

- In the following sections, lines which start with the \$ symbol denote commands that **must be** run in the terminal, and lines which start with the # symbol denote comments, which **must not be** run.
- When you run the commands, do **not** copy-paste the commands into the terminal; type them out instead, without including the \$ symbol.

1 Setup On Ubuntu Linux

1. Launch a terminal and run the following commands.

```
>_ ~/
# Change to your home folder.
$ cd $HOME
# Install OpenJDK.
$ sudo apt-get install openjdk-17-jdk
# Create bin, lib, and workspace folders.
$ mkdir bin lib workspace
# Download stdlib.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/stdlib.jar -P lib
# Download dsa.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/dsa.jar -P lib
# Download checkstyle-8.21-all.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-8.21-all.jar -P lib
# Download checkstyle-lift.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-lift.jar -P lib
# Download checkstyle.xml under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle.xml -P lib
# Download checkstyle-suppressions.xml under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-suppressions.xml -P lib
# Download check_style under ~/bin.
$ wget https://www.cs.umb.edu/~siyer/teaching/check_style -P bin
# Make ~/bin/check_style executable.
$ chmod 755 bin/check_style
# Set the PROJECT_HOME environment variable.
$ echo "export PROJECT_HOME=$HOME/workspace" >> $HOME/.bashrc
# Set the CLASSPATH environment variable.
$ echo "export CLASSPATH=../out:$HOME/lib/stdlib.jar:$HOME/lib/dsa.jar" >> $HOME/.bashrc
# Update the PATH environment variable.
$ echo "export PATH=$HOME/bin:$PATH" >> $HOME/.bashrc
```

2. Download and install IntelliJ (Community Edition) [↗](#).

2 Setup On Mac OS X

1. Launch a terminal and run the following commands.

```
>_ ~/
# Change to your home folder.
$ cd $HOME
# Install brew.
$ /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
# Install OpenJDK.
$ brew install openjdk@17
# Create bin, lib, and workspace folders.
$ mkdir bin lib workspace
# Download stdlib.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/stdlib.jar -P lib
# Download dsa.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/dsa.jar -P lib
# Download checkstyle-8.21-all.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-8.21-all.jar -P lib
# Download checkstyle-lift.jar under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-lift.jar -P lib
# Download checkstyle.xml under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle.xml -P lib
```

```
# Download checkstyle-suppressions.xml under ~/lib.
$ wget https://www.cs.umb.edu/~siyer/teaching/checkstyle-suppressions.xml -P lib
# Download check_style under ~/bin.
$ wget https://www.cs.umb.edu/~siyer/teaching/check_style -P bin
# Make ~/bin/check_style executable.
$ chmod 755 bin/check_style
# Set the PROJECT_HOME environment variable.
$ echo "export PROJECT_HOME=$HOME/workspace" >> $HOME/.bash_profile
# Set the CLASSPATH environment variable.
$ echo "export CLASSPATH=../out:$HOME/lib/stdlib.jar:$HOME/lib/dsa.jar" >> $HOME/.bash_profile
# Update the PATH environment variable.
$ echo "export PATH=$HOME/bin:$PATH" >> $HOME/.bash_profile
# Change your shell to bash.
$ chsh -s /bin/bash
```

2. Download and install IntelliJ (Community Edition) [🔗](#). Launch IntelliJ, go to *Configure* → *Settings* → *Tools* → *Terminal* and set *Shell path* to `/bin/bash`.

3 Setup On Windows

1. Launch a powershell terminal and run the following commands.

```
>_ ~/
# Change to your home folder.
$ cd $HOME
# Create bin, lib, and workspace folders.
$ mkdir bin,lib,workspace
# Download stdlib.jar under ~/lib.
$ wget -O lib\stdlib.jar https://www.cs.umb.edu/~siyer/teaching/stdlib.jar
# Download dsa.jar under ~/lib.
$ wget -O lib\dsa.jar https://www.cs.umb.edu/~siyer/teaching/dsa.jar
# Download checkstyle-8.21-all.jar under ~/lib.
$ wget -O lib\checkstyle-8.21-all.jar https://www.cs.umb.edu/~siyer/teaching/checkstyle-8.21-all.jar
# Download checkstyle-lift.jar under ~/lib.
$ wget -O lib\checkstyle-lift.jar https://www.cs.umb.edu/~siyer/teaching/checkstyle-lift.jar
# Download checkstyle.xml under ~/lib.
$ wget -O lib\checkstyle.xml https://www.cs.umb.edu/~siyer/teaching/checkstyle.xml
# Download checkstyle-suppressions.xml under ~/lib.
$ wget -O lib\checkstyle-suppressions.xml https://www.cs.umb.edu/~siyer/teaching/checkstyle-suppressions.xml
# Download check_style.bat under ~/bin.
$ wget -O bin\check_style.bat https://www.cs.umb.edu/~siyer/teaching/check_style.bat
# Set the PROJECT_HOME environment variable.
$ setx PROJECT_HOME "$HOME\workspace"
# Set the CLASSPATH environment variable.
$ setx CLASSPATH ".;.\out;$HOME\lib\stdlib.jar;$HOME\lib\dsa.jar"
```

2. Download and unzip OpenJDK 17 [🔗](#) for Windows under some folder xyz.

```
>_ ~/
# Update the PATH environment variable.
$ setx PATH "$env:PATH;$HOME\bin;XYZ\bin"
```

3. Download and install IntelliJ (Community Edition) [🔗](#). Launch IntelliJ, go to *Configure* → *Settings* → *Tools* → *Terminal* and set *Shell path* to `powershell`.

4 Testing the Environment

To test if your environment is setup correctly, download and unzip https://www.cs.umb.edu/~siyer/teaching/cs210/dummy_project.zip under `~/workspace`, launch IntelliJ and open `~/workspace/dummy_project`, and run the following commands on the IntelliJ terminal.

```
>_ ~/workspace/dummy_project
$ javac -d out src/HelloWorld.java
$ java HelloWorld
```

5 FAQ

Q1. What do I do if I get a “Project JDK is not defined” message when I open a Java program in IntelliJ?

Answer: Click on “Setup SDK” and select OpenJDK 17 available under “Detected SDKs”.

Q2. How do I tell IntelliJ to automatically wrap lines at 100 columns and enable visual guides at 80 and 100 columns?

Answer: Go to *File* → *Settings* → *Editor* → *Code Style*, set “Hard wrap at” to 100, enable “Wrap on typing”, and set “Visual guides” to 80, 100.

Q3. How do I tell IntelliJ to assign each parameter or variable its own color?

Answer: Go to *File* → *Settings* → *Editor* → *Color Scheme* → *Language Defaults* → *Semantic highlighting*, and enable it.