

EXPERIMENT NO. 1

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Div: SE IT A

Roll No.: 352

Sign:

DOP: 09/01/24

Grade:

DOS: 23/01/24

Problem statement:

Write a bit about Android studio and next you need to take the screenshots of every step involved during the installation steps and add explanation where needed. Also add the Hello world program and its output(screenshots).

Android Studio is the official integrated development environment (IDE) for Android app development. It is designed to provide a comprehensive and user-friendly environment for developers to create, test, and debug Android applications. Android Studio is developed by Google and is based on the IntelliJ IDEA IDE.

Here are some key aspects of Android Studio:

1. User Interface:

- Editor: Android Studio provides a powerful code editor with features like syntax highlighting, code completion, and debugging capabilities.
- Design View: Developers can use a visual designer to create the user interface of their apps, making it easier to design layouts and view how they will appear on different devices.
- Project Explorer: Displays the project structure, allowing developers to navigate through files and resources.

2. Gradle Build System:

- Android Studio uses the Gradle build system to automate the build process, manage dependencies, and customize build configurations.

- Developers can define build types, flavors, and product flavors to create different versions of their apps.

3. Emulator:

- Android Studio comes with a built-in emulator that allows developers to test their applications on various Android devices without needing physical devices.
- It supports various Android versions, screen sizes, and hardware configurations.

4. Debugger:

- Android Studio includes a powerful debugger that helps developers identify and fix issues in their code.
- It supports features like breakpoints, watches, and real-time variable inspection.

5. Version Control Integration:

- Android Studio has integrated support for version control systems like Git.
- Developers can perform version control operations directly from the IDE, making it easy to manage code repositories.

6. Code Templates and Snippets:

- Android Studio provides code templates and snippets that help developers write common code patterns quickly.

7. Android Virtual Device (AVD) Manager:

- AVD Manager allows developers to create and manage virtual devices for testing their applications on different configurations.

8. Profiling Tools:

- Android Studio includes various profiling tools to help developers optimize the performance of their apps.
- Tools like CPU Profiler and Memory Profiler assist in identifying bottlenecks and memory issues.

9. Instant Run:

- Android Studio offers Instant Run, a feature that allows developers to see the impact of code changes in real-time without restarting the entire application.

10. Android Jetpack:

- Android Studio supports Android Jetpack, a set of libraries, tools, and architectural guidance that helps developers build robust Android apps more efficiently.

11. Kotlin Support:

- Android Studio provides excellent support for the Kotlin programming language, which is officially endorsed by Google for Android app development.

12. Plugin Ecosystem:

- Android Studio supports a wide range of plugins that can be used to extend its functionality and integrate with other tools.

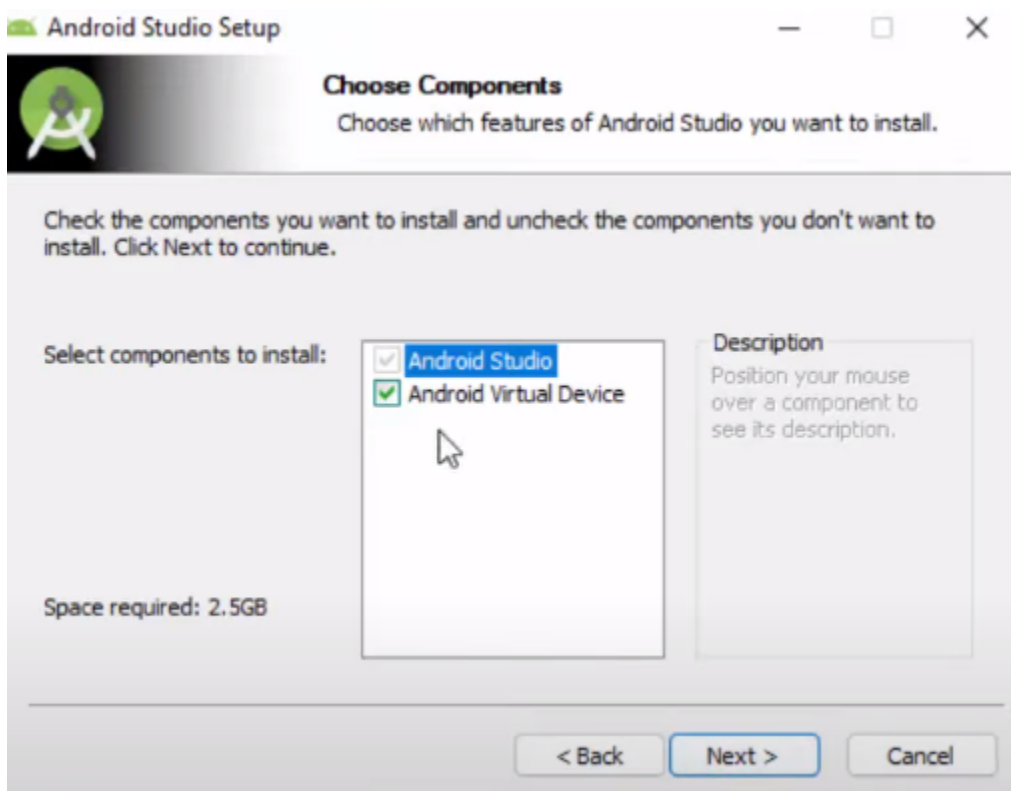
Overall, Android Studio is a comprehensive IDE that streamlines the development process for Android applications and provides a rich set of features to help developers create high-quality and performant apps.

Installation of Android Studio:

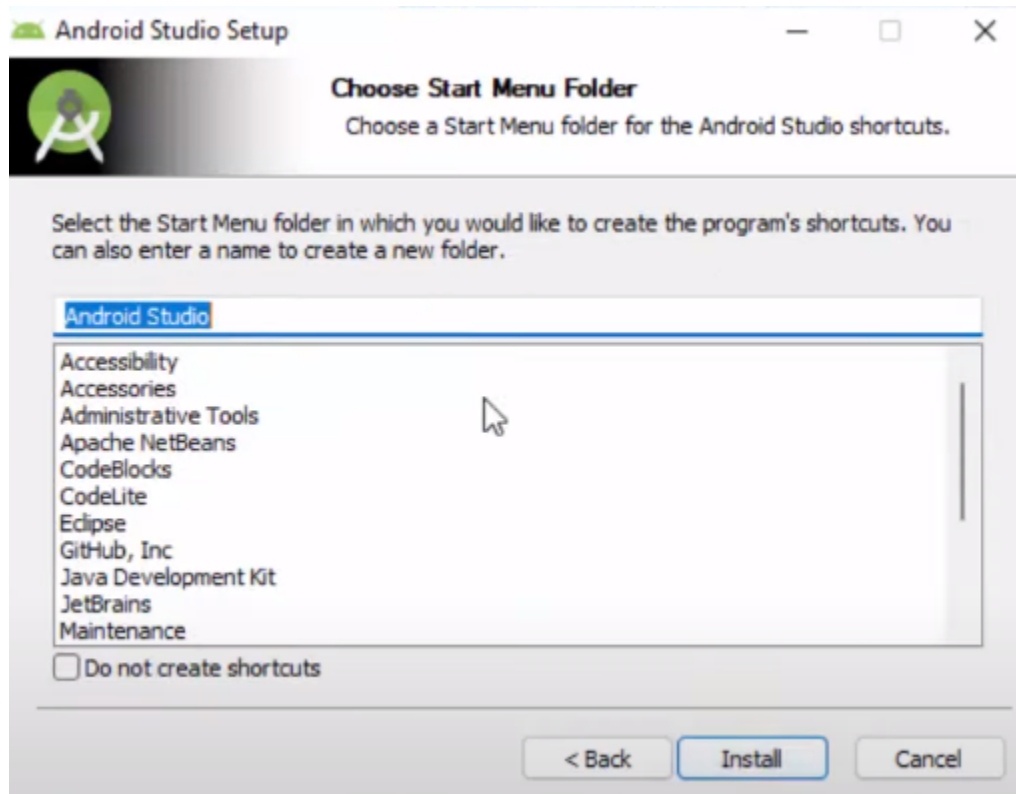
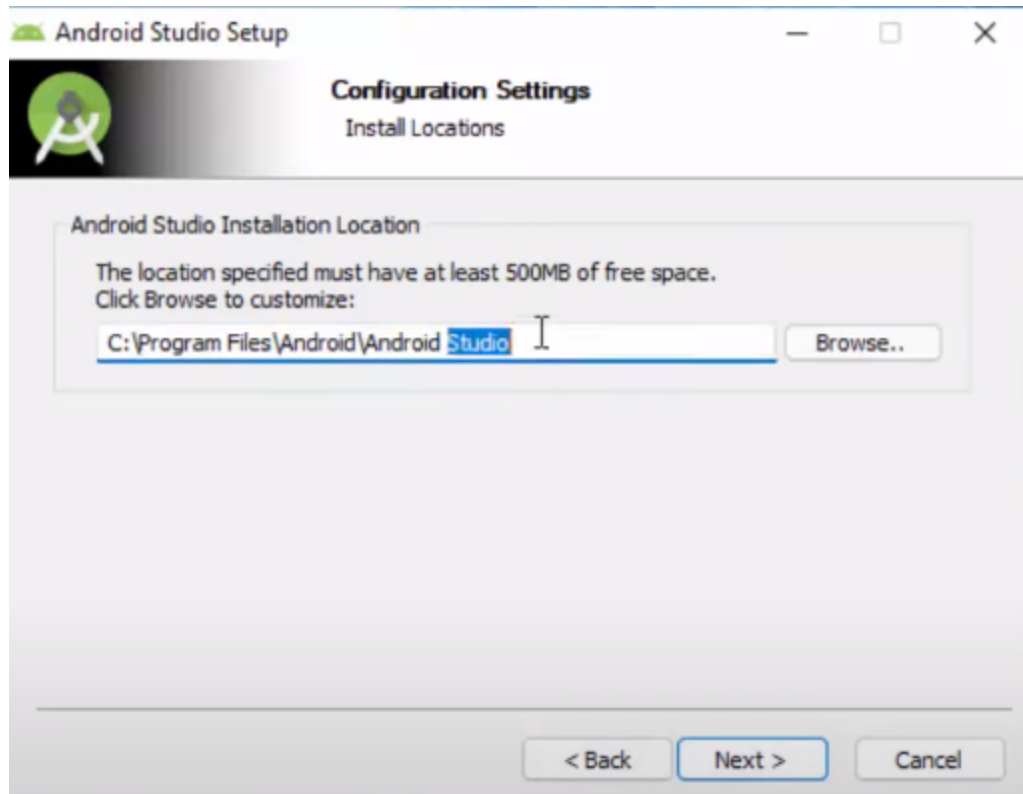
1. Install jdk if not already installed.
2. Initialize system variables for jdk.
3. Visit <https://developer.android.com> and download the android studio installer.
4. Run the installer as an administrator.

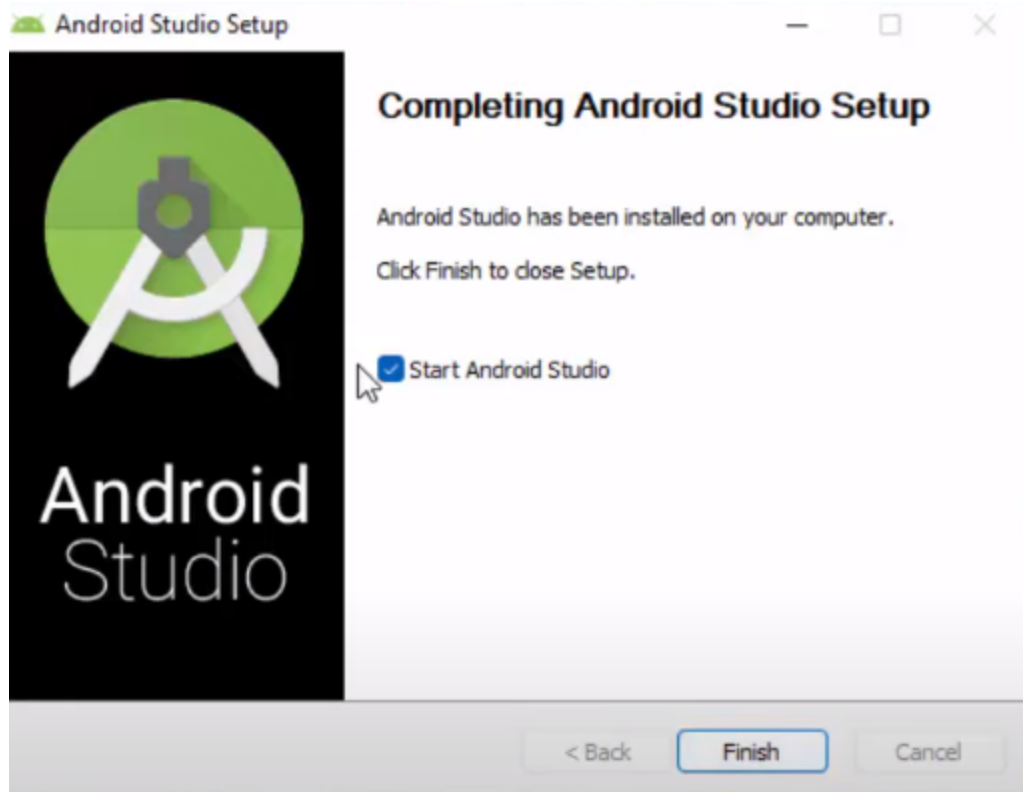


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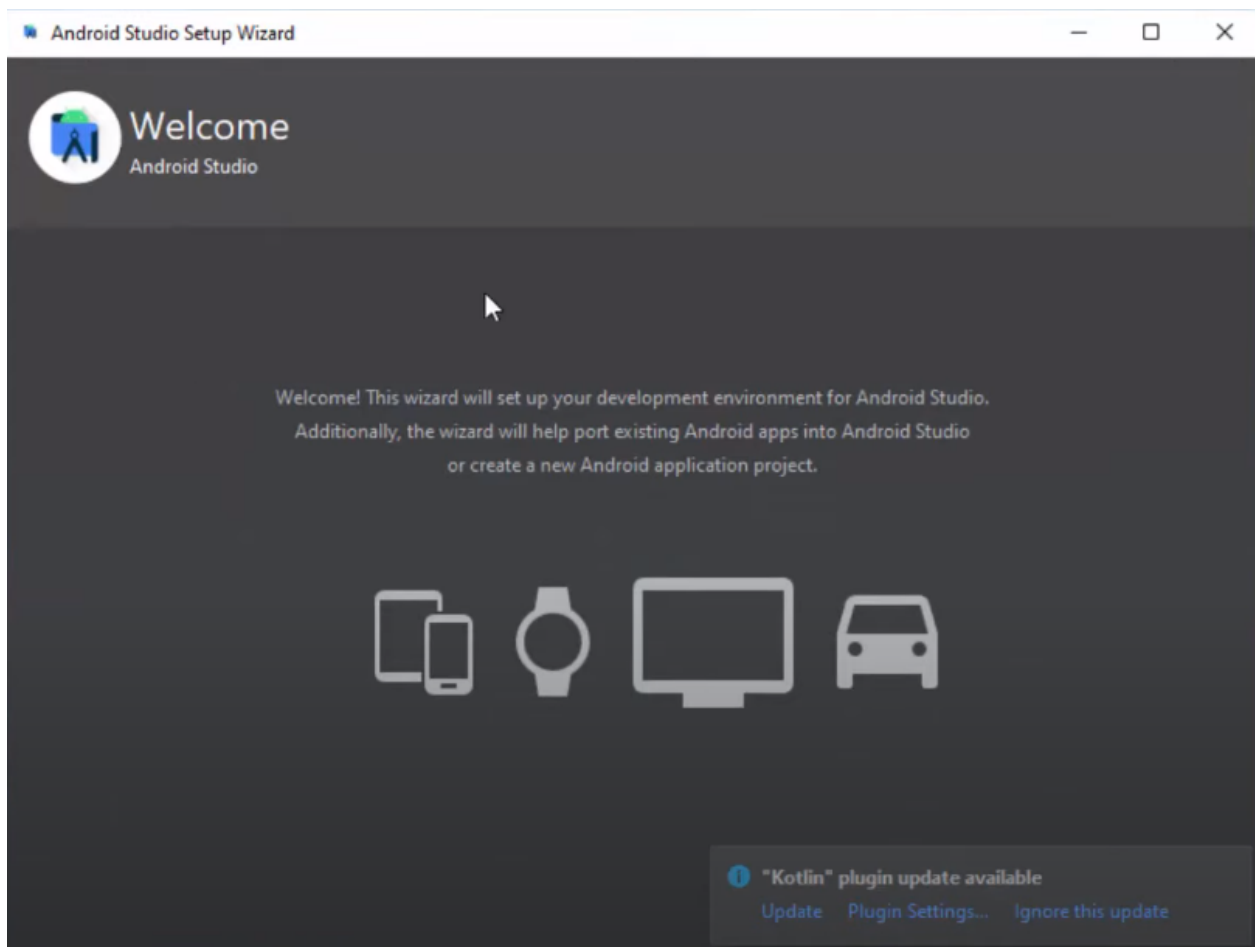
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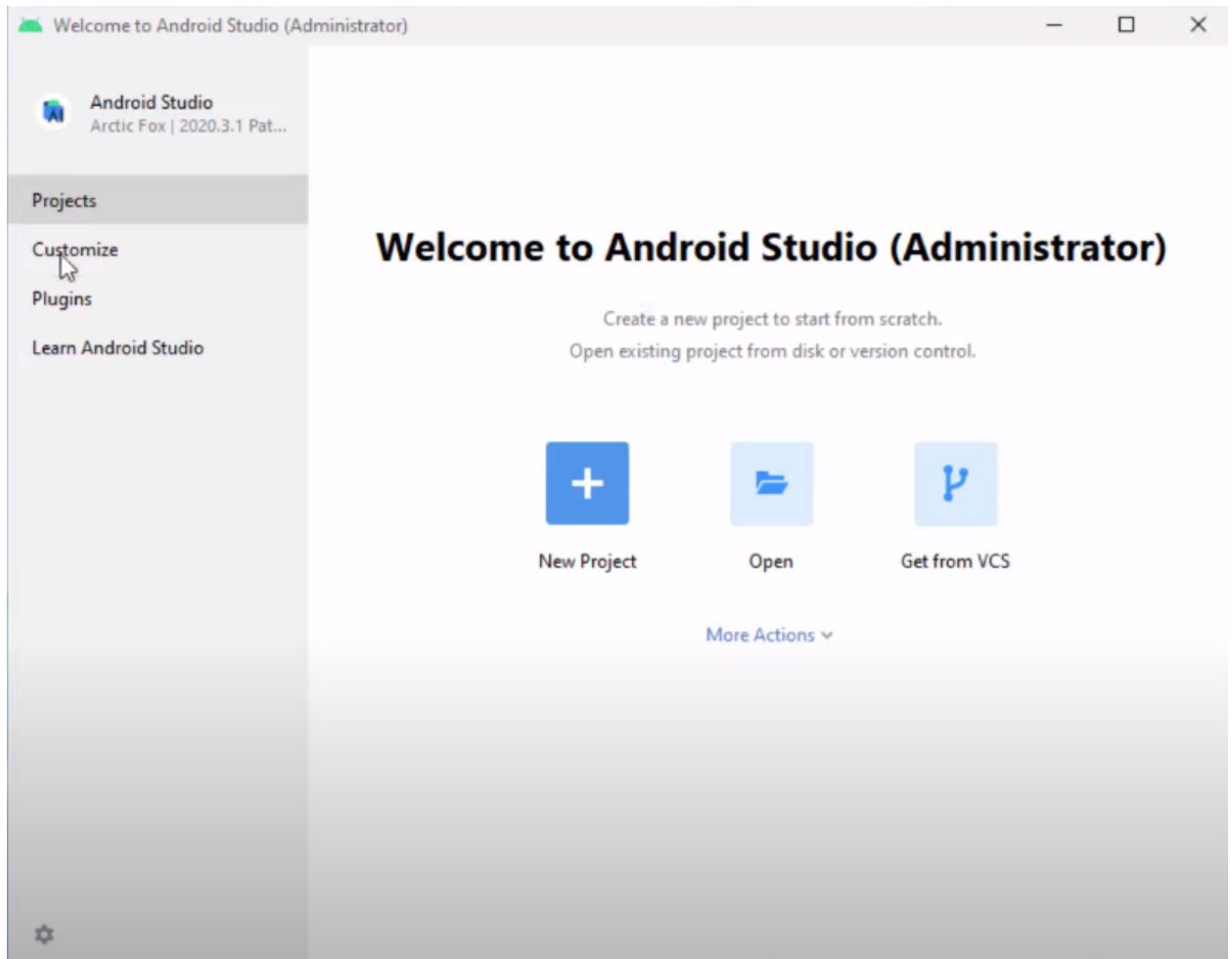




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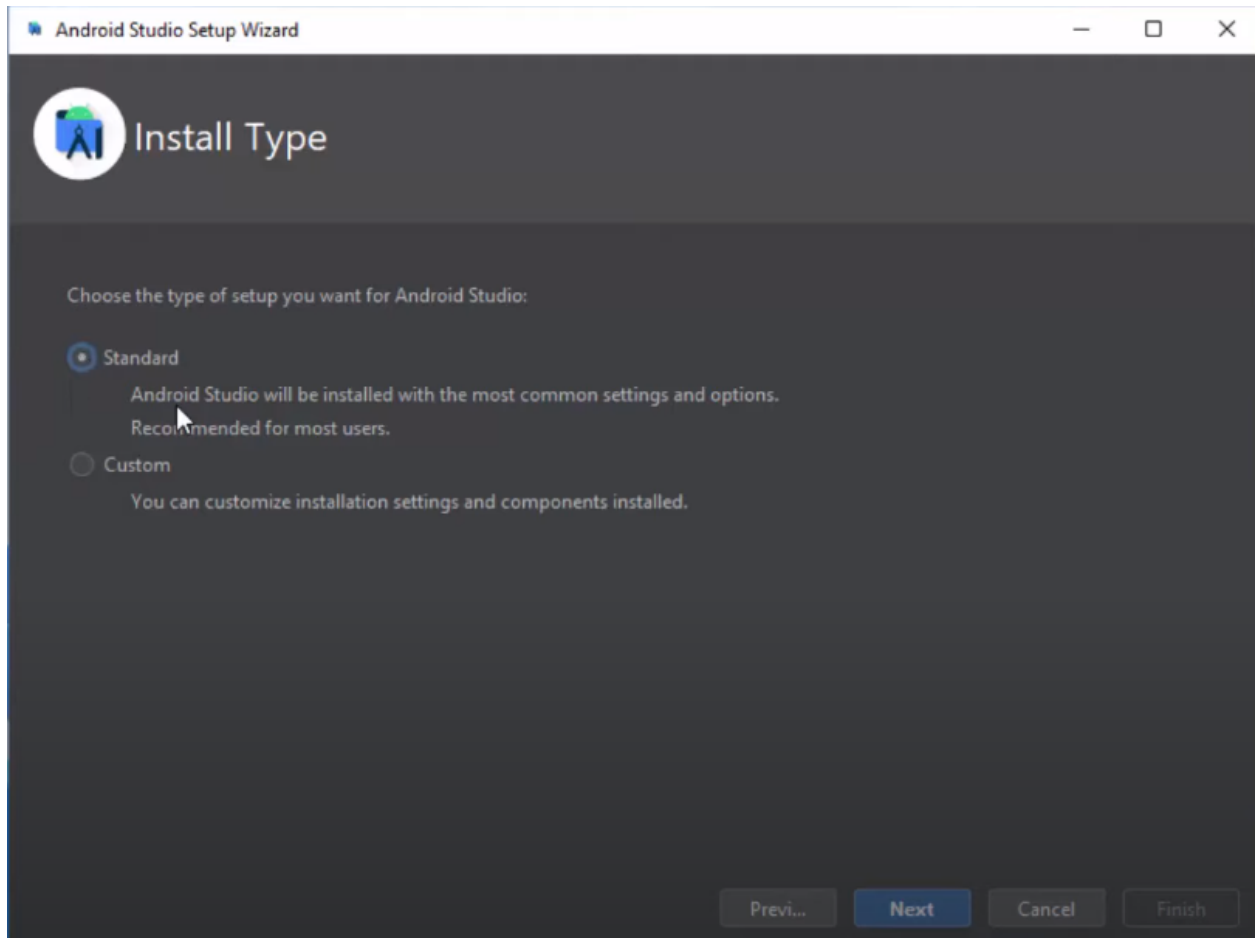
10. Open android studio.





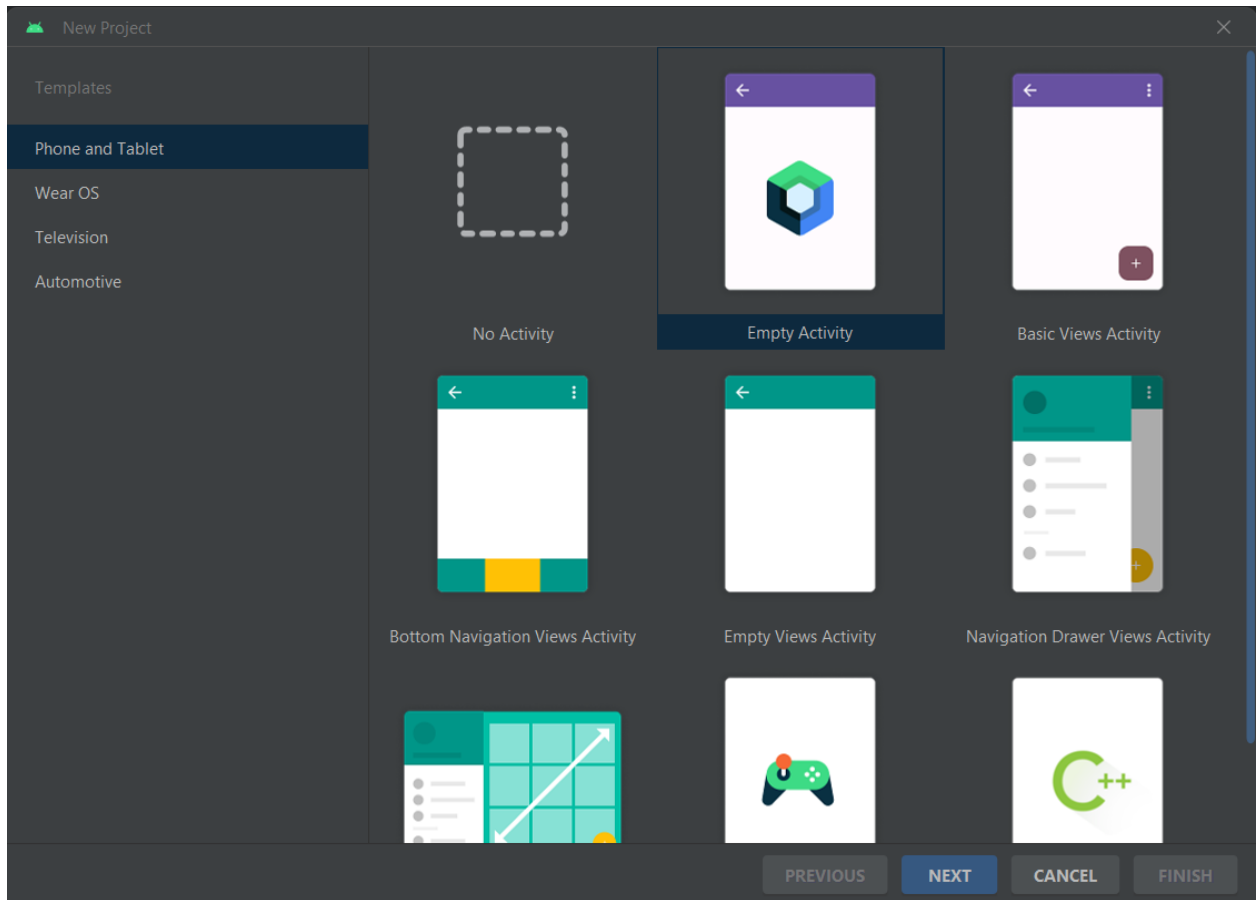
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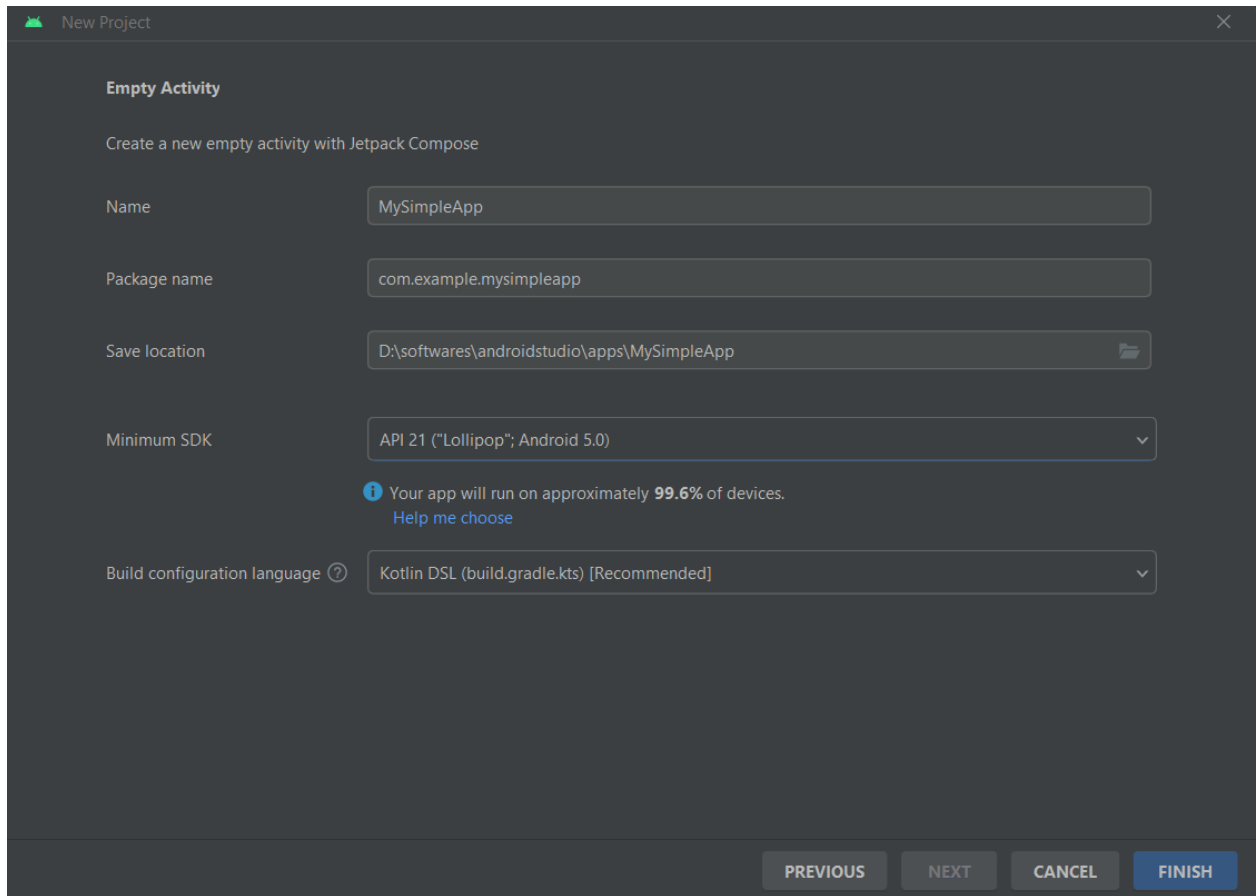
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14. Create new project.

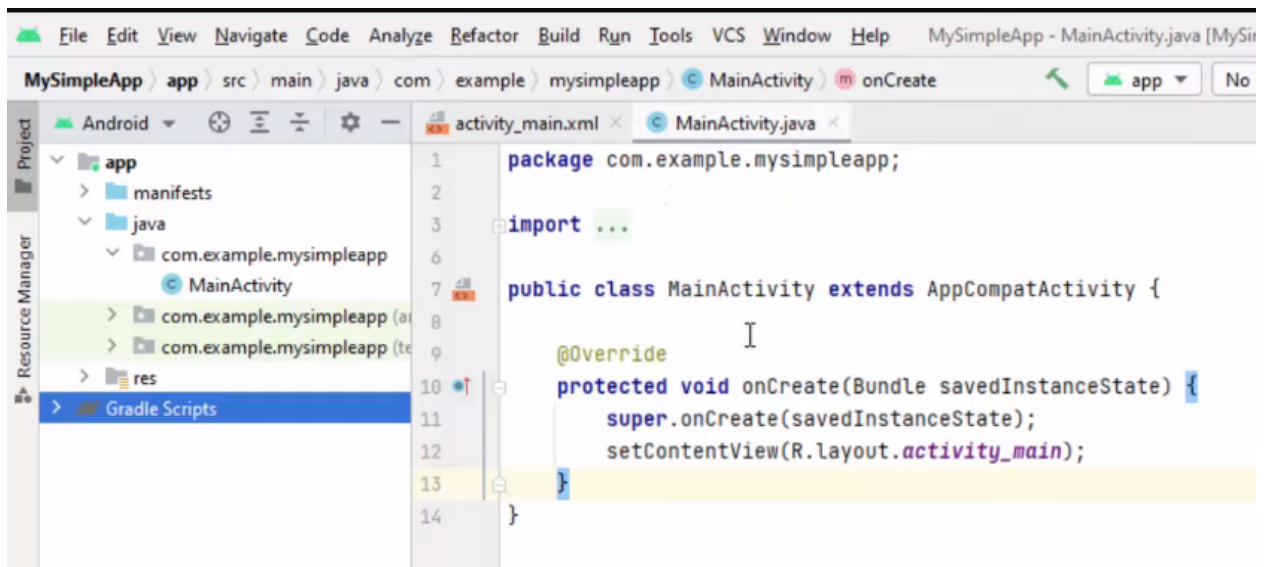


15.

16. Choose empty activity.

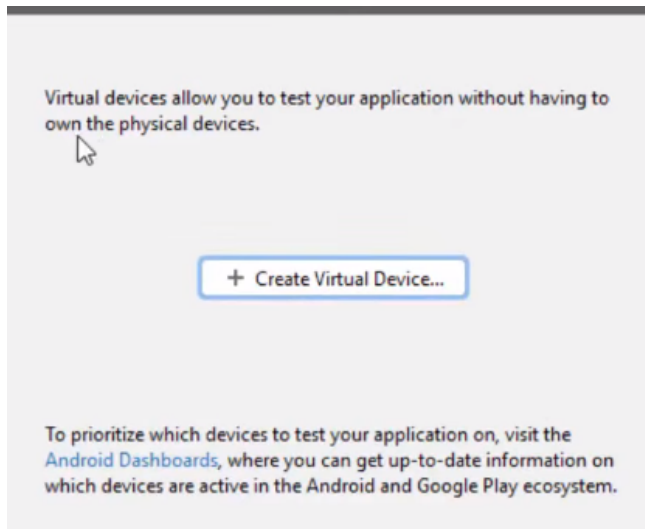
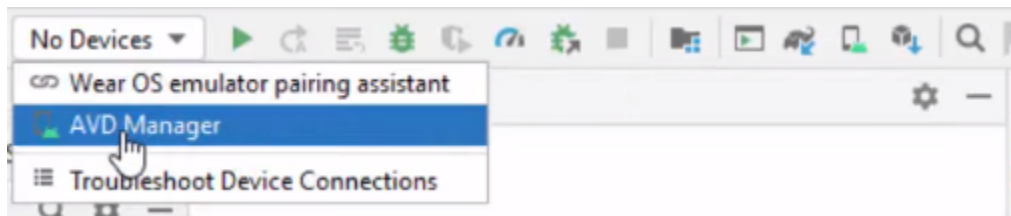


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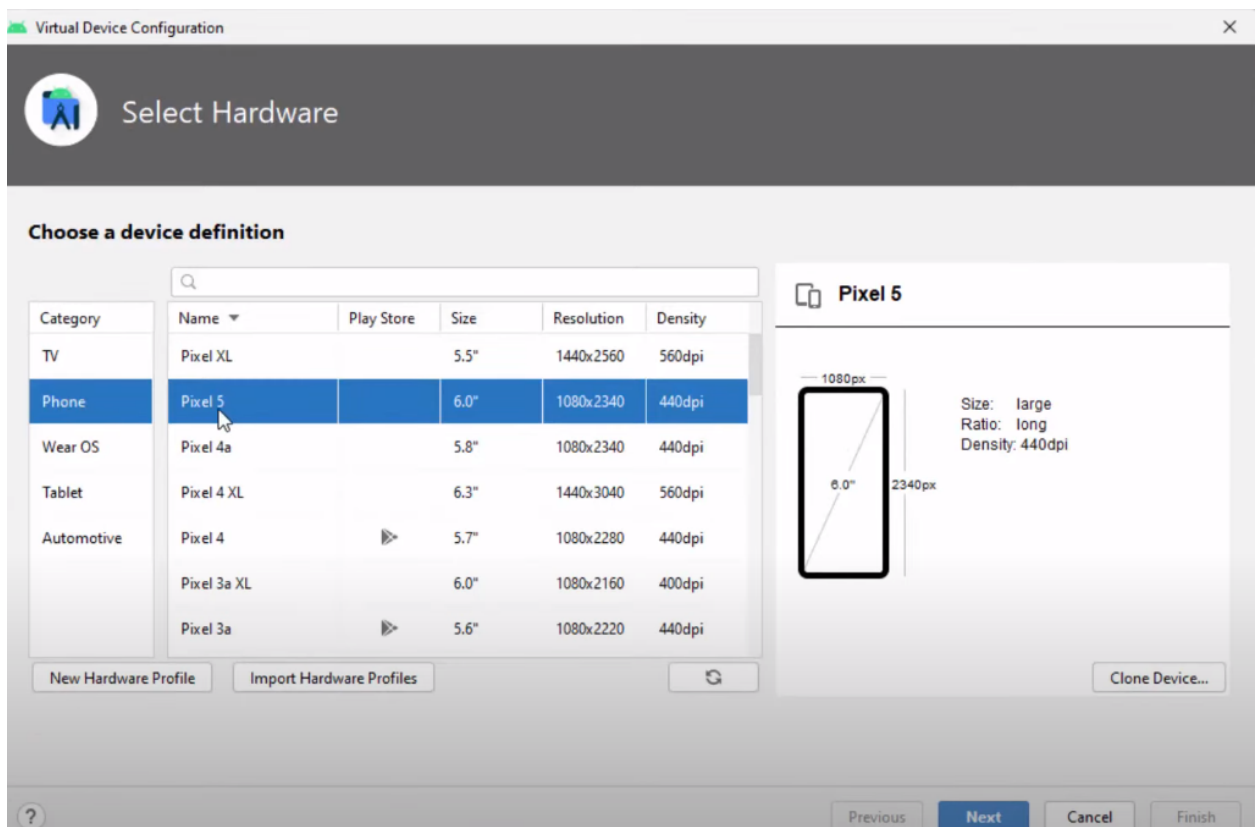


18.

19. Create virtual device to simulate the code.

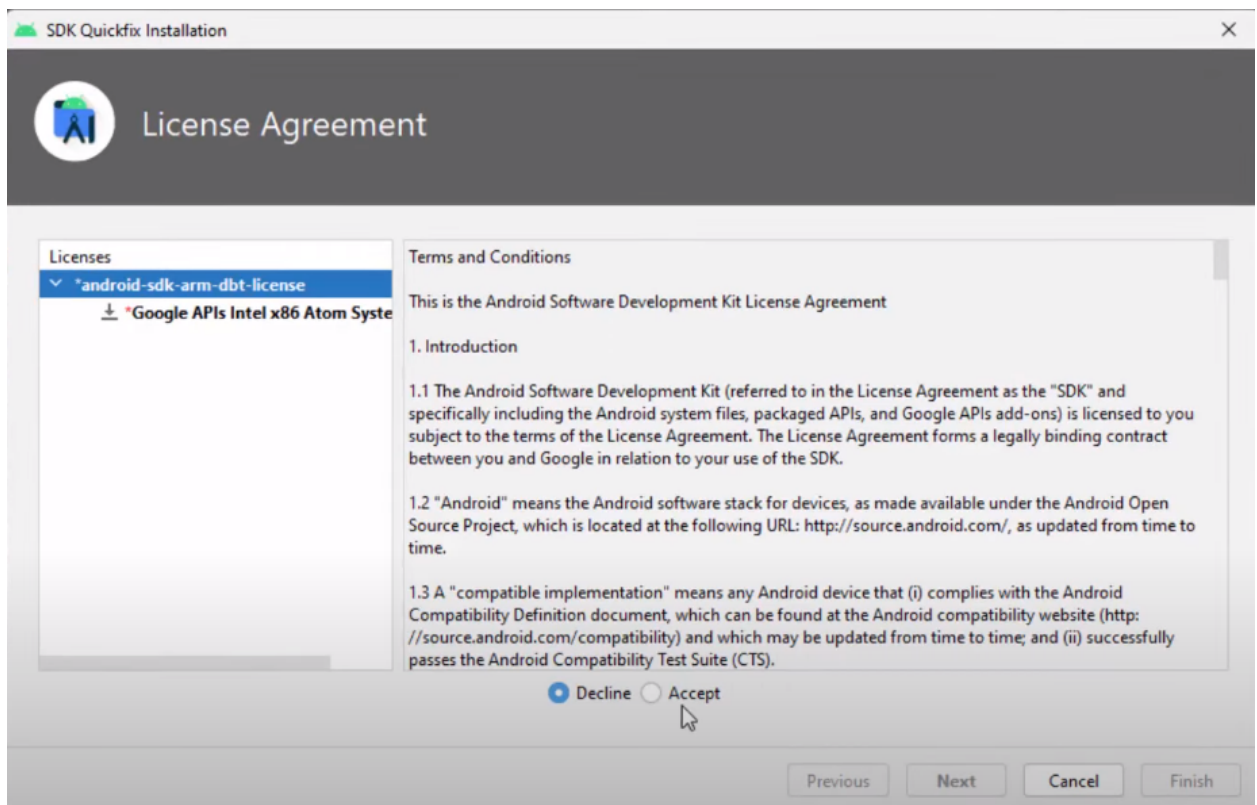


20.



21.

22. Accept the license



23. Wait for download and then click finish.

24. Press play button to build and simulate your application.



25.