Epsilon Workflow Editor Task Sheet

Preliminary Information:

1.An Eclipse project called “User Study” is already created with a model folder containing model definitions. The folder also contains Epsilon scripts which are to be used as part of task definitions below.
2.Create a new EWE Diagram by right clicking the project folder → New → Other. Type in “Ewe” in the filter text box and select the Ewe Diagram option.
3.Accept the default options by clicking Next and finally click Finish.

General Usage:

- The canvas itself represents the Project element and all tasks have to be contained within a Target element.
- To specify Epsilon workflow elements, select them from the Palette on the right hand side and draw them as nodes on the canvas.
- Similarly, relations between task elements have to be drawn as arrows between the task elements.
- Node properties have to be specified in the Properties tab in the bottom of the screen.
- To generate the Workflow XML from the EWE diagram, right click on the <diagram-name>.ewe file and select EWE → Generate Workflow XML option.
- To execute the generated Workflow XML option, right click the XML file. Select Run As → Ant Build... . Select the JRE tab and select “Run in the same JRE as the workspace” option. Click Run.

Task 1

Construct a simple Epsilon workflow to load the Library EMF model and run an EOL script which refers to the loaded library model. Use only a single Ant Target for both the tasks.

1) Draw a large sized Target element which will contain Tasks and give it a name.

2) Click on the Canvas and set the defaultTarget property to the Target created above.

3) Draw the Load EMF Model Task and specify its properties in the property sheet view in the bottom :
Name: Specify a name for the model. This can also be done on the canvas as well when the node is drawn.
ModelFile: /UserStudy/model/library.model
MetamodelUri lib
readOnLoad: true (checked)
Leave the rest of options to their default values.

4) Next draw an EOL Task. Specify it as “following” the Load EMF Model Task.
Specify the following properties for the EOL Task
Src: libprint.eol.

Models: Add a model reference to the model which was loaded previously. Click the green + icon next to the Models box. **Specify the same name as the model name** in the Load EMF Model Task.

5) Validate the Workflow by clicking Edit → Validate. Problem markers are displayed on the canvas as well as in the problem tabs. Fix any problems that are displayed. Run Edit → Validate again to confirm no problem markers are visible.

6) Generate the Workflow XML and execute it. The names of the books in the Library model should be printed.

Task 2

In this task, add an EvlTask to perform some sample validations on the Library model.

1) The EvlTask should be prior to the EolTask i.e. the EolTask should "follow" the EvlTask.
For the EvlTask, the following properties must be set :
Src: libraryvalidate.evl.
FailOnErrors: true (checked)
Models: Add a model reference to the library model, using the same procedure in Task 1.

2) Generate the Workflow XML and execute it. The Build should fail due to the validation error.

3) Correct the error in the EMF model and re run the Workflow XML. Book names should be printed succesfully.

Task 3

Add another load model task and organize the tasks into separate targets.

1. Create a new target and specify a name for it such as "LoadModels"
2. Create a LoadEMFModel task within this new target in order to load the table model file Specify the following properties for this LoadEMFModelTask:
Name: Specify a name for the model.
ModelFile: /UserStudy/model/table.model
MetamodelUri: table
readOnLoad: false (unchecked)
storeOnDisposal: true (checked)
Leave the rest of options to their default values.

3. Move the original Library LoadEMF Model Task to this new Target. You will have to delete the follows link between the Evl Task and Load EMF Model Task and then move it to the new Target container.

4. Draw a "depends" relationship between the two targets.

5. Validate the EMF model clicking Edit → Validate. Fix any problems displayed. Run Edit → Validate again to confirm no problem markers are visible.

Task 4

Add an ETL and an EGL task to transform the library model into a table model and generate HTML text from the transformed table model.

1. Add a new ETL task and specify it as following the EOL Task. Specify the following properties for the ETL Task:
Src: lib2table.etl
Models: Two model references must be added using the same procedure in Task 1.
Add a model reference to the Library model.
Add a model reference to the Table model.

2. Add a new EGL task and specify it as following the following the EVL Task above. Specify the following properties for the ETL Task:
Src: table2html.egl
Target: table.html
Models: Add a model reference to the table model, using the same procedure in Task 1.

3. Generate the Workflow XML and execute it. The Library model will be transformed into a Table model from which a HTML file will be generated.

Task 5

Add a non Epsilon Task to the Workflow.

1. Add a generic "Task" node. Make it follow any other Task. Set the following properties:
Name: echo
Attributes: Add a nested Attribute. Click on the + icon. In the name column specify the name as "message" and value as some message which you want printed when the task is executing.

2. Generate the Workflow XML and execute it. The message you specified should be printed in the console.

Task 6

Create an Epsilon Workflow diagram from the generated Ant XML file.

1. Copy the generated Ant XML file into the Visualisation project.
2. Right click on the file. Choose EWE → Generate Workflow XML. A new file with the extension .ewe will be generated.
3. Right click on the .ewe file and select Initialise ewe_diagram Diagram file.
4. Choose the default options and click Finish.
5. The generated diagram will be displayed.
6. If desired, click "Select All" in the diagram toolbar, and "Arrange All" to layout the elements.
6. To save the diagram as an image, right click on canvas → File → Save As Image File...