

SAP CLOUD PLATFORM | EXTERNAL

Configuration Guide

Maintain Purchase Info Record

Table of Contents

Table of Contents	2
Overview	3
Live Process Artifacts.....	4
Process	4
Process Variants	6
Import Maintain Purchase Info Record Content and Configure Process Variants.....	7
Add additional Approval Step to an existing Process Variant	7
Decisions & Policies.....	8
Determine Process Variant.....	8
Validate Purchase Info Record Business Data.....	10
Approver Determination.....	11
Process Visibility	13
Manage Purchase Info Record.....	13
Configure Visibility Scenarios	13
Access Process Workspace.....	14

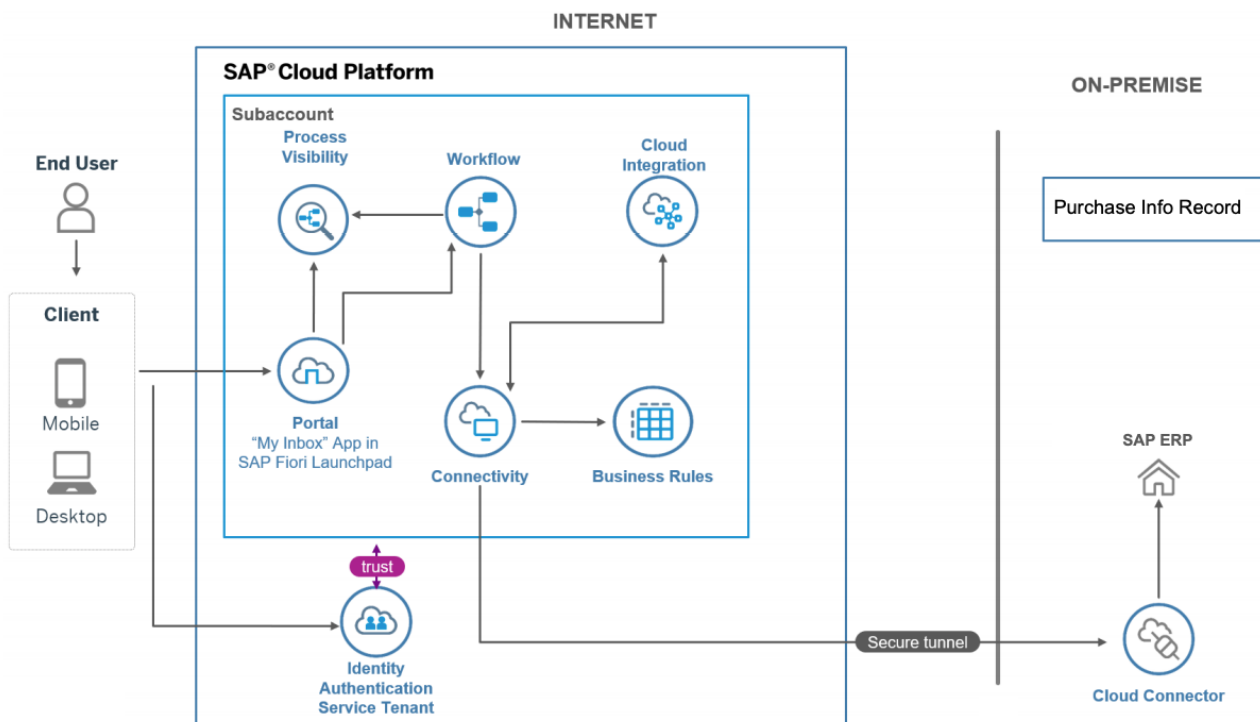
Overview

This document provides information about configuration steps to consume the live process package **Maintain Purchase Info Record**. The main audience of this document are procurement experts, developers and product owners.

The Maintain Purchase Info Record content package enables SAP ERP customers to automate the create and change of Purchase Info Record using SAP Cloud Platform Workflow Management without additional development in SAP ERP. Salient features of this content package are:

- Plug and Play with SAP ERP without additional development.
- Pre-configured process steps to create net new variants.
- New Process variants can be configured in a low-code, no-code approach.
- Add additional approvers before the purchase info record is update in SAP ERP.
- Agent/approver determination using Business Rules.
- Flexibility in determining process variants based on business conditions.
- Master data validations and additional business validation of purchase info record using business rules.
- Pre-built integration content to call SAP ERP RFC from SAP Cloud Platform Workflow Management.
- Out-of-the-box visibility into key process performance indicators.

SAP ERP - Maintain Purchase Info Record



Live Process Artifacts

A process content package consists of process templates, process steps, workflow form UI, process variants, decisions and process visibility models. Please refer [help documentation](#) about these artifacts.

Process

A process template is a set of business activities and tasks that, once completed, fulfills an organization goal. The Maintain Purchase Info Record package contains the following process template:

Maintain Purchase Info Record – Create or update purchase info record in SAP ERP with a multi-level approval process. It includes three process steps for easy no-code/low-code configuration.

A business process can be broken down logically into smaller parts or steps. Each process step is a collection of activities to perform a specific task. For example, an approval process step can contain an activity to determine the approvers, an approval task itself, notifications activities, and handle the approval result. Table 1 represents the list of process steps available to be used in Maintain Purchase Info Record.

Table 1. Process Steps.

Process Steps	Cardinality	Detailed Description
Validate Purchase Info Record	1..1	This step has activities to validate a Purchase Info Record based on a business rule. It is possible to add custom validation rule based on Plant, Purchase Organization, Purchase Info Category, Material Group, Old Price, New Price, Company Code. The step can occur maximum once in and ideally the first step of the process. If the validation did not pass, then requestor will be informed via mail and stops any further processing.
Approval	0.. N	This step has activities to initiate and complete one level of approval for a Purchase Info Record. Based on the number of approval levels required, this step can be re-used multiple times. It is possible to rename the step to appropriate approval roles, for example, 'Approval by Purchasing Head'. The approver is determined based on various conditions using a business rule. The requestor and the approver are automatically notified via mail about the decision and approval task respectively.
Post to SAP ERP	1..1	This step has activities to create or update a purchase info record based on the result of the approval step(s). This step can occur only once, and it should be the last step of the process. The requestor is automatically notified via email.

A process step can have customizable properties and they could determine the outcome of the process step. For example, the Approval step can be reused multiple time and based on these properties the approver is determined. Please see Table 2 for more details.

Table 2. Process Step Properties.

Process Step	Properties	Detailed Description
Approval	Level Name	Based on the name of the approval level, the approver is determined using a business rule. Default value is Purchase Manager and it can be configured to any approval level provided the same level name is configured in the business rule.

The process has attributes and these attributes are available in process visibility to search approval process instances and to define process performance indicators. Please see Table 3 for more details

Table 3. Process Attributes.

Process Attributes	Detailed Description
PurchaseInfoRecordNum	Purchase Info Record Number
Material	Material Number
Vendor	Vendor Number
PurchaseOrganization	Purchase Organization
Plant	Plant
PurchaseInfoCategory	Purchase Info Category
OldPrice	Old Price
Price	New Price

The following (sample) context required to start the process:

```
{
  "Requester": {
    "Action": "Change",
    "RequestDate": "2020-07-13T08:55:52.864Z",
    "Email": "name@domain.com",
    "UserId": "P000923",
    "Comments": "Update to the price as informed by the vendor",
    "Name": "FirstName LastName"
  },
  "PurchaseInfoRecordDetails": {
    "PurchaseInfoRecordNum": "5300003411",
    "MaterialGroupDesc": "",
    "StandardQuantity": 10,
    "PurchaseInfoCategory": "0",
    "OrderUnit": "KG",
    "PurchaseInfoCategoryDesc": "Standard",
    "PurchaseGroupDesc": "Einkäufer 1",
    "Plant": "0001",
    "MaterialDesc": "Material description",
    "PurchaseOrganizationDesc": "Kopie EKORG 0001",
    "PurchaseOrganization": "0001",
    "Currency": "EUR",
  }
}
```

```

    "PlannedDeliveryTime": 5,
    "ValidFrom": "20200706",
    "OldPrice": "15.00",
    "Material": "1121",
    "PlantDesc": "Werk 0001",
    "Vendor": "100280",
    "PriceUnit": "1",
    "VendorDesc": "Claus",
    "MaterialGroup": "",
    "Price": 20,
    "ValidTo": "20201020",
    "PurchaseGroup": "001",
    "CompanyCode": "0001"
  }
}

```

Process Variants

A process variant consists of multiple process steps configured by a Line of business expert. It is possible to create multiple variants of the same process. For example, if the price variance is higher than 20% then there could be a multi-level approval process, otherwise one-level approval is sufficient, or for plant 10001 the approval steps can be skipped, etc.

Please refer [help documentation](#) about how to import content packages and configure a process variant.

The screenshot displays the SAP Manage Process Variants interface. On the left, under 'Available Steps (3)', three steps are listed: 'Approval' (checked), 'Post to SAP ERP' (unchecked), and 'Validate Purchase Info Record' (checked). The central area shows a process flow diagram with a green start circle, followed by 'Validate Purchase Info Record' (checked), 'Approval by Purchasing Manager' (checked), 'Approval by Purchase Head' (checked), and 'Post to SAP ERP' (unchecked), ending with a red circle. On the right, the 'Process Variant Properties' panel shows the name 'High Price Variance', the process 'Maintain Purchase Info Record', and a description: 'An approval process for updating an existing purchase info record with high price variance. This requires an approval from both purchasing manager and purchase head.'

Import Maintain Purchase Info Record Content and Configure Process Variants

1. Import content package Maintain Purchase Info Record Process. Please refer the standard help document about [how to import a content package](#).
2. This content package has one process template and process variant for that template is required.
3. Create a new variant of Maintain Purchase Info Record.
4. Open content package Maintain Purchase Info Record in Flexibility Cockpit and click Process Variants tile.
5. Click New Process Variant.
6. Enter Name of the new Process Variant and select “Maintain Purchase Info Record” as Process.
7. Click Create button.
8. Click the newly created Process Variant tile to save and activate the process variant.
9. The Process Variant has a default implementation with three steps.
10. Configure Step Property for Approval process step – “Level Name”. Level Name property is used to determine the Approver using the business rule Determine Approver.
11. It is possible to add additional Approval steps to a process variant. Drag and drop the Approval step where required and update the name and level name property.
12. Save and Activate the variant. A successful activation will create a new workflow definition in the account that can be viewed in the Monitor Workflows – Workflow Definition app in Fiori Launchpad.
13. Update the Determine Approver Policy and include the level name to the rule.
14. Update the Determine Process Variant Policy and include the newly created workflow definition ID to the rule.

Add additional Approval Step to an existing Process Variant

It is possible to add additional approval steps, or even remove all approval process steps from the process.

1. Open content package Maintain Purchase Info Record in Flexibility Cockpit and click Process Variants tile
2. Select the variant that you want to modify.
3. Drag and drop Approval step as an additional step between the ‘Validate Purchase Info Record’ and ‘Post to ERP’ steps.
4. Modify the step name in the properties pane.
5. Modify the Level Name property as needed.
6. Save and Activate the new Process Variant.
7. Update the Determine Approver Policy to include the level name to the rule.

Decisions & Policies

Decisions allow to encapsulate the business logic from core applications and supports the reuse of business rules across different business processes. Decisions enable customers to adopt changes in processes without changing the underlying workflows or application logic. SAP Cloud Platform Workflow Management has Decision management capabilities enable customers to centrally manage all decisions. Please go through the [Decision Management capabilities](#) in SAP Workflow Management.

Maintain Purchase Info Record enable customers to flexibly configure decisions to gain flexibility to

1. Determine process variant.
2. Perform (additional) business validation on Purchase Info Record.
3. Determine approval task due date.
4. Determine Price variance percentage.
5. Determine Approvers

Determine Process Variant

It is possible to configure different Process Variant for Purchase Info Record using conditions modeled using the attributes of the Purchase Info Record Details.

Rule Service: Determine Process Variant

Input: Purchase Info Record Details (Structure data type)

ATTRIBUTE	TYPE	DESCRIPTION
Action	String	User action on Purchase Info Record App that triggered the process - 'Create' or 'Change'
Plant	String	Plant ID
Purchase Organization	String	Purchase organization
Purchase Info Category	String	Purchase info category
Material Group	String	Material group
Old Price	Number	Old price of Purchase Info Record
New Price	Number	New price of Purchase Info Record
Approval Level	String	Level Name for which specific approver will approve the request
Company Code	String	Company code of requested Purchase Info Record

Output: Process Variant Details (String)

ATTRIBUTE	TYPE	DESCRIPTION
Process Variant ID	String	A preconfigured Workflow Definition Id. The value of workflow definition id will be available in Monitor Workflows - Workflow definitions application after activation of a Process Variant of type Maintain Purchase Info Record.

Rulesets

To determine Process Variants the following two rules are executed:

1. Price Variance Calculation Policy: Policy to calculate price variance percentage based on old price and new price. This price variance percentage can be use later to determine approver or process variant.

Rule Definition: Calculate Price Variance Rules



Calculate Price Variance Rules

Details **Text Rule**

▼ If

Purchase Info Record Details.Purchase Info Category = 'Change'

Then

Price Variance Percentage: $((\text{Purchase Info Record Details.New Price} - \text{Purchase Info Record Details.Old Price}) / \text{Purchase Info Record Details.Old Price}) * 100$

2. Process Variant Determination Policy: Policy to determine the process variant based on various business criteria like company, purchase organization, material type, material group, price variance percentage and record type.

Rule Definition: Determine Process Variant

Decision Table

If							Then
Purchase Info Rec...	Purchase Info Rec...	Purchase Info Rec...	Purchase Info Rec...	Purchase Info Rec...	Purchase Info Rec...	Price Variance,Pri...	Process Variant ID
'1000'	'1000'	'1000'		'0'	'Create'	IN [0 .. 100]	'maintainpurcha...
				'0'	'Change'	IN [25 .. 100]	'maintainpurcha...
'0001'	'001'	'0001'		'0'	'Create'	IN [0 .. 100]	'maintainpurcha...
					'Create' OR 'Ch...	> 0	'maintainpurcha...

Where used

SAPUI5 Application in SAP Fiori Launchpad: On Save of create or update request in the Manage Purchase Info Record app, the determine process variant decision is called and based on the response the appropriate process variant is automatically started.

Validate Purchase Info Record Business Data

With this decision, it is possible to add any business-specific validation on a Purchase Info Record. For example, you can enable/disable the cloud application for a specific company or plant or material.

Rule Service Name: Business validation for Purchase Info Record

Input: Purchase Info Record Details (Structure data type)

ATTRIBUTE	TYPE	DESCRIPTION
Action	String	User action on Purchase Info Record App that triggered the process - 'Create' or 'Change'
Plant	String	Plant
Purchase Organization	String	Purchase organisation
Purchase Info Category	String	Purchase info category
Material Group	String	Material group
Old Price	Number	Old price of Purchase Info Record
New Price	Number	New price of Purchase Info Record

Output: Validation Result (Structure)

Validate Purchase Info Record attributes with various attributes.

ATTRIBUTE	TYPE	DESCRIPTION
Validation Message	String	Validation Message
Is Valid	String	'True' if validation is successful and 'False' if validation failed.

Rule Definition

To Validate Purchase Info Record attributes. It is possible to maintain additional business validation using this rule.

Text Rule

▼ If

Purchase Info Record Details.Company Code = '1002'

Then

Is Valid:

Validation Message:

Where used

Step: Validate Purchase Info Record

Approver Determination

This decision is used in the Approval process step to determine the potential approver(s) based on different info record attributes.

Input and output

Rule Service Name: Determine Approver

Input: Purchase Info Record Details (Structure data type)

ATTRIBUTE	TYPE	DESCRIPTION
Action	String	User action on Purchase Info Record App that triggered the process - 'Create' or 'Change'
Plant	String	Plant
Purchase Organization	String	Purchase organisation
Purchase Info Category	String	Purchase info category
Material Group	String	Material group
Old Price	Number	Old price of Purchase Info Record
New Price	Number	New price of Purchase Info Record
Approval Level	String	Approval Level Name for which specific approver will approve the request
Company Code	String	Company code of requested Purchase Info Record

Output Approver Details (Structure)

ATTRIBUTE	TYPE	DESCRIPTION
Is Approval Required	String	Check if approval is required or can be skipped. True if required and false if not required.
User Group	String	A user group in SAP Cloud Platform who can approve a step in the process. You can provide either user group or user id or both.
Email	String	Email address of the approver to whom the task notification will be sent. You can add multiple email addresses using a comma separated value.
Due Duration Reference Event	String	Reference to an event in the workflow to determine the target of the user task
Task Due Duration	Number	The duration target by which the user task needs to be completed. Used along with the unit of time.
Unit of Time	String	Unit of time of due duration like minutes, hours, days, etc.
User Id	String	User ID of the individual approver. You can add multiple user ID using a comma separated value. You can provide either user group or user id or both.

Rulesets

To determine approvers three Rulesets are working sequentially. All Rulesets are Orchestration Rulesets. Rulesets are given below.

1. Price Variance Calculation Policy: Policy to calculate price variance percentage based on old price and new price. This price variance percentage can be use later to determine approver or process variant.

Rule Definition: Calculate Price Variance Rules

Calculate Price Variance Rules

Details **Text Rule**

▼ If

Purchase Info Record Details.Purchase Info Category = 'Change'

Then

Price Variance Percentage: $((\text{Purchase Info Record Details.New Price} - \text{Purchase Info Record Details.Old Price}) / \text{Purchase Info Record Details.Old Price}) * 100$

2. Due Date Determination Policy: Policy to determine the due date for each approval step of purchase info record maintain.

Rule Definition: Determine Task Due Date

Determine Task Due Date

Details **Text Rule**

Text Rule

Text Rule

▼ If

Purchase Info Record Details.Purchase Organization = '1000'

Then

Duration:

Duration Reference:

Unit of Time:

3. Approver Determination Policy: Determine approver for each approval step in the process based on the conditions like company code, purchase organization, material group, material type and purchase info category.

Rule Definition: Determine Approver

Decision Table											Add Row	Delete Row	Copy Row	Cut Row	Paste Row
If								Then							
	Purchase Info Reco...	Purchase Info Reco...	Purchase Info Reco...	Purchase Info Reco...	Purchase Info Reco...	Purchase Info Reco...	Purchase Info Reco...	Price Variance.Price ...	Email	Is Approval Required	User Group	User Id			
<input type="checkbox"/>	'1000'	'1000'	'1000'	'0'		'Create'	'Local Manager'	IN [0 .. 100]		true'	'Local Manager'				
<input type="checkbox"/>	'1000'	'1000'	'1000'	'0'		'Change'	'Local Manager'	IN [0 .. 100]		true'	'Local Manager'				
<input type="checkbox"/>	'0001'	'0001'	'0001'	'0'		'Create'	'Local Manager'			true'	'Local Manager'				
<input type="checkbox"/>	'0001'	'0001'	'0001'	'0'		'Create'	'Purchase Head'			true'	'Purchase Head'				
<input type="checkbox"/>	'0001'	'0001'	'0001'	'0'		'Change'	'Local Manager'	IN [10 .. 15]		true'	'Local Manager'				
<input type="checkbox"/>	'0001'	'0001'	'0001'	'0'		'Change'	'Purchase Head'	IN [10 .. 15]		true'	'Purchase Head'				
<input type="checkbox"/>								> 20		true'	'Default Group'				

Where used

Step: Approval

Process Visibility

Process visibility enable 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 enable customers gain out of the box process visibility into their deployed processes. Please refer [help documentation](#) for more details.

Manage Purchase Info Record

Maintain Purchase Info Record process content package provide out of the box visibility on all the process variants in SAP Cloud Platform Workflow Management. 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 Maintain Purchase Info Record tile.
3. Click Visibility Scenarios tile.
4. Select Manage Purchase Info Record scenario.

Please go through [help documentation](#) how to model a visibility scenario.

Event Name	
MaintainPurchaseInfoRecord Completed	
MaintainPurchaseInfoRecord Failed	
MaintainPurchaseInfoRecord Cancelled	
MaintainPurchaseInfoRecord Suspended	
MaintainPurchaseInfoRecord Resumed	

Access Process Workspace

1. Go to Process Flexibility Cockpit
2. Select Maintain Purchase Info Record
3. Click Live Process Insights Maintain Purchase Info Record
4. User will see the below detailed process visibility screen.

Standard
Not Filtered

Open Instances by Status 71 Critical: 24 At Risk: 0 On Track: 47	Completed Instances by Status 91 MaintainPurchaseInfoRecord Cance...: 3 Completed without violations: 88	Cycle Time by Variant 0.40 Hrs Donut chart: 0.06 (PurchaseInfoRecord), 0.49 (defaultPIR)	Step Cycle Time by Step 17.06 Min Donut chart: 22.86 (Approval by Purchase Manager), 293.38 (Approval by Local Manager)
---	--	--	---

Purchase Info Record
by Material
162
80

Open Instances
by Step
71
Approval by Purchase Manager

Legend:
 - defaultPIR (Blue)
 - PurchaseInfoRecord (Orange)
 - Approval by Purchase Manager (Blue)
 - Approval by Local Manager (Orange)
 - Finalization Steps (Green)
 - Initialization Steps (Pink)
 - Approval (Purple)
 - Approval by Purchase Head (Teal)
 - Approval Steps (Blue)

Please go through [help documentation](#) how to access process workspace.