Scheduling Setup

11.2

February 2026

DOCUMENT ACCESS

Public

scheduling

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As scheduling requires an extensive number of other entities in the System to be correctly configured in order to function, this page aims at describing which steps have to be taken in order to setup scheduling when either:

- Setting up the system for the first time;
- Having a system already working with dispatching and transitioning it to use scheduling.

These are the requirements for Scheduling to function properly:

1. Having a Schedule

A Schedule object is the core of all the scheduling/planning process: as such, you should create one.

2. Having Calendars for Areas

The next step for Scheduling is to have one or more Calendar with Calendar Days correctly generated, which must be associated with Areas. This will dictate what are the working and non-working days/periods for the Resources within each Area, making it a crucial information. Make sure that, for every desired Week Working Day, there is an associated Shift Definition containing all the desired Shifts and Stoppages (for non-Working Days, leave the Shift Definition empty). When this is done, *Generate Calendar Days* for at least your intended Planning Horizon (preferably, generate a few more days, in case your initially intended Planning Horizon is not large enough to contain all the required Schedule Scenario Jobs). Finally, make sure that these Calendars are correctly associated with the corresponding Areas.

Info

Depending on the Schedule Scenario type, different values can be used when determining the amount of additional calendar days to generate. These values are located under the `/Cmf/System/Configuration/Scheduling` configuration entry, under the following keys:

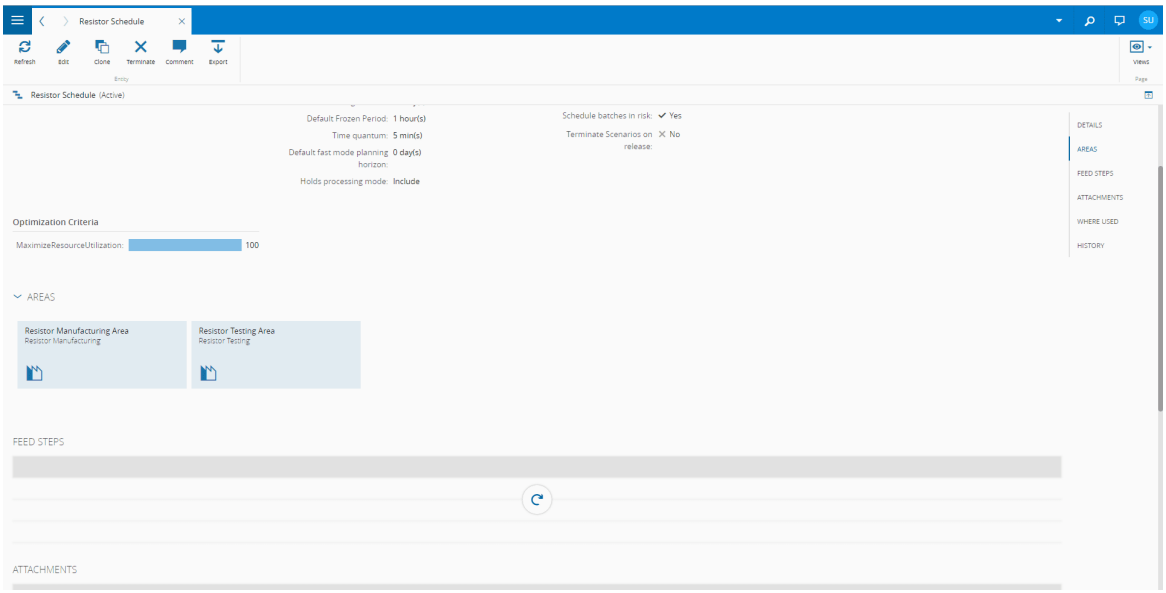
Schedule Scenario Type	Configuration Entry
Operational Schedule Accurate	`AccurateModeAdditionalCalendarDays`
Operational Schedule Fast	`FastModeAdditionalCalendarDays`
Planning Schedule	`PlanningModeAdditionalCalendarDays`

Table: Additional Calendar Days configuration entries

3. Associate Schedule with One or More Areas

The Area entity is used to define the scope of Scheduling: only Materials, Resources, and Steps that are within one of the Areas associated with the Schedule will be used for Scheduling. As such, it is necessary,

in each desired Area, to establish the relation with the Schedule. To confirm this association, check the Areas section in the Schedule's Details view.



4. Include Entities in Scheduling

4.1. Include Products in Scheduling

For a Product's Materials and Production Orders to be taken into account, the Product's property *Include In Scheduling* must be activated.

4.2. Include Steps/Flows in Scheduling

The Step also has an *Include In Schedule* property: in order for it to be considered, this property should be activated. Depending on whether a Step is marked as passthrough or not, two different behaviors may occur:

Not Passthrough

If Include In Schedule is activated and Is Passthrough is not, then it is assumed that this is a Step which has to be executed in a Resource (most operations in a shopfloor). Therefore, it must have a service context for all the Materials that will be scheduled, and there must be at least one Resource which is included in scheduling (check the next section) and provides the Service determined by this service context* This Resource, in turn, must also have the ResourceProcessTime Smart Table filled in for that context.

Passthrough

If both Include In Schedule and Is Passthrough are activated, then it is assumed that this Step does not have the restriction of having to be executed at a Resource, and can be executed immediately after the completion of the previous Step (this applies to logistics operations, such as transferring Materials to other Areas or Resources). As such, no Service is required, and the process time for the corresponding Job will be calculated from the Step Product Yield And Cycle Time context resolution table.

4.3 Include Resources in Scheduling

The way Resources are included in Schedule depends on the Scheduling Mode, as different modes may require different configurations, as can be seen in the next table

Resource Configuration	Operational Accurate Mode	Operational Fast Mode	Planning Mode
DispatchScheduleType = Scheduling	X	X	X
DispatchScheduleType = Dispatching AND *IncludeInPlanning* = True			X

Table: Resource scheduling mode configuration

In short, for Operational Modes, that is, when it is intended to afterwards execute directly what was planned, the Resource must be dedicated to scheduling. However, for scenarios which deal with future situations (planning Scenarios, which simulate the future execution/release of Production Orders in the production line), and therefore, cannot be immediately put into practice, it is possible to simulate the impact of having more or less machines available to execute these operations without "reserving" them for scheduling.

Info

When a Resource is of Dispatch Schedule Type Scheduling, it can no longer work with dispatch, that is, a user cannot simply manually assign a certain material to it. This assignation must come from scheduling or, alternatively, can be given manually with the *Create Ad Hoc Job Operation*. For more information, check the Validations and Overriding page.

In addition to this condition, for a Resource to be taken into consideration, it must provide at least one of the required Services, as explained in the previous section, and have a Resource Process Time Context for every Material that may be allocated to it.

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