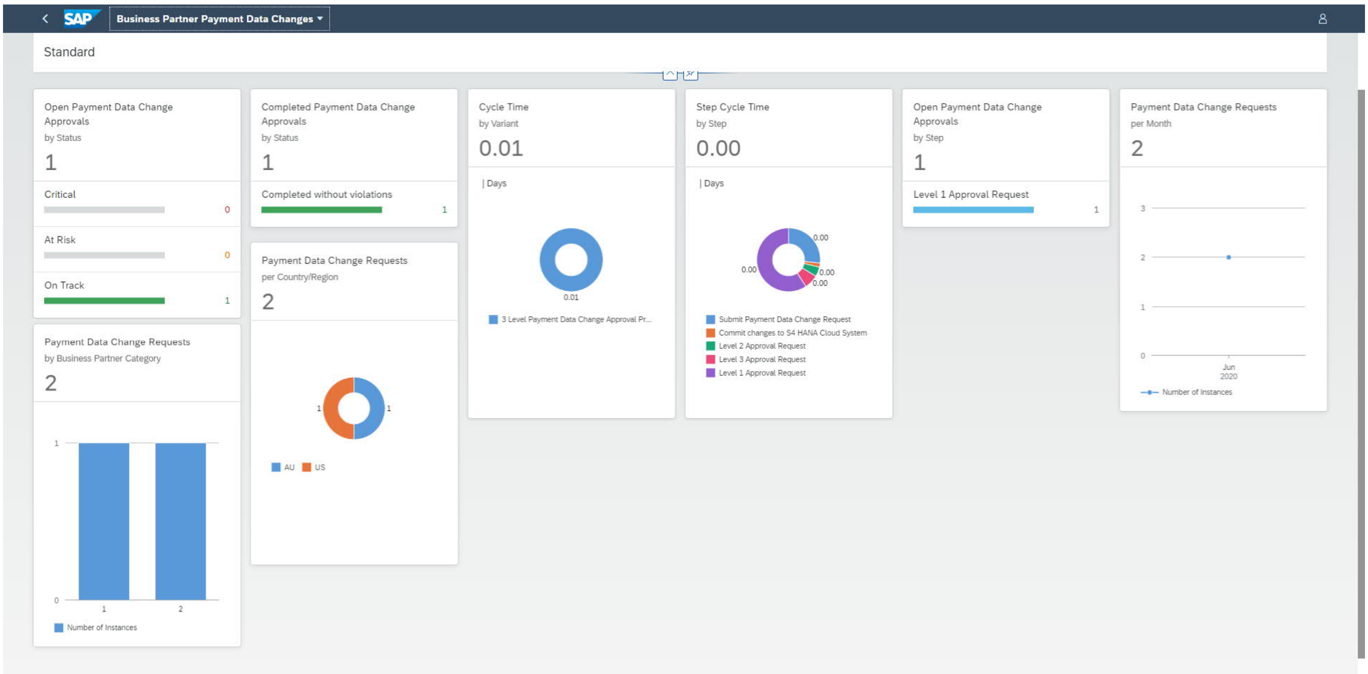
Please go through help documentation how to model a visibility scenario.



Access Process Workspace

1. Go to Process Flexibility Cockpit
2. Select Business Partner Payment Data Change Approval
3. Click Live Process Insights Business Partner Payment Data Changes

Please go through help documentation how to access process workspace.



Starting a Process Variant

Activating a Process Variant creates a new Workflow Definition, which can then be operated like any other workflow. To start the workflow for a given variant, three steps are necessary:

- Determine Workflow Definition Id
- Define Start Payload (Initial Context)
- Start the workflow via Start Form, via custom UI5 application, or via API call

Determine Workflow Definition Id

The Workflow Definition Id is a concatenation of the Process Id and the Process Variant Id, separated by a single dot. Note, spaces are replaced by '_'s. If the process variant name starts with a digit, then there will be an '_' after the single dot.

Example:

Process ID: payment_data_changes_approval_process

Process Variant ID: 1 level payment data change approval process

Workflow definition:

payment_data_changes_approval_process._1_level_payment_data_change_approval_process

Define Start Payload (Initial Context)

The following context payload must be provided to start the workflow instance.

```
{
   "Requester":{
      "FirstName":"<first_name_of_requester>",
      "LastName":"<last_name_of_requester>"
      "RequestDate":"YYYY-MM-DD",
      "Email":"<requester_email_ID>",
      "Comments":"<Requester Comments>"

},
   "Assignee":{
      "Email":"<assignee_email_ID>",
      "UserId":"<userID_of_assignee>",
      "FirstName":"<first_name_of_assignee>",
      "LastName":"<last_name_of_assignee>"

},
   "BusinessPartner":"<Business Partner ID>",
   "TerminateFlow": false
}
```

FIELD	COMMENT
`BusinessPartner`	The Business Partner ID
`TerminateFlow`	Flag indicating whether the process steps need to be terminated
`Assignee`	Details of the user who is assigned the responsibility of modifying the Business Partner Payment Data Changes. The user task in the first process step 'RequestProcessDataChange' is assigned to this user.
`Requester`	Requester details. They will be intimated of the progress of the change request

Start the workflow

Please refer to the documentation for Creating a Start UI with UI5 or using Forms.

Alternatively, a workflow can be started via API. See the API Reference for "Workflow Instances" – "Start a new Instance" by issuing a REST POST call to the `/v1/workflow-instances` endpoint.

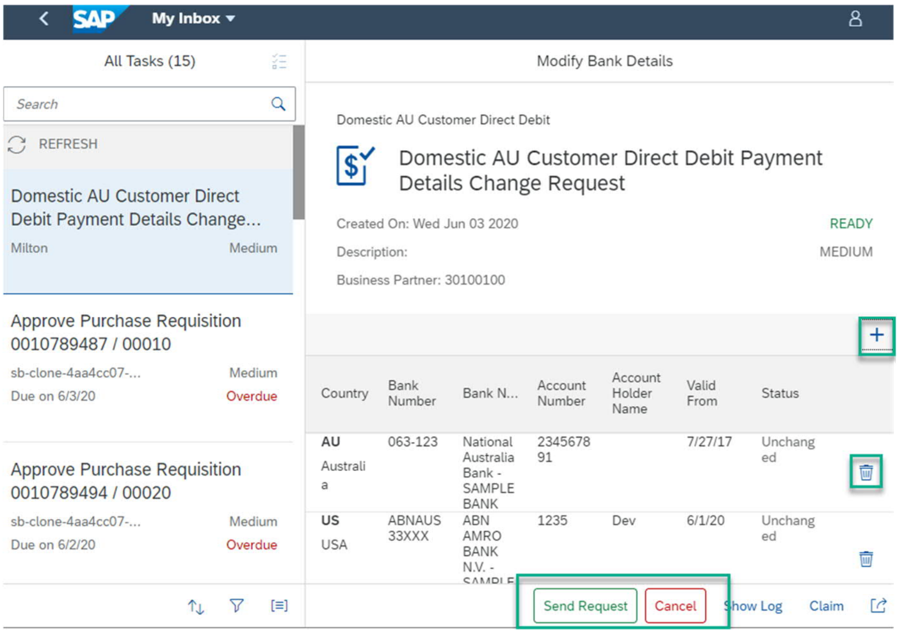
Using the Business Partner Payment Data Change Approval workflow

Changing the Business Partner Payment Data

When the process starts, the existing Bank Data and additional business partner details are retrieved from the SAP S/4HANA system.

These details are passed to the assignee. An SAP UI5 application is used as the Custom Task UI. It allows the user to further modify the Business Partner Payment Details. You can add a new bank detail by clicking the ‘+’ button, change existing bank details, or delete an existing record.

Example screenshot of the Modify Bank Details Custom Task UI



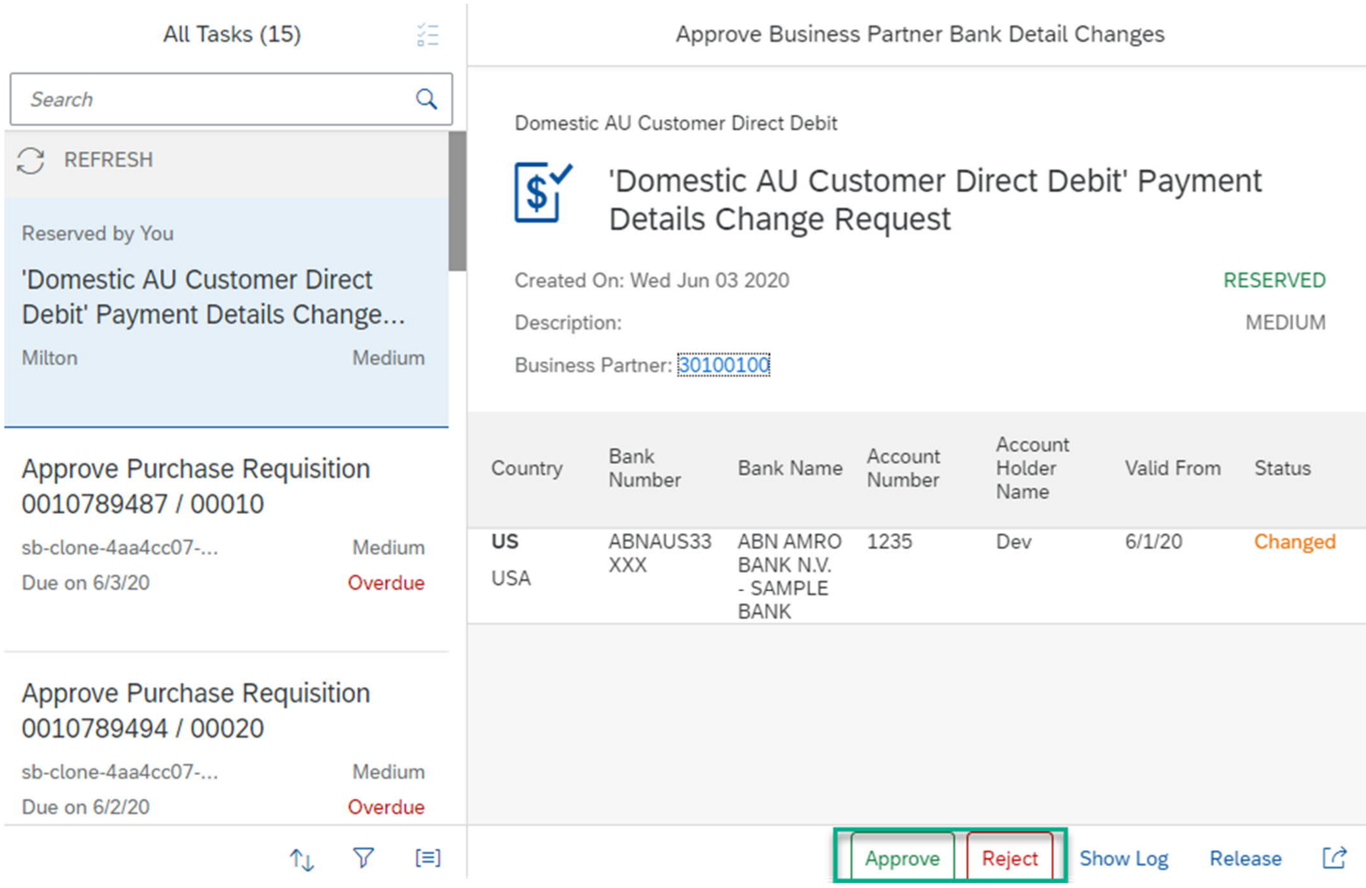
Approving the Payment Data Changes

Each defined Approval step will create a task for the respective approver, as defined by the Business Rule.

The approver will be able to view the changed Payment Data for the business partner:

- Approve: the approval request will continue with the next step, which can be an additional approval, or the final step to commit the changes to the backend
- Reject: the details will be returned to the ‘Assignee’ to rework on. If the assignee decides to change the data, it will be sent for approval again. If not, the process will be terminated.

Example screenshot of the Approve Bank Data Changes Custom Task UI


All Tasks (15)
Search
REFRESH
Reserved by You
'Domestic AU Customer Direct Debit' Payment Details Change...
Milton
Medium
Approve Purchase Requisition 0010789487 / 00010
sb-clone-4aa4cc07-...
Medium
Due on 6/3/20
Overdue
Approve Purchase Requisition 0010789494 / 00020
sb-clone-4aa4cc07-...
Medium
Due on 6/2/20
Overdue
Approve Business Partner Bank Detail Changes
Domestic AU Customer Direct Debit
'Domestic AU Customer Direct Debit' Payment Details Change Request
Created On: Wed Jun 03 2020
RESERVED
Description:
MEDIUM
Business Partner: 30100100
Country
Bank Number
Bank Name
Account Number
Account Holder Name
Valid From
Status
US
USA
ABNAUS33 XXX
ABN AMRO BANK N.V. - SAMPLE BANK
1235
Dev
6/1/20
Changed
Approve
Reject
Show Log
Release

Appendix

Setup Countries CDS-View for Value Help

SAP S/4HANA uses the two letter ISO codes for the countries. When the country field of an address needs to be changed, then the new address must be from the two letter ISO codes list. To make the country field human readable in the UI, the country codes that are supported in SAP S/4HANA will be used. To get the list, we are going to create a Custom CDS View.

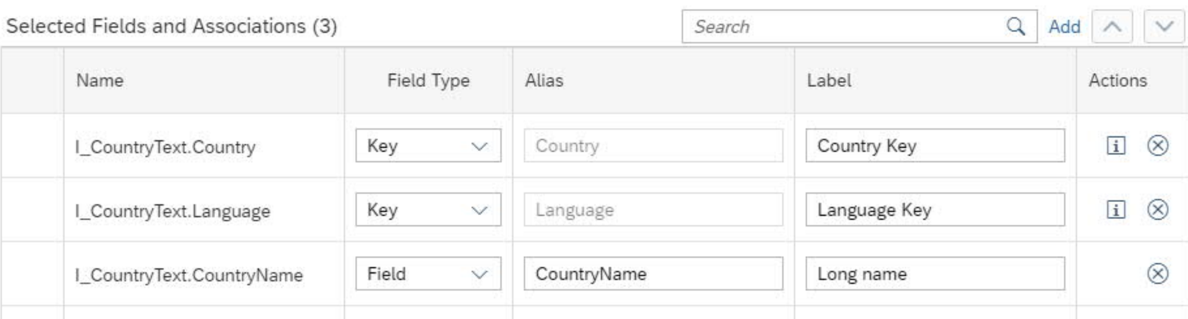
Pre-requisite

You have the necessary tools and rights to create Custom Core Data Service Views. Please refer to the following - [SAP HANA Core Data Services (CDS) Reference](#)v

Create Custom CDS View

Procedure

1. Create a Custom CDS View with the Name `YY1_COUNTRIES_ISO` and Label "Countries". (Note: please stick to the naming, since it will be reused in the sample application. If the naming does not match the integration will not work)
2. Choose OData API check box.
3. Choose Add > Add Primary Data Source.
4. Choose the data source with the name "`I_CountryText`" and choose Add.
5. Choose Add > Add Associated Data Source.
6. Choose the data source with the name "`I_Country`" and choose Add.
7. Choose Edit Association Properties ( ) in the Actions column.
8. In Associated Data Source Fields, choose "Country". Leave the Operator as equal and in Value choose "Country".
9. Choose OK.
10. Repeat the step 8 to 10 for `I_Language` to add the language as an Associated Data Source.
11. In Associated Data Source Fields, choose `Language`. Leave the Operator as equal and in Value choose "Language".
12. Choose OK.
13. Choose Save Draft.
14. Choose Field Selection tab.
15. Fields needed to be selected are `Country`, Language (are already selected since they are key fields) and select the `CountryName field in addition`.



Selected Fields and Associations (3)

Name	Field Type	Alias	Label	Actions
I_CountryText.Country	Key	Country	Country Key	
I_CountryText.Language	Key	Language	Language Key	
I_CountryText.CountryName	Field	CountryName	Long name	

16. Choose Filters tab.

17. Choose Edit.
18. Choose Fields.
19. Choose the `LanguageISOCode` field from the dropdown.

   Note

   The field name may vary with the variable name given to the language field in previous steps. This field name is "_I_Language_2.LanguageISOCode" if the defaults are preserved.

20. Complete the formula with "='EN'".

   Note

   The complete formula will then look like "_I_Language_2.LanguageISOCode='EN'".

21. Choose Apply.
22. Choose Save Draft and choose Preview.

   Note

   You should see in the table the fields Country Key (2 letters ISO Code), Language Key and Long Name of the countries in English.

23. Choose Publish. After successful publishing, OData API will be created automatically.

Setup OData Service based on Custom CDS View

Procedure

First, we need to create a custom communication scenario for our CDS view.

1. Access the SAP Fiori launchpad.
2. To launch the Custom Communication Scenarios SAP Fiori app, choose the corresponding SAP Fiori tile in the Extensibility catalog.
3. Choose New and enter a name and description then choose New.
4. Choose Inbound Services tab and choose Add.
5. In the opening dialog, choose the service that was created in the previous step while creating the Custom CDS view.

   Note

   The service name will be the name of the Custom CDS View followed by "_CDS".

6. Choose OK.
7. Choose Publish.

Now we need to create a communication arrangement.

8. Access the SAP Fiori launchpad.
9. To launch the Communication Arrangement SAP Fiori app, choose the corresponding SAP Fiori tile in the Communication Management catalog.
10. Choose New.
11. Choose Scenario field.
12. Choose the custom communication scenario created in the previous step from the dialog.
13. Enter an Arrangement Name.
14. Choose Create.

15. Choose Communication System field value helper to open the dialog and choose the system which you created in the section Create Communication System.

   Note

   The User Name for Inbound Communication should be automatically filled (e.g. **`WORKFLOW_API_USER)`**.

16. Choose Save.

   Note

   In the Inbound Services section, you can see the Service URL / Service Interface.

Setup API for Banks to enable value help for all banks

Procedure

1. Access the SAP Fiori launchpad.
2. Go to the Communication Arrangements app in catalog Communication Management.
3. To create a new communication arrangement, choose New.
4. To create a communication arrangement for Finance – Bank Integration API, select `SAP_COM_0127`.
5. Adapt the Arrangement Name if required.
6. Choose Create.
7. In the Common Data section, from the input help, select the Communication System that was also used during the setup of the other APIs/ CDS- Views.
8. The technical user is automatically added to the Inbound Communication section.
9. Save your changes.
10. Check that the communication arrangements have been activated (the status Active must be visible).