Getting Started with IntelliJ

COMSM0086

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Overview

- Downloading and installing IntelliJ IDE
- Dealing with User Agreement and Licensing
- Opening an existing template project
- Installing the Java Development Kit (JDK)
  (including compiler, runtime and libraries)
- Running your first Java program !

Note: We will skim through these slides quite quickly now

Work through them at your own pace in practical session

Do you need to install ?

You don't HAVE to install IntelliJ on your laptop
The lab machines are fully installed and set up:

`/opt/idea/2024/bin/idea.sh`

License Server: http://ls-jetbrains.bris.ac.uk:8080

HOWEVER

Many people choose to work on their own machines
Just so they can work from home (and at any time)

If you do decide to install, here are a few tips...

Download from JetBrains

Make sure you get the download for your platform !

(Website *should* autodetect to the right version)

Windows macOS Linux

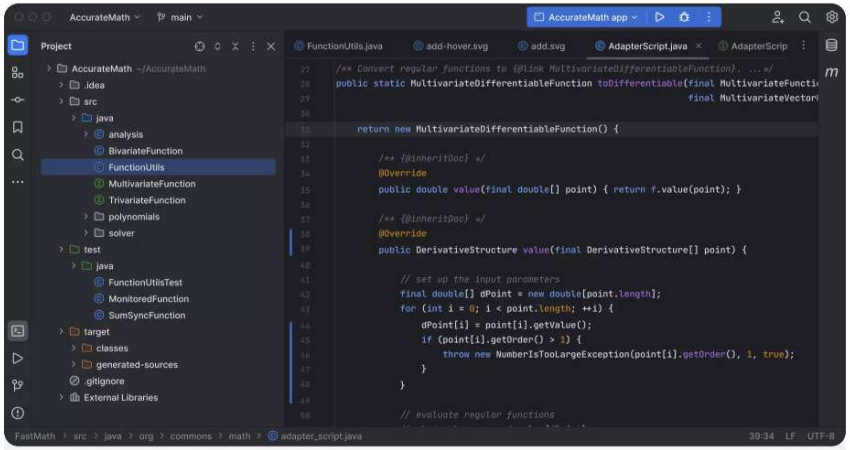
IntelliJ IDEA Ultimate

The Leading Java and Kotlin IDE

Download .dmg

Free 30-day trial

Select an installer for Intel or Apple Silicon



Version: 2023.3.2
Build: 233.13135.103
20 December 2023

System requirements

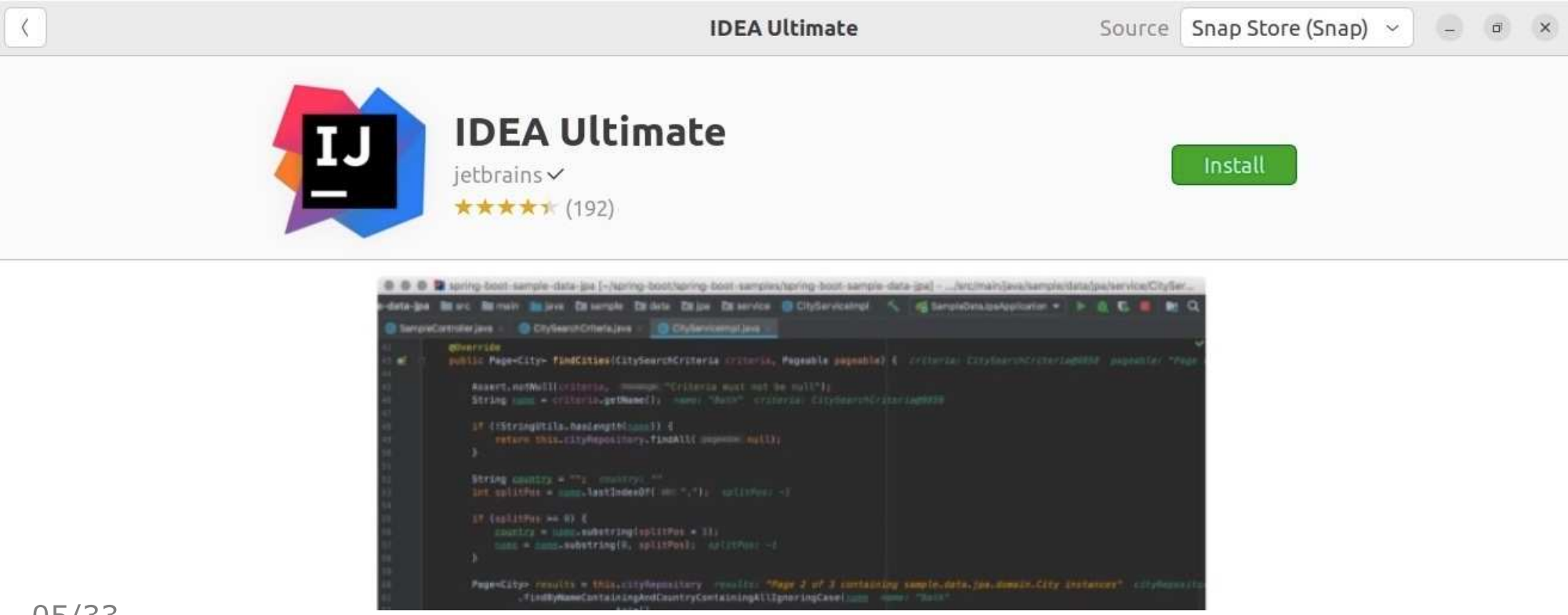
Installation instructions

Other versions

Third-party software

Alternative Approach

IntelliJ might be available through your platform's Package Manager (if it has one !)

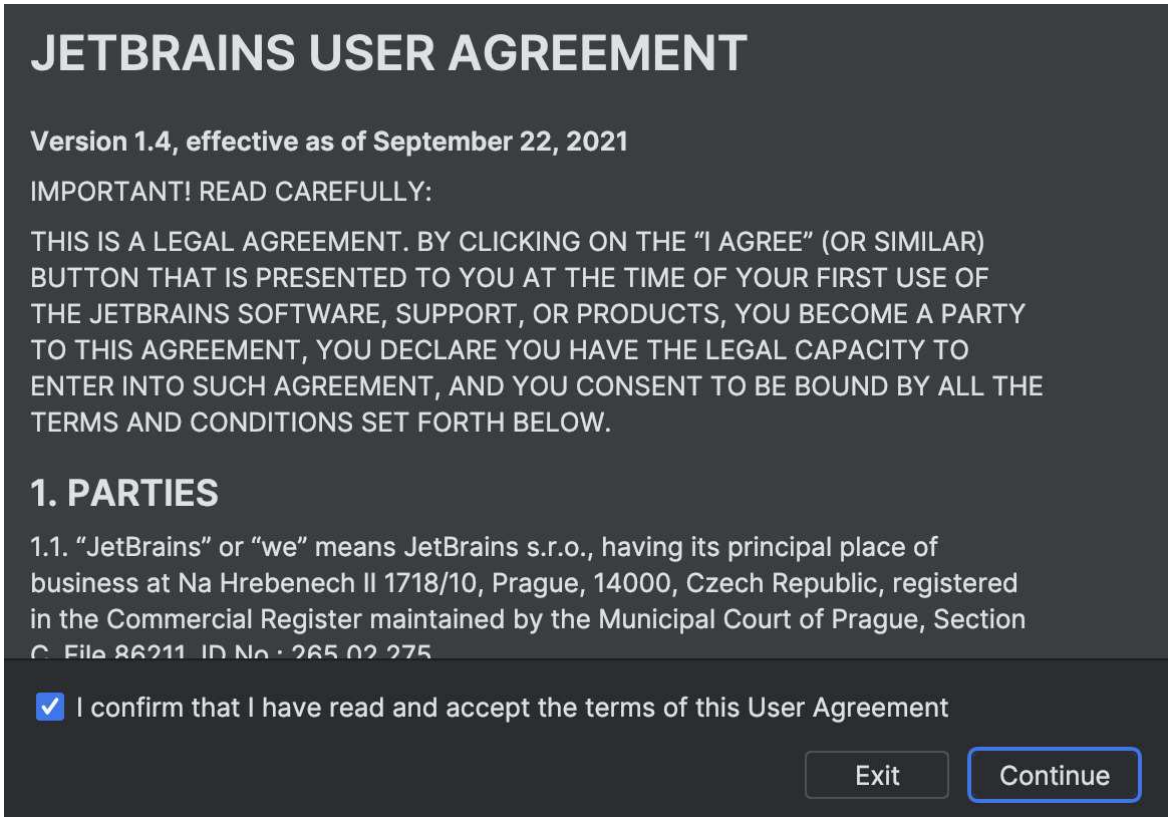


Install as normal (for your platform) !

User Agreement

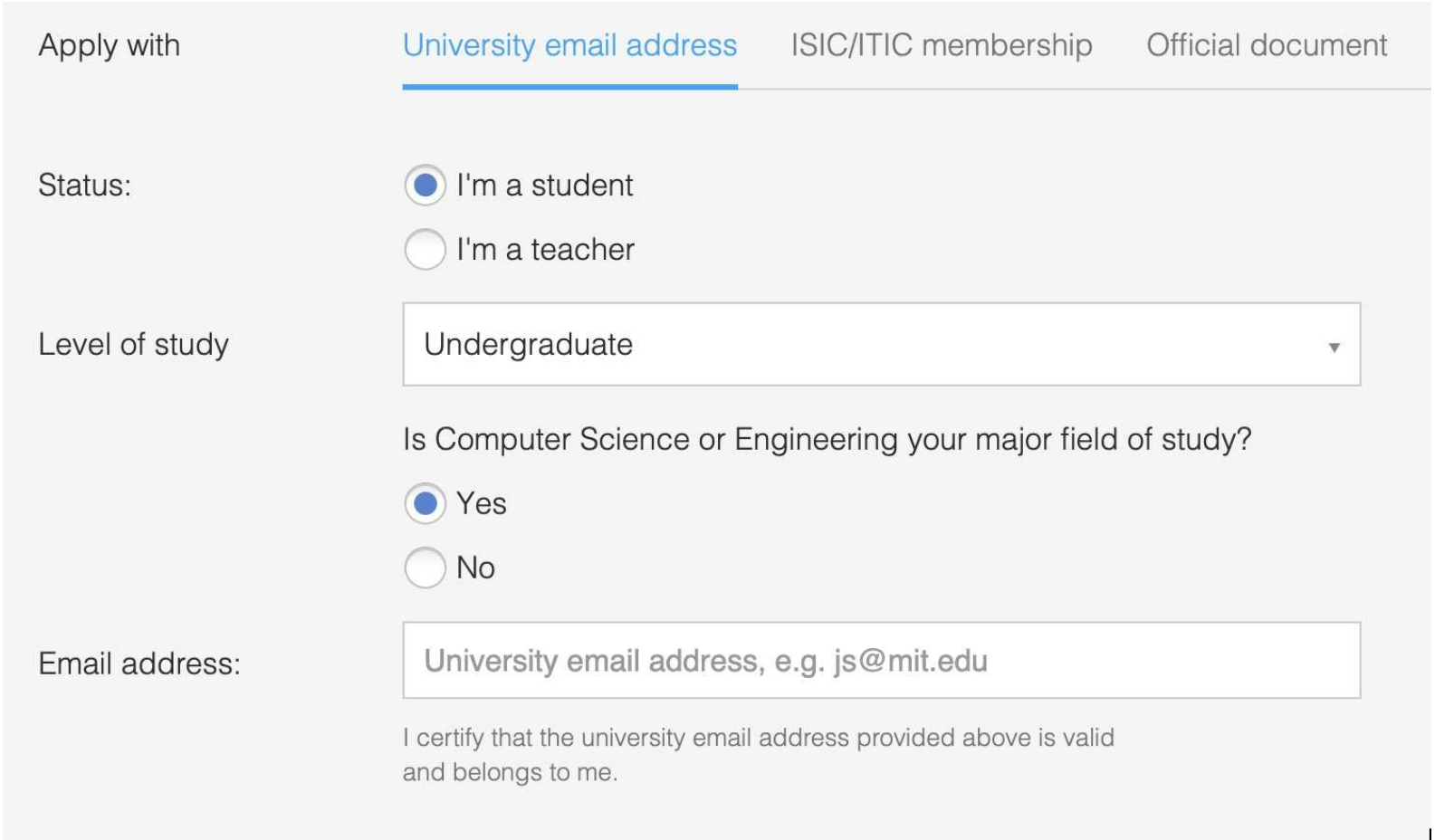
First time you run IntelliJ, you'll see User Agreement

Tick the box and click continue if you are happy !



Register for an Educational License

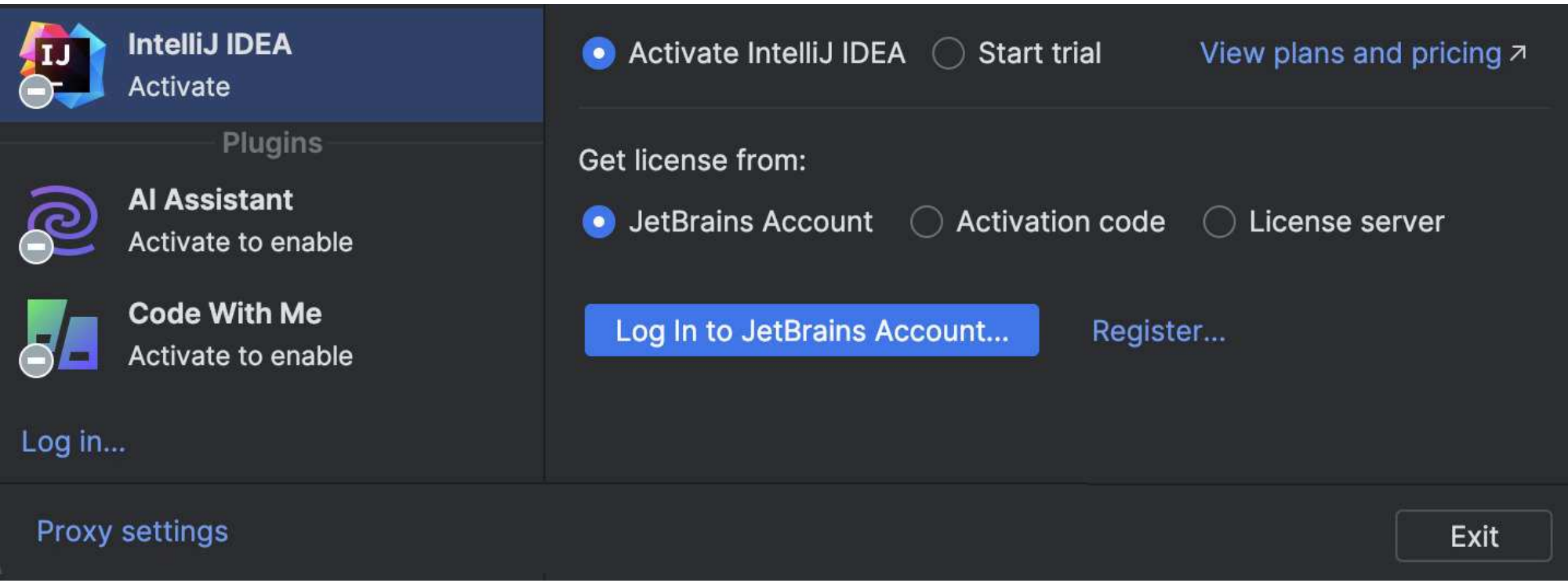
https://jetbrains.com/community/education/#students



License Settings

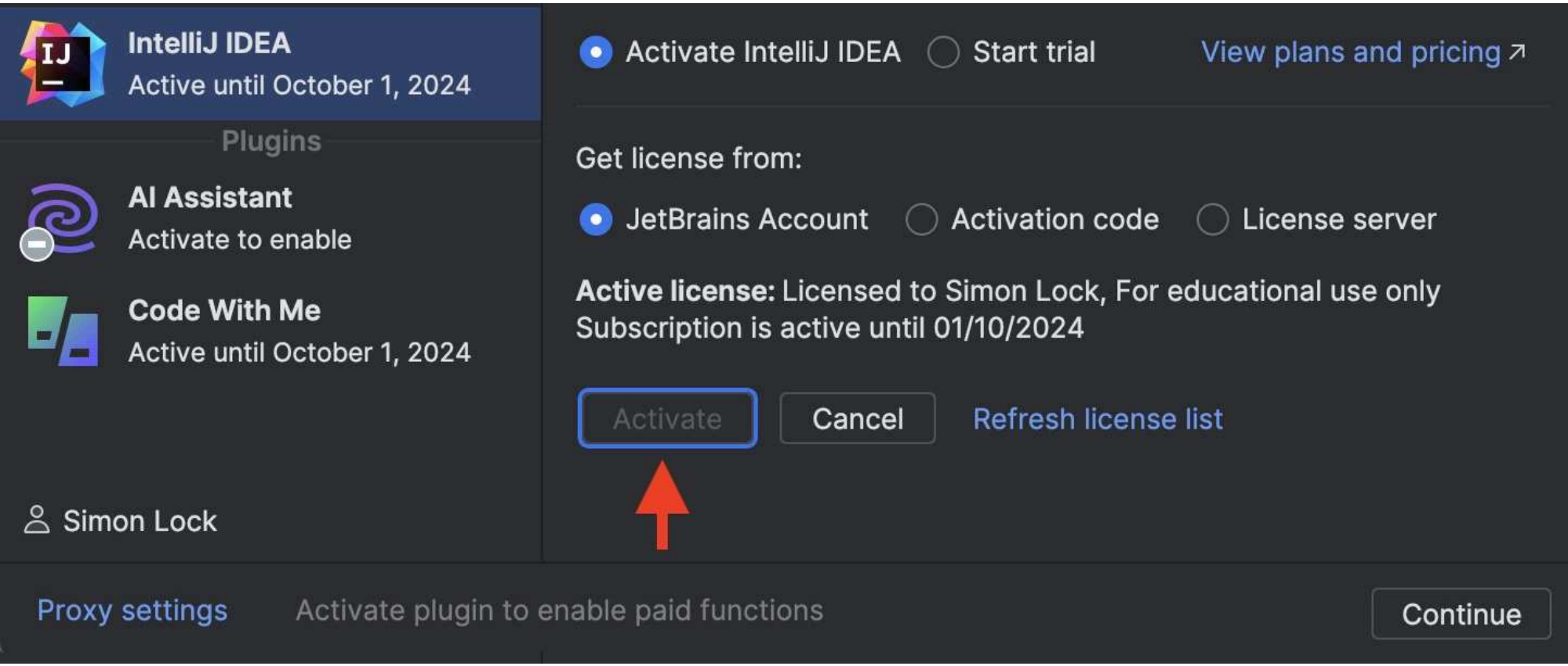
"Log In to JetBrains" if you have an educational license

"Start Trial" if you haven't yet registered with JetBrains



Final Step for Educational License

Make sure you click the "Activate" button !



And that should provide you with
the same software as on the lab machines

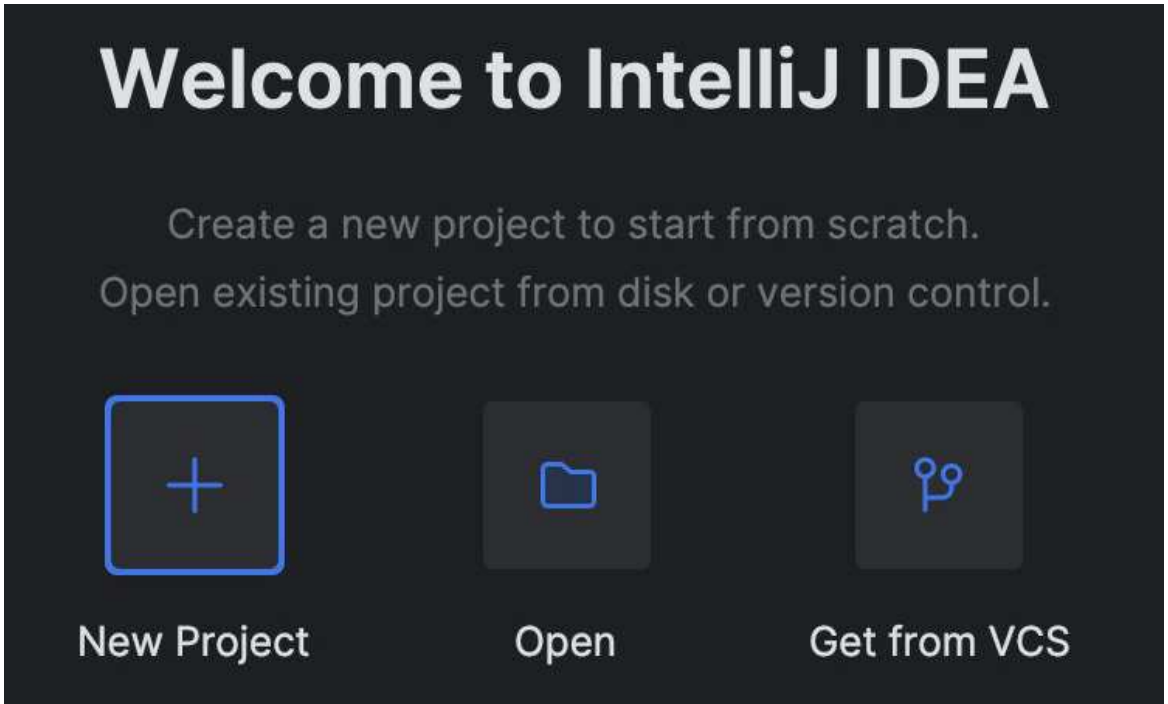
Once you have the IDE installed...
How do we go about compiling and running code ?

Welcome Screen

Most of the time on this unit you'll need "Open"

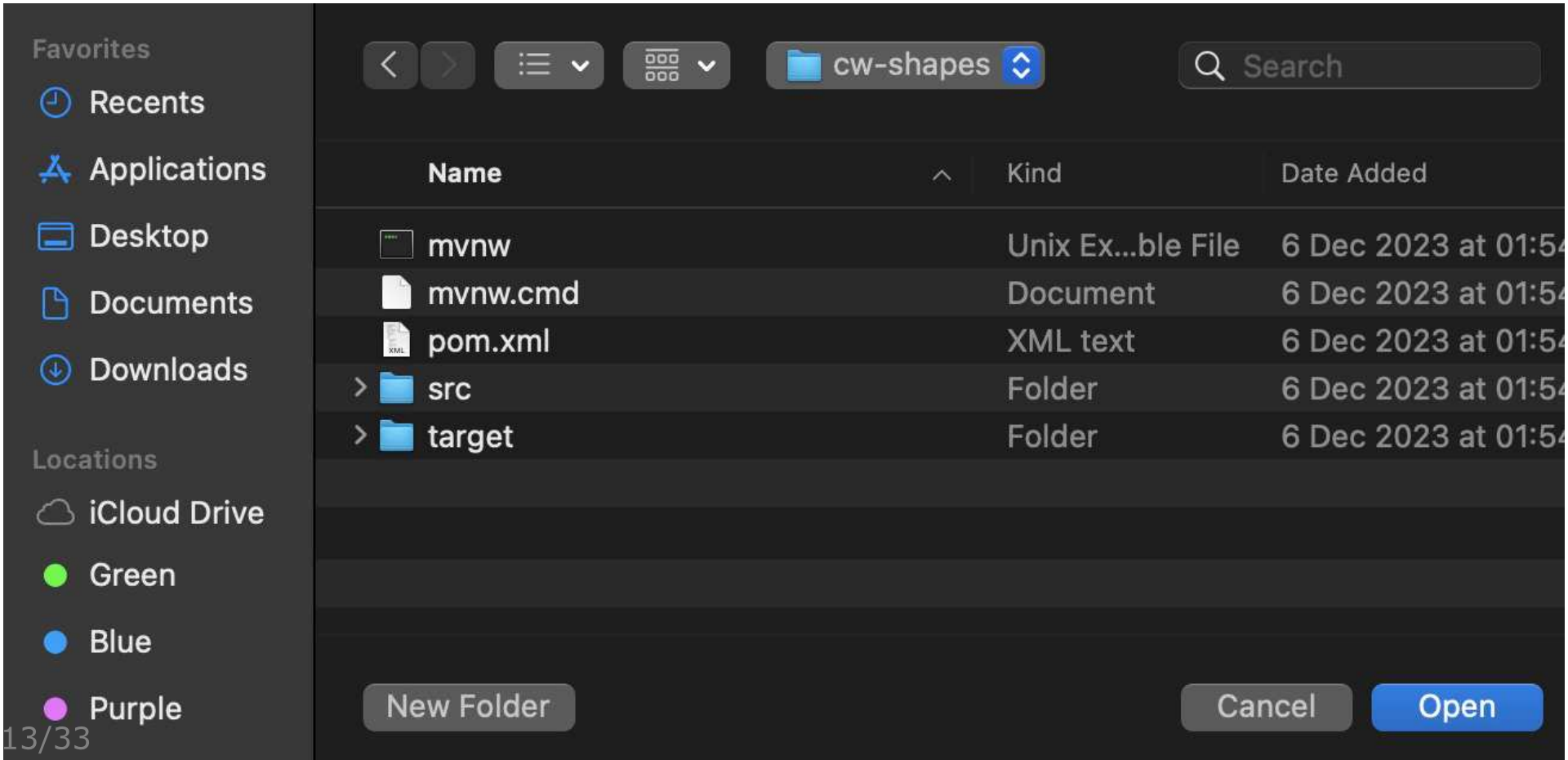
This is because we provide blank template projects

(Although you do get to practice creating a new project)



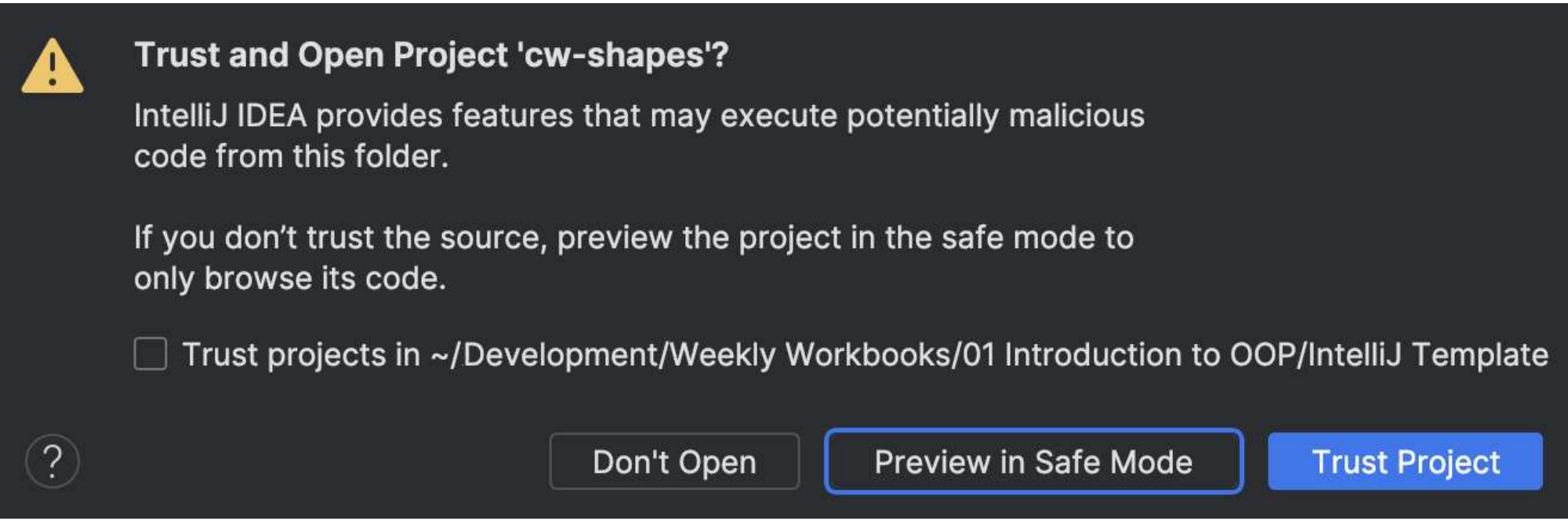
Typical Project Template

Find and open the FOLDER containing the pom.xml file



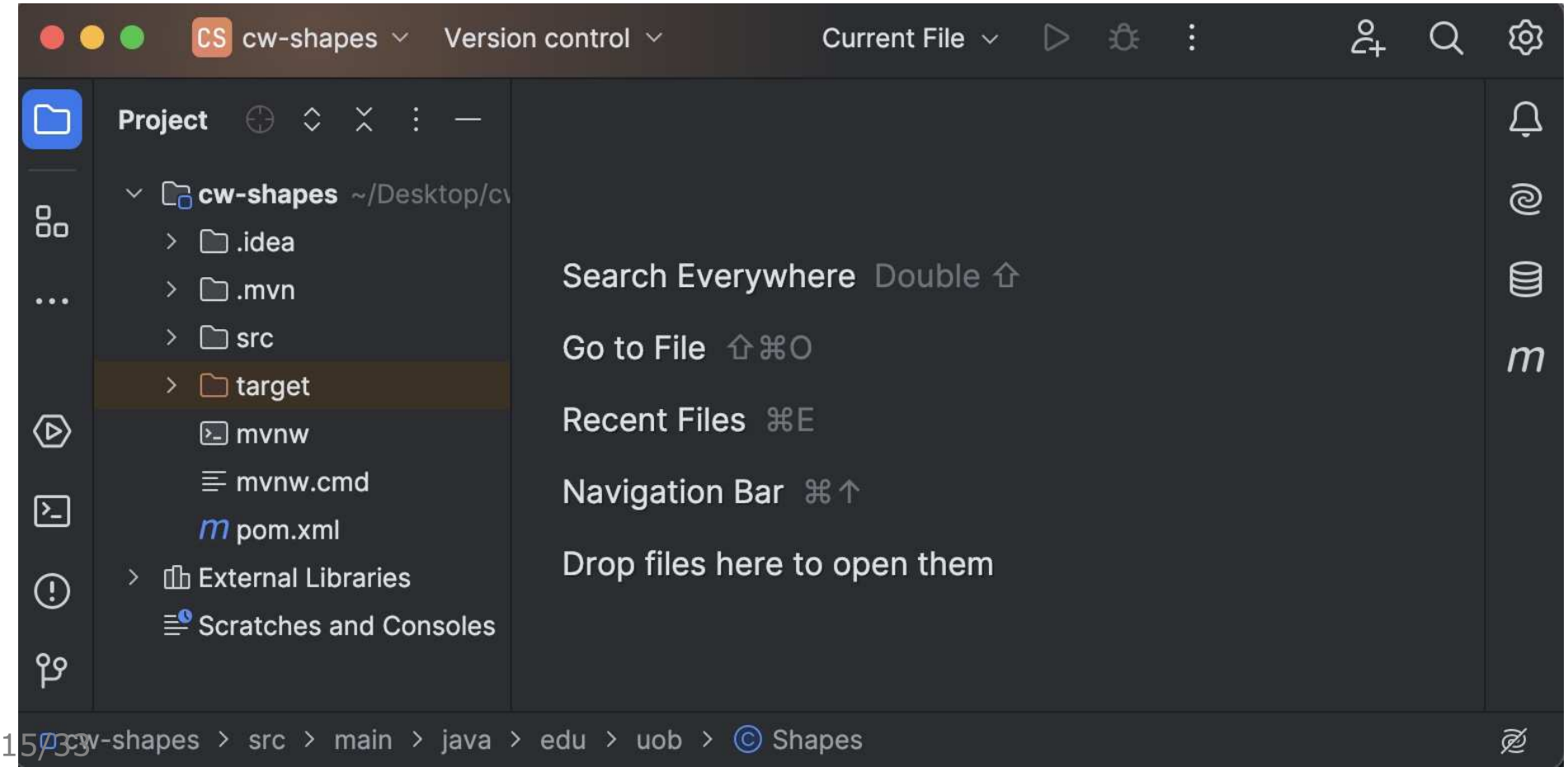
Do You Trust Us ?

Be careful with projects from other sources !



Project Structure

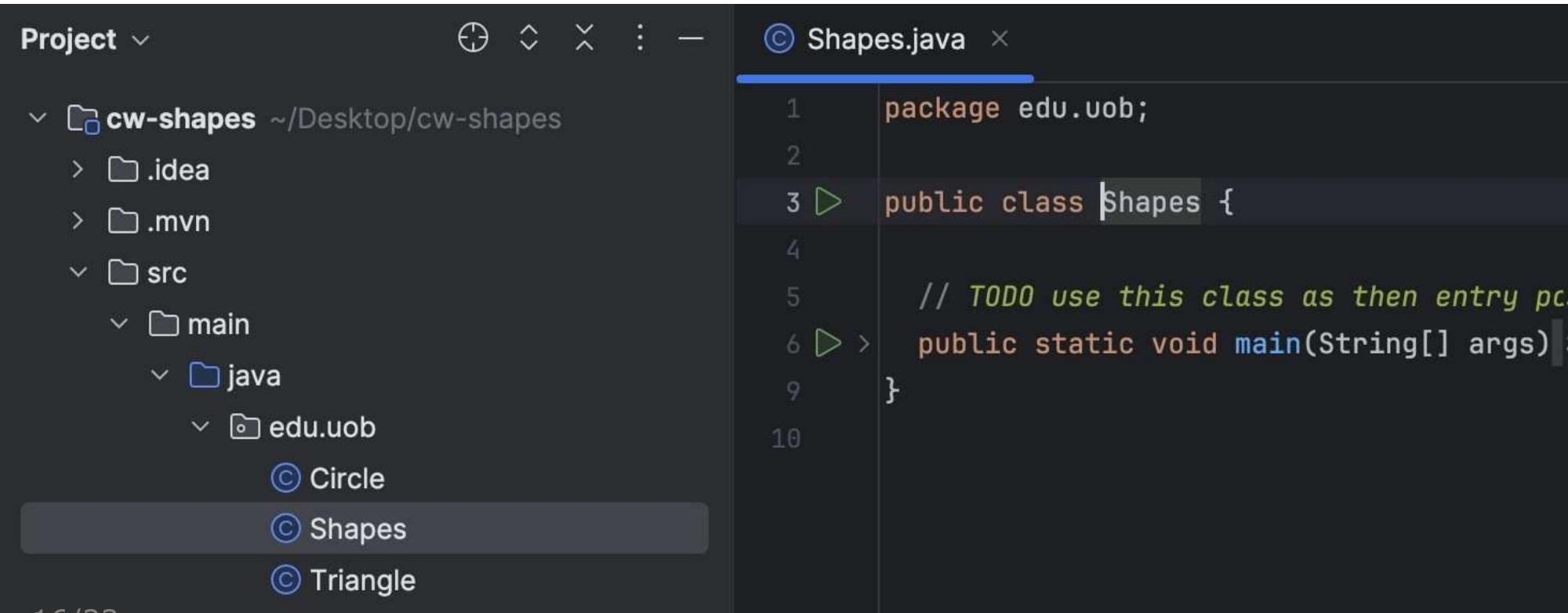
A successfully opened project looks something like this:



Open the Main Class

Let's explore the project view to find the main class

In this project, the main class is a file called 'Shapes'

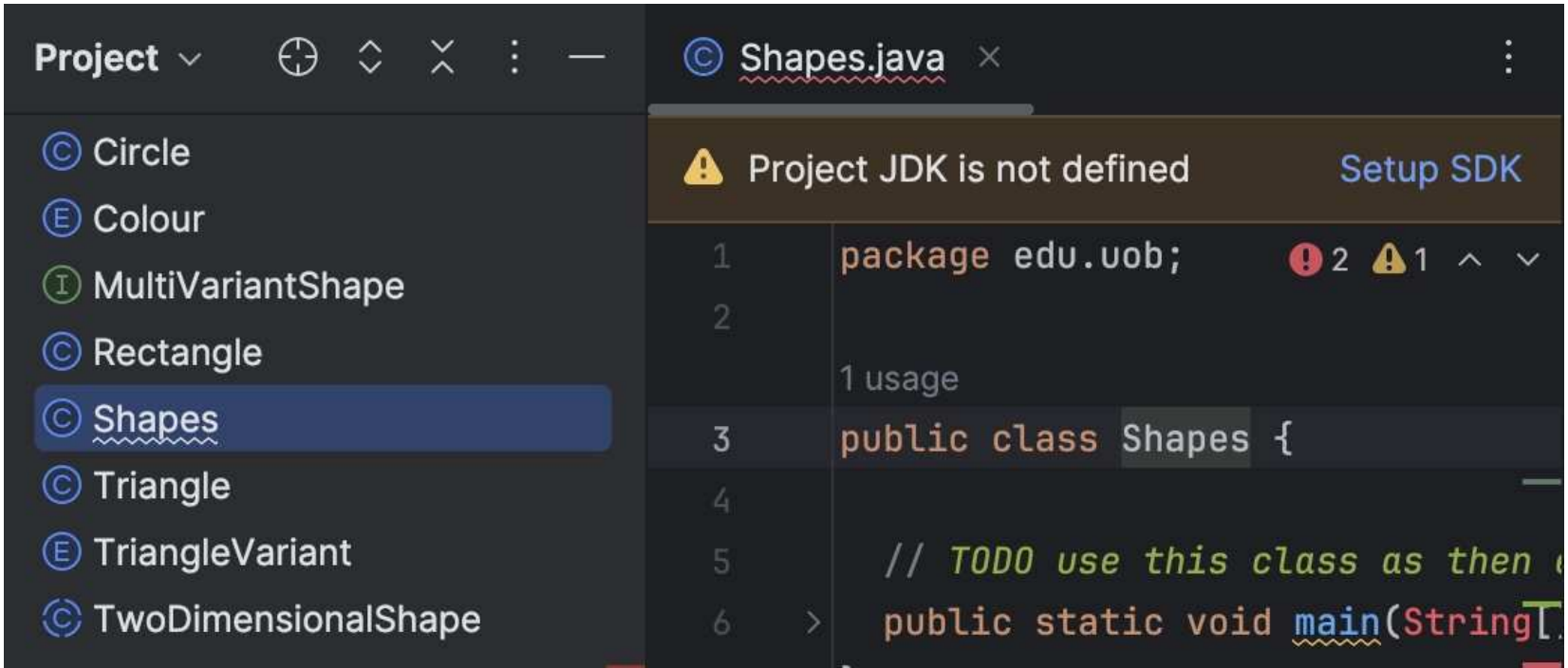


"Project JDK is not defined"

IntelliJ is just an IDE - is has no built-in compiler !

Lab machines have Java Development Kit installed

If working on your own laptop, YOU must install it

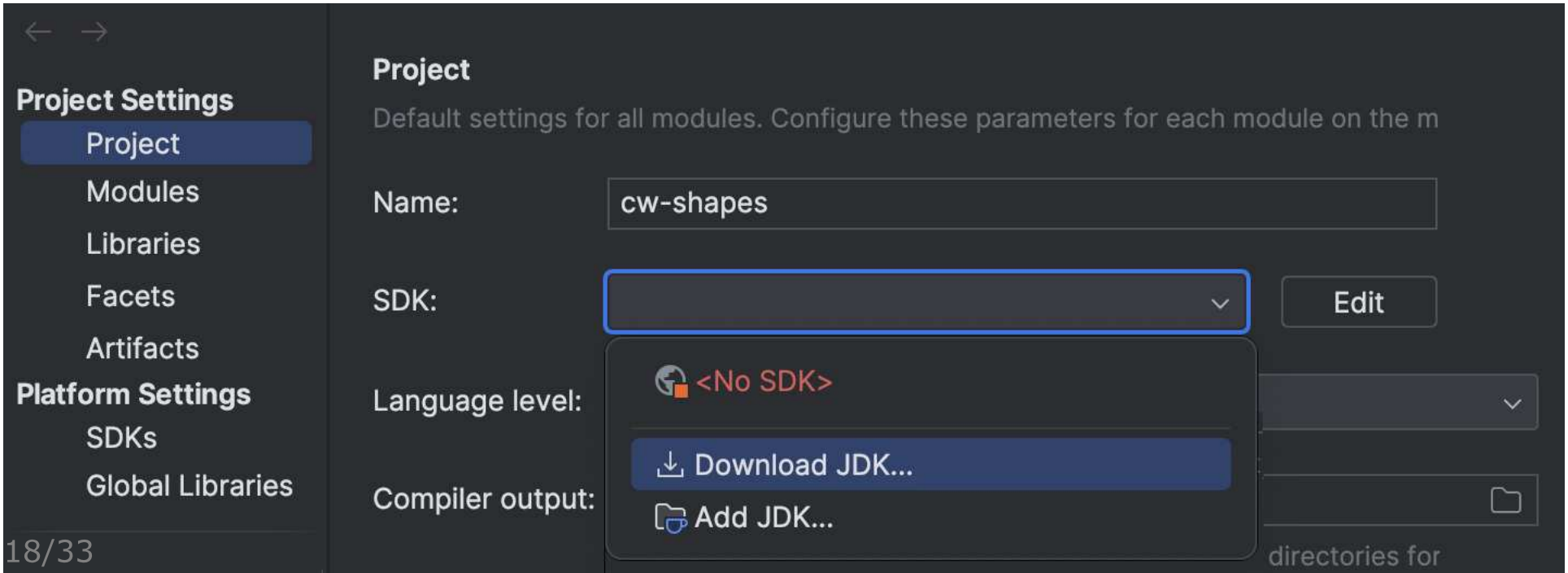


Project Settings (File > Project Structure !!!)

Need to select a JDK to use to compile & run project

Could use an existing JDK (if you have one installed)

Or download a new one from list of those available...



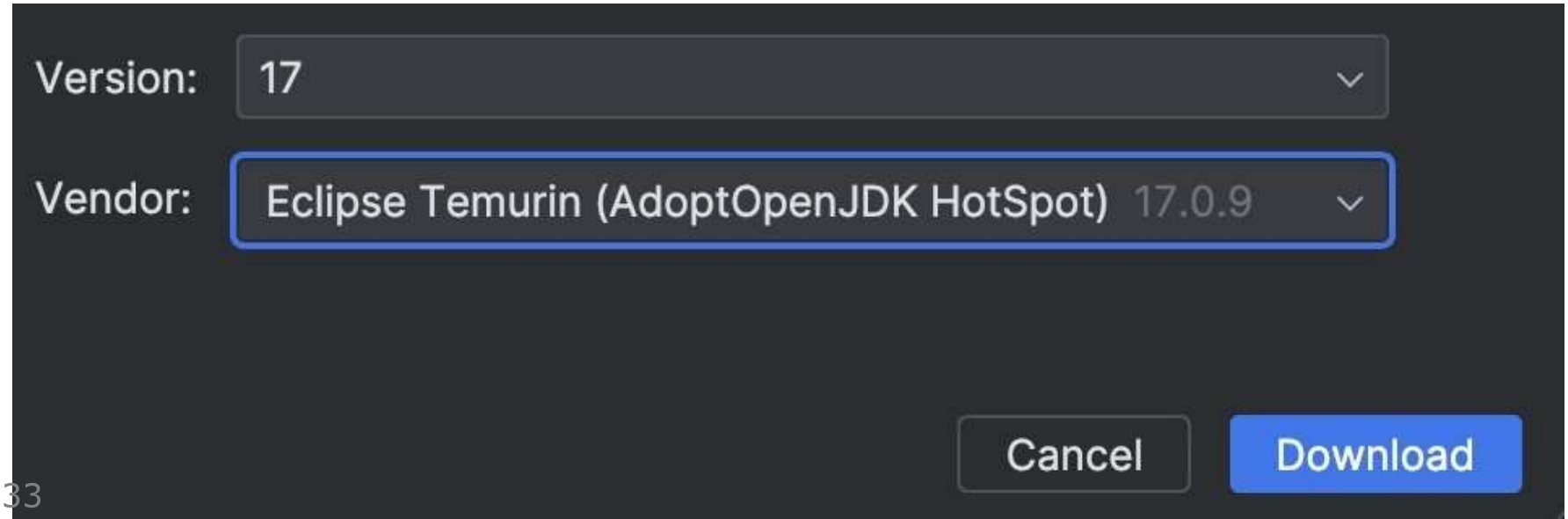
Download JDK

Select JDK to automatically download & install

Lowest Common Denominator: Lab has Java 17

(That's where we are going to mark your code !)

Best to choose: Eclipse Temurin (AdoptOpenJDK)



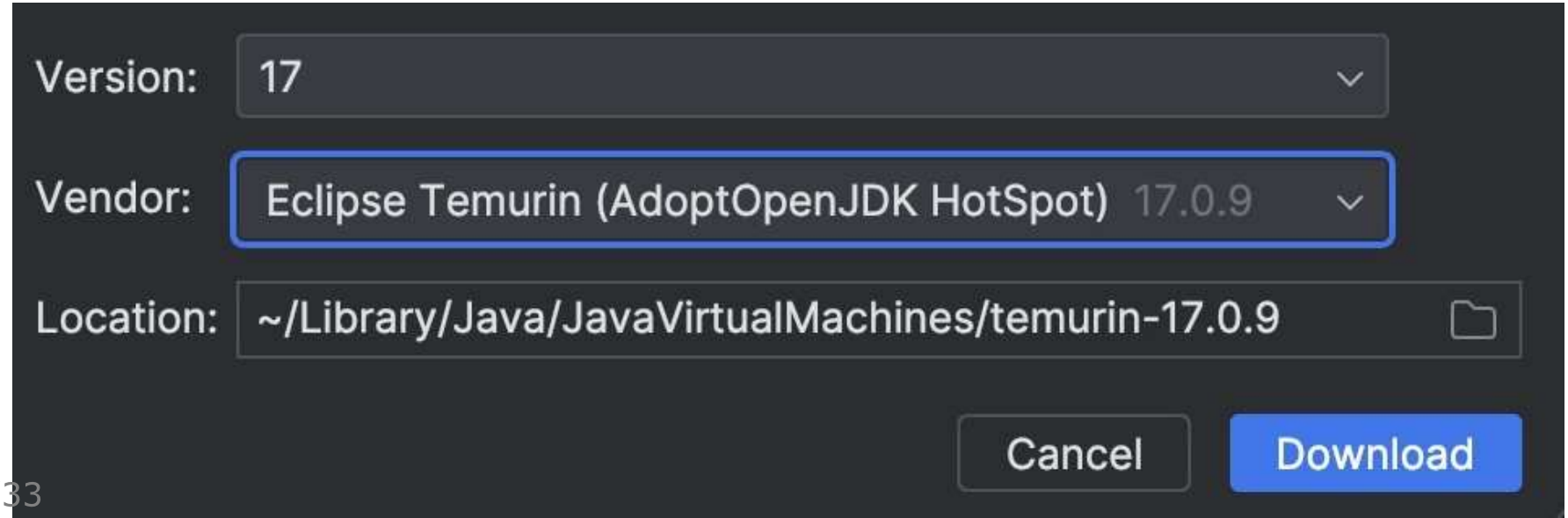
Installation Location

Keep a note of location where IntelliJ will install JDK

You'll need this later (to compile on command line)

On Mac OSX the location will be something like:

`~/Library/Java/JavaVirtualMachines/temurin-17.0.9`



Be Patient !

It takes a while for the JDK to download and install

Don't worry, only happens once (when you first install)

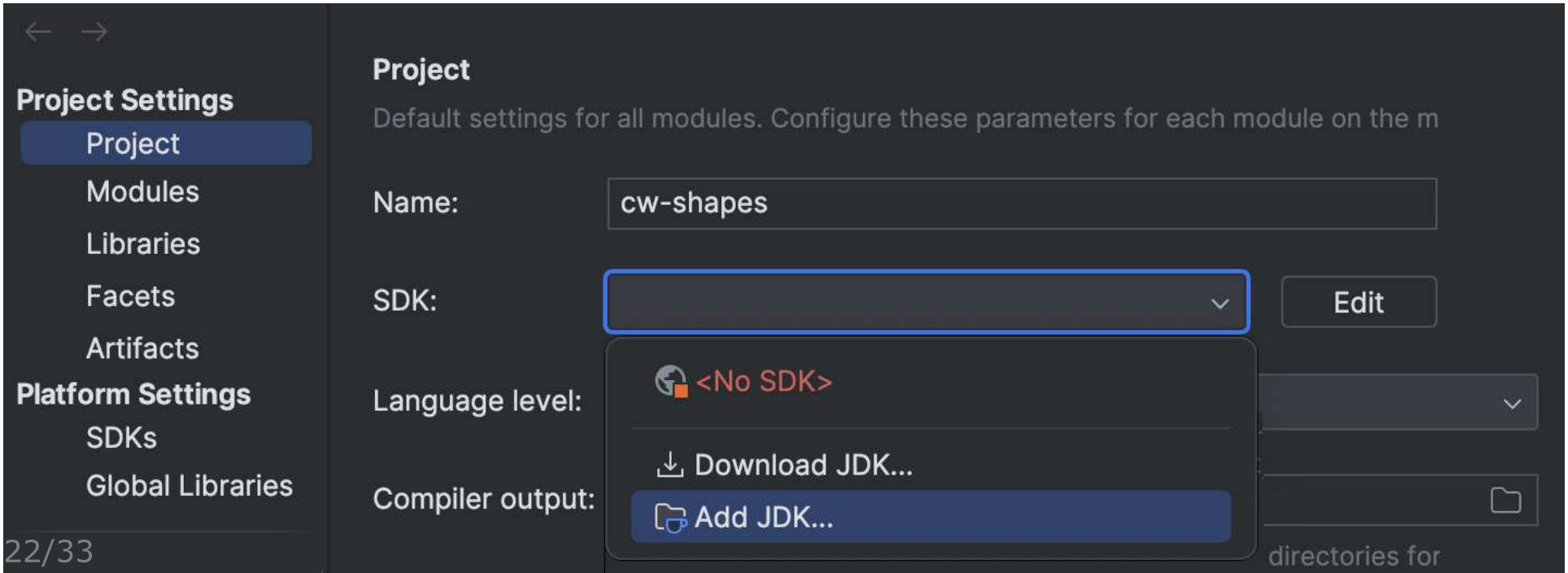
Keep an eye on how things are going on progress bar:

Using an Existing JDK

If you already have a JDK installed, you can use that

This will save you having multiple versions installed

It *might* be listed in dropdown, if not click "Add JDK"



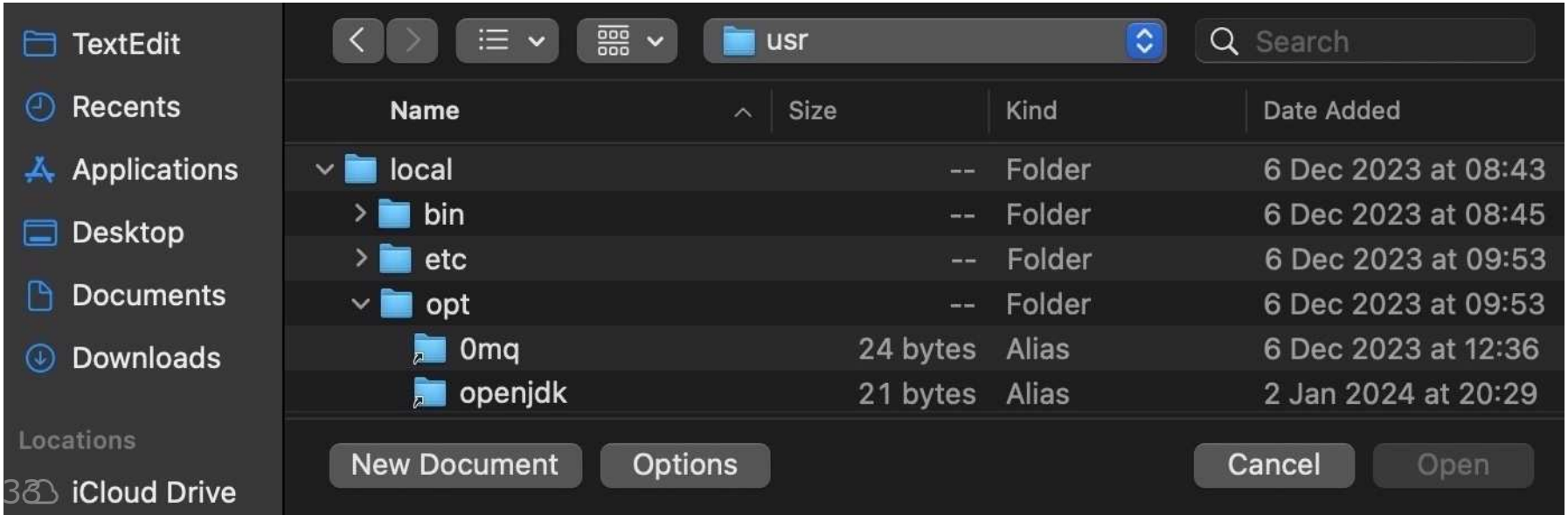
Hunting down Existing JDK

IntelliJ is clever and will usually find installed JDKs

I installed JDK using 'Homebrew' package manager

Homebrew is good at hiding installed software ;o)

So I needed to manually hunt around to find the JDK

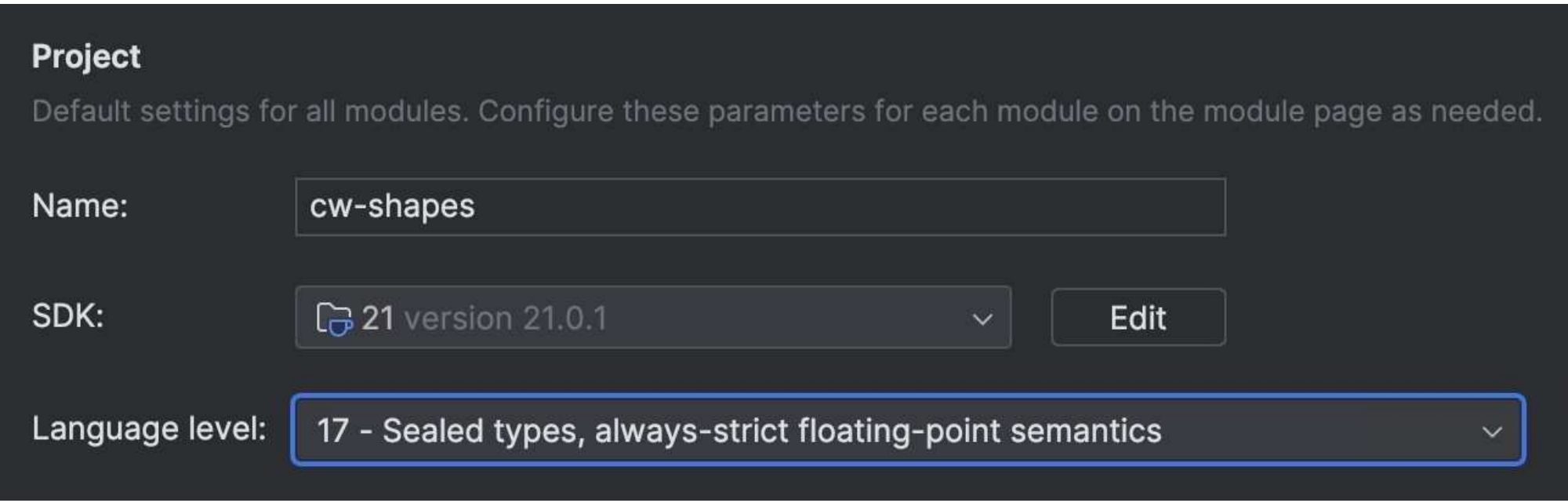


JDK Version

The version I have installed is more recent than 17

However, we can limit language features used to 17

Prevents use of newer features that won't work in lab



REMEMBER

Labs machines ALREADY have a JDK installed

(so you won't need to follow the previous steps)

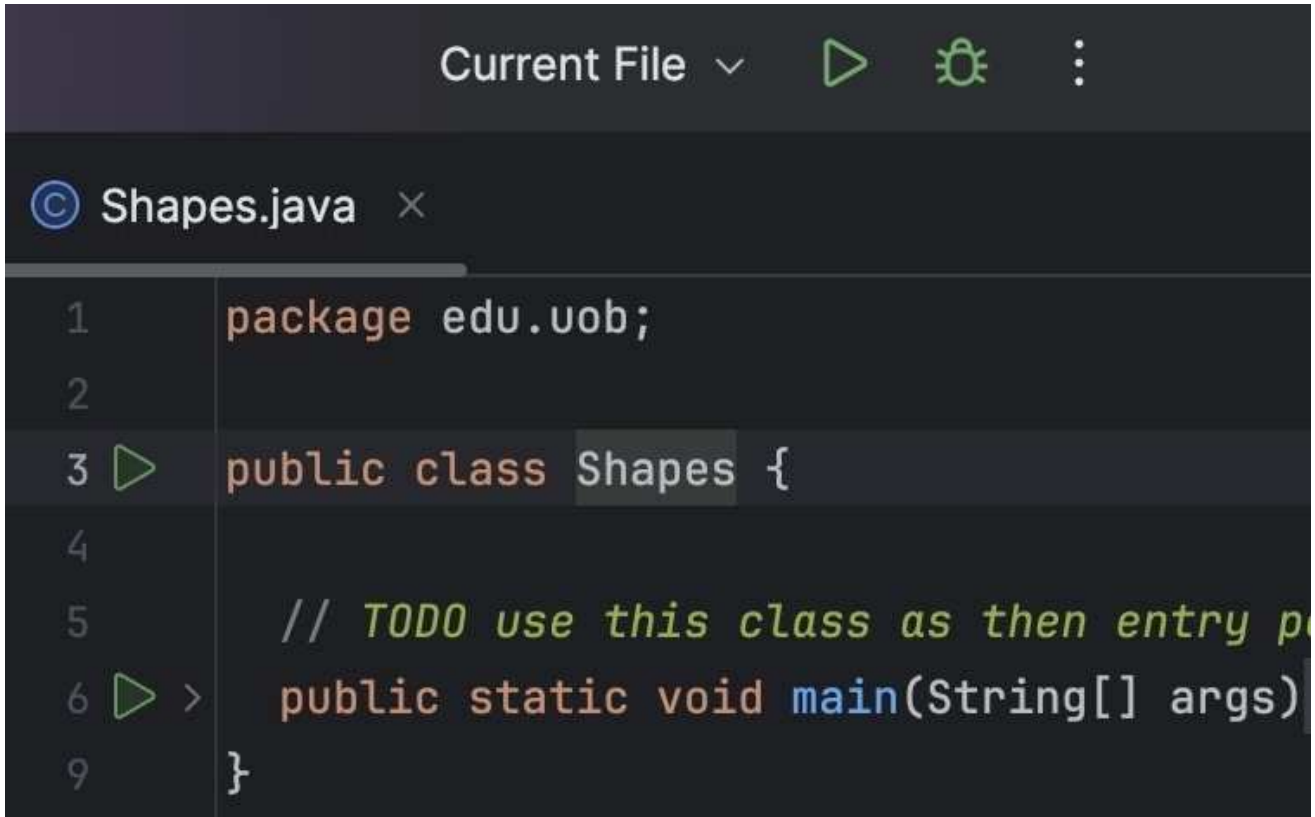
You only need to install JDK on your OWN laptop

Back to the Project...

Ready to Run !

With the main class open in the editing panel...

You should now see the green "run" button at the top



Success !

Might take a while for IntelliJ to compile & run the code

It has to build a lot of files the first time around

If everything worked OK, you should see...

Command Line

Although we will be using IntelliJ *most* of the time
It is useful to also be able to use the command line

Coursework will be marked on the command line
It's essential that you check your code runs there !

In order to be able to compile and run your code
You must tell command line where to find the JDK...

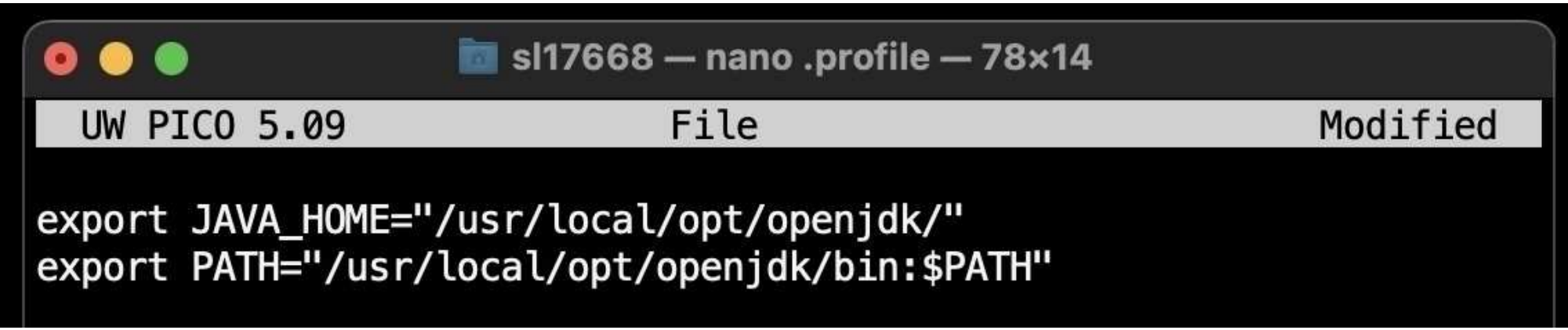
OSX and Linux Environment Variables

Add two environment variables to your shell config file

(~/.profile on OSX or ~/.bashrc on linux)

JAVA_HOME must point to your installed JDK folder

You must also prepend the JDK *bin* folder to $PATH



Please note that:

`/usr/local/opt/openjdk/`

Is the location of MY installation of the JDK

YOURS is going to be somewhere different !

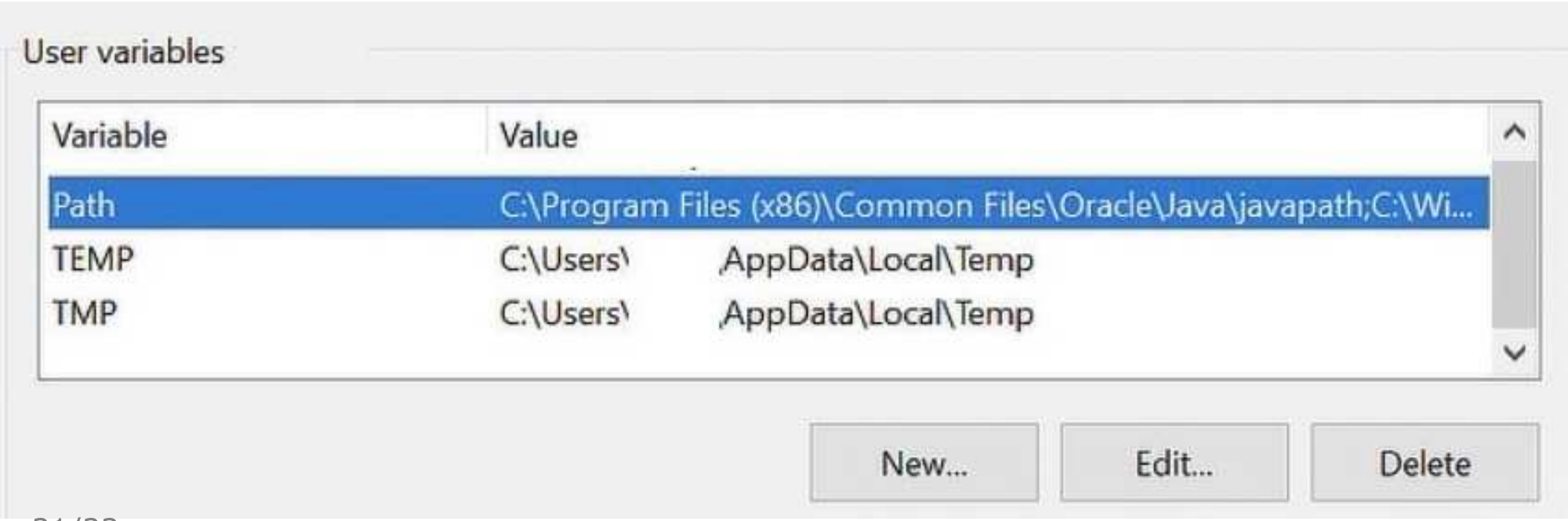
(wherever IntelliJ said it was going to put it)

Windows Environment Variables

Environment Variables in Windows are set differently

Using a graphical interface in "System Preferences"

See separate guide to setting up JDK on windows

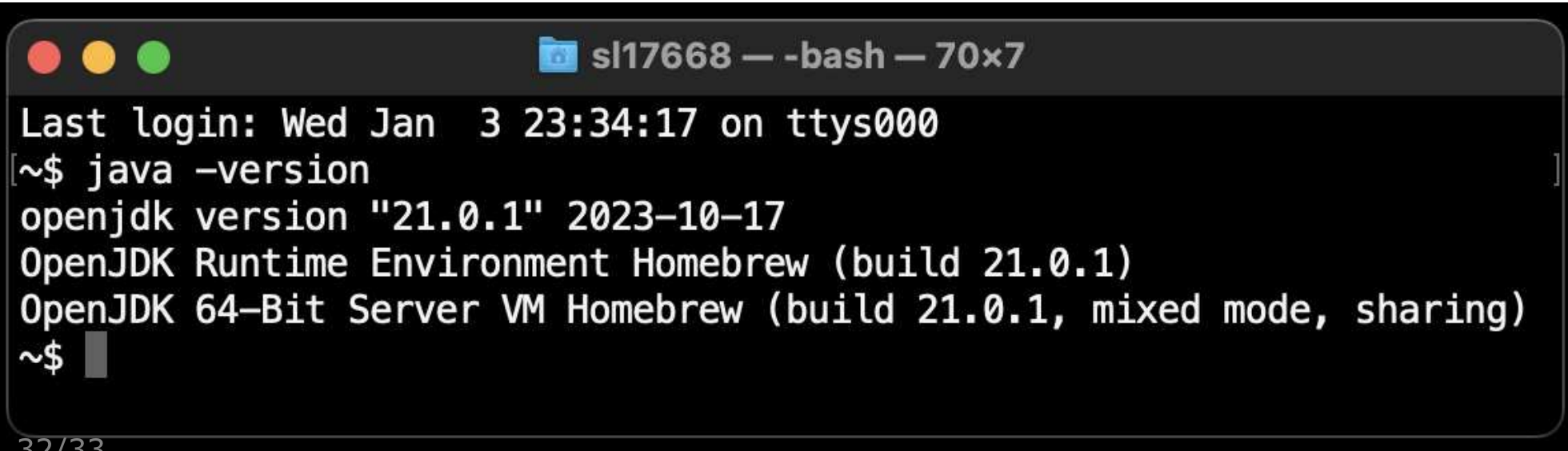


Testing Your Environment

Open a fresh terminal or command prompt and type:

```
java -version
```

If everything worked, you'll see something like:



And now to work !