

# Excel Template

In this section we will run through the Excel template and the different ways you can navigate through it and understand the references and information contained in the template, as well as how to use it to your advantage and thus save time and effort while loading a **Master Data Package** into the MES.

## Helper Sheets

The first worksheets you see in the Excel template are helper sheets that give you information and are also used as configuration for the entire template. To understand what information they hold and what they are used for, see [Help Sheets](#).

## Explaining the Format

The different names and types of the sheets contained in the Excel template are described below:

| Prefix    | Type   |
|-----------|--|
| No prefix | Sub-sheet of previous prefixed sheet   |
| <DM>      | Dynamic Model  |
| <SM>      | Static Model   |
| <GT>      | Generic Table  |
| <ST>      | Smart Table  |
| <UP>      | Update Model   |
| <LOOKUP>  | Reference for the longer name.  |

### Note

An example for `<UP>` could be the following:

| Name       | Team   | ShiftPlan            | Workgroup          | Position                       |
|------------|--------|----------------------|--------------------|--------------------------------|
| Operator_2 | Team-E | Assembly Preparation | WeighAndDispense   | WeighAndDispense Certification |
| Operator_3 | Team-E | Assembly Preparation | Mixing & Injection | Mixing Certification           |

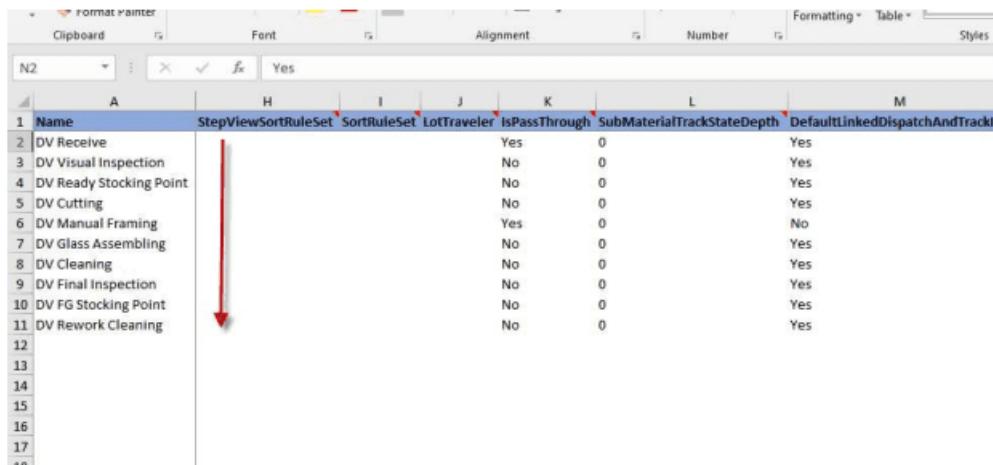
< > ... <UP>EmployeeShiftDetails

This tab is used to assign employees to a Shift Plan and then to a Workgroup of the Shift Plan.

### Info

See [Help Sheets](#) for more information on the `<LOOKUP>`.

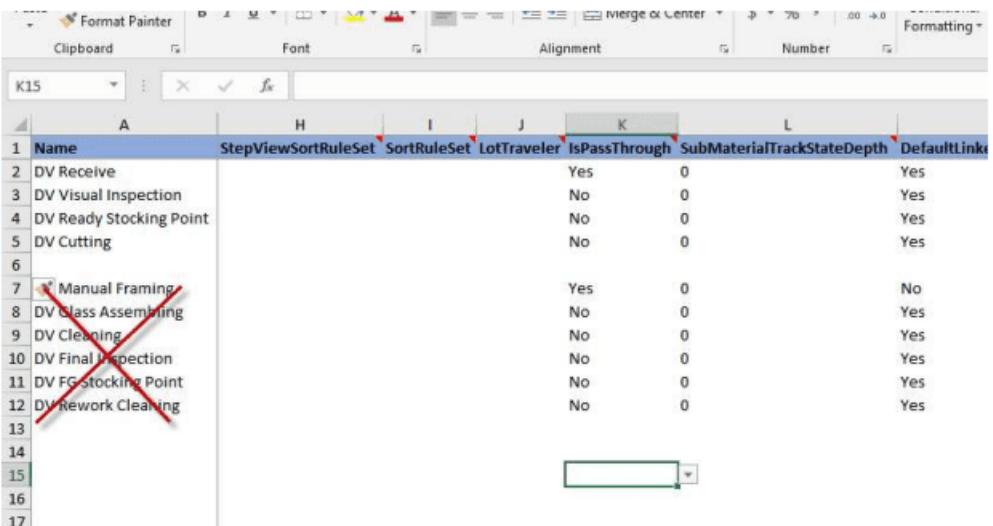
The system reads the Excel file in the order that the worksheets are placed in the file, starting from the left-most sheet and moving rightward. Each sheet is read from left to right and from top to bottom, creating fields as a linear FIFO (First-In-First-Out) sequence.



|    | A                       | H                   | I           | J           | K             | L                          | M                             |
|----|-------------------------|---------------------|-------------|-------------|---------------|----------------------------|-------------------------------|
| 1  | Name                    | StepViewSortRuleSet | SortRuleSet | LotTraveler | IsPassThrough | SubMaterialTrackStateDepth | DefaultLinkedDispatchAndTrack |
| 2  | DV Receive              |                     |             |             | Yes           | 0                          | Yes                           |
| 3  | DV Visual Inspection    |                     |             |             | No            | 0                          | Yes                           |
| 4  | DV Ready Stocking Point |                     |             |             | No            | 0                          | Yes                           |
| 5  | DV Cutting              |                     |             |             | No            | 0                          | Yes                           |
| 6  | DV Manual Framing       |                     |             |             | Yes           | 0                          | No                            |
| 7  | DV Glass Assembling     |                     |             |             | No            | 0                          | Yes                           |
| 8  | DV Cleaning             |                     |             |             | No            | 0                          | Yes                           |
| 9  | DV Final Inspection     |                     |             |             | No            | 0                          | Yes                           |
| 10 | DV FG Stocking Point    |                     |             |             | No            | 0                          | Yes                           |
| 11 | DV Rework Cleaning      |                     |             |             | No            | 0                          | Yes                           |

### Warning

The system will stop reading if a blank line appears. You can look at each sheet as a specific entity type, with each column representing an entity property or relation and each row representing a new entity.



|    | A                               | H                   | I           | J           | K             | L                          | M                             |
|----|---------------------------------|---------------------|-------------|-------------|---------------|----------------------------|-------------------------------|
| 1  | Name                            | StepViewSortRuleSet | SortRuleSet | LotTraveler | IsPassThrough | SubMaterialTrackStateDepth | DefaultLinkedDispatchAndTrack |
| 2  | DV Receive                      |                     |             |             | Yes           | 0                          | Yes                           |
| 3  | DV Visual Inspection            |                     |             |             | No            | 0                          | Yes                           |
| 4  | DV Ready Stocking Point         |                     |             |             | No            | 0                          | Yes                           |
| 5  | DV Cutting                      |                     |             |             | No            | 0                          | Yes                           |
| 6  |                                 |                     |             |             |               |                            |                               |
| 7  | <del>DV Manual Framing</del>    |                     |             |             | Yes           | 0                          | No                            |
| 8  | <del>DV Glass Assembling</del>  |                     |             |             | No            | 0                          | Yes                           |
| 9  | <del>DV Cleaning</del>          |                     |             |             | No            | 0                          | Yes                           |
| 10 | <del>DV Final Inspection</del>  |                     |             |             | No            | 0                          | Yes                           |
| 11 | <del>DV FG Stocking Point</del> |                     |             |             | No            | 0                          | Yes                           |
| 12 | <del>DV Rework Cleaning</del>   |                     |             |             | No            | 0                          | Yes                           |

The name of the Excel sheets must match the MES entities being loaded and the name of the columns must match the entity properties exactly. When processing the data, the system will check if the object already exists, thus creating or updating it accordingly.

### Note

The template does not have all the objects and fields that are available in the UI. You can, however, add more entity types (sheets) and entity properties (columns), provided they are available in the UI and exactly match the name of the entity and respective properties.

## Versioned Entities

In the case of versioned entities, a new version is always created when loaded into the system. **Change Sets** are managed automatically by the tool so there is no need to create them manually either in the Excel template or in the GUI. However, the approval process for any versioned object can only be performed using the GUI and you can access any **Change Sets** currently under approval in the **Change Sets**.

For more information on loading entity revisions and versions, see [Revision Configuration](#).

## Modeling Sequence

It is highly recommended to follow an appropriate modeling sequence since there are a lot of interdependent fields that have strict rules of precedence.

### Flow/Step example

A **Flow** is composed of **Flow Items** of type **Step** and **Flow**. When a **Flow** contains **Flow Items** of type **Flow**, they are denoted as **Child Flows** of the **Parent Flow** for clarity. To create a **Flow** structure, you should follow the sequence below:

#### 1. Create the **Steps**.

|    | A<br>Name | B<br>Description | C<br>Type | D<br>IsTemplate | E<br>DataGroup | F<br>ProcessingType | G<br>DisplayOrder | H<br>StepViewSortRuleSet | I<br>SortRuleSet | J<br>LotTraveler | K<br>MaterialLabel | L<br>IsPassThrough | M<br>IsPackingStep |
|----|-----------|------------------|-----------|-----------------|----------------|---------------------|-------------------|--------------------------|------------------|------------------|--------------------|--------------------|--------------------|
| 1  |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 2  | Step_1    |                  | Process   |                 |                | Process             |                   |                          |                  |                  |                    | Yes                |                    |
| 3  | Step_2    |                  | Process   |                 |                | Process             |                   |                          |                  |                  |                    | No                 |                    |
| 4  | Step_3    |                  | Process   |                 |                | Process             |                   |                          |                  |                  |                    | No                 |                    |
| 5  | Step_4    |                  | Process   |                 |                | Process             |                   |                          |                  |                  |                    | No                 |                    |
| 6  |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 7  |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 8  |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 9  |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 10 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 11 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 12 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 13 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 14 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 15 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 16 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 17 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 18 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 19 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 20 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 21 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 22 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 23 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |
| 24 |           |                  |           |                 |                |                     |                   |                          |                  |                  |                    |                    |                    |

#### 2. Create the **Flows**.

| A  | B      | C        | D           | E          | F         | G                    | H           | I          | J                          | K         | L | M | N | O | P |
|----|--------|----------|-------------|------------|-----------|----------------------|-------------|------------|----------------------------|-----------|---|---|---|---|---|
| 1  | Name   | Revision | Description | Type       | DataGroup | IsNonSequentialBlock | IsAlternate | IsLineFlow | AlternateFlowSelectionType | IsEnabled |   |   |   |   |   |
| 2  | Flow_A |          |             | Sequential | No        | No                   | No          |            |                            | Yes       |   |   |   |   |   |
| 3  | Flow_1 |          |             | Sequential | No        | No                   | No          |            |                            | Yes       |   |   |   |   |   |
| 4  | Flow_2 |          |             | Sequential | No        | No                   | No          |            |                            | Yes       |   |   |   |   |   |
| 5  |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 6  |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 7  |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 8  |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 9  |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 10 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 11 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 12 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 13 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 14 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 15 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 16 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 17 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 18 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 19 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 20 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 21 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 22 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 23 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |
| 24 |        |          |             |            |           |                      |             |            |                            |           |   |   |   |   |   |

### 3. Utilize the **FlowItems** sheet to create the desired **Flow** structure.

| A  | B      | C    | D      | E          | F       | G      | H           | I         | J           | K           | L          | M             | N                   | O             | P                     |
|----|--------|------|--------|------------|---------|--------|-------------|-----------|-------------|-------------|------------|---------------|---------------------|---------------|-----------------------|
| 1  | Flow   | Type | Target | IsOptional | Reworks | IsLine | IsSkippable | LineFlows | LogicalName | OnEnterRule | OnExitRule | ConditionType | ConditionExpression | ConditionRule | ConditionSamplingStep |
| 2  | Flow_A | Step | Step_1 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 3  | Flow_A | Step | Step_2 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 4  | Flow_A | Step | Step_3 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 5  | Flow_1 | Flow | Flow_A | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 6  | Flow_1 | Step | Step_4 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 7  | Flow_2 | Step | Step_5 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 8  | Flow_2 | Step | Step_6 | No         |         | No     | No          |           |             |             |            |               |                     |               |                       |
| 9  |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 10 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 11 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 12 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 13 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 14 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 15 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 16 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 17 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 18 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 19 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 20 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 21 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 22 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 23 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |
| 24 |        |      |        |            |         |        |             |           |             |             |            |               |                     |               |                       |

### Resource/Service example

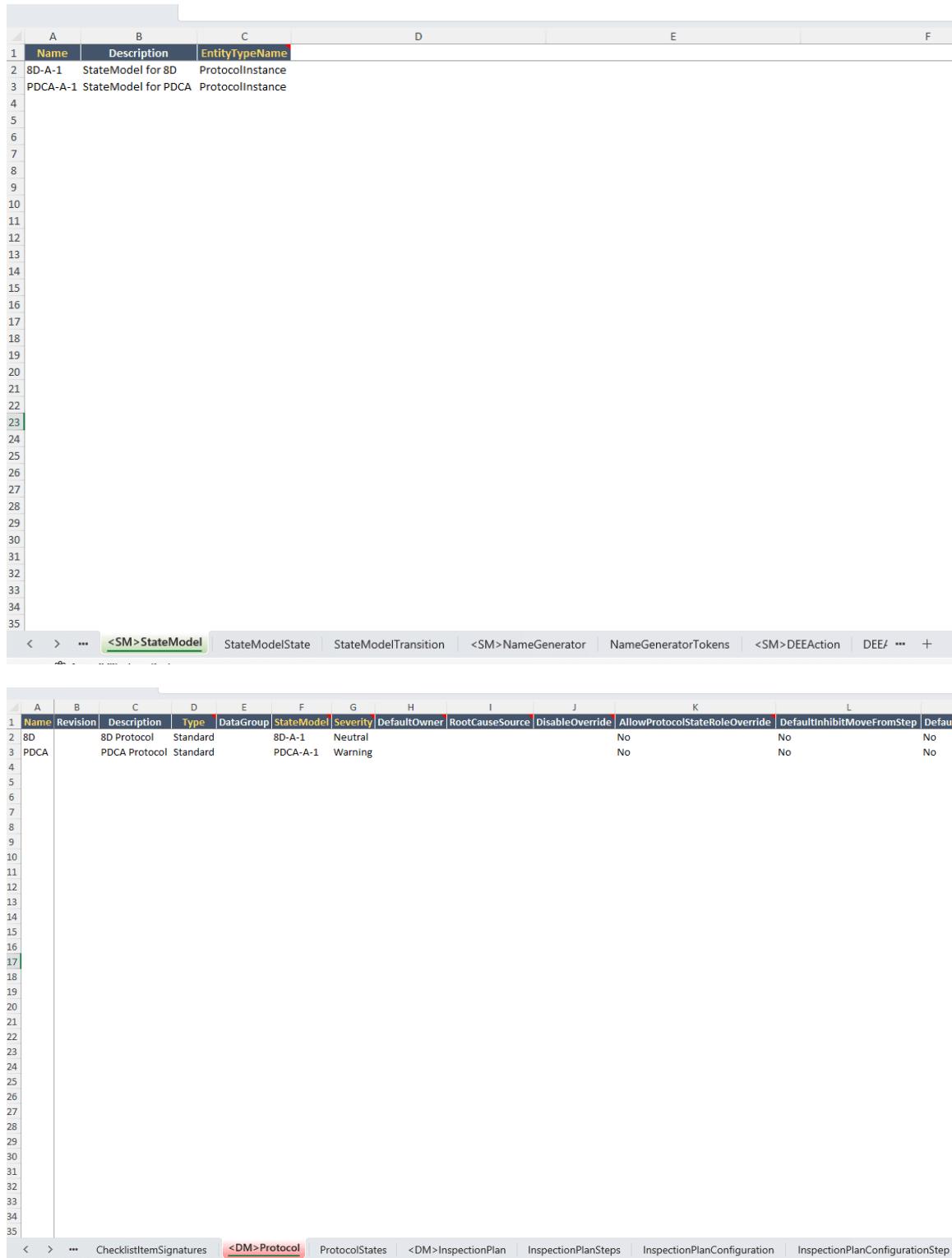
In another quick example, the **Service** must be created before the **Resource** creation and only after it is possible to fulfill the **ResourceService** sheet.

| A  | B            | C                  | D        | E         | F | G | H | I |
|----|--------------|--------------------|----------|-----------|---|---|---|---|
| 1  | SourceEntity | TargetEntity       | Priority | IsEnabled |   |   |   |   |
| 2  | Resource_1   | Service_Resource_1 |          | Yes       |   |   |   |   |
| 3  | Resource_2   | Service_Resource_2 |          | Yes       |   |   |   |   |
| 4  |              |                    |          |           |   |   |   |   |
| 5  |              |                    |          |           |   |   |   |   |
| 6  |              |                    |          |           |   |   |   |   |
| 7  |              |                    |          |           |   |   |   |   |
| 8  |              |                    |          |           |   |   |   |   |
| 9  |              |                    |          |           |   |   |   |   |
| 10 |              |                    |          |           |   |   |   |   |
| 11 |              |                    |          |           |   |   |   |   |
| 12 |              |                    |          |           |   |   |   |   |
| 13 |              |                    |          |           |   |   |   |   |
| 14 |              |                    |          |           |   |   |   |   |
| 15 |              |                    |          |           |   |   |   |   |
| 16 |              |                    |          |           |   |   |   |   |
| 17 |              |                    |          |           |   |   |   |   |
| 18 |              |                    |          |           |   |   |   |   |
| 19 |              |                    |          |           |   |   |   |   |
| 20 |              |                    |          |           |   |   |   |   |
| 21 |              |                    |          |           |   |   |   |   |
| 22 |              |                    |          |           |   |   |   |   |
| 23 |              |                    |          |           |   |   |   |   |
| 24 |              |                    |          |           |   |   |   |   |

<ResourceMeasurementCapability> <DM>ResourceService <DM>DataCollection <DataCollectionParameters> <DM>Dat

## State Model/Protocol example

In the case of **Protocols**, you must create the **State Model** and load both the **State Model** and the **Protocol** at the same time.



The screenshot shows two tables side-by-side in the CM MES interface.

**Table 1: State Model (Top)**

| A  | B        | C                   | D                | E | F |
|----|----------|---------------------|------------------|---|---|
| 1  | Name     | Description         | EntityType       |   |   |
| 2  | 8D-A-1   | StateModel for 8D   | ProtocolInstance |   |   |
| 3  | PDCA-A-1 | StateModel for PDCA | ProtocolInstance |   |   |
| 4  |          |                     |                  |   |   |
| 5  |          |                     |                  |   |   |
| 6  |          |                     |                  |   |   |
| 7  |          |                     |                  |   |   |
| 8  |          |                     |                  |   |   |
| 9  |          |                     |                  |   |   |
| 10 |          |                     |                  |   |   |
| 11 |          |                     |                  |   |   |
| 12 |          |                     |                  |   |   |
| 13 |          |                     |                  |   |   |
| 14 |          |                     |                  |   |   |
| 15 |          |                     |                  |   |   |
| 16 |          |                     |                  |   |   |
| 17 |          |                     |                  |   |   |
| 18 |          |                     |                  |   |   |
| 19 |          |                     |                  |   |   |
| 20 |          |                     |                  |   |   |
| 21 |          |                     |                  |   |   |
| 22 |          |                     |                  |   |   |
| 23 |          |                     |                  |   |   |
| 24 |          |                     |                  |   |   |
| 25 |          |                     |                  |   |   |
| 26 |          |                     |                  |   |   |
| 27 |          |                     |                  |   |   |
| 28 |          |                     |                  |   |   |
| 29 |          |                     |                  |   |   |
| 30 |          |                     |                  |   |   |
| 31 |          |                     |                  |   |   |
| 32 |          |                     |                  |   |   |
| 33 |          |                     |                  |   |   |
| 34 |          |                     |                  |   |   |
| 35 |          |                     |                  |   |   |

**Table 2: Protocol (Bottom)**

| A  | B    | C             | D           | E        | F         | G          | H        | I            | J               | K               | L                              | M                          |         |
|----|------|---------------|-------------|----------|-----------|------------|----------|--------------|-----------------|-----------------|--------------------------------|----------------------------|---------|
| 1  | Name | Revision      | Description | Type     | DataGroup | StateModel | Severity | DefaultOwner | RootCauseSource | DisableOverride | AllowProtocolStateRoleOverride | DefaultInhibitMoveFromStep | Default |
| 2  | 8D   | 8D Protocol   | Standard    | Standard | 8D-A-1    | Neutral    |          |              |                 | No              | No                             | No                         | No      |
| 3  | PDCA | PDCA Protocol | Standard    | Standard | PDCA-A-1  | Warning    |          |              |                 | No              | No                             | No                         | No      |
| 4  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 5  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 6  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 7  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 8  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 9  |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 10 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 11 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 12 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 13 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 14 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 15 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 16 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 17 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 18 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 19 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 20 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 21 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 22 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 23 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 24 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 25 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 26 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 27 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 28 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 29 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 30 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 31 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 32 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 33 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 34 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |
| 35 |      |               |             |          |           |            |          |              |                 |                 |                                |                            |         |

## Smart Table example

A custom Smart Table is often created through the CM MES interface, but it is also possible to create it through the Master Data Package. To create a Smart Table, you should follow the steps below:

1. Create the custom Smart Table using the Excel template `<ST>SmartTable` sheet:

| A  | B                         | C  | D         | E                | F                    | G                       | H                | I                 | J                  | K | L | M | N | O |
|----|---------------------------|--|-----------|------------------|----------------------|-------------------------|------------------|-------------------|--------------------|---|---|---|---|---|
| 1  | Name                      | Description  | DataGroup | IsHistoryEnabled | HistoryRetentionTime | IsRepeatedValuesAllowed | HasChangeControl | PreValidationRule | PostValidationRule |   |   |   |   |   |
| 2  | CustomMatChecklistContext | Used to resolve the checklist for the specific context |           | Yes              | 180                  | No                      |                  | Yes               |                    |   |   |   |   |   |
| 3  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 4  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 5  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 6  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 7  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 8  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 9  |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 10 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 11 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 12 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 13 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 14 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 15 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 16 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 17 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 18 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 19 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 20 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 21 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 22 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 23 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 24 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 25 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 26 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 27 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 28 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 29 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 30 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 31 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 32 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 33 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 34 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 35 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 36 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |
| 37 |                           |  |           |                  |                      |                         |                  |                   |                    |   |   |   |   |   |

2. Populate the required Properties for the custom Smart Table using the Excel template

`SmartTableProperties` sheet:

| A  | B                         | C               | D                     | E        | F   | G       | H          | I                | J                           | K        | L         | M               | N               | O              | P | Q | R | S | T |
|----|---------------------------|-----------------|-----------------------|----------|-----|---------|------------|------------------|-----------------------------|----------|-----------|-----------------|-----------------|----------------|---|---|---|---|---|
| 1  | SmartTable                | Name            | Description           | Position | Key | Indexed | EntityType | ReferenceName    | ScaleType                   | Size     | Precision | ValidationRange | ValidationRegex | ResolutionMode |   |   |   |   |   |
| 2  | CustomMatChecklistContext | Step            | Reference to a Step   | 1        | Yes | No      | Entity     | Step.Name        | NVarChar                    | 256      |           |                 |                 |                |   |   |   |   |   |
| 3  | CustomMatChecklistContext | LogicalFlowPath | The Logical Flow Path | 2        | Yes | No      | None       |                  | NVarChar                    | 512      |           |                 |                 |                |   |   |   |   |   |
| 4  | CustomMatChecklistContext | Operation       | Operation Name        | 3        | Yes | Yes     | Yes        | LookupValue      | MaterialChecklistOperations | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 5  | CustomMatChecklistContext | Product         | Product Name          | 4        | Yes | No      | Yes        | EntityDefinition | Product.Name                | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 6  | CustomMatChecklistContext | ProductGroup    | ProductGroup Name     | 5        | Yes | No      | Yes        | EntityDefinition | ProductGroup.Name           | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 7  | CustomMatChecklistContext | Flow            | Flow Name             | 6        | Yes | No      | Yes        | EntityDefinition | Flow.Name                   | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 8  | CustomMatChecklistContext | Material        | Material Name         | 7        | Yes | No      | Yes        | EntityDefinition | Material.Name               | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 9  | CustomMatChecklistContext | MaterialType    | Material Type         | 8        | Yes | No      | Yes        | LookupValue      | MaterialType                | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 10 | CustomMatChecklistContext | Resource        | Resource Reference    | 9        | Yes | No      | Yes        | EntityType       | Resource.Name               | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 11 | CustomMatChecklistContext | ResourceType    | ResourceType Name     | 10       | Yes | No      | Yes        | LookupValue      | ResourceResourceType        | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 12 | CustomMatChecklistContext | Model           | Model Name            | 11       | Yes | No      | Yes        | LookupValue      | ResourceModel               | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 13 | CustomMatChecklistContext | Recipe          | Recipe Name           | 12       | Yes | No      | Yes        | EntityDefinition | Recipe.Name                 | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 14 | CustomMatChecklistContext | Checklist       | Checklist Name        | 13       | No  | Yes     | No         | EntityDefinition | Checklist.Name              | NVarChar | 256       |                 |                 |                |   |   |   |   |   |
| 15 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 16 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 17 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 18 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 19 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 20 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 21 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 22 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 23 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 24 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 25 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 26 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 27 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 28 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 29 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 30 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 31 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 32 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 33 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 34 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 35 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 36 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |
| 37 |                           |                 |                       |          |     |         |            |                  |                             |          |           |                 |                 |                |   |   |   |   |   |

3. Define the required Precedence Keys for the custom Smart Table using the Excel template

`SmartTablePrecedenceKeys` sheet:

| A  | B                         | C                       | D                     | E  | F  | G   | H                                      | I       | J | K | L | M | N | O | P |
|----|---------------------------|-------------------------|-----------------------|--|--|---|--|---------|---|---|---|---|---|---|---|
| 1  | SmartTable                | PrecedenceKey1          | PrecedenceKey2        | PrecedenceKey3   | PrecedenceKey4                           | PrecedenceKey5                                | PrecedenceKey6                         |         |   |   |   |   |   |   |   |
| 2  | CustomMatChecklistContext | Step+Operation+Material | Step+Operation+Recipe | Step+LogicalFlowPath+Operation+Product+Flow+MaterialType | Step+Operation+Product+Flow+MaterialType | Step+Operation+ProductGroup+Flow+MaterialType | Step+LogicalFlowPath+Operation+Product | Step+Op |   |   |   |   |   |   |   |
| 3  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 4  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 5  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 6  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 7  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 8  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 9  |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 10 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 11 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 12 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 13 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 14 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 15 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 16 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 17 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 18 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 19 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 20 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 21 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 22 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 23 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 24 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 25 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 26 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 27 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 28 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 29 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 30 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 31 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 32 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 33 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 34 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 35 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 36 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |
| 37 |                           |                         |                       |  |  |   |  |         |   |   |   |   |   |   |   |

4. If data is to be uploaded directly into the Smart Table via Master Data, create a new Excel sheet named `<ST>ST` Name. The column names in this sheet must correspond to the properties defined in Step 2:

| A    | B              | C         | D       | E            | F    | G        | H            | I        | J            | K     | L      | M                         | N | O | P | Q | R | S | T | U | V | W |
|------|----------------|-----------|---------|--------------|------|----------|--------------|----------|--------------|-------|--------|---------------------------|---|---|---|---|---|---|---|---|---|---|
| Step | LogicalKeyPath | Operation | Product | ProductGroup | Flow | Material | MaterialType | Resource | ResourceType | Model | Recipe | Checklist                 |   |   |   |   |   |   |   |   |   |   |
| 1    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 2    | Inspection     | After Dry | Trackin |              |      |          |              |          |              |       |        | CHK Measurement After Dry |   |   |   |   |   |   |   |   |   |   |
| 3    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 4    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 5    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 6    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 7    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 8    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 9    |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 10   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 11   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 12   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 13   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 14   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 15   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 16   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 17   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 18   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 19   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 20   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 21   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 22   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 23   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 24   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 25   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 26   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 27   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 28   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 29   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 30   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 31   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 32   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 33   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 34   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 35   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 36   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |
| 37   |                |           |         |              |      |          |              |          |              |       |        |                           |   |   |   |   |   |   |   |   |   |   |

Moreover, because the fields to fill in the Master Data and in CM MES are the same, for more information on how to create a custom Smart Table, see [Smart Tables](#) in the Critical Manufacturing Documentation Portal.

In relation to the creation of custom Generic Tables using Master Data, you should follow steps 1, 2, and 4 above as the creation process is similar.

For Generic Tables, you can find more information in [Generic Tables](#), and your Excel template sheets would be as in the following example:

<GT>GenericTable | GenericTableProperties | <GT>GT Name

## Relations

Most of the relations between objects are added automatically when two objects require contextual sharing of information due to their current operation state. You can manually add relations between objects by using the **EntityType** sheet and filling in the **SourceEntity** and the specific **TargetEntity**.

| A         | B           | C          | D            | E                 | F            | G                 | H            | I           | J                      |
|-----------|-------------|------------|--------------|-------------------|--------------|-------------------|--------------|-------------|------------------------|
| Name      | Description | IsRelation | SourceEntity | SourceAccessLevel | TargetEntity | TargetAccessLevel | RelationLock | IsVersioned | AllowImplicitChangeSet |
| Example_1 |             | Yes        | Resource     | 0                 | Employee     | 0                 | LockNone     | Yes         | No                     |
| 2         |             |            |              |                   |              |                   |              |             |                        |
| 3         |             |            |              |                   |              |                   |              |             |                        |
| 4         |             |            |              |                   |              |                   |              |             |                        |
| 5         |             |            |              |                   |              |                   |              |             |                        |
| 6         |             |            |              |                   |              |                   |              |             |                        |
| 7         |             |            |              |                   |              |                   |              |             |                        |
| 8         |             |            |              |                   |              |                   |              |             |                        |
| 9         |             |            |              |                   |              |                   |              |             |                        |
| 10        |             |            |              |                   |              |                   |              |             |                        |
| 11        |             |            |              |                   |              |                   |              |             |                        |
| 12        |             |            |              |                   |              |                   |              |             |                        |
| 13        |             |            |              |                   |              |                   |              |             |                        |
| 14        |             |            |              |                   |              |                   |              |             |                        |
| 15        |             |            |              |                   |              |                   |              |             |                        |
| 16        |             |            |              |                   |              |                   |              |             |                        |
| 17        |             |            |              |                   |              |                   |              |             |                        |
| 18        |             |            |              |                   |              |                   |              |             |                        |
| 19        |             |            |              |                   |              |                   |              |             |                        |
| 20        |             |            |              |                   |              |                   |              |             |                        |
| 21        |             |            |              |                   |              |                   |              |             |                        |

<SM>LocalizedMessageKey | <SM>EntityType | <SM>EntityTypeProperty | <SM>StateModel | StateModelState | StateModelTransition

### Note

If you want to create a relation between versioned entities, use the **EntityTypeProperty** sheet to define whether the Source or Target entities belong to the version, to the definition or to the complete entity. The **Reference Type** field in that sheet defines that relationship and has three possible options:

- EntityDefinition
- EntityVersion
- Entity

## Attributes

If you want to add specific attributes to an entity, you must create the attribute in the **EntityTypeProperty** sheet and then add the columns with the attribute names in the target Entity.

| A          | B             | C           | D            | E         | F         | G             | H             | I          | J          | K               | L            | M       | N           |
|------------|---------------|-------------|--------------|-----------|-----------|---------------|---------------|------------|------------|-----------------|--------------|---------|-------------|
| EntityType | Name          | Description | PropertyType | DataGroup | IsEnabled | ReferenceType | ReferenceName | ScalarType | ScalarSize | ScalarPrecision | DefaultValue | IsArray | CopyOnClone |
| Resource   | WarrantyStart |             | Attribute    |           | Yes       | None          |               | DateTime   | 0          |                 |              | No      | No          |
| Resource   | WarrantyEnd   |             | Attribute    |           | Yes       | None          |               | DateTime   | 0          |                 |              | No      | No          |
| 4          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 5          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 6          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 7          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 8          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 9          |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 10         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 11         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 12         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 13         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 14         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 15         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 16         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 17         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 18         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 19         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 20         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 21         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 22         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 23         |               |             |              |           |           |               |               |            |            |                 |              |         |             |
| 24         |               |             |              |           |           |               |               |            |            |                 |              |         |             |

| A    | B           | DE                             | DF                 | DG            | DH          | DI | DJ |
|------|-------------|--------------------------------|--------------------|---------------|-------------|----|----|
| Name | Description | AllowEmployeeCheckOutOnCheckIn | LogCheckInActivity | WarrantyStart | WarrantyEnd |    |    |
| 2    |             |                                |                    |               |             |    |    |
| 3    |             |                                |                    |               |             |    |    |
| 4    |             |                                |                    |               |             |    |    |
| 5    |             |                                |                    |               |             |    |    |
| 6    |             |                                |                    |               |             |    |    |
| 7    |             |                                |                    |               |             |    |    |
| 8    |             |                                |                    |               |             |    |    |
| 9    |             |                                |                    |               |             |    |    |
| 10   |             |                                |                    |               |             |    |    |
| 11   |             |                                |                    |               |             |    |    |
| 12   |             |                                |                    |               |             |    |    |
| 13   |             |                                |                    |               |             |    |    |
| 14   |             |                                |                    |               |             |    |    |
| 15   |             |                                |                    |               |             |    |    |
| 16   |             |                                |                    |               |             |    |    |
| 17   |             |                                |                    |               |             |    |    |
| 18   |             |                                |                    |               |             |    |    |
| 19   |             |                                |                    |               |             |    |    |
| 20   |             |                                |                    |               |             |    |    |
| 21   |             |                                |                    |               |             |    |    |
| 22   |             |                                |                    |               |             |    |    |
| 23   |             |                                |                    |               |             |    |    |
| 24   |             |                                |                    |               |             |    |    |

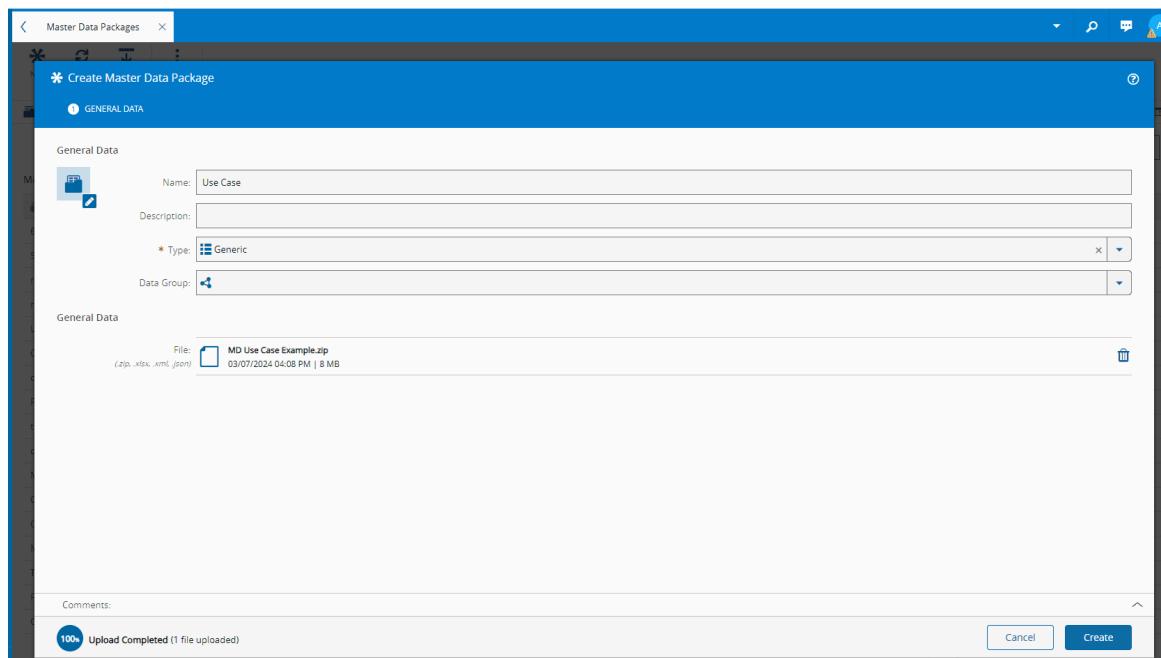
**⚠ Warning**

The empty spaces in the entity names are taken into consideration and can cause failures when loading the **Master Data Package**. Make sure you trim all leading and lagging spaces from the labels of any data element.

## External Files

You can upload specific types of external files that will be included in the **Master Data Package**. They must be specified manually and included in a `.zip` file that will be used to upload the data into the system:

- Images - used in **Checklists**, **Data Collections** and Notes in Future Actions, among others.
- Objects - system objects like **Queries**, **Printable Documents** or **FabLives**, among others.
- Documents - files can be associated to most entity types, like PDFs or other files that can be displayed in the system.



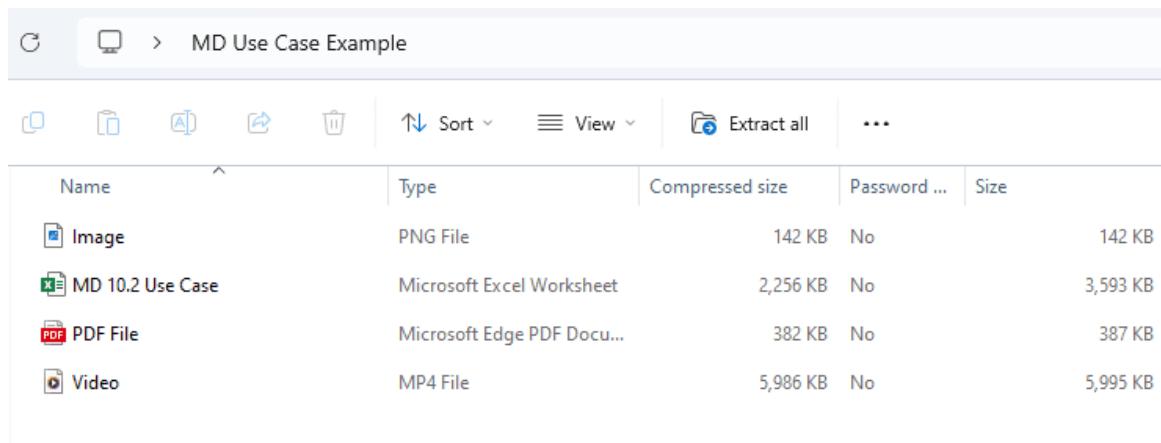
To reference the files in a **Checklist**, you must delimit the file name and the specific format with `[[` and `]]`, like the example below:

| A  | B           | C      | D     | E                | F            | G            | H         | I       | J          | K          | L    | M             | N           | O                     | P | Q |
|----|-------------|--------|-------|------------------|--------------|--------------|-----------|---------|------------|------------|------|---------------|-------------|-----------------------|---|---|
| 1  | Checklist   | Name   | Group | DocumentationURL | ActivityType | TrackingType | ValidFrom | ValidTo | IsFloating | IsOptional | Rule | Instruction   | DiagramFile | DiagramFileAnnotation |   |   |
| 2  | Checklist_1 | Item_1 |       |                  | ManualTask   | End          |           |         | No         | No         |      | [[Image.PNG]] |             |                       |   |   |
| 3  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 4  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 5  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 6  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 7  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 8  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 9  |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 10 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 11 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 12 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 13 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 14 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 15 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 16 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 17 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 18 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 19 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 20 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 21 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 22 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 23 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 24 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 25 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |
| 26 |             |        |       |                  |              |              |           |         |            |            |      |               |             |                       |   |   |

For **Document** loading the user must fill the appropriate values for `RelativeFileLocation` and `Filename`, the latter with the name of the object that will be included in the `.zip` file.

| A  | B                  | C        | D           | E       | F         | G                  | H                    | I            | J          |                   |
|----|--------------------|----------|-------------|---------|-----------|--------------------|----------------------|--------------|------------|-------------------|
| 1  | Name               | Revision | Description | Type    | DataGroup | ContentStorageType | RelativeFileLocation | Filename     | ContentURL | ChangeDescription |
| 2  | Procedure Video    |          |             | Generic |           | Internal           | Video.mp4            | Video.mp4    |            |                   |
| 3  | Procedure PDF File |          |             | Generic |           | Internal           | PDF File.pdf         | PDF File.pdf |            |                   |
| 4  |                    |          |             |         |           |                    |                      |              |            |                   |
| 5  |                    |          |             |         |           |                    |                      |              |            |                   |
| 6  |                    |          |             |         |           |                    |                      |              |            |                   |
| 7  |                    |          |             |         |           |                    |                      |              |            |                   |
| 8  |                    |          |             |         |           |                    |                      |              |            |                   |
| 9  |                    |          |             |         |           |                    |                      |              |            |                   |
| 10 |                    |          |             |         |           |                    |                      |              |            |                   |
| 11 |                    |          |             |         |           |                    |                      |              |            |                   |
| 12 |                    |          |             |         |           |                    |                      |              |            |                   |
| 13 |                    |          |             |         |           |                    |                      |              |            |                   |
| 14 |                    |          |             |         |           |                    |                      |              |            |                   |
| 15 |                    |          |             |         |           |                    |                      |              |            |                   |
| 16 |                    |          |             |         |           |                    |                      |              |            |                   |
| 17 |                    |          |             |         |           |                    |                      |              |            |                   |
| 18 |                    |          |             |         |           |                    |                      |              |            |                   |
| 19 |                    |          |             |         |           |                    |                      |              |            |                   |
| 20 |                    |          |             |         |           |                    |                      |              |            |                   |
| 21 |                    |          |             |         |           |                    |                      |              |            |                   |
| 22 |                    |          |             |         |           |                    |                      |              |            |                   |
| 23 |                    |          |             |         |           |                    |                      |              |            |                   |
| 24 |                    |          |             |         |           |                    |                      |              |            |                   |
| 25 |                    |          |             |         |           |                    |                      |              |            |                   |
| 26 |                    |          |             |         |           |                    |                      |              |            |                   |

The content of a `.zip` file that reflects the model shown above would look like this:



The screenshot shows a file explorer window with the following details:

Address bar: MD Use Case Example

Toolbar buttons: Back, Forward, Home, New folder, Open, Save, Print, Cut, Copy, Paste, Delete, Sort, View, Extract all, and More.

Table of files:

| Name             | Type                       | Compressed size | Password ... | Size     |
|------------------|----------------------------|-----------------|--------------|----------|
| Image            | PNG File                   | 142 KB          | No           | 142 KB   |
| MD 10.2 Use Case | Microsoft Excel Worksheet  | 2,256 KB        | No           | 3,593 KB |
| PDF File         | Microsoft Edge PDF Docu... | 382 KB          | No           | 387 KB   |
| Video            | MP4 File                   | 5,986 KB        | No           | 5,995 KB |