



Accelerate Approval Workflow Package

Version 1.1.0

November 2020

Accelerate Approval Workflow Package

This function defines and sets up approval workflow rules for Quote, Rebates, Price Lists, Promotions, LPG items (with detailed information such as approver, condition for approval, reason, etc.).

- [Deployment](#)
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- [Lookup Tables Support \(since 1.1.0\)](#)

Deployment

- ApprovalWorkflow - Groovy library which provides a function to generate approval steps based on the configuration in pricing parameter tables.
- Price Parameters - Three pricing parameter tables to save the configuration data:
 - ApprovalWorkflowSetup - Defines approval steps for each type.
 - Approvers - Defines a list of approvers (users, user groups or business roles).
 - ApprovalCondition - Defines a condition to apply to each approval step.

Usage

To use this library, you need to do the following:

- [Set up Price Parameter Tables](#)
- [Set up Workflow Logic](#)

Set up Price Parameter Tables

ApprovalWorkflowSetup

Column Name	Description
Workflow Type	Name of the workflow type (Quote, Contract, PriceList, PriceGridItem, etc.)
Step ID	ID of the approval step. There is no rule for setting ID but a number is recommended.
Step Order	Priority of the approval steps
Step Label	Label of the approval step
Reason	Description of the approval step

Skip	"Yes" - This step is not added into the workflow. "No" - This step is added into the workflow.
Step Type	Enter "Watcher" if you want to set a watcher for this step.
Min Approvers	If Approver Type = "User Group", this sets the minimum number of users who must approve.

i Step Label and Reason: They display in the Step field and Reason field when you click the Workflow tab in a Quote, Price List, Price Grid Item etc.

Example:

Price Parameter Values : Approval Workflow Setup [5]								
<input type="checkbox"/>	Workflow Type	Step ID	Step Order	Step Label	Reason	Skip	Step Type	Min Approvers
<input type="checkbox"/>	PriceGridItem	1		1 Approve for PLI	There is a new PGL, must be approve	NO		
<input type="checkbox"/>	Quote	1		1 Approve Quote	There is a new Quote need to be approved	NO		
<input type="checkbox"/>	Quote	2		2 Watcher quote	There is a new Quote need to be check	NO	Watcher	
<input type="checkbox"/>	Quote	3		3 Supervisor approve quote	There is a new big Quote. Please approve it now	NO		
<input type="checkbox"/>	PriceList	1		1 Approve for new PL	There is a new PL. Please approve it	NO		

Approvers

The content of column names below must match the setting in Approval Workflow Setup.

Column Name	Description
Workflow Type	Name of the workflow type (Quote, Contract, PriceList, PriceGridItem, etc.)
Step ID	ID of the approval step
Approver ID	ID of the approver. This allows to define approvers if multiple ones are needed in Step 1.
Approver Type	Type of the approver (user, user group or business role).
Approver	Name of the approver. <ul style="list-style-type: none"> • If Approver type = "User Group", it is a group name • If Approver type = "User", it is a user login name • If Approver type = "Business Role", it is a business role name
Skip	"Yes" - This approver is not added in the workflow step. "No" - This approver is added in the workflow step.

Example:

Price Parameter Values : Approvers at each step [5]

<input type="checkbox"/>	Workflow Type ▼	Step ID	Approver ID	Approver Type	Approver Name	Skip
<input type="checkbox"/>	PriceGridItem	1	1	USER	vinh	NO
<input type="checkbox"/>	Quote	1	1	USER	tram	NO
<input type="checkbox"/>	Quote	2	1	USER	vinh	NO
<input type="checkbox"/>	Quote	3	1	GROUP	admin	NO
<input type="checkbox"/>	PriceList	1	1	GROUP	admin	NO

ApprovalCondition

The content of column names below must match the setting in Approval Workflow Setup.

Column Name	Description
Workflow Type	Name of the workflow type (Quote, Contract, PriceList, PriceGridItem, etc.)
Step ID	ID of the approval step
Condition ID	ID of the condition
Condition Description	Description for the condition

Condition	<p>Boolean condition string. If Condition is empty and Skip = No, the result is always TRUE.</p> <p>To set the formula, see Formula Evaluator for information on currently supported operators.</p> <p>The rule for setting a condition for a header, line items or folder:</p> <ul style="list-style-type: none"> • header.ElementName + condition • line.ElementName + condition • line.folder.ElementName + condition AND label == "folder name" (if any) <p>Note:</p> <ul style="list-style-type: none"> • This rule is helpful when you have the same element names on both header and line item level - using a rule you can distinguish them. • header.ElementName and line.ElementName are only applied for the input or output. For example, you want to set a condition for Product Id (MB-0035), you have to set like this: sku == "MB-0035". <p>An LPG does not contain a line item, so you can set ElementName + condition (suggested) or header.ElementName + condition.</p> <p>A Price List contains a line item, so you can set ElementName + condition (suggested) or line.ElementName + condition.</p> <p>From version 1.1.0, the rule for setting a condition changed to "header.ElementName" or "line.ElementName".</p>
Skip	<p>"Yes" - The condition is not checked.</p> <p>"No" - The condition is checked.</p>

Example:

<input type="checkbox"/>	Workflow Type	Step ID	Condition ID	Condition Description	Condition	Skip
<input type="checkbox"/>	Quote	1	1	MarginPct_BelowPreferredMargin	header.MarginPct < (0.6 + 0.1) OR line.Quantity <= 9	NO
<input type="checkbox"/>	Quote	2	1	MarginPct_VeryLowMargin	line.MarginPct < 0.25	NO
<input type="checkbox"/>	Quote	3	1	Total Invoice Price	header.TotalInvoicePrice < 2000	NO
<input type="checkbox"/>	Quote	4	1	MarginPct_NOWAY	line.MarginPct <= 0.1	NO
<input checked="" type="checkbox"/>	Quote	5	1	Total Invoice Price_Folder	line.folder.TotalInvoicePrice > 500 AND label == "Alcoholic"	NO
<input type="checkbox"/>	Quote	5	2	Total Invoice Price_Folder	line.folder.TotalInvoicePrice < 200 AND label == "Others"	NO

Note:

You can combine the condition of values on a header and line item, line item and line item of the same level within one condition row. But there is currently a limitation when combining a line item with another line item of a different level (folder), then you have to have two separate rows.

Set up Workflow Logic

1. Go to Administration > Workflows > Workflow Logics.
2. Choose Workflow Type you want to run.

3. Click the Edit button.
4. Change the name in the logic to the same name you already defined in Price Parameters (optional, the default will be the same as below):

Note: If you change the name, check the workflow logic again because it will use the default setup after each deployment.

5. If you want to (de)activate a workflow type, set it in the Status column.

<input type="checkbox"/>	Workflow Type	Name	Label	Valid After	Status	Last Update	Last Updated ...
<input type="checkbox"/>	Price List	Price List	PL workflow	01/01/2019	Active	04/09/2019 01:26 PM	vinh
<input type="checkbox"/>	Price Grid Item	Price Grid Item	PGI workflow	01/01/2019	Active	04/09/2019 01:26 PM	vinh
<input type="checkbox"/>	Quote	Quote	Quote workflow	01/01/2019	Active	04/09/2019 01:26 PM	vinh

Notes

- If you want to hide any step, just set Skip to YES in the ApprovalWorkflowSetup table.
- If you do not want to check a condition but still want to show the approval, you can set it up in ApprovalCondition by Skip = YES.
- You can create a workflow step with the combination "one user and a group" (either the assigned user approves or any user in the assigned group approves). To do so, create one more step in the Approvers table, as shown below:

<input type="checkbox"/>	Workflow Type	Step ID	Approver ID	Approver Type	Approver Name	Skip	Attr. 4	Attr. 5
<input type="checkbox"/>	PriceGridItem	1	1	USER GROUP	Admin	NO		
<input type="checkbox"/>	Quote	1	1	USER	test2	NO		
<input type="checkbox"/>	Quote	2	1	USER	tram	NO		
<input type="checkbox"/>	Quote	2	2	USER GROUP	Admin	NO		
<input type="checkbox"/>	PriceList	1	1	USER GROUP	admin	NO		
<input type="checkbox"/>	Rebates	1	1	USER	vinh	NO		
<input type="checkbox"/>	RebateRecord	1	1	BUSINESS ROLE	BusinessRole01	NO		

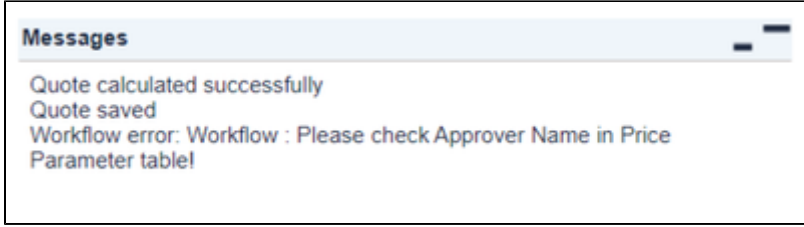
The result will look like this:

<input type="checkbox"/>	Unique Name	Approvers	Execution Status	Executed By	Execution Date	P.	App.	Reason	Last Action Time
<input type="checkbox"/>	Approval Quote	Tram Nguyen	Approved	Tram Nguyen	17/06/2019 14:16	1/1		There is a new Quote need to be approved	17/06/2019 14:16
<input type="checkbox"/>	Sales Managers	Sales Managers	Approved	Tram Nguyen on behalf of Sales Manager...	17/06/2019 14:16	2/2		Both Sales Managers need to be approved	17/06/2019 14:16
<input type="checkbox"/>	Alcoholic Foster	Admin	Approved	test1 on behalf of Admin	17/06/2019 14:17	1/1		Alcoholic products need to be approved	17/06/2019 14:17

- If the Approver Name column in the Approvers PP table is empty, when you click the Save button and View Workflow button, there be a message to notify users:

Workflow error: Workflow : Please check Approver Name in Price Parameter table!

If the user clicks the Submit button, this quote cannot be submitted and the following message will be shown:



Lookup Tables Support (since 1.1.0)

You can define data to be obtained from P, C, PX, CX or PP and use them in an approval workflow condition expression. For example, we have a quote condition that starts an approval process: `line.MarginPct < noWayMargin`. In the condition, `line.MarginPct` is a margin percentage per a line item in the Quote and `noWayMargin` is the expected margin percentage for each line item (the quote should not go lower than this value) and its value is fetched from the PX, PP, etc. table. The previous version looked like `line.MarginPct < 0.1`.

In this improved version, we provide two Price Parameter tables besides `ApprovalWorkflowSetup`, `Approvers`, `ApprovalCondition`. To provide a better guidance, we created an example PP table "Test Expected Margin Quote":

<input type="checkbox"/>	Customer Id	Product Id	Very Low Margin %	No Way Margin %	Below Preferred Margin %
<input type="checkbox"/>	CD-00001	BV-0007	10.00 %	20.00 %	34.00 %
<input type="checkbox"/>	CD-00001	MB-0002	12.00 %	3.00 %	45.00 %
<input type="checkbox"/>	CD-00001	MB-0001	67.00 %	68.00 %	71.00 %

Set up Price Parameter Tables

WFExpressionVariableConfiguration

Column Name	Description
Variable Name	Variable that can be used in the condition expression. You can define it in your own way but the input should look like <code>noWayMargin</code> , <code>expectedMargin</code> , etc.
Workflow Type	Name of the workflow type (Quote, Contract, PriceList, PriceGridItem, etc.) where the variable is used.
Lookup Table	Defines a lookup table seeking for the value.
Lookup Type	Defines the lookup type. Supported types: P, C, PX, CX, PP.

Variable Value	Defines an attribute of the lookup table where the variable value is stored.
Variable Type	Defines the variable data type for auto type casting. Supported values: Number (default), String.
Skip	<p>“Yes” - Allows to skip the variable name</p> <p>“No” - Keep the variable name</p>

Example:

Price Parameter Values : Additional Variable [24]							
<input type="checkbox"/>	Variable Name	Workflow Type	Lookup Table	Lookup Type	Variable Value	Variable Type	Skip
<input type="checkbox"/>	veryLowMargin	Quote	TestExpectedMarginQuote	PP	attribute1	Number	
<input type="checkbox"/>	noWayMargin	Quote	TestExpectedMarginQuote	PP	attribute2	Number	
<input type="checkbox"/>	belowPreferredMargin	Quote	TestExpectedMarginQuote	PP	Below Preferred Margin %	Number	Yes
<input type="checkbox"/>	Discount	Quote	CPQExceptionDiscount	PP	attribute1		
<input type="checkbox"/>	isPercentage	Quote	CPQExceptionDiscount	PP	attribute2	String	
<input type="checkbox"/>	folderBeverages	Quote	TestFolderQuoteApproval	PP	attribute1	Number	
<input type="checkbox"/>	folderSpecificProducts	Quote	TestFolderQuoteApproval	PP	attribute2		
<input type="checkbox"/>	BusinessUnit	Quote	Product	P	attribute1	String	
<input type="checkbox"/>	floorPrice	Quote	PriceGuidance	PX	attribute2	Number	
<input type="checkbox"/>	currentRebate	Rebates	TestRebateApproval	PP	attribute1	Number	
<input type="checkbox"/>	rebateTypePP	Rebates	TestRebateApproval	PP	attribute2	String	
<input type="checkbox"/>	rebateAmount	Rebates	TestRebateApproval	PP	attribute3	Number	
<input type="checkbox"/>	region	Quote	Customer	C	attribute4	String	
<input type="checkbox"/>	rebateRecord	RebateRecord	TestRebateApproval	PP	attribute4	Number	
<input type="checkbox"/>	productLifeCycle	Quote	Product	P	attribute4	String	
<input type="checkbox"/>	country	Quote	Customer	C	attribute5	String	
<input type="checkbox"/>	priceDecision	PriceList	TestPriceListApproval	PP	attribute1	String	
<input type="checkbox"/>	finalPrice	PriceList	TestPriceListApproval	PP	attribute2	Number	
<input type="checkbox"/>	targetPrice	Quote	PriceGuidance	PX	attribute1	Number	
<input type="checkbox"/>	cost	Quote	CostData	PX	attribute2	Number	
<input type="checkbox"/>	cashDiscount	Quote	CustomerCashDiscount	CX	attribute1	Number	
<input type="checkbox"/>	cashDiscountPct	Quote	TestCashDiscount	CX	attribute1	Number	
<input type="checkbox"/>	priceDecision	PriceGridItem	TestPriceListApproval	PP	attribute1	String	
<input type="checkbox"/>	finalPrice	PriceGridItem	TestPriceListApproval	PP	attribute2	Number	

WFLookupFilterConfiguration

Column Name	Description
Variable Name	Variable name from the WFExpressionVariableConfiguration PP table to define the lookup key.
Lookup Table	Defines a value used to look up for each key.
Lookup Key	Defines a key. For example, key1, key2 for CustomerId, ProductId in the Test Expected Margin Quote PP shown above.

Lookup Value	<p>Defines a value where the key will get data. For example, key1 will get data from customerId in Customer Master, key2 is from sku in Product Master.</p> <p>Note: For a Rebate Agreement with the input type Product Group / Customer Group, you must define "customerGroup" or "productGroup" in this column.</p>
Value Provider	<p>Defines a value provider if the lookup value can not be directly accessed from the approvable. There are some predefined values:</p> <ul style="list-style-type: none"> • customer - Gets a value in a specific attribute for customerId (if the lookup value is not obtained directly from customerId, it is from another attribute, e.g. Country in Customer Master). • product - Gets a value in a specific attribute from sku (if the lookup value is not obtained directly from sku, it is from another attribute, e.g. Business Unit in Product Master). • customerGroup - Gets customerFieldValue from the customer group input. • productGroup - Gets productFieldValue from the product group input. <p>If you are get the values directly from customerId or sku, you do not need to configure this column.</p>

Example:

<input type="checkbox"/>	Variable Name	Lookup Table	Lookup Key	Lookup Value	Value Provider
<input type="checkbox"/>	cost	CostData	sku	sku	
<input type="checkbox"/>	isPercentage	CPQExceptionDiscount	key1	customerId	
<input type="checkbox"/>	isPercentage	CPQExceptionDiscount	key2	sku	
<input type="checkbox"/>	Discount	CPQExceptionDiscount	key1	customerId	
<input type="checkbox"/>	Discount	CPQExceptionDiscount	key2	sku	
<input type="checkbox"/>	region	Customer	customerId	customerId	
<input type="checkbox"/>	country	Customer	customerId	customerId	
<input type="checkbox"/>	cashDiscount	CustomerCashDiscount	customerId	customerId	
<input type="checkbox"/>	targetPrice	PriceGuidance	sku	sku	
<input type="checkbox"/>	productLifeCycle	Product	sku	sku	
<input type="checkbox"/>	BusinessUnit	Product	sku	sku	
<input type="checkbox"/>	floorPrice	ProductPriceGuidance	sku	sku	
<input type="checkbox"/>	cashDiscountPct	TestCashDiscount	customerId	customerId	
<input type="checkbox"/>	veryLowMargin	TestExpectedMarginQuote	key1	customerId	
<input type="checkbox"/>	veryLowMargin	TestExpectedMarginQuote	key2	sku	
<input type="checkbox"/>	noWayMargin	TestExpectedMarginQuote	key1	customerId	
<input type="checkbox"/>	noWayMargin	TestExpectedMarginQuote	key2	sku	
<input type="checkbox"/>	belowPreferredMargin	TestExpectedMarginQuote	key1	customerId	
<input type="checkbox"/>	belowPreferredMargin	TestExpectedMarginQuote	key2	sku	
<input type="checkbox"/>	folderSpecificProducts	TestFolderQuoteApproval	name	attribute2	customer
<input type="checkbox"/>	folderBeverages	TestFolderQuoteApproval	name	attribute2	customer
<input type="checkbox"/>	priceDecision	TestPriceListApproval	name	sku	
<input type="checkbox"/>	finalPrice	TestPriceListApproval	name	sku	
<input type="checkbox"/>	rebateTypePP	TestRebateApproval	key1	customerGroup	customerGroup
<input type="checkbox"/>	rebateTypePP	TestRebateApproval	key2	productGroup	productGroup
<input type="checkbox"/>	rebateRecord	TestRebateApproval	key1	customerGroup	customerGroup
<input type="checkbox"/>	rebateRecord	TestRebateApproval	key2	productGroup	productGroup
<input type="checkbox"/>	rebateAmount	TestRebateApproval	key1	customerGroup	customerGroup
<input type="checkbox"/>	rebateAmount	TestRebateApproval	key2	productGroup	productGroup
<input type="checkbox"/>	currentRebate	TestRebateApproval	key1	customerGroup	customerGroup
<input type="checkbox"/>	currentRebate	TestRebateApproval	key2	productGroup	productGroup

Example for ApprovalCondition:

Price Parameter Values : Approval conditions at each step [17]					
Workflow...	Step ID	Condition ID	Condition Description	Condition	Skip
PriceGridItem	1	1	Check LPG	"header.FinalPrice" < finalPrice	
PriceList	1	1	Check Price Decision and Final Price	FinalPrice < finalPrice AND PriceDecision == priceDecision	
Quote	1	1	Margin % less than Very Low Margin %	IF(isPercentage == "%", "line.DiscountPct" > Discount / 100, "line.DiscountAmount" > Discount)	
Quote	2	1	Margin % less than No Way Margin %	"line.MarginPct" != null AND "line.MarginPct" < noWayMargin	
Quote	3	1	Margin % less than Below Preferred Margin %	"line.MarginPct" < belowPreferredMargin	
Quote	4	1	Some folders are less than expected Margin %	"line.folder.MarginPct" < folderBeverages AND label == "Beverages"	
Quote	5	1	Check Business Unit	BusinessUnit == "Food" AND productLifeCycle == "Decline"	
Quote	6	1	Check Net Price with Floor Price	"line.NetPrice" > IF(targetPrice == null, 9999, targetPrice)	
Quote	7	1	Check Region of Customer	region == "Europe" AND country == "Italy"	
Quote	4	2	Some folders are less than expected Margin %	"line.folder.MarginPct" < folderSpecificProducts AND label == "Specific Products"	
Quote	8	1	Check different PX	"line.Cost" < cost	
Quote	9	1	Check CX	"line.MarginPct" > cashDiscount AND "line.CashDiscount" < cashDiscountPct	
RebateRecord	1	1	Check Rebate Record	attribute2 < rebateRecord	
Rebates	1	1	Check Current Rebate	"line.CurrentRebate" < 100	
Rebates	2	1	Check Rebate amount, Rebate Type	rebateType == rebateTypePP AND "line.Rebate" < rebateAmount	
Rebates	3	1	Check Rebate value map	Target > 1	
Rebates	4	1	Check other rebate conditions	line."Payment Period" == "Semi-Annually"	

Formula Evaluator

Formula Evaluator is a utility to evaluate simple formulas with binding variables.

Usage

```
def binding = [a:1,b:2,c:3]

def formula = " a + b * 2"

def result = libs.FormulaEvaluator.Builder.setFormula(formula).
setBinding(binding).eval() // = 5
```

Supported Operators

Operator	Usage
+	a + b
-	a - b
*	a * b

/	a / b
==	a == b, true == true
>	a > b
<	a < b
>=	a >= b
<=	a <=b
!	!a, !true
&&	a && b, true && false
	a b, true false
AND	a AND b
OR	a OR b
IF	IF (condition, return when true, return when false)
IS_NULL	IS_NULL (value to check null) return true/false
SIZE	SIZE (string or array to get size) return size in integer
AS_STRING	AS_STRING (string) escape string

Cache

For better performance, the evaluator uses `api.global` to cache the parsed formula, so it is required to set `api.retainGlobal = true`.

Binding

A binding map provides variables used in the formula. If the formula does not require a variable, using an empty binding, null binding will always return a null result.

Element Name in Accelerators

Based on [Accelerate Approval Workflow Package](#), this section provides the element names used in Accelerators. Using these values you can set your own condition in the configuration.

Accelerate Price Setting Package (LPG and PL)

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Product Id	sku
Product Name	label
UOM	unitOfMeasure
Product Currency	currency
Result Price	resultPrice
Manual Override	manualResultPrice
Actual Price Lookup	ActualPriceLookup
Dependency Level Currency	BaseCurrency
Advanced Costs	<not supported>
Cost	Cost
Competition Data	<not supported>
Relevant Competition Data	<not supported>
Discount Group	DiscountGroup
Discount	Discount
Volume Discount	VolumeDiscount
Minimum Margin Price	MinimumMarginPrice
Stock	Stock
Days of Cover	StockCoverDays
Prices	Prices
Price Selector	PriceSelector
Override Price	ManualPrice
Override Reason	ManualPriceReason
Exceptions	Exceptions
Final List Price	FinalListPrice
Net Price	NetPrice
Final Price	FinalPrice
Price Decision	PriceDecision
Margin	Margin

Minimum Margin	MinimumMargin
Sales Volume YTD	SalesVolumeYTD
Turnover YTD	TurnoverYTD
Last Year Sales Volume	LastYearSalesVolume
Last Year Turnover	LastYearTurnover
Sales Volume Forecast	SalesVolumeForecast
Turnover Forecast	TurnoverForecast
Price Change Effect	PriceChangeEffect

Accelerate CPQ Package

Effective Date	targetDate
Expiry Date	expiryDate
Customer	header.Customer
Discount Type	header.DiscountConfigurator."Discount Type"
Pricing Detail	
Currency	Currency
Sales Overview	< not supported >
Additional Discount	header.AdditionalDiscount
Revenue	header.Revenue
Cost	header.Cost
Net Price	header.NetPrice
Margin %	header.MarginPct
Margin	header.Margin
Quantity	header.Quantity
Total Deal Score %	header.DealScorePercent
Total Deal Score	header.DealScore
Customer History	

Customer Revenue	header.customerRevHistory
Customer Quantity	header.customerQuantityHistory
Customer Margin	header.customerMarginHistory
Customer Margin %	header.customerMarginPctHistory
Product Name	label
Product Id	sku
Quantity in Default Inputs	line.DefaultInputConfigurator.Quantity
Price in Default Inputs	line.DefaultInputConfigurator.Price
Discount % in Default Inputs	line.DefaultInputConfigurator."Discount %"
Pricing Detail	
Quantity	line.Quantity
List Price	line.ListPrice
Discount Amount	line.DiscountAmount
Discount %	line.DiscountPct
Invoice Price	line.InvoicePrice
Rebate	line.Rebate
Cash Discount %	line.CashDiscount
Net Price	line.NetPrice
Cost	line.Cost
Margin	line.Margin
Margin %	line.MarginPct
Revenue	line.Revenue
Product History	
Historical Period	line.HistoricalPeriod
Product Revenue	line.ProductRevenueHistory
Product Quantity	line.ProductQuantityHistory
Product Margin	line.ProductMarginHistory

Product Margin %	line.ProductMarginPctHistory
Product Weighted Avg. Price	line.ProductWeightedAvgPriceHistory
Avg. Revenue Per Invoice	line.AvgRevenuePerInvoiceHistory
Avg. Quantity Per Invoice	line.AvgQuantityPerInvoiceHistory
Avg. Margin % Per Invoice	line.AvgMarginPctPerInvoiceHistory
Previous Price	
Unit Price	line.PreviousUnitPrice
Margin %	line.PreviousMarginPct
Date	line.PreviousDate
Competitor	
Competitor Median	line.CompetitorMedian
Top 5 Competitors	< not supported >
Lowest Competitor Price	line.LowestCompetitorPrice
Price Guidance	
Target Price	line.TargetPrice
Floor Price	line.FloorPrice
Stretch Price	line.StretchPrice
Deal Score %	line.DealScorePercent
Deal Score	line.DealScore
Revenue	line.folder.Revenue
Cost	line.folder.Cost
Net Price	line.folder.NetPrice
Margin %	line.folder.MarginPct
Margin	line.folder.Margin
Quantity	line.folder.Quantity

Start Date	startDate
End Date	endDate
Payout Date	payoutDate
Rebate Type	rebateType
Input	
Target	line.Target
Rebate	line.Rebate
Rebate %	line."Rebate %"
Increment	line.Increment
Target Quantity	line."Target Quantity"
Rebate Per Unit	line."Rebate Per Unit"
Payment Period	line."Payment Period"
Rebate Detail	
Baseline Value Field Label	line.BaselineValueFieldName
Previous Baseline Value	line.PreviousBaselineValue
Current Baseline Value	line.CurrentBaselineValue
Previous Rebate	line.PreviousRebate
Current Rebate	line.CurrentRebate
Forecast	
Forecast Baseline Value	line.ForecastBaselineValue
Forecast Rebate	line.ForecastRebate
Rebate Type Info	
Target For	line.Display_RebateTypeInfo_TargetFor
Rebate Formulas	line.Display_RebateTypeInfo_RebateFormulas
Payment Period	line.Display_RebateTypeInfo_PaymentPeriod
Pay To	line.Display_RebateTypeInfo_PayTo

Customer(s)	<not supported>
Product(s)	<not supported>

Approval Workflow Package Release Notes

- [Approval Workflow Package 1.1.0](#)

Approval Workflow Package 1.1.0

- [Stories](#)
- [Improvements](#)
- [Sub-tasks](#)
- [Bugs](#)
- [Tasks](#)

Stories

- [\[PFPCS-627\]](#) - Add support for lookup tables
 - **New Price Parameters introduced**
 - `WFExpressionVariableConfiguration`
 - `WFLookupFilterConfiguration`
 - For more information see [Accelerate Approval Workflow Package](#)
- [\[PFPCS-831\]](#) - Approval workflow configuration POC
- [\[PFPCS-1668\]](#) - Use name/label in configuration instead of technical name

Improvements

- [\[PFPCS-1329\]](#) - WF Enhancement_Dropbox for some pre-defined columns in PP table
- [\[PFPCS-1559\]](#) - WF Enhancement_Check table if it exist or not in PX, PP,...
- [\[PFPCS-2353\]](#) - Enhance Performance for Workflow logic in PL

Sub-tasks

- [\[PFPCS-125\]](#) - Support when value return map
- [\[PFPCS-742\]](#) - Additional binding PP configuration definition
- [\[PFPCS-743\]](#) - Additional binding parser
- [\[PFPCS-744\]](#) - Approval expression enhance with additional binding
- [\[PFPCS-745\]](#) - Create Predefined PP for additional binding
- [\[PFPCS-1258\]](#) - ConfigManager - getting configurations
- [\[PFPCS-1259\]](#) - Refactor current implementation using ConfigManager
- [\[PFPCS-1262\]](#) - Documentation update for lookup tables supported
- [\[PFPCS-1311\]](#) - Filter notEqual not work on null/ empty column
- [\[PFPCS-1552\]](#) - Multiple binding support

- [PFPCS-1676] - Additional Variable skip option
- [PFPCS-1677] - Verify Lookup table before query

Bugs

- [PFPCS-1012] - FormulaEvaluator: Sonar Error - The nested block depth is 6
- [PFPCS-1013] - FormulaEvaluator: Sonar Error - println should be replaced with something more robust
- [PFPCS-1014] - FormulaEvaluator: Sonar CodeSmell - The catch block is empty
- [PFPCS-1264] - Approval workflow enhancement: invalid result when lookup multiple variables value
- [PFPCS-1265] - Additional variable configuration is not validated
- [PFPCS-1266] - Approval workflow enhancement: variable value can not be mapped if using value provider
- [PFPCS-1308] - Error @152 for Workflow Utils_Approval enhancement
- [PFPCS-1313] - WF Enhancement_Show approval workflow if output is empty
- [PFPCS-1339] - WF enhancement_Skip checking all lines when throw exception
- [PFPCS-1350] - WF enhancement_Not work if lookup from Product master
- [PFPCS-1381] - WF Enhancement_Not work if lookup from PX, CX
- [PFPCS-1453] - Approval Workflow not work LPG, PL
- [PFPCS-1550] - Error parse number
- [PFPCS-1741] - WF enhancement - Not work when using condition "line.folder"
- [PFPCS-1742] - Run condition incorrectly when compare "line.CashDiscount" > cashDiscountPct
- [PFPCS-1747] - Timed out for PriceListApprovalWorkflow with large number of items (1000+)
- [PFPCS-1748] - Approval workflow not work for some PLs
- [PFPCS-2080] - Conflict between master and dev
- [PFPCS-2238] - Workflow error is displayed with No such property in LPG and not work in PL also
- [PFPCS-2338] - Approval Workflow does not work when VolumeBreakdownMagicLogic is used in PL
- [PFPCS-2570] - WF Enhancement_Can not work if using label in WFExpressionVariableConfiguration PP
- [PFPCS-2629] - WF Enhancement - LPG does not work both in Simple and Matrix
- [PFPCS-2632] - WF Enhancement - Rebate does not work
- [PFPCS-2666] - WF enhancement - Can't set the condition line."Payment Period"
- [PFPCS-2669] - WF does not work if setting the condition quoteType == "Value Estimator"
- [PFPCS-2992] - WF enhancement - Issue with Operator
- [PFPCS-3011] - Approval Workflow_Missing Formula Evaluator dependency

Tasks

- [PFPCS-3002] - WF enhancement_Set dropdown and preference from other tables