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1- Requirements

Gradle version 7.0

JDK Version 11.0.1

2- Download and Install Unix based Terminal - Git Bash (optional terminal)

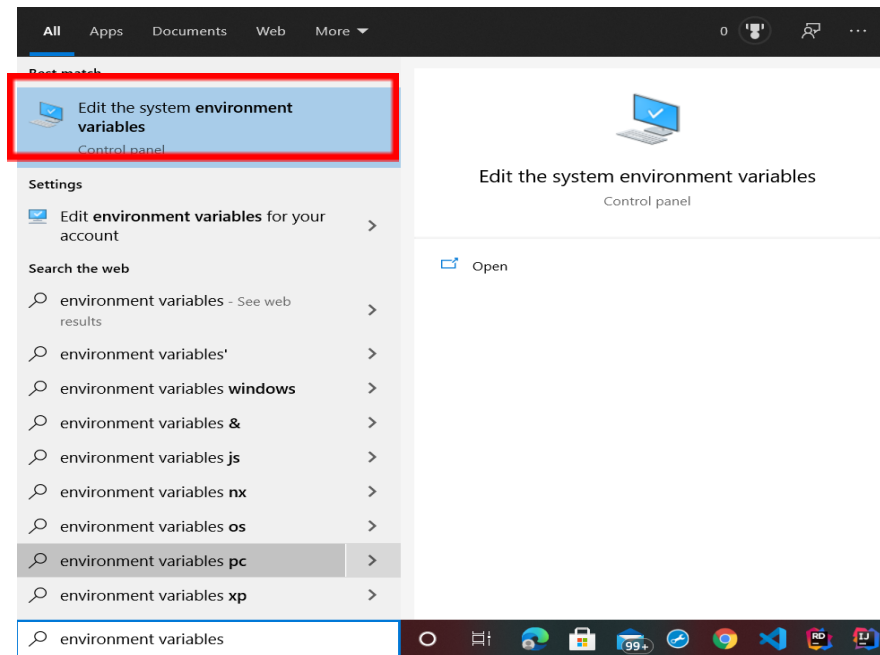
Download Git Bash from here: <https://gitforwindows.org/>

3- Install JDK (at least version 11.0.11)

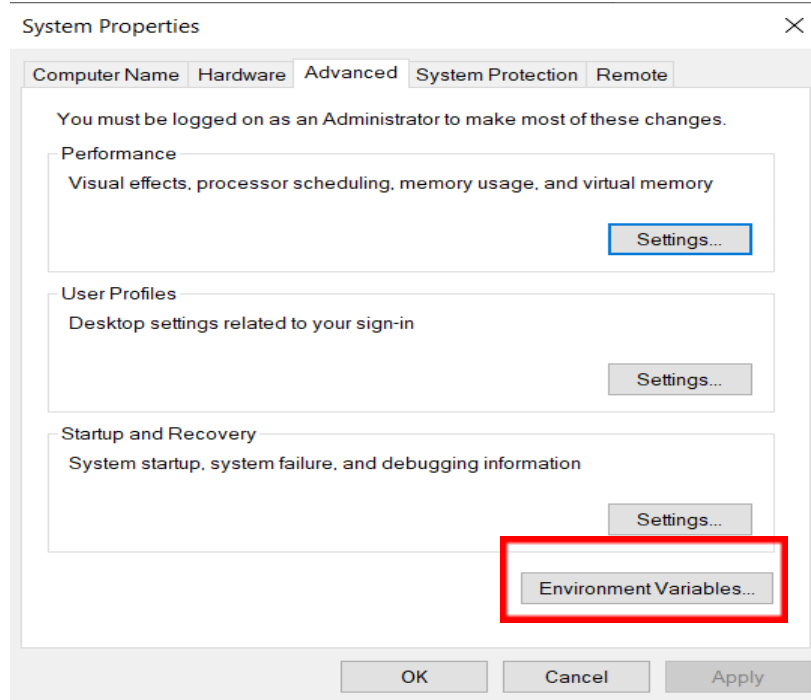
Download JDK version 11.0.1 from here: <https://www.oracle.com/java/technologies/javase-jdk11-downloads.html>

After you will need to copy the path to the JDK and JRE folders and create environment variables for the doing the following steps:

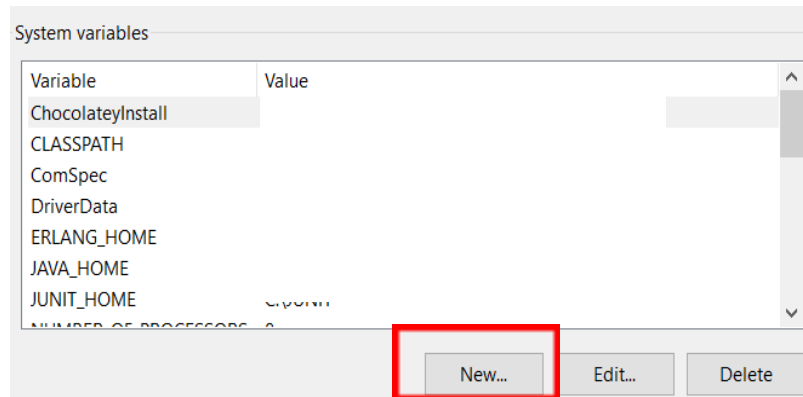
- 1- In the windows start menu, type environment variables. Click “Edit the system environment variables”



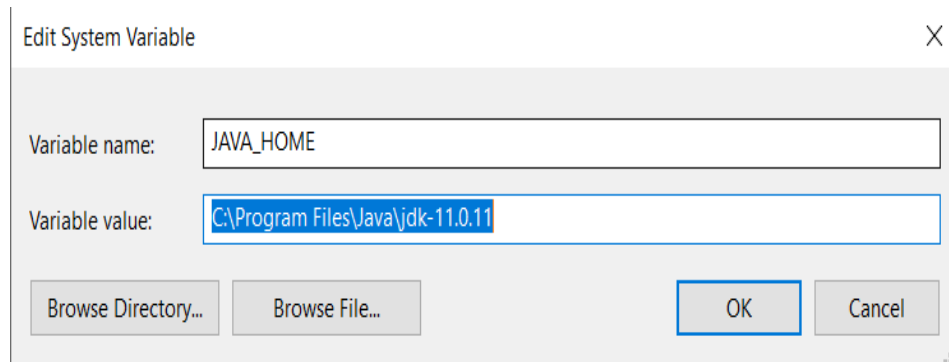
2- In the System Properties GUI, click Environment Variables



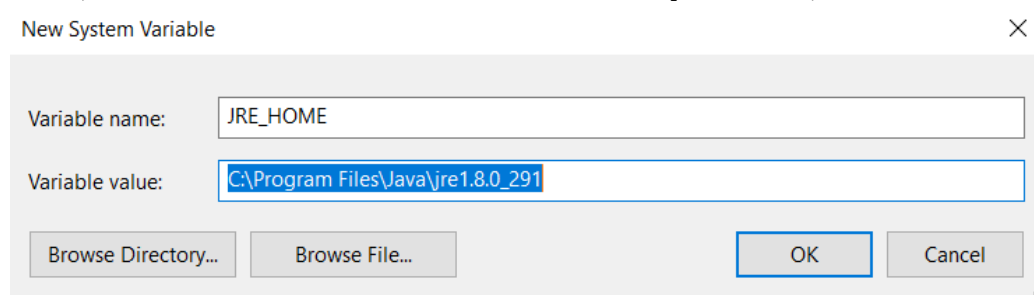
3- Under "System variables" click New...



- 4- Enter JAVA_HOME for the variable name and enter the path to the JDK folder in the variable value. The JDK folder will be under Program Files



- 5- Enter JRE_HOME for the variable name and enter the path to the JRE folder in the variable value. The JRE folder will be under Program Files



4- Install Gradle

Download and install Gradle here (make sure to follow all steps): <https://gradle.org/install/>

Make sure to restart your computer after installation is complete

5- Run the program

- 1- Using the terminal of your choosing (Git Bash is recommended but not necessary) navigate to the project folder (as shown using Git Bash).

```
ismac@DESKTOP-24RPRUU MINGW64 ~/eclipse-workspace/jtllex.backend/backend  
$
```

- 2- To access all the possible tasks run the command `gradle tasks`

```
ismac@DESKTOP-24RPRUU MINGW64 ~/eclipse-workspace/jtllex.backend/backend  
$ gradle tasks  
Starting a Gradle Daemon, 3 busy and 1 incompatible Daemons could not be reused, use --sta  
tus for details  
> Task :tasks  
-----  
Tasks runnable from root project 'backend'  
-----  
Application tasks  
-----  
bootRun - Runs this project as a Spring Boot application.  
Build tasks  
-----  
assemble - Assembles the outputs of this project.  
bootBuildImage - Builds an OCI image of the application using the output of the bootJar ta  
sk  
bootJar - Assembles an executable jar archive containing the main classes and their depend  
encies.  
bootJarMainClassName - Resolves the name of the application's main class for the bootJar t  
ask.  
bootRunMainClassName - Resolves the name of the application's main class for the bootRun t  
ask.  
build - Assembles and tests this project.  
buildDependents - Assembles and tests this project and all projects that depend on it.  
buildNeeded - Assembles and tests this project and all projects it depends on.  
classes - Assembles main classes.  
clean - Deletes the build directory.  
jar - Assembles a jar archive containing the main classes.  
testClasses - Assembles test classes.  
Build Setup tasks  
-----  
init - Initializes a new Gradle build.  
wrapper - Generates Gradle wrapper files.  
Documentation tasks  
-----  
javadoc - Generates Javadoc API documentation for the main source code.  
Help tasks  
-----  
buildEnvironment - Displays all buildscript dependencies declared in root project 'backend'  
,  
dependencies - Displays all dependencies declared in root project 'backend'.  
dependencyInsight - Displays the insight into a specific dependency in root project 'backe  
nd'.  
dependencyManagement - Displays the dependency management declared in root project 'backen  
d'.  
help - Displays a help message.  
javaToolchains - Displays the detected java toolchains.  
outgoingVariants - Displays the outgoing variants of root project 'backend'.  
projects - Displays the sub-projects of root project 'backend'.  
properties - Displays the properties of root project 'backend'.  
tasks - Displays the tasks runnable from root project 'backend'.  
Verification tasks  
-----  
check - Runs all checks.  
test - Runs the unit tests.  
Rules  
-----  
Pattern: clean<TaskName>: Cleans the output files of a task.  
Pattern: build<ConfigurationName>: Assembles the artifacts of a configuration.  
To see all tasks and more detail, run gradle tasks --all  
To see more detail about a task, run gradle help --task <task>  
BUILD SUCCESSFUL in 7s  
1 actionable task: 1 executed
```

- ```
ismac@DESKTOP-24RPRUU MINGW64 ~/eclipse-workspace/jtlex.backend/backend
$ gradle build

BUILD SUCCESSFUL in 10s
7 actionable tasks: 5 executed, 2 up-to-date
```

- ```
ismac@DESKTOP-24RPRUU MINGW64 ~/eclipse-workspace/jtlx.backend/backend
$ gradle bootRun

> Task :bootRun

  ____
 /  _ \
(  )_/  _ \   ____
 \  __/  ___/  / __ \
  \  \  \___/  / ___/
   \_____/___/_/

:: Spring Boot ::
                (v2.5.2)

2021-07-28 19:36:28.012 INFO 15796 --- [
main] jtlxservice.backend.BackendApplication : Starting BackendApplication using Java 11.0.11 on DESKTOP-24RPRUU with PID 15796 (C:\Users\ismac\eclipse-work
2021-07-28 19:36:28.014 INFO 15796 --- [
main] jtlxservice.backend.BackendApplication : No active profile set, falling back to default profiles: default
2021-07-28 19:36:28.981 INFO 15796 --- [
main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2021-07-28 19:36:28.989 INFO 15796 --- [
main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-07-28 19:36:28.990 INFO 15796 --- [
main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.48]
2021-07-28 19:36:29.071 INFO 15796 --- [
main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2021-07-28 19:36:29.071 INFO 15796 --- [
main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1016 ms
2021-07-28 19:36:29.262 INFO 15796 --- [
main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page template: index
2021-07-28 19:36:29.352 INFO 15796 --- [
main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2021-07-28 19:36:29.362 INFO 15796 --- [
main] jtlxservice.backend.BackendApplication : Started BackendApplication in 1.724 seconds (JVM running for 2.132)

<=====--> 80% EXECUTING [27s]

> :bootRun
```

6- Maintenance

The API makes use of the JTLEX core library which is in the form of a .jar (jtlex.core.data.jar) file in the directory external-libraries of the backend project. After changes to the core library, the .jar file needs to be updated. Use the SVN command update to HEAD, any time such changes happen.