Critical manufacturing
an ASM PT company

Future Actions

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Future Actions

Future Actions in Critical Manufacturing MES are predefined actions that will be triggered when a specific context is met during the journey of a **Material** through a process **Flow**.

These actions facilitate operations by automating activities such as changing **Flow** or **Step**, placing **Materials** on hold, executing **Rules**, setting **Services** or **Resources**, splitting or merging **Materials**, and more — all based on specific triggers.

Overview

The goal of this tutorial is to provide a comprehensive understanding of how **Future Actions** work within Critical Manufacturing MES, by covering the following key topics:

- **Definition**: Learn how to define **Future Actions** that are directly tied to individual **Materials**, or set at the **Step** level.
- **Precedence**: Understand how **Future Actions** behave when defined at multiple levels.
- **Future Action Types**: Get familiar with the different types of **Future Actions** available in the system.
- **Manage vs Special Manage**: Learn how to manage **Future Actions**, including how to create, edit, and delete them.
- **Scenarios**: Watch guided videos demonstrating examples of configuring and executing **Future Actions**.

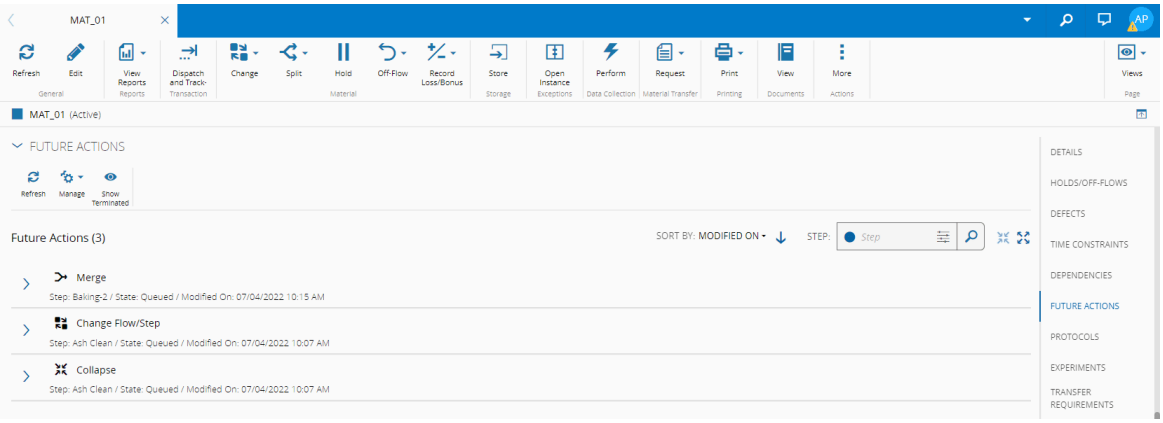
Topics

Definition

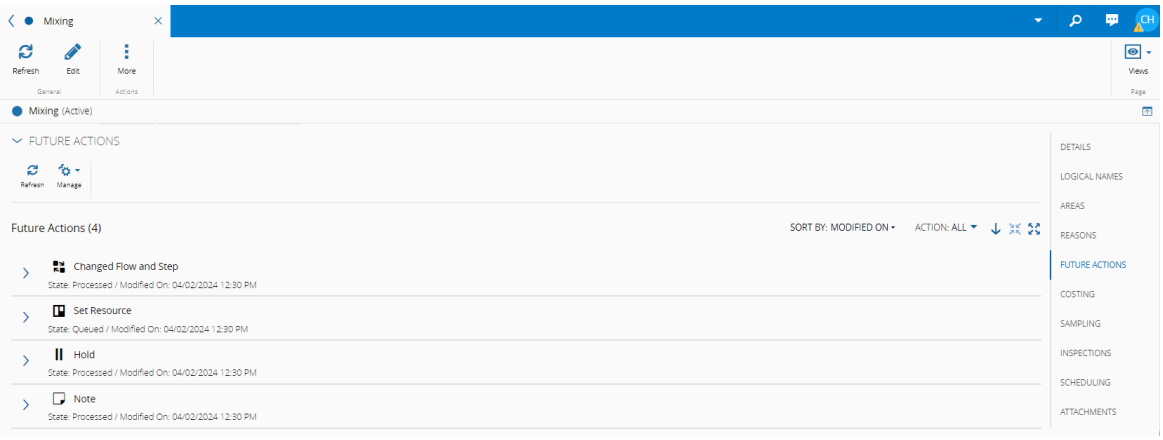
The **Future Actions** section in the Material Details View allows users to view planned actions specifically defined for the **Material**, which will be triggered when the appropriate context is met.

Also, the **Future Actions** section in the Step Details View displays actions defined at the **Step** level, which will be applied to all **Materials** passing through the step under the right conditions.

From both views, **Future Actions** can be managed and edited. Additionally, in the Material Details View, even terminated **Future Actions** can be displayed for reference.



Step Future Actions



For more information, see these pages

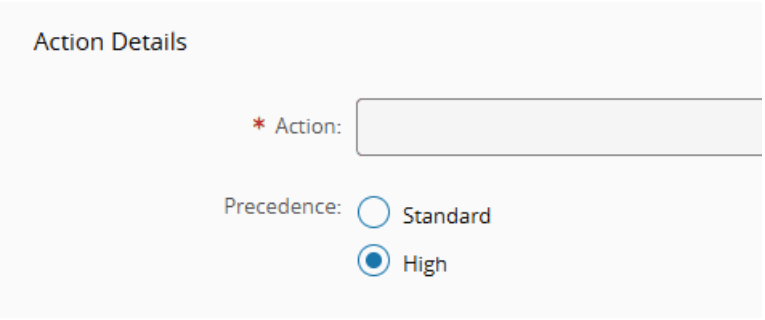
- Material - Manage Material Future Actions
- Step - Manage Future Actions
- Perform Future Action

Precedence

Future Actions can be defined at the **Material** or **Step** level. When multiple actions are configured for the same context, the system needs to determine which one should be executed, this is where precedence comes into play.

Precedence defines the execution priority of overlapping actions. By default, Experiment-level **Future Actions** take precedence, meaning they will override actions defined at the **Material** or **Step** level if a conflict occurs.

However, it is possible to manually adjust this behavior. When configuring a **Future Action** on a **Material** or **Step**, selecting the `High` precedence option in the Action details will elevate its priority above the default.



Info

You can find the predefined **Future Actions** precedence keys listed here: Future Actions Precedence Keys.

Future Action Types

The system supports a wide range of **Future Actions** that can be triggered based on defined conditions. These actions are used to facilitate the production process and user experience, by triggering common tasks such as changing **Flow** and **Step**, setting **Resources** or splitting **Materials**.

The following table outlines the available types of **Future Actions**, indicating whether each action can be configured at the **Step** or **Material** level, along with relevant notes or requirements for its execution.

Future Action	On Step Entity	On Material Entity	Comments
Change Flow And Step	Yes	Yes	Configuration of **Flow** and **Step** is required
Collapse	Yes	Yes	Applicable for Sub **Materials**
Create Send-Ahead Run	Yes	Yes	
Execute Rule	Yes	Yes	Configuration of the **Rule** is required
Hold	Yes	Yes	Configuration of the Hold **Reason** and optionally a Release Role is required
Merge	No	Yes	Execution can be automatic or manual
Send Mail	Yes	Yes	
Set Note	Yes	Yes	
Set Resource	Yes	Yes	Configuration of the **Resource** to be used is required
Set Service	Yes	Yes	Configuration of the **Service** to be used is required
Skip Process	No	Yes	**Step** should be skippable
Split	No	Yes	Execution can be automatic or manual
Split For Step	No	Yes	Execution can be automatic or manual
Temporary Off Flow	No	Yes	Configuration of the Off Flow **Reason** and **Flow** and **Step** is required
Terminate	Yes	Yes	Configuration of the Loss **Reason** with Terminate option is required

Manage vs Special Manage

Within both the **Step** and **Material Detail Views**, users have access to a Manage **Future Actions** option. This functionality allows users to create, edit, or remove **Future Actions** associated with the selected **Step** or **Material**. It is typically used to manage actions that the user has previously created.

In addition, the system provides a Special Manage **Future Actions** option. This extended capability enables users to manage **Future Actions** that were created by other users. However, this option is only available if the user has been granted the `FutureAction.SpecialEdit` feature.

For more information, see these pages

- Special Manage Material Future Actions
- Special Manage Future Actions

Scenarios

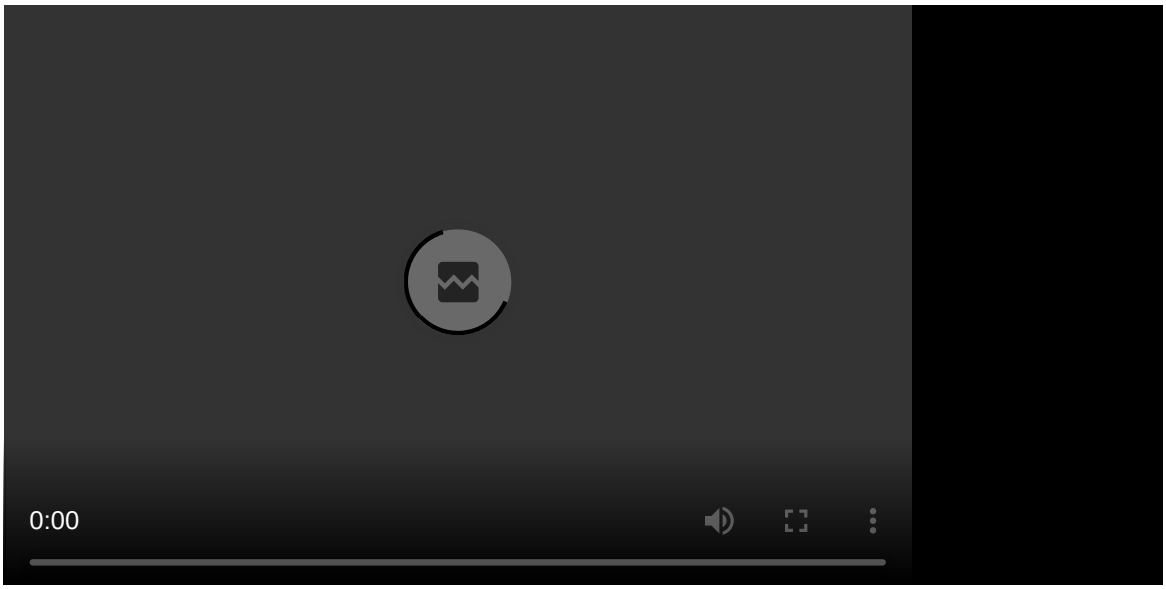
This section includes a series of short video demonstrations showcasing how to create and manage **Future Actions** at both the **Step** and **Material** levels. These examples illustrate practical use cases and guide you through the expected behavior and execution logic.

Create Future Actions on a Step

In this scenario, we walk through a process flow composed of five **Steps**, where the first is a line **Step**, each configured with specific **Future Action**:

- Step 1 (Line Step): Collapse action triggered when the **Material** is Processed
- Step 2: Set Note when the **Material** is Queued, and Hold when it is Processed
- Step 3: Set **Service** on when the **Material** is Queued, and Execute **Rule** when it is Processed
- Step 4: Set **Resource** when the **Material** is Queued, and Detach when it is Processed
- Step 5: Change **Flow** and **Step** when the **Material** is Queued
- New Flow Step: Terminate action triggered when the **Material** is Queued

Watch how this scenario unfolds in the video below.

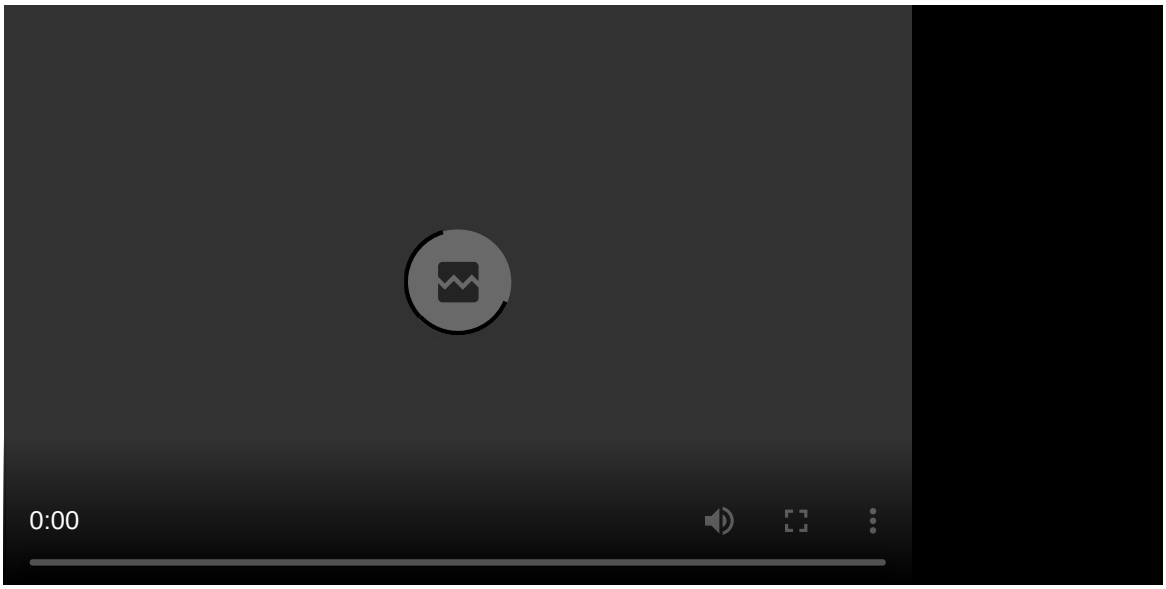


Create Future Actions on a Material

In this scenario, the **Material** follows a **Flow** composed of three **Steps**, with configured **Future Actions**:

- Step 1: Send to Temporary Off Flow when the **Material** is Processed.
- Off Flow Step: Split the **Material** when the it is in the Queued state.
- Step 2: Skip Process, followed by an Automatic Merge when the **Material** is Processed.
- Step 3: Split for **Step** action is triggered.

Take a closer look at how this scenario plays out in the video below.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