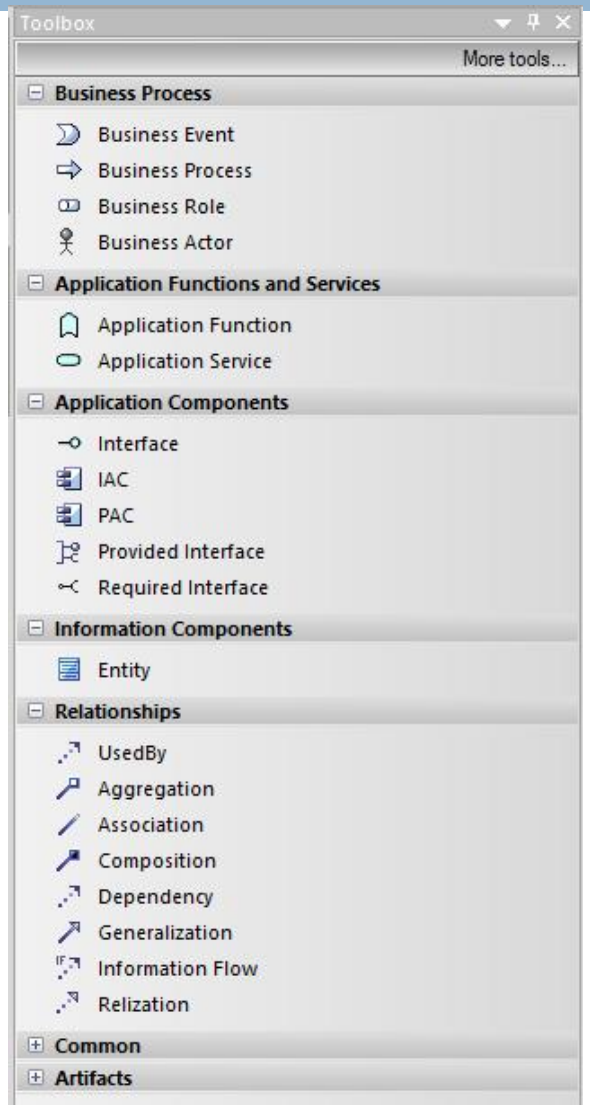
# CREATING AND USING MDG TECHNOLOGY IN ENTERPRISE ARCHITECT

# Defining Profiles

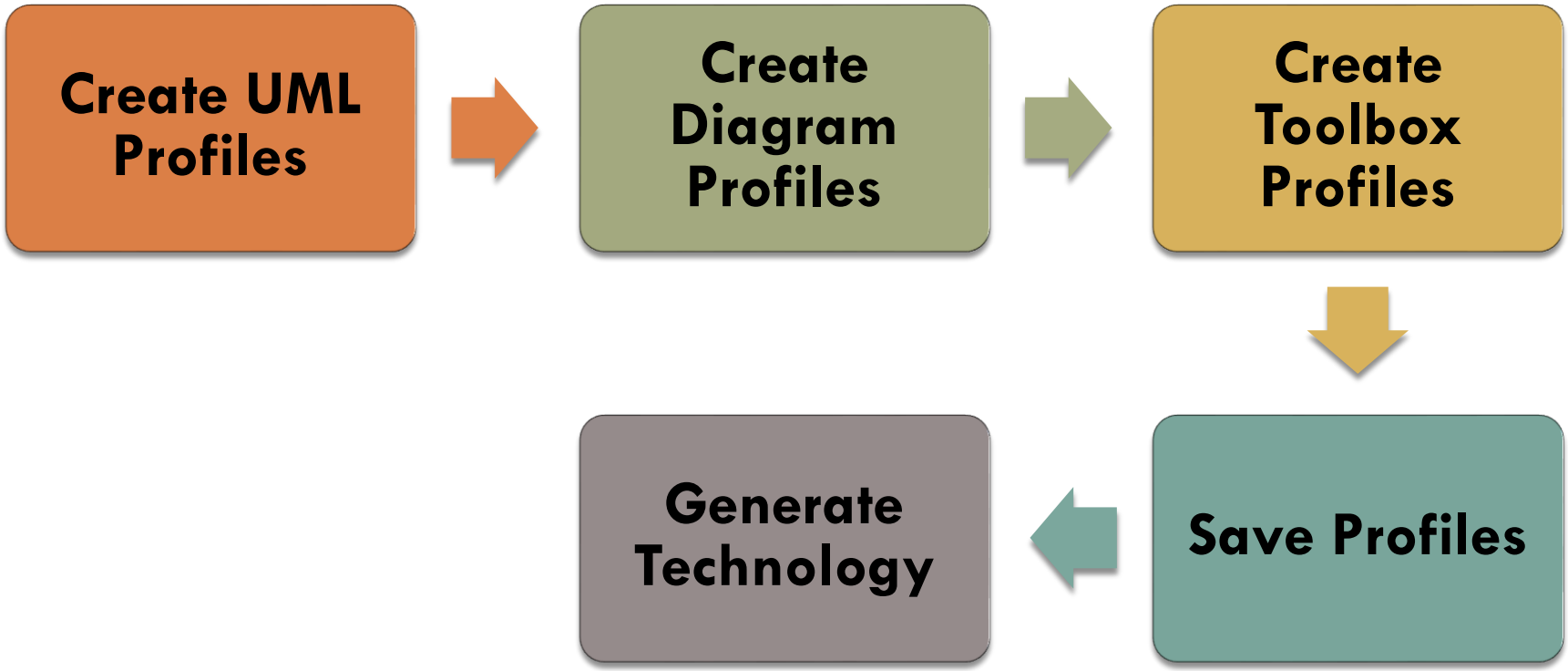
# Introduction to Profiles

- Profiles are collections of extensions (stereotypes)
- These could be collection of element extensions, connector extensions or feature extensions.
- The stereotypes can have specific tagged values assigned to them to capture metadata.

# Profile Elements Sample



# Defining Profiles for Technology

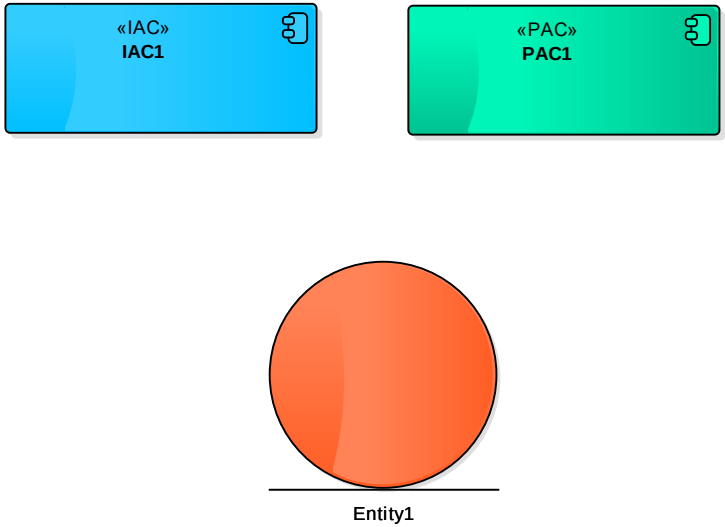


# Stereotypes

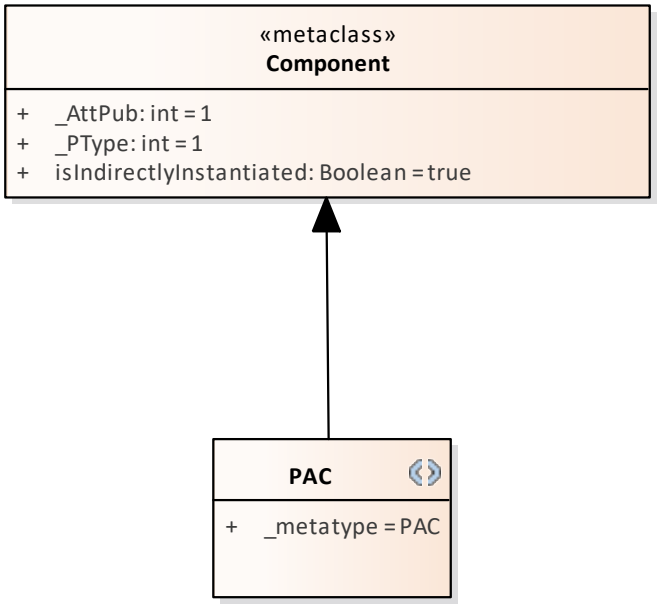
Each Stereotype defined in a profile modifies the Metaclass

These modifications may include:

- Tagged Values to provide additional properties
- Overall appearance of the new object
- Default appearance of the object, such as Background, Border and Font colors
- Special attributes that define specific appearance and behavior of the new object



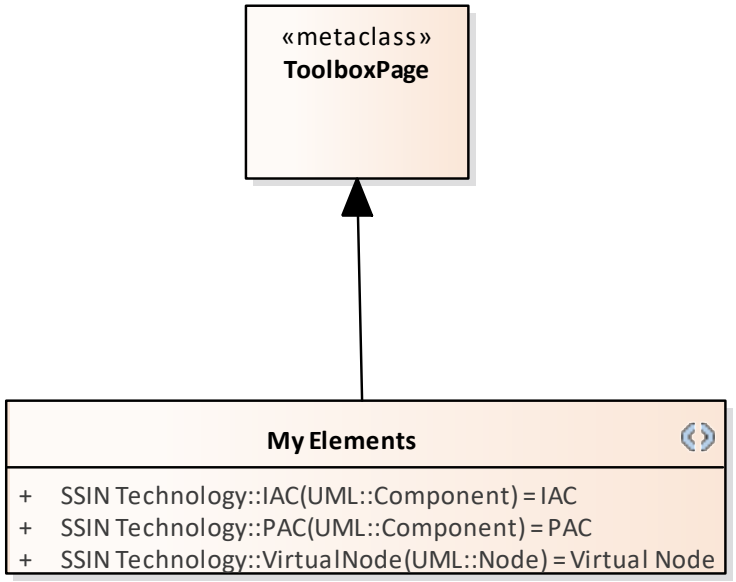
# Extending ‘Component’ metaclass



# Toolbox Page

- A Toolbox Profile is a mechanism for creating Custom Toolboxes. A Custom Toolbox provides quick access to profile elements relevant to a given diagram type.
- A Custom Toolbox consists of a number of compartments or Toolbox Pages, and each Toolbox Page consists of one or more Toolbox Items.

# Toolbox Page

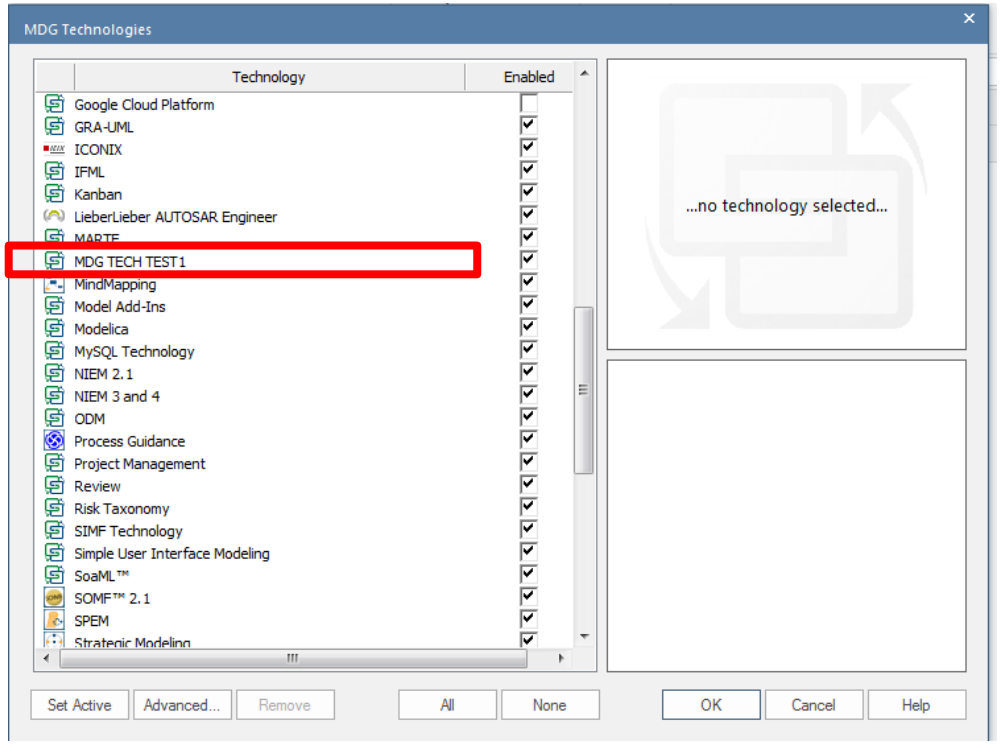


# Extending Diagram

Custom Diagram Types can be linked to a Toolbox Profile that will provide quick access to the specific modeling constructs.

This greatly simplifies modelling

E.g. TA diagram -> Opening up “Technology Architecture” Toolbox

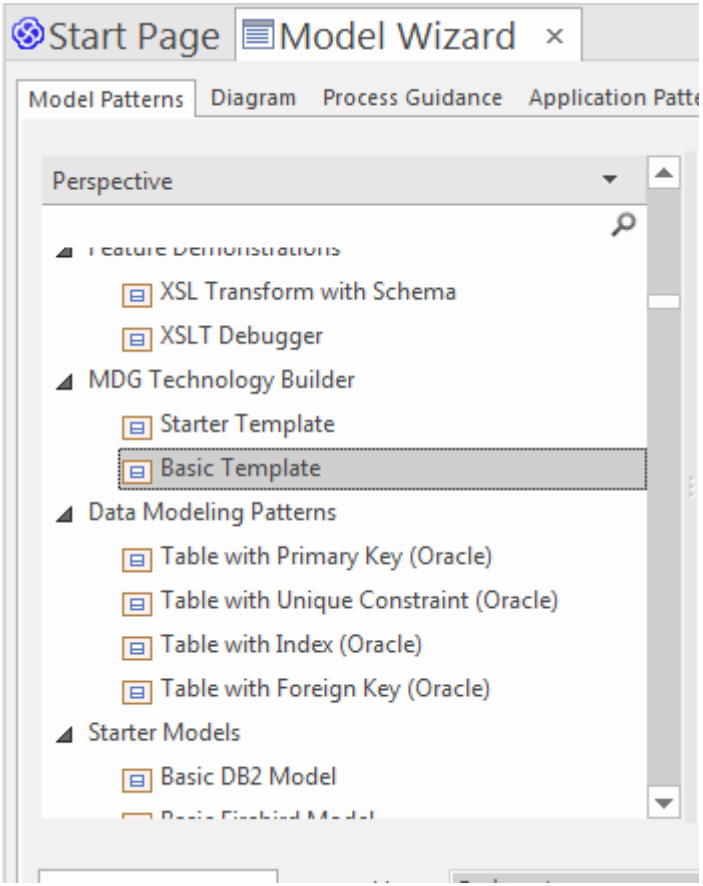


# Defining MDG Technology using Profile Helpers

**Access**

New Model Wizard(Ctrl+Shift +M) | MDG Technology Builder | Basic Template

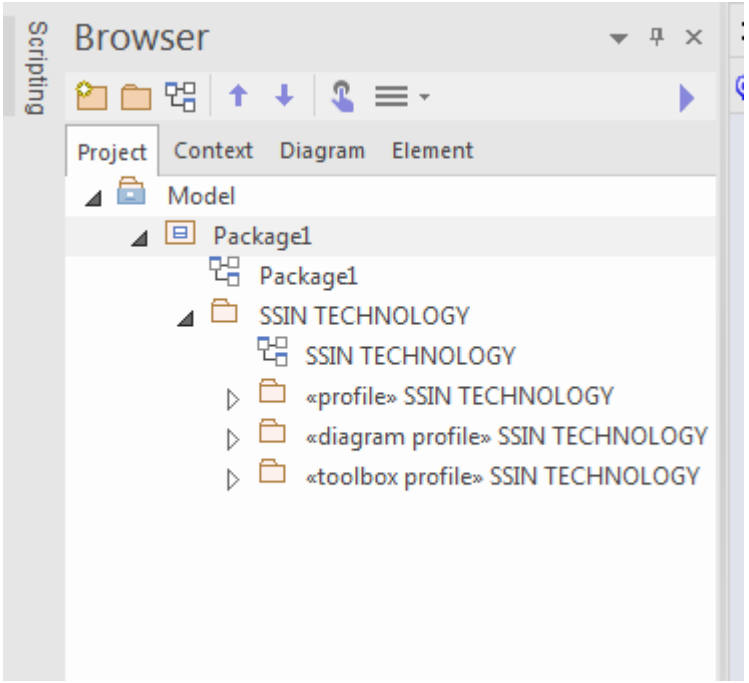
This will create a basic template of packages and example elements



# Basic Template (Model Wizard)

The template includes three packages, each having the same name as the technology but a different stereotype corresponding to the type of Profile they each define:

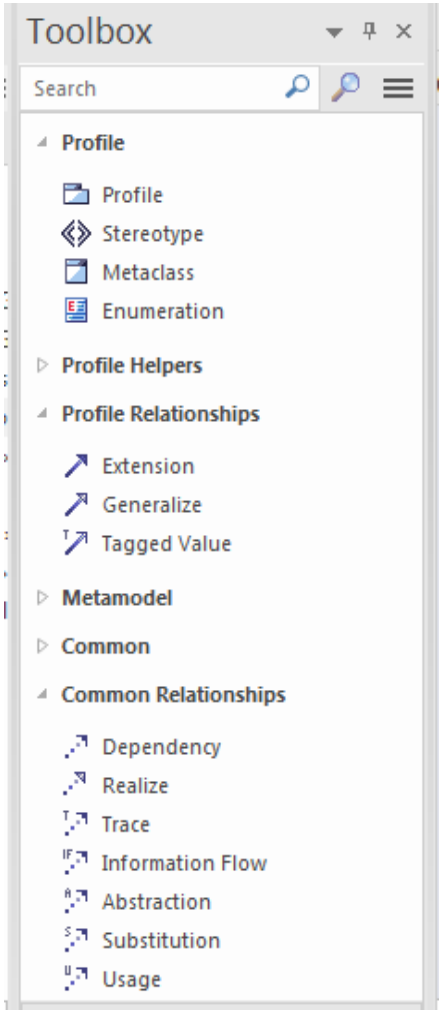
- <<profile>>
  - package for defining a profile containing the stereotypes users will apply to elements
- <<diagram profile>>
  - package for a profile describing the diagram types users will create
- <<toolbox profile>>
  - package for a profile describing the elements to show in a toolbox



# Profiles

**Profile Toolbox**

- Profile Toolbox is used in creating Profiles for extending UML models.
- Profiles can define custom Stereotypes, Shapes, Tagged Values, Diagram Types and Toolboxes.
- Set of Profile Helpers within toolbox that provide templates and dialog, helps to create UML Profiles, Toolbox Profiles and Diagram Profiles within an MDG Technology.



# Profile Helpers in Toolbox

## Profile Helpers

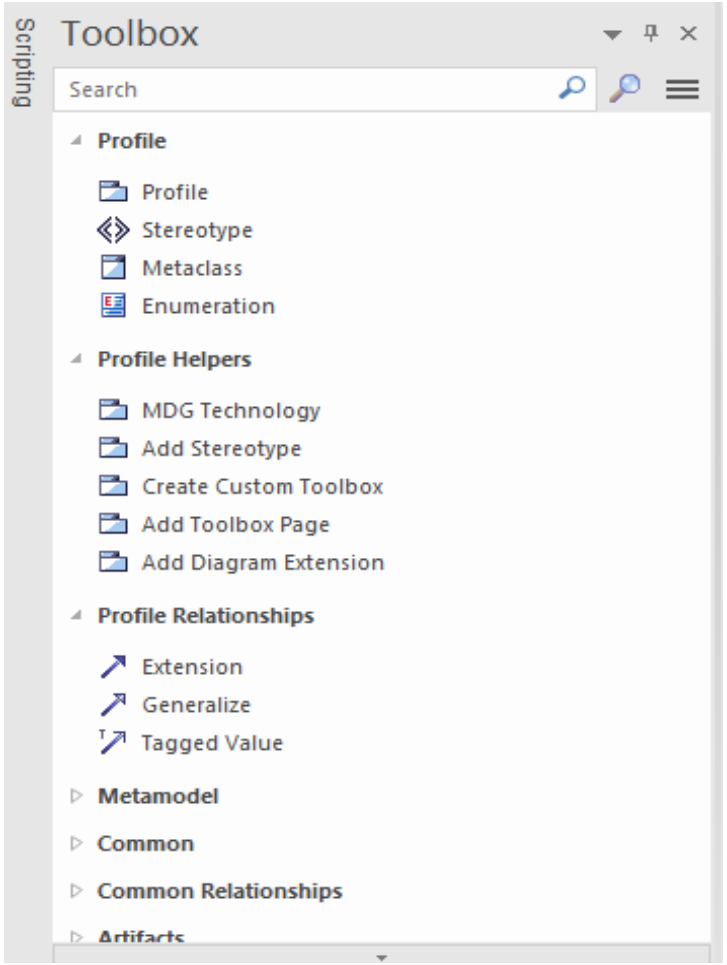
**MDG Technology:** An MDG Technology package to contain Profile definitions.

**Add Stereotype:** Add Stereotypes and Metaclasses within a UML Profile.

**Create Custom Toolbox:** A customized Toolbox Profile

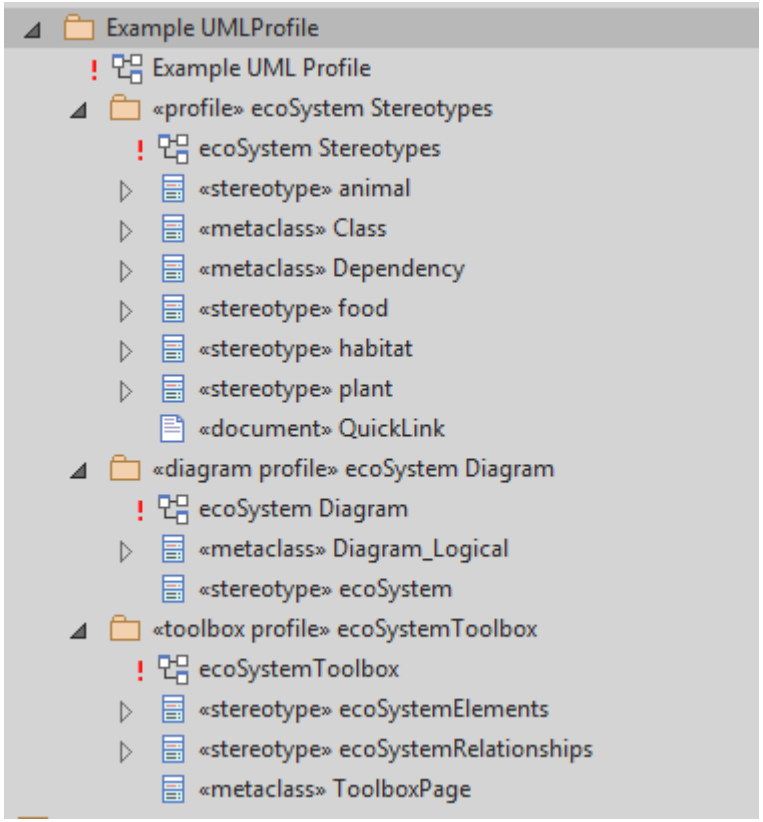
**Add Toolbox Page:** Toolbox pages within the customized Toolbox

**Add Diagram Extension:** A Diagram Profile to define an extended diagram type



# Define UML Profiles

- Open the diagram in the newly created <<profile>> package.
- Select the 'animal' stereotype given as a sample
- Right click and choose "Edit with Profile Helper"



# Using the “Profile Helper-General Tab”

Name : Enter / Modify the name of the profile

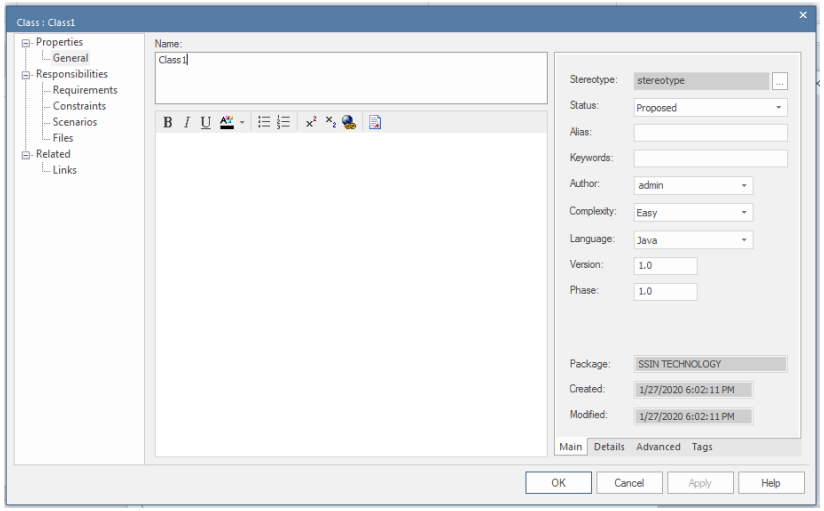
Type : Select the Type of extension

Add Metaclass: Select the UML Class that need to be extended

Click on the OK button you update the changes.

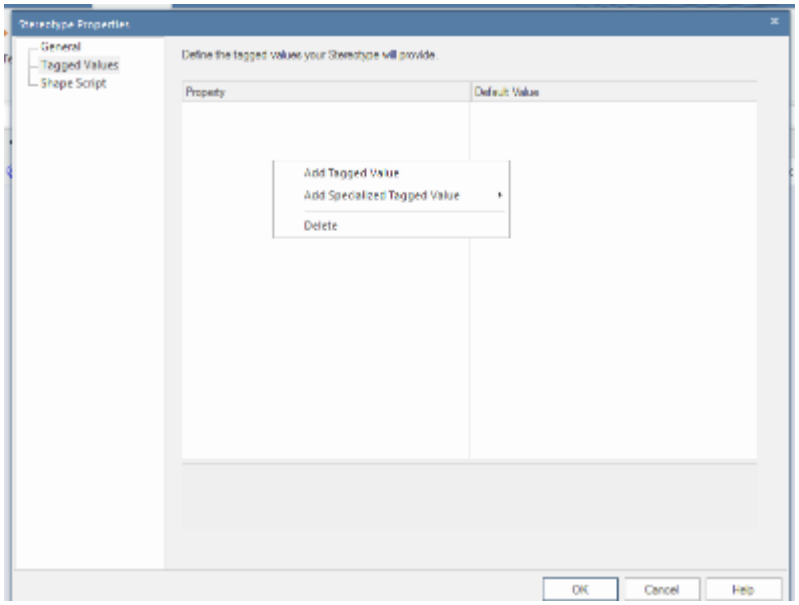
*Note :*

*The data displayed in the Add Metaclass window varies based on the Selection of “Type”*



# Using the Profile Helper-Tagged Values Tab

- Click on the Tagged Values Tab
- Right Click on the screen to select/add the Tagged Values
- Use the Predefined option to select the existing Tagged Values



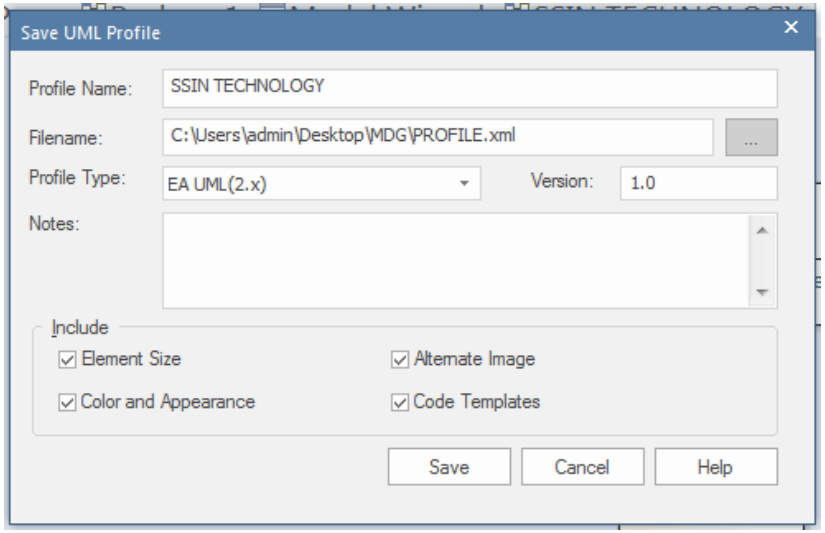
# Saving Profiles as XML

Access

- Right-click on it and select the Save Package as UML Profile
- Select Diagram -> right Click -> Save as Profile

**Save UML Profile**

- Choose File Name
- Retain default settings



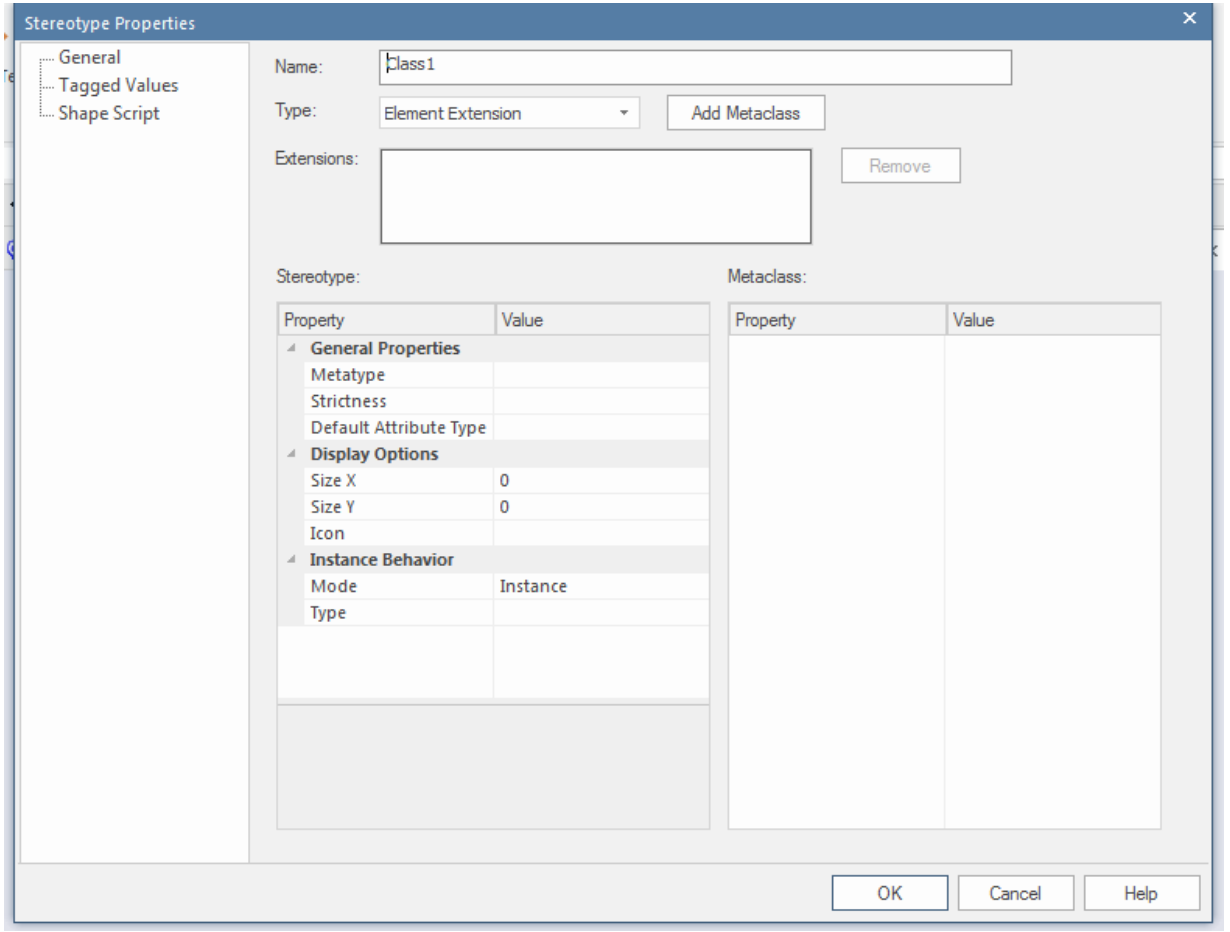

**Note**

Save the <<profile>>, <<diagram profile>> and <<toolbox profile>> separately.

# Stereotype Properties

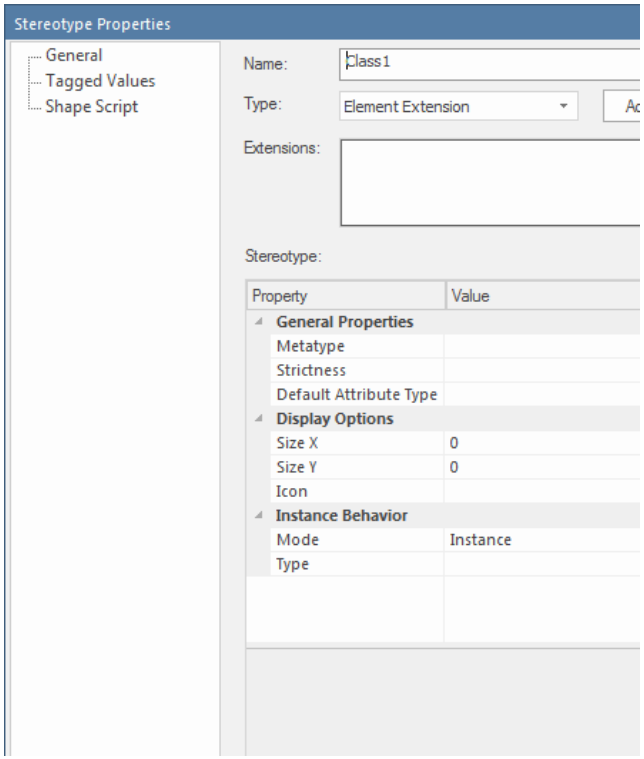
Use the Stereotype Properties to

- Add Metaclass
- Set Metaclass properties
- Set Stereotype Properties

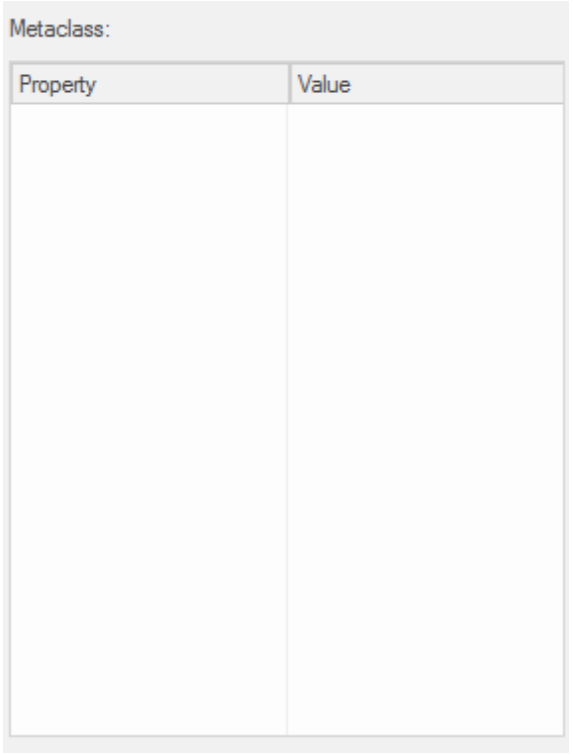


# Stereotype properties

## Stereotype properties




## Metaclass properties

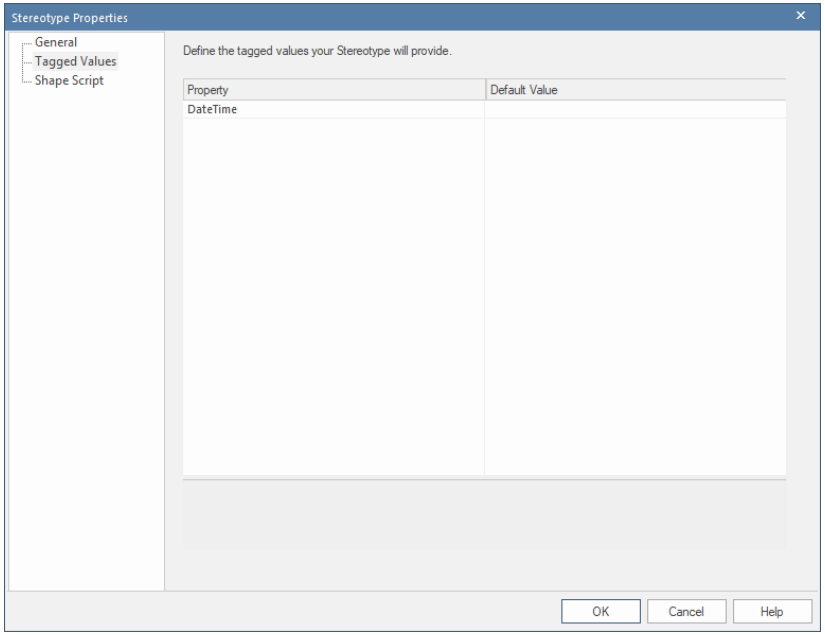


# Tagged Values

Click on the Tagged Values tab.

On this tab you can:

- Edit the default value of a tag
- Add a new tag of one of a range of types
- Create a Tag Group
- Assign or reassign a tag to a group
- Remove a tag group
- Delete a Tagged Value from the Stereotype

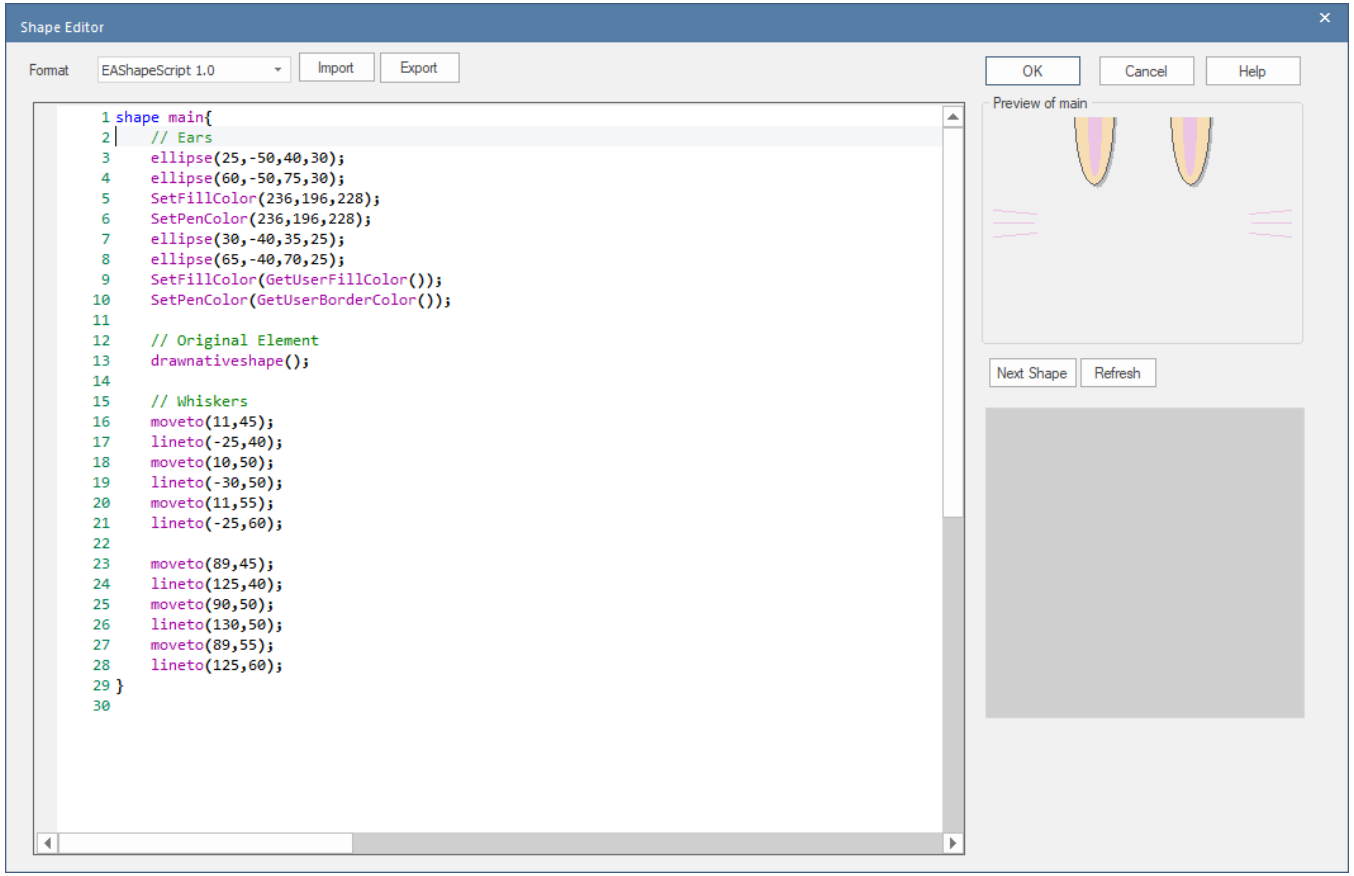


# Set shape scripts

Click on the Shape Script tab.

On this tab you can:

- Add a Shape Script (if one does not exist)
- Edit the existing Shape Script using the Shape Editor



# Applying alternate images using Shape Script

- One can also set alternate images to the new stereotypes.
- These can be defined using the profile helper, in the shape script editor.
- Use image function to set image from the Image Library.

**Note**

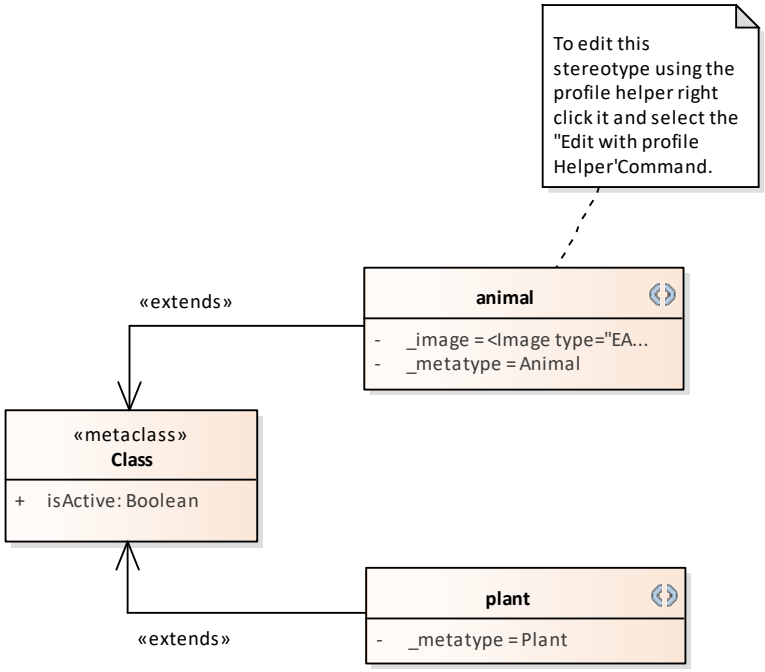
Export images as part of the MDG technology when such values are used for stereotypes.

```
shape main
{
    layouttype="border";

image("image.bmp",0,0,100,100);
    addsubshape("name","S");

    shape name
    {
        h_align="center";
        print("#NAME#");
    }
}
```

# Add New Profile Element

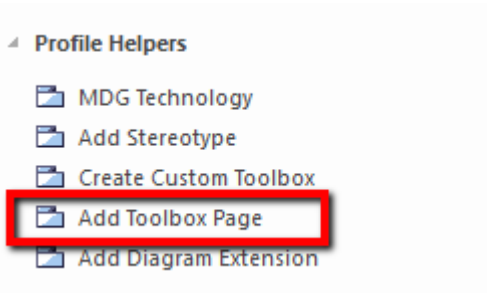
## Create Profile elements

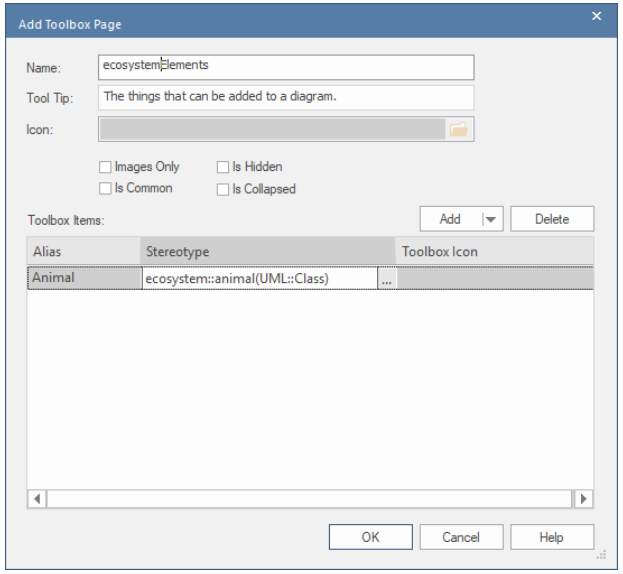
- After entering details in “Add Stereotype” window and finishing the task, diagram workspace will display the profile elements.



# Toolbox Page

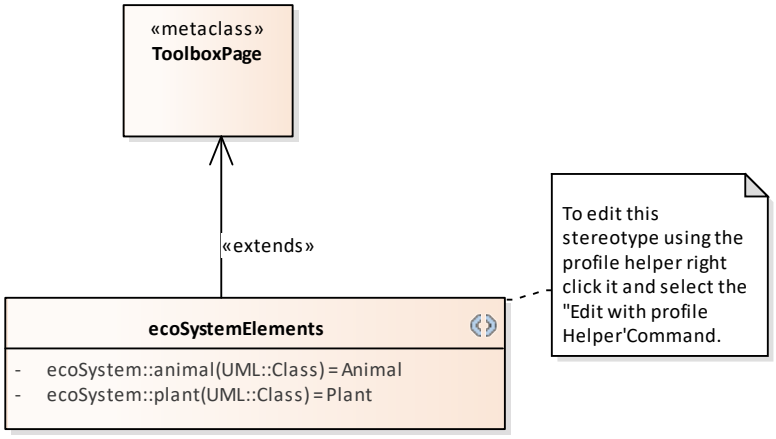
- Add a “Metaclass”
- Create a toolbox page by dragging and dropping the “Add Toolbox Page” element from “Profile Helpers” toolbox.



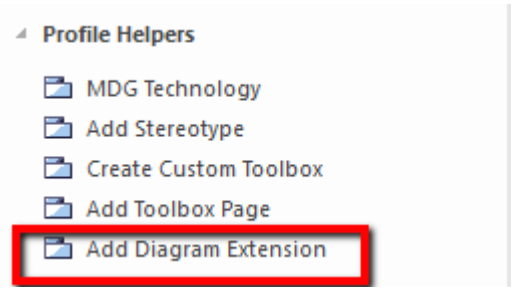
# Create a toolbox profile

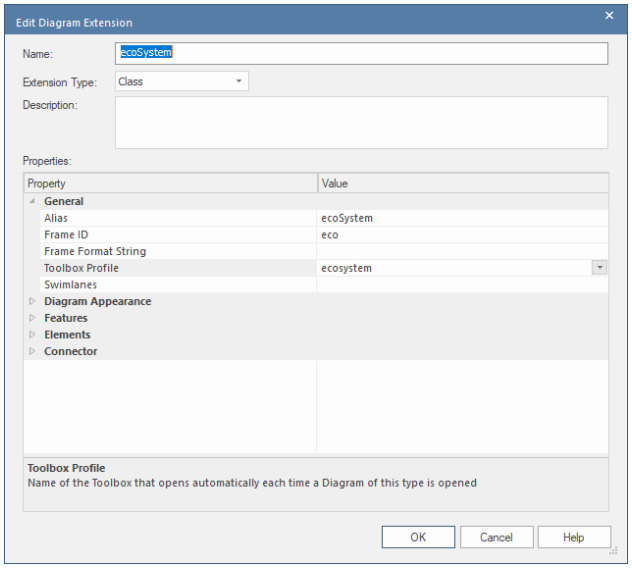
- After entering details in the “Add Toolbox Page” window and clicking “OK” button, toolbox elements will be displayed in the diagram workspace.



# Create a diagram profile

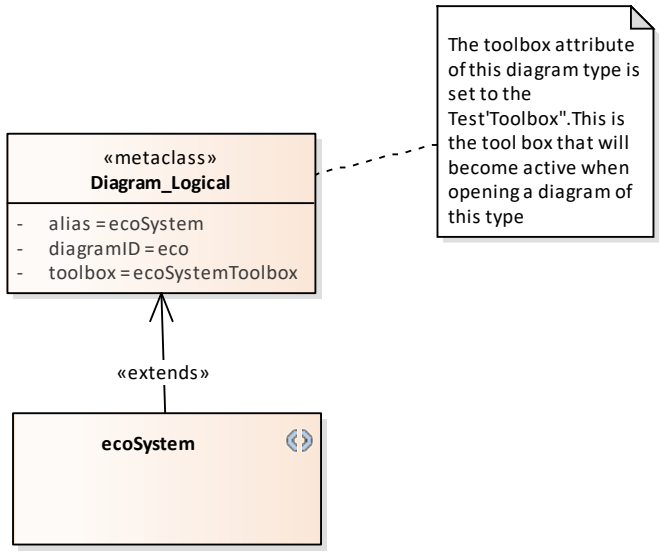
- For rapid development.
- Custom Diagram Types can be linked to a Toolbox Profile that will provide quick access to these modeling constructs.
- Create diagram profile by dragging and dropping “Add Diagram Extension” element from “Profile Helpers” toolbox.



# Create a diagram profile

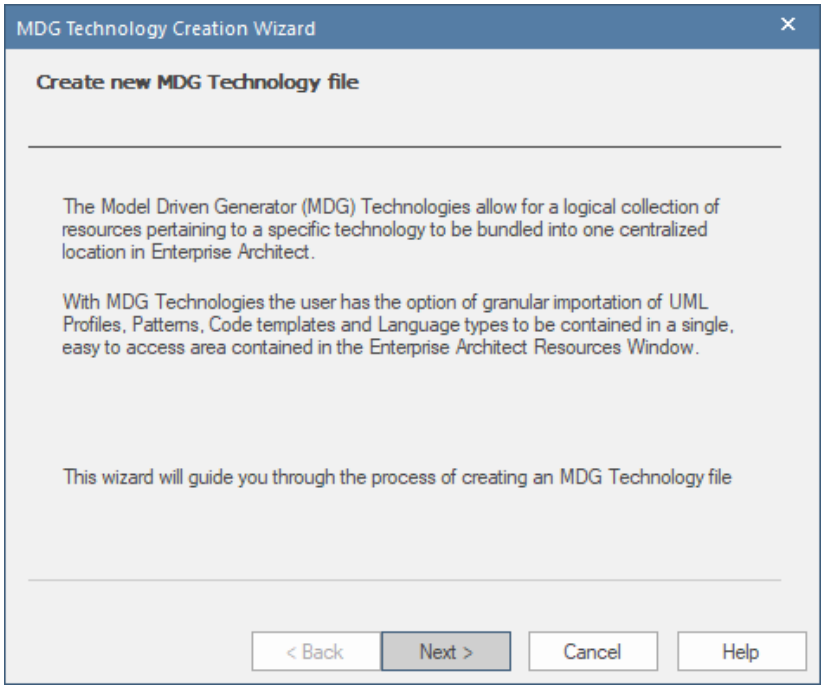
- After entering details in the "Add Diagram Extension" window and clicking "OK" button, toolbox elements will be displayed in the diagram workspace.



# Generating MDG Technology

# Generate MDG technology

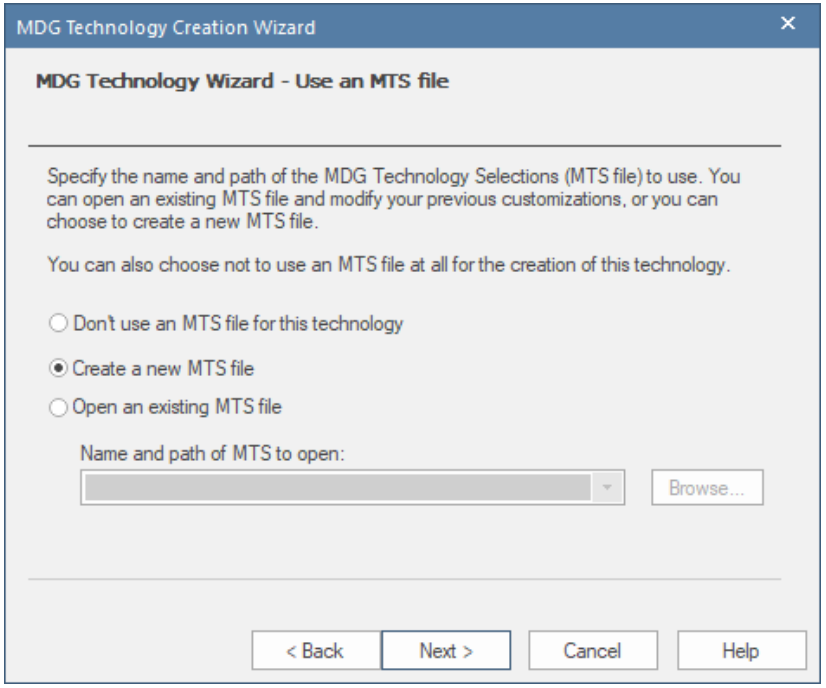
To generate MDG technology file, select “Specialize | Technologies | Publish-Tech| Generate MDG Technology” menu and fill the details in “MDG Technology Creation Wizard” and finish it which creates a MDG technology file.



# MTS files

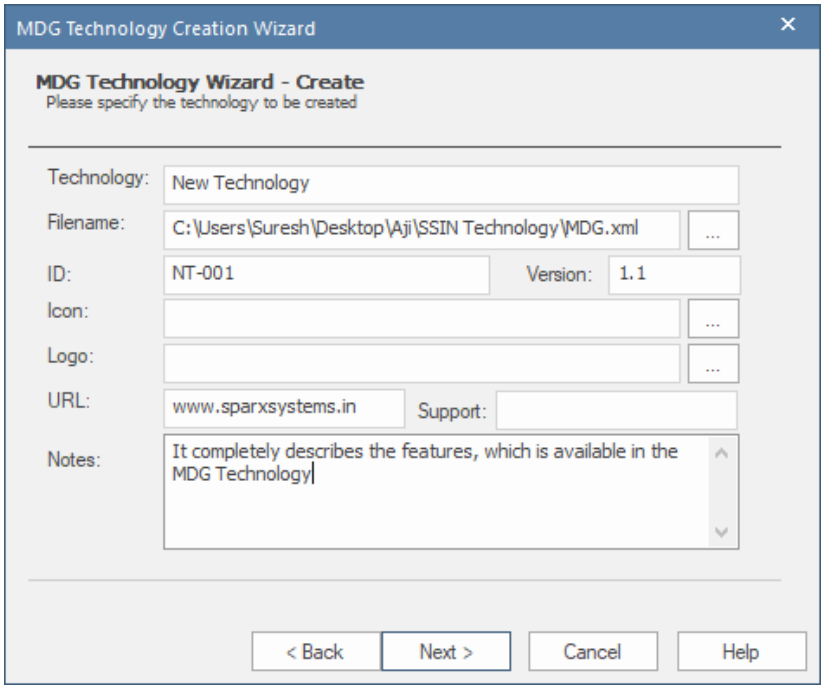
- MDG Technology Specification Files lets you save all the technology definition settings and reuse it when recreating it subsequently.

- The MDG Technology Wizard prompts you to:
  - Create an MDG Technology file based on a new MDG Technology Selection (MTS) file
  - Create an MDG Technology file based on an existing MTS file, or
  - Not use any MTS file



# MDG Technology Options

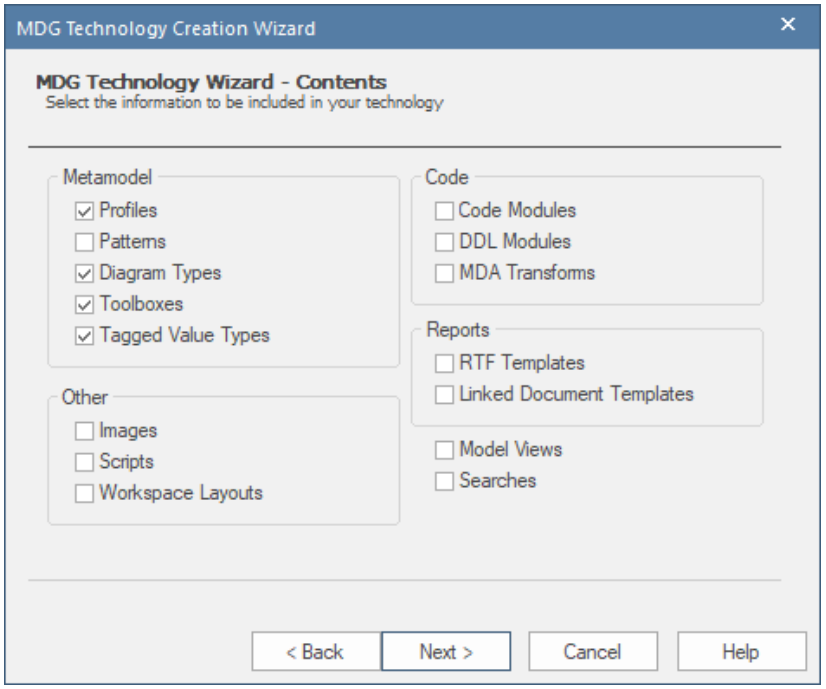
| | |
|---|---|
| **Technology** | Name of the MDG Technology. |
| **Filename** | File path for technology file |
| **ID** | Unique reference |
| **Version** | Version number |
| **Icon** | (Optional) Icon for technology |
| **Logo** | (Optional) Logo for technology |
| **URL** | (Optional) Website URL |
| **Notes** | Short explanation of the functionality of the MDG Technology. |



# Information to be included

The following can be included in the Profile

- Profile
- Pattern
- Diagram Profile
- Toolbox Profile
- Learning Center Pages
- Tagged Value Types
- Code Modules
- MDA Transforms
- RTF Report Templates
- Linked Document Templates
- Images
- Scripts (Corporate and 'Suite' editions)
- Workspace Layouts
- Model Views
- Model Searches



# Model Templates

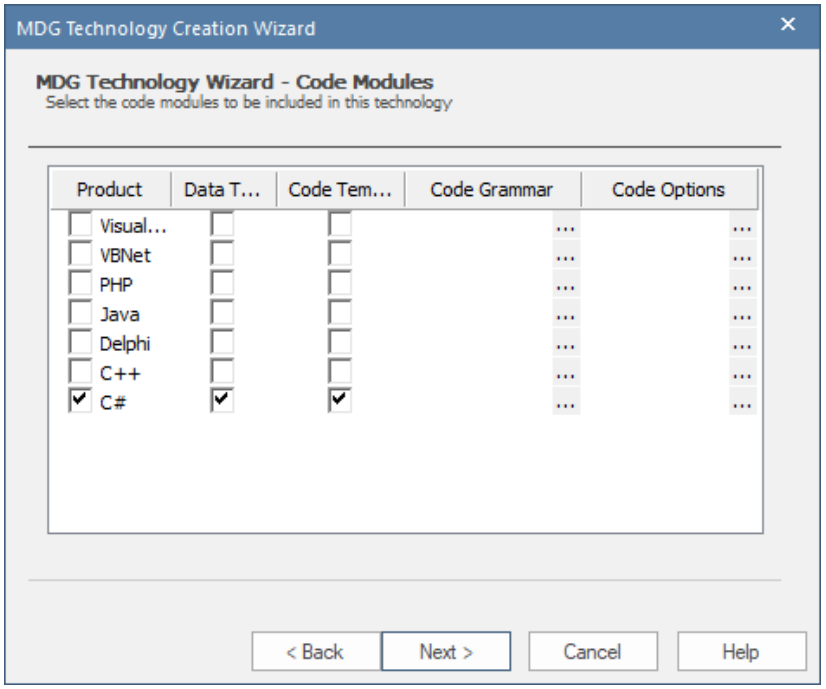
- Model Templates are helpers that lets users create a predefined project structure quickly.
- One can create a package that contains all sub-packages, diagrams, elements, notes and information in model template.

Steps to Create a Model Template

1. Export the package containing the desired project structure to XMI.
2. Insert the code below into the MTS file below MDG.Selections
3. Generate MDG Technology

# Adding Code Modules

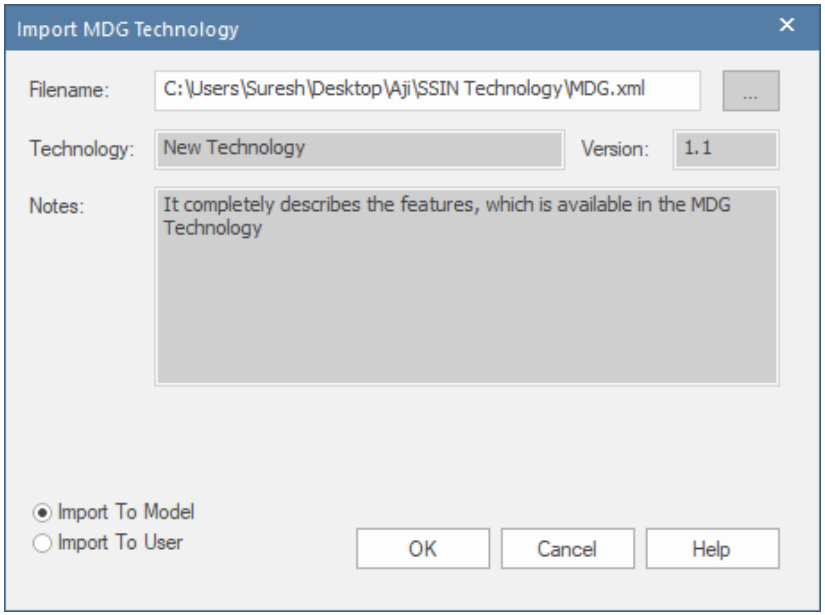
- **Code modules** can be added for languages for which you have set up **code templates** and **data types.**
- Before you can set up a code template for a new language in the editor, you must define at least one data type for the language.
- The following can be Included
  - Data Types
  - Code Templates
  - Grammar
  - Code Options



# Importing MDG Technology

# Import MDG technology

- Import MDG technology
- After creating MDG technology file, the same file has to be imported to use it as customized profile in Enterprise Architect.
- Importing is done by selecting "Specialize | Technologies | Publish-Tech| Import MDG Technology" menu and browse the technology file in "Select Technology File Name" window.



# Enable MDG Technology

After importing the technology file, the customized profile can be used to model the elements.