

mdeshell

mdeshell is a shell script 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>

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Limitation: mdeshell is tested on macOS 11.1 and Java 13.0.1. mdeshell does not provide an environment for MS Windows users and tutorial material at this time

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 simplified 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
```