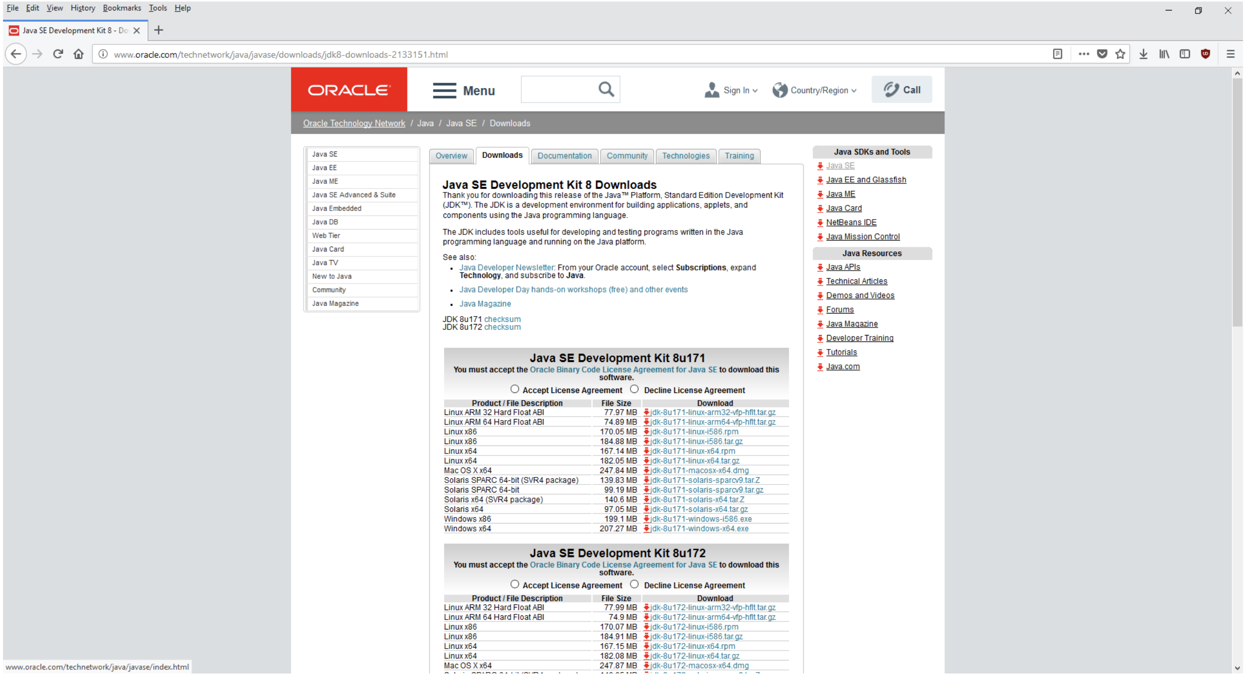
Setting Up the Development Environment

Posted on June 19, 2018

The first thing you'll need to get started is the latest JDK 8 (Java Development Kit 8). Download it from Oracle (http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html) or AdoptOpenJDK (https://adoptopenjdk.net).



Java SE Development Kit 8 Downloads

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

See also:

- Java Developer Newsletter: From your Oracle account, select **Subscriptions**, expand **Technology**, and subscribe to **Java**.
- Java Developer Day hands-on workshops (free) and other events
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JDK 8u171 checksum
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Java SE Development Kit 8u171

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Linux ARM 32 Hard Float ABI	77.97 MB	jdk-8u171-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.89 MB	jdk-8u171-linux-arm64-vfp-hflt.tar.gz
Linux x86	170.05 MB	jdk-8u171-linux-i586.rpm
Linux x86	184.88 MB	jdk-8u171-linux-i586.tar.gz
Linux x64	167.14 MB	jdk-8u171-linux-x64.rpm
Linux x64	182.05 MB	jdk-8u171-linux-x64.tar.gz
Mac OS X x64	247.84 MB	jdk-8u171-macosx-x64.dmg
Solaris SPARC 64-bit (SVR4 package)	139.83 MB	jdk-8u171-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.19 MB	jdk-8u171-solaris-sparcv9.tar.gz
Solaris x64 (SVR4 package)	140.6 MB	jdk-8u171-solaris-x64.tar.Z
Solaris x64	97.05 MB	jdk-8u171-solaris-x64.tar.gz
Windows x86	199.1 MB	jdk-8u171-windows-i586.exe
Windows x64	207.27 MB	jdk-8u171-windows-x64.exe

Java SE Development Kit 8u172

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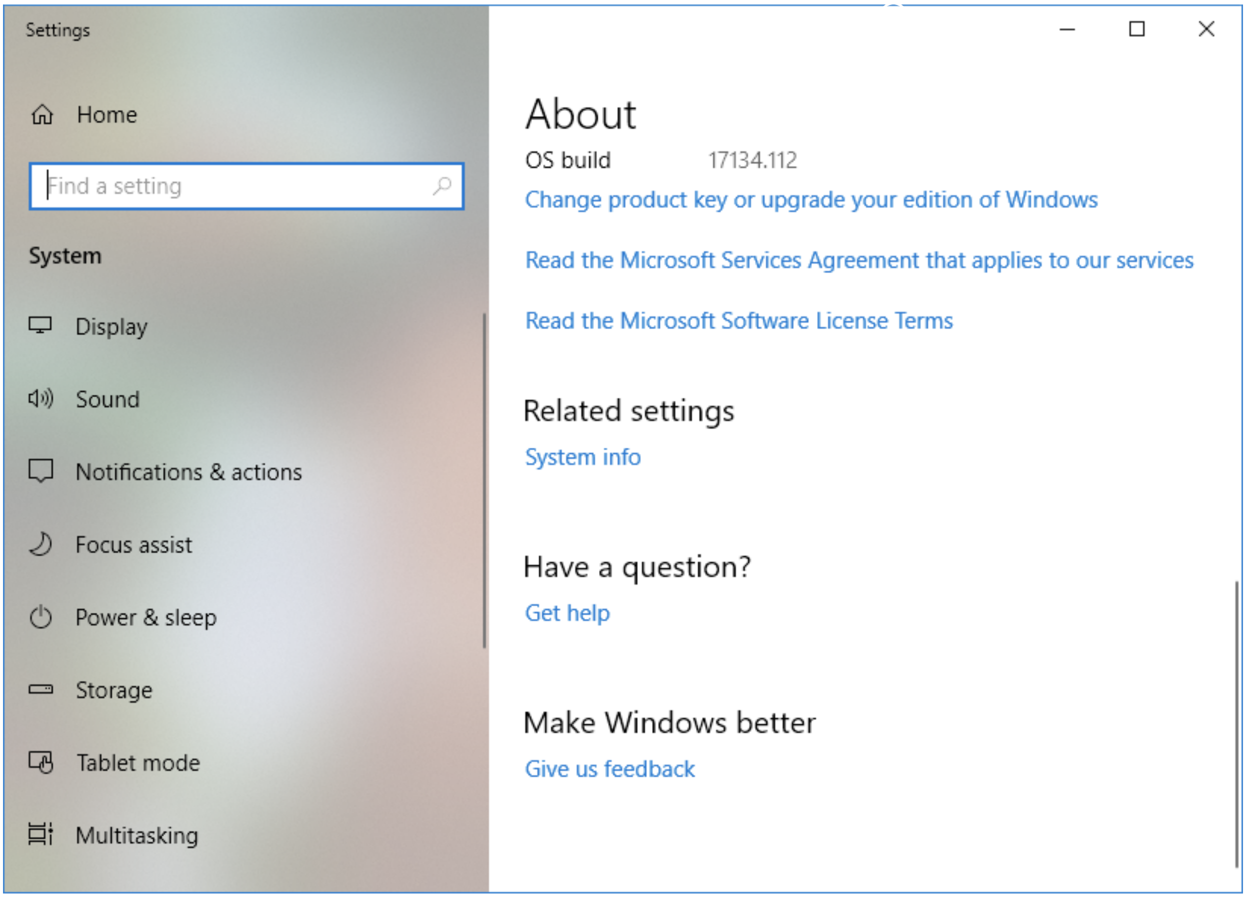
Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.99 MB	jdk-8u172-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.9 MB	jdk-8u172-linux-arm64-vfp-hflt.tar.gz
Linux x86	170.07 MB	jdk-8u172-linux-i586.rpm
Linux x86	184.91 MB	jdk-8u172-linux-i586.tar.gz
Linux x64	167.15 MB	jdk-8u172-linux-x64.rpm
Linux x64	182.08 MB	jdk-8u172-linux-x64.tar.gz
Mac OS X x64	247.87 MB	jdk-8u172-macosx-x64.dmg

Follow the instructions in the installer.

After the JDK finishes installing, you'll need to set the `Path` and `JAVA_HOME` environment variables (On Macs this rarely has to be done, just make sure you *only* have Java 8 installed). This tells Forge where you've installed Java. To do this (in Windows 10), right-click the start menu and go to System. Then, scroll down until you see System Info.



About

OS build 17134.112

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Related settings

System info

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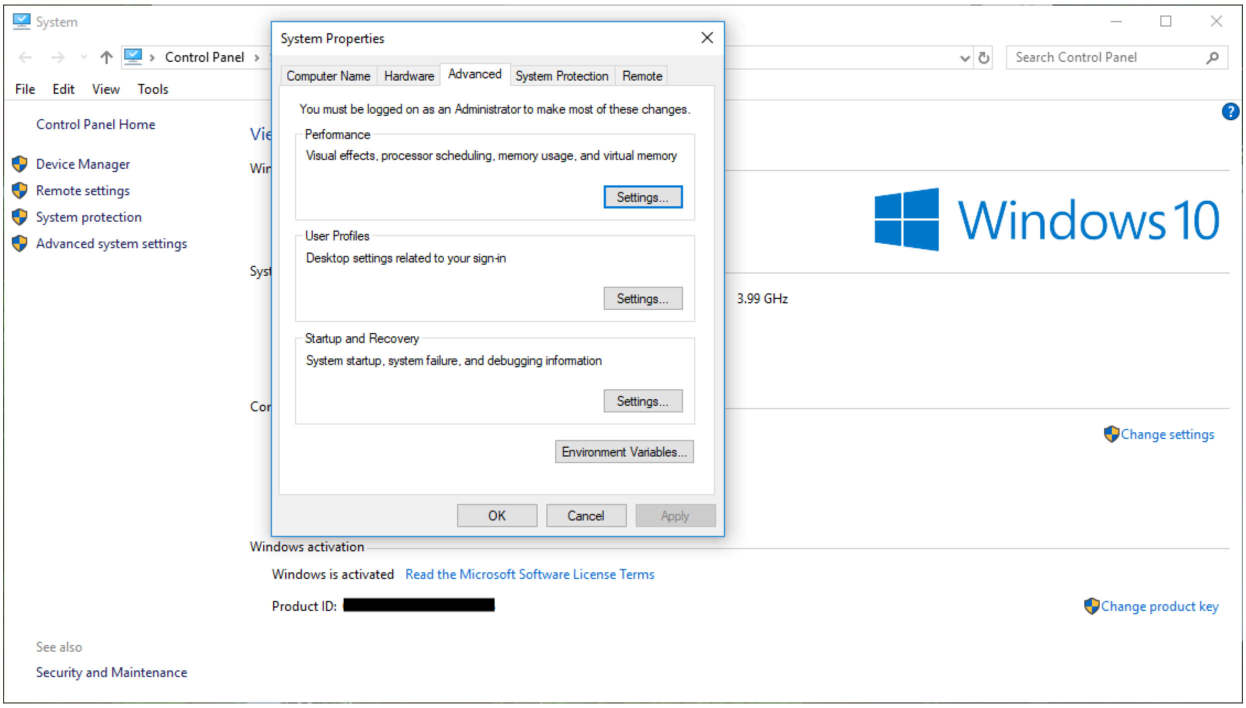
Click that, and in the window that pops up, click on Advanced system settings.



System Properties

You must be logged on as an Administrator to make most of these changes.

Performance

Visual effects, processor scheduling, memory usage, and virtual memory

User Profiles

Desktop settings related to your sign-in

Startup and Recovery

System startup, system failure, and debugging information

3.99 GHz

Windows activation

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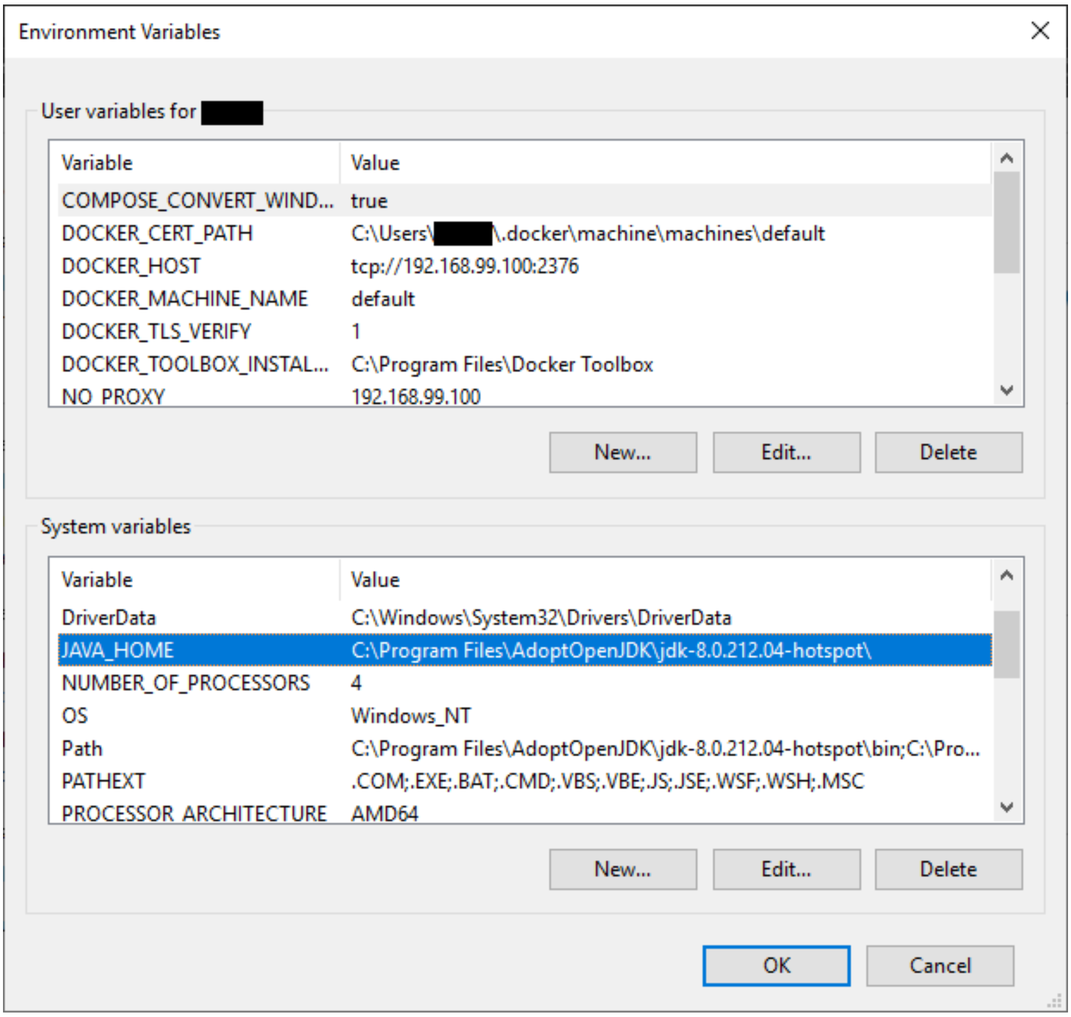
Click the Environment Variables... button. ***Please note that changing any environment variables in any way can permanently mess up your computer! Be careful to follow the***

instructions exactly! In System Variables, edit the `Path` variable or create it if you don't have it. Add the path to the bin folder of the JDK you just installed. This should look something like this (if you installed it directly from Oracle): `C:\Program Files\Java\jdk1.8.0_191\bin`. If you downloaded the JDK from AdoptOpenJDK (https://adoptopenjdk.net), the path will look like this: `C:\Program Files\AdoptOpenJDK\jdk-8.0.212.04-hotspot\bin`. Next, click OK. Now, create the `JAVA_HOME` system variable. The path that goes into this one should be exactly the same as the last one, except for the lack of \bin. It should look something like this: `C:\Program Files\Java\jdk1.8.0_191` or `C:\Program Files\AdoptOpenJDK\jdk-8.0.212.04-hotspot`. After you create it, click OK in all the boxes.

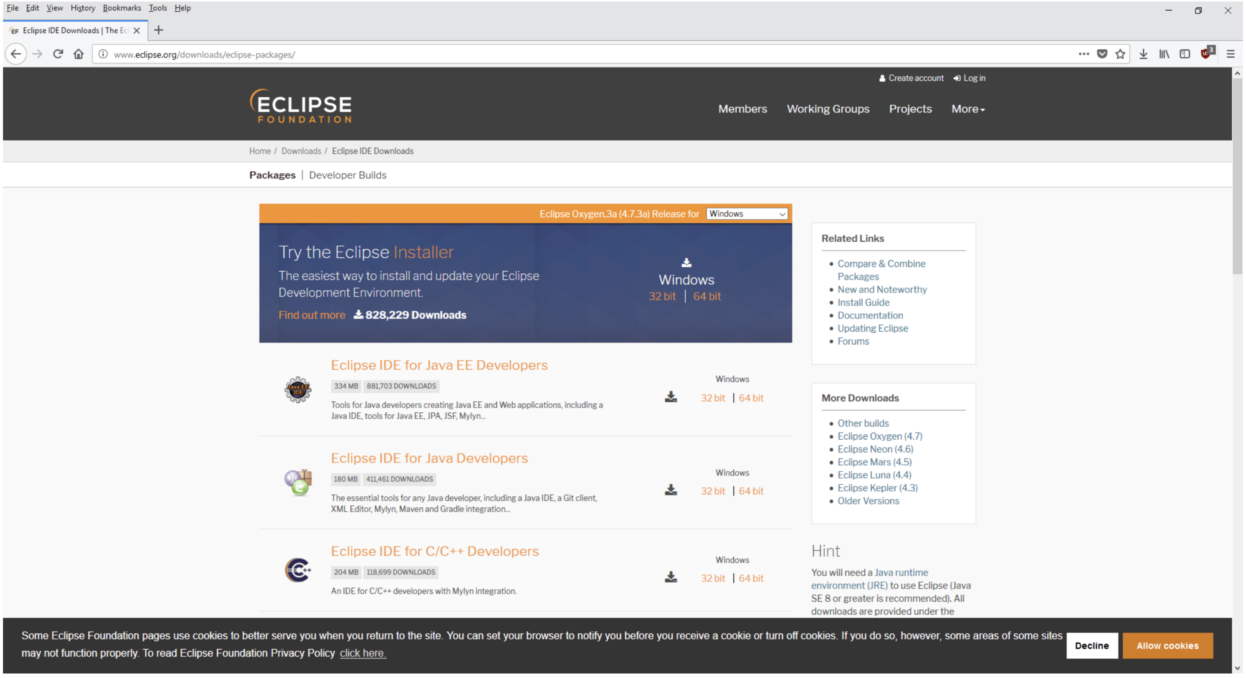
Congrats! Java is completely set up!



Variable	Value
COMPOSE_CONVERT_WIND...	true
DOCKER_CERT_PATH	C:\Users\[redacted]\.docker\machine\machines\default
DOCKER_HOST	tcp://192.168.99.100:2376
DOCKER_MACHINE_NAME	default
DOCKER_TLS_VERIFY	1
DOCKER_TOOLBOX_INSTAL...	C:\Program Files\Docker Toolbox
NO_PROXY	192.168.99.100

Variable	Value
DriverData	C:\Windows\System32\Drivers\DriverData
JAVA_HOME	C:\Program Files\AdoptOpenJDK\jdk-8.0.212.04-hotspot\
NUMBER_OF_PROCESSORS	4
OS	Windows_NT
Path	C:\Program Files\AdoptOpenJDK\jdk-8.0.212.04-hotspot\bin;C:\Pro...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE	AMD64

The next step is to download an IDE (Integrated Development Environment) of your choice. Eclipse (http://www.eclipse.org/ide) will be used in these tutorials. You can also use IntelliJ IDEA, but we will only be covering Eclipse here. You can use their installer, or you can download a package (my preferred method). You can get the IDE for Java or for Java EE; either one works just fine.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- Eclipse Oxygen (4.7)
- Eclipse Neon (4.6)
- Eclipse Mars (4.5)
- Eclipse Luna (4.4)
- Eclipse Kepler (4.3)
- Older Versions

Hint

You will need a Java runtime environment (JRE) to use Eclipse (Java SE 8 or greater is recommended). All downloads are provided under the

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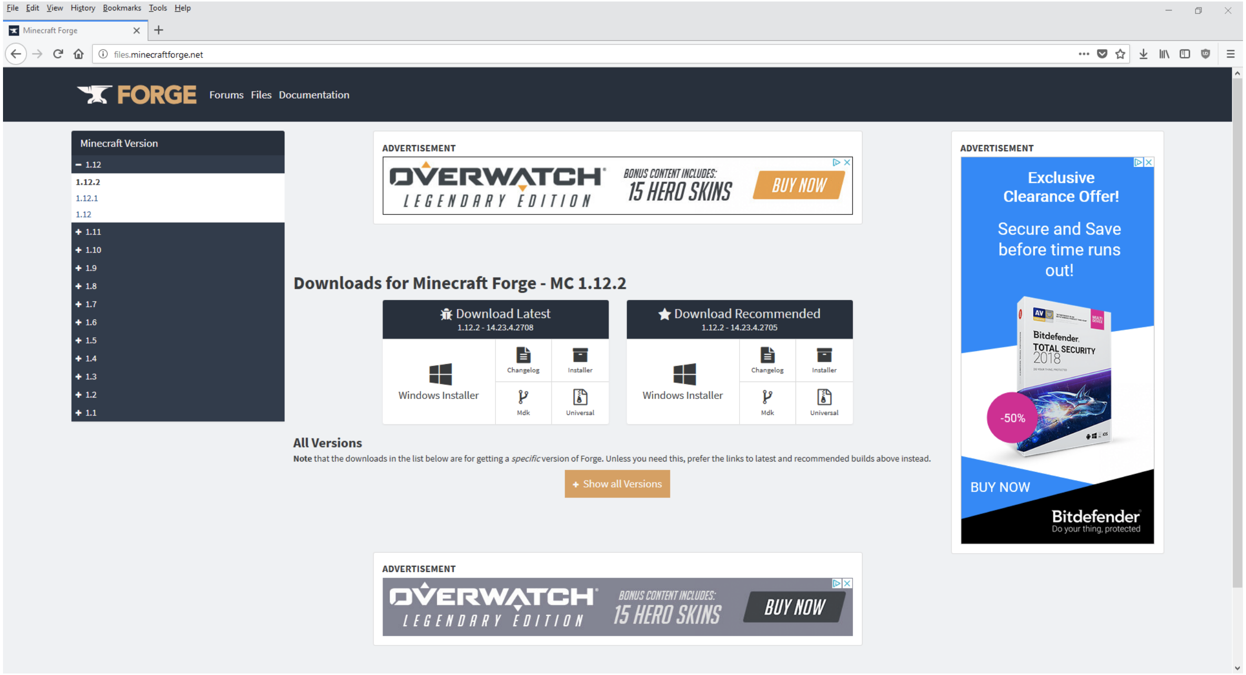
To install a package, simply download the zip (https://www.eclipse.org/downloads/packages/) and extract it to a folder of your choosing. Now that Eclipse is installed, let’s install Forge!



Downloads for Minecraft Forge - MC 1.12.2

All Versions

Note that the downloads in the list below are for getting a *specific* version of Forge. Unless you need this, prefer the links to latest and recommended builds above instead.

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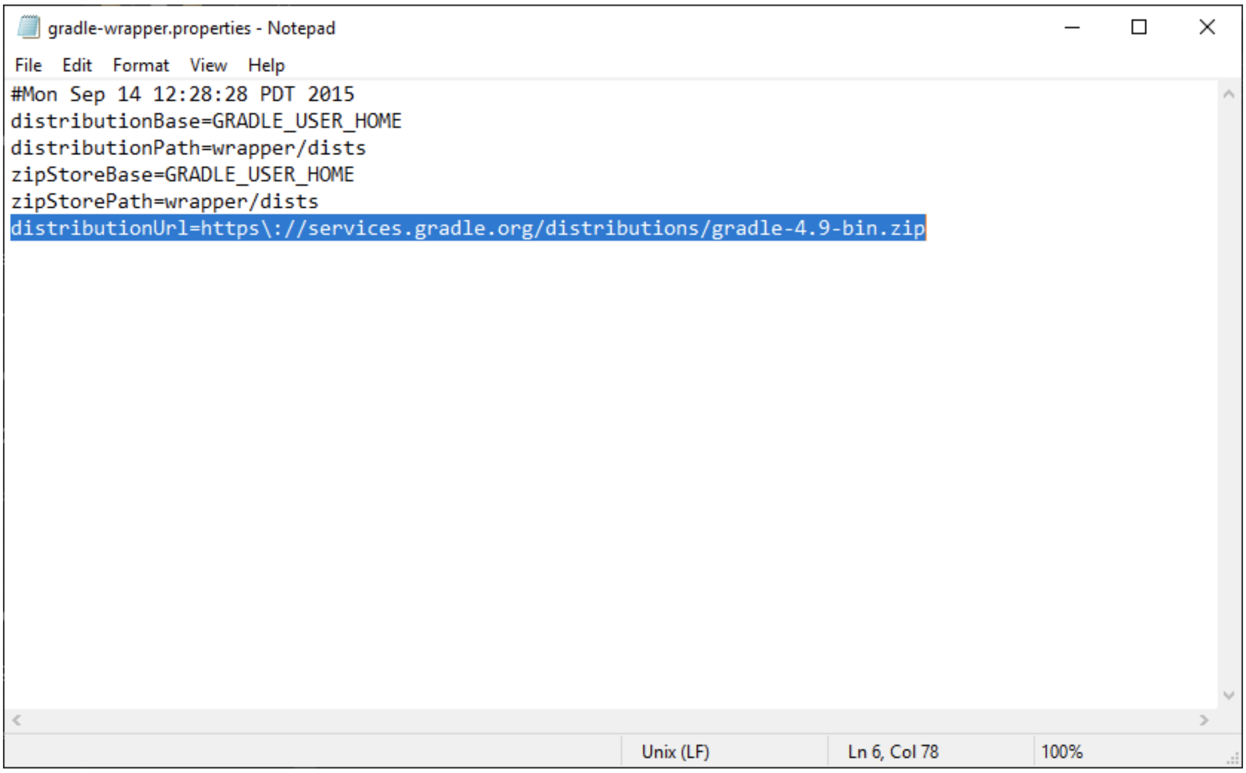
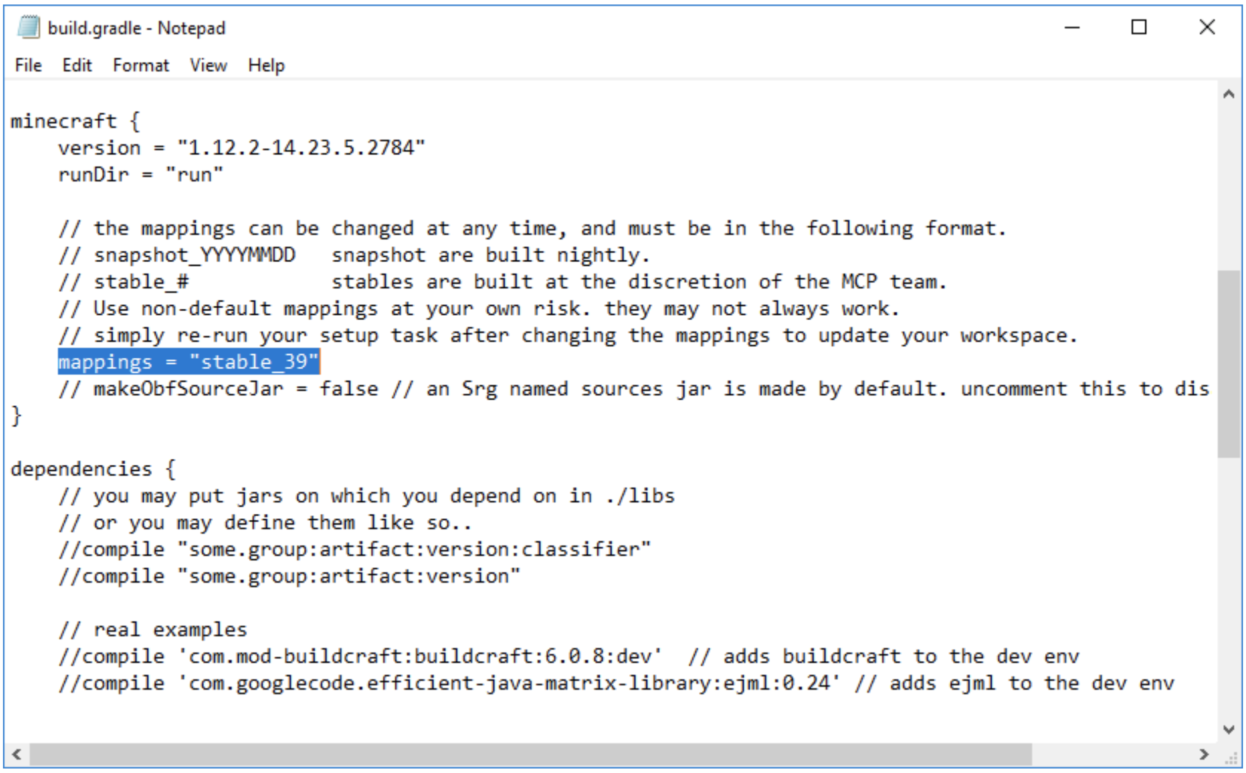
Download the latest Minecraft Forge (http://files.minecraftforge.net/) MDK (Mod Development/Developer Kit) (**NOT the installer!**). Extract the zip to any directory. You’ll need to edit two files in here before you can continue; one will update the version of Gradle and the other will update the MCP (Mod Coder Pack) mappings used for the source code of Minecraft.

First, go to `<MDK_dir>/gradle/wrapper`, where `<MDK_dir>` is where you installed the MDK. In this folder you will find a file named `gradle-wrapper.properties`. Open this and change where it says `gradle-2.14-bin.zip` to `gradle-4.9-bin.zip` (under `distributionUrl`). Then go to the `build.gradle` file in your root MDK directory. Find where it says `mappings="snapshot_XXXXXXXX"`, in the `minecraft {}` block of code. Change `"snapshot_XXXXXXXX"` to `"stable_39"`. This is the latest and final version of mappings for 1.12.2. These steps are technically optional, but it is good practice to keep up-to-date with mappings, and using a newer version of Gradle will help speed up the build process and setup commands.


gradle-wrapper.properties - Notepad
File Edit Format View Help
Unix (LF)
Ln 6, Col 78
100%

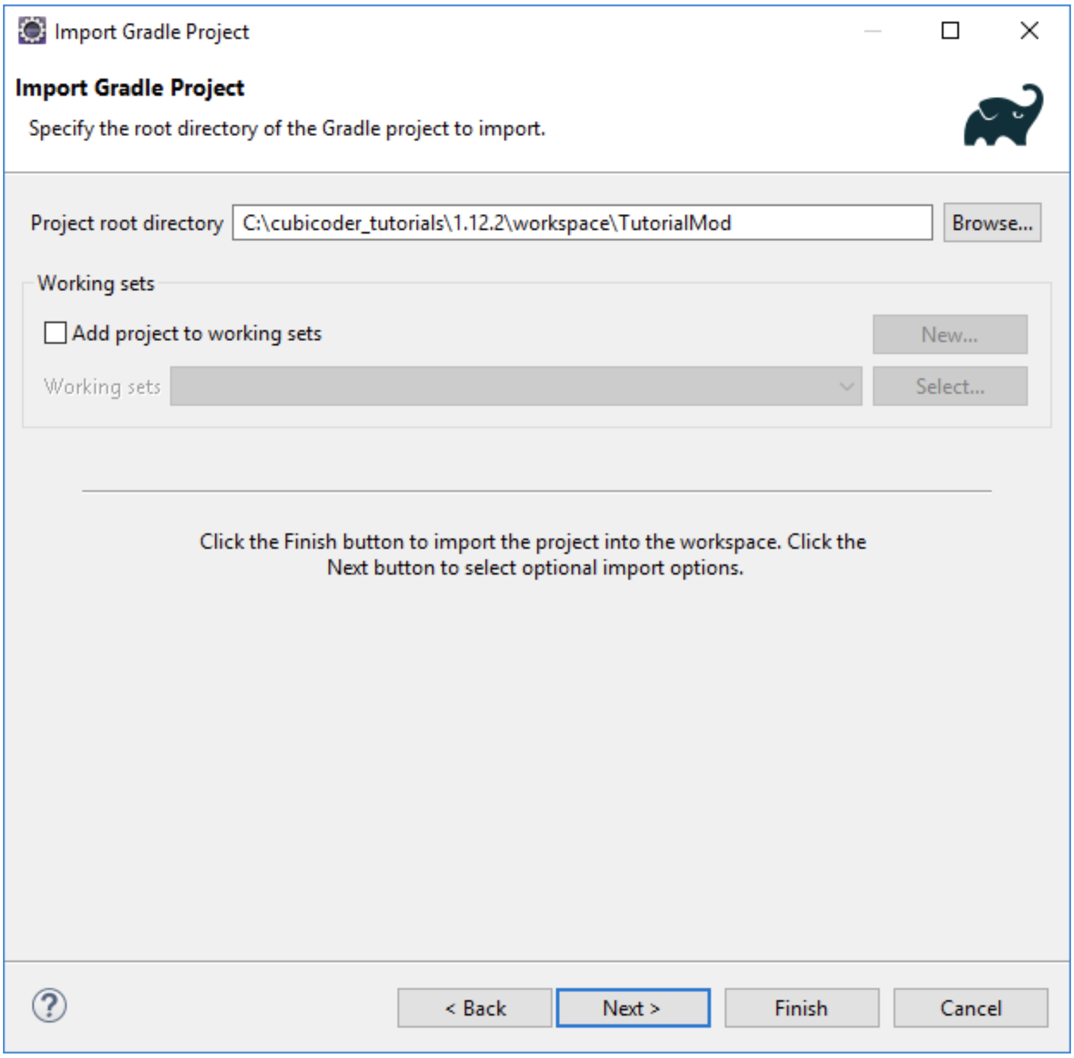
```
#Mon Sep 14 12:28:28 PDT 2015
distributionBase=GRADLE_USER_HOME
distributionPath=wrapper/dists
zipStoreBase=GRADLE_USER_HOME
zipStorePath=wrapper/dists
distributionUrl=https\://services.gradle.org/distributions/gradle-4.9-bin.zip
```



```
minecraft {
    version = "1.12.2-14.23.5.2784"
    runDir = "run"

    // the mappings can be changed at any time, and must be in the following format.
    // snapshot_YYYYMMDD   snapshot are built nightly.
    // stable_#            stables are built at the discretion of the MCP team.
    // Use non-default mappings at your own risk. they may not always work.
    // simply re-run your setup task after changing the mappings to update your workspace.
    mappings = "stable_39"
    // makeObfSourceJar = false // an Srg named sources jar is made by default. uncomment this to dis
}

dependencies {
    // you may put jars on which you depend on in ./libs
    // or you may define them like so..
    //compile "some.group:artifact:version:classifier"
    //compile "some.group:artifact:version"

    // real examples
    //compile 'com.mod-buildcraft:buildcraft:6.0.8:dev'  // adds buildcraft to the dev env
    //compile 'com.googlecode.efficient-java-matrix-library:ejml:0.24' // adds ejml to the dev env
```

Almost there! To finish setting up, we need to get your project into Eclipse. The easiest way to do that is by importing the project as a Gradle project. This allows you to run Gradle tasks directly from your IDE, meaning that you can build or set up your project, update the Forge version, and more, without touching the command line or leaving Eclipse!

Create a new folder named `workspace` wherever, then copy the MDK you downloaded to a new folder inside of `workspace`. Name this folder whatever you would like your project to be named. Next, open up Eclipse and point the workspace to your workspace folder. In Eclipse, go to `File > Import... > Gradle > Existing Gradle Project`. Enter the directory of your project and click Finish.



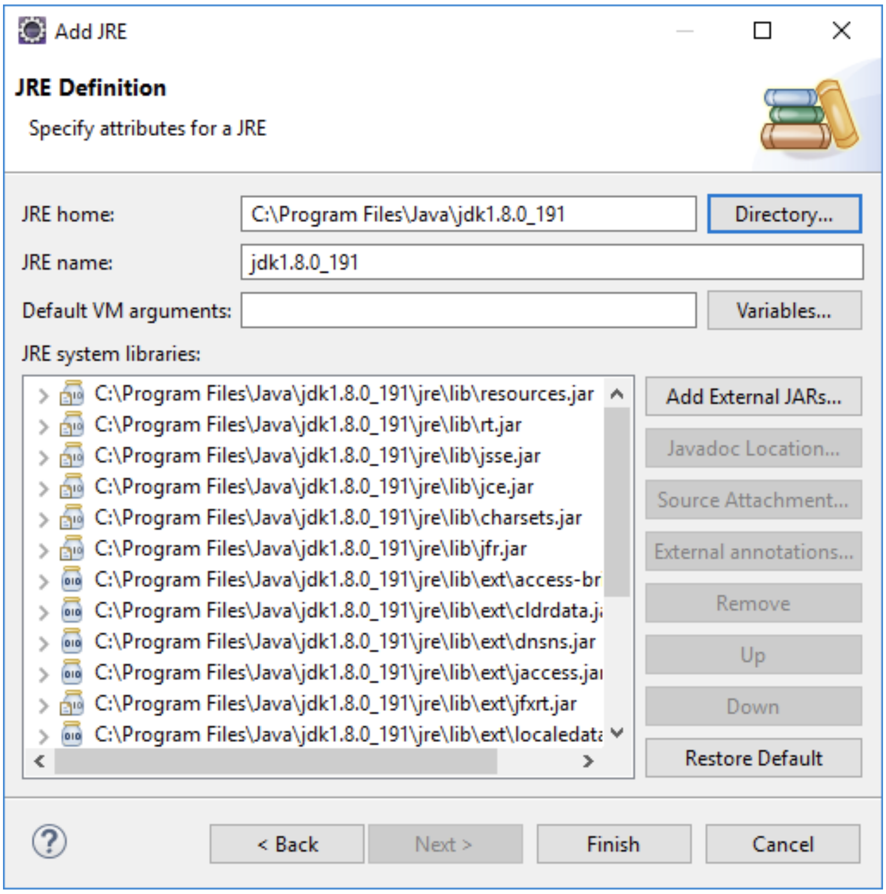
Import Gradle Project

Specify the root directory of the Gradle project to import.

Project root directory C:\cubicoder_tutorials\1.12.2\workspace\TutorialMod

Click the Finish button to import the project into the workspace. Click the Next button to select optional import options.

A window should pop up with all the Gradle tasks for this project. However, we need to make sure that Eclipse is configured to use the JDK, because it uses the JRE by default (for some reason). To change this, go to `Window > Preferences > Java > Installed JREs`. Click `Add... > Standard VM` and enter the path of the JDK (usually `C:\Program Files\Java\jdk1.8.0_191`). Click Finish to add the JDK and make sure it is selected. You can remove the old JRE if you want.



Add JRE

JRE Definition

Specify attributes for a JRE

JRE home: C:\Program Files\Java\jdk1.8.0_191

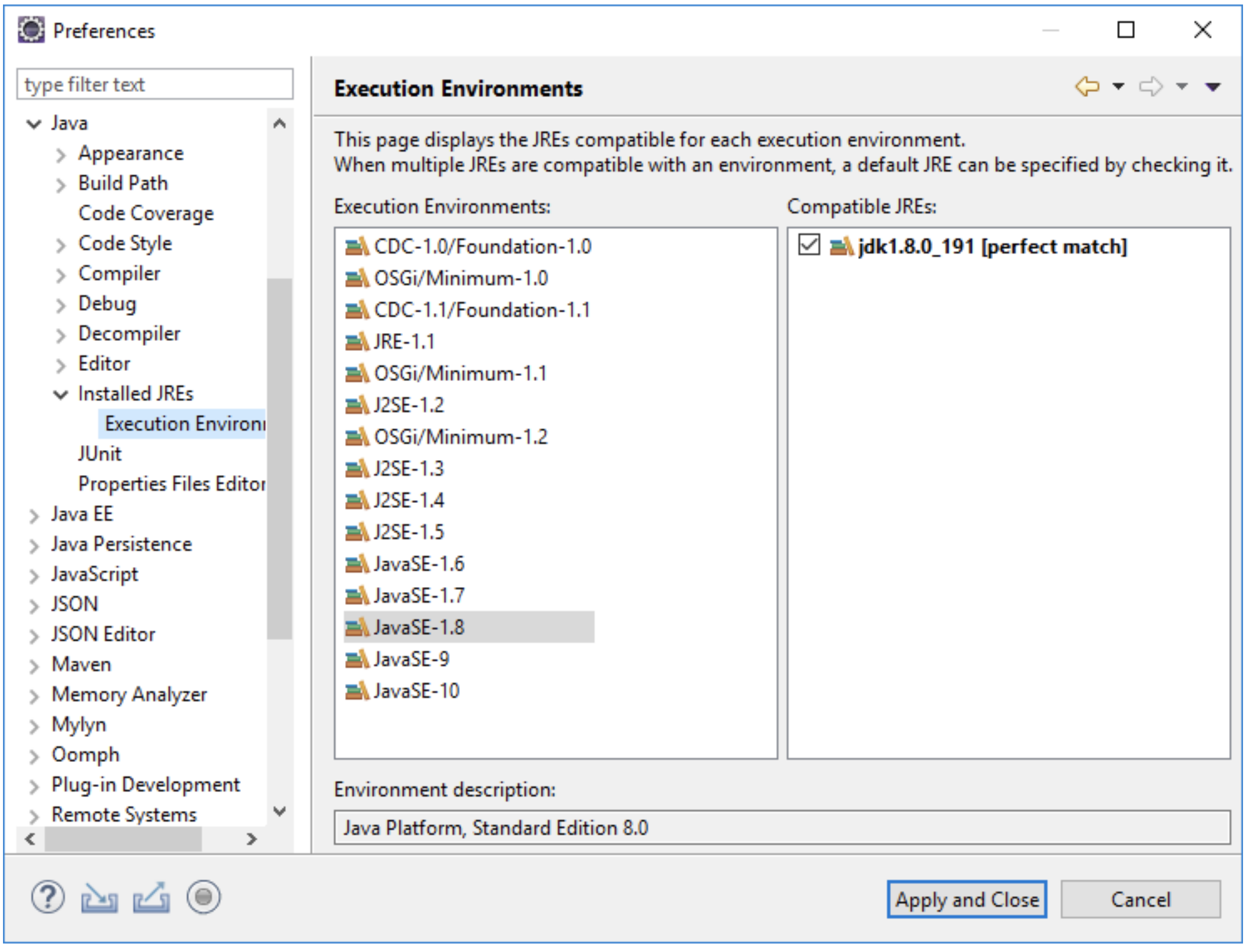
JRE name: jdk1.8.0_191

Default VM arguments:

JRE system libraries:

```
C:\Program Files\Java\jdk1.8.0_191\jre\lib\resources.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\rt.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\jsse.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\jce.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\charsets.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\jfr.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\access-br
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\cldrdata.ja
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\dnsns.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\jaccess.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\jfxrt.jar
C:\Program Files\Java\jdk1.8.0_191\jre\lib\ext\localedata
```

Click Apply, then, in Preferences, go to `Java > Installed JREs > Execution Environments`. Under JavaSE-1.8, select the JDK you just added.



Execution Environments

This page displays the JREs compatible for each execution environment.
When multiple JREs are compatible with an environment, a default JRE can be specified by checking it.

Execution Environments:

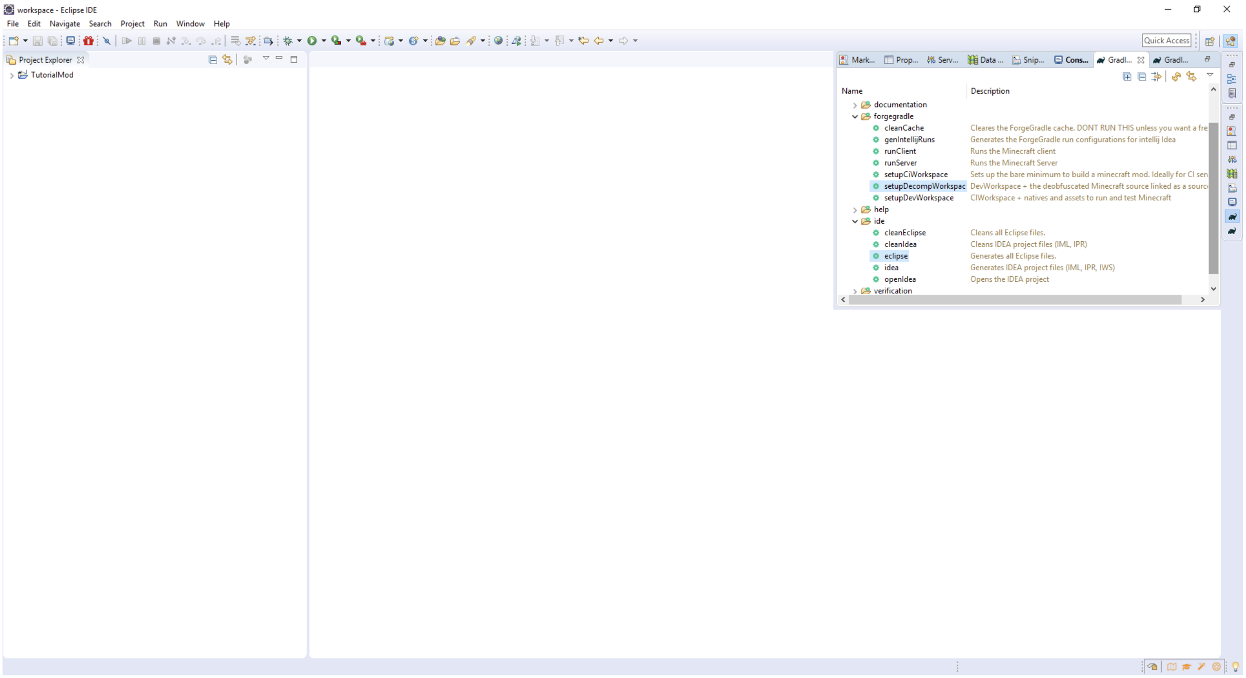
- CDC-1.0/Foundation-1.0
- OSGi/Minimum-1.0
- CDC-1.1/Foundation-1.1
- JRE-1.1
- OSGi/Minimum-1.1
- J2SE-1.2
- OSGi/Minimum-1.2
- J2SE-1.3
- J2SE-1.4
- J2SE-1.5
- JavaSE-1.6
- JavaSE-1.7
- JavaSE-1.8
- JavaSE-9
- JavaSE-10

Compatible JREs:

☑ jdk1.8.0_191 [perfect match]

Environment description:

Java Platform, Standard Edition 8.0



Name	Description
documentation	
forgegradle	
cleanCache	Cleares the ForgeGradle cache. DONT RUN THIS unless you want a fre
genIntellijRuns	Generates the ForgeGradle run configurations for intellij Idea
runClient	Runs the Minecraft client
runServer	Runs the Minecraft Server
setupCiWorkspace	Sets up the bare minimum to build a minecraft mod. Ideally for CI serv
setupDecompWorkspac	DevWorkspace + the deobfuscated Minecraft source linked as a sourc
setupDevWorkspace	CIWorkspace + natives and assets to run and test Minecraft
help	
ide	
cleanEclipse	Cleans all Eclipse files.
cleanIdea	Cleans IDEA project files (IML, IPR)
eclipse	Generates all Eclipse files.
idea	Generates IDEA project files (IML, IPR, IWS)
openIdea	Opens the IDEA project
verification	

Just run the `setupDecompWorkspace` and `eclipse` tasks by double-clicking on them. Finally, select the project and press F5 to refresh it. (You can also delete the example mod package and everything in the `src/main/resources` folder.) To run Minecraft, go to `Run > Run Configurations... > Java Application`, and double click the configuration ending in `_Client`. After the first run, it should automatically run it when you click the green run icon. And that's it! You have a functional workspace for developing Minecraft mods!

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