

# Setting up Development Environment

Mobile App Development  
**Lecture Set – 02**



# Download Tools



<https://git-scm.com/download/win>



<https://developer.android.com/studio>



<https://visualstudio.microsoft.com/vs/community/>



<https://docs.flutter.dev/get-started/install/windows>



Visual Studio Code

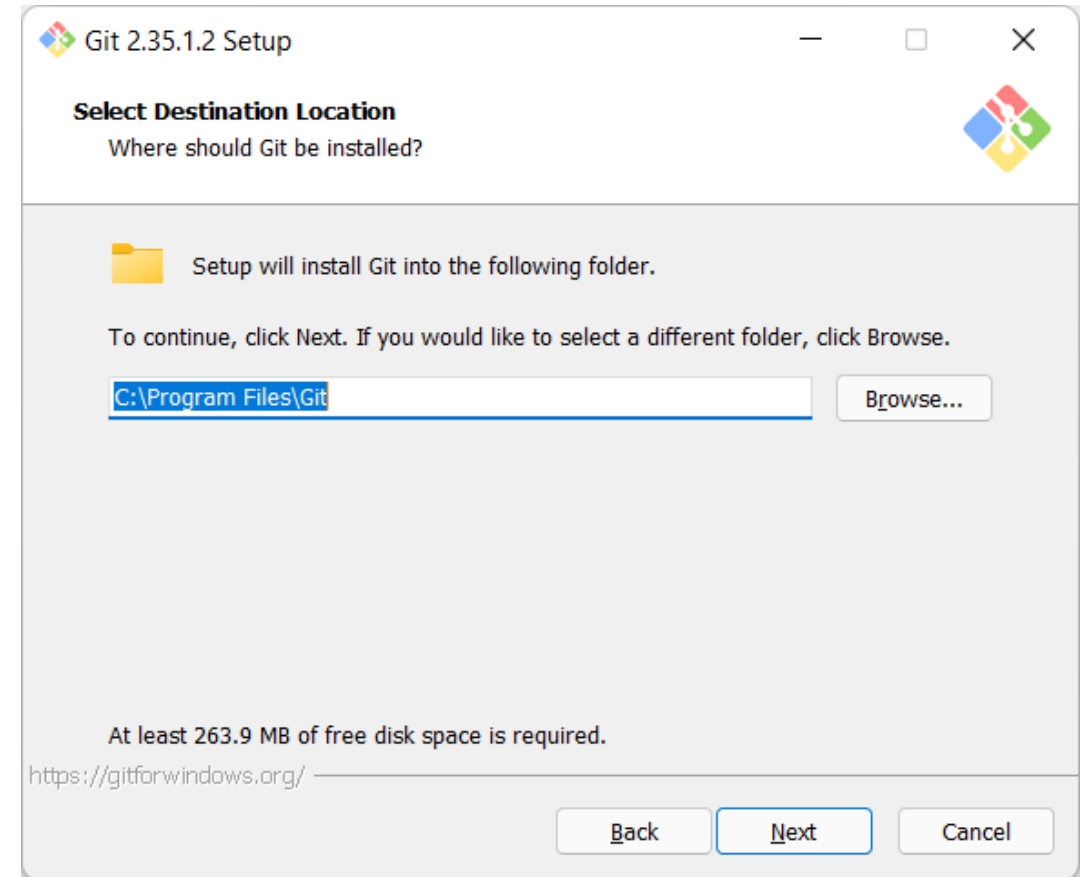
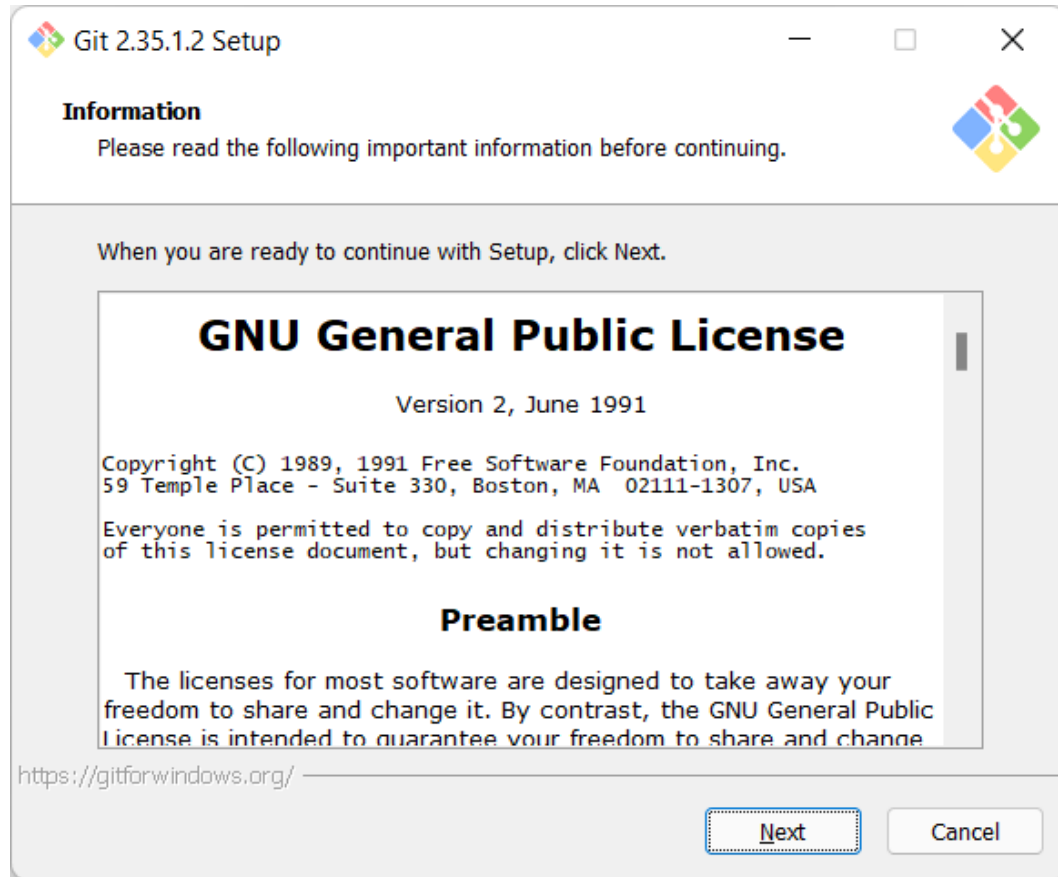
<https://code.visualstudio.com/download>

# Installing Git for windows

- Execute the downloaded git setup package and follow the wizard instructions.



# Installing Git for windows

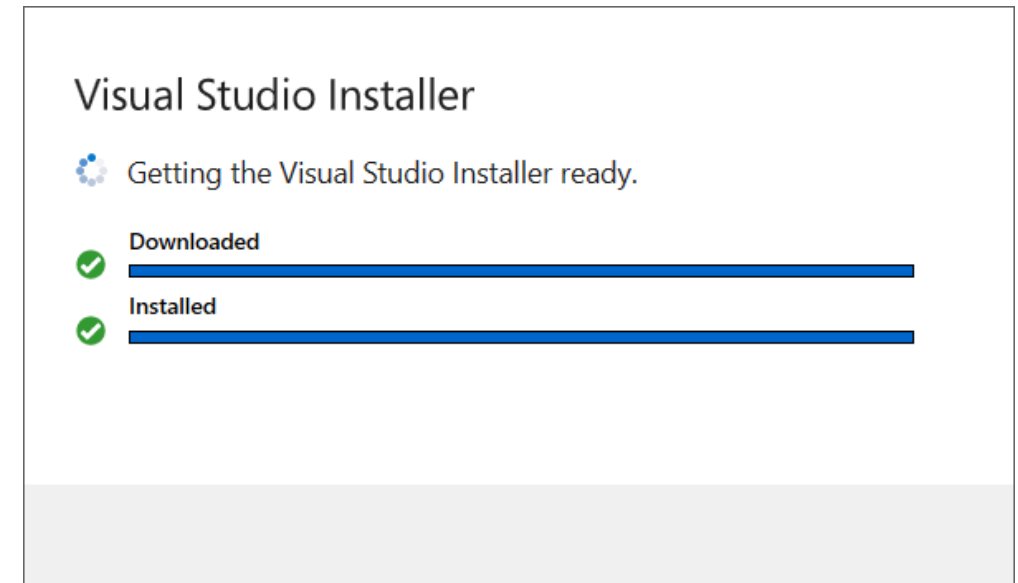
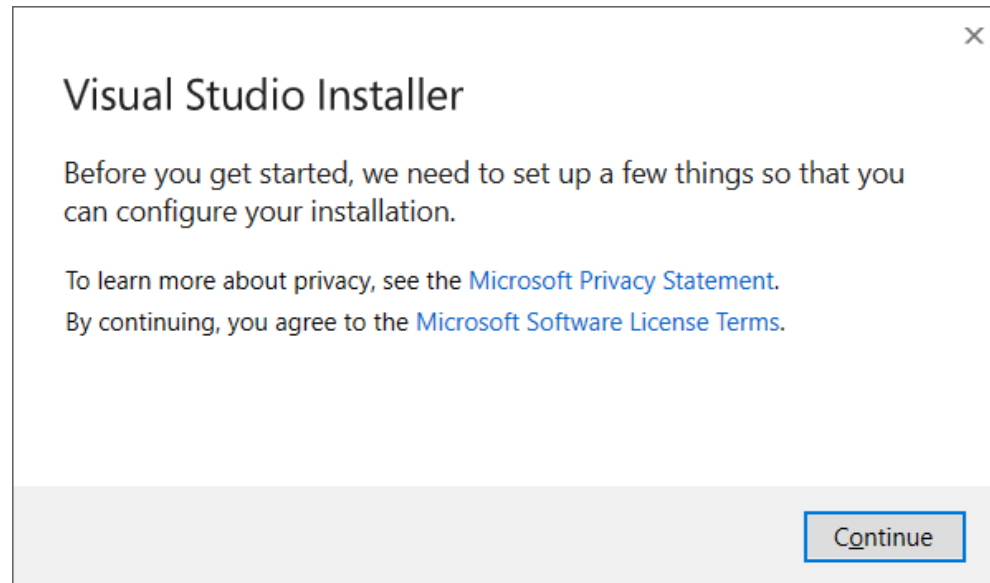


# Installing Visual Studio Community 2022

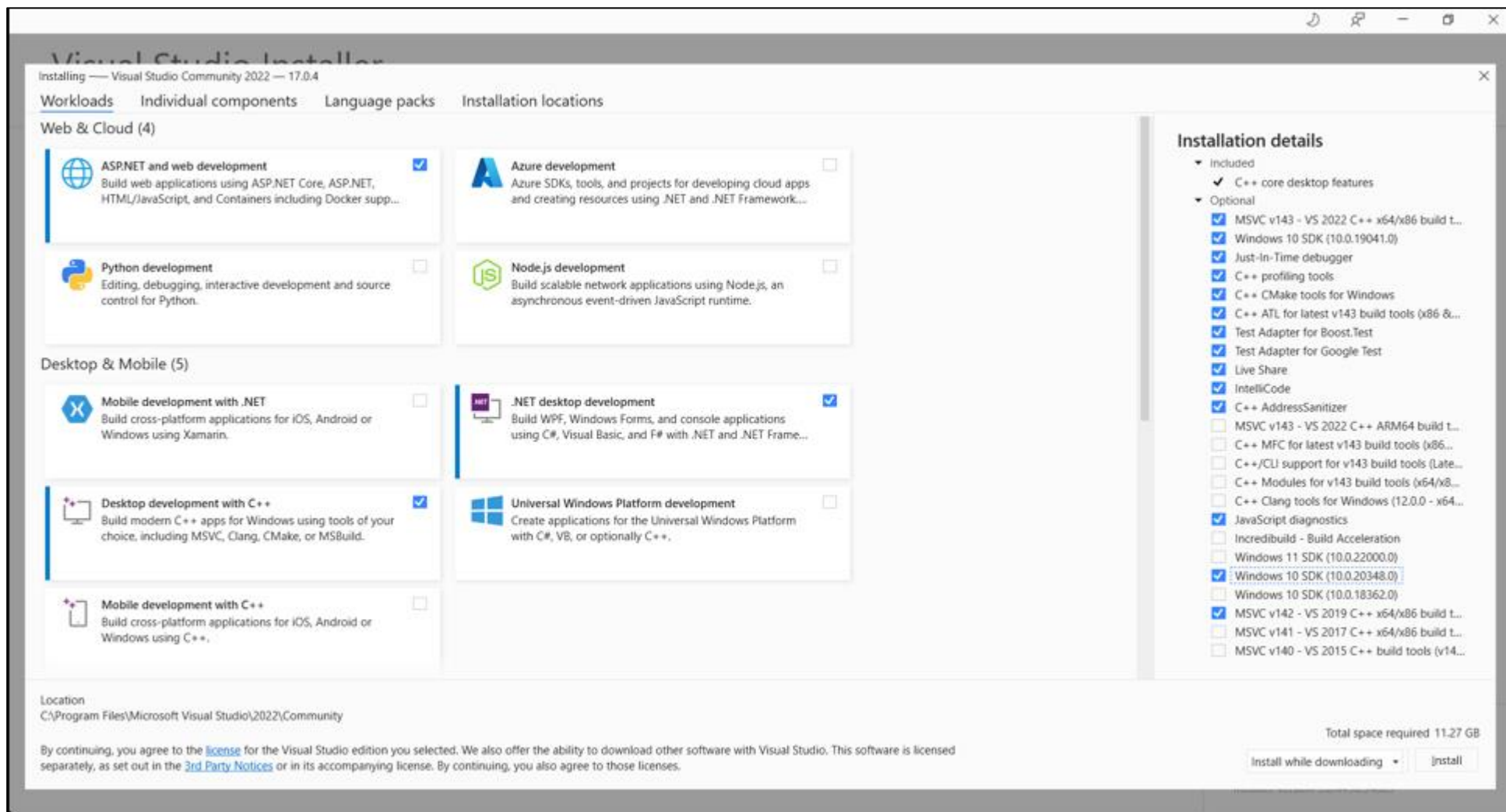
- Execute the MS Visual Studio installation setup file and follow the wizard instructions.



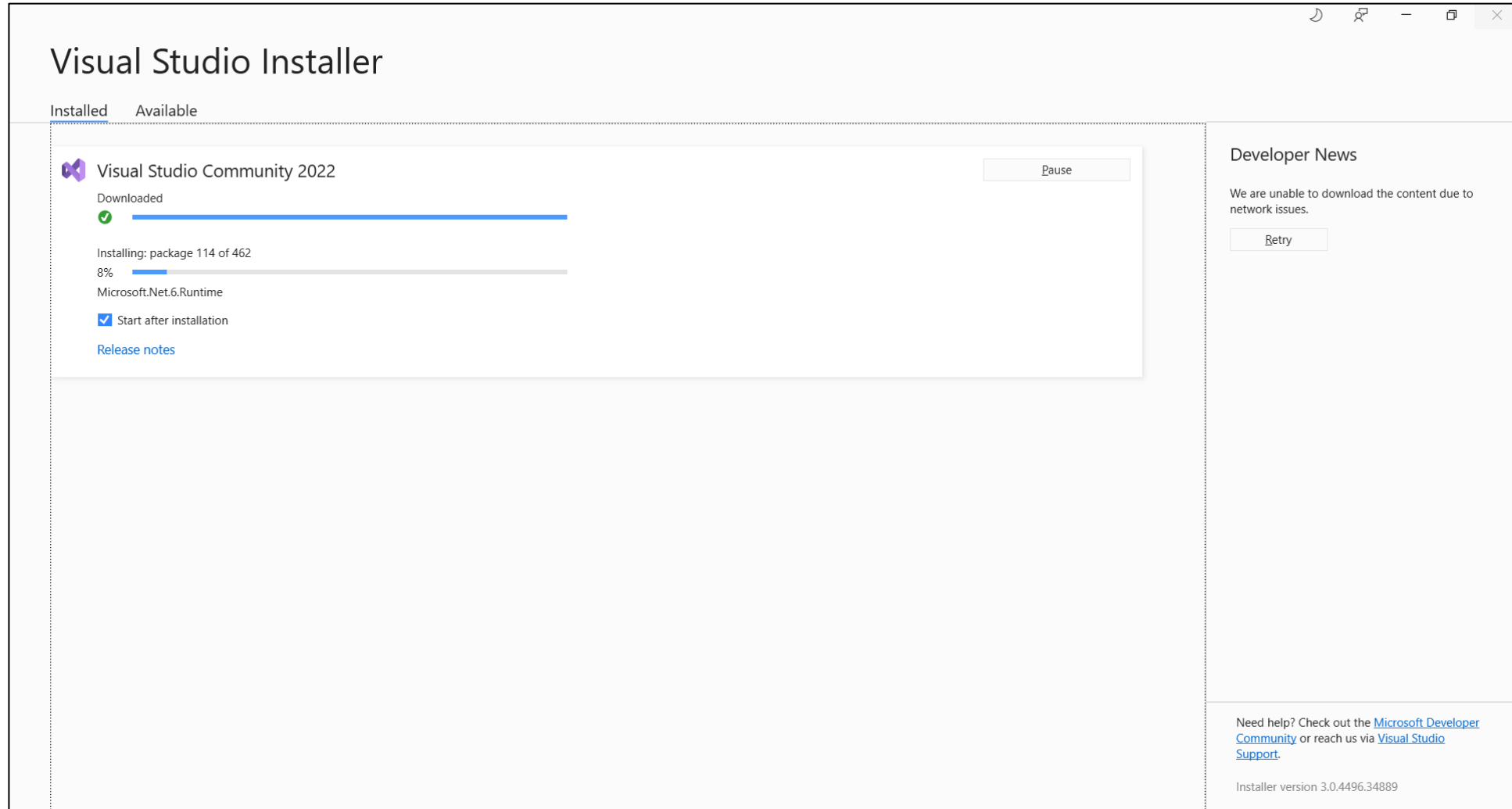
# Installing Visual Studio Community 2022



# Installing Visual Studio Community 2022



# Installing Visual Studio Community 2022





# Installing Visual Studio Community 2022

## Visual Studio

We're preparing for first use

This may take a few minutes.



## Visual Studio 2022

### Open recent

As you use Visual Studio, any projects, folders, or files that you open will show up here for quick access.

You can pin anything that you open frequently so that it's always at the top of the list.

### Get started



#### Clone a repository

Get code from an online repository like GitHub or Azure DevOps



#### Open a project or solution

Open a local Visual Studio project or .sln file



#### Open a local folder

Navigate and edit code within any folder



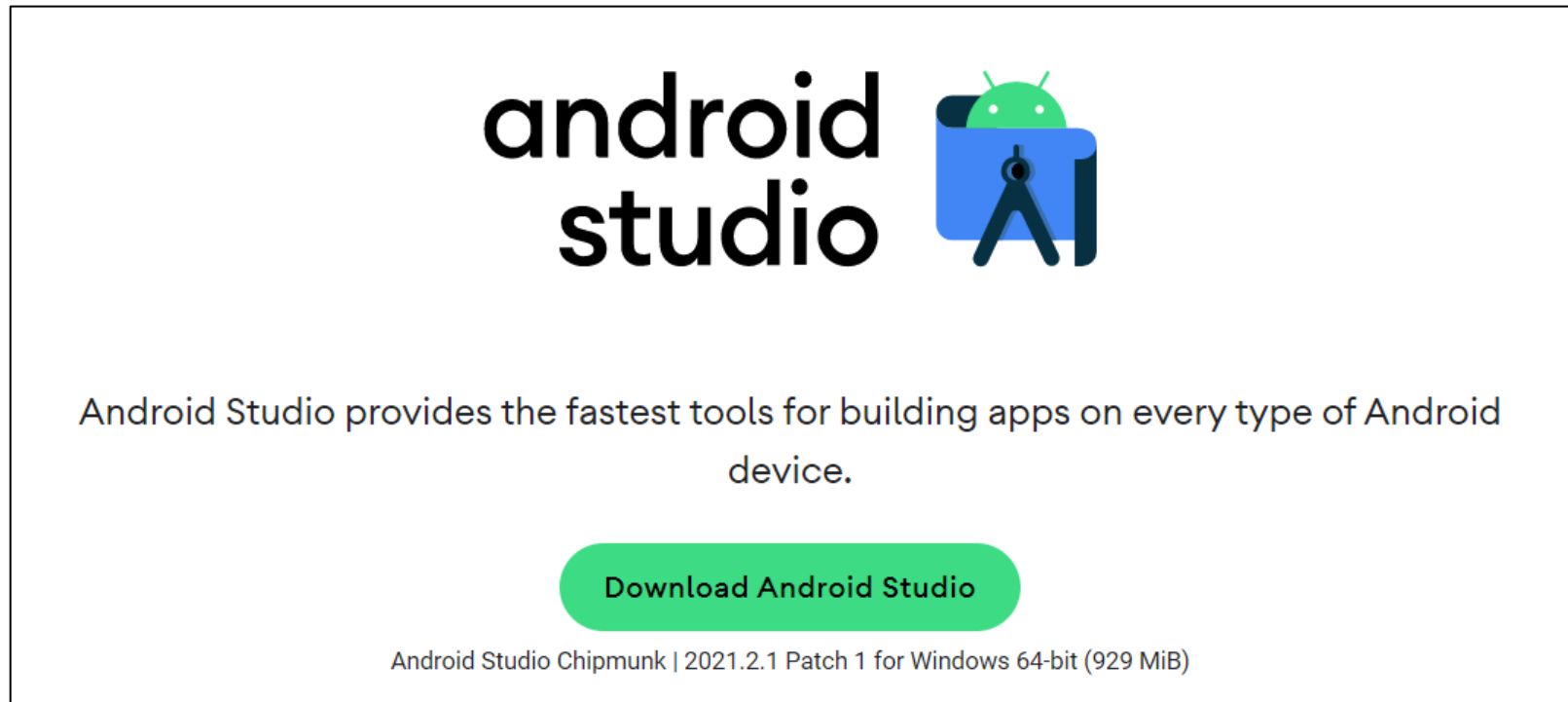
#### Create a new project

Choose a project template with code scaffolding to get started

[Continue without code →](#)

# Installing Android Studio

- Download 64-bit Android Studio 2021.
- <https://developer.android.com/studio>



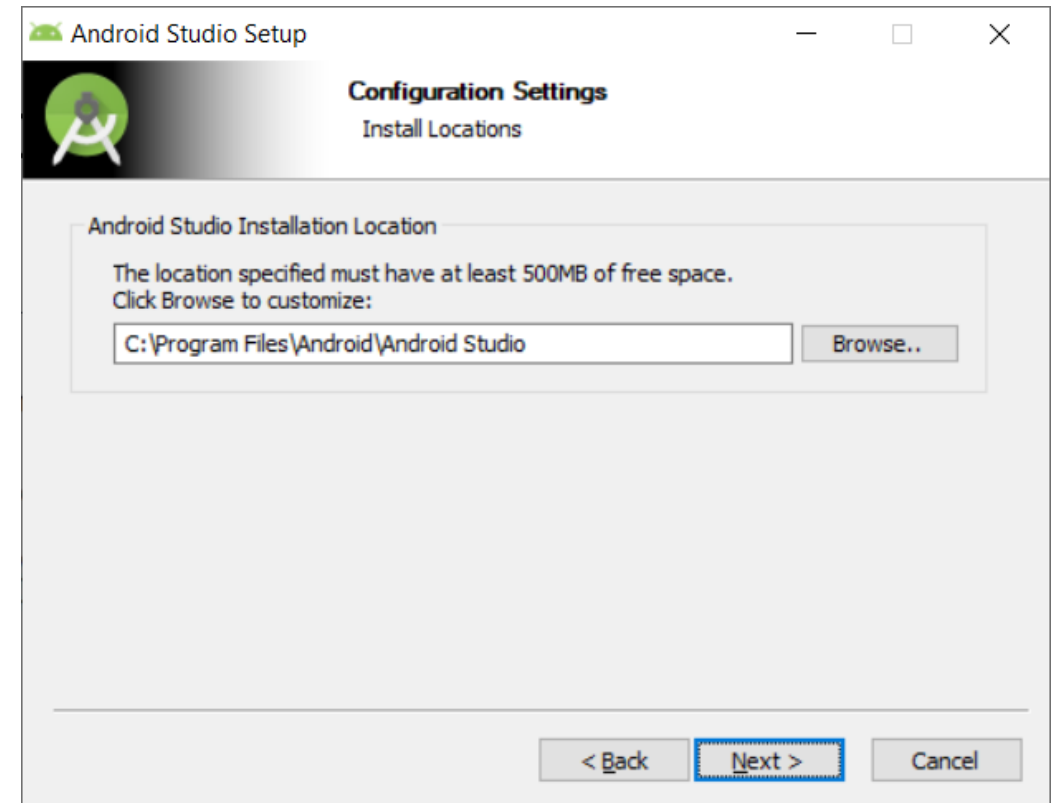
# Installing Android Studio

- Execute the Android Studio installation setup file and follow the wizard instructions.

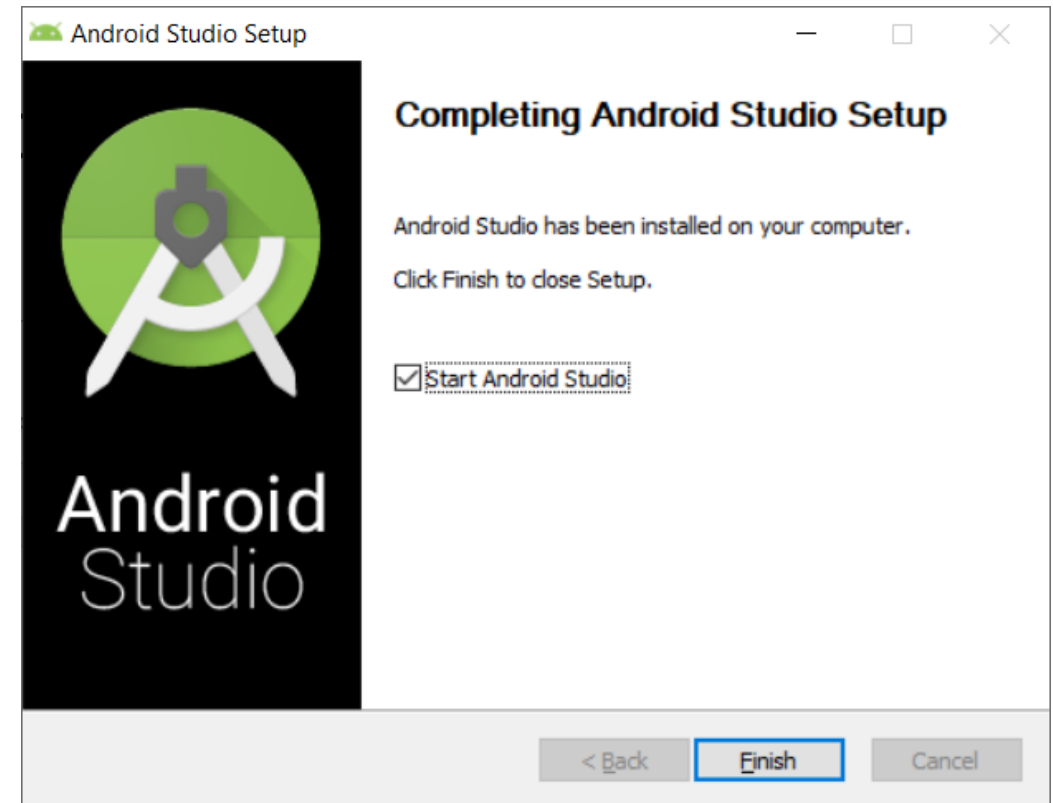
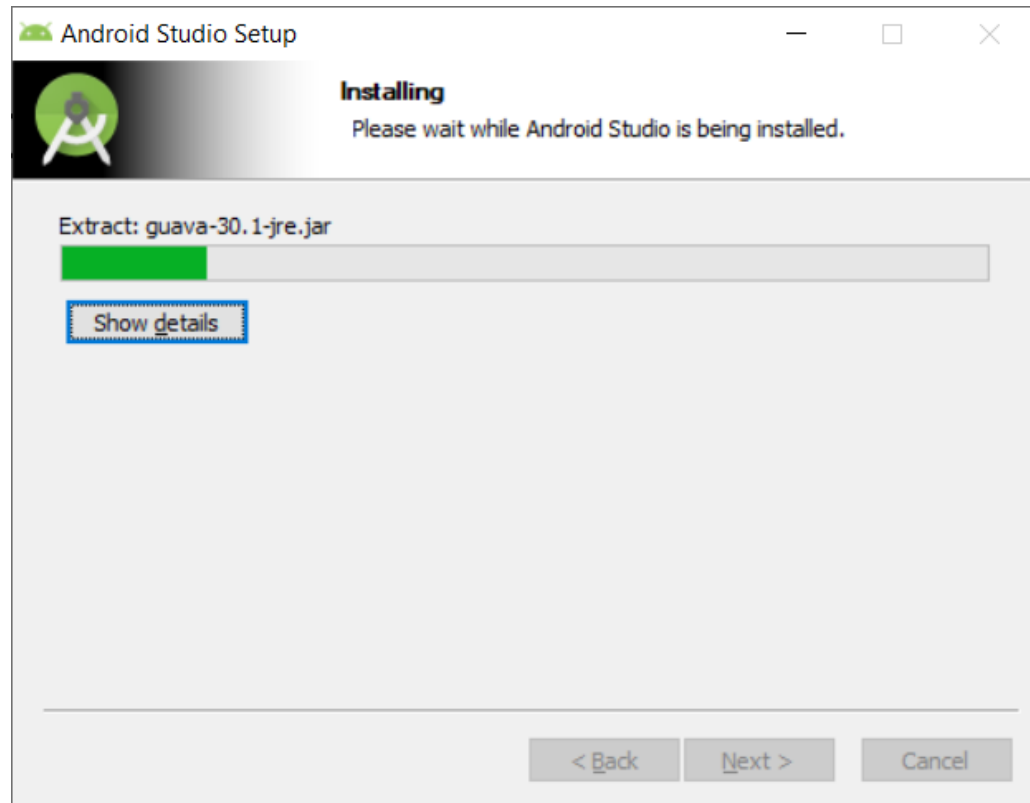


android-studio-2021.2.1.1  
5-windows

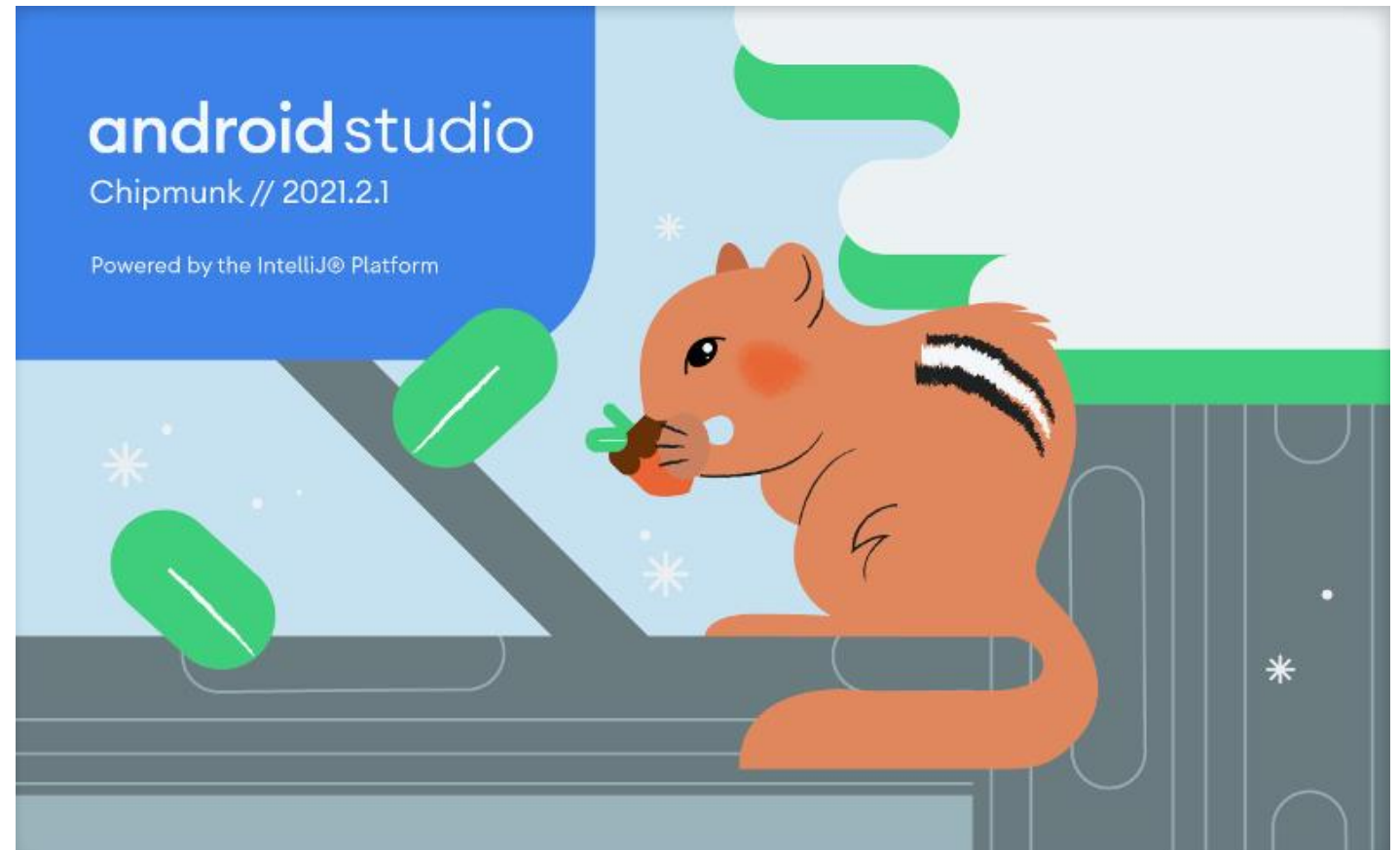
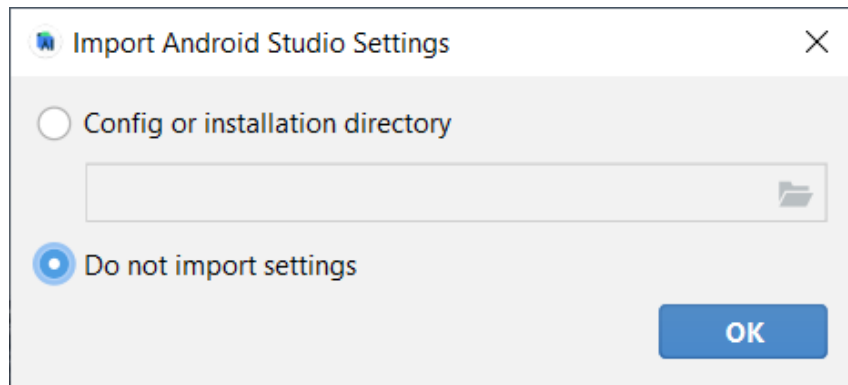
# Installing Android Studio



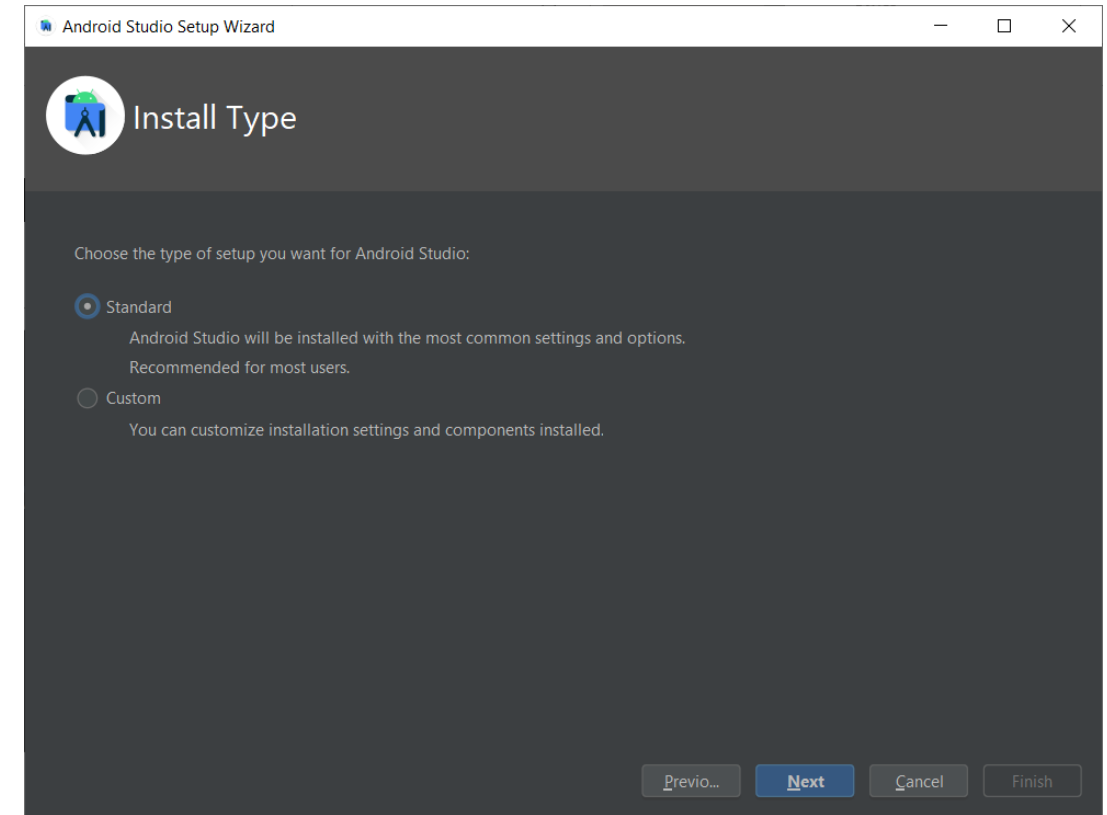
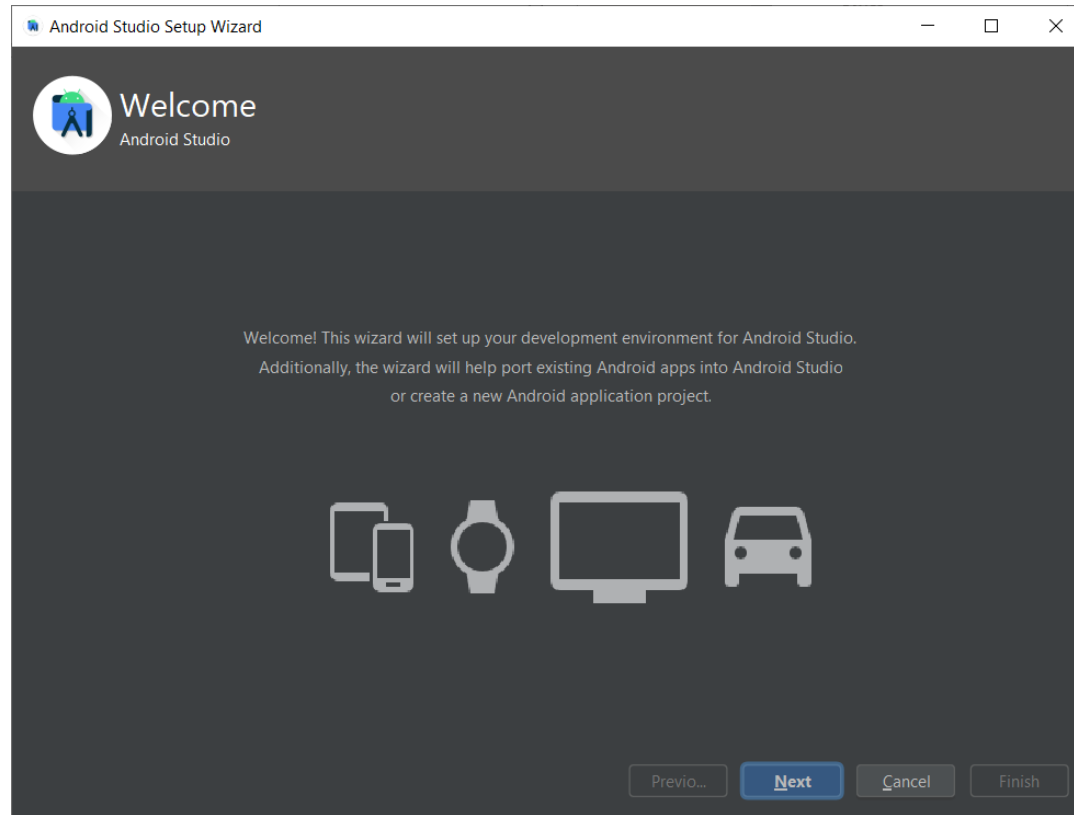
# Installing Android Studio



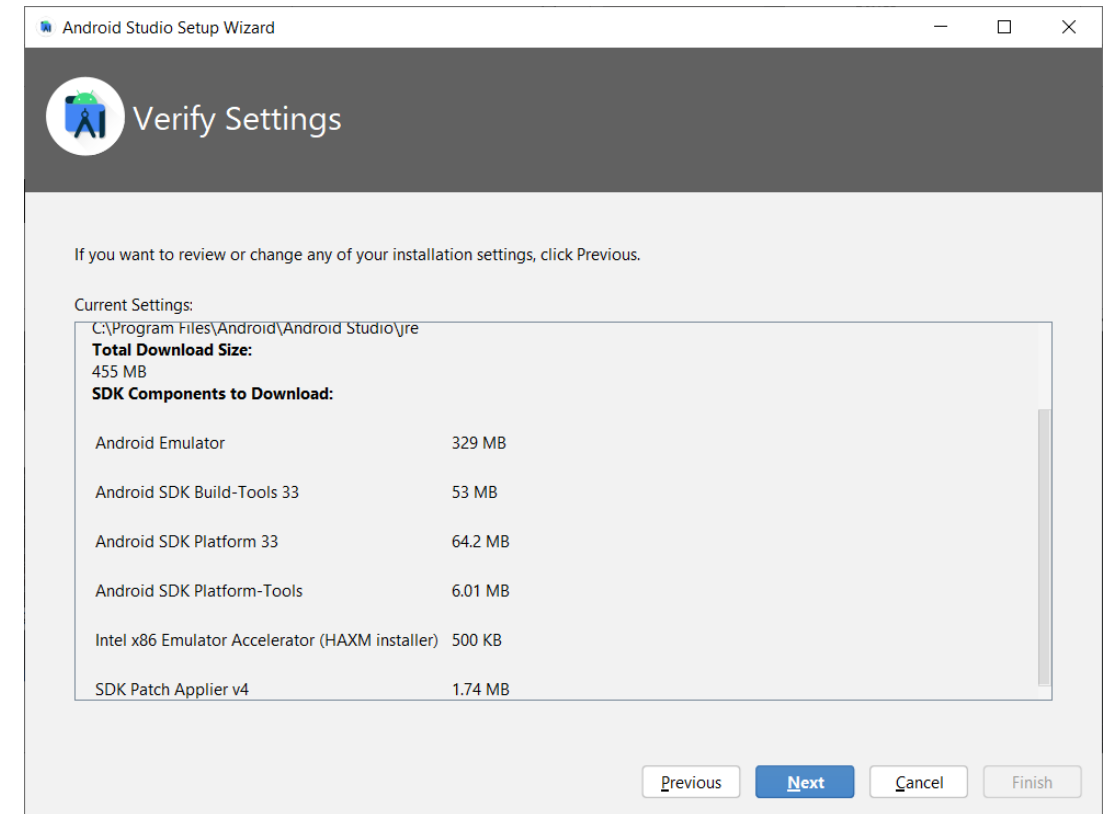
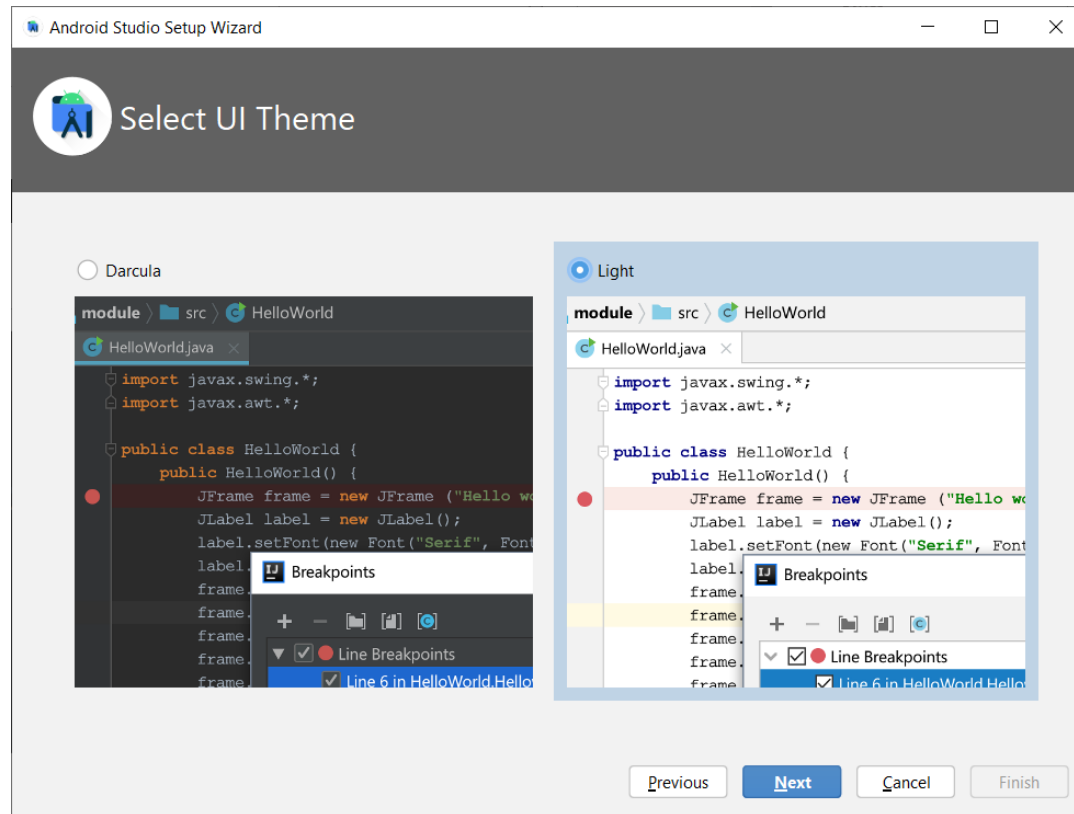
# Installing Android Studio



# Installing Android Studio

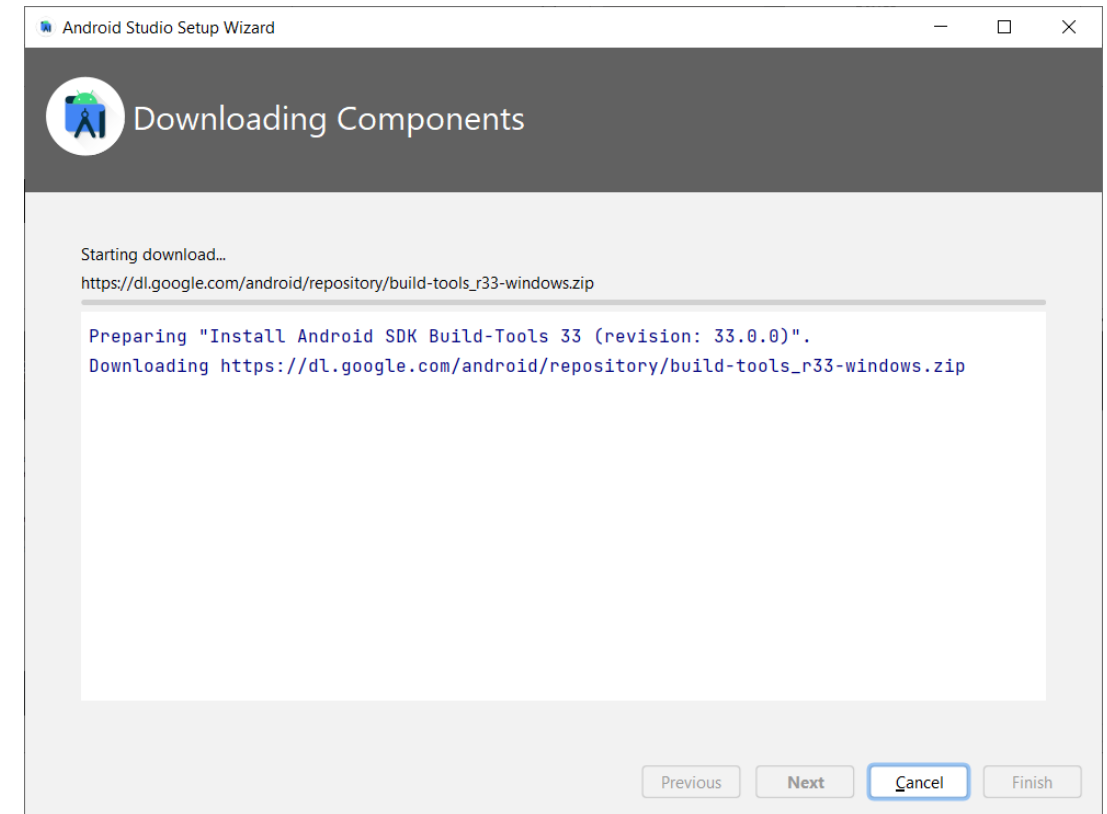
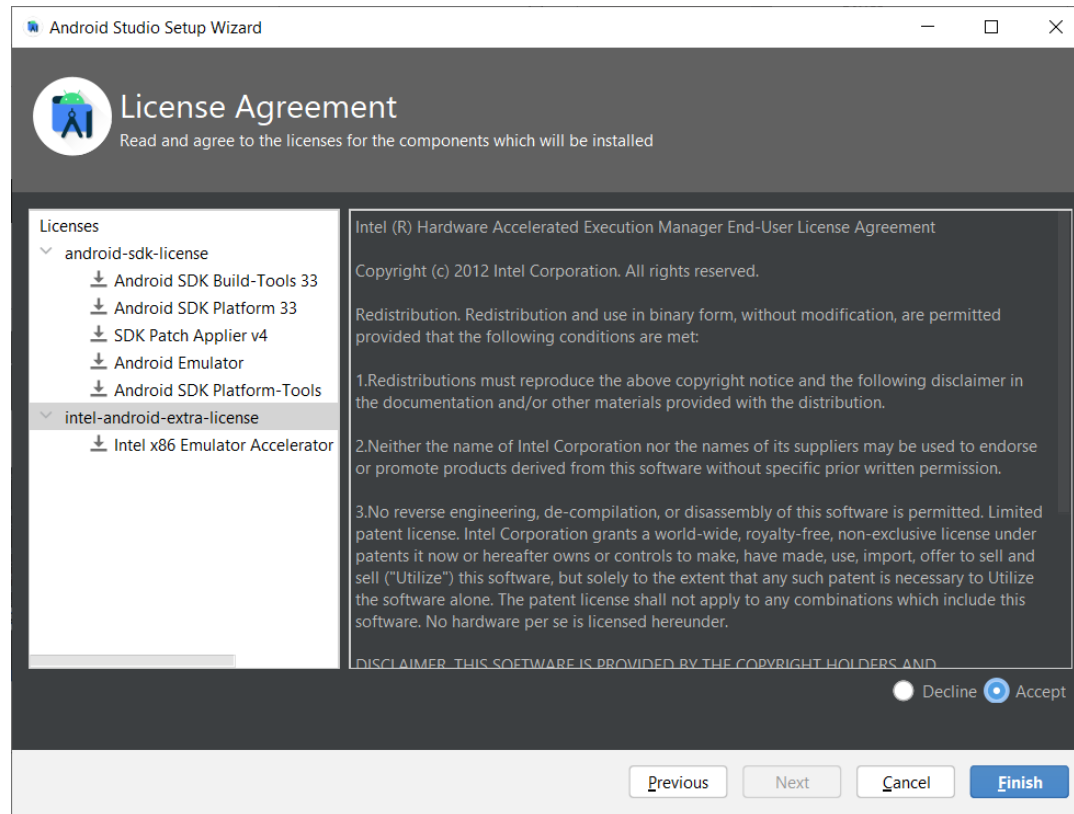


# Installing Android Studio

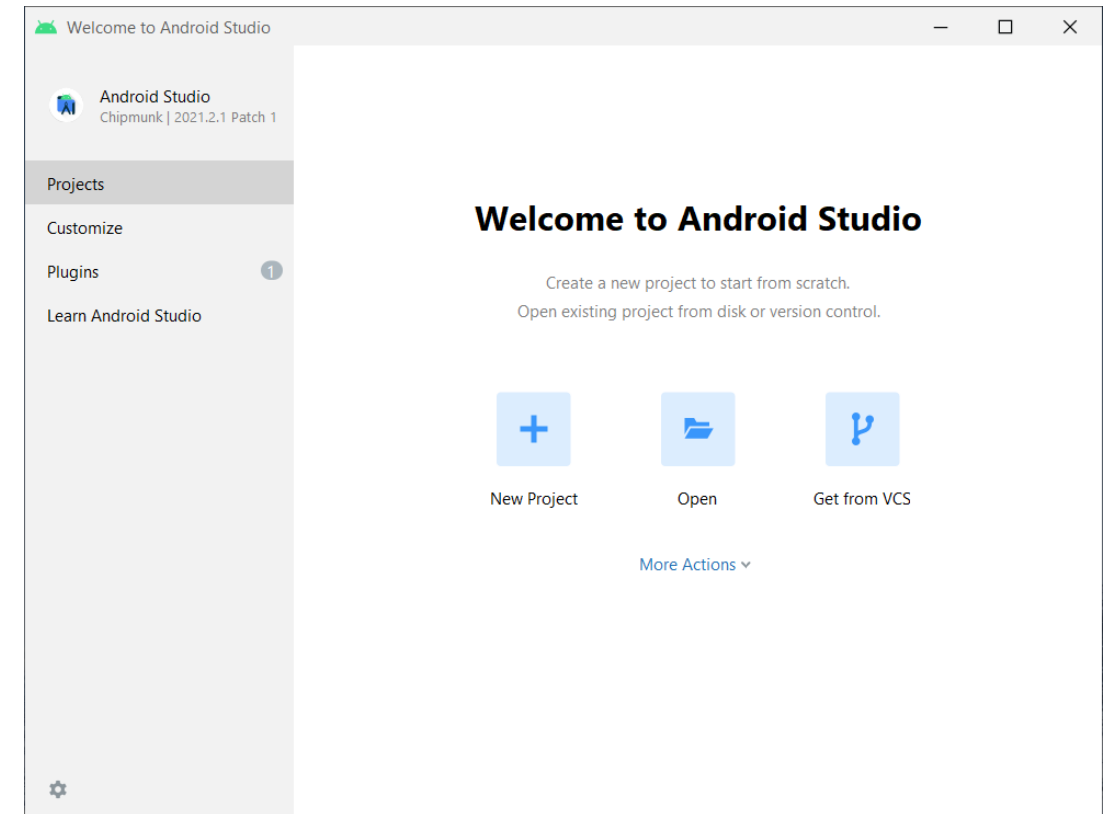
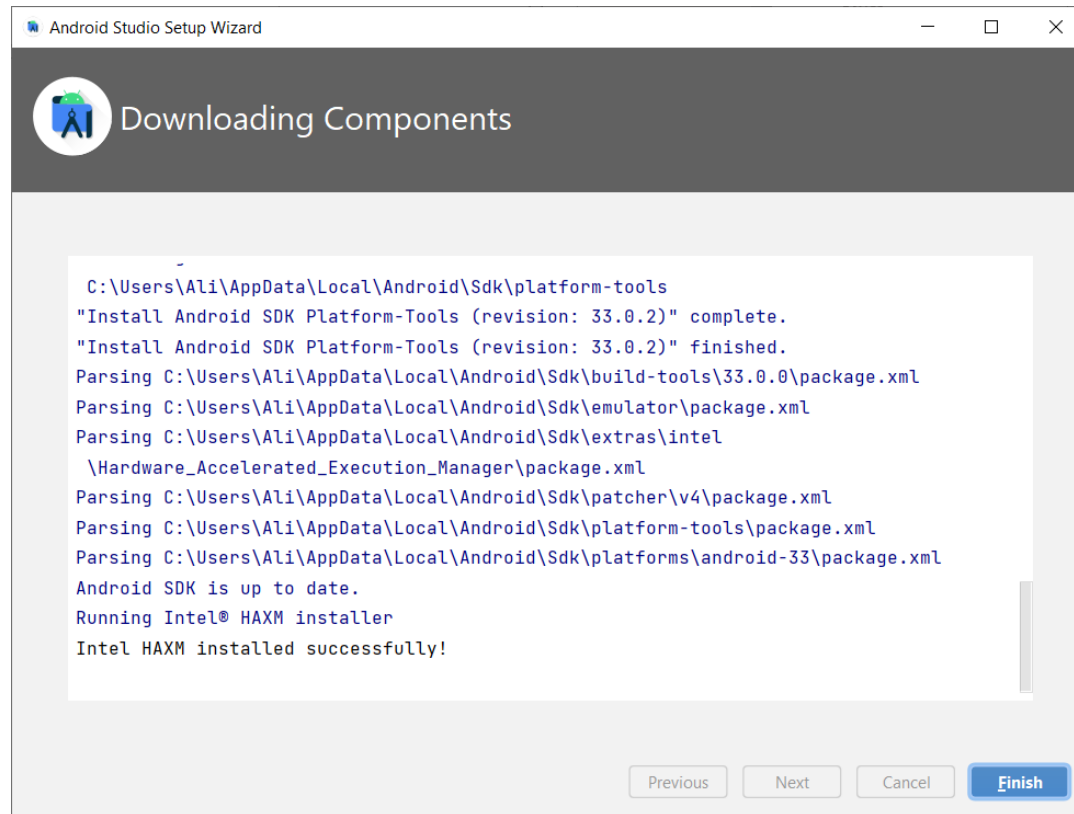




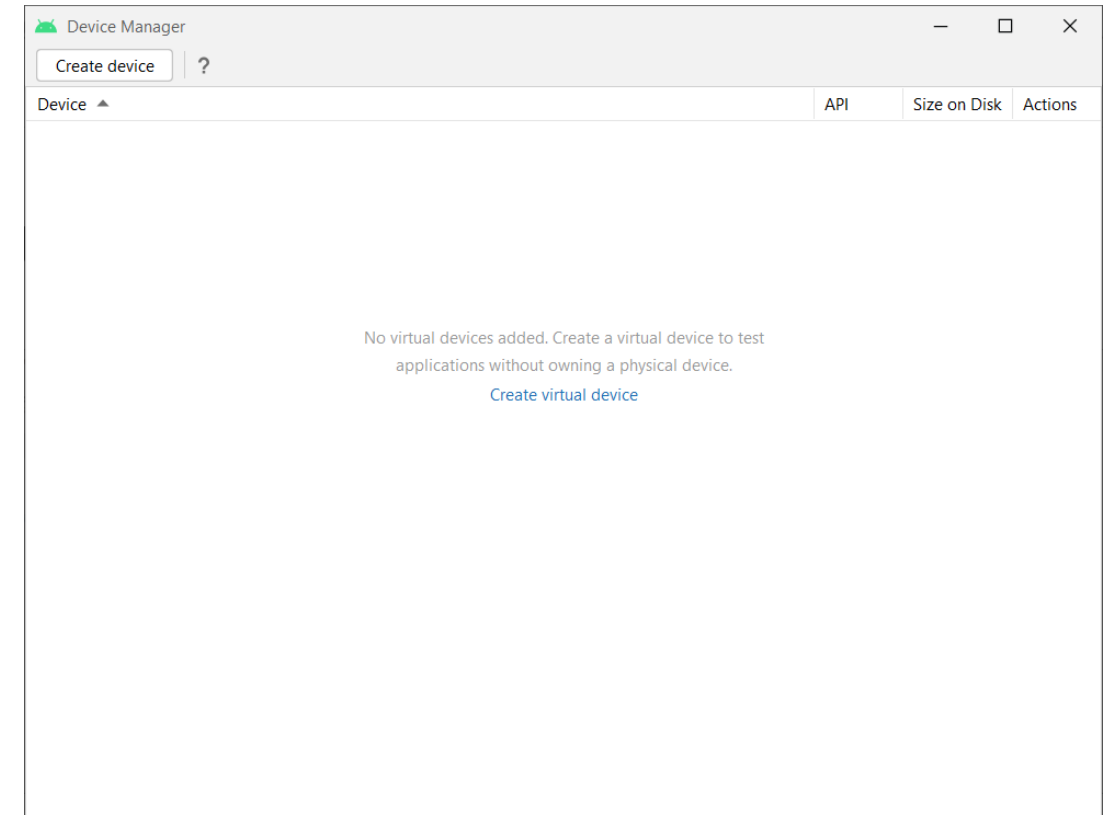
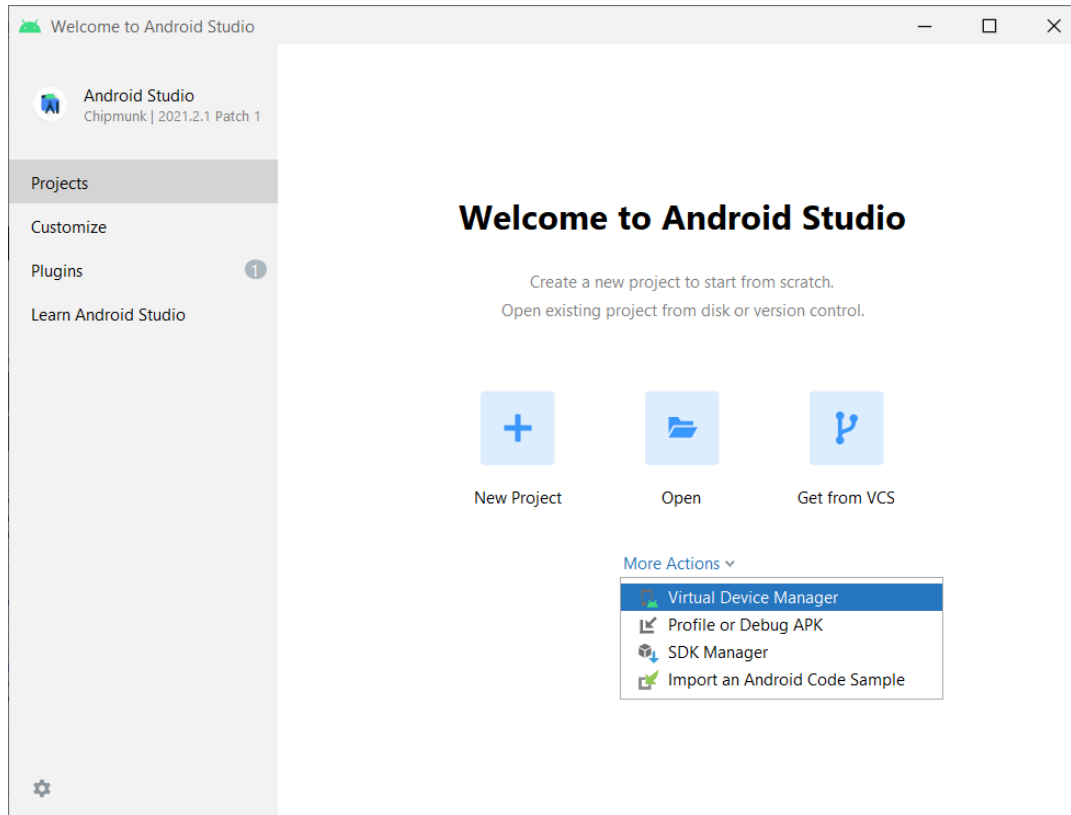
# Installing Android Studio



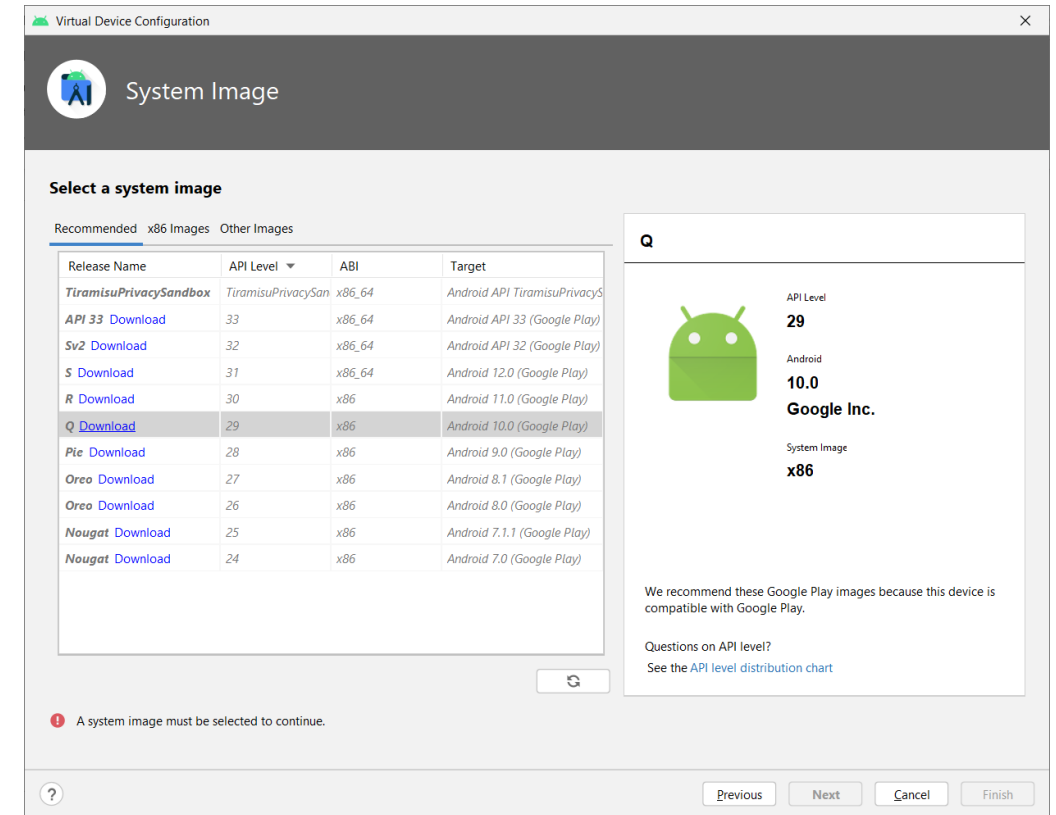
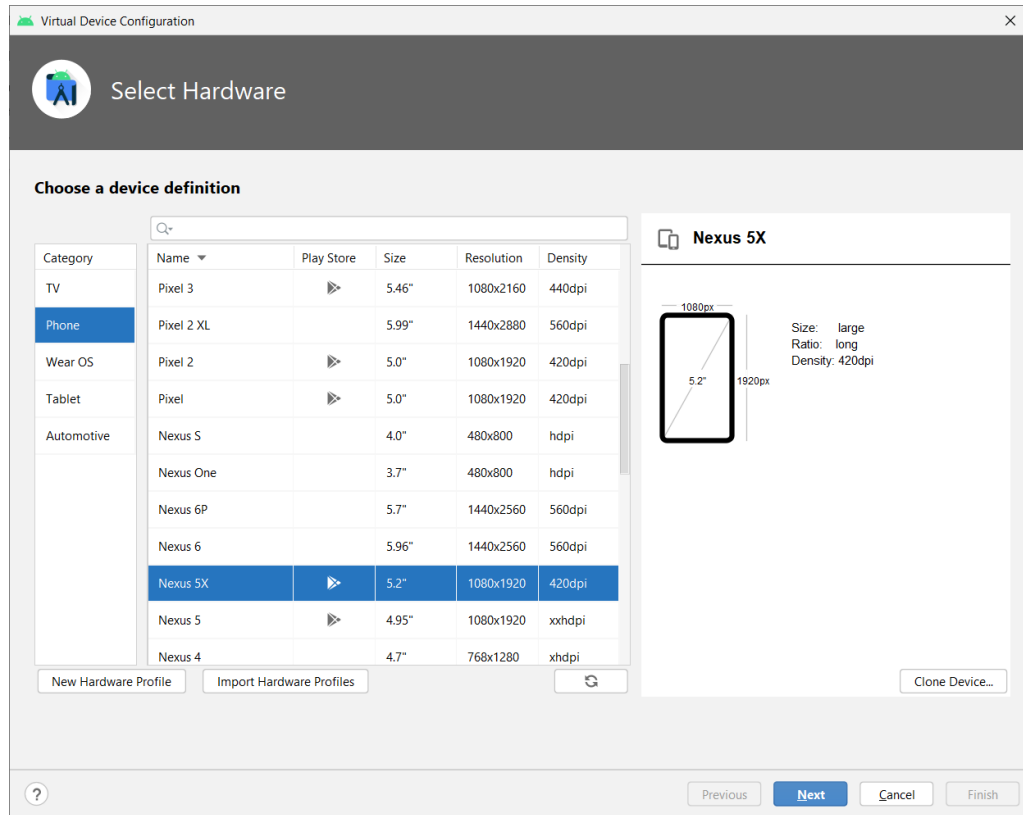
# Installing Android Studio



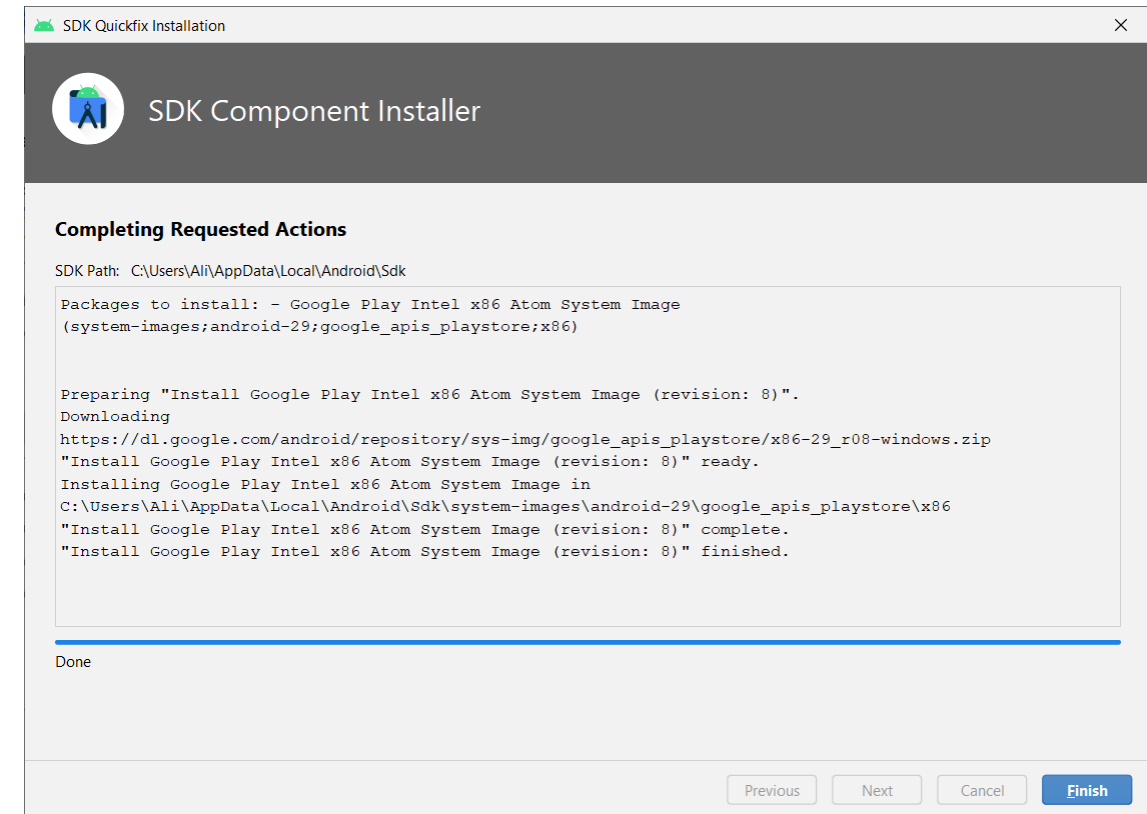
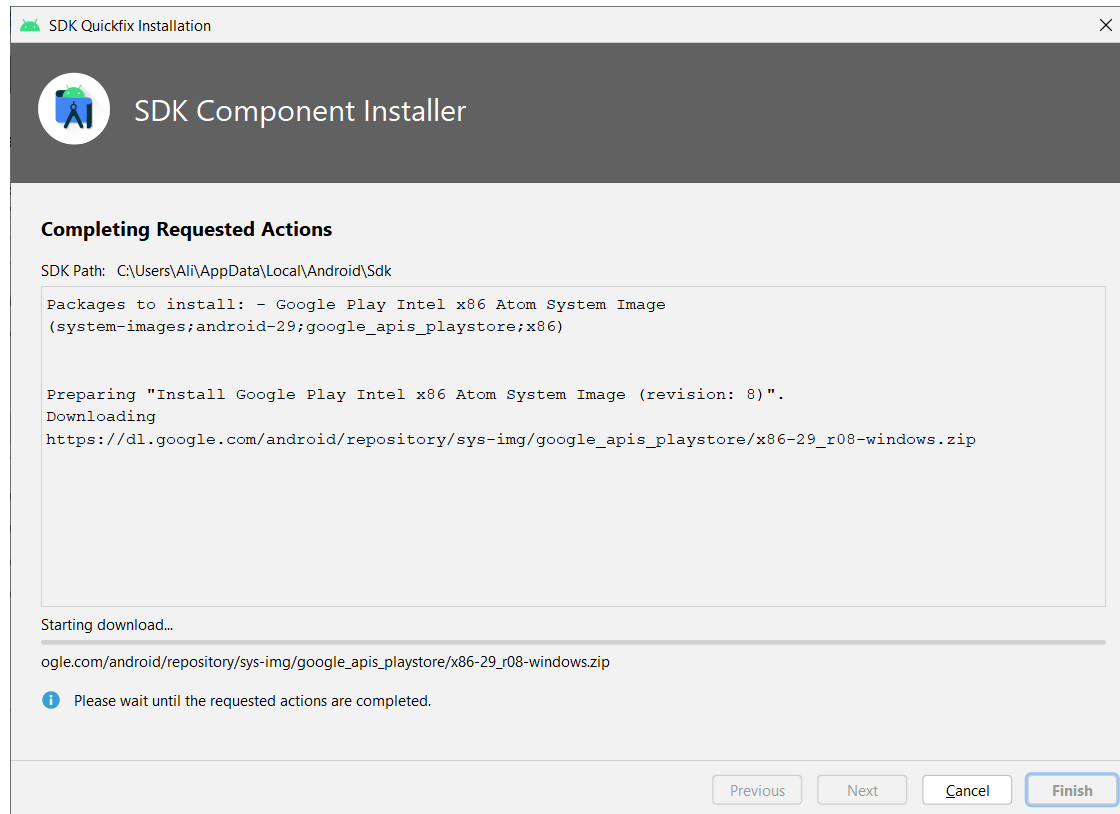
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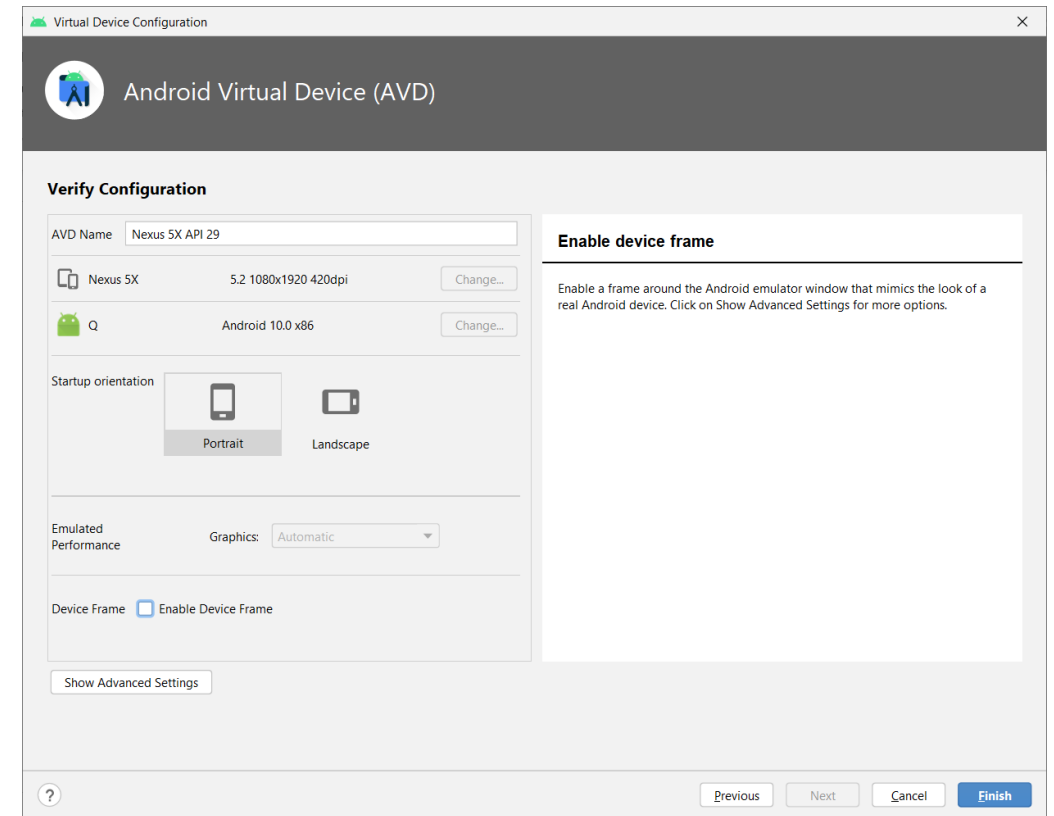
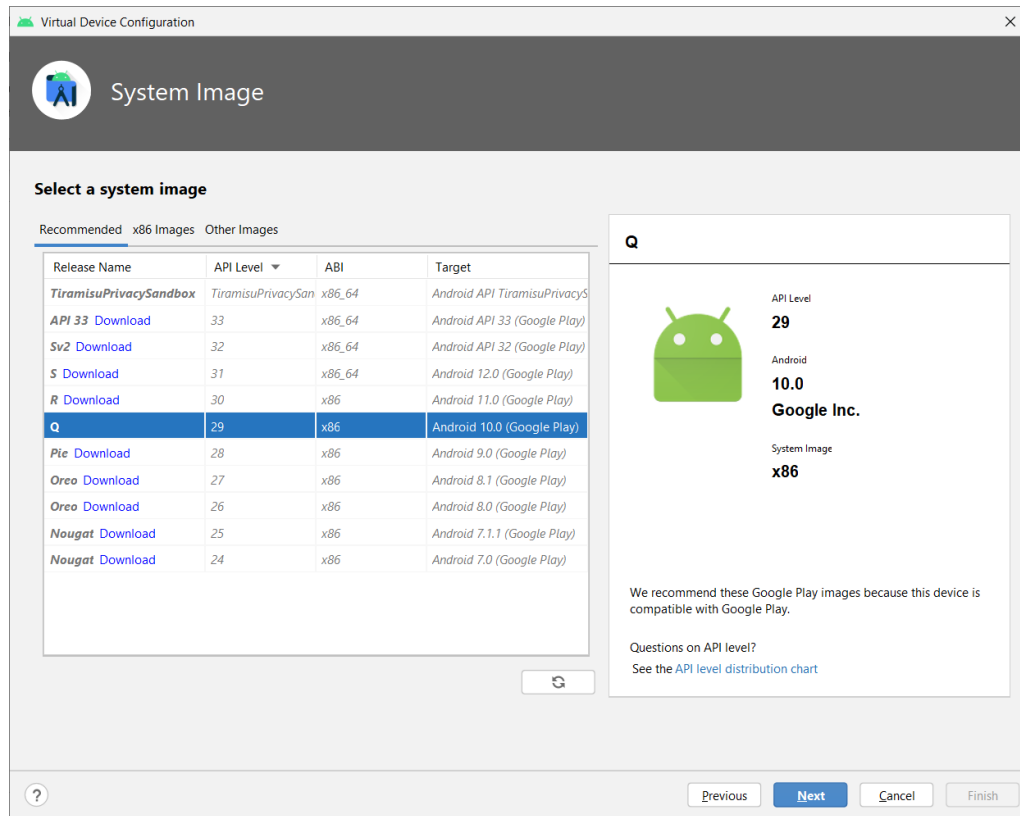
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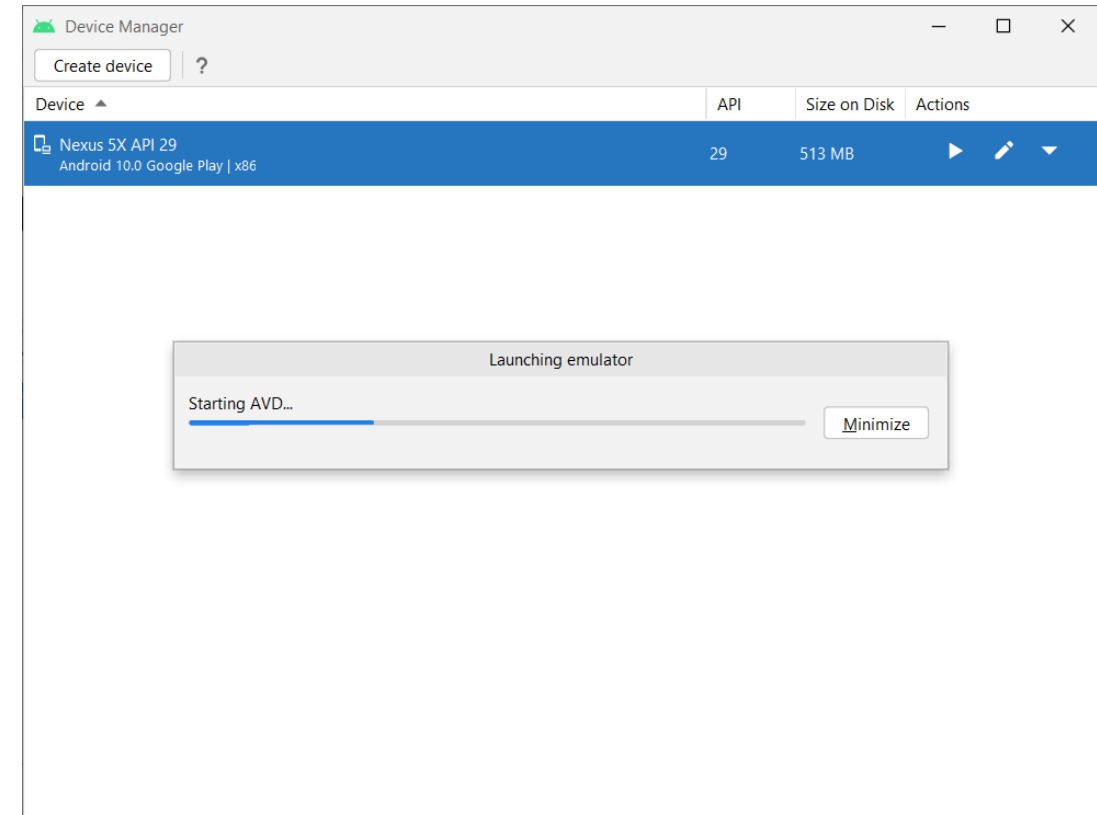
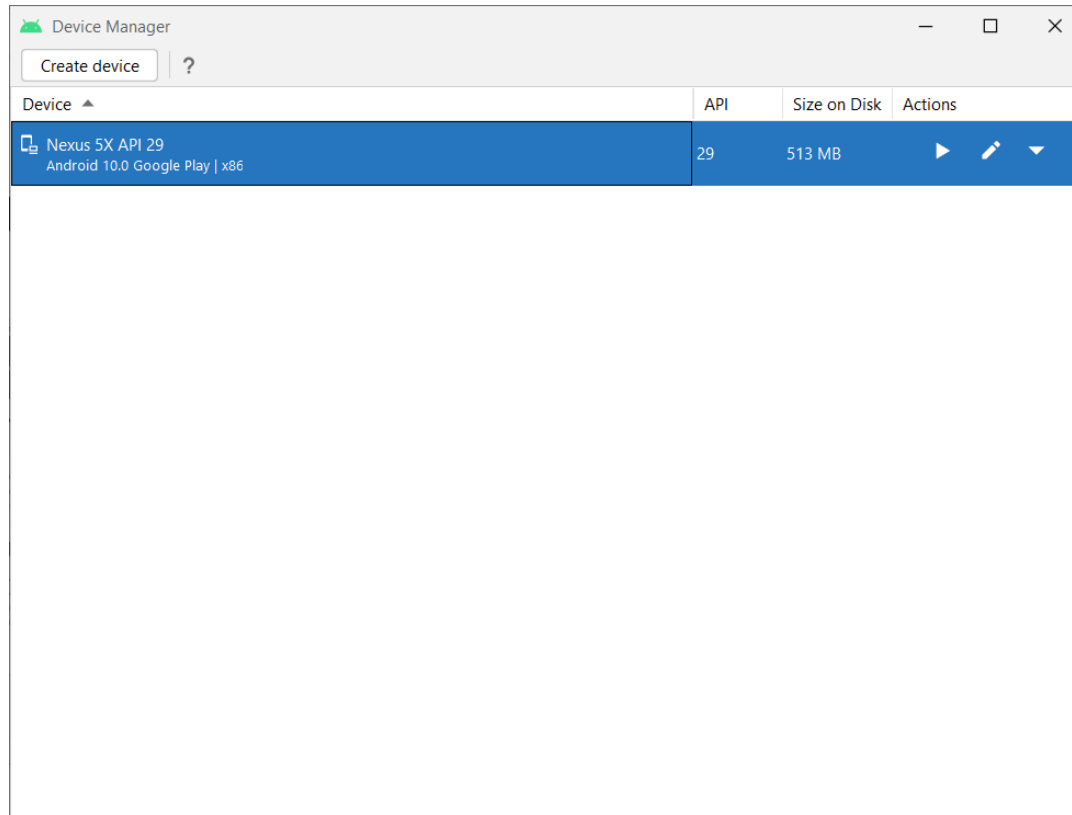
# Installing Android Studio



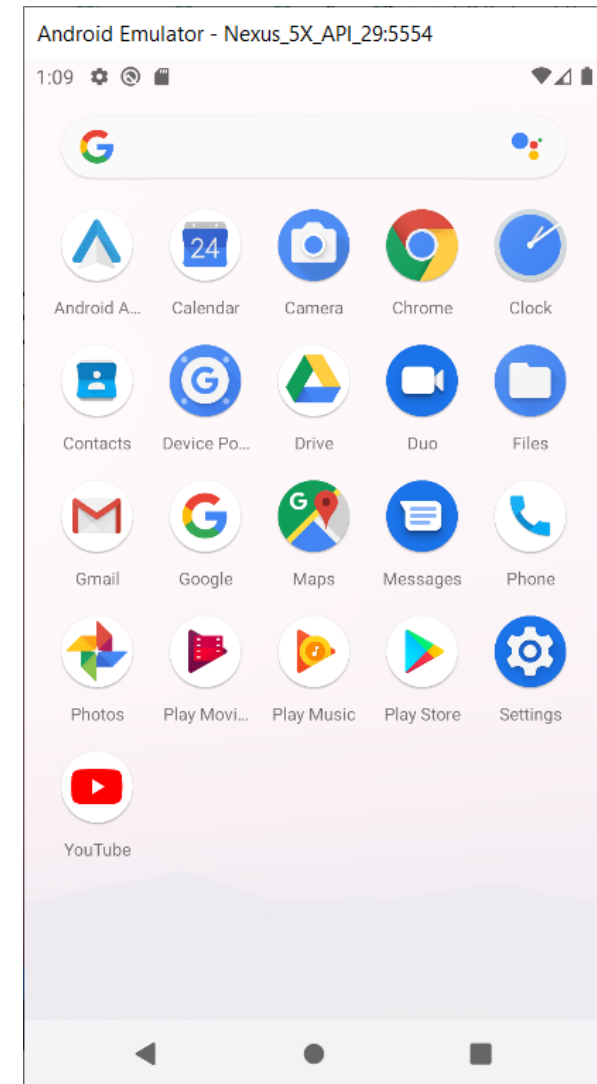
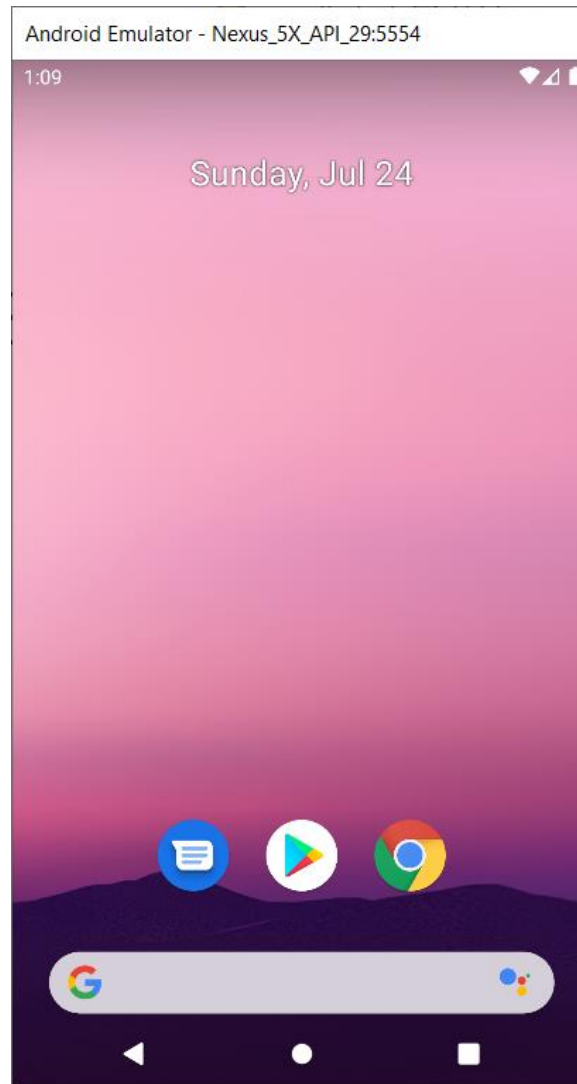
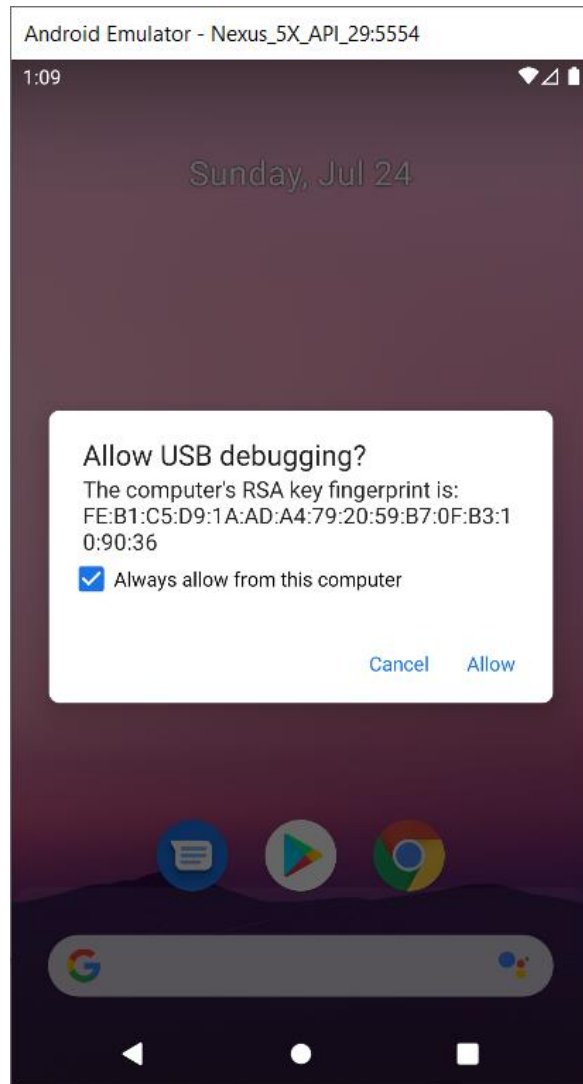
# Installing Android Studio



# Installing Android Studio

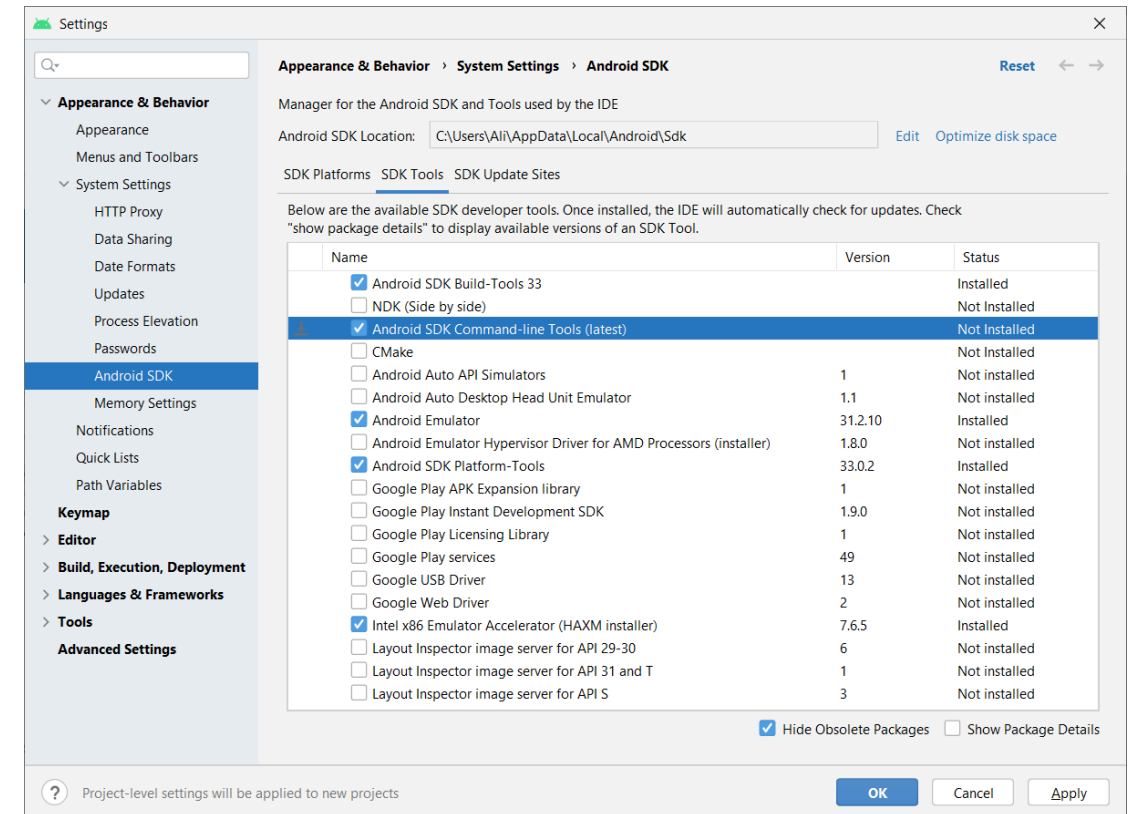
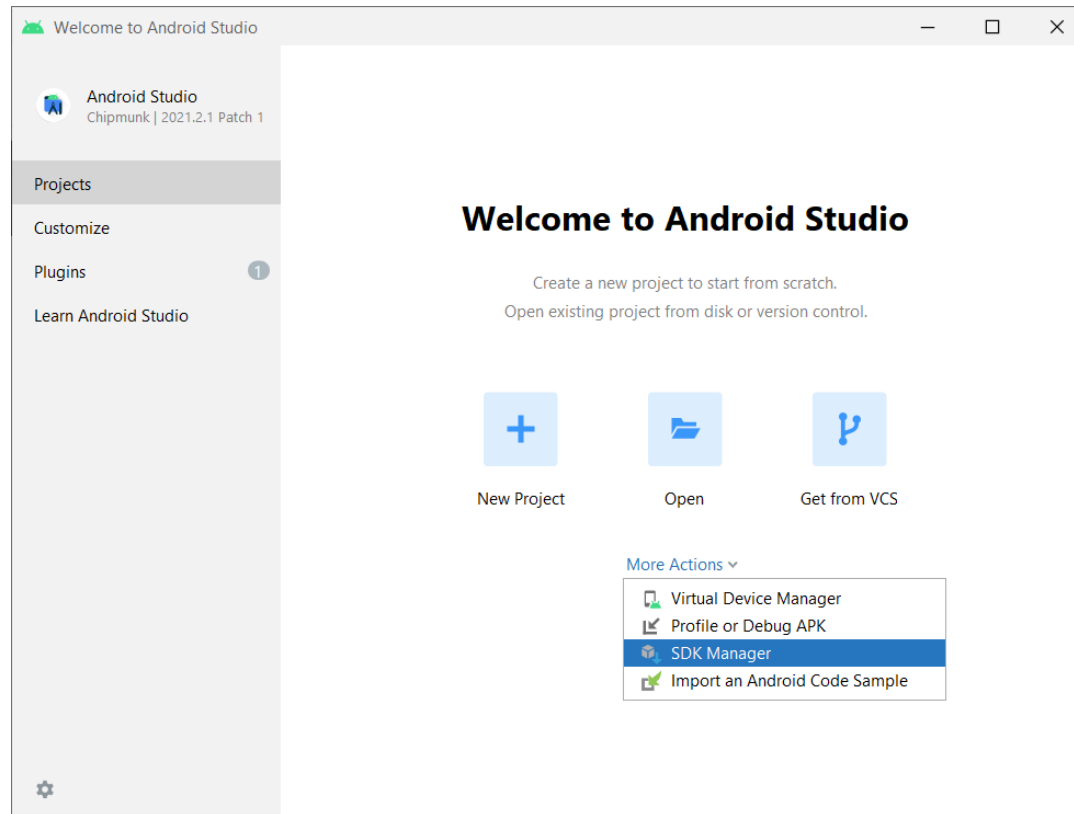


# Installing Android Studio

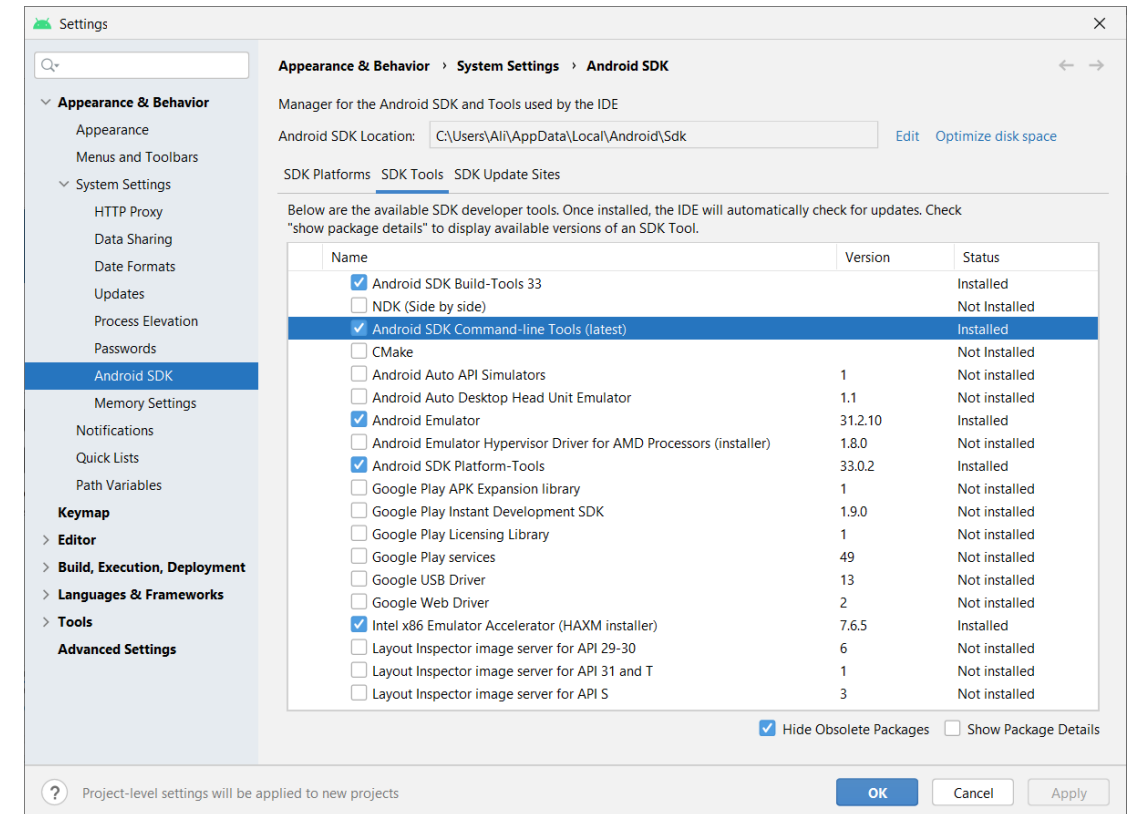
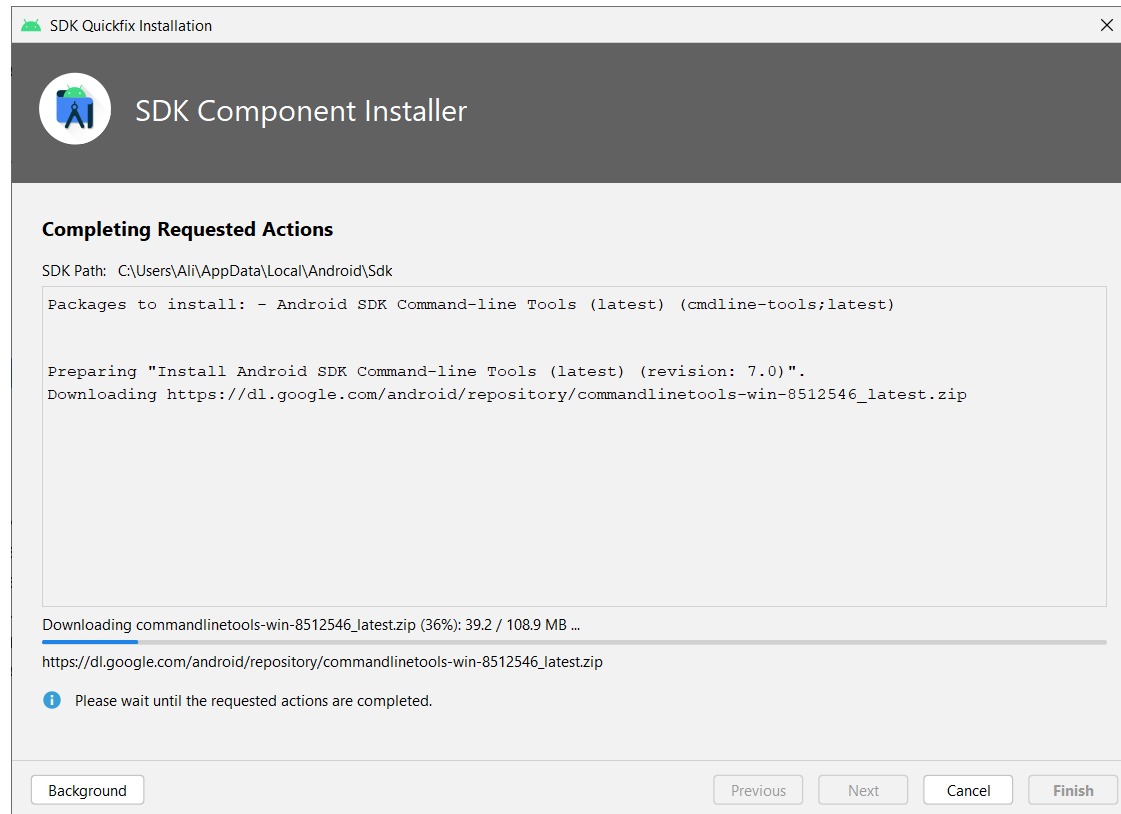




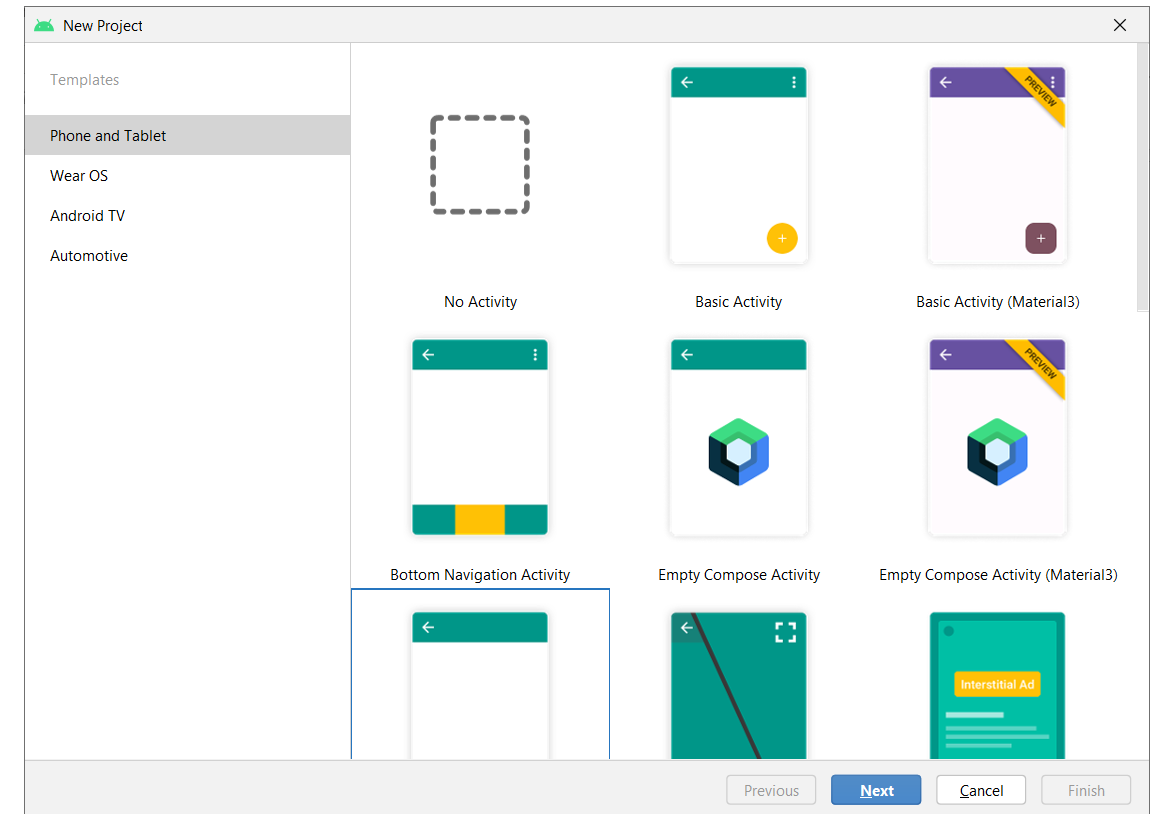
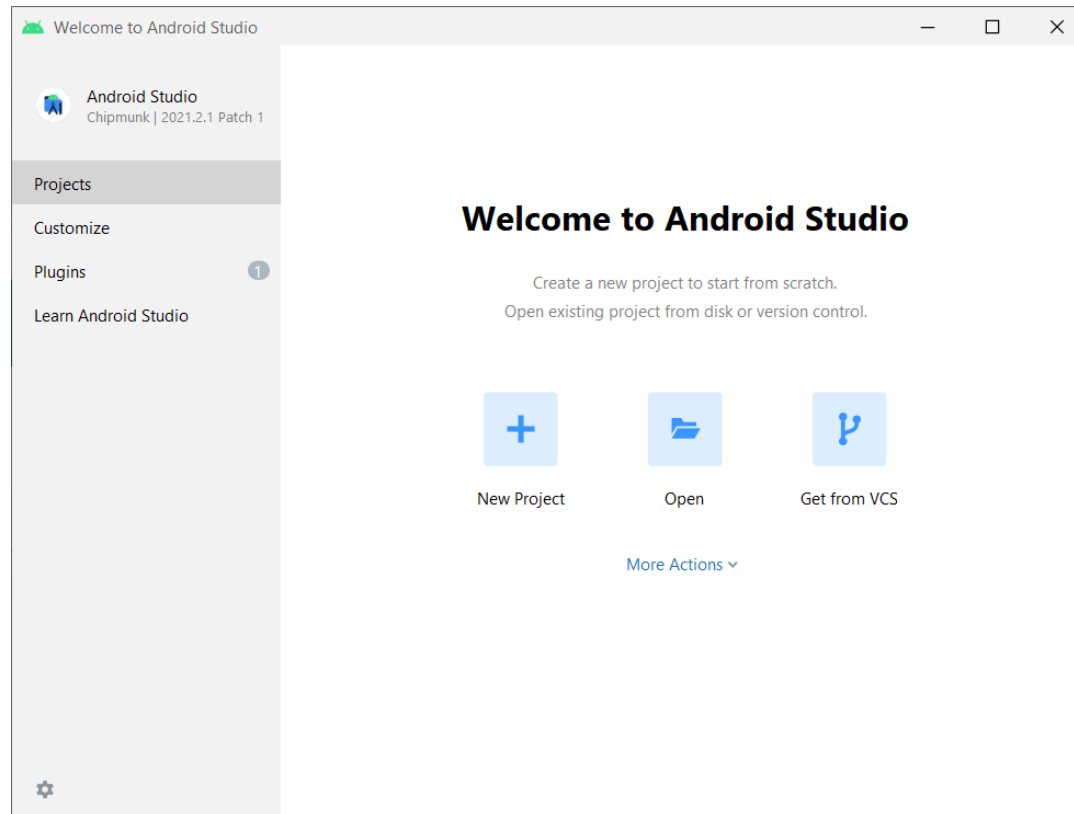
# Installing Android Studio



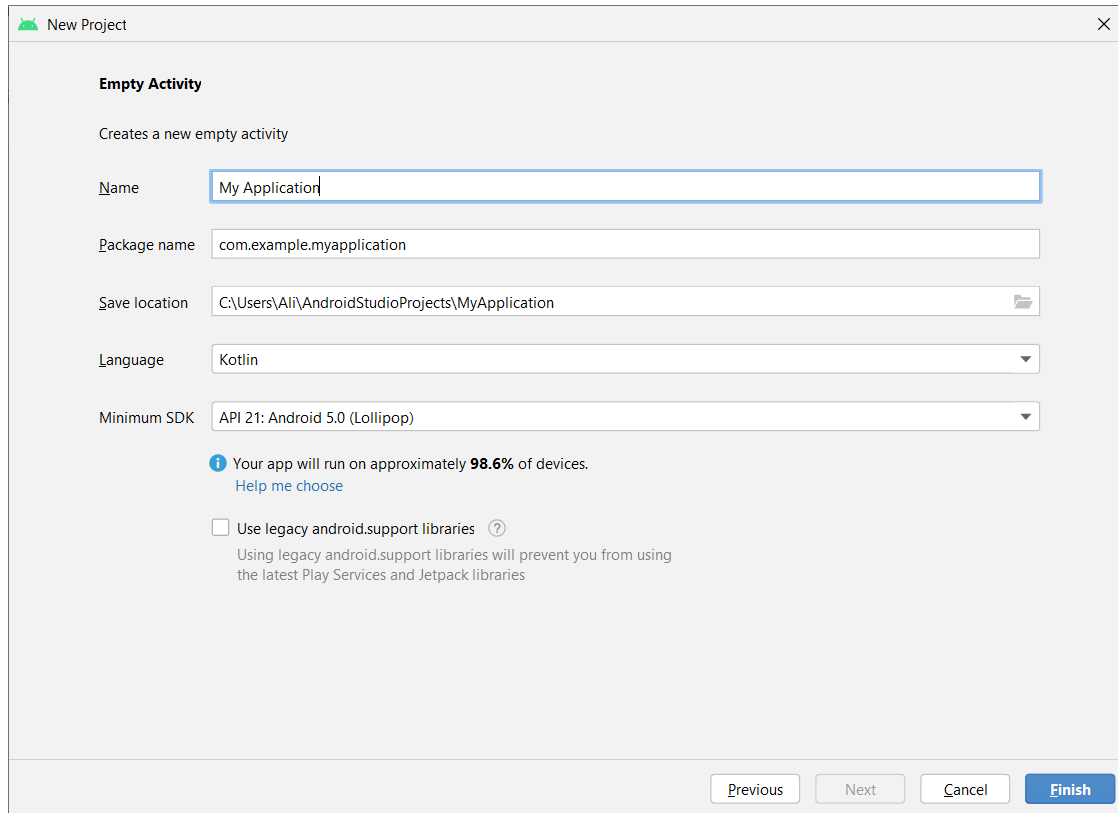
# Installing Android Studio



# Installing Android Studio



# Installing Android Studio



**New Project**

**Empty Activity**

Creates a new empty activity

Name:

Package name:

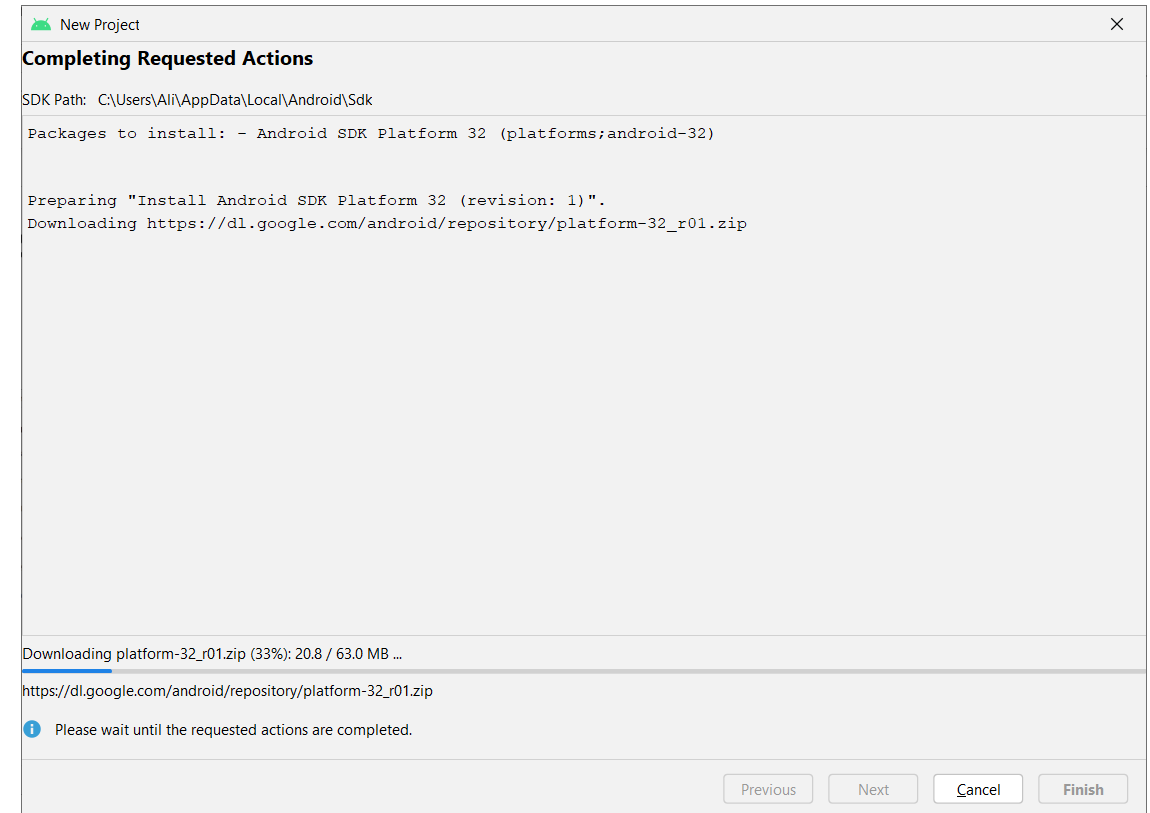
Save location:

Language:

Minimum SDK:

**i** Your app will run on approximately **98.6%** of devices.  
[Help me choose](#)

☐ Use legacy android.support libraries **?**  
Using legacy android.support libraries will prevent you from using the latest Play Services and Jetpack libraries



**New Project**

**Completing Requested Actions**

SDK Path: C:\Users\Ali\AppData\Local\Android\Sdk

Packages to install: - Android SDK Platform 32 (platforms;android-32)

Preparing "Install Android SDK Platform 32 (revision: 1)".  
Downloading [https://dl.google.com/android/repository/platform-32\\_r01.zip](https://dl.google.com/android/repository/platform-32_r01.zip)

Downloading platform-32\_r01.zip (33%): 20.8 / 63.0 MB ...  
[https://dl.google.com/android/repository/platform-32\\_r01.zip](https://dl.google.com/android/repository/platform-32_r01.zip)

**i** Please wait until the requested actions are completed.

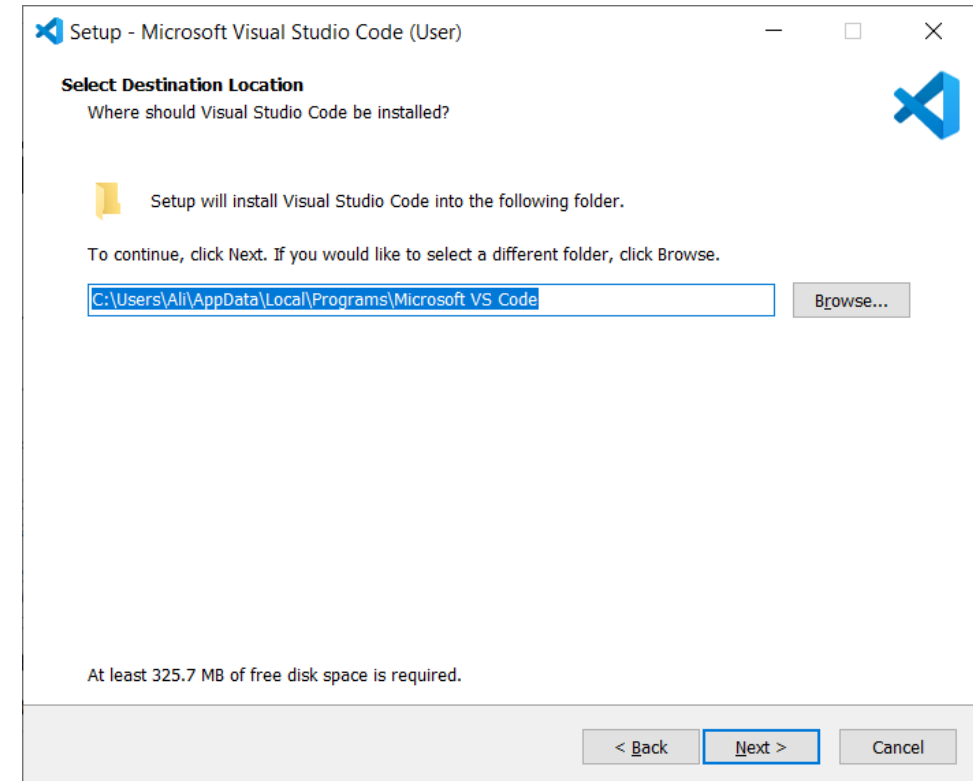
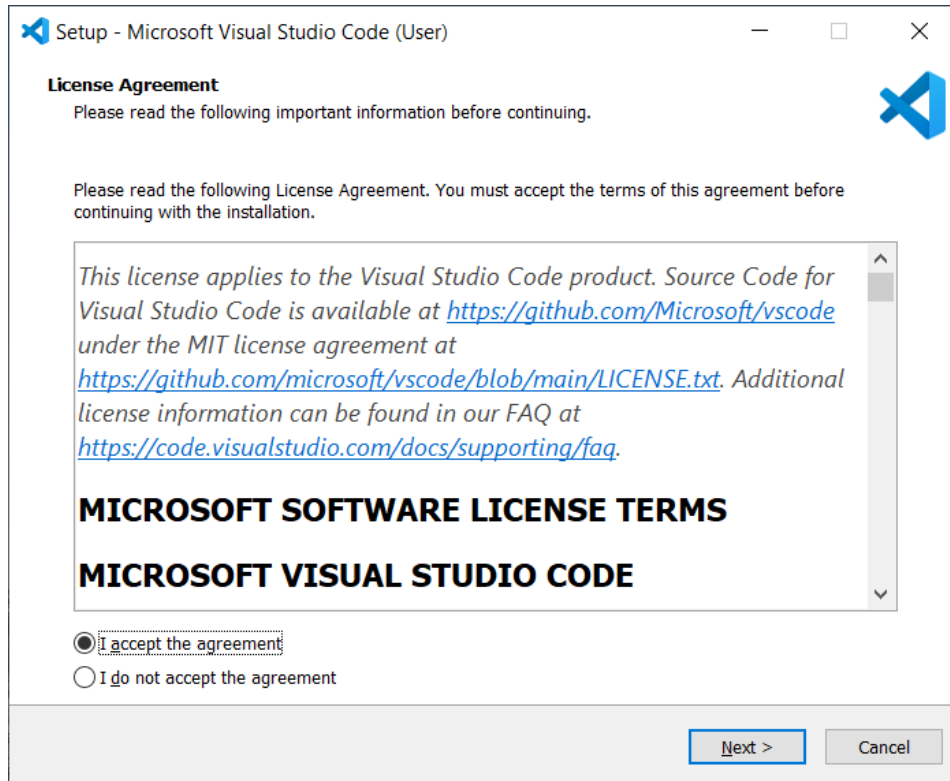
# Installing Visual Studio Code

- Execute the VS Code installation setup file and follow the wizard instructions.

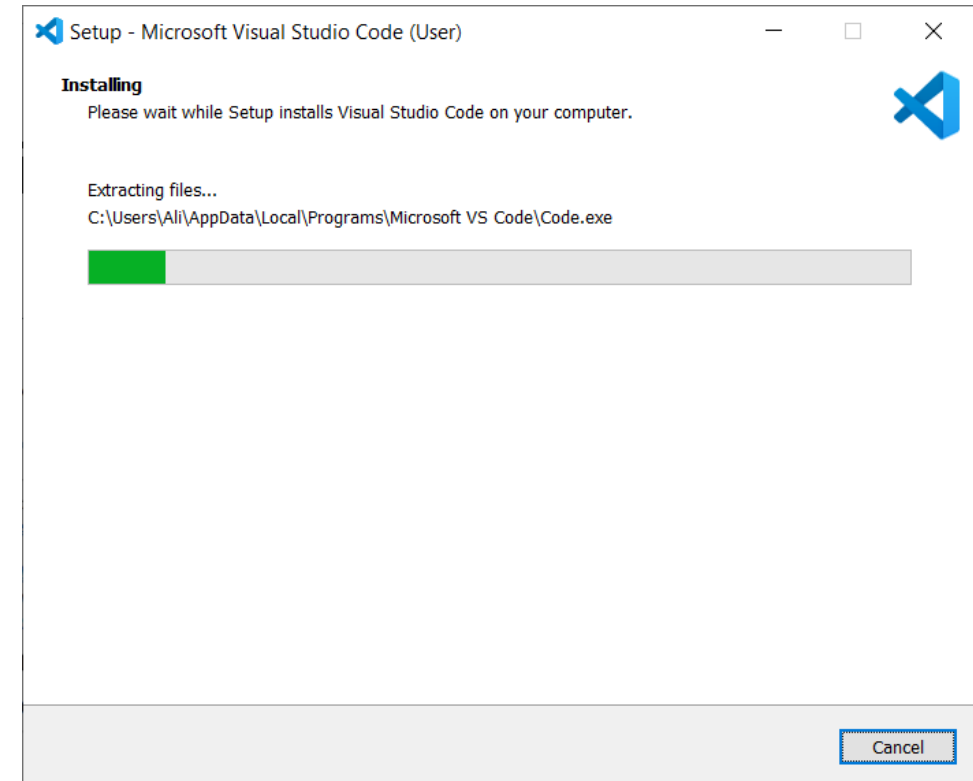
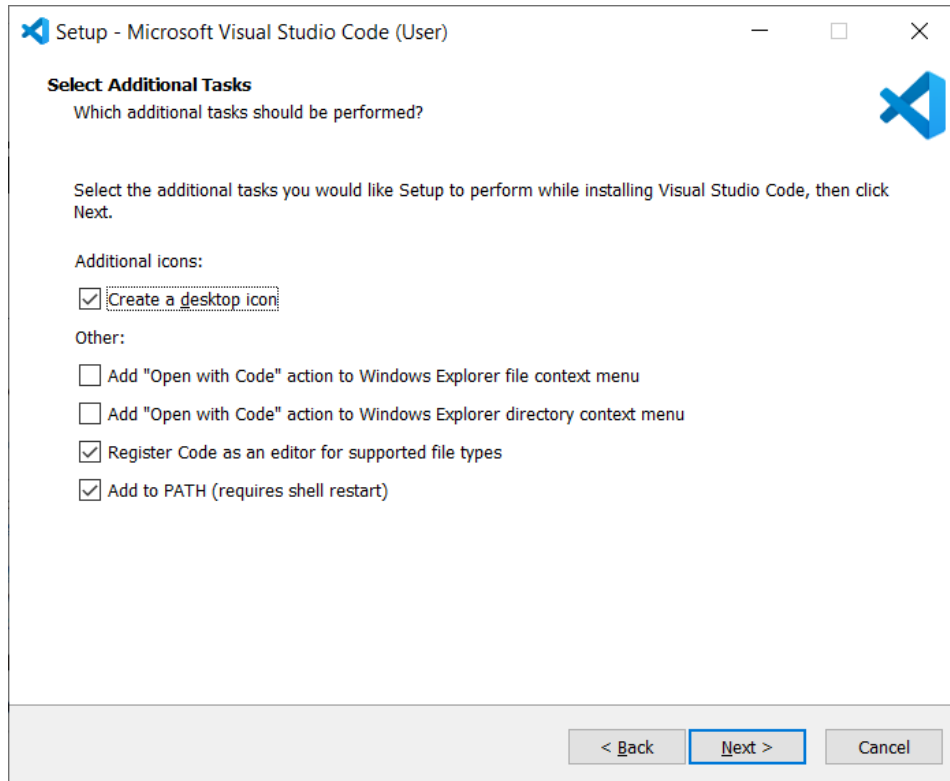


VSCodeUserSetup-x64-1.6  
9.2

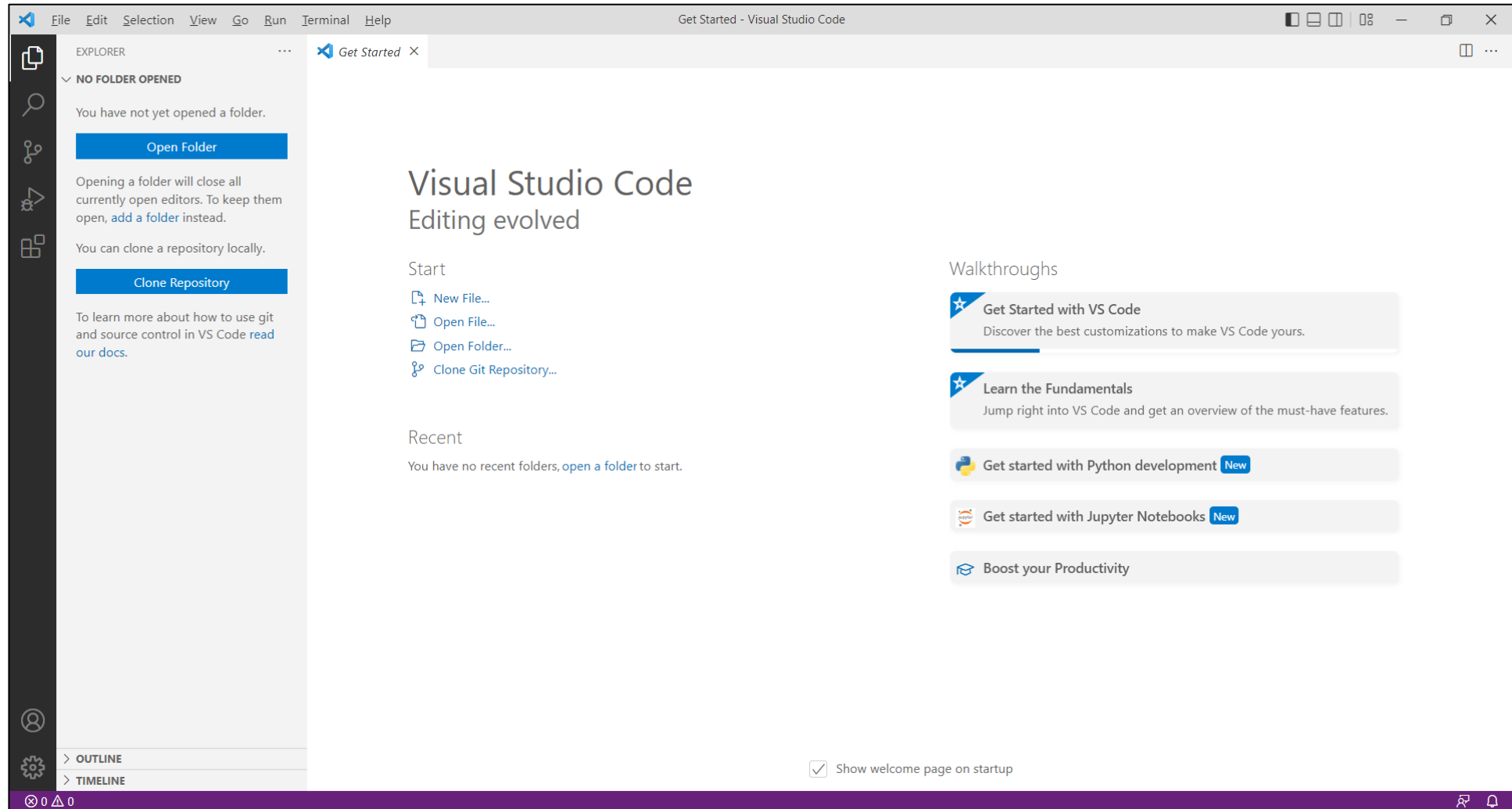
# Installing Visual Studio Code



# Installing Visual Studio Code



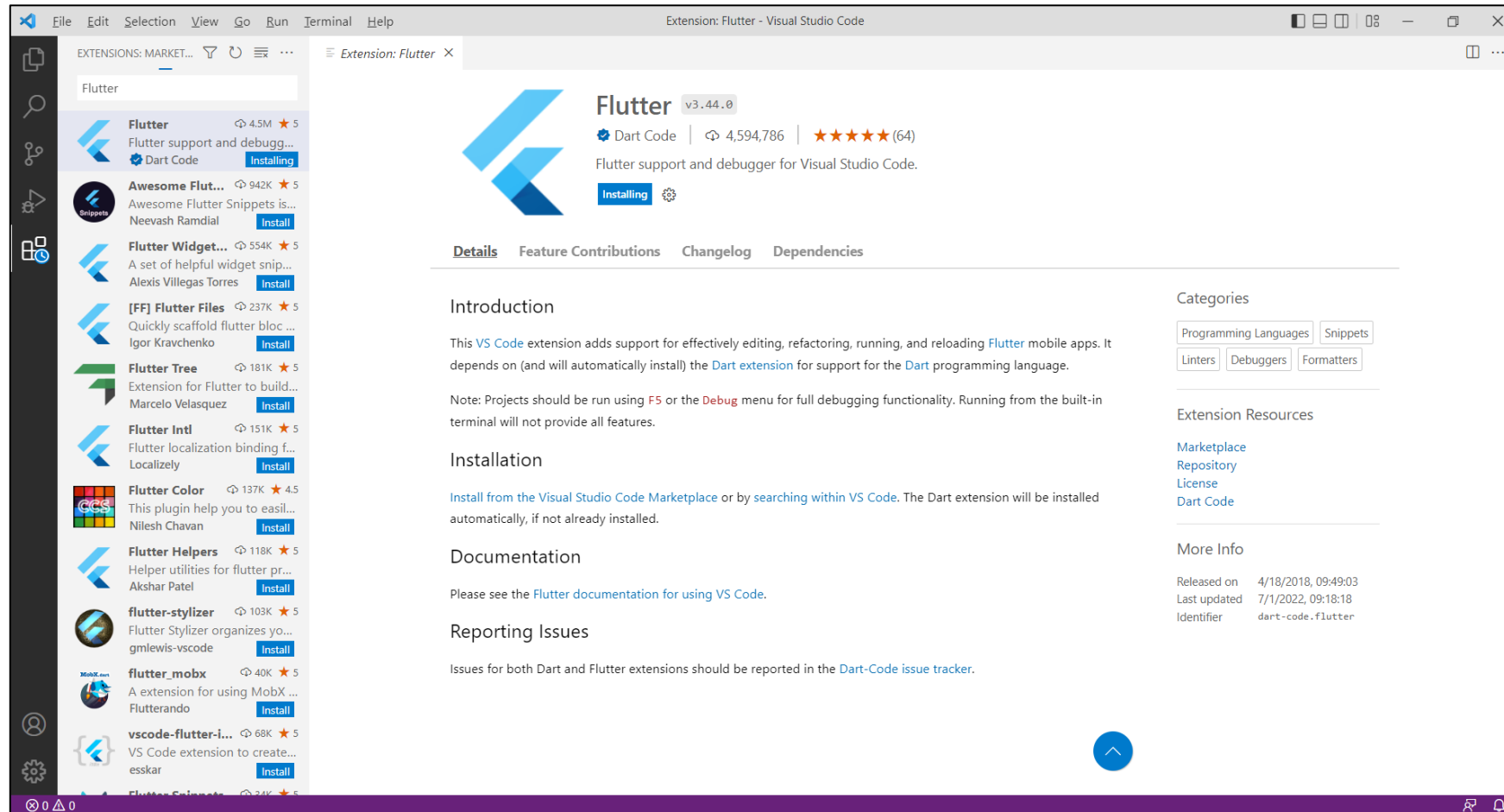
# Installing Visual Studio Code





# Setting Flutter plugin in VS Code

- Search and install Flutter extension.



# Installing Flutter

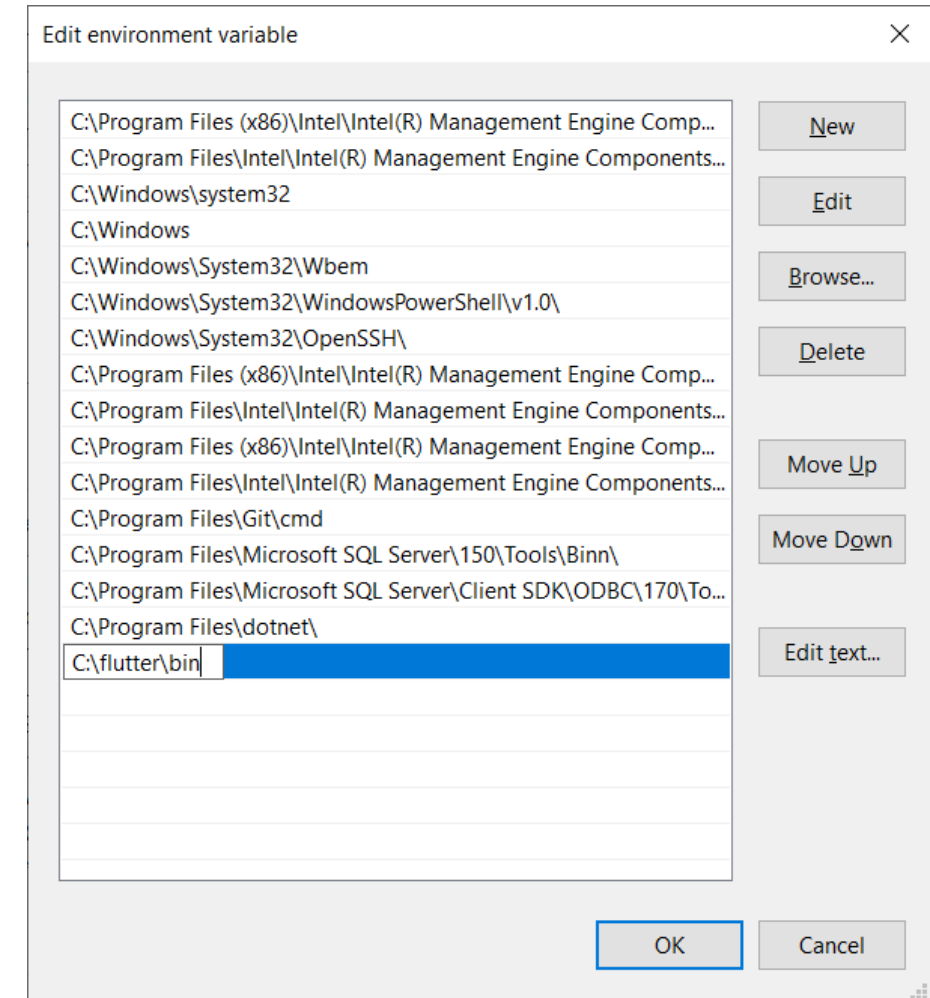
- Extract the downloaded Flutter SDK bundle in C:\Flutter.



flutter\_windows\_3.0.5-  
stable

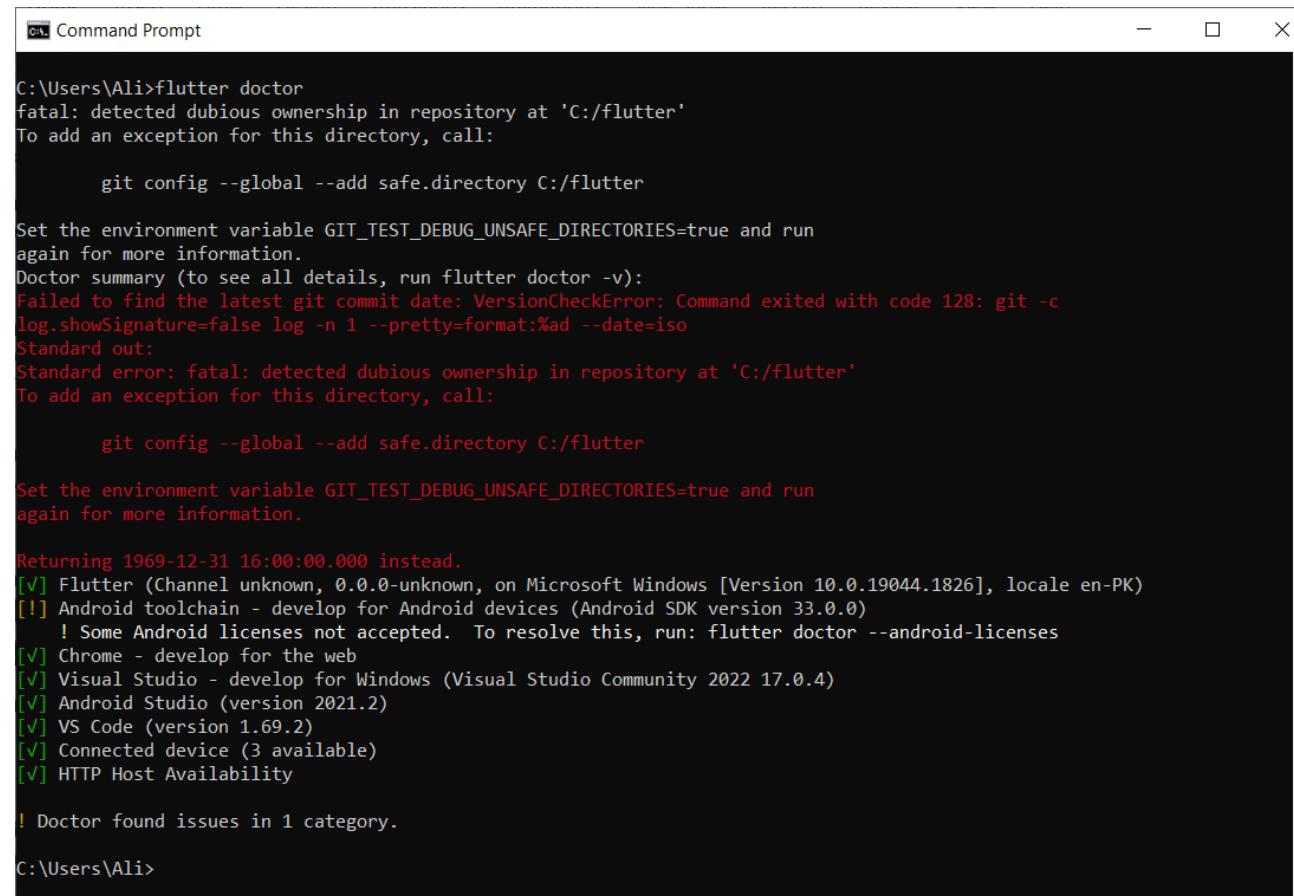
# Installing Flutter

- Add path of flutter to environment variable by:
- Right clicking This PC > Properties > Advanced System Settings > Environment Variables
- Edit user variable Path and add:
  - C:\flutter\bin



# Installing Flutter

- Run command prompt and enter the following command:  
`C:\> flutter doctor`



```
Command Prompt
C:\Users\Ali>flutter doctor
fatal: detected dubious ownership in repository at 'C:/flutter'
To add an exception for this directory, call:

    git config --global --add safe.directory C:/flutter

Set the environment variable GIT_TEST_DEBUG_UNSAFE_DIRECTORIES=true and run
again for more information.
Doctor summary (to see all details, run flutter doctor -v):
Failed to find the latest git commit date: VersionCheckError: Command exited with code 128: git -c
log.showSignature=false log -n 1 --pretty=format:%ad --date=iso
Standard out:
Standard error: fatal: detected dubious ownership in repository at 'C:/flutter'
To add an exception for this directory, call:

    git config --global --add safe.directory C:/flutter

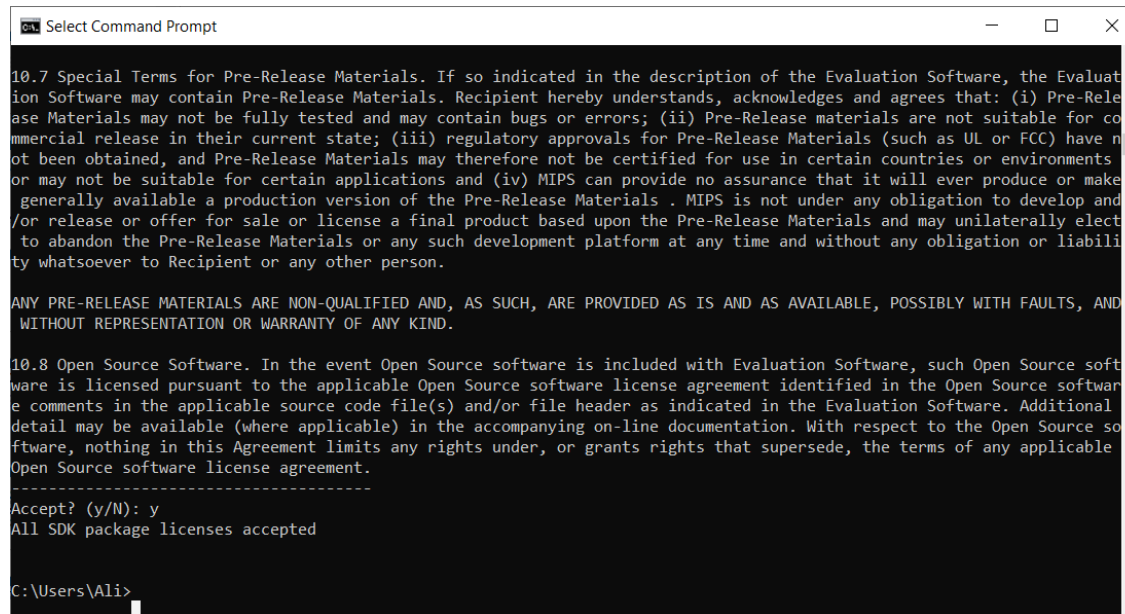
Set the environment variable GIT_TEST_DEBUG_UNSAFE_DIRECTORIES=true and run
again for more information.

Returning 1969-12-31 16:00:00.000 instead.
[✓] Flutter (Channel unknown, 0.0.0-unknown, on Microsoft Windows [Version 10.0.19044.1826], locale en-PK)
[!] Android toolchain - develop for Android devices (Android SDK version 33.0.0)
    ! Some Android licenses not accepted.  To resolve this, run: flutter doctor --android-licenses
[✓] Chrome - develop for the web
[✓] Visual Studio - develop for Windows (Visual Studio Community 2022 17.0.4)
[✓] Android Studio (version 2021.2)
[✓] VS Code (version 1.69.2)
[✓] Connected device (3 available)
[✓] HTTP Host Availability

! Doctor found issues in 1 category.
C:\Users\Ali>
```

# Installing Flutter

- Resolve the issues.
- Run commands:  
C:\> git config --global --add safe.directory C:/flutter  
C:\> flutter doctor --android-licenses
- Press 'y', whenever asked to confirm license.



```
Select Command Prompt

10.7 Special Terms for Pre-Release Materials. If so indicated in the description of the Evaluation Software, the Evaluation Software may contain Pre-Release Materials. Recipient hereby understands, acknowledges and agrees that: (i) Pre-Release Materials may not be fully tested and may contain bugs or errors; (ii) Pre-Release materials are not suitable for commercial release in their current state; (iii) regulatory approvals for Pre-Release Materials (such as UL or FCC) have not been obtained, and Pre-Release Materials may therefore not be certified for use in certain countries or environments or may not be suitable for certain applications and (iv) MIPS can provide no assurance that it will ever produce or make generally available a production version of the Pre-Release Materials. MIPS is not under any obligation to develop and/or release or offer for sale or license a final product based upon the Pre-Release Materials and may unilaterally elect to abandon the Pre-Release Materials or any such development platform at any time and without any obligation or liability whatsoever to Recipient or any other person.

ANY PRE-RELEASE MATERIALS ARE NON-QUALIFIED AND, AS SUCH, ARE PROVIDED AS IS AND AS AVAILABLE, POSSIBLY WITH FAULTS, AND WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND.

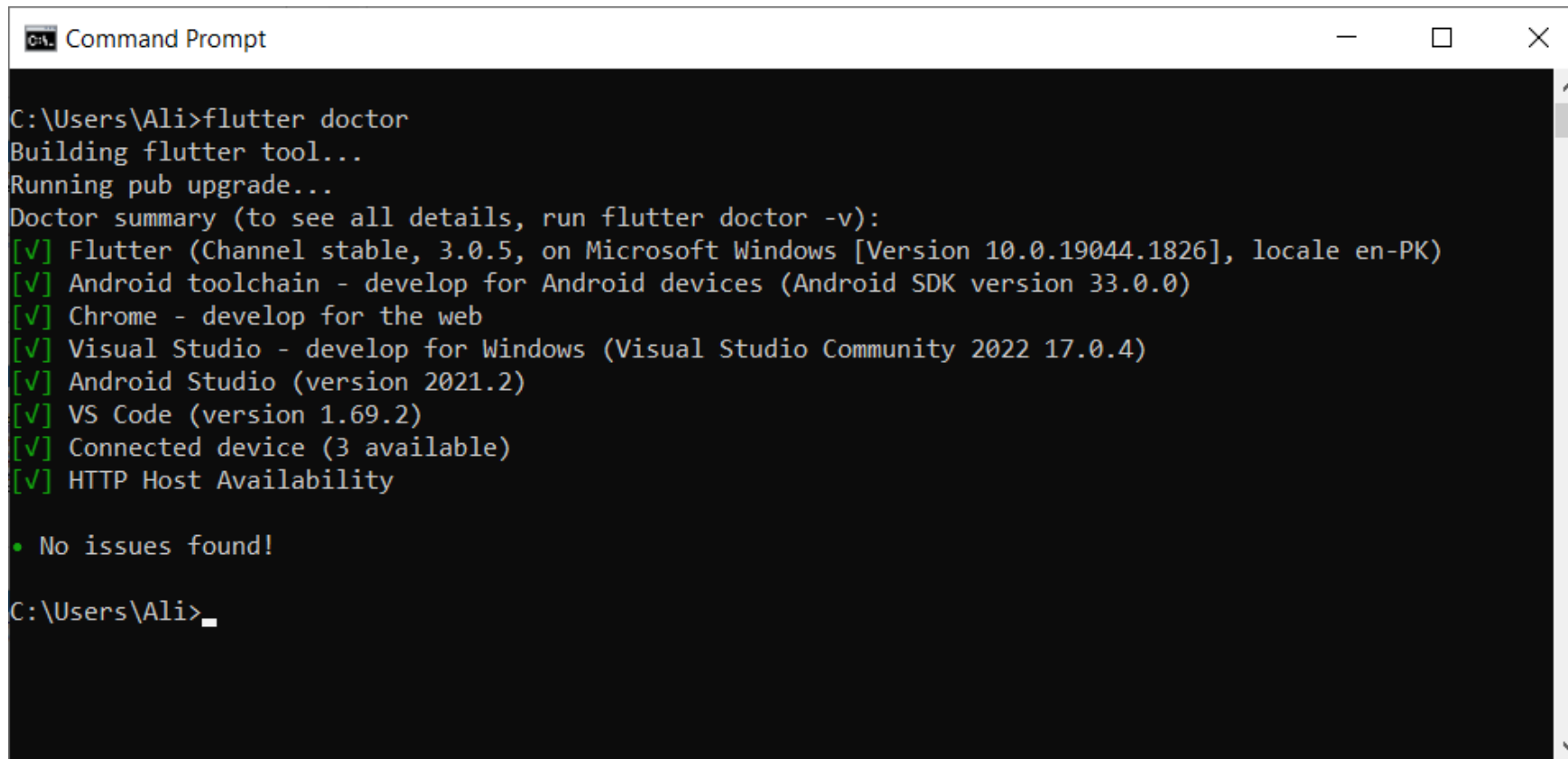
10.8 Open Source Software. In the event Open Source software is included with Evaluation Software, such Open Source software is licensed pursuant to the applicable Open Source software license agreement identified in the Open Source software comments in the applicable source code file(s) and/or file header as indicated in the Evaluation Software. Additional detail may be available (where applicable) in the accompanying on-line documentation. With respect to the Open Source software, nothing in this Agreement limits any rights under, or grants rights that supersede, the terms of any applicable Open Source software license agreement.

-----
Accept? (y/N): y
All SDK package licenses accepted

C:\Users\Ali>
```

# Installing Flutter

- Run flutter doctor command again to verify the installation:  
C:\> flutter doctor



```
Command Prompt

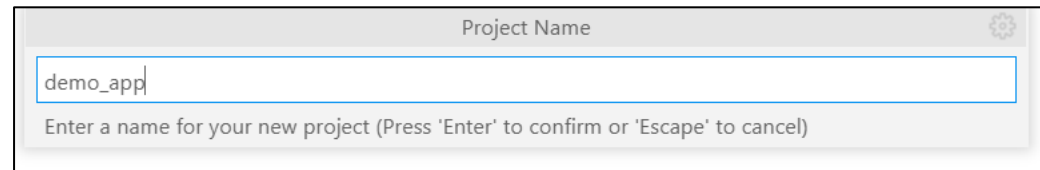
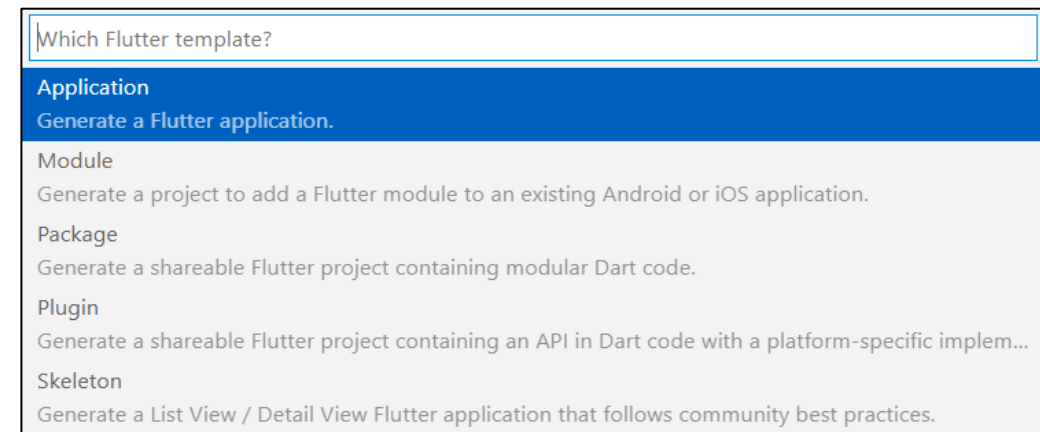
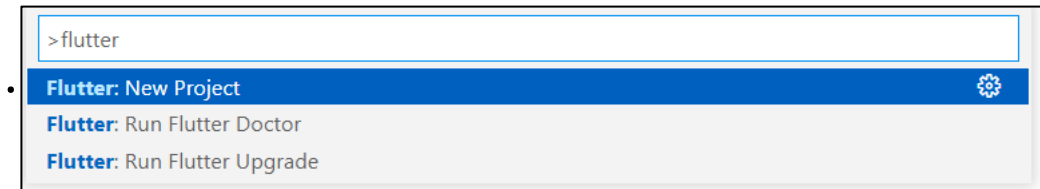
C:\Users\Ali>flutter doctor
Building flutter tool...
Running pub upgrade...
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, 3.0.5, on Microsoft Windows [Version 10.0.19044.1826], locale en-PK)
[✓] Android toolchain - develop for Android devices (Android SDK version 33.0.0)
[✓] Chrome - develop for the web
[✓] Visual Studio - develop for Windows (Visual Studio Community 2022 17.0.4)
[✓] Android Studio (version 2021.2)
[✓] VS Code (version 1.69.2)
[✓] Connected device (3 available)
[✓] HTTP Host Availability

• No issues found!

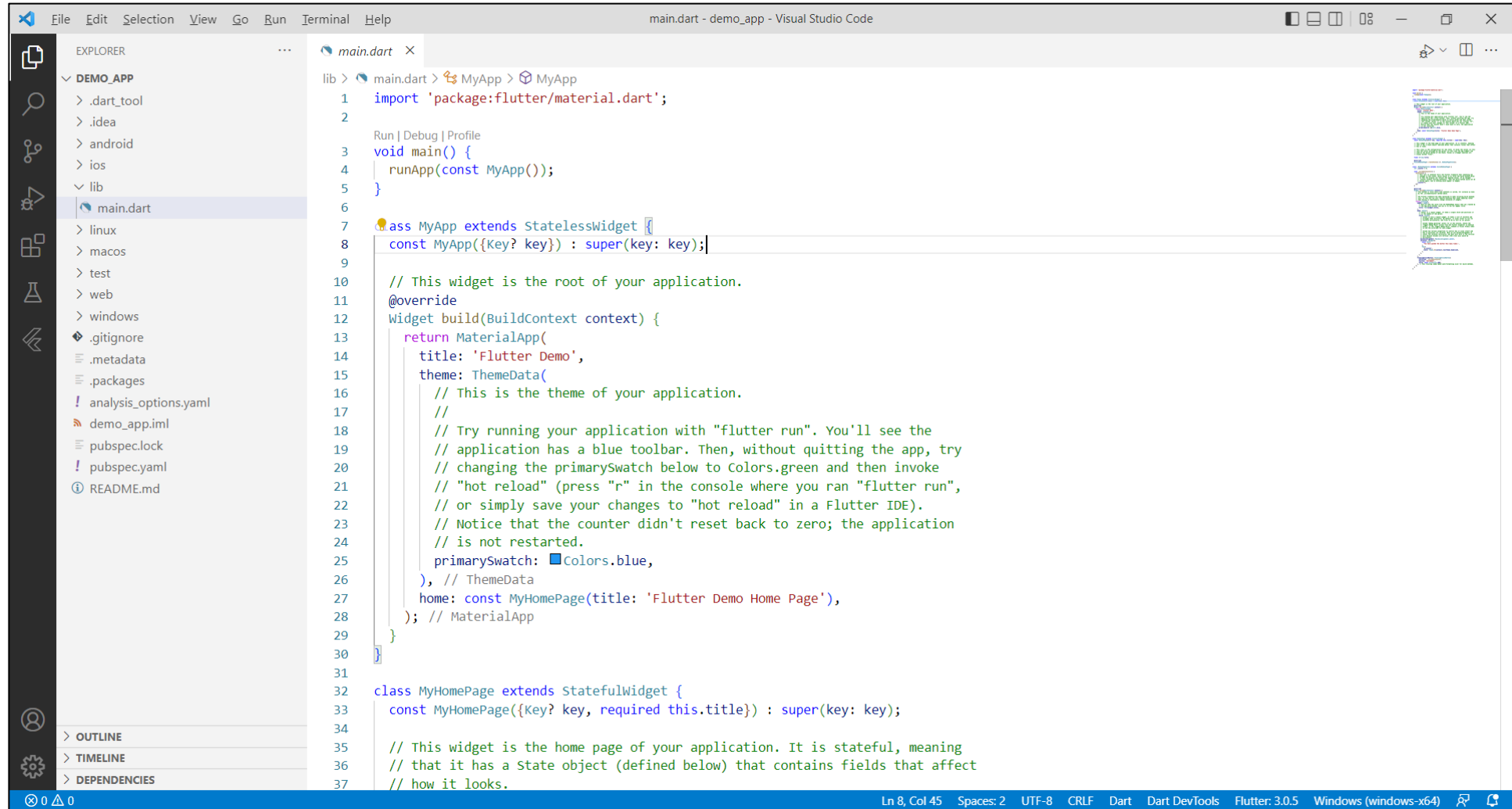
C:\Users\Ali>
```

# Creating first flutter app

- Run Visual Studio Code.
- Invoke **View** > **Command Palette** ( **Ctrl** **Shift** **P** ).
- Type “flutter”, and select the **Flutter: New Project**.
- Select **Application** template.
- Create or select the parent directory for the new project folder.
- Enter a project name, such as **demo\_app**, and press **Enter**.



# Creating first flutter app

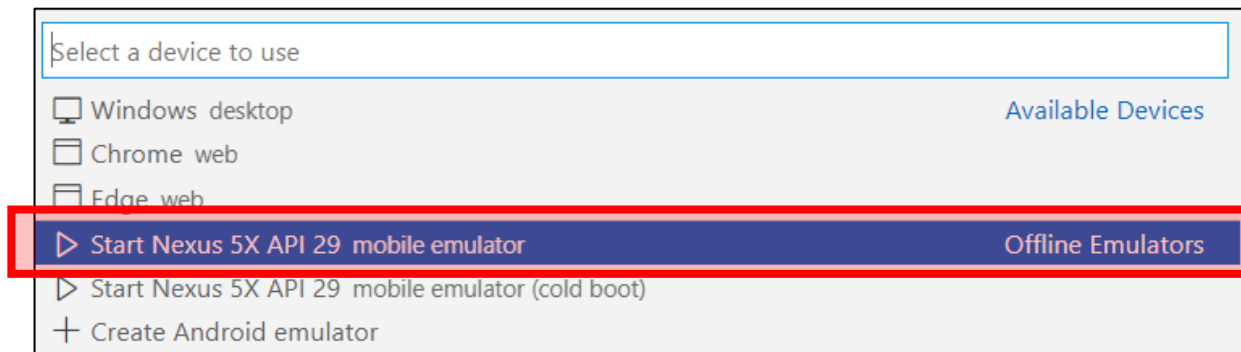
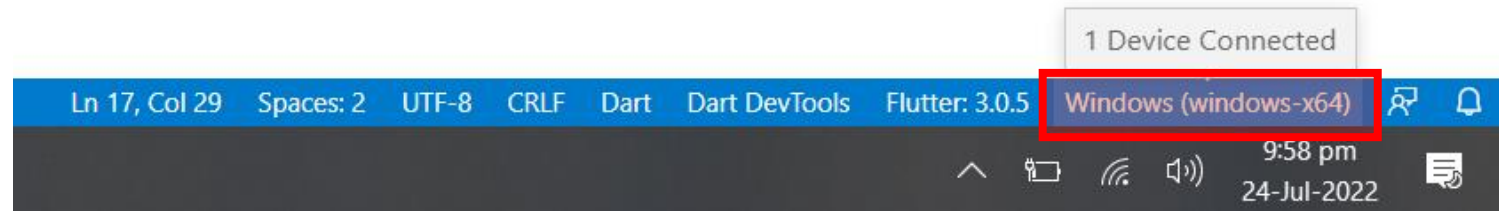


```
lib > main.dart > MyApp > MyApp
1  import 'package:flutter/material.dart';
2
3  Run | Debug | Profile
4  void main() {
5    runApp(const MyApp());
6  }
7
8  class MyApp extends StatelessWidget {
9    const MyApp({Key? key}) : super(key: key);
10
11    // This widget is the root of your application.
12    @override
13    Widget build(BuildContext context) {
14      return MaterialApp(
15        title: 'Flutter Demo',
16        theme: ThemeData(
17          // This is the theme of your application.
18          //
19          // Try running your application with "flutter run". You'll see the
20          // application has a blue toolbar. Then, without quitting the app, try
21          // changing the primarySwatch below to Colors.green and then invoke
22          // "hot reload" (press "r" in the console where you ran "flutter run",
23          // or simply save your changes to "hot reload" in a Flutter IDE).
24          // Notice that the counter didn't reset back to zero; the application
25          // is not restarted.
26          primarySwatch: Colors.blue,
27        ), // ThemeData
28        home: const MyHomePage(title: 'Flutter Demo Home Page'),
29      ); // MaterialApp
30    }
31
32    class MyHomePage extends StatefulWidget {
33      const MyHomePage({Key? key, required this.title}) : super(key: key);
34
35      // This widget is the home page of your application. It is stateful, meaning
36      // that it has a State object (defined below) that contains fields that affect
37      // how it looks.
```



# Creating first flutter app

- Select target virtual device from status bar.



# Running first flutter app

- Press **F5** key or select Run > Start Debugging.
- Wait for the emulator to load.

