Critical manufacturing
an ASM PT company

Migration Guide

11.1

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Migration Guide

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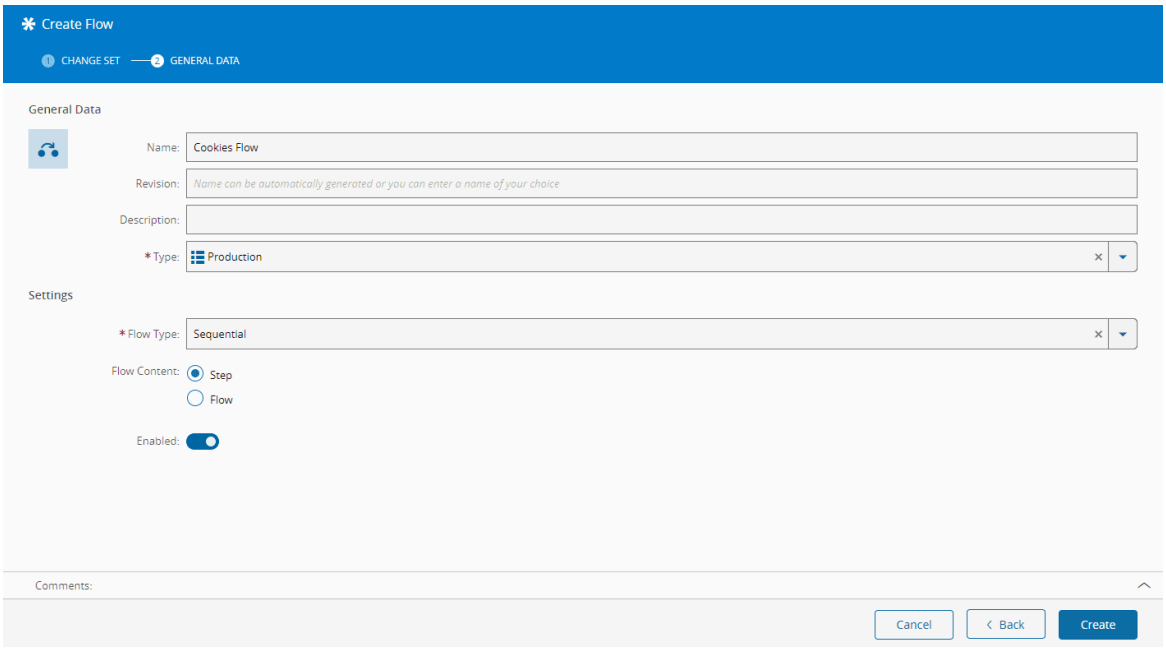
Version 11.0 introduced significant changes to Critical Manufacturing MES system, impacting several aspects of how you create and manage **Flows**, **Rework Paths**, and **Master Data Packages**. This guide highlights the key differences and provides step-by-step instructions to help you navigate these updates.

Creating a Flow

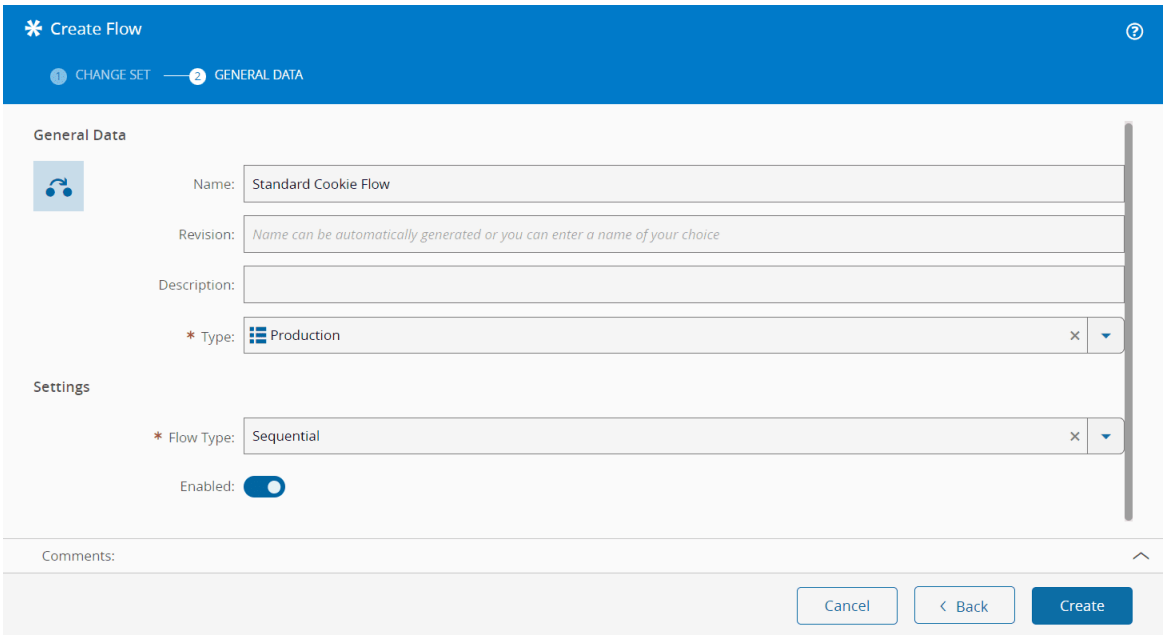
General Data

Before version 11.0, in the General Data wizard, when the Flow Type was Sequential or Alternate, you had to specify the type of child nodes for the **Flow**, whether they were **Steps** or **Flows**. After version 11.0, you only need to specify the Flow Type from the following options:

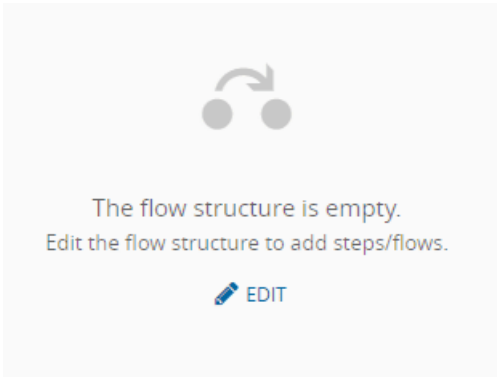
- Sequential
- Alternate (choose Single or Multiple Selection)
- Non-Sequential Block
- Line



After version 11.0



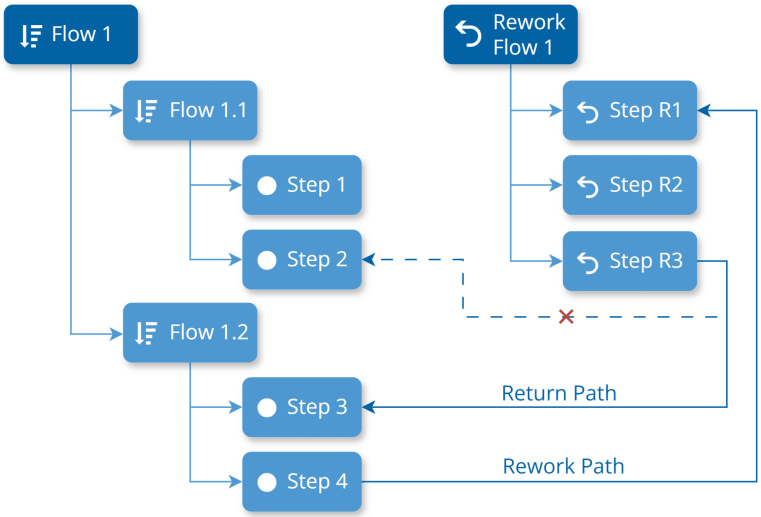
This means you don't have to indicate whether your **Flow** comprises only **Steps** or **Flows**; it can include both at the same level. You can add as many **Flow Items** as you like by selecting the ✎ button.



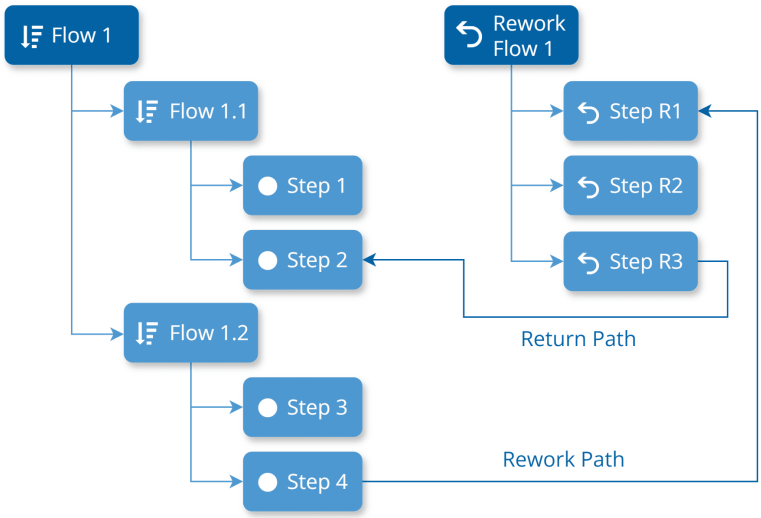
Rework Paths

Before version 11.0, when configuring Rework Flows, the Return Path had to be a **Step** within that **Flow**. So, in the **Before version 11.0** example shown below, if the Rework Path was configured in Step 4, the Return point would have to be Step 3. After version 11.0, Rework Paths can be defined at the **Parent Flow** level, allowing Return Paths to any **Step** within its structure. These Return Paths are anchored to the **TopMost Flow** where they are defined, rather than to a specific **Flow Item**. For instance, in the **After version 11.0** diagram, the Return Path can be any **Step** (e.g., Step 1, Step 2, Step 3, or Step 4) within the **TopMost Flow** (Flow 1).

Before version 11.0



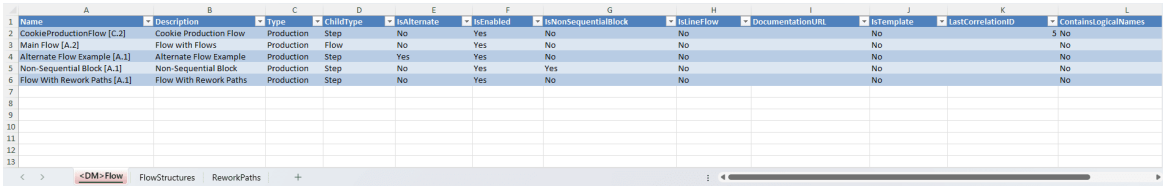
After version 11.0



Master Data Template

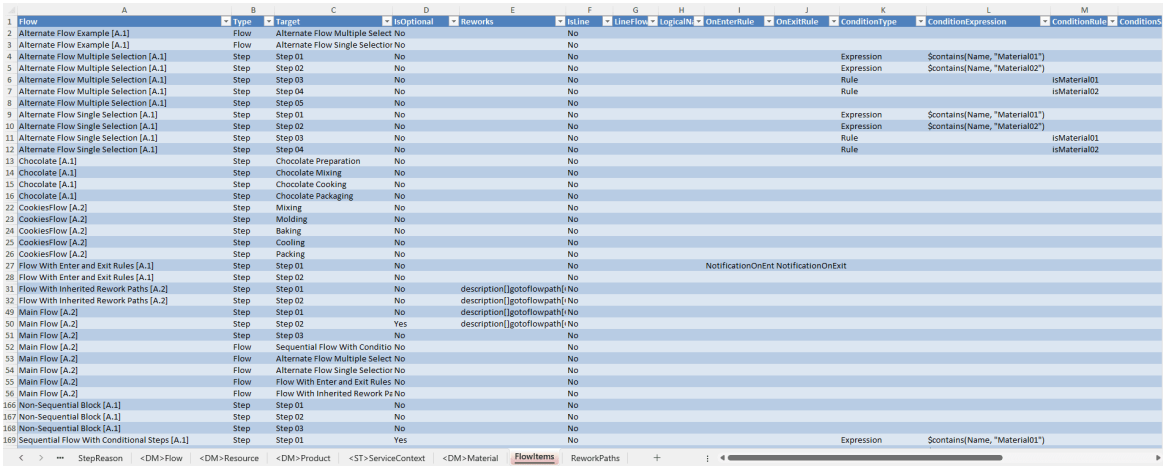
Before version 11.0, the **Flow** sheet in the Master Data required specifying the Child Type (column D), indicating whether it was a **Step** or a **Flow**. After version 11.0, this requirement moved to the **Flow Items** sheet (column B).

Before version 11.0



Name	Description	Type	ChildType	IsAlternate	IsEnabled	IsNonSequentialBlock	IsLineFlow	DocumentationURL	IsTemplate	LastCorrelationID	ContainsLogicalNames
CookieProductionFlow [C.2]	Cookie Production Flow	Production	Step	No	Yes	No	No		No	5	No
Main Flow [A.2]	Flow with Flows	Production	Flow	No	Yes	No	No		No		No
Alternate Flow Example [A.1]	Alternate Flow Example	Production	Step	Yes	Yes	No	No		No		No
Non-Sequential Block [A.1]	Non-Sequential Block	Production	Step	No	Yes	Yes	No		No		No
Flow With Rework Paths [A.1]	Flow With Rework Paths	Production	Step	No	Yes	No	No		No		No

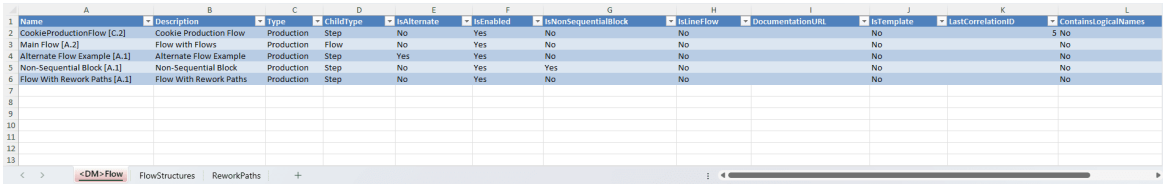
After version 11.0



Flow	Type	Target	IsOptional	Reworks	IsLine	LineFlow	LogicalN	OnEnterRule	OnExitRule	ConditionType	ConditionExpression	ConditionRule	ConditionS
Alternate Flow Example [A.1]	Flow	Alternate Flow Multiple Select	No		No								
Alternate Flow Example [A.1]	Flow	Alternate Flow Single Selection	No		No								
Alternate Flow Multiple Selection [A.1]	Step	Step 01	No		No					Expression	$contains(Name, "Material01")		
Alternate Flow Multiple Selection [A.1]	Step	Step 02	No		No					Expression	$contains(Name, "Material02")		
Alternate Flow Multiple Selection [A.1]	Step	Step 03	No		No					Rule		IsMaterial01	
Alternate Flow Multiple Selection [A.1]	Step	Step 04	No		No					Rule		IsMaterial02	
Alternate Flow Multiple Selection [A.1]	Step	Step 05	No		No								
Alternate Flow Single Selection [A.1]	Step	Step 01	No		No					Expression	$contains(Name, "Material01")		
Alternate Flow Single Selection [A.1]	Step	Step 02	No		No					Expression	$contains(Name, "Material02")		
Alternate Flow Single Selection [A.1]	Step	Step 03	No		No					Rule		IsMaterial01	
Alternate Flow Single Selection [A.1]	Step	Step 04	No		No					Rule		IsMaterial02	
Chocolate [A.1]	Step	Chocolate Preparation	No		No								
Chocolate [A.1]	Step	Chocolate Mixing	No		No								
Chocolate [A.1]	Step	Chocolate Cooking	No		No								
Chocolate [A.1]	Step	Chocolate Packaging	No		No								
CookiesFlow [A.2]	Step	Mixing	No		No								
CookiesFlow [A.2]	Step	Molding	No		No								
CookiesFlow [A.2]	Step	Baking	No		No								
CookiesFlow [A.2]	Step	Cooling	No		No								
CookiesFlow [A.2]	Step	Packing	No		No								
Flow With Enter and Exit Rules [A.1]	Step	Step 01	No		No			NotificationOnEnt	NotificationOnExit				
Flow With Enter and Exit Rules [A.1]	Step	Step 02	No		No								
Flow With Inherited Rework Paths [A.2]	Step	Step 01	No	description[]gotoflowpath[	No								
Flow With Inherited Rework Paths [A.2]	Step	Step 02	No	description[]gotoflowpath[	No								
Main Flow [A.2]	Step	Step 01	No	description[]gotoflowpath[	No								
Main Flow [A.2]	Step	Step 02	Yes	description[]gotoflowpath[	No								
Main Flow [A.2]	Step	Step 03	No		No								
Main Flow [A.2]	Flow	Sequential Flow With Conditio	No		No								
Main Flow [A.2]	Flow	Alternate Flow Multiple Select	No		No								
Main Flow [A.2]	Flow	Alternate Flow Single Selection	No		No								
Main Flow [A.2]	Flow	Flow With Enter and Exit Rules	No		No								
Main Flow [A.2]	Flow	Flow With Inherited Rework Pa	No		No								
Non-Sequential Block [A.1]	Step	Step 01	No		No								
Non-Sequential Block [A.1]	Step	Step 02	No		No								
Non-Sequential Block [A.1]	Step	Step 03	No		No								
Sequential Flow With Conditional Steps [A.1]	Step	Step 01	Yes		No					Expression	$contains(Name, "Material01")		

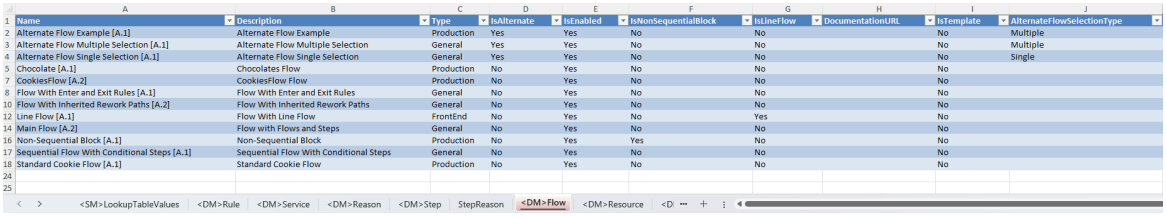
After version 11.0, it is also possible to choose whether your Alternate **Flow** uses Single or Multiple Selection (column J). Single Selection considers only the first **Flow Item** whose condition resolves to true when attempting to move the **Material** to the next **Step**, while Multiple Selection allows choosing from any **Flow Items** with true conditions. Before version 11.0, Multiple Selection was the default setting, and this choice wasn't available.

Before version 11.0



Name	Description	Type	ChildType	IsAlternate	IsEnabled	IsNonSequentialBlock	IsLineFlow	DocumentationURL	IsTemplate	LastCorrelationID	ContainsLogicalNames
CookieProductionFlow [C.2]	Cookie Production Flow	Production	Step	No	Yes	No	No		No	5	No
Main Flow [A.2]	Flow with Flows	Production	Flow	No	Yes	No	No		No		No
Alternate Flow Example [A.1]	Alternate Flow Example	Production	Step	Yes	Yes	No	No		No		No
Non-Sequential Block [A.1]	Non-Sequential Block	Production	Step	No	Yes	Yes	No		No		No
Flow With Rework Paths [A.1]	Flow With Rework Paths	Production	Step	No	Yes	No	No		No		No

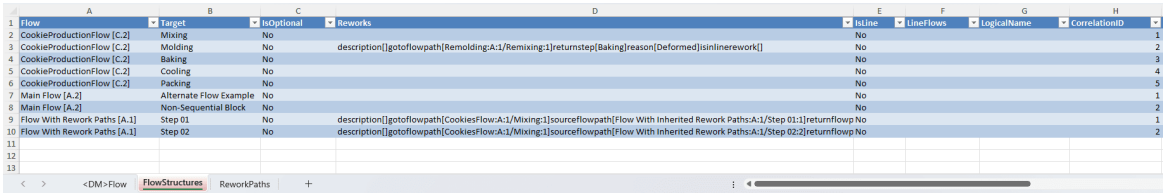
After version 11.0



Name	Description	Type	IsAlternate	IsEnabled	IsNonSequentialBlock	IsLineFlow	DocumentationURL	IsTemplate	AlternateFlowSelectionType
Alternate Flow Example [A.1]	Alternate Flow Example	Production	Yes	Yes	No	No		No	Multiple
Alternate Flow Multiple Selection [A.1]	Alternate Flow Multiple Selection	General	Yes	Yes	No	No		No	Multiple
Alternate Flow Single Selection [A.1]	Alternate Flow Single Selection	General	Yes	Yes	No	No		No	Single
Chocolate [A.1]	Chocolates Flow	Production	No	Yes	No	No		No	
CookiesFlow [A.2]	CookiesFlow Flow	Production	No	Yes	No	No		No	
Flow With Enter and Exit Rules [A.1]	Flow With Enter and Exit Rules	General	No	Yes	No	No		No	
Flow With Inherited Rework Paths [A.2]	Flow With Inherited Rework Paths	General	No	Yes	No	No		No	
Line Flow [A.1]	Flow With Line Flow	FrontEnd	No	Yes	No	Yes		No	
Main Flow [A.2]	Flow with Flows and Steps	General	No	Yes	No	No		No	
Non-Sequential Block [A.1]	Non-Sequential Block	Production	No	Yes	Yes	No		No	
Sequential Flow With Conditional Steps [A.1]	Sequential Flow With Conditional Steps	General	No	Yes	No	No		No	
Standard Cookie Flow [A.1]	Standard Cookie Flow	Production	No	Yes	No	No		No	

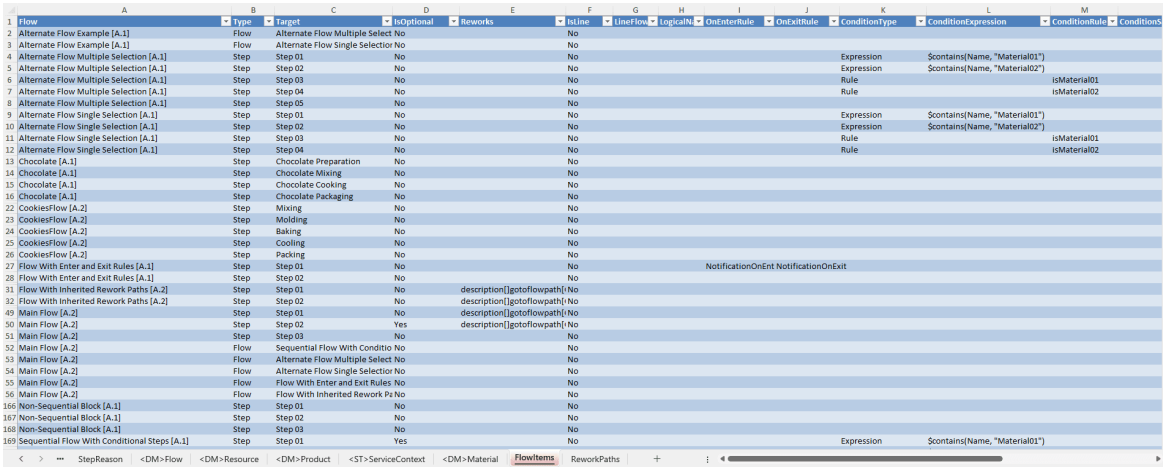
In version 11.0, the **Flow** Structure sheet was renamed to **Flow Items**, requiring you to change the name of this sheet in your Master Data template to be compatible with versions above 11.0. In addition, it's now possible to set Rework Path conditions, such as Expressions (column L), Rules (column M), Sampling Steps (column N), and Sampling Plans (column O). You can also define entry and exit Rules for **Steps** (columns J and K).

Before version 11.0



	A	B	C	D	E	F	G	H
1	Flow	Target	IsOptional	Reworks	IsLine	LineFlows	LogicalName	CorrelationID
2	CookieProductionFlow [C.2]	Mixing	No		No			1
3	CookieProductionFlow [C.2]	Molding	No	description[]gotoflowpath[Remolding:A:1/Remixing:1]returnstep[Baking]reason[Deformed]isinlinerework[]	No			2
4	CookieProductionFlow [C.2]	Baking	No		No			3
5	CookieProductionFlow [C.2]	Cooling	No		No			4
6	CookieProductionFlow [C.2]	Packing	No		No			5
7	Main Flow [A.2]	Alternate Flow Example	No		No			1
8	Main Flow [A.2]	Non-Sequential Block	No		No			2
9	Flow With Rework Paths [A.1]	Step 01	No	description[]gotoflowpath[CookiesFlow:A:1/Mixing:1]sourceflowpath[Flow With Inherited Rework Paths:A:1/Step 01:1]returnflowp	No			1
10	Flow With Rework Paths [A.1]	Step 02	No	description[]gotoflowpath[CookiesFlow:A:1/Mixing:1]sourceflowpath[Flow With Inherited Rework Paths:A:1/Step 02:2]returnflowp	No			2
11								
12								
13								

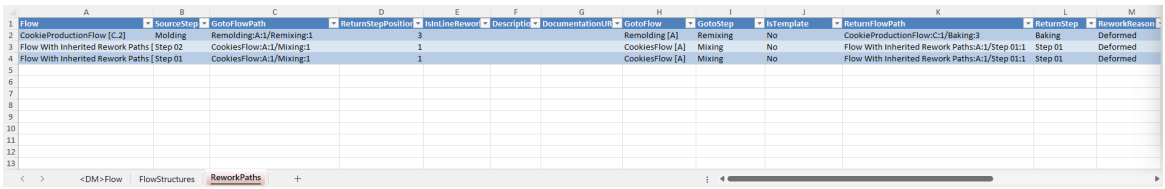
After version 11.0



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Flow	Type	Target	IsOptional	Reworks	IsLine	LineFlow	LogicalN	OnEnterRule	OnExitRule	ConditionType	ConditionExpression	ConditionRule
2	Alternate Flow Example [A.1]	Flow	Alternate Flow Multiple Select	No		No							
3	Alternate Flow Example [A.1]	Flow	Alternate Flow Single Selection	No		No							
4	Alternate Flow Multiple Selection [A.1]	Step	Step 01	No		No					Expression	$contains(Name, "Material01")	
5	Alternate Flow Multiple Selection [A.1]	Step	Step 02	No		No					Expression	$contains(Name, "Material02")	
6	Alternate Flow Multiple Selection [A.1]	Step	Step 03	No		No					Rule		IsMaterial01
7	Alternate Flow Multiple Selection [A.1]	Step	Step 04	No		No					Rule		IsMaterial02
8	Alternate Flow Multiple Selection [A.1]	Step	Step 05	No		No							
9	Alternate Flow Single Selection [A.1]	Step	Step 01	No		No					Expression	$contains(Name, "Material01")	
10	Alternate Flow Single Selection [A.1]	Step	Step 02	No		No					Expression	$contains(Name, "Material02")	
11	Alternate Flow Single Selection [A.1]	Step	Step 03	No		No					Rule		IsMaterial01
12	Alternate Flow Single Selection [A.1]	Step	Step 04	No		No					Rule		IsMaterial02
13	Chocolate [A.1]	Step	Chocolate Preparation	No		No							
14	Chocolate [A.1]	Step	Chocolate Mixing	No		No							
15	Chocolate [A.1]	Step	Chocolate Cooking	No		No							
16	Chocolate [A.1]	Step	Chocolate Packaging	No		No							
22	CookiesFlow [A.2]	Step	Mixing	No		No							
23	CookiesFlow [A.2]	Step	Molding	No		No							
24	CookiesFlow [A.2]	Step	Baking	No		No							
25	CookiesFlow [A.2]	Step	Cooling	No		No							
26	CookiesFlow [A.2]	Step	Packing	No		No							
27	Flow With Enter and Exit Rules [A.1]	Step	Step 01	No		No			NotificationOnEnt	NotificationOnExit			
28	Flow With Enter and Exit Rules [A.1]	Step	Step 02	No		No							
31	Flow With Inherited Rework Paths [A.2]	Step	Step 01	No	description[]gotoflowpath[	No							
32	Flow With Inherited Rework Paths [A.2]	Step	Step 02	No	description[]gotoflowpath[	No							
49	Main Flow [A.2]	Step	Step 01	No	description[]gotoflowpath[	No							
50	Main Flow [A.2]	Step	Step 02	Yes	description[]gotoflowpath[	No							
51	Main Flow [A.2]	Step	Step 03	No		No							
52	Main Flow [A.2]	Flow	Sequential Flow With Conditio	No		No							
53	Main Flow [A.2]	Flow	Alternate Flow Multiple Select	No		No							
54	Main Flow [A.2]	Flow	Alternate Flow Single Selection	No		No							
55	Main Flow [A.2]	Flow	Flow With Enter and Exit Rules	No		No							
56	Main Flow [A.2]	Flow	Flow With Inherited Rework Pa	No		No							
166	Non-Sequential Block [A.1]	Step	Step 01	No		No							
167	Non-Sequential Block [A.1]	Step	Step 02	No		No							
168	Non-Sequential Block [A.1]	Step	Step 03	No		No							
169	Sequential Flow With Conditional Steps [A.1]	Step	Step 01	Yes		No					Expression	$contains(Name, "Material01")	

Beyond the basic information, you can specify additional settings in version 11.0, such as whether the Rework Path applies to Queued and Processed States (columns O and P), and set Rules for On Rework (column Q).

Before version 11.0



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Flow	SourceStep	GotoFlowPath	ReturnStepPosition	IsInLineRewor	Descriptio	DocumentationUR	GotoFlow	GotoStep	IsTemplate	ReturnFlowPath	ReturnStep	ReworkReason
2	CookieProductionFlow [C.2]	Molding	Remolding:A:1/Remixing:1	3				Remolding [A]	Remixing	No	CookieProductionFlow:C:1/Baking:3	Baking	Deformed
3	Flow With Inherited Rework Paths [	Step 02	CookiesFlow:A:1/Mixing:1	1				CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1	Step 01	Deformed
4	Flow With Inherited Rework Paths [	Step 01	CookiesFlow:A:1/Mixing:1	1				CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1	Step 01	Deformed
5													
6													
7													
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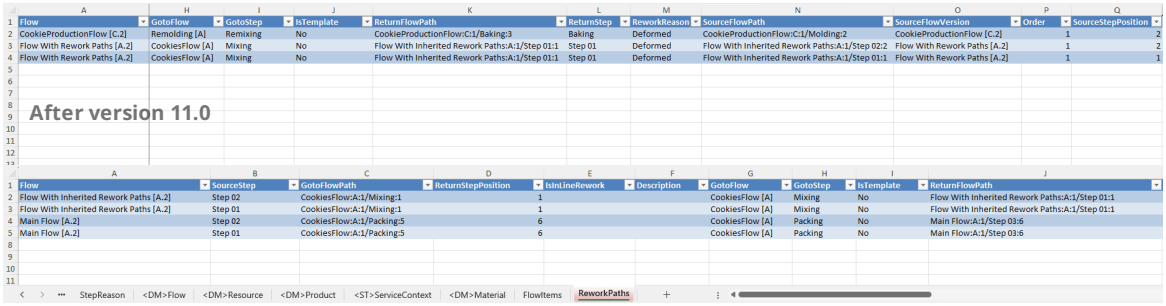
9													
10													
11													
12													
13													

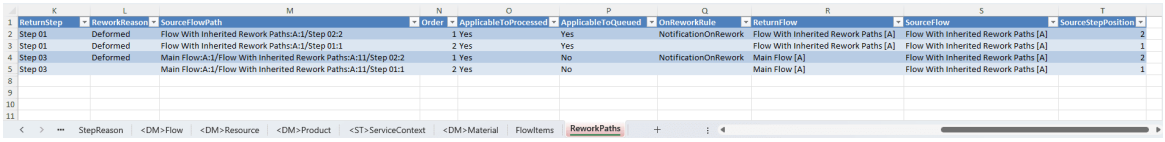


Flow	GotoFlow	GotoStep	IsTemplate	ReturnFlowPath	ReturnStep	ReworkReason	SourceFlowPath	SourceFlowVersion	Order	SourceStepPosition
CookieProductionFlow [C.2]	Remolding [A]	Remixing	No	CookieProductionFlow:C:1/Baking:3	Baking	Deformed	CookieProductionFlow:C:1/Molding:2	CookieProductionFlow [C.2]	1	2
Flow With Rework Paths [A.2]	CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1	Step 01	Deformed	Flow With Inherited Rework Paths:A:1/Step 02:2	Flow With Rework Paths [A.2]	1	2
Flow With Rework Paths [A.2]	CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1	Step 01	Deformed	Flow With Inherited Rework Paths:A:1/Step 01:1	Flow With Rework Paths [A.2]	1	1

After version 11.0

Flow	SourceStep	GotoFlowPath	ReturnStepPosition	IsInLineRework	Description	GotoFlow	GotoStep	IsTemplate	ReturnFlowPath
Flow With Inherited Rework Paths [A.2]	Step 02	CookiesFlow:A:1/Mixing:1	1			CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1
Flow With Inherited Rework Paths [A.2]	Step 01	CookiesFlow:A:1/Mixing:1	1			CookiesFlow [A]	Mixing	No	Flow With Inherited Rework Paths:A:1/Step 01:1
Main Flow [A.2]	Step 02	CookiesFlow:A:1/Packing:5	6			CookiesFlow [A]	Packing	No	Main Flow:A:1/Step 03:6
Main Flow [A.2]	Step 01	CookiesFlow:A:1/Packing:5	6			CookiesFlow [A]	Packing	No	Main Flow:A:1/Step 03:6

StepReason | <DM>Flow | <DM>Resource | <DM>Product | <ST>ServiceContext | <DM>Material | FlowItems | ReworkPaths



ReturnStep	ReworkReason	SourceFlowPath	Order	ApplicableToProcessed	ApplicableToQueued	OnReworkRule	ReturnFlow	SourceFlow	SourceStepPosition
Step 01	Deformed	Flow With Inherited Rework Paths:A:1/Step 02:2	1	Yes	Yes	NotificationOnRework	Flow With Inherited Rework Paths [A]	Flow With Inherited Rework Paths [A]	2
Step 01	Deformed	Flow With Inherited Rework Paths:A:1/Step 01:1	2	Yes	Yes		Flow With Inherited Rework Paths [A]	Flow With Inherited Rework Paths [A]	1
Step 03	Deformed	Main Flow:A:1/Flow With Inherited Rework Paths:A:11/Step 02:2	1	Yes	No	NotificationOnRework	Main Flow [A]	Flow With Inherited Rework Paths [A]	2
Step 03		Main Flow:A:1/Flow With Inherited Rework Paths:A:11/Step 01:1	2	Yes	No		Main Flow [A]	Flow With Inherited Rework Paths [A]	1

StepReason | <DM>Flow | <DM>Resource | <DM>Product | <ST>ServiceContext | <DM>Material | FlowItems | ReworkPaths

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