GoF Design Patterns Training Program – Software Installation Requirements

Summary

This training program has minimalist requirements:

- OpenJDK **14.0.2** from https://jdk.java.net/14/ – make sure it's a jdk (**j**ava **d**evelopment **k**it) and not a jre (java runtime environment)
- `JAVA_HOME` environment variable and `$JAVA_HOME/bin` included in `$PATH`
- Eclipse IDE for enterprise java developers / Eclipse IDE java developers **2020-09-R** from https://www.eclipse.org/downloads/packages/
- Training program materials from https://github.com/tnsilver/design-patterns-public

About IntelliJ IDEA: If you are using IntelliJ IDEA and any JDK version higher or equal to the specified version, you'll be able to import and compile the examples and exercise projects into your IDE without any further installations. You will need to create a global library named JUnit5 based on the Maven archetype library `org.junit.jupiter:junit-jupiter:5.7.0` and make sure a JUnit5 plugin is enabled in your IDEA. **However**, we do not support IntelliJ so if you run into configuration issues, we'll not be able to help within the confined time frame of this training program.

Warning: Do not install Java, Eclipse or any of the projects into workspaces or paths that include Hebrew directory names or spaces (including 'Program Files')

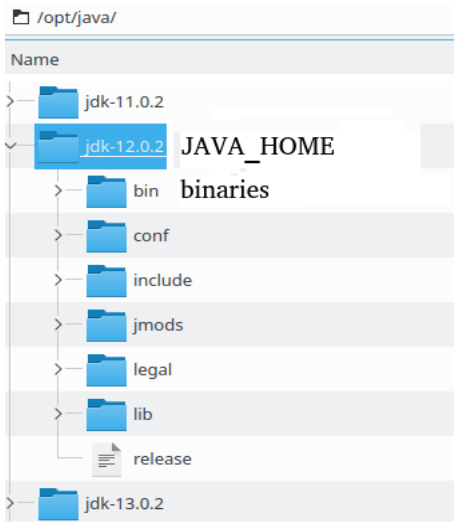
Details

This section describes the higher level details of the installation requirements.

- OpenJDK installed on user's machine. To this date we use version 14.0.2
  - Do not use installers. None are expected to exist. Just unzip the downloaded archive.
  - To avoid later scripting and command line issues **DO NOT** install the jdk to a path containing none ASCII characters or spaces like the default installation directory **`C:\"Program Files"\....`**
  - Instead, use a short reasonable path like **`C:\java`**

- Set environment variable `JAVA_HOME` to point to the jdk's root directory
  - The root directory of the jdk is the folder containing the 'bin' directory (see image bellow)
    - on **Windows** use the *control panel* to navigate to *System → Advanced → Environment Variables* and configure the `JAVA_HOME` in the System panel (not User).
    - on **Linux** use *bash.bashrc*, the local *.profile*, environment file or the command line to issues an export command: `export JAVA_HOME=/opt/path-to-jdk`

Example: JAVA_HOME location



- Configure `PATH` environment variable to include the `JAVA_HOME/bin` executable binaries:
  - on **Windows** use the **control panel** to navigate to *`System → Advanced → Environment Variables`* and configure the already existing path in the System panel (not User) to include:
    - *`PATH=%PATH%;%JAVA_HOME%\bin`*
    - Notice the path-separator character on windows systems is the column ";" and environment variables are referred to by surrounding percent signs (e.g. `%JAVA_HOME%`.)
  - on **Linux** use *bash.bashrc*, the local *.profile*, environment file or the command line to issues an export command:
    - `export PATH=$PATH:$JAVA_HOME/bin`
- Download and install Eclipse IDE (2020-03) from the download page
  - There's no installer! If an installer comes up – you've downloaded the wrong package. Just unzip the downloaded archive to a reasonable short path on your file system.
  - Do not use paths that include spaces or none ASCII characters like Hebrew, Russian or an accented European languages characters.
  - On **Linux/Ubuntu** and possibly **MacOS** operating systems, **only** if Eclipse fails to open – you may have to edit the `eclipse.ini` configuration file, located directly under the root installation directory. You will have to specify a Java VM in which to run eclipse. Add the lines:

    ```
    -vm
    /opt/java/jdk-14.0.2/bin/java
    ```

    after the `–showsplash` flag
- Download materials from github repository: https://github.com/tnsilver/design-patterns-public
  - Click the green "**code**" button at the top, right corner of the screen
    - You may download the training materials as a zip archive – or use the recommended practice of cloning the repository using `git`. Note: We do not go into the details of installing or using git shared source and version control system in this training program, but it's an industry standard and you should install it and learn the basics of using it.
    - If you download the materials as a zip file – unzip it to a short path (e.g. C:\workspaces\) that will also serve as the default workspace for Eclispe
    - If you clone the materials using git – do it from the workspace directory (e.g. C:\workspaces\) so you'll have it ready for import to eclipse.