

Guide to Opening/Compiling the PSGC Software for Mac and Windows:

Section I: Initial Setup

The following software must be installed prior to opening and compiling the PSGC Software:

1) Java Compiler

Install the *Java SE Development Kit 15.0.1* using the link provided:

<https://www.oracle.com/java/technologies/javase/jdk15-archive-downloads.html>

- For Mac, use the Mac OS Installer
- For Windows (64 bit), use the Windows x64 Installer

Before downloading the software files, it will be necessary for the user to make an account with Oracle.

2) IntelliJ Idea Edu

Install the *IntelliJ Idea Edu* using the link provided: <https://www.jetbrains.com/idea/>

IntelliJ Idea Edu is available for free to students and teachers, and the software download is located at the bottom of the page. The download prompt appears like so:

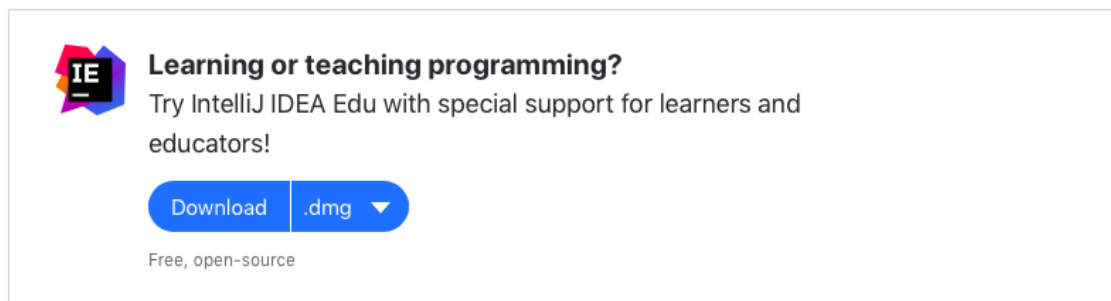


Figure 1: Learners and Educators download prompt for IntelliJ IDEA Edu

After downloading the above programs, the User has to complete the following steps:

- 1) Download the zip folder *PSGC-main* (<https://github.com/lahoover/PSGC>)
- 2) Unzip all the folders, and save them in the desired directory
- 3) Go through installation and setup for the *Java Compiler* and *IntelliJ Idea Edu* programs
- 4) Allow both programs to make changes to the computer (for Windows only)
- 5) Open IntelliJ Idea Educational Edition by clicking on its icon

Section II: Using IntelliJ Idea Edu

- 1) Click Open on the Welcome page.**
- 2) Navigate to the *PSGC-main* file folder and click Open or OK, depending on platform.**
 - When opening, allow for the download of software if prompted to do so.
 - When opening, if the software says “Cannot Run Git” as the Git is not installed--allow for this installation. If it is not allowed, retry and let the computer install it again. This may take the user multiple tries (for Windows only).
- 3) Next, check that the Project SDK is defined, go to File, Project Structure, select Project. In Project, *15 version 15.0.1* or *15.0.2* should be defined under Project SDK.**
 - If not present, select the dropdown under Project SDK, and *15 version 15.0.1* or *15.0.2* should show up under detected SDKs. Select one and click OK.
 - Under Project language level, “15 – Text blocks” should be selected. If not, select the dropdown to change to this option.
 - When completed, click OK.
- 4) In the Top Menu select “Add Configuration” (located next to the green hammer icon).**
- 5) Click on the plus sign at the top of the opened screen and select Application.**
- 6) Enter the file name.**

- 7) Select the Main class under Build and run (located next to the defined SDK), then click on Project:

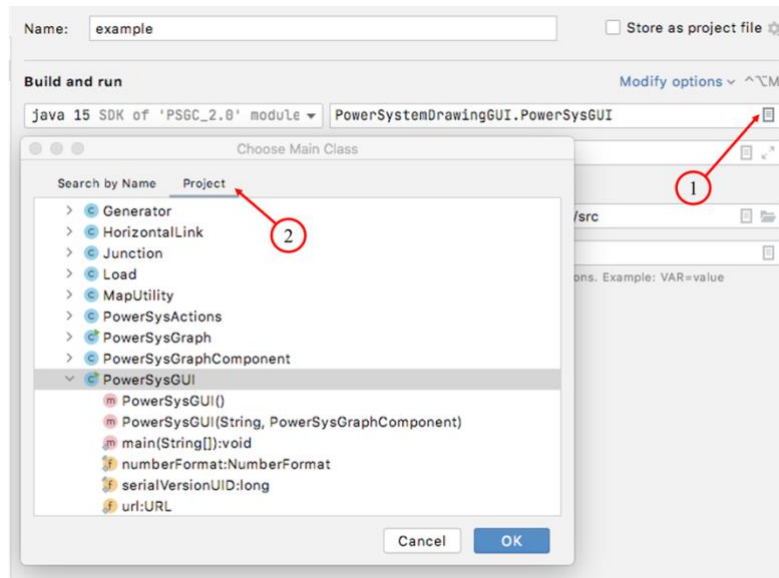


Figure 2: Selecting Main class

- 8) Select the dropdown for *PSGC-main*.
- 9) Then, select the dropdown for *PowerSystemDrawingGUI*. This is where the main code is located.
- 10) The user will scroll down until they find *PowerSysGUI* and select it. Then click OK.
- Click OK to exit the Run/Debug Configurations screen
- 11) Now, the user will run the program by clicking the green arrow icon at the top of the screen (located next to Add Configuration and the green hammer icon).
- Allow the project files to be added to the GIT by clicking “always add” (this may appear on the bottom of the screen) (for Windows only).

When running the user may receive the following errors:

“**java: package org.jgrapht.graph does not exist**” – this means that this specific jar file has not been downloaded.

It can be downloaded using the link provided:

<http://www.java2s.com/Code/Jar/j/Downloadjgraphtjar.htm>

- Save it in an appropriate folder (will need to unzip the jar file)
- Next, go back to the code, select File, Project Structure, and then click on Libraries

- There is a plus sign located at the top, above the “Nothing to show” column
- Click on it and select Java
- Navigate to the saved jar file and click Open
- This will make it useable in the code

Additionally, download this jar file: <https://jar-download.com/artifacts/org.jgrapht/jgrapht-ext/1.1.0/source-code>

- Save it in an appropriate folder (will need to unzip the jar folder)
- Next, go back to the code, select File, Project Structure, and then click on Libraries
- There is a plus sign located at the top, above the “Nothing to show” column
- Click on it and select Java
- Navigate to the saved jar file folder, open it, and select *jgrapht-ext-1.1.0.jar*

Click OK, compile, and then run (click on the “hammer” sign to compile and the “green triangle” sign to run). The PSGC Software should open.

Section III: Additional Notes

1) To change the color scheme in IntelliJ Idea:

Click on IntelliJ IDEA in the Top Menu (next to the File menu) or for Windows click on File, then select Preferences/Settings (depending on computer type). Next, click on Appearance, and then select the dropdown for Theme options.

2) To resolve the “Invalid VCS” warning in IntelliJ Idea:

Click on IntelliJ IDEA in the Top Menu (next to the File menu) or for Windows click on File, then select Preferences/Settings (depending on computer type). Open the Version Control dropdown and select Git. In the “Path to Git executable” enter the following:

C:\Program Files\Git\bin\git.exe

Then, click OK and allow for download when prompted. More information available at: <https://intellij-support.jetbrains.com/hc/en-us/community/posts/115000424850-Invalid-VCS-root-mappings-when-creating-project-from-version-control>