mdeshell

mdeshell is a bash shell based modeling environment that facilitates the definition of XML-based EMF metamodels/models and the execution of Model-2-Text transformation based on Model-Driven Engineering system implemented by the Eclipse Emfatic and the Epsilon Flexmi/EGL/EGX.

Project website: https://github.com/vorachet/mdeshell

Maintainer: Vorachet Jaroensawas <vorachet@gmail.com>

Limitation: mdeshell is tested on macOS 11.1 (Java 13) and Ubuntu 18.04 (Java 11). mdeshell does not provide an environment for MS Windows users.

Getting started

```
$ git clone https://github.com/vorachet/mdeshell.git
$ cd mdeshell
```

Running demo projects

Note that you will need a Java Runtime for executing a mdeshell shell script

01_getting_started - A simplfied C program

```
$ cd mdeshell
$ ./run.sh

Choose project number:
1) 01_getting_started
2) 02_my_shell_program
#? <------- let enter 1
```

```
Project: 01_getting_started

Generating...

Done! Note that location of generated files
will be specified by your .egx files
```

This demo helps check the needed software runtime on your computer. By checking the expected outputs, myproject.cpp and myproject.txt should be generated

---

```
The expected output files

mdeshell
  /projects
    /01_getting_started
      /generated/
        myproject.cpp
        myproject.txt
```

02_my_shell_program - Interactive shell program

This demo demonstrates the basic application of the Epsilon EGL/EGX language. You will practice to create your own shell script that comes with interactive menus.

```
$ cd mdeshell
$ ./run.sh

Choose project number:
1) 01_getting_started
2) 02_my_shell_program
3) dashboard
#? <------- let enter 1
```

```
Project: 02_my_shell_program

Generating...

Done! Note that location of generated files
will be specified by your .egx files

The expected output files

mdeshell
  /projects
    /02_my_shell_program
      /generated/
        MyUnixJobs.sh

Test the script MyUnixJobs.sh

$ sh MyUnixJobs.sh
  1) showMyComputerName      3) findFiles
  2) showNetworkInterfaces   4) quit
```

Usage Guide

System files and directories

```
mdeshell
  /libs/*                (1)
  /projects/*            (2)
  run.sh                 (3)
```

(1) Java libraries required by mdeshell. (2) Root directory for your projects. (3) A mdeshell script that provides interactive command line for mdeshell workflow

Organization of user project files

```
mdeshell
  /projects
    /{YoutProjectName}   (1) USER–DEFINED NAME
      /inputs            (2) FIXED NAME
        metamodel.emf    (3) FIXED NAME
        *.flexmi         (4) USER–DEFINED NAME
        *.egl            (5) USER–DEFINED NAME
        *.egx            (6) USER–DEFINED NAME
```

(1) Directory name of your project. (2) A fixed directory name ("inputs") containing user modeling files. (3) A fixed file name metamodel ("metamodel.emf") described by the Emfatic language. (4) One or more models (*.flexmi) described by the Epsilon Flexmi language. (5) One or more generation templates (*.egl) described by the Epsilon EGL language. (6) One or more generation task specifications (*.egx) described by the Epsilon EGX language

The open source libraries mdeshell depends on

This section gives thanks to the open-source projects mdeshell depends on.

Emfatic - https://www.eclipse.org/emfatic

Emfatic is a textual syntax for EMF Ecore metamodels.

Epsilon - https://www.eclipse.org/epsilon

Epsilon is a family of Java-based scripting languages for automating common model-based software engineering tasks, such as code generation, model-to-model transformation, and model validation, that work out of the box with EMF (including Xtext and Sirius), UML, Simulink, XML and other types of models. Epsilon also includes Eclipse-based editors and debuggers, convenient reflective tools for textual modeling and model visualization, and Apache Ant tasks.

(1) Flexmi - https://www.eclipse.org/epsilon/doc/flexmi/ (2) The Epsilon Generation Language (EGL) - https://www.eclipse.org/epsilon/doc/egl/

(3) The Epsilon EGL Co-Ordination Language (EGX)

- https://www.eclipse.org/epsilon/doc/egx/

The open-source Java libraries and free Java libraries shared by this project

```
epsilon-1.5.1-kitchensink.jar, guava-23.0.jar,
org.eclipse.core.resources_3.13.600.v20191122-2104.jar,
org.eclipse.core.runtime-4.3.1.jar,
org.eclipse.emf.emfatic.core_0.8.0.201507261242.jar,
org.eclipse.equinox.common_3.10.600.v20191004-1420.jar,
org.eclipse.equinox.registry_3.8.600.v20191017-2055.jar,
org.eclipse.gymnast.runtime.core_0.8.0.201507261242.jar
EGXRunner.jar, Emfatic2Ecore.jar, Flexmi2Xmi.jar
```