

Setting Up Your Personal Computer

This guide explains how to set up Tech Elevator's .NET and Java development environments on your computer. It's primarily intended for students who want to recreate Tech Elevator's .NET and Java development environments on their personal computer after the cohort ends. Each section lists any hardware requirements and recommended software.

Step-by-step installation instructions aren't provided in the recommended software sections. For most of the software listed, you'll only need to review the options, accept the defaults, and click "Next." Any specific installation instructions are included in the "Completing installation" sections.

If offered a choice between 32-bit and 64-bit versions of software, *always choose 64-bit*.

WARNING

The URLs listed under each product may change at any time. You may need to search for new URLs if the old ones don't work.

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Basic installation (.NET on Windows 10 PC)

Follow these instructions to set up the .NET development environment on a Windows 10 PC or laptop.

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#Hardware requirements

The following are the recommended *minimums*:

- Intel i5 (or comparable 64-bit CPU)
- 8GB RAM
- 128GB disk space available
- Windows 10 Home or later

#Recommended software

#Chrome

- [Google Chrome](#)

Consider downloading the Vue.js Devtools, especially if you plan to continue working with Vue.

#Visual Studio 2019 (Community)

[Download and install](#) Visual Studio 2019. Make sure to install the following workloads:

- .NET desktop development
- ASP.NET and web development
- Azure development
- Data storage and processing
- Node.js

Required individual components to add (in addition to the many default components already checked):

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- Class Designer
- Developer Analytics Tools

#Visual Studio Code

[Download and install](#) Visual Studio Code from Microsoft.

When installing, we recommend checking the options to

- Add "Open with Code" action to Windows Explorer file context menu
- Add "Open with Code" action to Windows Explorer directory context menu
- Add to PATH

There are several extensions you should install:

- [Code Spell Checker](#)
- [ESLint](#)
- [Live Server](#)
- [Vetur](#)

You may also want to add

- [Markdown PDF](#)

#SQL Server 2019 (Express)

[Download and install](#) SQL Server 2019 Express from Microsoft. Make sure to select the "Basic" installation type for the install.

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#SQL Server Management Studio

After the successful Installation of SQL Server 2019 (Express) you will see several buttons at the bottom on the Installation screen. Select Install SSMS

If you are unable to click the button or wish to install SSMS at a later time, then

Download and install the "GA" release of SQL Server Management Studio.

#Git

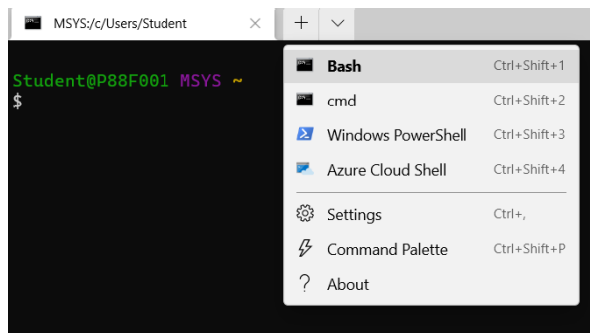
Download and install the latest Windows version.

#Windows Terminal

Download and install the latest Windows version.

Please note that you may already have Windows Terminal installed on your computer depending on your previous setup.

Make sure you are using Windows Terminal in Bash mode if you are using it for anything we did during the cohort.



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#node/npm

Download and install the latest LTS Windows version of node, which includes npm.

#Vue CLI

Download and install the latest release of Vue CLI using npm. You can find specific instructions on the Vue CLI site.

#Postman

Download and install the latest Windows version of Postman.

#Completing installation

There are no additional steps needed to complete setting up the Tech Elevator .NET development environment beyond the installation of the software listed above.

#Basic installation (Java on Windows 10 PC)

#Hardware requirements

The following are the recommended *minimums*:

- Intel i5 (or comparable 64-bit CPU)
- 8GB RAM
- 128GB disk space available
- Windows 10 Home or better

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#Recommended software

#Chrome or Firefox

- [Google Chrome](#)

Consider downloading the Vue.js Devtools, especially if you plan to continue working with Vue.

#IntelliJ

[Download and install](#) the latest version of IntelliJ IDEA Community Edition.

We recommend you check the following installation options when installing:

- [Create Desktop Shortcut] IntelliJ IDEA
- Add "bin" folder to PATH
- [Update Context Menu] Add "Open Folder as Project"

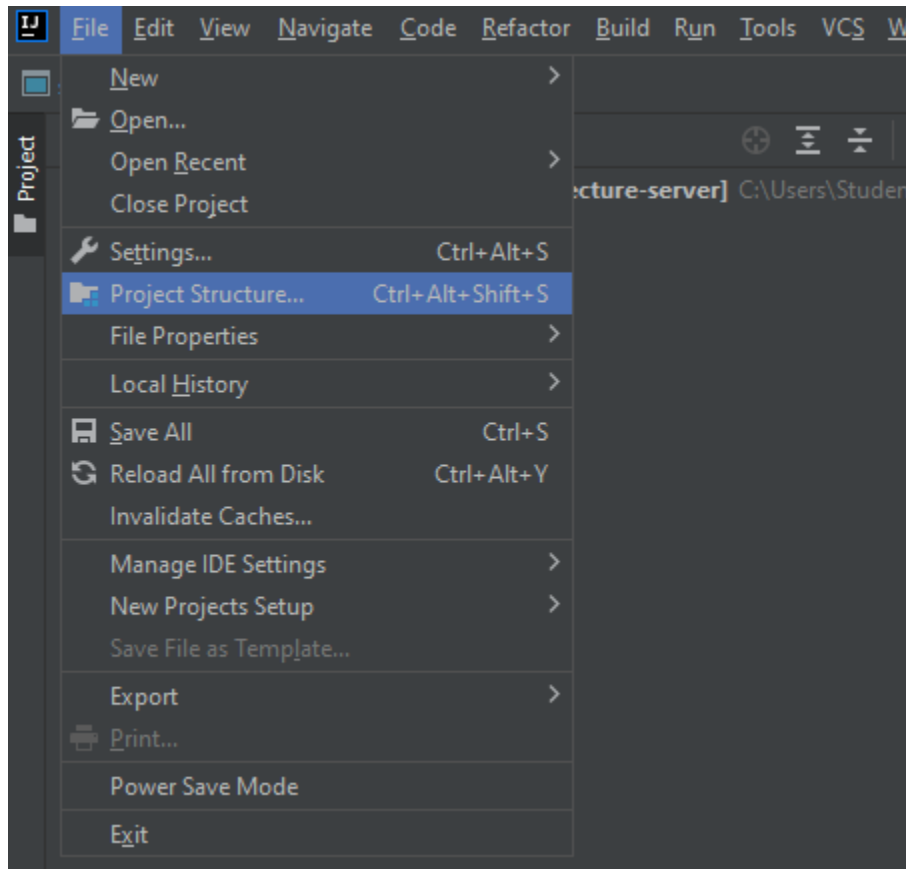
If you would like IntelliJ to be the default when opening a file ending in `.java`:

- [Create Associations] `.java`

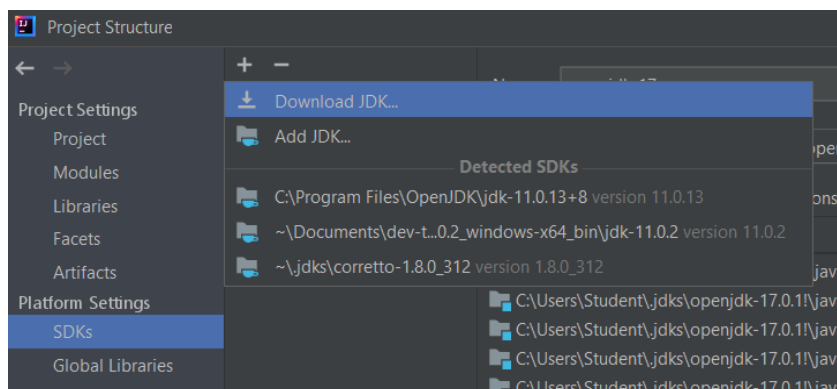
Once you have installed IntelliJ, you may need to download a JDK (Java Development Kit). The next section describes setting up the JDK used by the TechElevator code but you should use the most recent version as the default to ensure the latest security features are included.

To download the most recent JDK, choose **Project Structure...** from the **File** menu:

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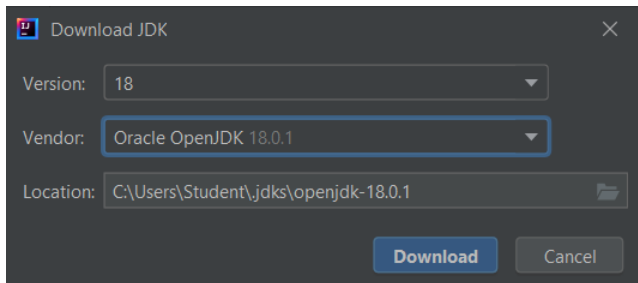


Next, click on the **SDKs** item in the sidebar, click on the + symbol, and choose **Download JDK...** [SDK and JDK are used interchangeably in the industry. Most things refer to the JDK but you may see it referenced as SDK for historical reasons].

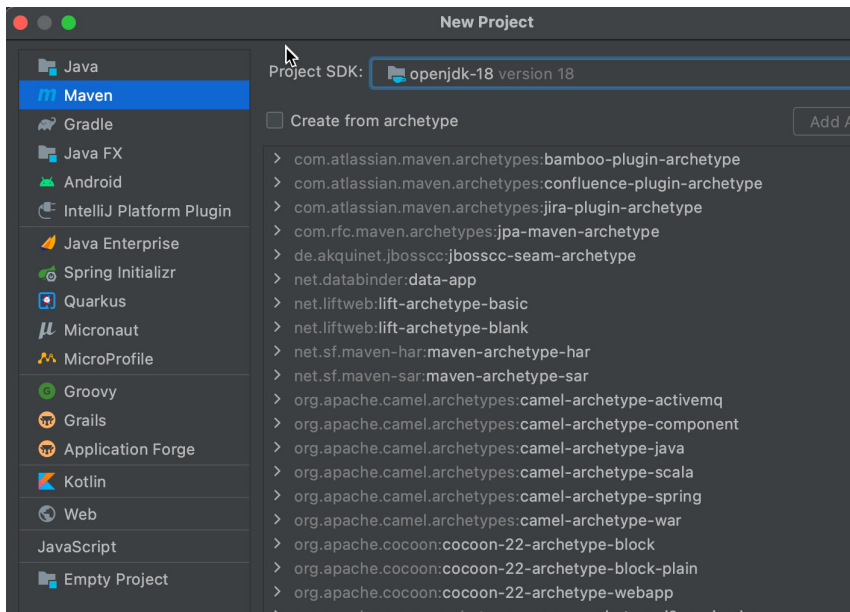


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A pop-up should appear with the most recent version of the Oracle OpenJDK selected. Currently it is 18. If nothing is selected, choose the most recent version. Once you are ready, click **Download**.



Once the pop-up goes away, click **OK** to complete the JDK setup. When creating a new project, make sure the most recent JDK is selected unless there is a reason to select an older version.



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#Java Development Kit (JDK), Standard Edition, 11

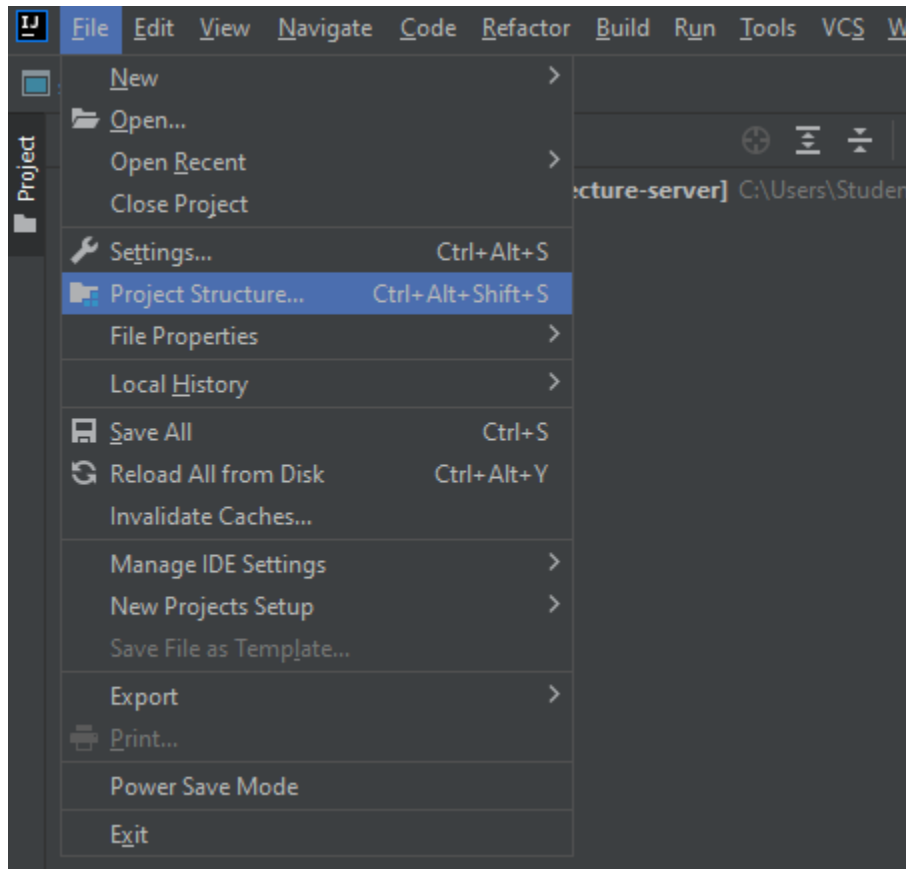
Tech Elevator has standardized on JDK 11.

While you should use the most recent version of Java (as described in the previous section) for new development, unless there is a requirement not to, the code you worked on during the cohort is set up to use Java 11. This means you will need an alternate JDK for this purpose.

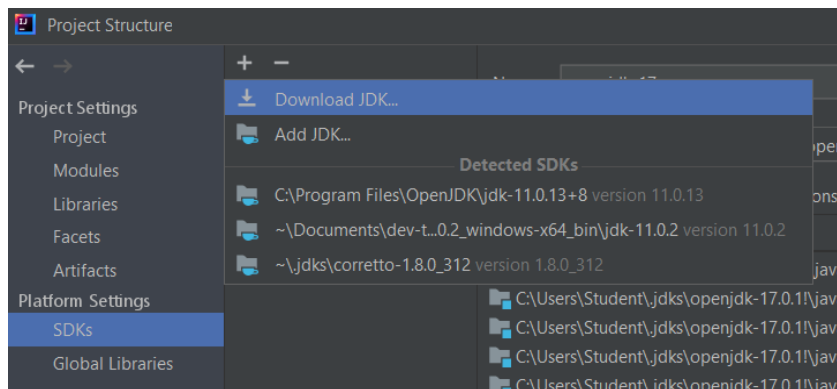
The process for setting this up is similar to the previous section, only using a different JDK.

Start by choosing **Project Structure...** from the **File** menu:

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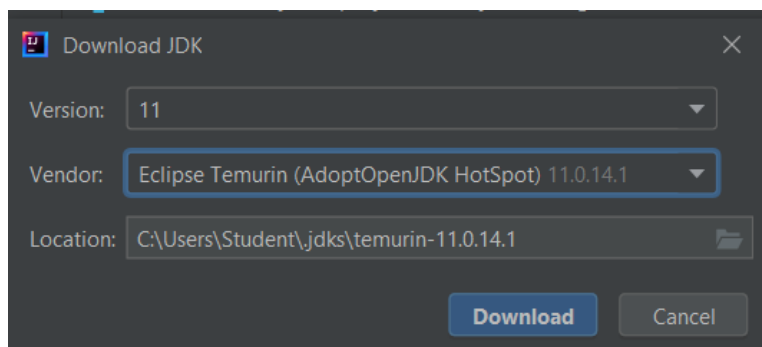


Next, click on the **SDKs** item in the sidebar, click on the + symbol, and choose **Download JDK...**



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A pop-up should appear with the most recent version of the Oracle OpenJDK selected. Currently it is 18. We want to change it to 11 for this project but we will need to download JDK 11 as well. IntelliJ only has the Oracle JDK implementation available for the current version of the JDK so we will use an alternate implementation called Eclipse Temurin for JDK 11.



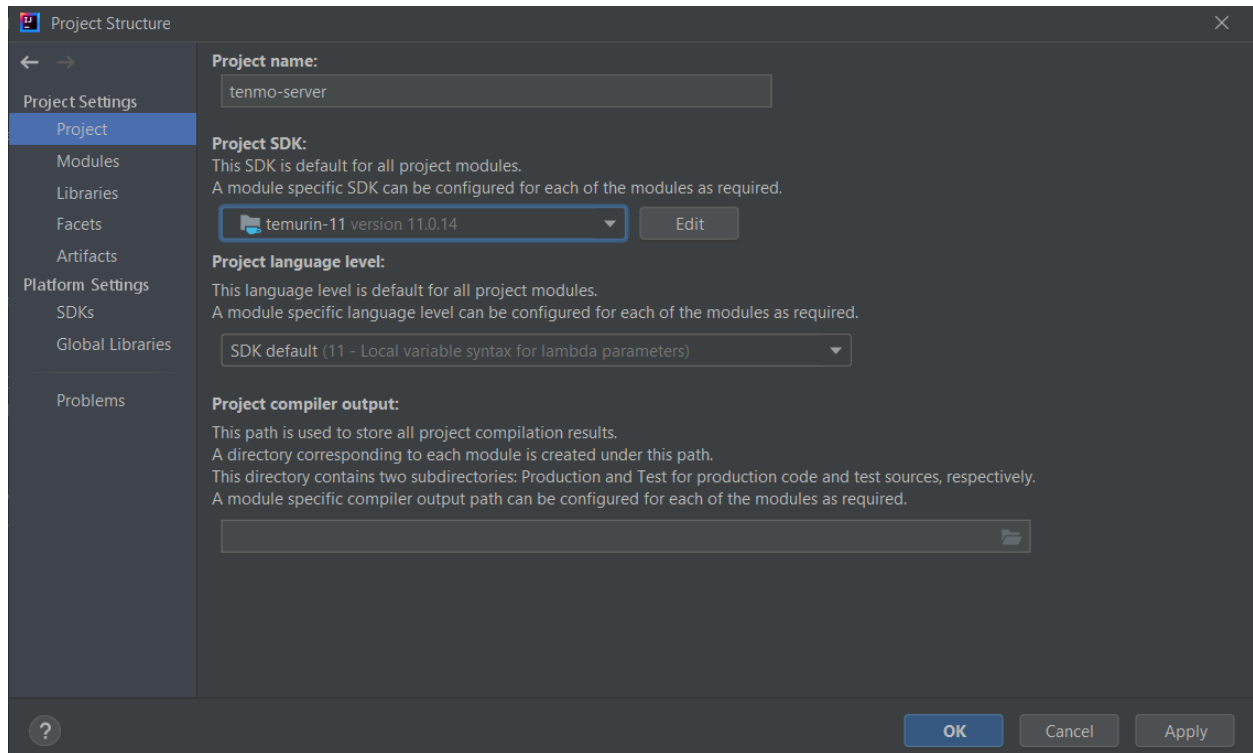
Choose Version 11 and Eclipse Temurin (AdoptOpenJDK HotSpot) and click **Download**

Once the pop-up goes away, click **OK** to complete the JDK setup.

The last step is to set the **Project SDK** to use the JDK you installed. Go to the **Project** sidebar option and select **temurin-11** in the top drop-down. The version listed may be different but as long as it starts with 11 that's ok.

The second drop-down should automatically set to SDK Default and list version 11 there, but if it doesn't, go ahead and set it that way. You want to make sure that both drop-downs are showing version 11.

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Click **OK** and IntelliJ should rebuild your project using JDK 11 and you should be able to run it. Going forward, you would do just this last step for projects set for JDK 11 as JDK 11 should be available to IntelliJ. For new projects, you should continue to use the most recent version of the JDK (the one set up in the previous IntelliJ setup section).

#Visual Studio Code

[Download and install](#) Visual Studio Code.

When installing, we recommend checking the options to

- Add "Open with Code" action to Windows Explorer file context menu
- Add "Open with Code" action to Windows Explorer directory context menu
- Add to PATH

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There are several extensions you should install:

- [Code Spell Checker](#)
- [ESLint](#)
- [Live Server](#)
- [Vetur](#)

You may also want to add

- [Markdown PDF](#)

#PostgreSQL

[Download and install](#) the latest Windows version of PostgreSQL from Enterprise DB.

Make sure to check the options for:

- PostgreSQL Server
- pgAdmin4 [not required but needed if you want to use pgAdmin4]
- Command Line Tools [not required but can be very helpful]

Make sure to **UNCHECK** the option for

- Stack Builder

Also:

- Port should be set to 5432
- the `postgres` admin account's password to `postgres1` as this is the password used in most Tech Elevator exercises and capstones.

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Note: If you're familiar with Postgres.app, it is only available for the Mac. Windows requires a standard PostgreSQL install.

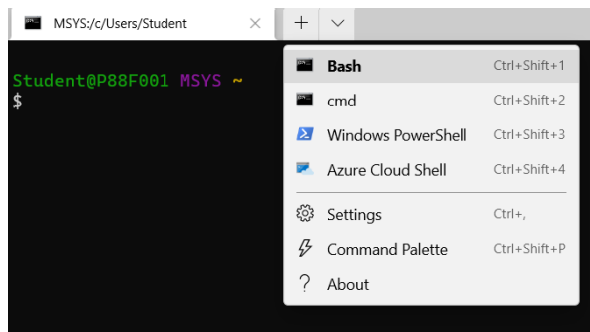
#Git

Download and install the latest Windows version.

#Windows Terminal

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Make sure you are using Windows Terminal in Bash mode if you are using it for any of what we did during the cohort.



#node/npm

Download and install the latest LTS Windows version of node, which includes npm.

#Vue CLI

Download and install the latest release of Vue CLI using npm. You can find specific instructions on the Vue CLI site. → vue as default

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#Postman

[Download and install](#) the latest Windows version of Postman

Basic Installation (Java on macOS)

Follow these instructions to set up the Java development environment on a Mac (MacBook, iMac, Mac mini).

#Hardware requirements

The following are the recommended *minimums*:

- 8GB RAM
- 128GB Disk Space Available
- macOS Catalina (macOS 10.15) or later

#Recommended software

#Chrome

- [Google Chrome](#)

Consider downloading the Vue.js Devtools, especially if you plan to continue working with Vue.

#IntelliJ

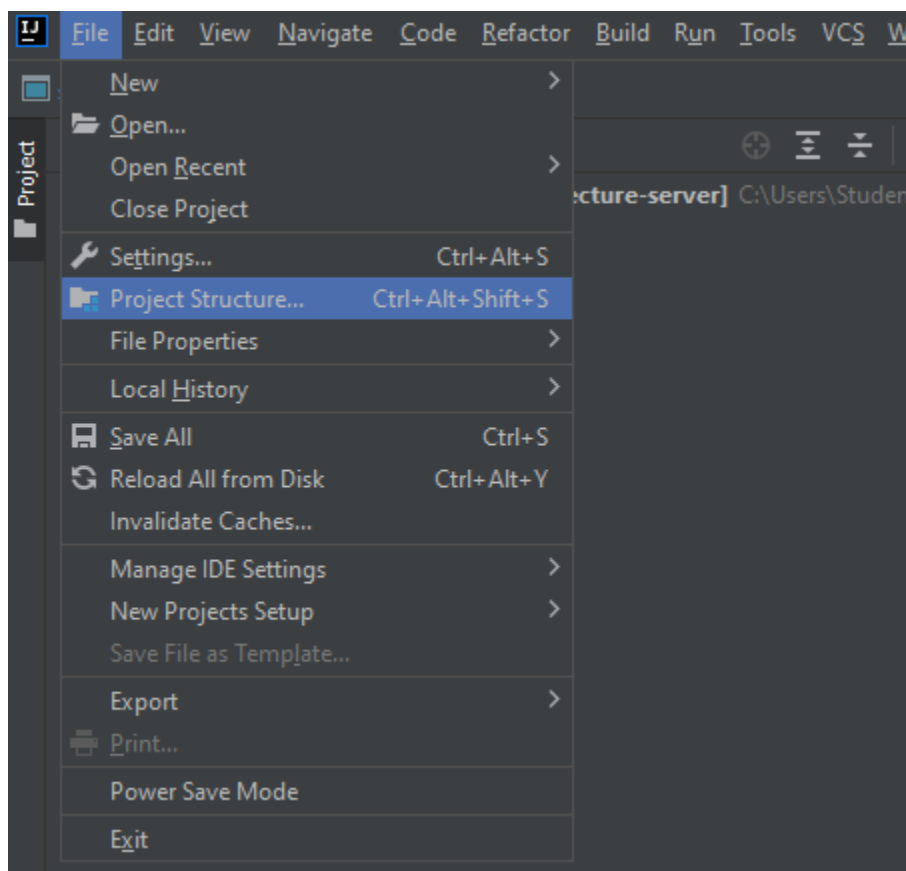
[Download and install](#) the latest MacOS version of IntelliJ IDEA Community Edition.

Once you have installed IntelliJ, you may need to download a JDK (Java Development Kit). The next section describes setting up the JDK used by the TechElevator code but

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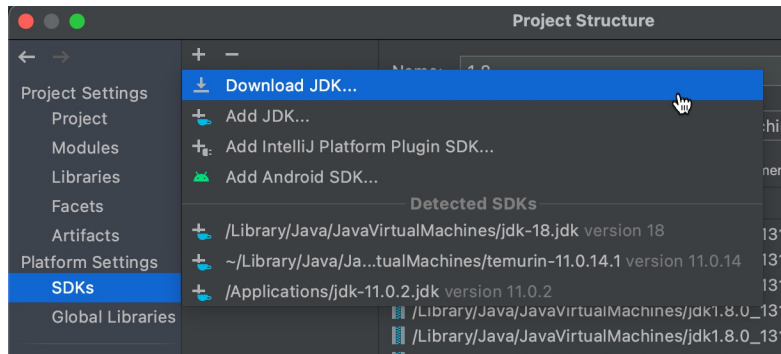
you should use the most recent version as the default to ensure the latest security features are included.

To download the most recent JDK, choose **Project Structure...** from the **File** menu:

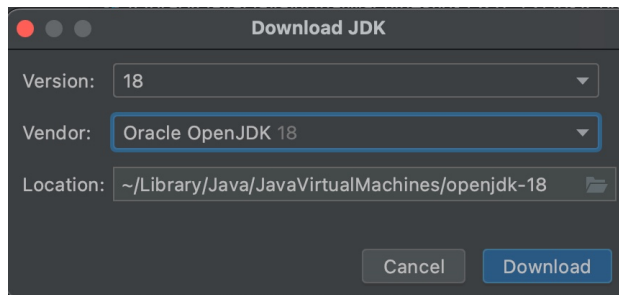


Next, click on the **SDKs** item in the sidebar, click on the + symbol, and choose **Download JDK...** [SDK and JDK are used interchangeably in the industry. Most things refer to the JDK but you may see it referenced as SDK for historical reasons].

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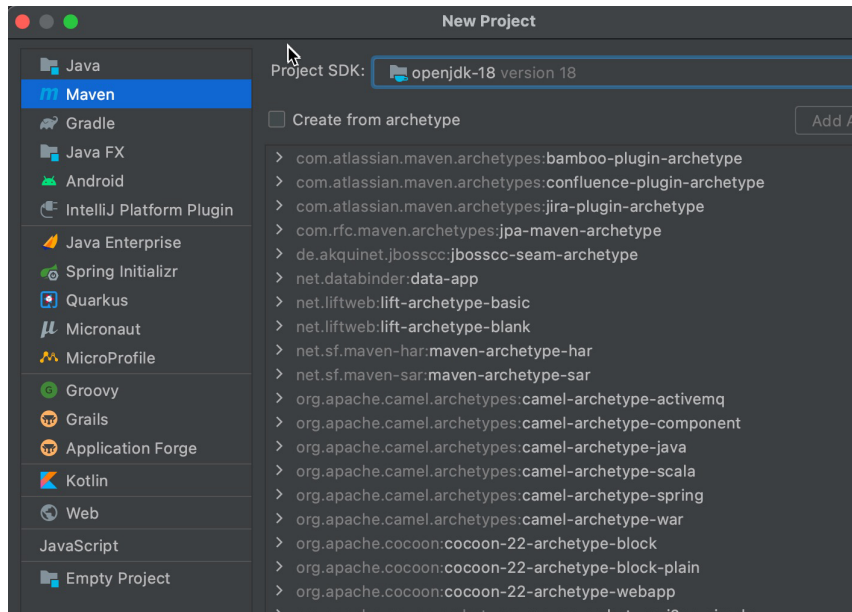


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#Java Development Kit (JDK), Standard Edition, 11

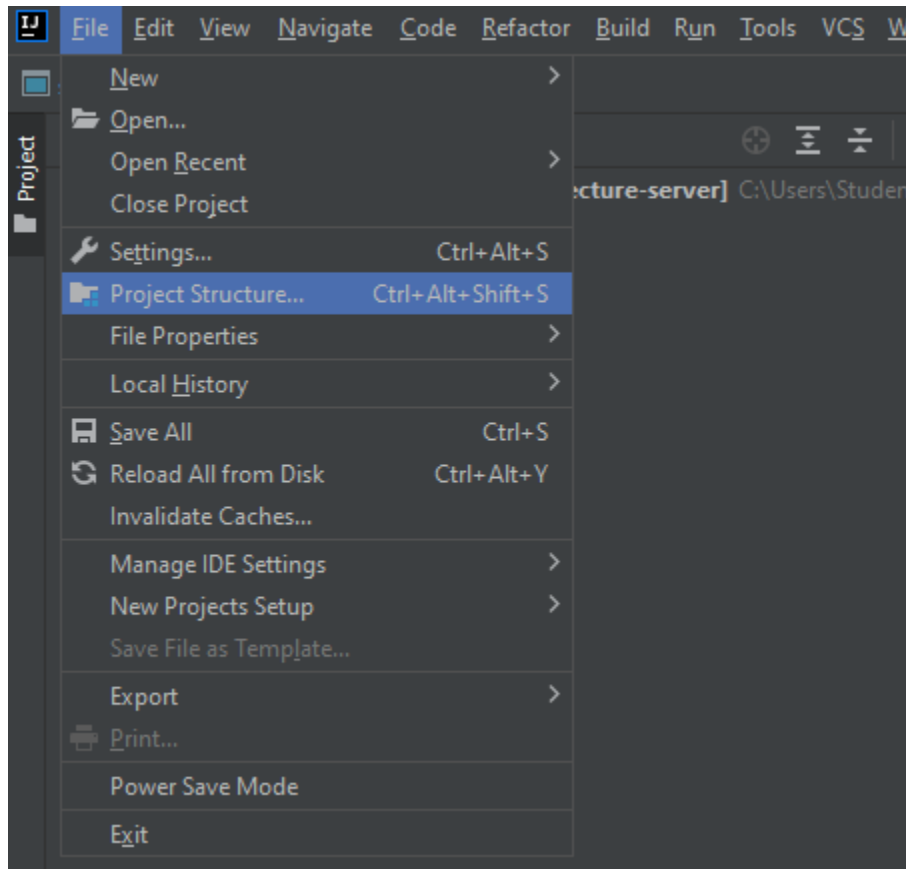
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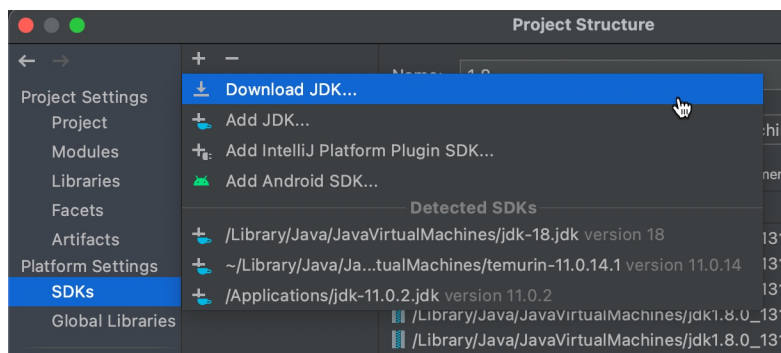
The process for setting this up is similar to the previous section, only using a different JDK.

Start by choosing **Project Structure...** from the **File** menu:

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Next, click on the **SDKs** item in the sidebar and choose **Download JDK...**

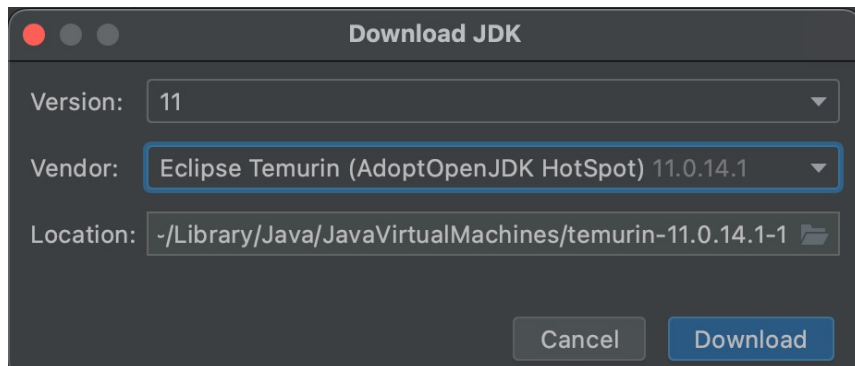


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download JDK 11 as well. IntelliJ only has the Oracle JDK implementation available for the current version of the JDK so we will use an alternate implementation called Eclipse Temurin for JDK 11.



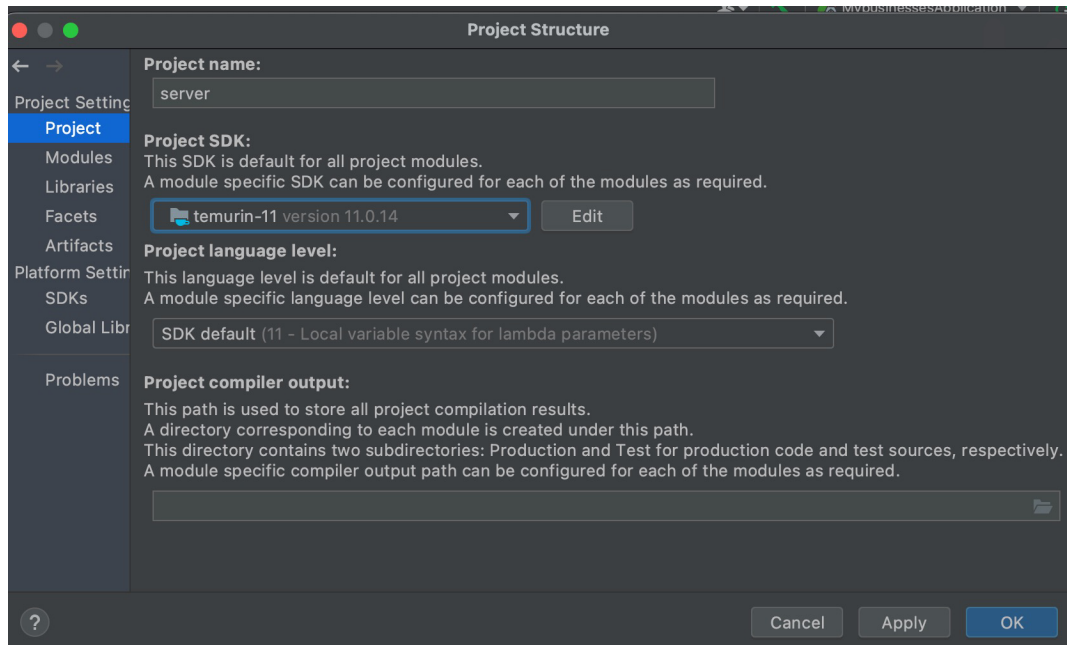
Choose Version 11 and Eclipse Temurin (AdoptOpenJDK HotSpot) and click **Download**

Once the pop-up goes away, click **OK** to complete the JDK setup.

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There are several extensions you should install:

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You may also want to add

- [Markdown PDF](#)

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Make sure to check the options for:

- PostgreSQL Server
- pgAdmin4 [not required but needed if you want to use pgAdmin4]
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Make sure to **UNCHECK** the option for

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#Git

[Download and install](#) the latest Mac version.

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#node/npm

Download and install the latest LTS "macOS Installer" version of node, which includes npm.

#Vue CLI

Install the latest release of Vue CLI using npm. In your Terminal app, type the command below. You may be prompted for your Mac password again.

```
sudo npm install -g @vue/cli@latest
```

#Postman

Download and install the latest Mac version of Postman.