Helpful Tips

Some of the most demanding tasks to populate and upload Master Data is the correct preparation of the data source, as well as the relationships between the entities within the Excel sheets. Due to the sheer number of possible objects that can be loaded through **Master Data Packages**, the scenarios used to create and load a template file into the system without any problems are too varied to be properly described, so here are a few hints and tips that any user may take into account when starting out:

Source data

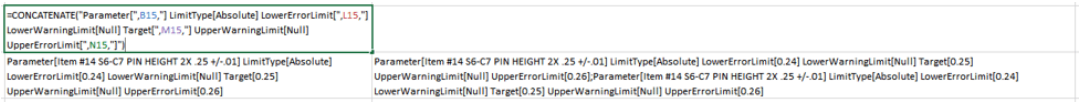
To enable a seamless transition of your source data, follow these rules:

- Prepare the source data in an Excel spreadsheet, using columns matching the already existing columns in the Master Data template. If there are columns in the Master Data template that you do not want to populate, insert blank columns in your source spreadsheet in the same index of those same columns to facilitate copy and paste operations.
- Many entities use values from the `LookupTableValues` sheet. Prepare your **Lookup Tables** in advance so that the values are available to be inserted into the entity sheets.
- Concerning **Smart Tables**, updating values is only allowed for the cases where the property `Multiple Values for Same Key` is defined as `false`.

Characters

Follow these rules to avoid problems with character handling:

- Trim all leading and lagging spaces from the labels of any data element.
- Use the **Name** and **Description** columns when generating new entities.
- Regarding entity names, try to use a short and consistent format. Avoid special characters (`@`, `&`, `#`, `!`, among others) in the actual name of the entity in order to maximize compatibility. If it is essential to use special characters, use them in the **Description** field.
- The **Data Collection Limit Sets** are populated as a collection of concatenated strings of several fields from the parameters. Use a formula to concatenate the fields to improve data entry and avoid typos. Example:
  - Parameter string: `=CONCATENATE("Parameter[",B15,"] LimitType[Absolute] LowerErrorLimit[",L15,"] LowerWarningLimit[Null] Target[",M15,"] UpperWarningLimit[Null] UpperErrorLimit[",N15,"]")`



  - Limit Set string collection: `=CONCATENATE(P15,";",P16)`

Sequence

- Be mindful of the modeling sequence and fill in the sheets that have dependencies in the proper sequence and keep the sheets together so you can navigate easily in the file, for example:
  - **Calendar**, **ShiftDefinition** and **ShiftDefinitionShift**
  - **Facility** and **Area**
  - **Service** and **Resource**
  - **Checklist**, **ChecklistItems** and **ChecklistParameters**
  - **Step**, **Flow**, **Flow structure**
  - **Product**, **BOM**, **BOMProducts**
  - **DataCollection**, **DataCollectionParameters**, **DataCollectionLimitSet**
- **Data Collections**, **Checklist** and **Protocols** use **Parameters**, so prepare the **Parameters** sheet before working on the mentioned entities

Importing DEE Actions Using the Master Data Loader

The **Master Data Loader** offers two distinct methods for importing **DEE Actions**. However, these methods cannot be combined within the same Action Group.

Numeric Order Method

This method relies on a numeric sequence defined in the Excel file. The system uses the provided numbering to determine the order of the DEE Actions, and this numbering takes precedence over any existing objects in the system.

Non-Numeric Order Method

This method uses predefined keywords to specify the relative position of each DEE Action. The following formats are supported:

- `AtBeginning` - places the action at the start of the sequence.
- `AtEnd` - places the action at the end of the sequence.
- `Before <ActionName>` - inserts the action before the specified action.
- `After <ActionName>` - inserts the action after the specified action.

The import process follows a sequential order, which can lead to different outcomes based on the provided instructions:

- If the system receives `Action1 -> AtBeginning, Action2 -> AtBeginning`, the final order will be: `Action2`, `Action1`, since the second `AtBeginning` takes precedence.
- If the system receives `Action1 -> After Action2, Action2 -> AtBeginning'`, the system will throw an error because `Action2` does not exist when performing `Action1 -> After Action2`. This setup works during updates if `Action2` already exists before running the **Master Data Loader**.
- If the system receives `Action1 -> Before Action1`, it will throw an error, as an action cannot reference itself for positioning (either before or after).

Importing Files Using the Master Data Loader

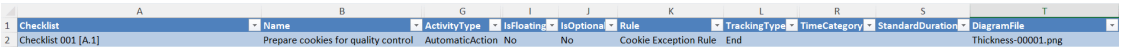
The Master Data Loader enables you to import files for various Entity Types that support external properties. Examples include:

- Checklist - importing files such as the Checklist Item Diagram File or BOM Drawing File.

- Substrate Map - importing the Substrate Map Content.

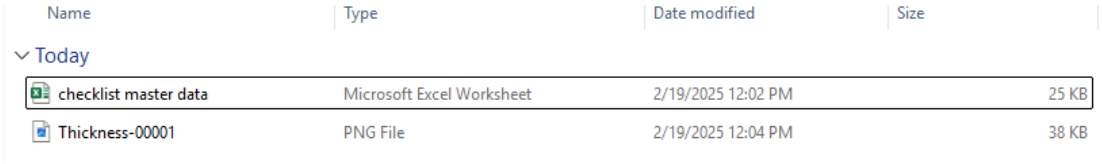
Follow the steps below to successfully import these files.

1. Enter the file path in the Excel File. In the File column of your Excel sheet, enter the relative file path of the file you wish to import. The path should be relative to the location of the Excel file. For example, to import a Checklist Item Diagram File, enter the path of the corresponding image, as exemplified below.



	A	B	G	I	J	K	L	R	S	T
1	Checklist	Name	ActivityType	IsFloating	IsOptional	Rule	TrackingType	TimeCategory	StandardDuration	DiagramFile
2	Checklist 001 [A.1]	Prepare cookies for quality control	AutomaticAction	No	No	Cookie Exception Rule	End			Thickness-00001.png

2. Place both the Excel file and the file(s) you want to import in the same folder, ensuring the MDL can locate the files during the import process.



3. Compress the folder containing the Excel file and associated files into a .zip archive.
4. Upload the zipped file to the system and select **Create** to complete the operation.