

React Native Documentation

● Prerequisites for Android -----	1-2
○ Required Software -----	2
○ Hardware Requirements -----	2
○ Internet Connectivity -----	2
● React Native Environment Setup -----	2
○ Installation of React-Native -----	2-3
○ Node JS Installation Steps -----	3-7
○ Microsoft Open-jdk Installation Steps -----	8
○ Android Studio Installation Steps -----	19-16
○ Setting Environment Variables -----	
17-18	
● Visual Studio Code Installation -----	19
○ Download and Installation Steps -----	
19-24	
● Creating and Running New React-Native Project -----	25
○ Initialization Steps -----	25
○ Opening Project in Visual Studio Code -----	25
○ Starting Metro -----	26
○ Running the Project -----	26
● Java Installation on Windows -----	27
○ Download and Installation Steps -----	27-31
○ Setting Environmental Variables -----	32-35
● Java Code -----	35
○ Downloading and Extracting Zip File from Backend -----	35
● Backend Setup -----	36
○ Downloading Backend Source Code -----	36
○ Updating application.yml -----	36
○ Database Setup -----	36
○ Security Configuration -----	
36	
○ Testing Backend -----	36
● Updating React-Native App with Backend URL -----	36
○ Locating and Updating Backend URL in React Native App -----	36
● Testing React-Native App -----	36
○ Running the App -----	36
○ Testing Login Functionality -----	36
● Conclusion	

- **References**

Each section in the index corresponds to a detailed part of the document, facilitating easy navigation and reference

React Native Application Setup and Design Document

Prerequisites for Android:

- Android Studio or Visual Studio Code.
- Access to an Android device or emulator.
- Stable internet connection for downloading packages and dependencies.

1. React Native Environment setup

Installation of React-Native:

- Visit the [React Native website](#).
- Click on "Get started" and select the environment setup for Windows and Android.



A screenshot of the "Setting up the development environment" page from the React Native website. The URL in the address bar is https://reactnative.dev/docs/environment-setup. The page has a dark sidebar on the left with a tree view of topics like The Basics, Environment setup, Workflow, UI & Interaction, etc. The main content area has a light background. The title "Setting up the development environment" is at the top. Below it, a paragraph explains that this page helps you install and build your first React Native app. It then distinguishes between new and experienced mobile developers. For new developers, it recommends Expo Go. For experienced developers, it recommends React Native CLI. Both sections include links to "Expo Go Quickstart" and "React Native CLI Quickstart". At the bottom of the main content, there's a section titled "Development OS" with instructions for building native code.

Node JS Installation steps

- Go to the [NodeJS website](#).
- Download and install Node.js



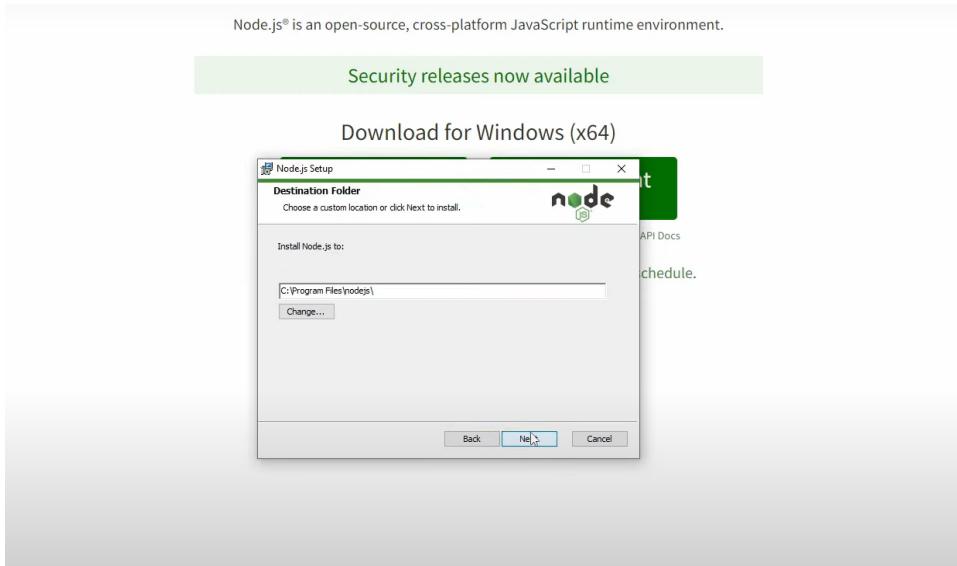
- After downloading the Node.js installer, open it, and then proceed by clicking on the "Next" button to continue with the installation process as shown in the below figure.



- iv. Accept the terms and conditions, then click on the "Next" button to proceed with the installation as shown in the below figure.



- v. Click on the "Next" button, as illustrated in the figure below, to proceed with the installation.



vi. Click on the "Next" button, as illustrated in the figure below, to proceed with the installation.

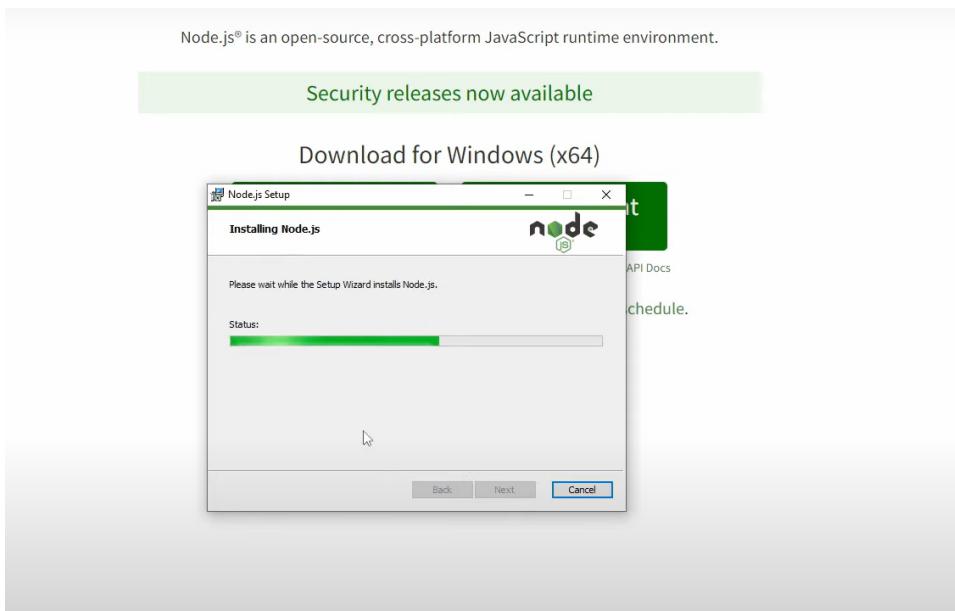


vii. Check the checkbox, then proceed by clicking on the "Next" button, as illustrated in the figure below



viii. Click on the "Install" button, as indicated in the figure below.

Node.js® is an open-source, cross-platform JavaScript runtime environment.



ix. Click on the "Finish" button, as indicated in the figure below.



x. Verify Node.js installation by running **node -v** and **npm -v** in the command prompt.

A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following terminal session:

```
Microsoft Windows [Version 10.0.22631.3155]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Madhavi Bellam>cd Desktop
C:\Users\Madhavi Bellam\Desktop>cd ..
C:\Users\Madhavi Bellam>node -v
v18.18.0
C:\Users\Madhavi Bellam>npm -v
10.3.0
C:\Users\Madhavi Bellam>
```

The command prompt window has a dark theme and is set against a light background.

Microsoft OpenJDK Installation Steps:

i. Install Microsoft OpenJDK using `choco install -y microsoft openjdk11`.

The Basics

- Introduction
- Core Components and Native Components
- React Fundamentals
- Handling Text Input
- Using a ScrollView
- Using List Views
- Troubleshooting
- Platform Specific Code
- More Resources

Environment setup

- Setting up the development environment
- Integration with Existing Apps
- Integration with an Android Fragment
- Building for TV Devices
- Out-of-Tree Platforms

Workflow

- Design
- Performance
- JavaScript Runtime

Android iOS

Installing dependencies

You will need Node, the React Native command line interface, a JDK, and Android Studio.

While you can use any editor of your choice to develop your app, you will need to install Android Studio in order to set up the necessary tooling to build your React Native app for Android.

Node, JDK

We recommend installing Node via Chocolatey, a popular package manager for Windows.

It is recommended to use an LTS version of Node. If you want to be able to switch between different versions, you might want to install Node via nvm-windows, a Node version manager for Windows.

React Native also requires Java SE Development Kit (JDK), which can be installed using Chocolatey as well.

Open an Administrator Command Prompt (right click Command Prompt and select "Run as Administrator"), then run the following command:

```
choco install -y nodejs-lts microsoft-openjdk11
```

If you have already installed Node on your system, make sure it is Node 14 or newer. If you already have a JDK on your system, we recommend JDK11. You may encounter problems using higher JDK versions.

ii. Verify installation in the command prompt.

```
Administrator: Command Prompt > choco install -y nodejs-lts microsoft-openjdk11
Microsoft Windows [Version 10.0.19044.2604]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>choco install -y nodejs-lts microsoft-openjdk11
Chocolatey v1.2.1
Installing the following packages:
nodejs-lts;microsoft-openjdk11
By installing, you accept licenses for the packages.
Progress: Downloading nodejs-lts 18.14.1... 91%
```



```
Administrator: Command Prompt > choco install -y nodejs-lts microsoft-openjdk11
Microsoft Windows [Version 10.0.19044.2604]
(nodejs-lts.v18.14.1 [Approved] Rights reserved.
nodejs-lts package files install completed. Performing other installation steps.
Installing 64 bit version install -y nodejs-lts microsoft-openjdk11
Installing nodejs-lts...
nodejs-lts has been installed.
The install of nodejs-lts was successful.
Software installed as MSI\install location is likely default.
Progress: Downloading microsoft-openjdk11 11.0.18... 100%

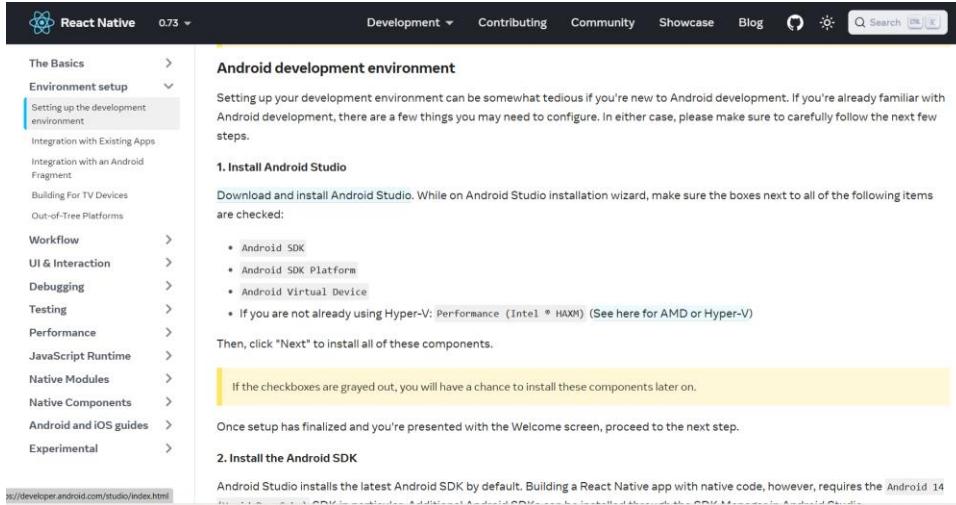
microsoft-openjdk11 v11.0.18 [Approved]
microsoft-openjdk11 package files install completed. Performing other installation steps.
Downloading microsoft-openjdk11 64 bit
from 'https://aka.ms/download-jdk/microsoft-jdk-11.0.18-windows-x64.msi'
Progress: 100% - Completed download of C:\Users\Sam\AppData\Local\Temp\chocolatey\microsoft-openjdk11\11.0.18\microsoft-jdk-11.0.18-windows-x64.msi (161.7 MB).1
Download of microsoft-jdk-11.0.18-windows-x64.msi (161.7 MB) completed.
Hashes match.
Installing microsoft-openjdk11...
microsoft-openjdk11 has been installed.
microsoft-openjdk11 may be able to be automatically uninstalled. her installation steps.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of microsoft-openjdk11 was successful.
Software installed to 'C:\Program Files\Microsoft\jdk-11.0.18-hotspot\'.

Chocolatey installed 2/2 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

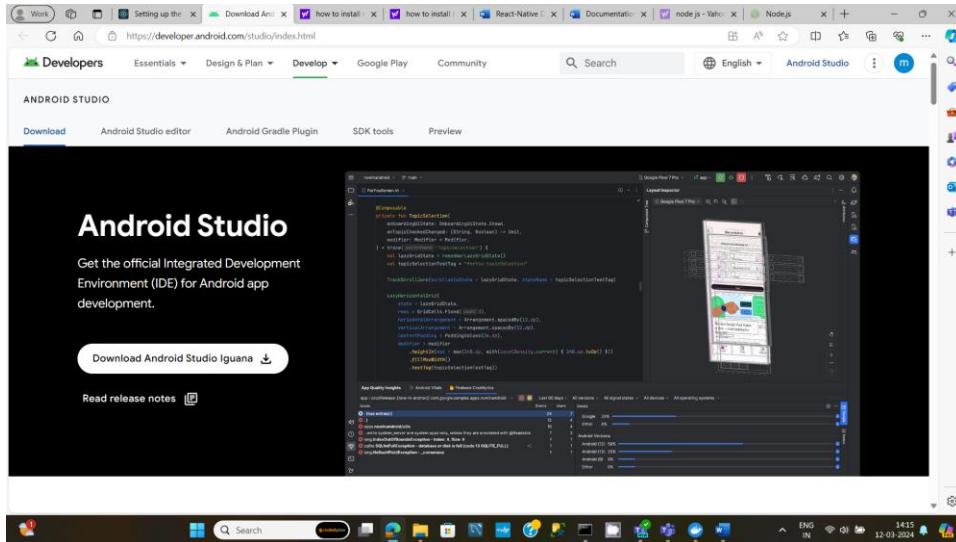
C:\Windows\system32>
```

Android Studio Installation Steps

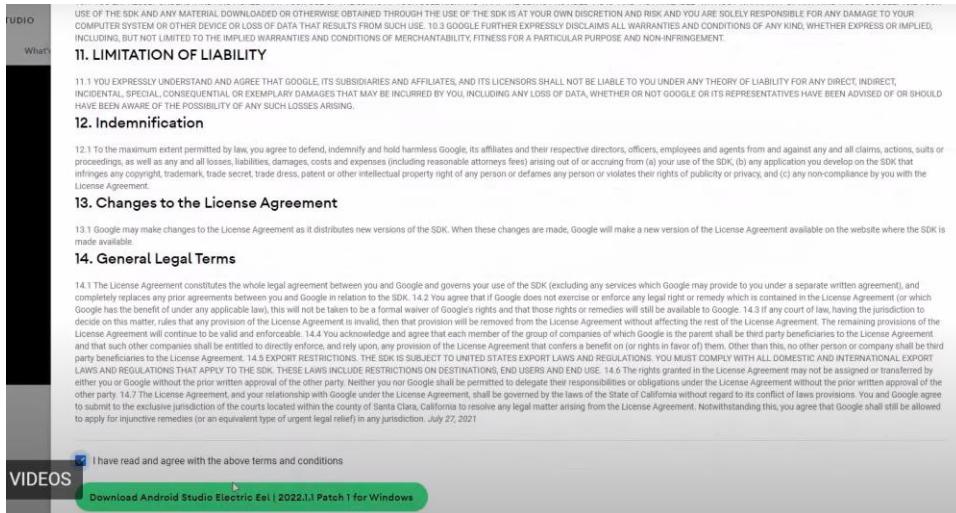
- i. Go to the [React Native website](#) and click on download and install android studio, As shown in the below Figure



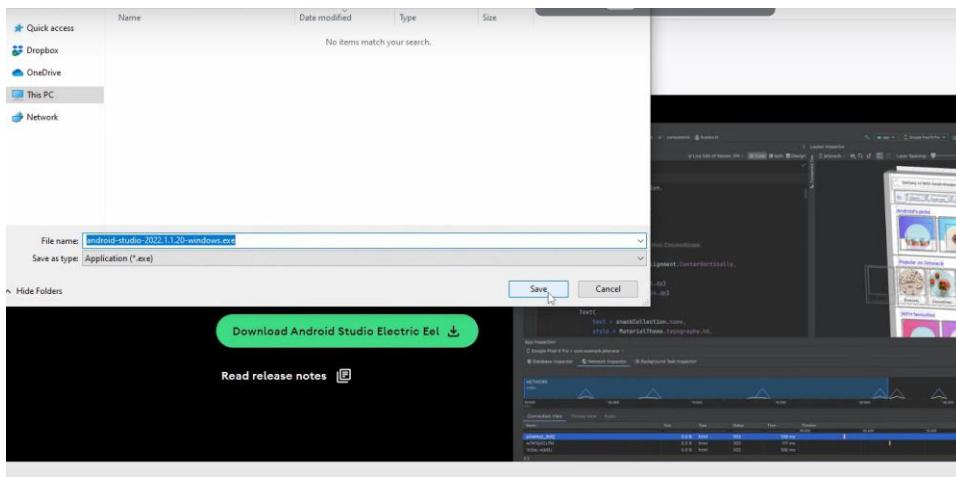
- ii. Click on "Download Android Studio" as indicated in the figure below.



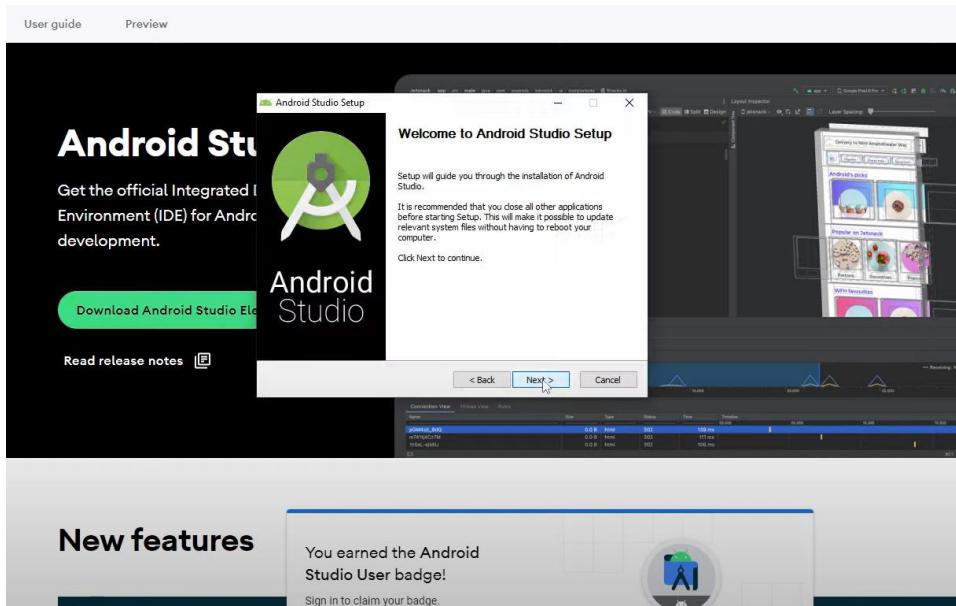
iii. Accept the terms and conditions, then click on the "Download", As shown in the below figure



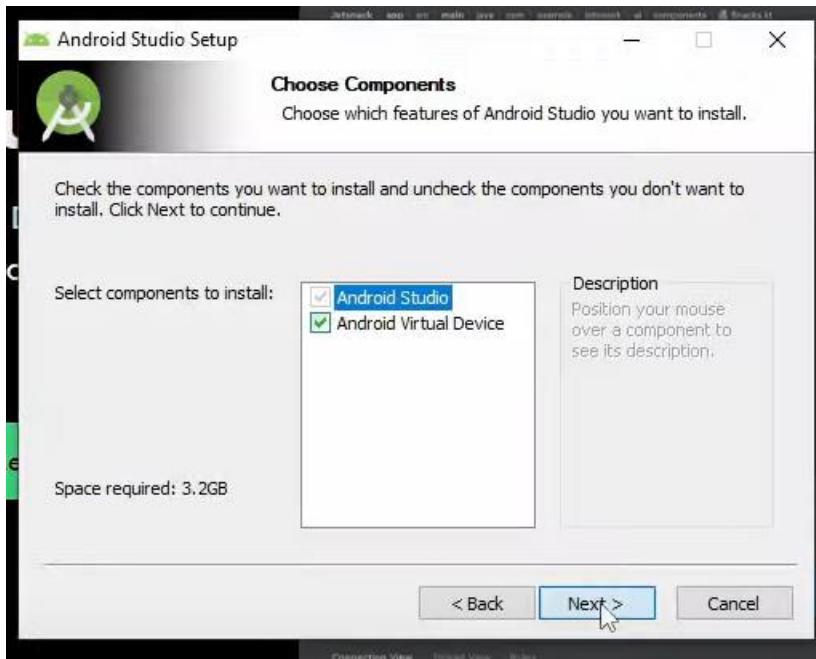
iv. Click on the "Save" button, as shown in the figure below.



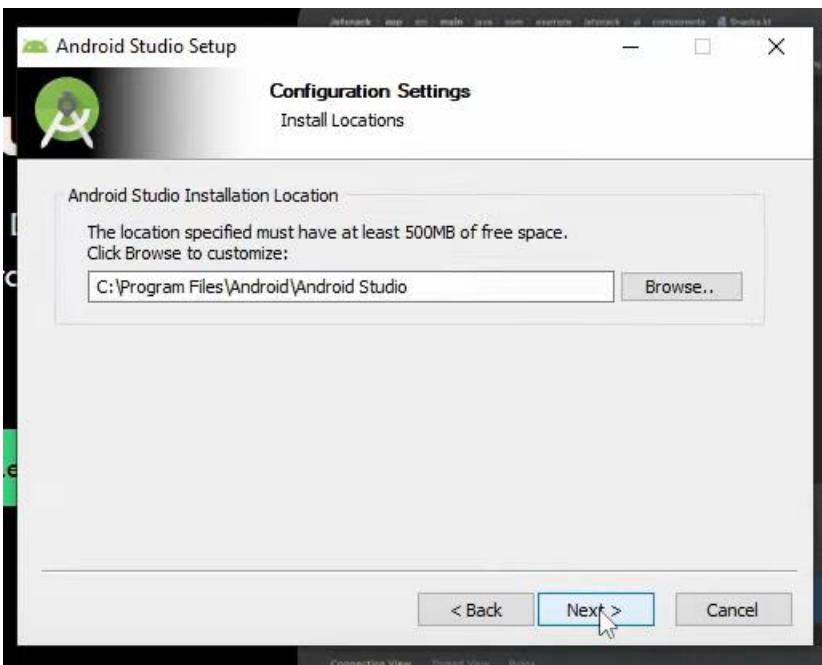
v. Open the downloaded Android Studio file and click on the "Next" button as shown in the below figure



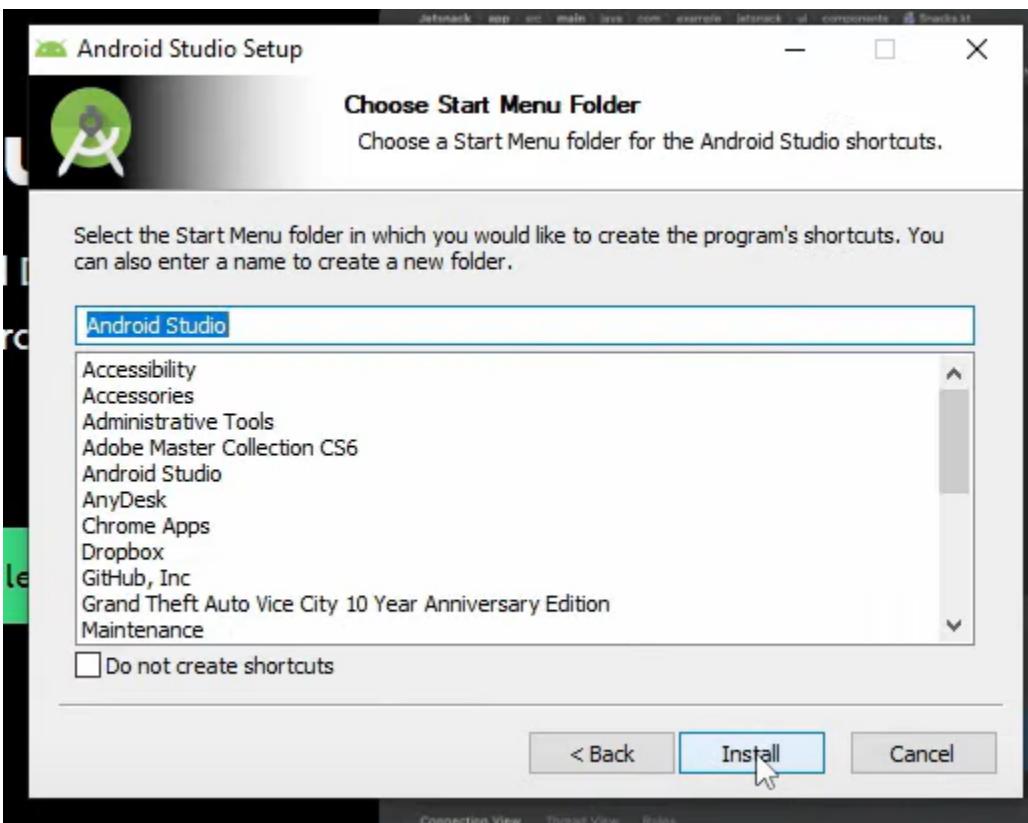
vi. Click on the "Next" button as shown in the below figure



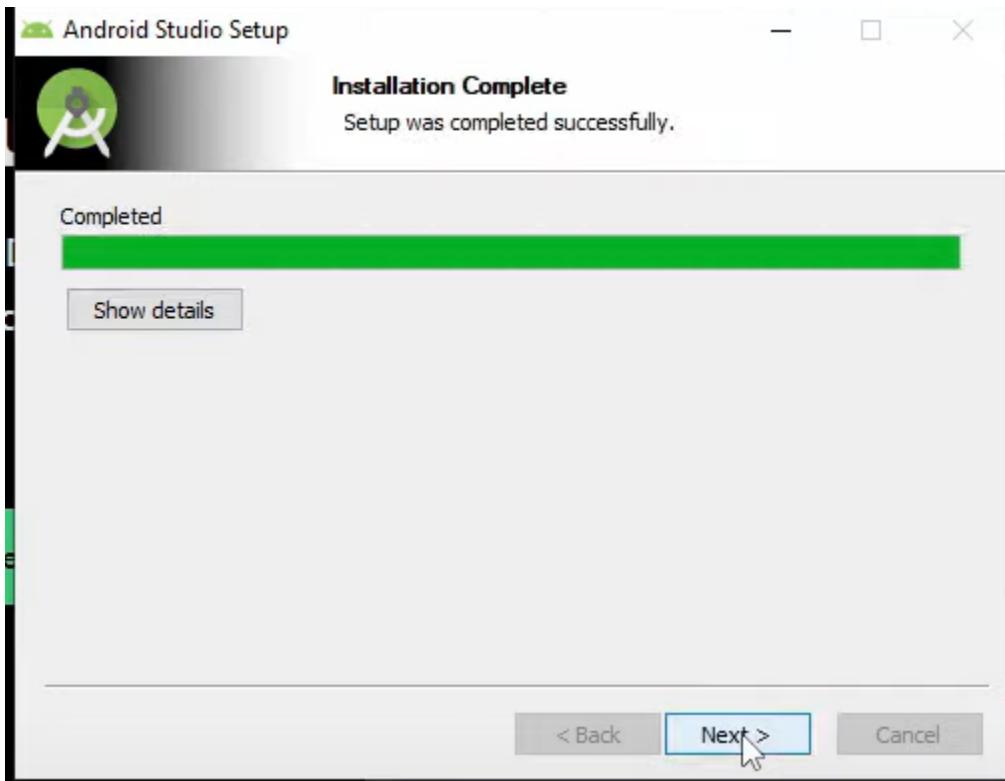
vii. Click on the "Next" button as shown in the below figure



viii. Click on the "Install" button as shown in the given below



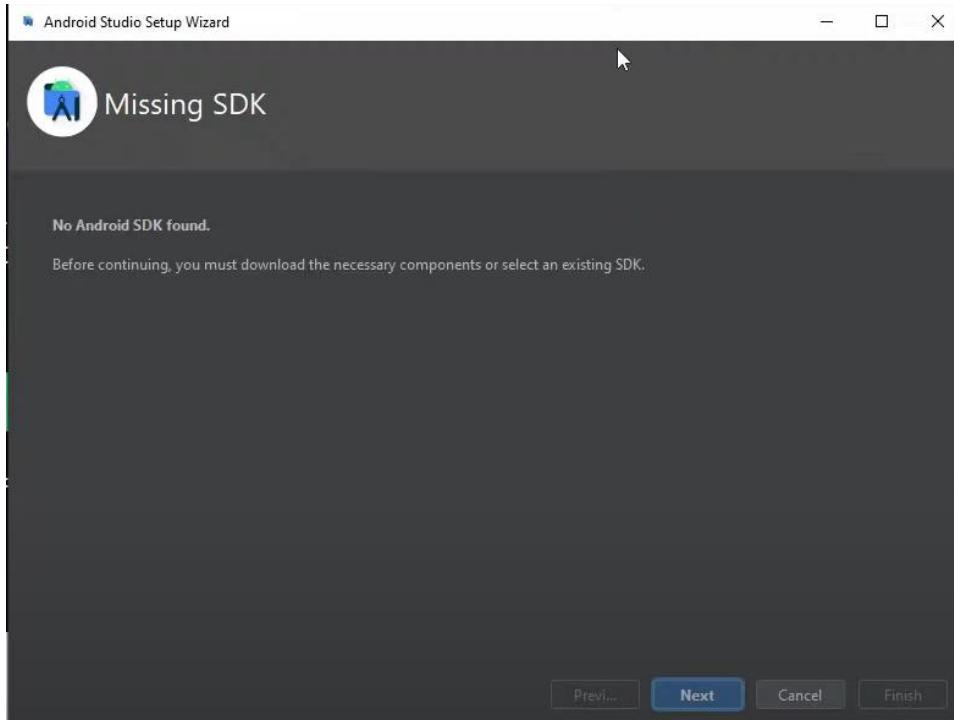
ix. Click on the "Next" button as shown in the below figure



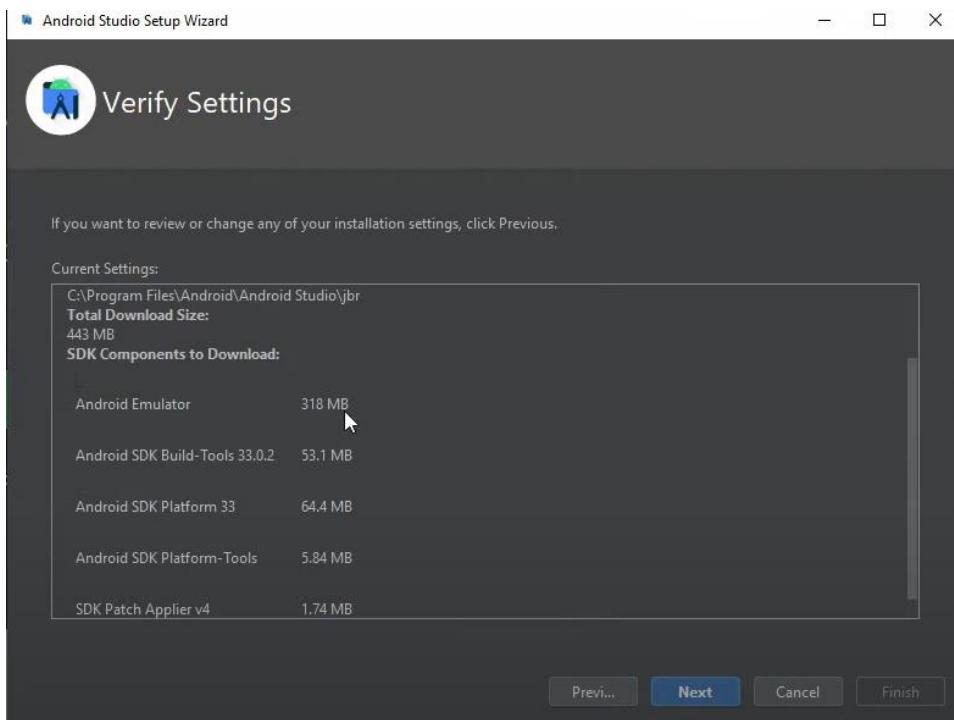
x. Click on the "Finish" button as shown in the below figure



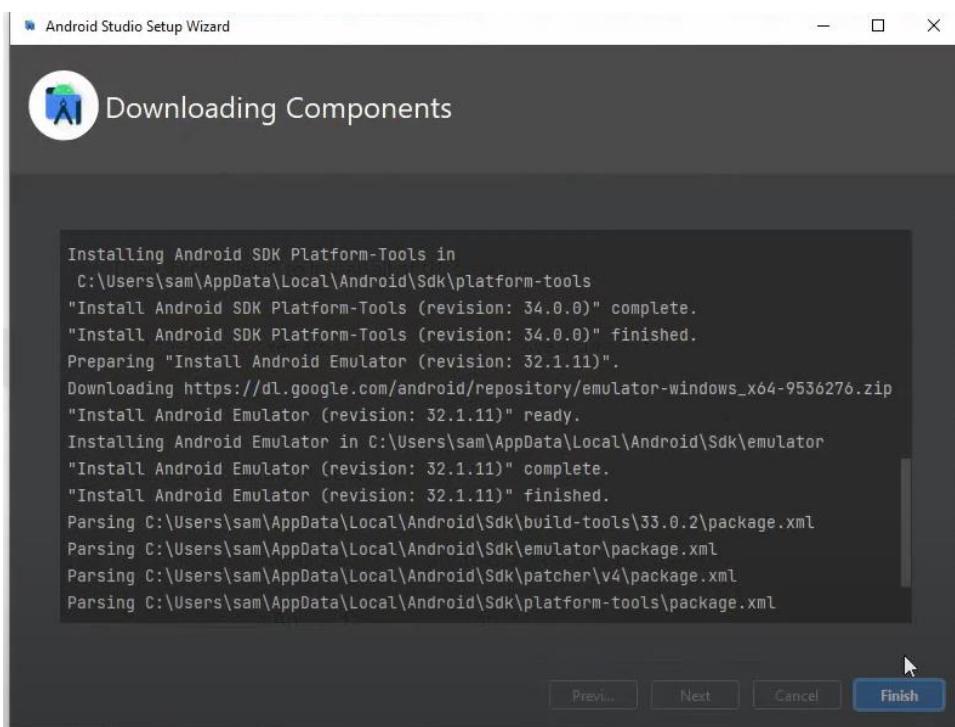
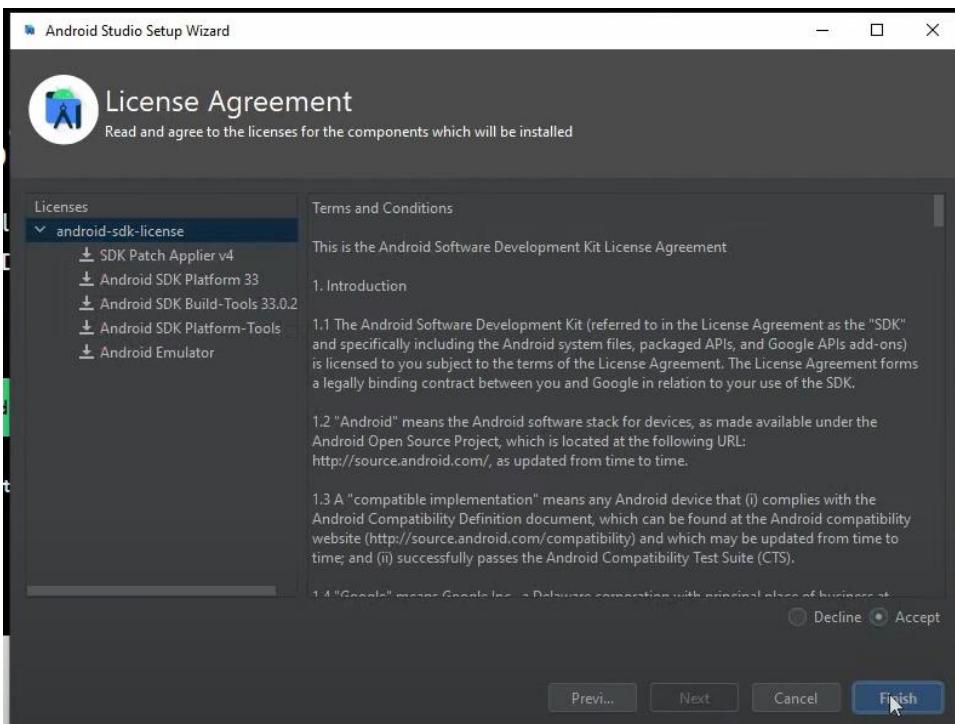
xi. Open Android Studio and proceed by clicking on the "Next" button as shown in the below figure



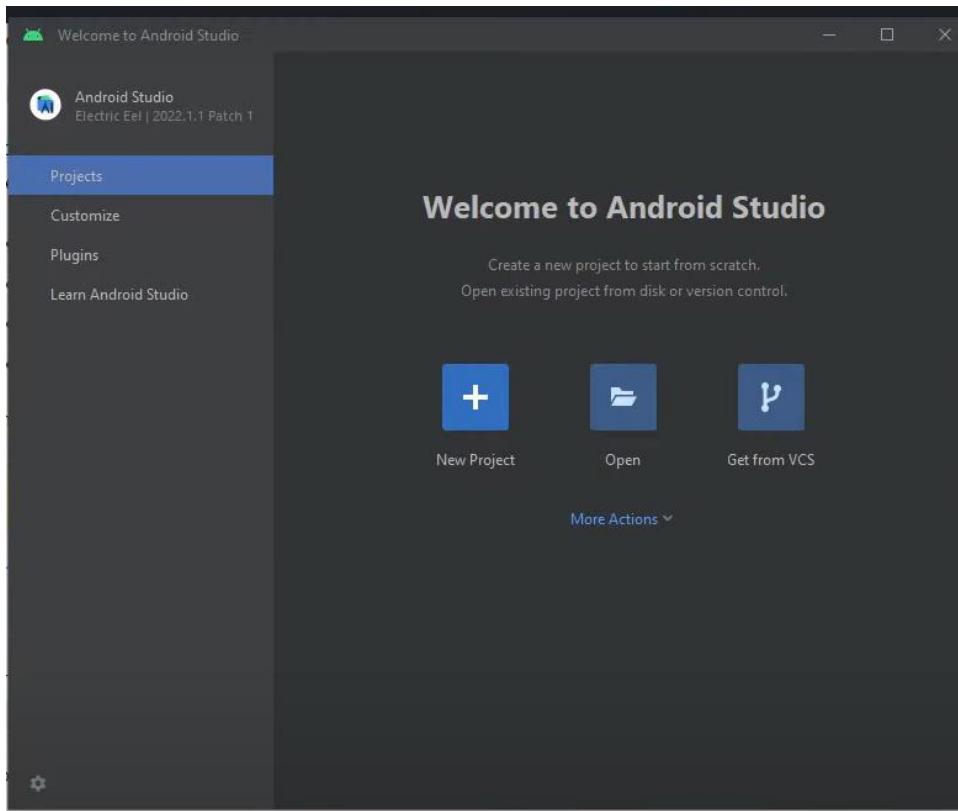
xii. Click on the "Next" button as shown in the below figure



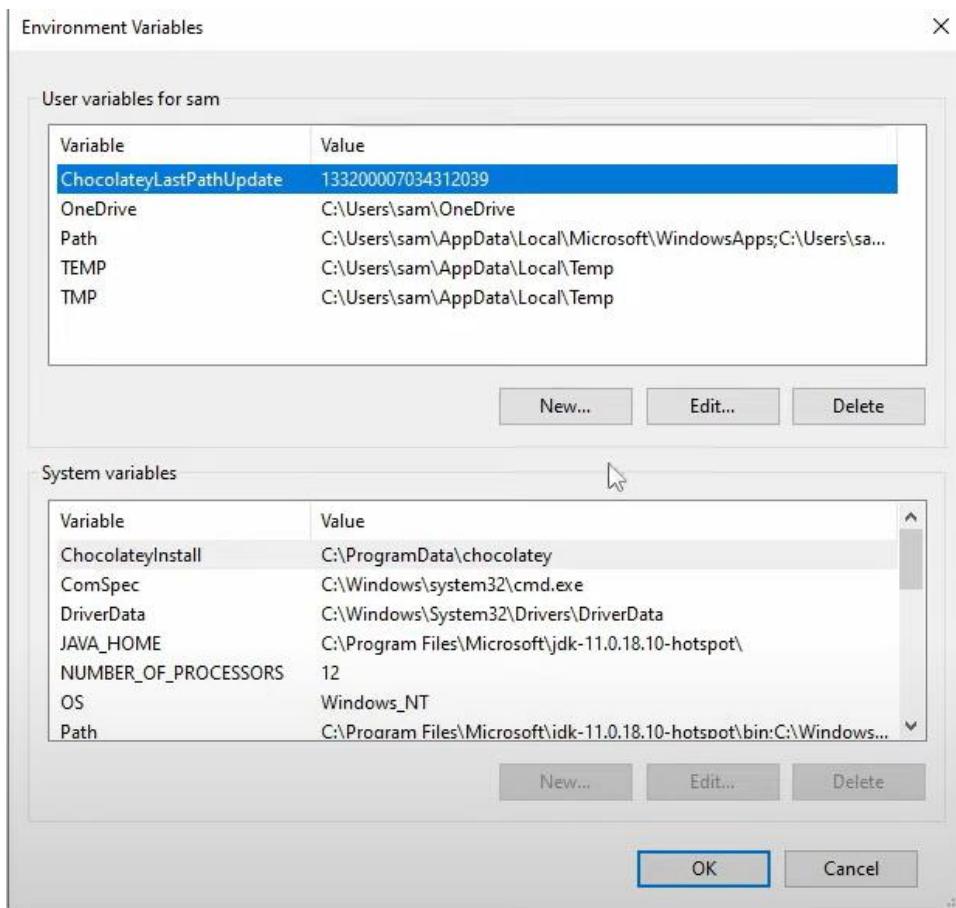
xiii. Click on the "Accept" and "Finish" -> "Finish" button as shown in the below figure



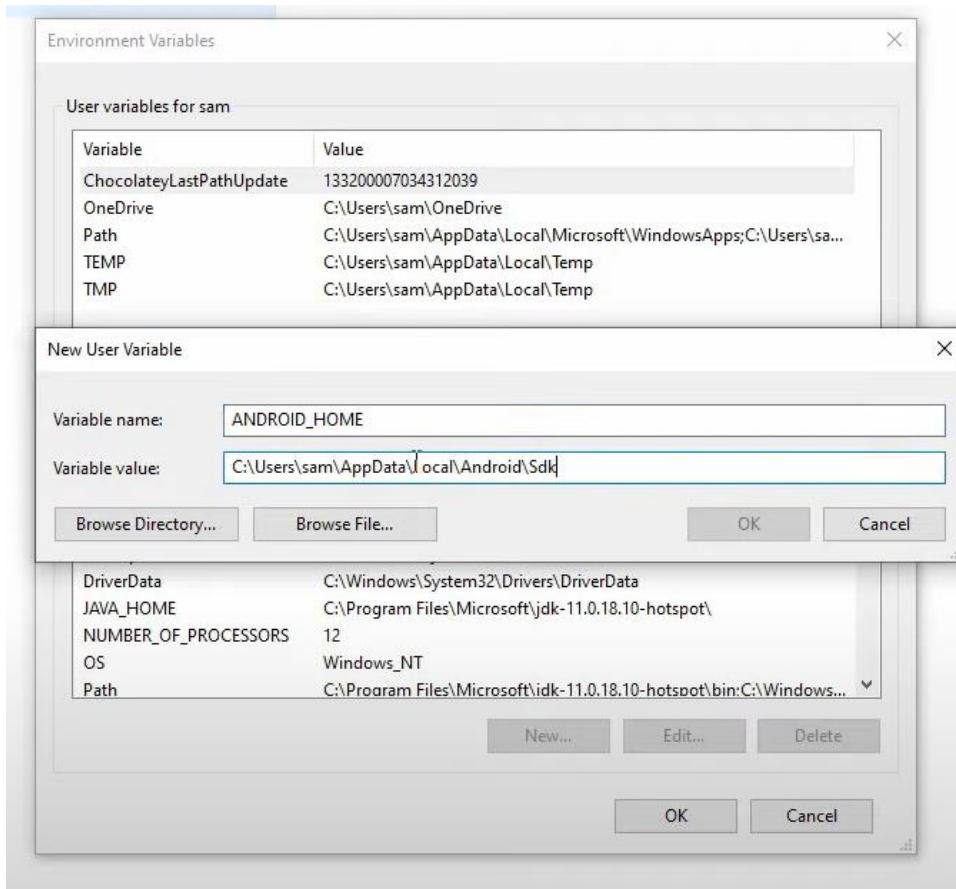
When you open Android Studio, it should resemble the figure below.



Setting Environment variables as shown in the below figure:



Navigate to the "New" button under User variables, set the Path, and then click on "OK," as shown in the figure below.



Visual Studio Code Installation steps:

Goto the website – website name vs code

About 7,88,00,00,000 results (0.91 seconds)

Visual Studio Code - Code Editing. Redefined ✓
Visual Studio Code is a code editor redefined and optimized for building and debugging modern web and cloud applications. Visual Studio Code is free and ...

Download ✓
Visual Studio Code is free and available on your favorite ...

Docs ✓
Using GCC with MinGW - Getting Started with Java - Overview - C++

Extensions ✓
One place for all extensions for Visual Studio, Azure DevOps ...

Learn ✓
Setup - NASA Lessons - Coding Packs - Extensions - Customize

Updates ✓
February 2024 (version 1.87) ... Welcome to the February ...

Visual Studio Code
Computer program

Visual Studio Code, also commonly referred to as VS Code, is a source-code editor developed by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. [Wikipedia](#)

Translated by Google

click on the visual studio code as shown in above figure

Code editing. Redefined.
Free. Built on open source. Runs everywhere.

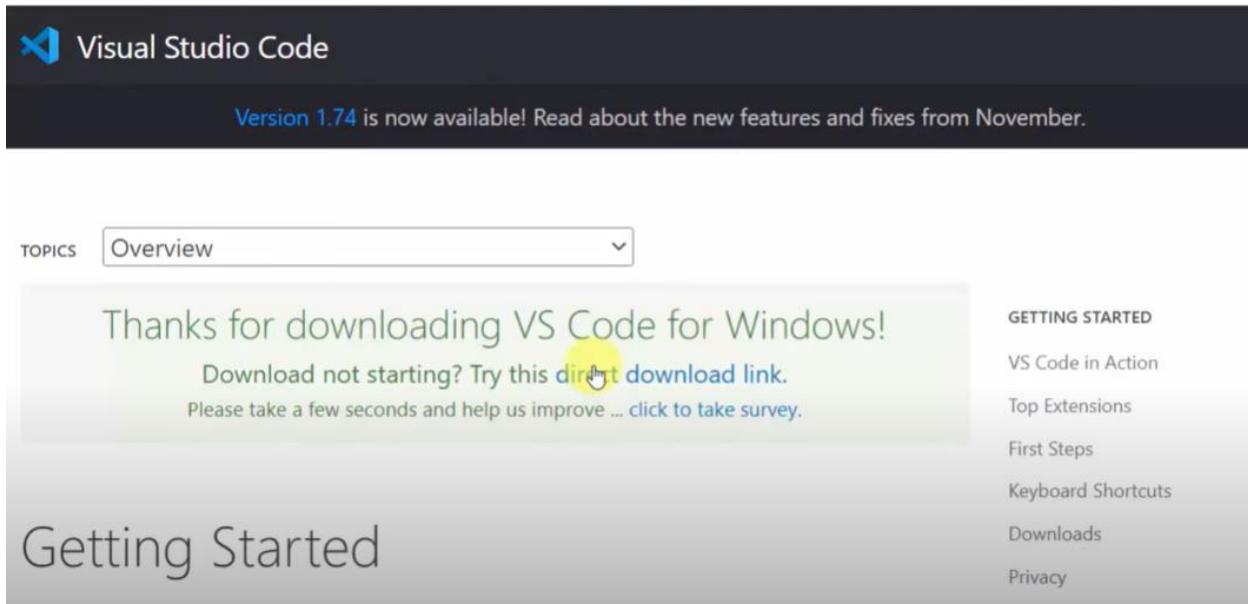
Download for Windows Stable Build
Web, Insiders edition, or other platforms

By using VS Code, you agree to its
[license and privacy statement](#).

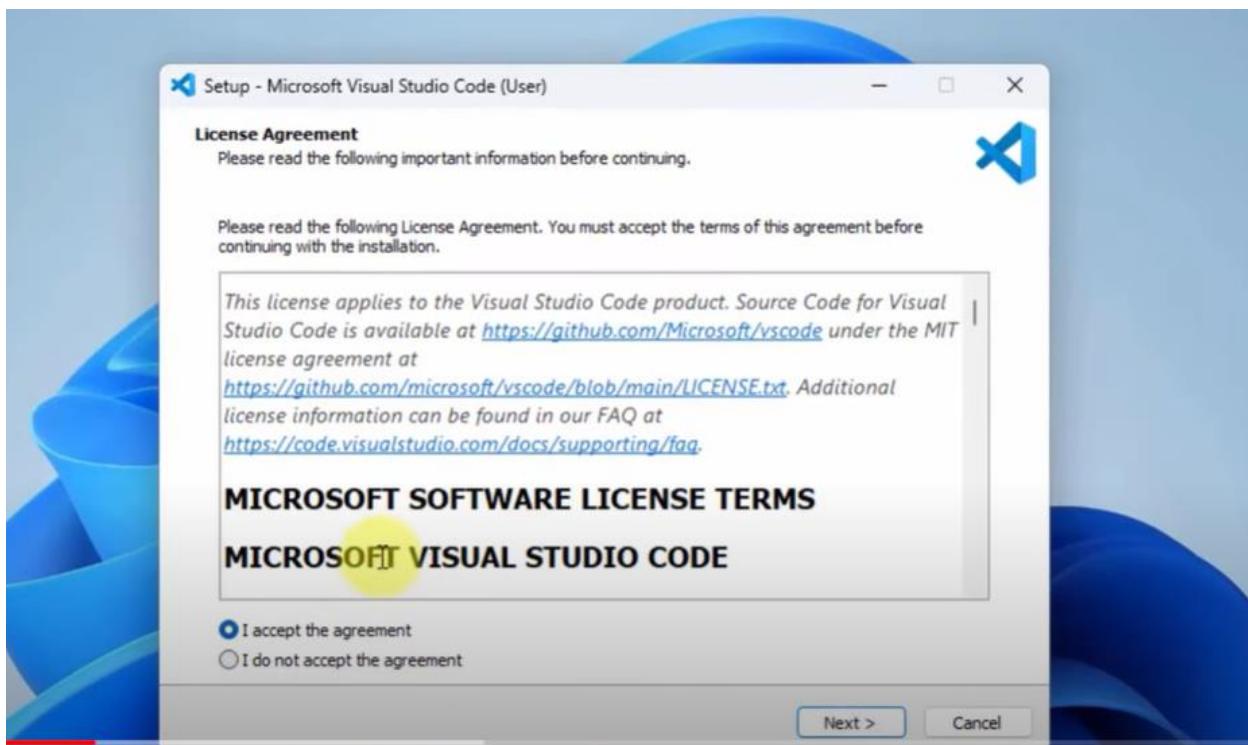
Version 1.87 is now available! Read about the new features and fixes from February.

The screenshot shows the Visual Studio Code interface with the following details:
- **Extensions Marketplace**: Python (2019.6.2421), Linting: Debugging (multi-threaded), Microsoft GitLens — Git super... (9.8.1), C/C++ (0.24.0), ESLint (1.9.0), Debugger for Chrome (4.11.6), Language Support for Java (0.47.0), vscode-icons (8.8.0), Vetur (0.2.1).
- **Code Editor**: A file named 'serviceWorker.js' is open, showing code related to service workers and tracking exceptions.
- **Terminal**: The terminal shows the command 'create-react-app' being run, and the output indicates a development build is not optimized.
- **Status Bar**: Shows 1:node, 143 Col 19, Spaces:2, UTF-8, and a JavaScript icon.

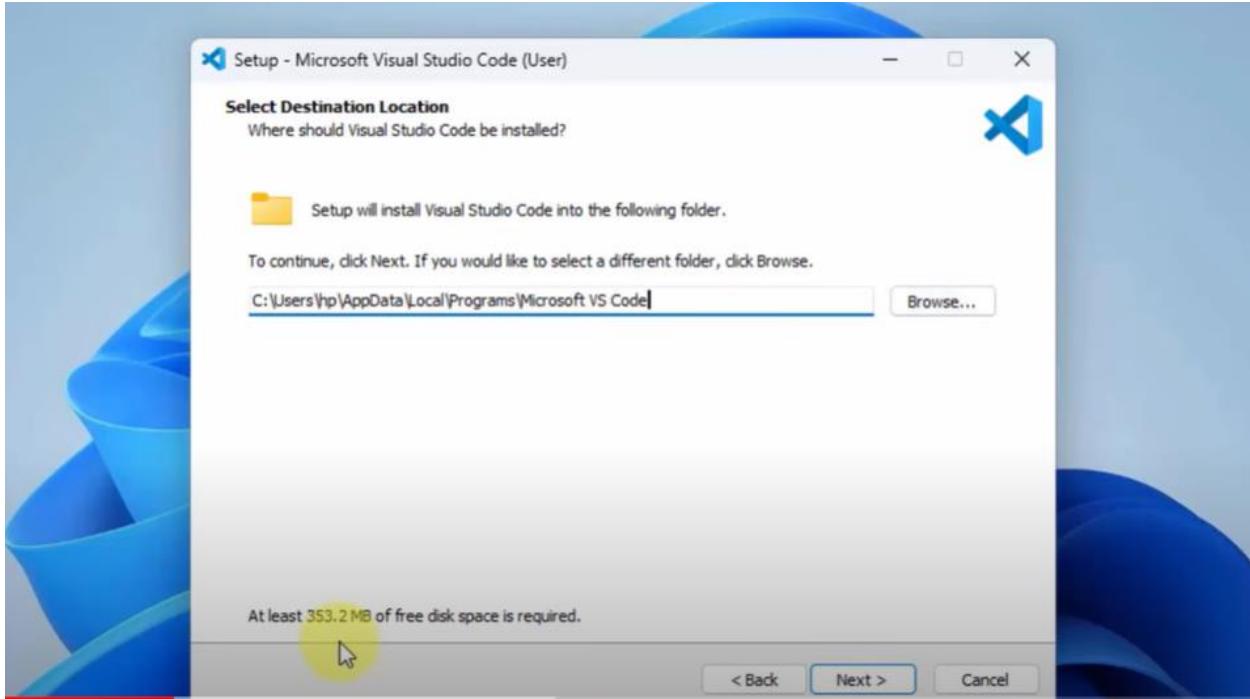
Click on the Download for windows button as shown in figure



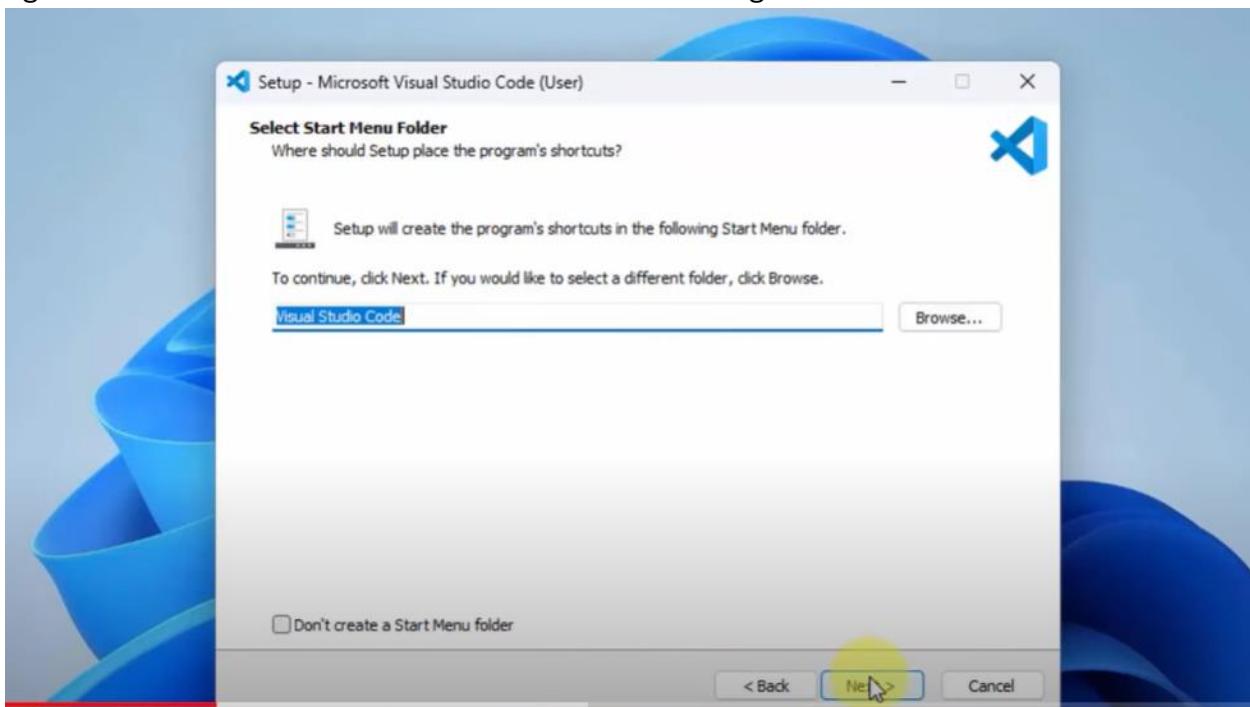
Now click on the direct download link as shown in the above figure



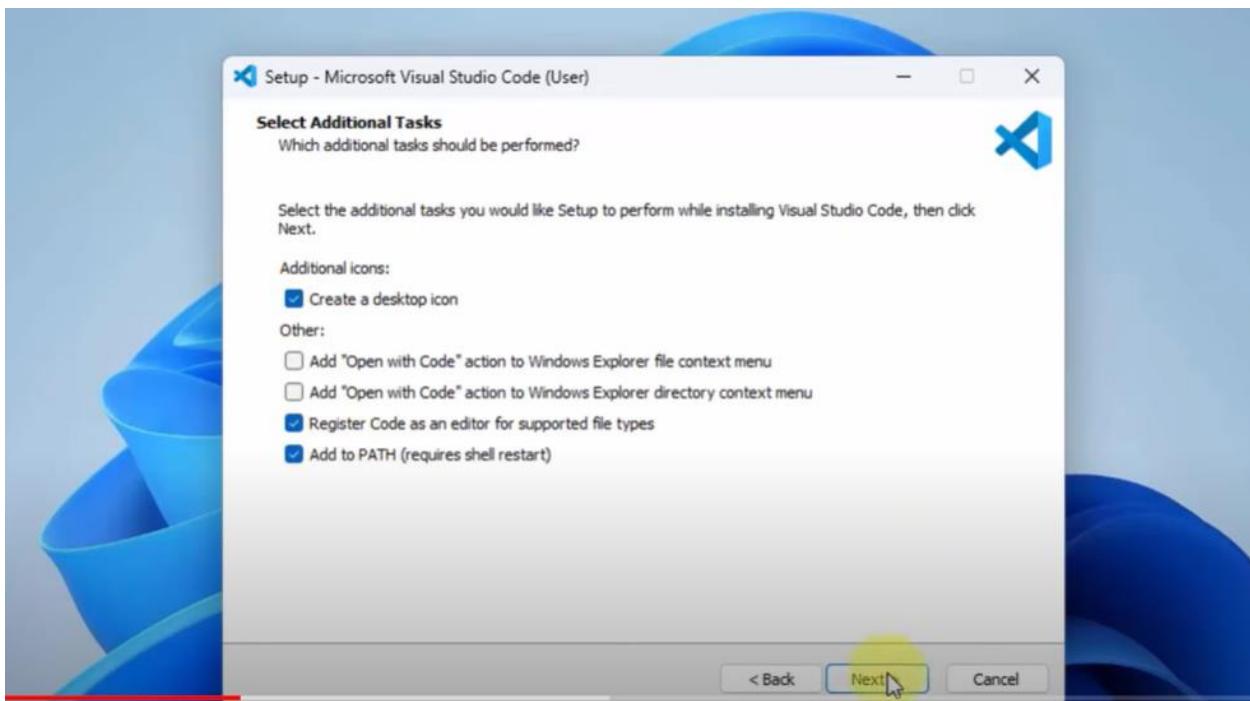
after completion of download, click on the check box to accept the agreement and click on the next button



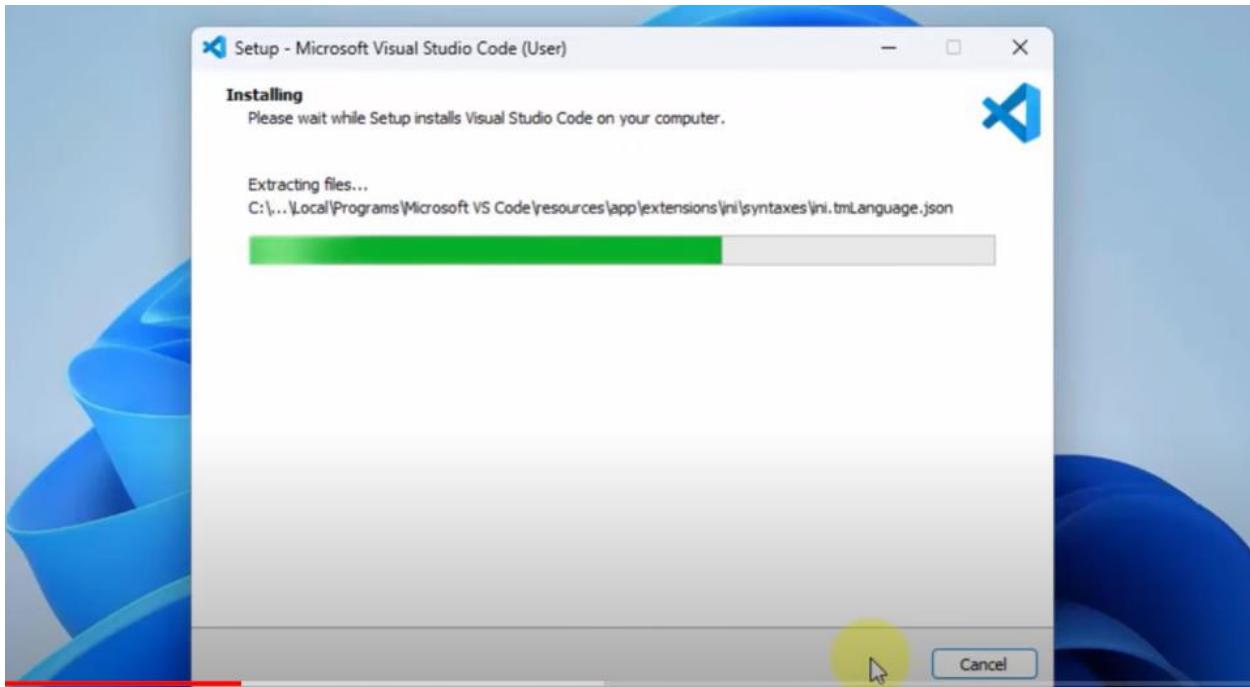
again click on the next button as shown in the above figure



Again click on the next button

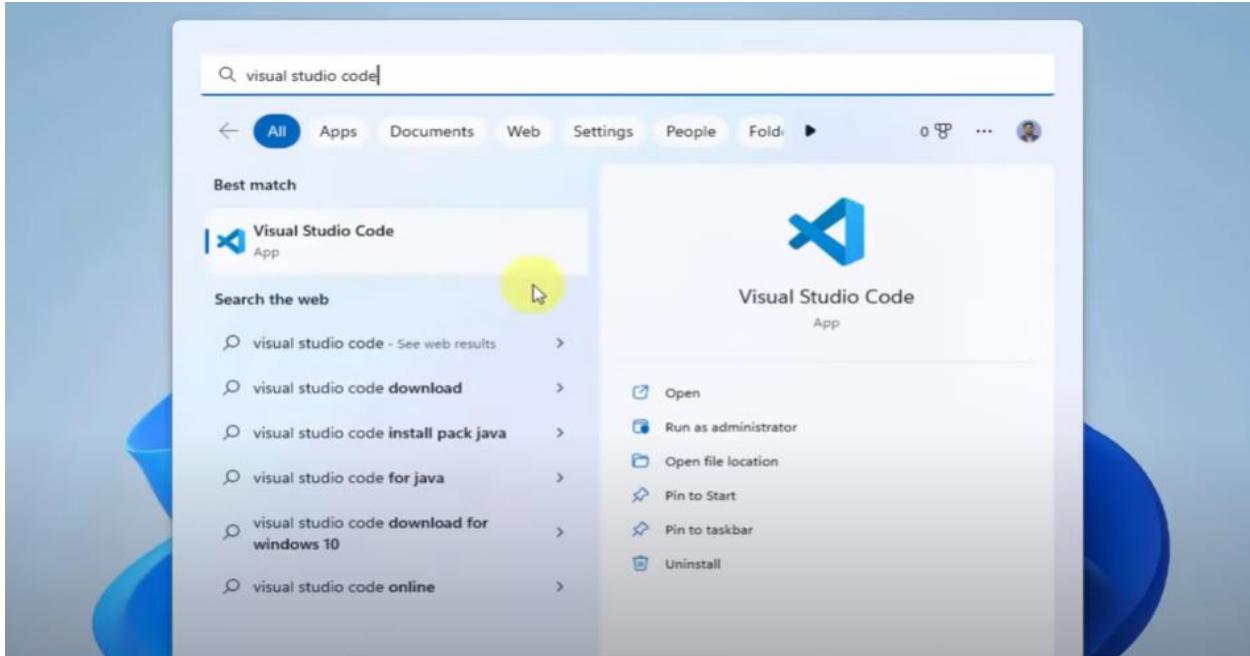


Select the create a desktop icon checkbox and click on the next button as shown in the above figure





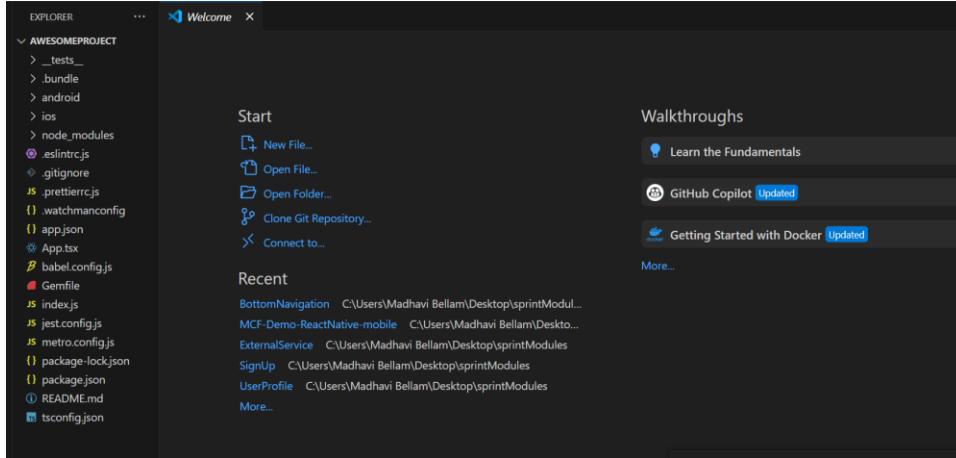
After extracting the files, uncheck the launch visual studio code button and click on the finish button



search the visual studio code in the windows search and open the visual studio code

ii. Go to the project path and open the visual studio code

```
:\\Users\\Madhavi Bellam\\Desktop\\AwesomeProject>code .
```

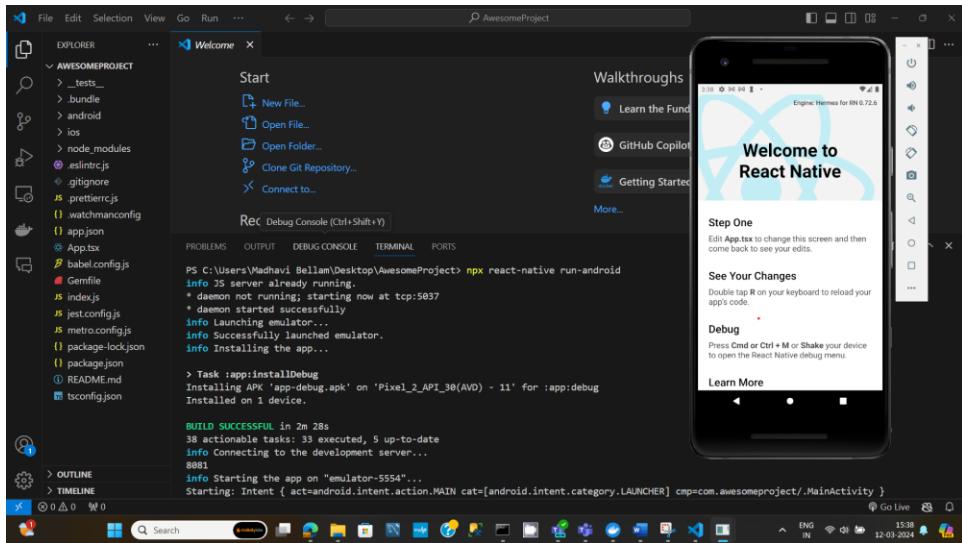


iii. Go to command prompt and start the Metro as shown in the below figure

```
C:\\WINDOWS\\system32\\cmd.exe
C:\\Users\\Madhavi Bellam\\Desktop\\AwesomeProject>npx react-native start
```

A screenshot of a Windows Command Prompt window titled 'cmd C:\WINDOWS\system32\cmd.exe'. The command 'npx react-native start' is run, and the output shows the 'Welcome to Metro v0.76.8' message, followed by 'Fast - Scalable - Integrated'. Below this, a list of keyboard shortcuts is displayed: 'r - reload the app', 'd - open developer menu', 'i - run on iOS', and 'a - run on Android'. A large blue React logo is visible in the background of the terminal window.

iv. Go to the Visual studio code and click on terminal run our project by using cmd: npx react-native run-android



Java Installation on Windows:

Find out how to install the Java Development Kit on Windows.

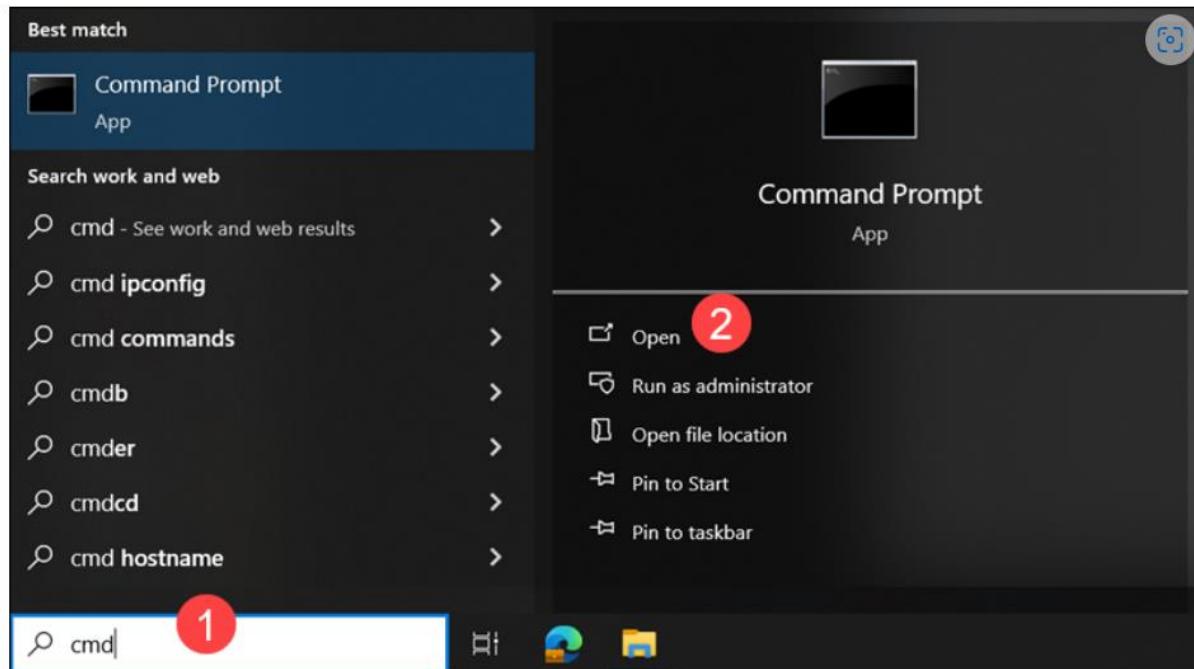


Check if Java Is Installed

Multiple Java versions on the same system can cause conflicts, as applications may attempt to use different versions. Additionally, outdated versions can pose significant security risks over time.

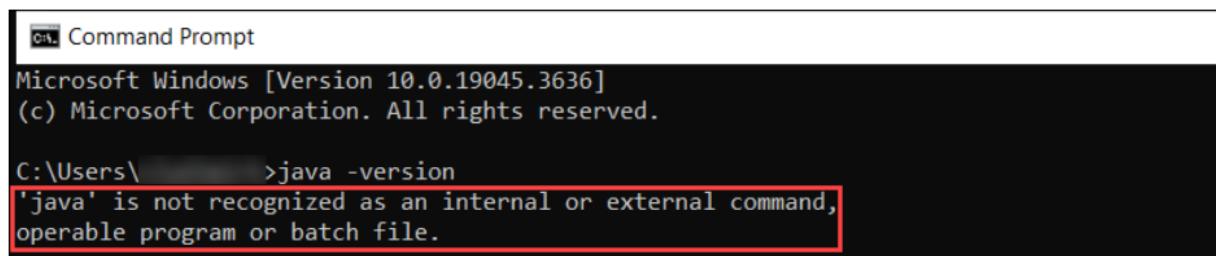
Before installing the latest Java Development Kit, check if a [Java version is already installed on Windows](#):

1. Type `cmd` in the Windows search bar.
2. **Open** the command prompt.



3. Enter the following command to check the Java version in Windows:

```
java -version
```

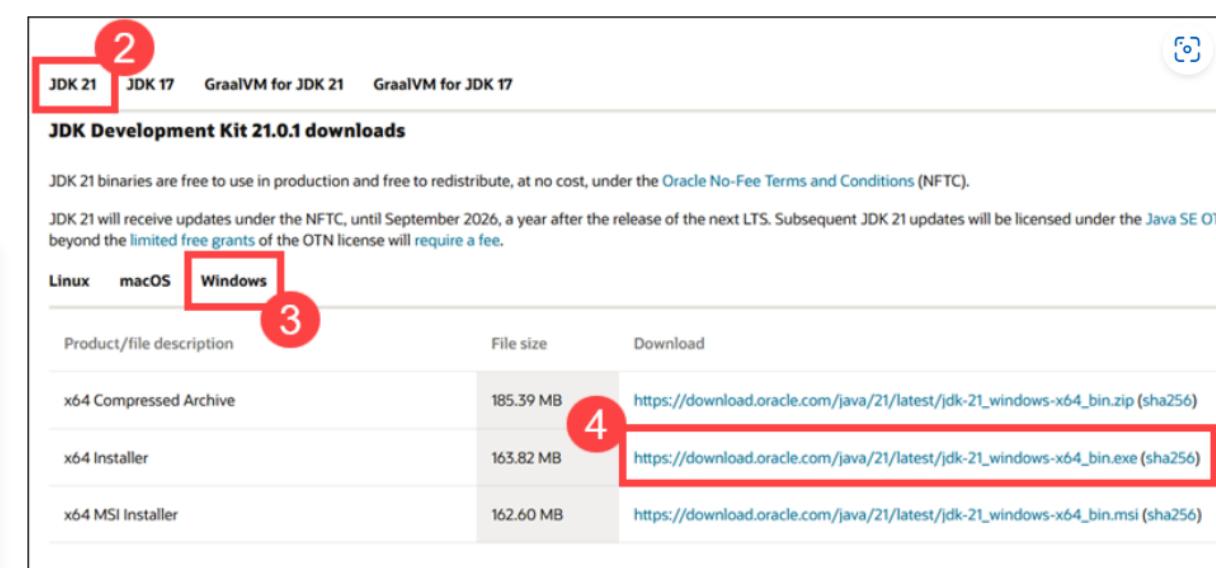
The screenshot shows a Windows Command Prompt window. The title bar says "Command Prompt". The window content shows the following text:
Microsoft Windows [Version 10.0.19045.3636]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ >java -version
'java' is not recognized as an internal or external command,
operable program or batch file.

In this example, the message states that *Java is not recognized as an internal or external command*, which indicates that Java is not installed. If the system displays a Java version number, remove the old Java installation before proceeding.

Download Java for Windows

1. Open a web browser and navigate to the [Oracle Java Downloads page](#).
2. Select the latest JDK version. In this example, the latest available version is **JDK 21**.
3. Access the **Windows** tab.
4. Click the **x64 Installer** download link.



The screenshot shows the "JDK Development Kit 21.0.1 downloads" page. At the top, there are tabs for "JDK 21", "JDK 17", "GraalVM for JDK 21", and "GraalVM for JDK 17". The "JDK 21" tab is highlighted with a red box and the number "2". Below the tabs, there is a section titled "JDK Development Kit 21.0.1 downloads". It states that JDK 21 binaries are free to use in production and free to redistribute, at no cost, under the [Oracle No-Fee Terms and Conditions \(NFTC\)](#). It also notes that JDK 21 will receive updates under the NFTC until September 2026, a year after the release of the next LTS. Subsequent JDK 21 updates will be licensed under the [Java SE OTN license](#), which requires a fee. There are three tabs below this section: "Linux", "macOS", and "Windows". The "Windows" tab is highlighted with a red box and the number "3". A table follows, showing download links for different Java packages:

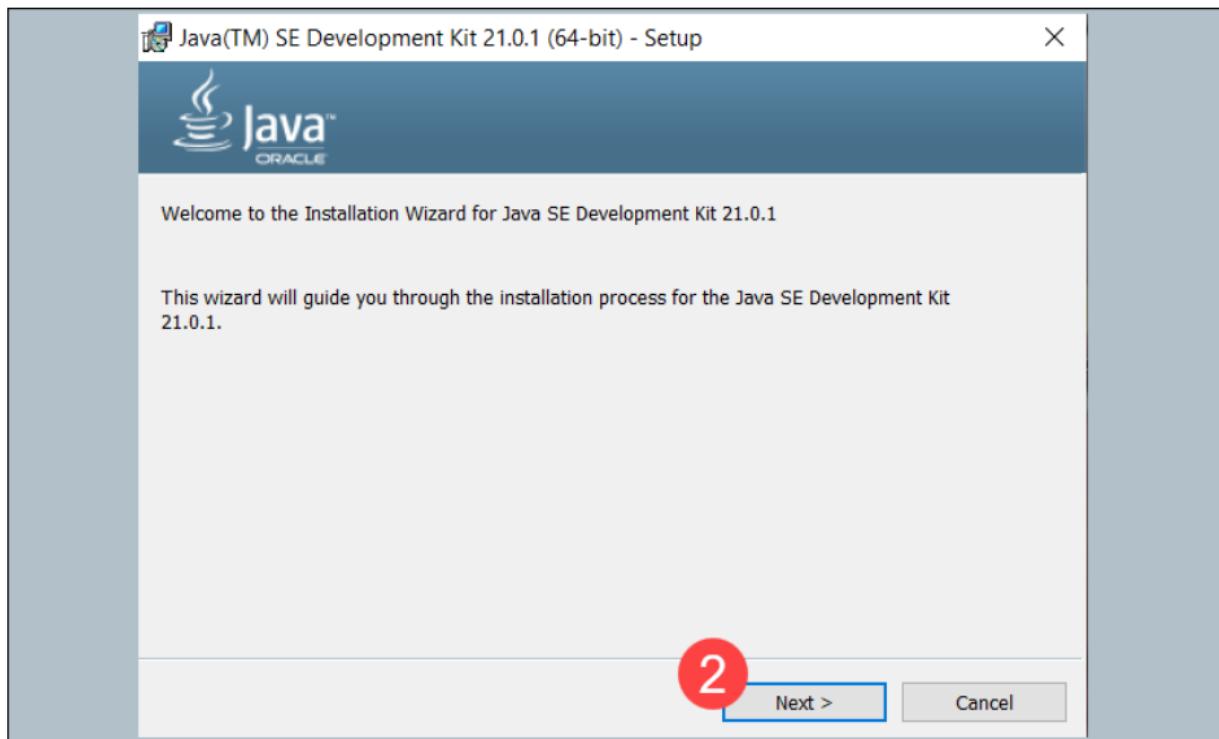
Product/file description	File size	Download
x64 Compressed Archive	185.39 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.zip (sha256)
x64 Installer	163.82 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.exe (sha256)
x64 MSI Installer	162.60 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.msi (sha256)

Wait for the download to complete.

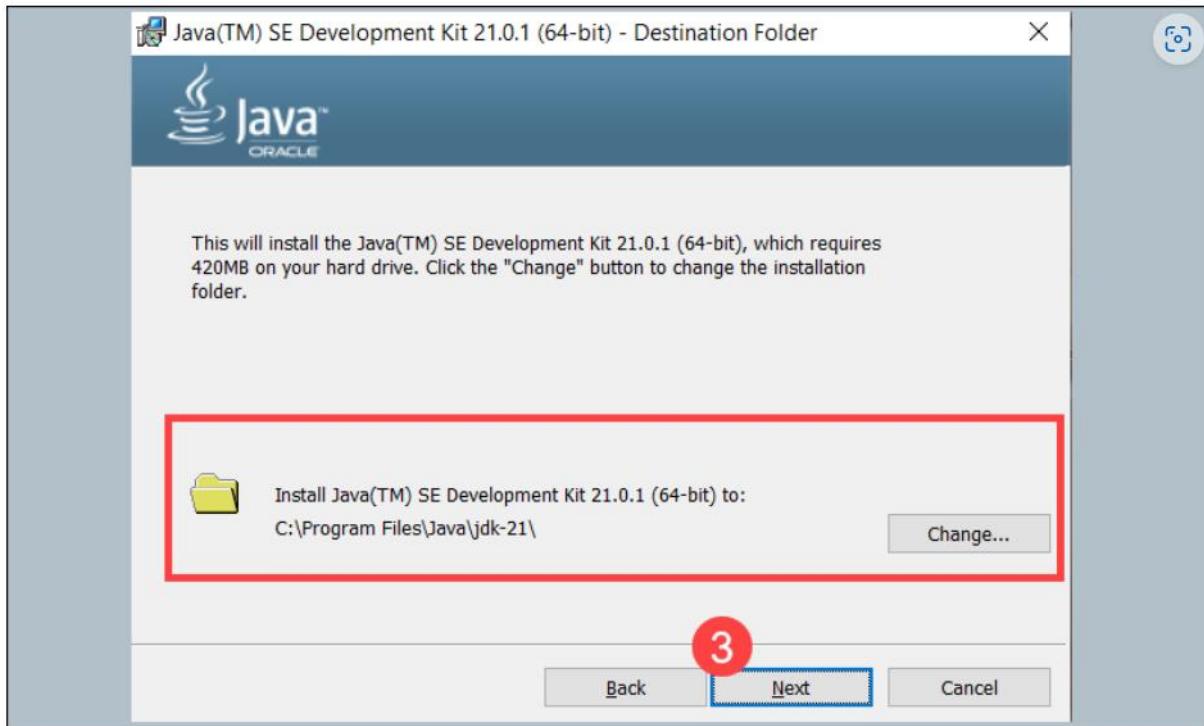
Install window on Java

To install Java on your Windows system:

1. Double-click the **downloaded Java file** to start the installation.
2. Once the installation wizard welcome screen appears, select **Next** to proceed.



3. Choose the destination folder for the Java installation files, or stick to the default path and click **Next**.



4. The installation process is complete when the *Successfully Installed* message appears. Click **Close** to exit the wizard.



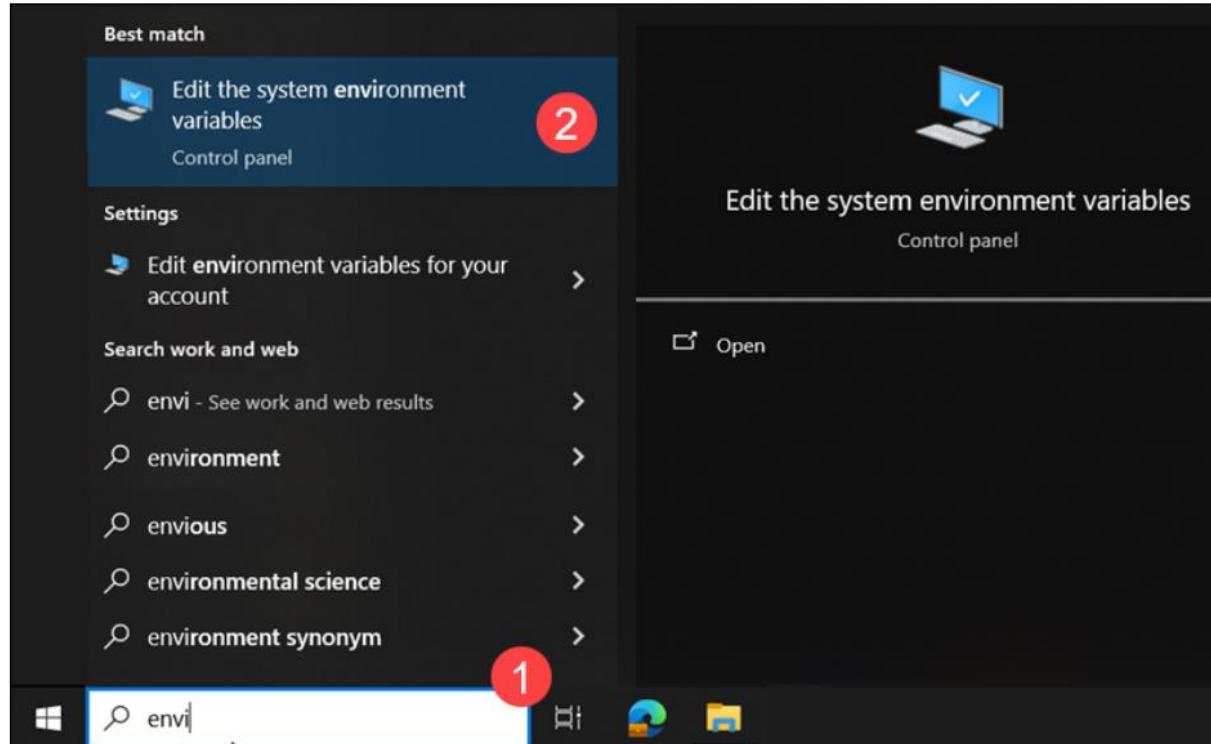
Set Environmental variables in Java:

Step 1: Add Java to System Variables

This step ensures that Java is accessible from the command line in any directory.

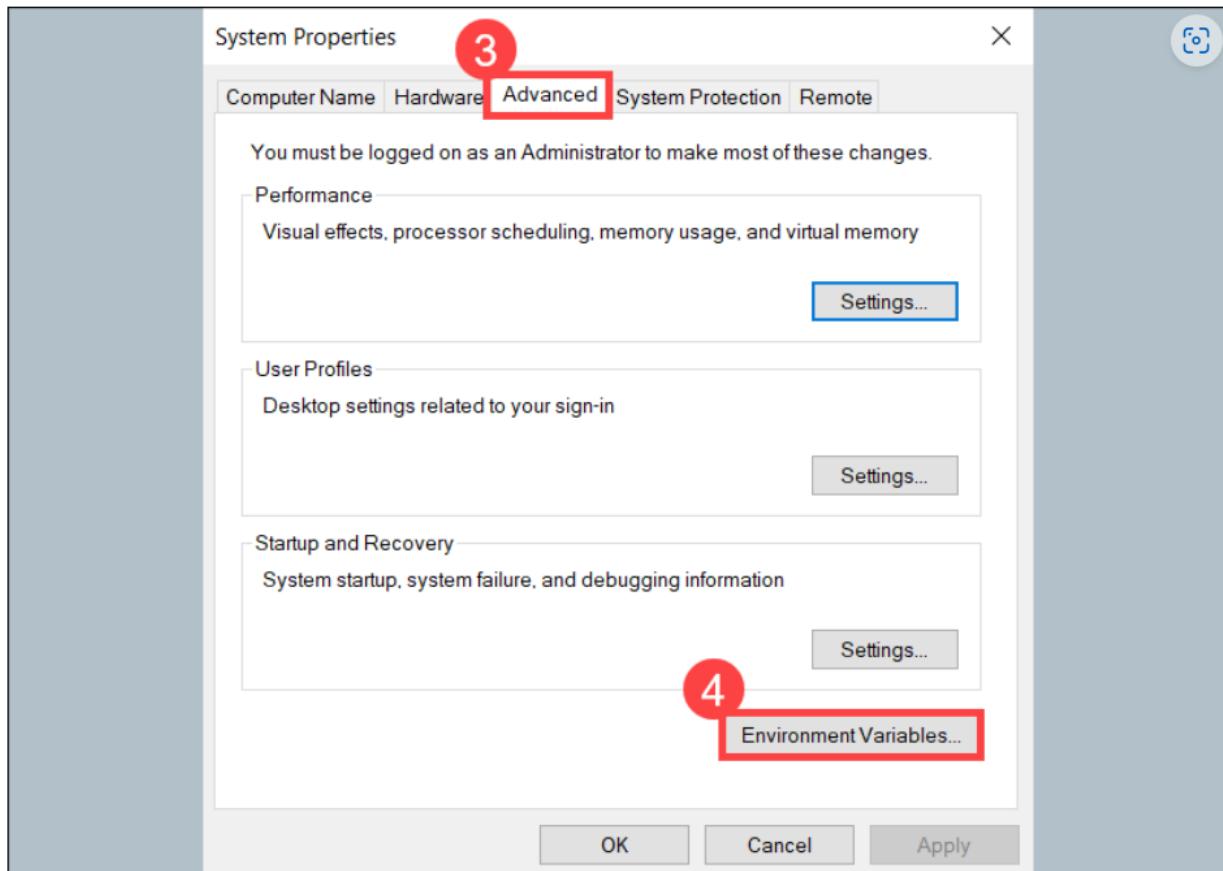
1. Open the **Start** menu and search for *environment variables*.

2. Select **Edit the system environment variables**.

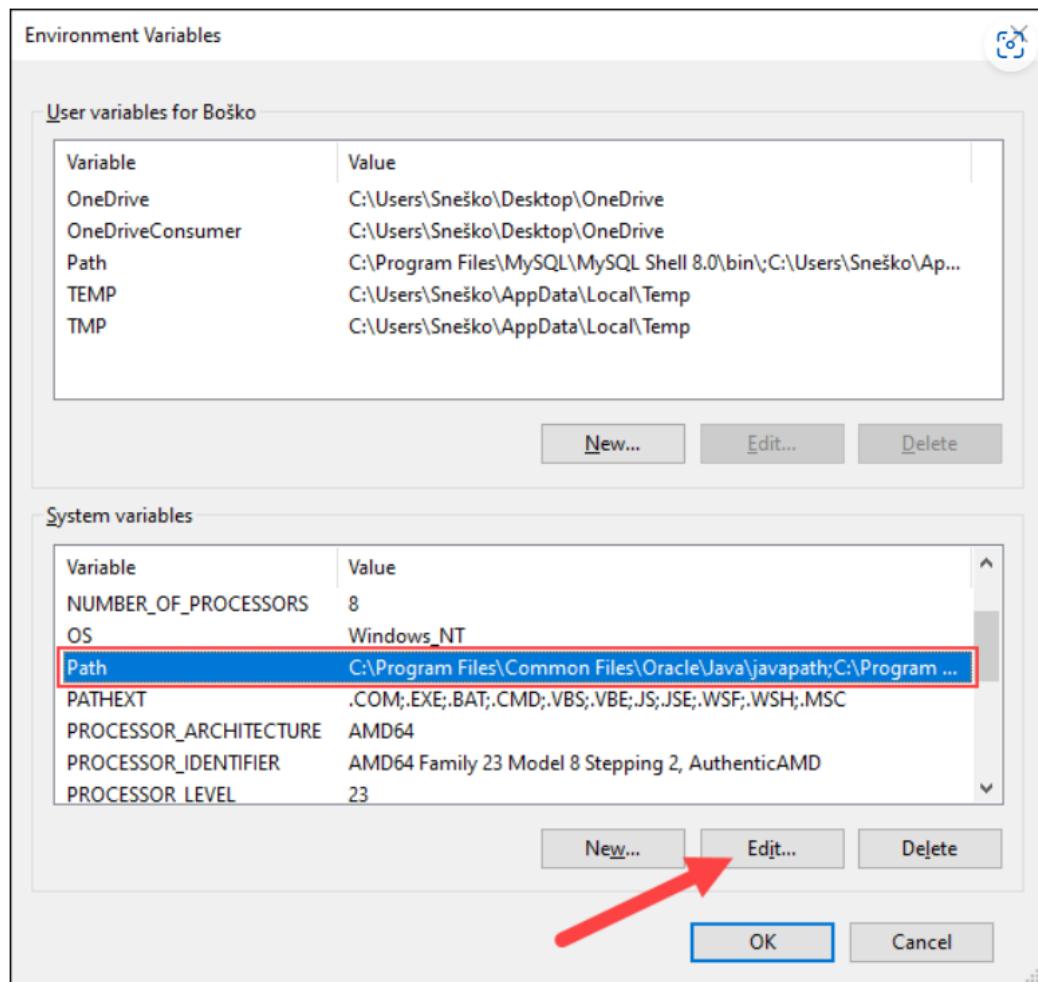


3. Select **Advanced** in the System Properties window.

4. Click **Environment Variables**.



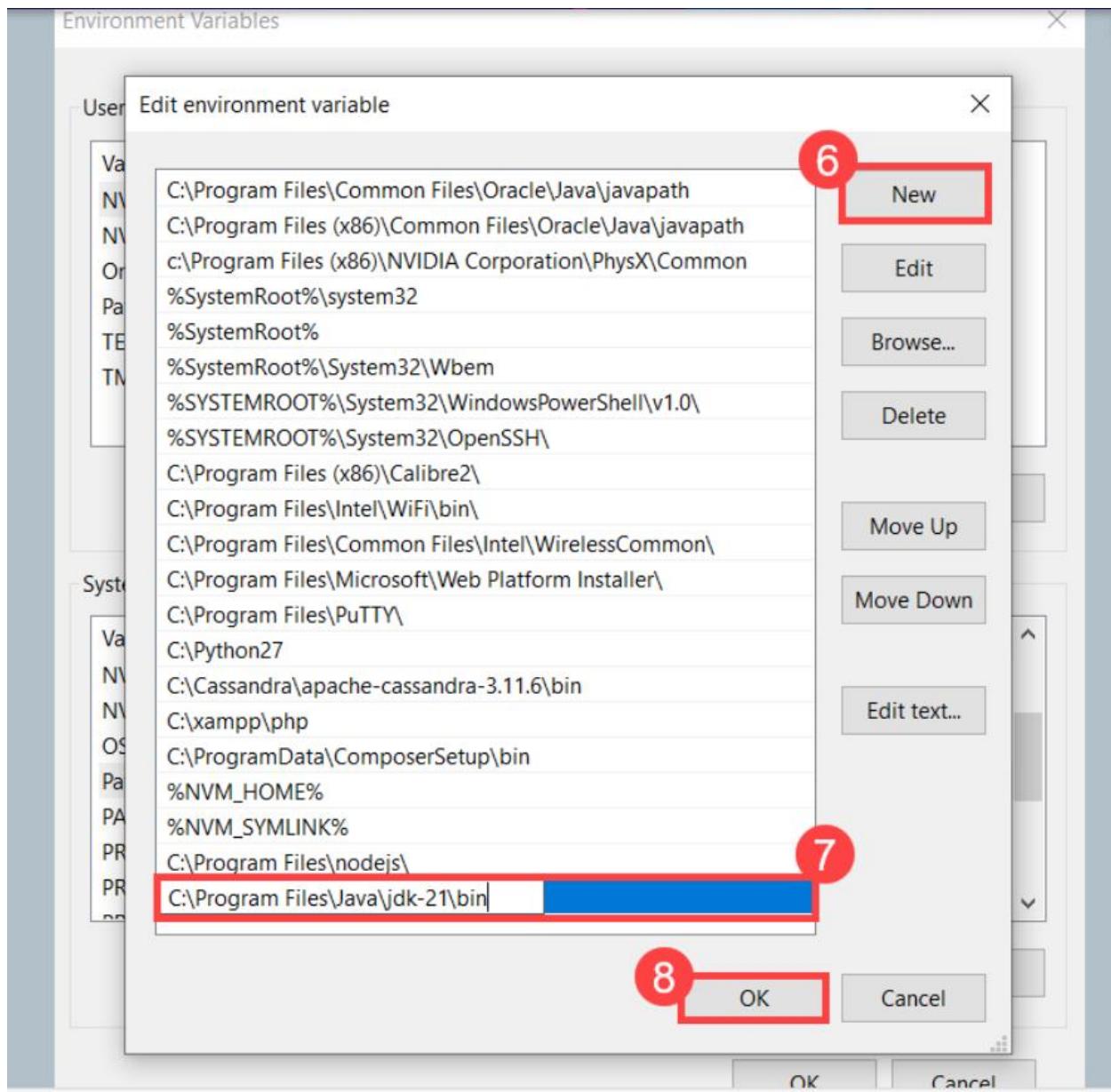
5. Select the **Path** variable in the *System variables* category and click **Edit**.



6. Click **New**.

7. Enter the path to the Java bin directory.

8. Click **OK** to save the changes and exit the variable editing window.



Java code:

Download and Extract Zip File from Backend:

- Access the backend system and download the zip file containing the source code.
- Extract the contents of the zip file to a location on your local machine.

Update application.yml in Backend:

Locate the **application.yml** file in the backend source code.

Update the database connection details as follows:

```
url: jdbc:mysql://localhost:3306/usermanagement  
username: root  
password: root  
driver-class-name: com.mysql.cj.jdbc.Driver
```

Save the changes to **application.yml**.

Database Setup:

- Ensure that MySQL server is running on your local machine.
- Create a database named **usermanagement** in MySQL using a MySQL client (e.g., MySQL Workbench, phpMyAdmin, or command line).
- If you're using a MySQL client, you can execute the following SQL query:
- `sqlCopy` code

```
CREATE DATABASE mcf-usermanagement;
```

Security Configuration in Backend:

- In the backend source code, locate the security configuration file (e.g., **SecurityConfig.java** or similar).
- Ensure that the security configuration is set to require login for accessing protected resources.
- Implement a user registration endpoint if it's not already available, allowing users to register accounts.

Testing Backend:

- Start the backend server and ensure it's running without any errors.
- Test the login and registration functionalities to verify that they're working as expected.
- Make sure that users are able to register accounts and login successfully.

Update React-Native App with Backend URL:

- Open your react-native app project in your preferred code editor.
- Locate the part of the code where the backend URL is defined (e.g., in a service file or API client).
- Update the backend URL to <http://localhost:PORT> (replace **PORT** with the port number your backend server is running on).
- Save the changes to the react-native app code.

Testing React-native App:

- Run the React-Native app on a simulator, emulator, or physical device.
- Navigate to the login screen and attempt to login with the credentials registered in the backend.
- Verify that the React-native app successfully communicates with the backend and allows users to login without any issues.

