

INSTALLING TAGE on WINDOWS for CSc-165

1. Download and Install **Java JDK** version 17

This is available on the Oracle website. You need the *JDK*, not just the *JRE*.

After installing, look for where Oracle put it. Usually, that is `C:\Program Files\Java\jdk-17`

2. Modify your **PATH** environment variable

Go into the Control Panel ► System ► Advanced System Settings ► Environment Variables.

Under *System Variables*, open the *PATH* variable.

There is likely to be an entry that reads: `C:\Program Files\Common Files\Oracle\Java\javapath`

Replace that entry with Java's "bin" folder. Usually, that is `C:\Program Files\Java\jdk-17\bin`

3. Create the **JAVAGAMING** folder to hold OpenGL-related libraries

preferably: `C:\javagaming` Create this folder.

4. Copy the **JAVAGAMING** libraries from the 5029 lab to your machine

In the RVR-5029 lab, copy the contents (5 folders) inside: `C:\javagaming` to a thumb drive.

Or, download it from the CSc-165 Canvas page, or from the instructor's CSc-165 webpage.

Copy those five folders into the `C:\javagaming` folder on your machine.

5. Add the **JINPUT** library to your **PATH** environment variable

Go back into the *PATH* environment variable (as you did earlier in step #2).

Add the following entry: `C:\javagaming\jinput\lib`

6. Create a **CLASSPATH** variable (if you don't already have one)

Go back into the Control Panel ► System ► Advanced System Settings ► Environment Variables.

Under *System Variables*, see if there is a variable named *CLASSPATH*.

If there isn't, then create one by clicking the "New..." button, then

in the "name" field, type in *CLASSPATH*. In the "value" field, type in a period (".") by itself.

7. Add **JOGL**, **JOML**, **JINPUT**, **JBULLET**, and **VECMATH** to the **CLASSPATH** variable

While still in the Environment Variables, open up the *CLASSPATH* variable by double-clicking it.

You may see a table entry tool, or you may see the previous dialog box from step 6(a).

Add entries for the five library .jar files, after the single "." entry. These should be *full paths*.

The entries would look like this:

```
.
C:\javagaming\jogl\jogamp-fat.jar
C:\javagaming\joml\joml-1.10.7.jar
C:\javagaming\jinput\jinput.jar
C:\javagaming\jbullet\jbullet.jar
C:\javagaming\vecmath\vecmath.jar
```

If you are entering them in the single line dialog box, separate them with semi-colons, like this:

```
.;C:\javagaming\jogl\jogamp-fat.jar;C:\javagaming\joml\joml-1.10.7.jar etc.
```

Note: changes to environment variables don't take effect until rebooting.

(alternatively, you can open a new command window and work from there)

So, after performing the installation steps, above, it is recommended that you **reboot** your machine before attempting the test shown below.

Test your installation

1. Download and uncompress the "tage_build" zip folder.
2. Download and uncompress the "Hello Dolphin" zip folder.
3. Open the uncompressed "tage_build" folder, and copy its contents (2 folders and 3 .bat files) into the uncompressed "HelloDolphin" folder.
4. Open a new command window and migrate to the "HelloDolphin" folder.
5. Type "clearTAGEclassFiles". You should see a series of messages as old TAGE class files are cleared in preparation for a new build. It is normal for some warning messages to also appear.
6. Type "buildTAGE". You should see a series of messages as each TAGE component compiles. If the libraries were installed correctly, there shouldn't be any errors or warnings.
7. Type "compile" – this should compile the dolphin game.
If everything has been installed correctly, there shouldn't be any messages or warnings.
8. Type "run" – this should run the dolphin game.
A dialog box should appear labeled "Choose Display Settings".
9. Click "OK" in the display settings dialog box.
10. A rotating dolphin should appear in a large window.
11. Click in the dolphin window, then press "2". The dolphin should change to wireframe.f
12. Click in the dolphin window, then press the "C" key. The counter at the bottom should increment.
13. Push the dolphin window aside and look in the command window behind it.
There should be a series of messages as TAGE components were initialized.
There shouldn't be any error messages; there might be a warning about a HIDI2C Device (this warning can be ignored).
14. Click back in the dolphin window, then press "ESC". The dolphin program should terminate.

The "compile" and "run" .bat files provided in the "HelloDolphin" program can be used throughout the semester in your CSc-165 projects. Use the above steps to copy TAGE into your game program folder, and to build TAGE, compile your game, and run your game.

Your assignments will sometimes require you to modify TAGE. Note that a .bat file has been provided for rebuilding the TAGE Javadocs when you make modifications or additions to TAGE.

If you are also enrolled in CSc-155, completing these installation steps also prepares your machine for that course as well.