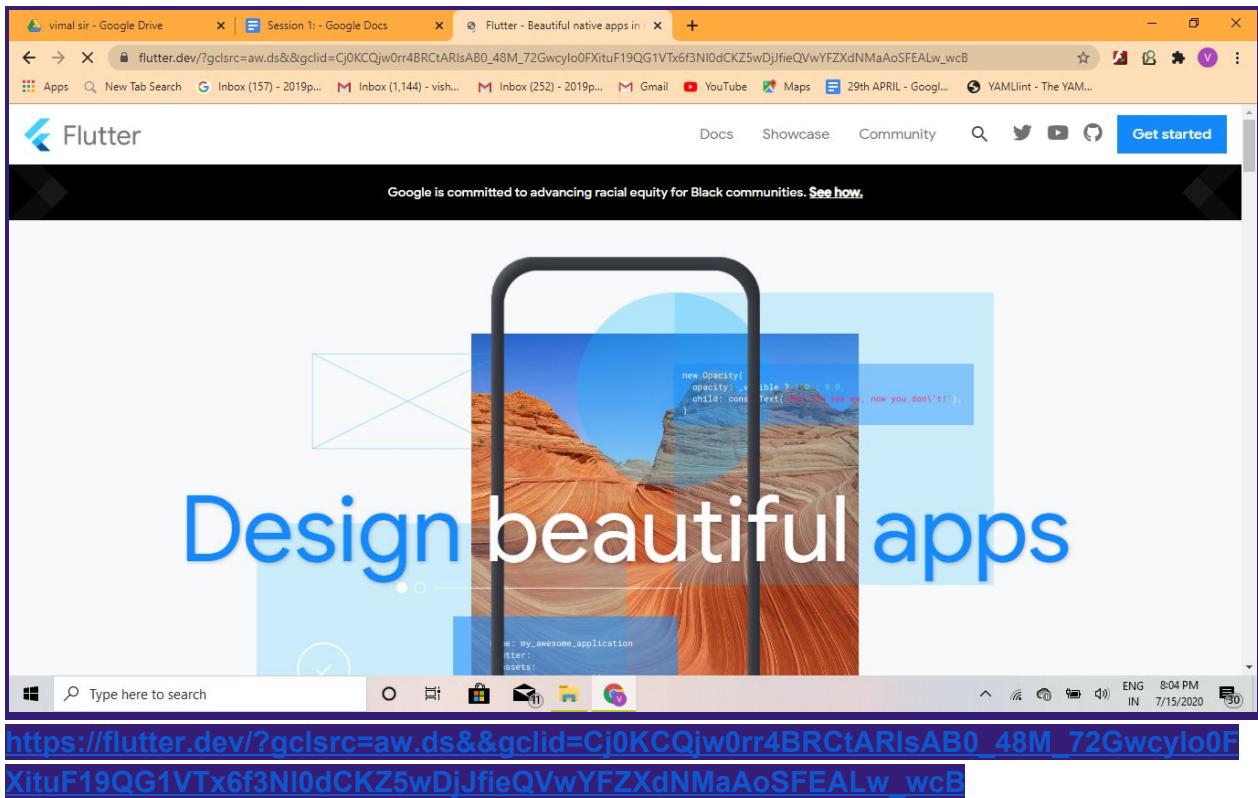


Session 2:



To install flutter:

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

The screenshot shows a web browser window with multiple tabs open. The active tab is for the Flutter documentation at <https://flutter.dev/docs/get-started/install>. The page content includes:

- A sidebar on the left titled "Get started" with sections for "1. Install", "2. Set up an editor", "3. Test drive", "4. Write your first app", "5. Learn more", and "From another platform?" which lists "Flutter for Android devs", "Flutter for iOS devs", "Flutter for React Native devs", and "Flutter for web devs".
- A main area with a note for "Note: Are you on Chrome OS? If so, see the official [Chrome OS Flutter installation docs!](#)".
- Buttons for selecting the operating system: "Windows" (selected), "macOS", and "Linux".
- A yellow box containing the note: "Important: If you're in China, first read [Using Flutter in China](#)".
- A link "Set up an editor" on the right.
- Page footer with the Flutter logo, navigation links (terms, security, privacy, español, community), and a note about Black Lives Matter.

The screenshot shows a web browser window with multiple tabs open. The active tab is a Google search results page for the query "bespoke app development" at <https://www.google.com/search?q=bespoke+app+development>. The results include:

- The top result is from [torpedogroup.com](https://torpedogroup.com/expertise/app-developers/), titled "Bespoke iOS and Android Mobile App Development for ...". It describes them as "App Development Specialists" who create bespoke business apps for sales and marketing.
- A "People also ask" sidebar on the right lists questions with dropdown menus:
 - What is bespoke application development?
 - What is bespoke development?
 - What is bespoke technology?
 - Why is bespoke software expensive?
- Feedback link at the bottom of the sidebar.
- Page footer with the Google logo, search bar, and navigation links (All, Images, News, Shopping, Videos, More, Settings, Tools).

The screenshot shows the homepage of the Torpedo website. At the top, there is a navigation bar with links for WORK, PEOPLE, EXPERTISE, BLOG, CAREERS, and CONTACT. Below the navigation bar is a large banner featuring a man in profile looking at a smartphone. The text "App developers" is overlaid on the banner. Below the banner, there are six dark rectangular boxes, each containing an icon and a title: "Brand builders" (house icon), "Creative thinkers" (brain icon), "Campaign creators" (paper airplane icon), "Content marketers" (magnifying glass icon), "Digital developers" (monitor icon), and "UX & CX consultants" (hand icon).

The screenshot shows the "Get started" page for Flutter on the official website. The left sidebar has sections for "Get started" (with "1. Install" expanded) and "From another platform?" (listing "Flutter for Android devs", "Flutter for iOS devs", "Flutter for React Native devs", "Flutter for web devs", and "Flutter for"). The main content area has a heading "Get the Flutter SDK". It contains two numbered steps: 1. Download the zip file "flutter_windows_1.17.5-stable.zip" (which is currently being downloaded, as shown by a progress bar at the bottom) and 2. Extract the zip file to a specific location. To the right, there is a "Contents" sidebar with links for system requirements, getting the SDK, updating paths, running flutter doctor, Android setup, installing Android Studio, setting up an Android device, setting up the Android emulator, web setup, and the next step.

A screenshot of a Google search results page. The search query is "android studio download". The top result is an Ad from developer.android.com. Below it is a snippet for "Download Android Studio - The Official Android IDE" which includes a brief description and links to "User Guide", "What's New", "Preview Release", and "Release Notes". Further down the page is another snippet for "developer.android.com > studio" with a link to "Download Android Studio and SDK tools | Android Developers".

developer.android.com › studio ▾

Download Android Studio and SDK tools | Android Developers

Android Studio provides the fastest tools for building apps on every type of Android device.

Download Not Available. Your current device is not supported. See the ...

The screenshot shows the official Android Developers website for Android Studio. The URL is developer.android.com/studio. The page features the Android Studio logo and a large call-to-action button labeled "DOWNLOAD ANDROID STUDIO". Below the button, it says "4.0.1 for Windows 64-bit (871 MB)". There are also links for "WHAT'S NEW", "USER GUIDE", and "PREVIEW". A survey prompt at the bottom asks "Please help us improve the Android Developer experience by taking a survey." with options "NO, THANKS" and "TAKE SURVEY".

developers

Platform **Android Studio** Google Play Jetpack Kotlin Docs News

Search LANGUAGE ▾ SIGN IN

Android Studio

DOWNLOAD WHAT'S NEW USER GUIDE PREVIEW

android studio

Android Studio provides the fastest tools for building apps on every type of Android device.

DOWNLOAD ANDROID STUDIO

4.0.1 for Windows 64-bit (871 MB)

Please help us improve the Android Developer experience by taking a survey. **NO, THANKS** **TAKE SURVEY**

RELEASE NOTES

Flutter is not a language it is a framework

C:\Users\user>cd Desktop

C:\Users\user\Desktop>mkdir flutter

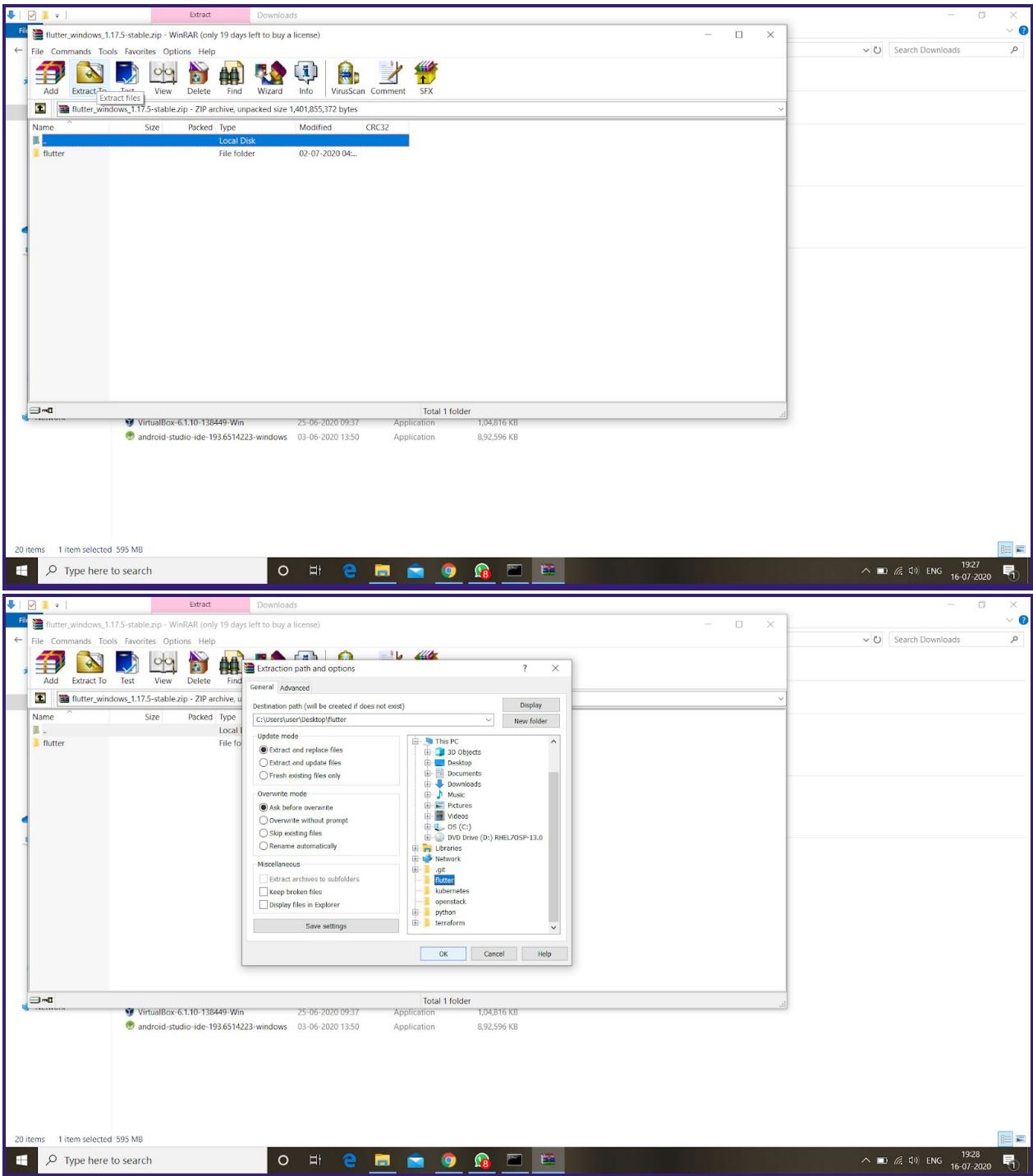
C:\Users\user\Desktop>dir

Volume in drive C is OS

Volume Serial Number is CADB-3042

Directory of C:\Users\user\Desktop

16-07-2020 19:24 <DIR>	.
16-07-2020 19:24 <DIR>	..
16-07-2020 19:24 <DIR>	flutter
01-07-2020 01:03 <DIR>	kubernetes
25-06-2020 10:44	1,446 Microsoft Edge.lnk
01-07-2020 18:50 <DIR>	openstack
25-06-2020 13:54 <DIR>	python
01-07-2020 19:07 <DIR>	terraform
08-07-2020 10:40	2,190 WhatsApp.lnk
2 File(s)	3,636 bytes
7 Dir(s)	337,875,300,352 bytes free



Screenshot of a Windows File Explorer window showing the contents of the 'flutter' directory at 'C:\Users\user\Desktop\flutter\flutter'. The window title is 'flutter'.

The file list shows 24 items:

Name	Date modified	Type	Size
.git	02-07-2020 04:42	File folder	
.github	02-07-2020 04:41	File folder	
.idea	02-07-2020 04:44	File folder	
.pub-cache	02-07-2020 04:43	File folder	
bin	02-07-2020 04:42	File folder	
dev	02-07-2020 04:41	File folder	
examples	02-07-2020 04:44	File folder	
packages	02-07-2020 04:41	File folder	
cirrus.yml	02-07-2020 04:41	YML File	32 KB
codecov.yml	02-07-2020 04:41	YML File	1 KB
.gitattributes	02-07-2020 04:41	Text Document	1 KB
.gitignore	02-07-2020 04:41	Text Document	3 KB
analysis_options.yaml	02-07-2020 04:41	YAML File	10 KB
AUTHORS	02-07-2020 04:41	File	3 KB
CODE_OF_CONDUCT.md	02-07-2020 04:41	MD File	3 KB
CODERS	02-07-2020 04:41	File	1 KB
CONTRIBUTING.md	02-07-2020 04:41	MD File	5 KB
dartdoc_options.yaml	02-07-2020 04:41	YAML File	1 KB
flutter_console	02-07-2020 04:41	Windows Batch File	2 KB
flutter_root.iml	02-07-2020 04:41	IML File	1 KB
LICENSE	02-07-2020 04:41	File	2 KB
PATENT_GRANT	02-07-2020 04:41	File	2 KB
README.md	02-07-2020 04:41	MD File	5 KB
version	02-07-2020 04:44	File	1 KB

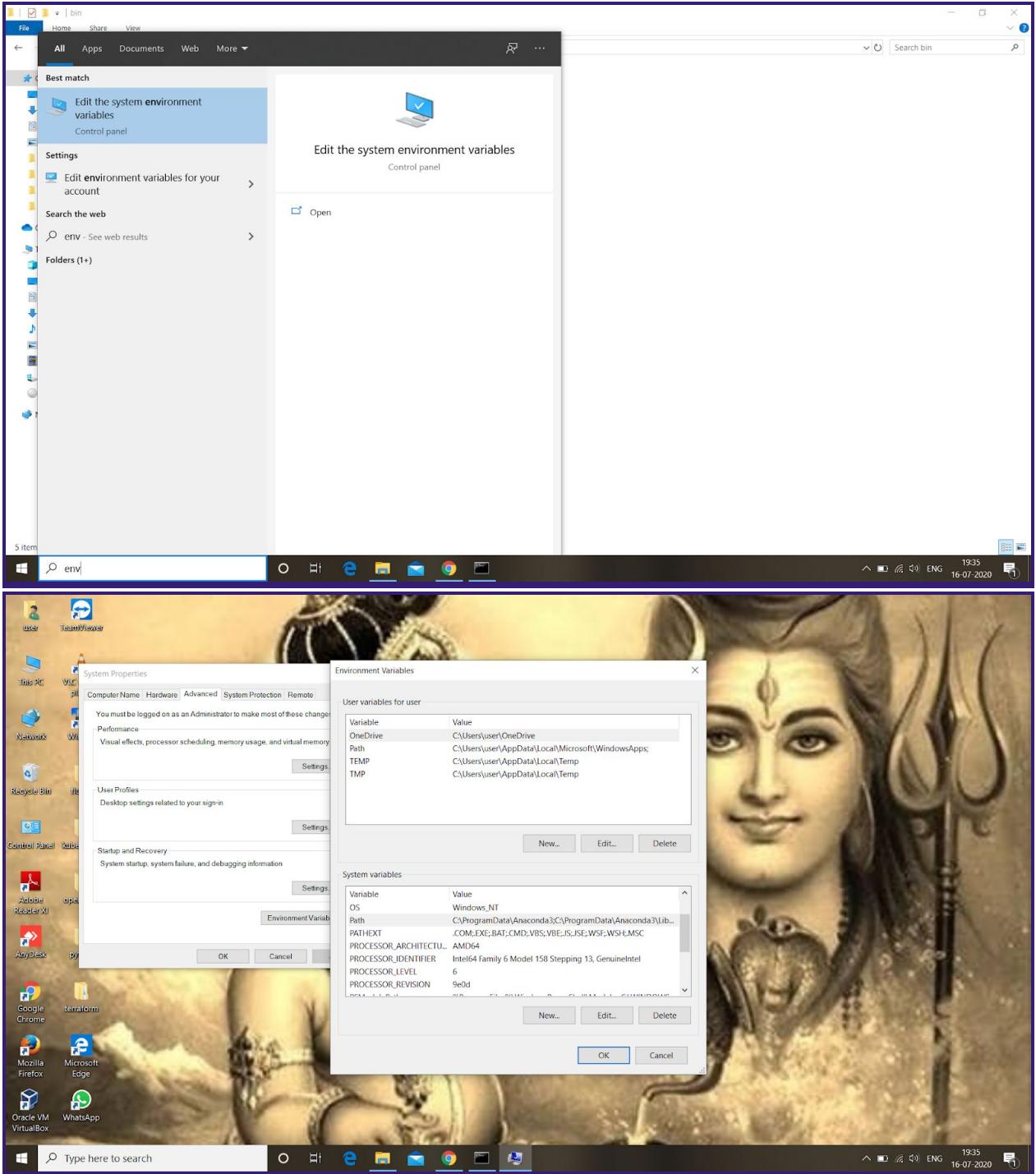
Below this, there are two more File Explorer windows:

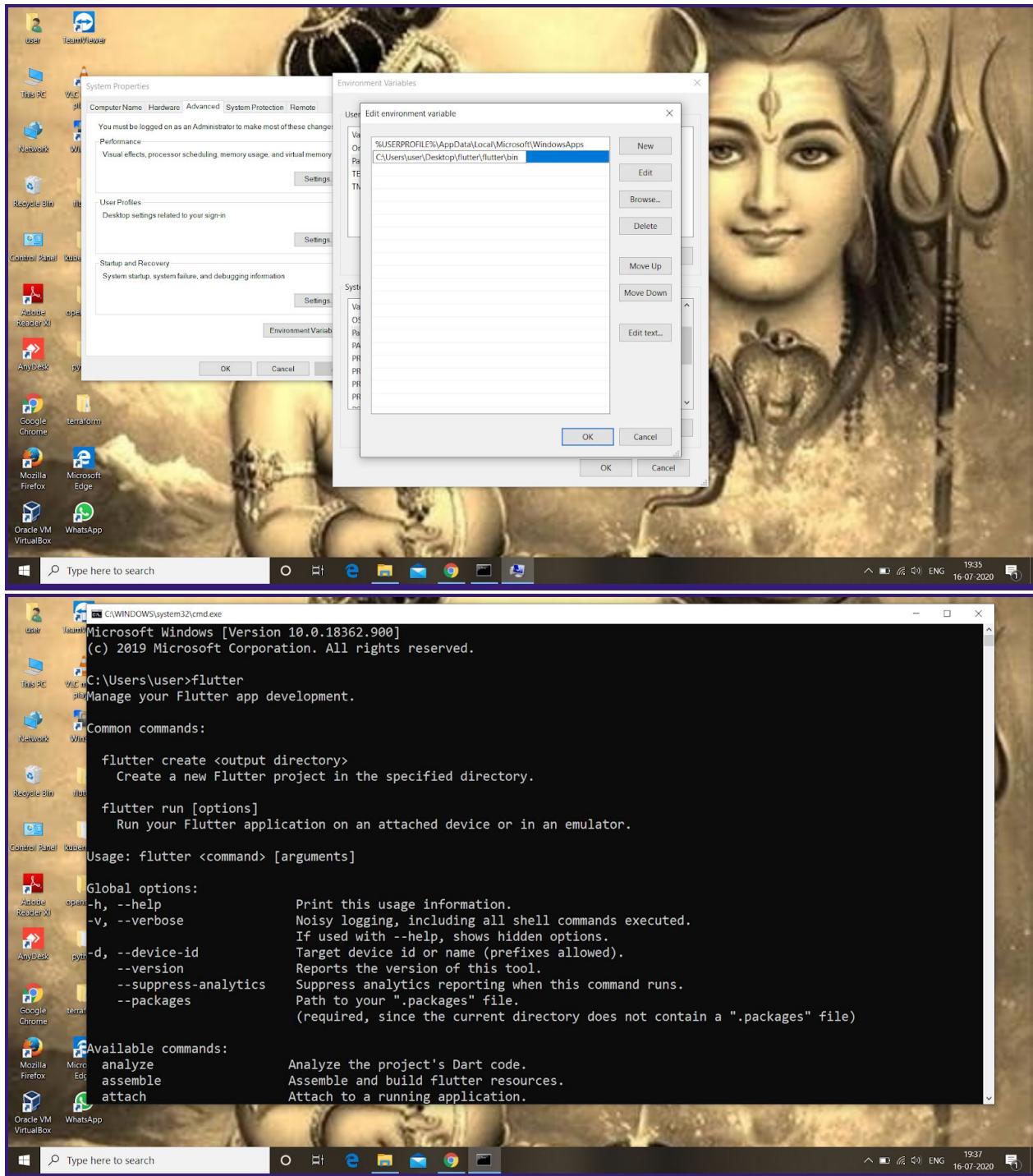
Top window: C:\Users\user\Desktop\flutter\flutter\bin

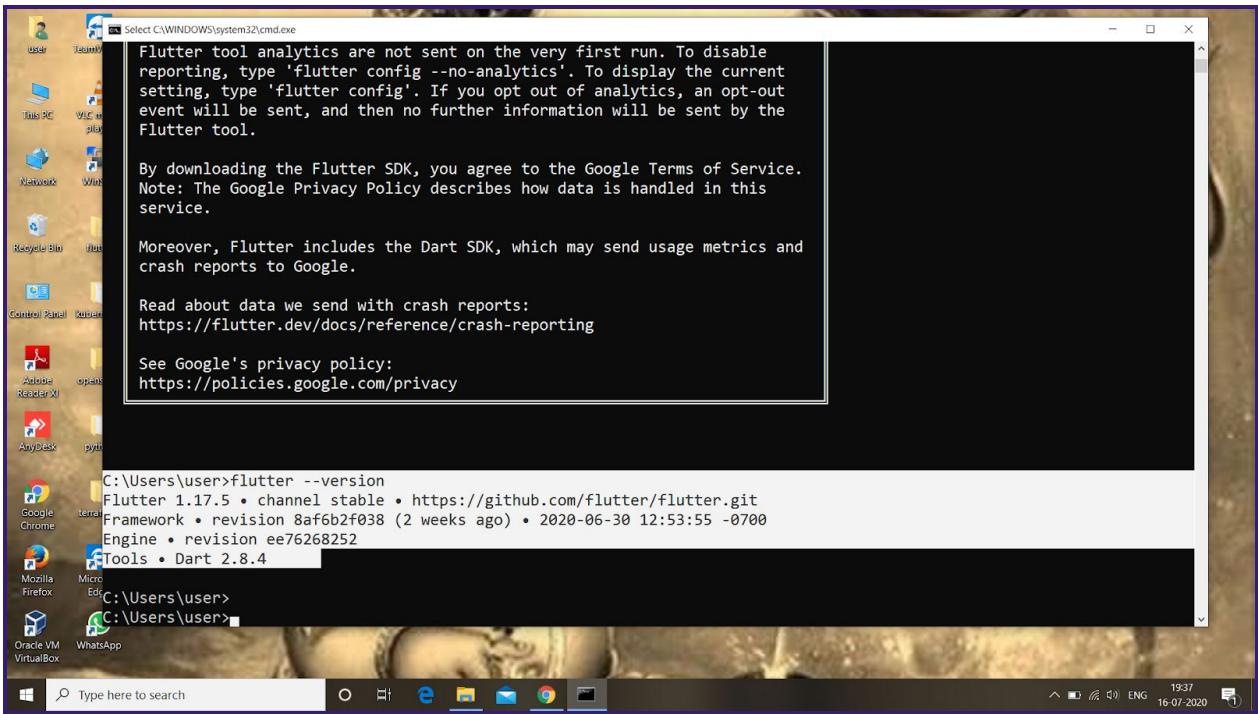
Bottom window: C:\Users\user\Desktop\flutter\flutter\bin

Both windows show 5 items:

Name	Date modified	Type	Size
cache	02-07-2020 04:44	File folder	
internal	02-07-2020 04:41	File folder	
mingit	02-07-2020 04:42	File folder	
flutter	02-07-2020 04:41	File	8 KB
flutter	02-07-2020 04:41	Windows Batch File	8 KB







C:\Users\user>flutter doctor

Doctor summary (to see all details, run flutter doctor -v):

[√] Flutter (Channel stable, v1.17.5, on Microsoft Windows [Version 10.0.18362.900],
locale en-IN)

[X] Android toolchain - develop for Android devices

X Unable to locate Android SDK.

Install Android Studio from: <https://developer.android.com/studio/index.html>

On first launch it will assist you in installing the Android SDK components.

(or visit <https://flutter.dev/docs/get-started/install/windows#android-setup> for detailed
instructions).

If the Android SDK has been installed to a custom location, set ANDROID_SDK_ROOT
to that location.

You may also want to add it to your PATH environment variable.

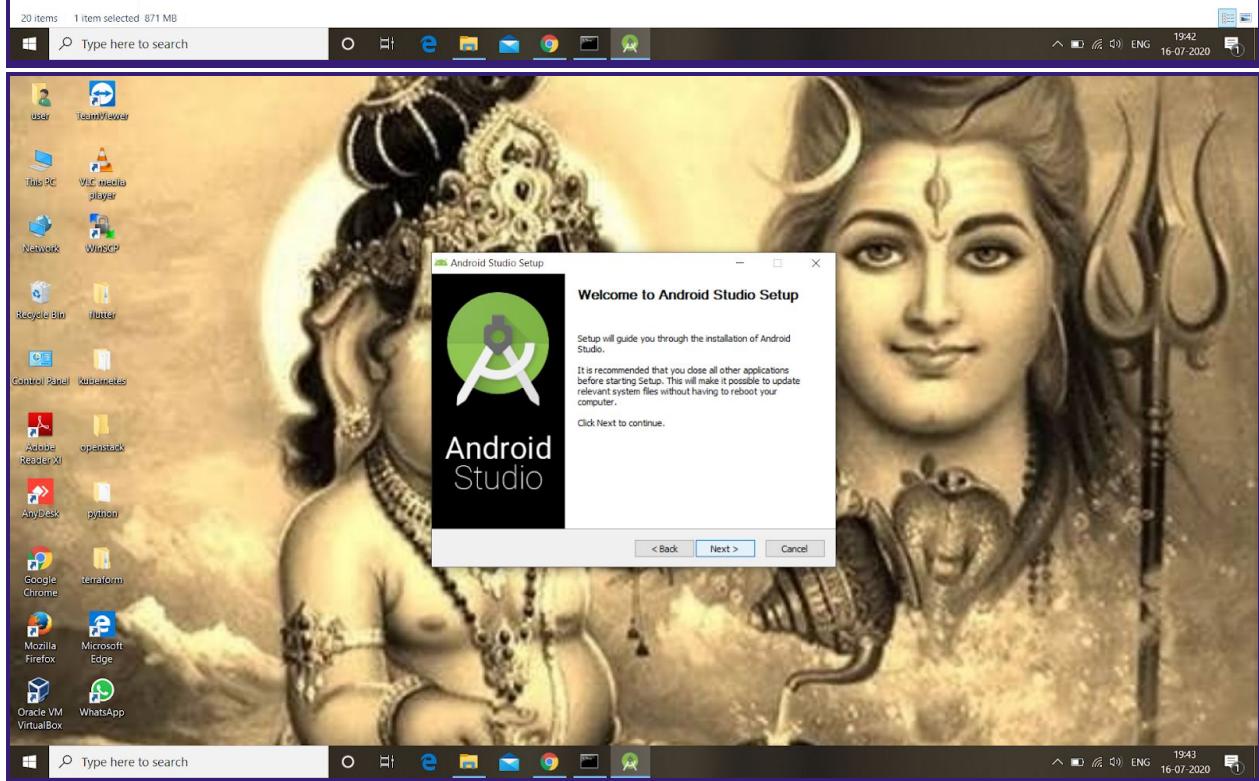
[!] Android Studio (not installed)

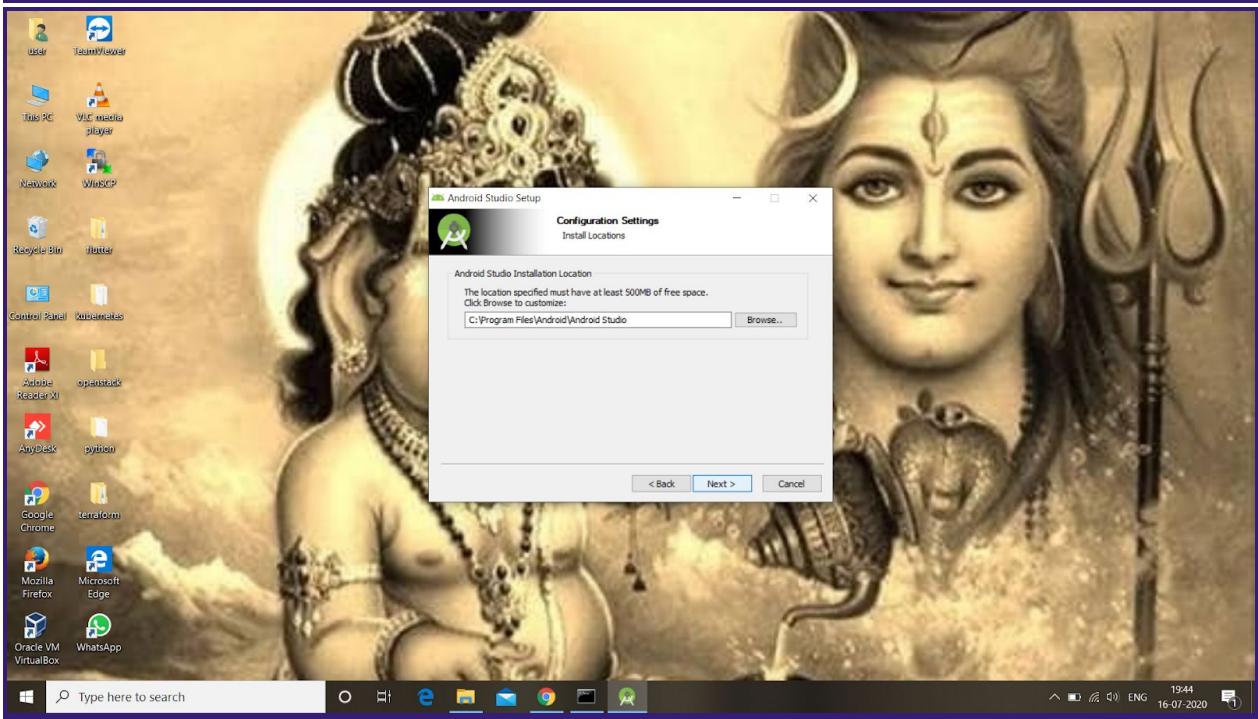
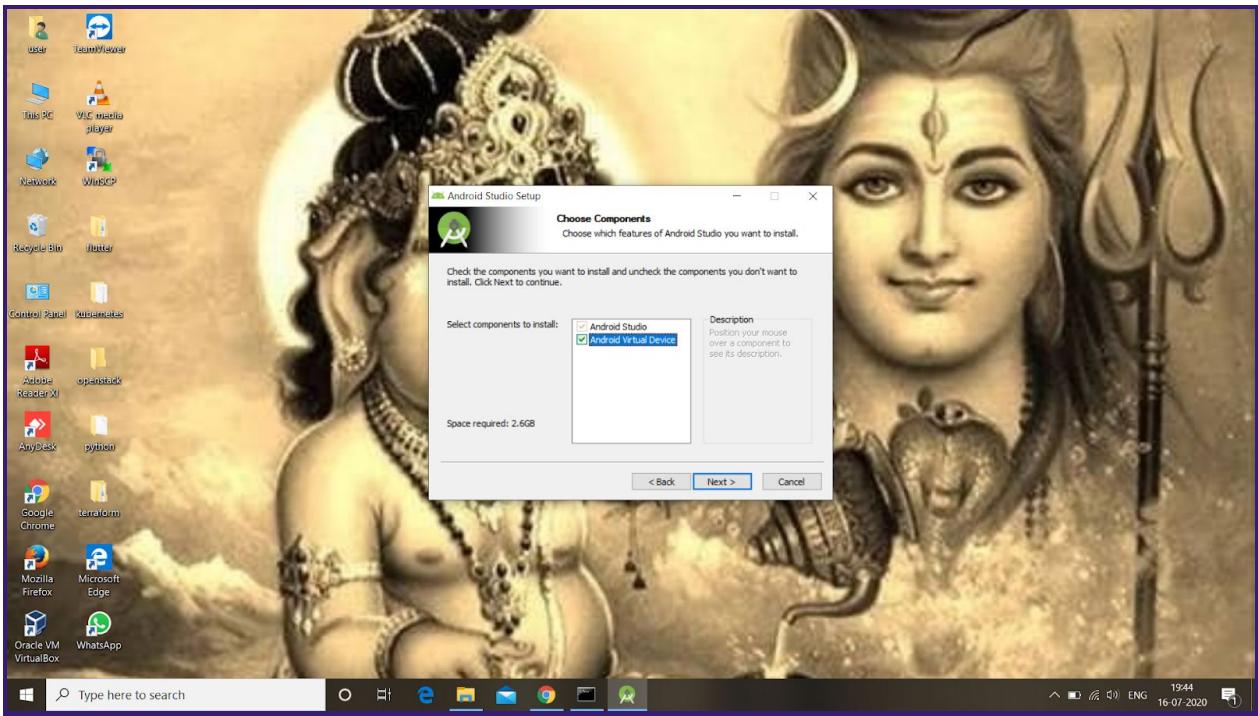
[!] Connected device

! No devices available

! Doctor found issues in 3 categories.

Downloads				
	Name	Date modified	Type	Size
Quick access				
Desktop				
Downloads	flutter_windows_1.17.5-stable	15-07-2020 20:19	WinRAR ZIP archive	6,09,580 KB
Documents				
Pictures				
open1	linuxworldkey.pk	14-07-2020 03:20	PPK File	2 KB
redhatopenstack	puttygen	14-07-2020 03:19	Application	398 KB
Screenshots	linuxworldkey.pem	13-07-2020 19:46	PEM File	2 KB
USB Drive				
OneDrive				
This PC				
3D Objects				
Desktop				
Documents				
Downloads				
Music				
Pictures				
Videos				
OS (C)				
DVD Drive (D:) RHE				
Network				
Yesterday (1)				
Earlier this week (3)				
Last week (3)				
Last month (13)				
AnyDesk	AnyDesk	28-06-2020 00:22	Application	
TeamViewer_Setup	TeamViewer_Setup	28-06-2020 00:20	Application	
usage	usage	26-06-2020 19:27	Microsoft Edge	
Fedora-Cloud-Base-32-1.6.x86_64.qcow2	Fedora-Cloud-Base-32-1.6.x86_64.qcow2	26-06-2020 19:09	QCOW2 File	4,377,740 KB
ARDUINO	ARDUINO	26-06-2020 15:12	JPG File	10 KB
DTH11	DTH11	26-06-2020 15:11	JPG File	8 KB
Temperature-Humidity-Monitoring-over-WiFi	Temperature-Humidity-Monitoring-over-WiFi	26-06-2020 15:03	PNG File	24 KB
CIRCUIT DIAGRAM	CIRCUIT DIAGRAM	26-06-2020 14:57	PDF File	1,852 KB
Git-2.26.2-64-bit	Git-2.26.2-64-bit	26-06-2020 00:25	Application	45,793 KB
putty	putty	25-06-2020 22:11	Application	835 KB
desktop background	desktop background	25-06-2020 16:33	JPG File	529 KB
VirtualBox-6.1.10-138449-Win	VirtualBox-6.1.10-138449-Win	25-06-2020 09:37	Application	1,04,816 KB
android-studio-ide-193.6514223-windows	android-studio-ide-193.6514223-windows	03-06-2020 13:50	Application	8,92,596 KB





```
Select C:\WINDOWS\system32\cmd.exe
(or visit https://flutter.dev/docs/get-started/install/windows#android-setup for detailed instructions).
If the Android SDK has been installed to a custom location, set ANDROID_SDK_ROOT to that location.
You may also want to add it to your PATH environment variable.

[!] Android Studio (not installed)
[!] Connected device
! No devices available

! Doctor found issues in 3 categories.

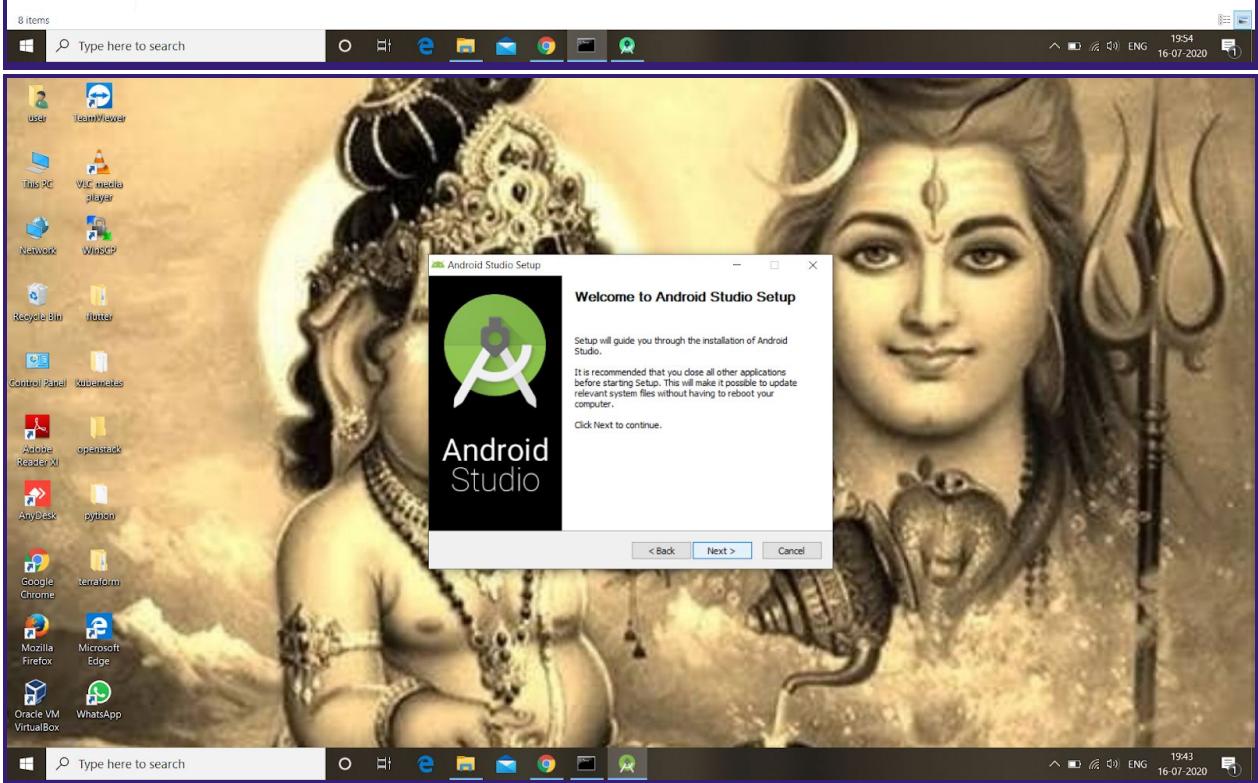
C:\Users\user>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel stable, v1.17.5, on Microsoft Windows [Version 10.0.18362.900], locale en-IN)
[X] Android toolchain - develop for Android devices
  X Unable to locate Android SDK.
    Install Android Studio from: https://developer.android.com/studio/index.html
    On first launch it will assist you in installing the Android SDK components.
    (or visit https://flutter.dev/docs/get-started/install/windows#android-setup for detailed instructions).
    If the Android SDK has been installed to a custom location, set ANDROID_SDK_ROOT to that location.
    You may also want to add it to your PATH environment variable.

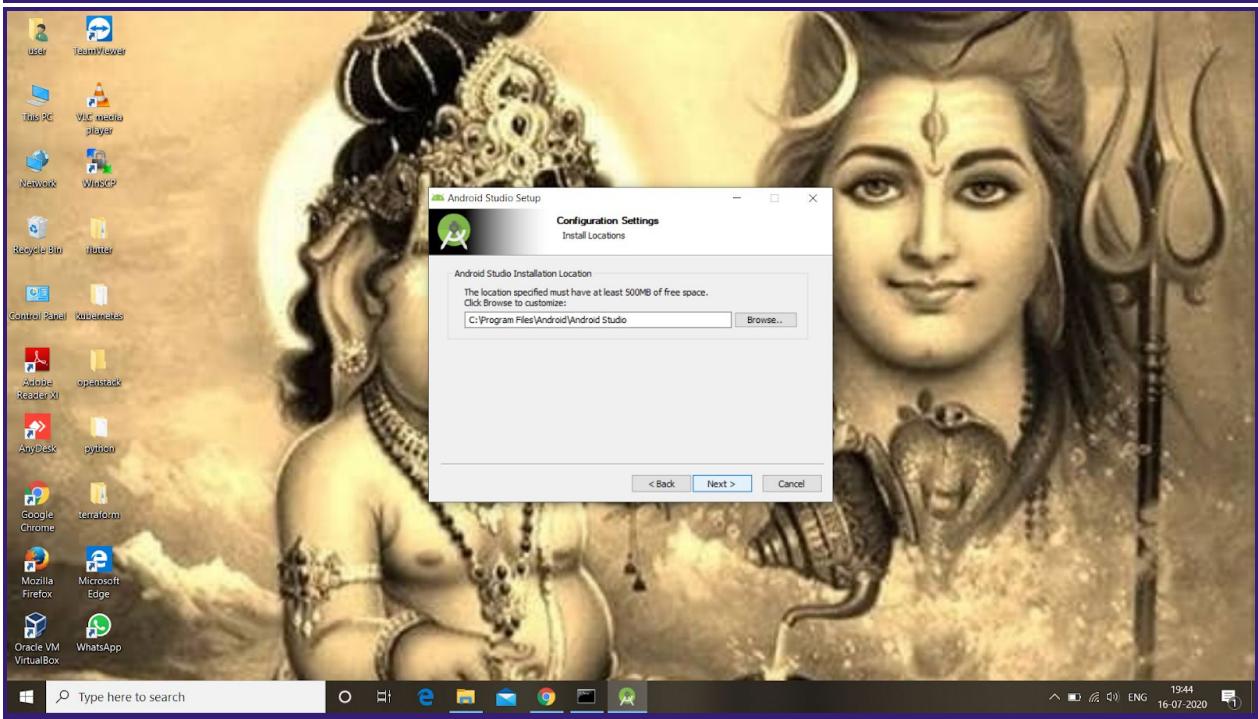
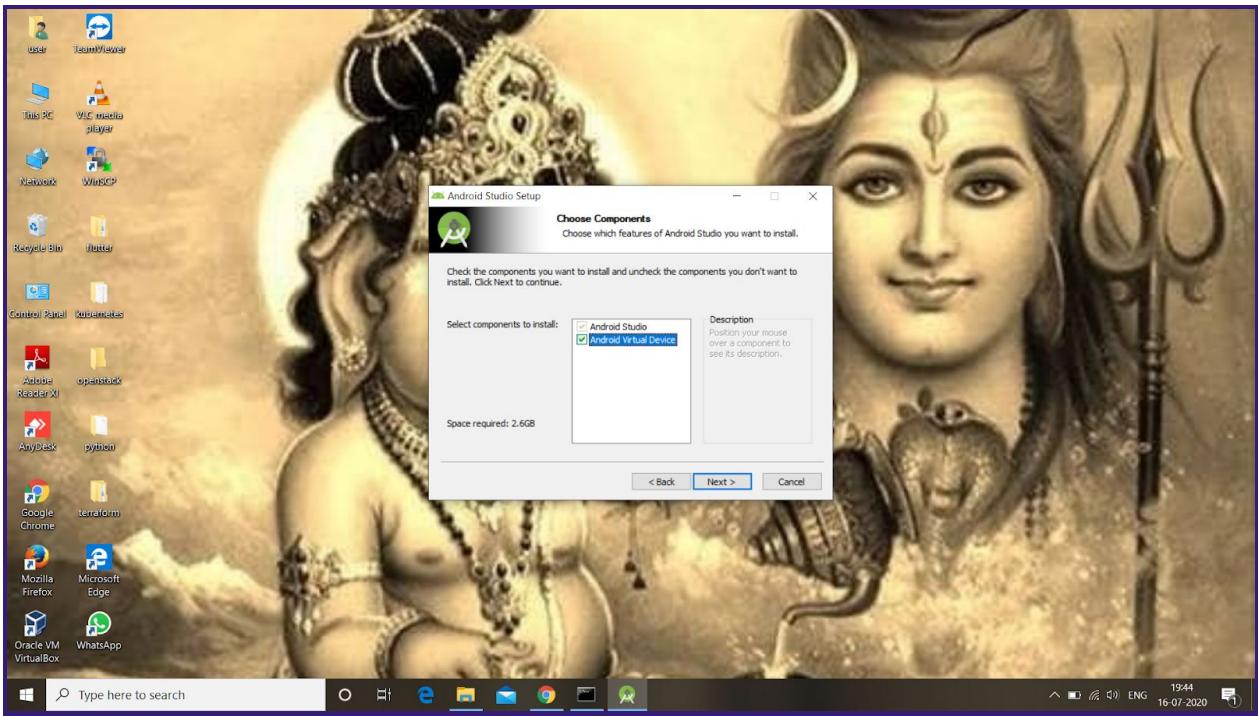
[!] Android Studio (version 4.0)
  X Flutter plugin not installed; this adds Flutter specific functionality.
  X Dart plugin not installed; this adds Dart specific functionality.

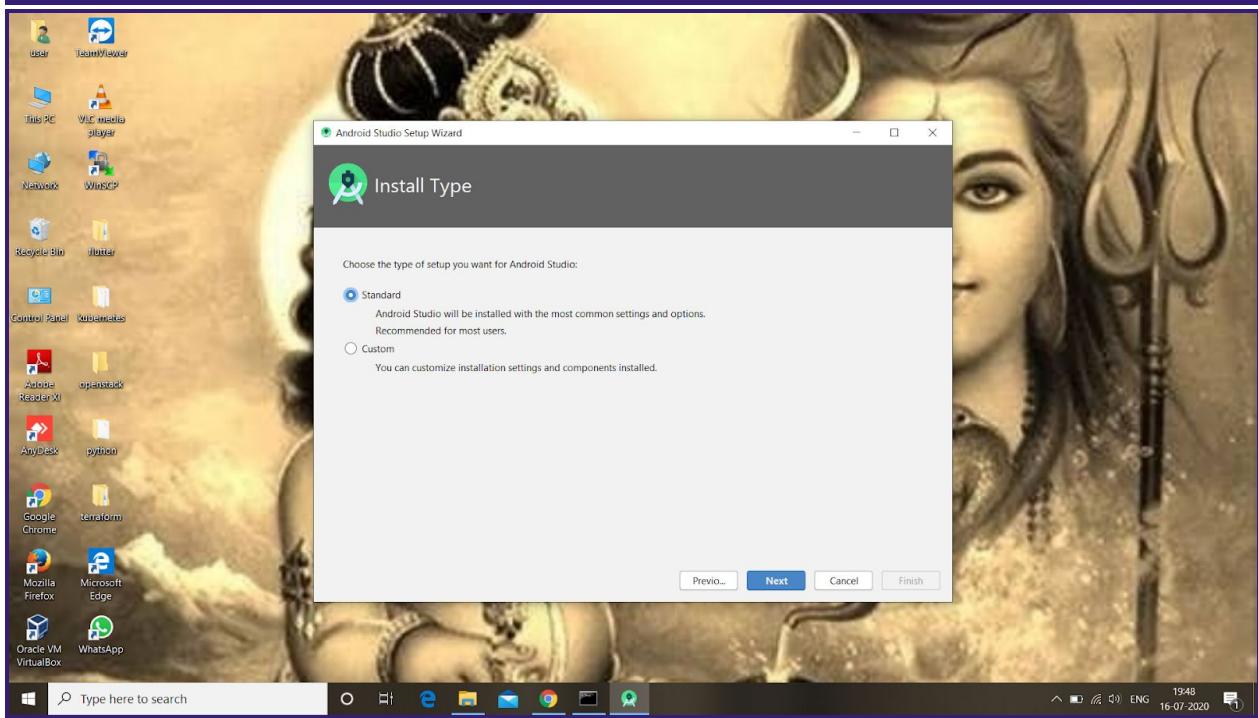
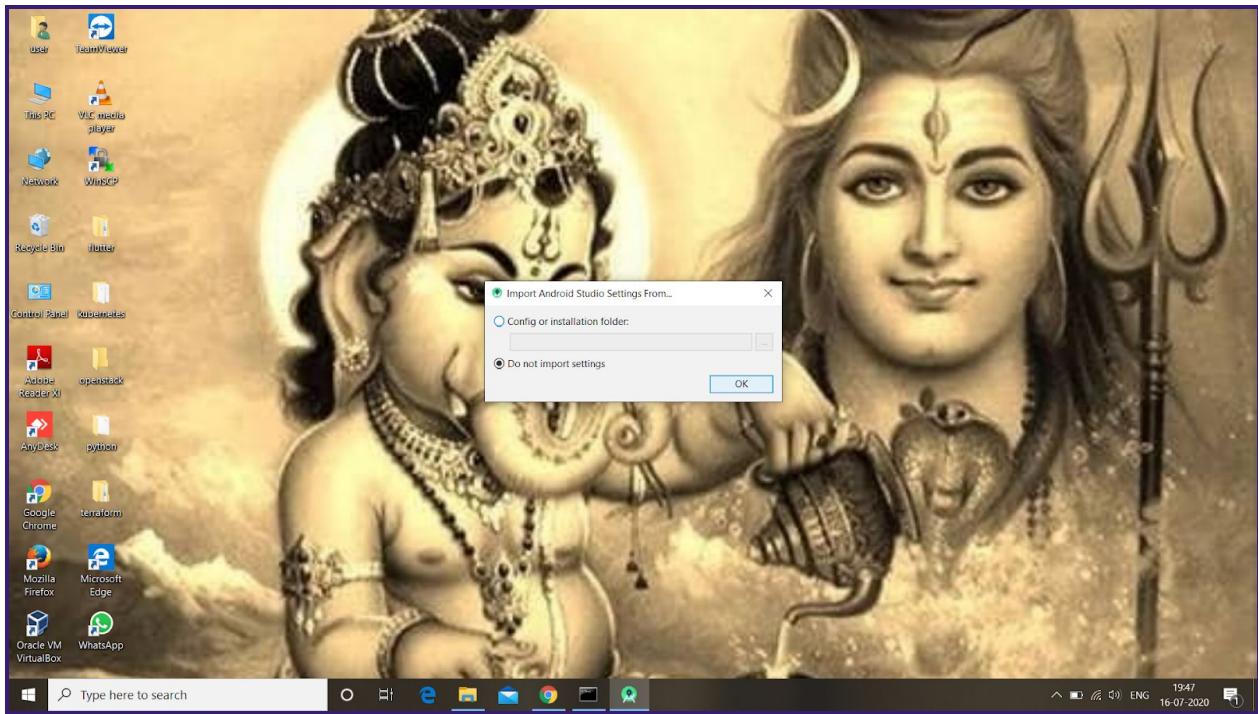
[!] Connected device
! No devices available

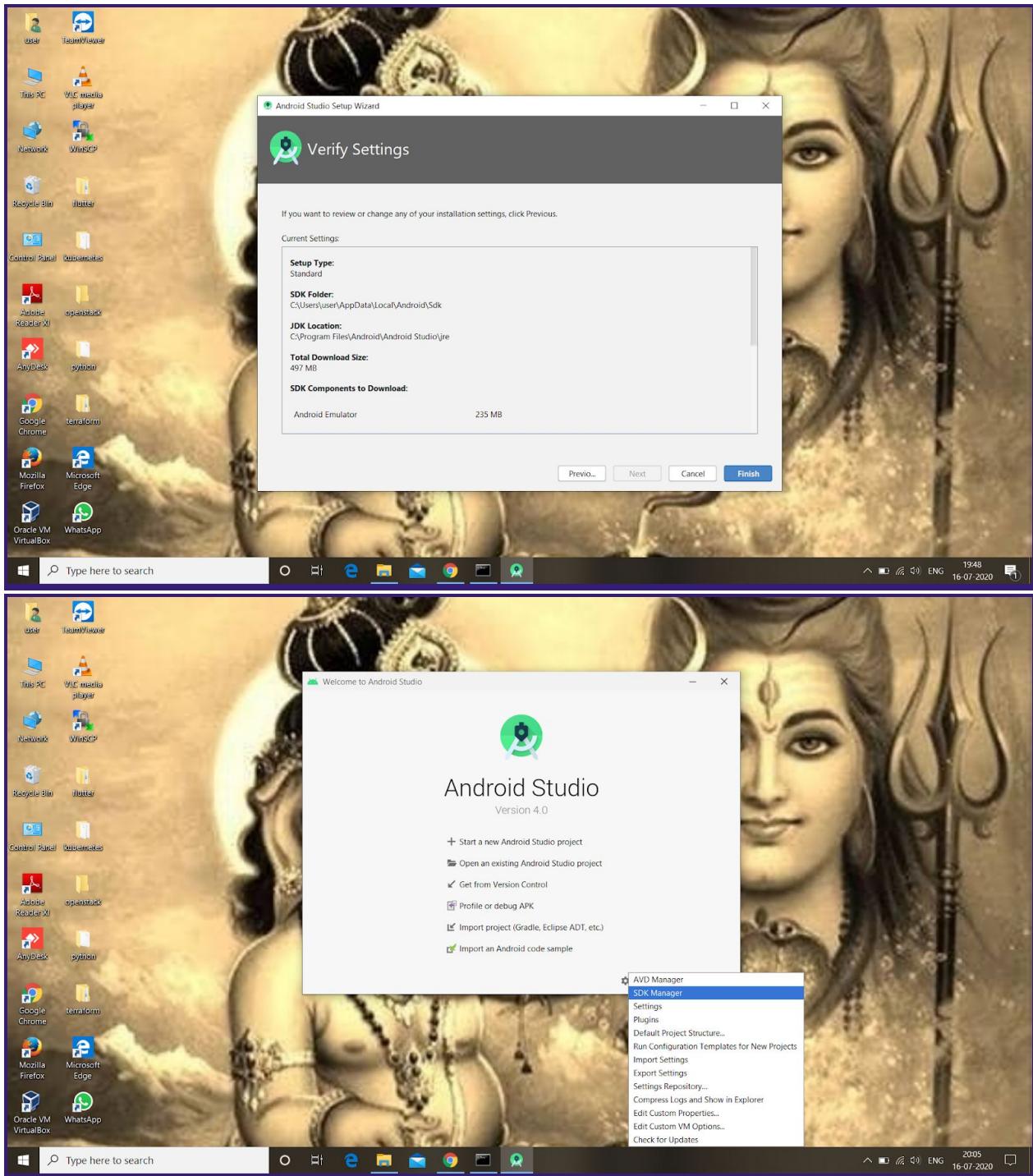
! Doctor found issues in 3 categories.

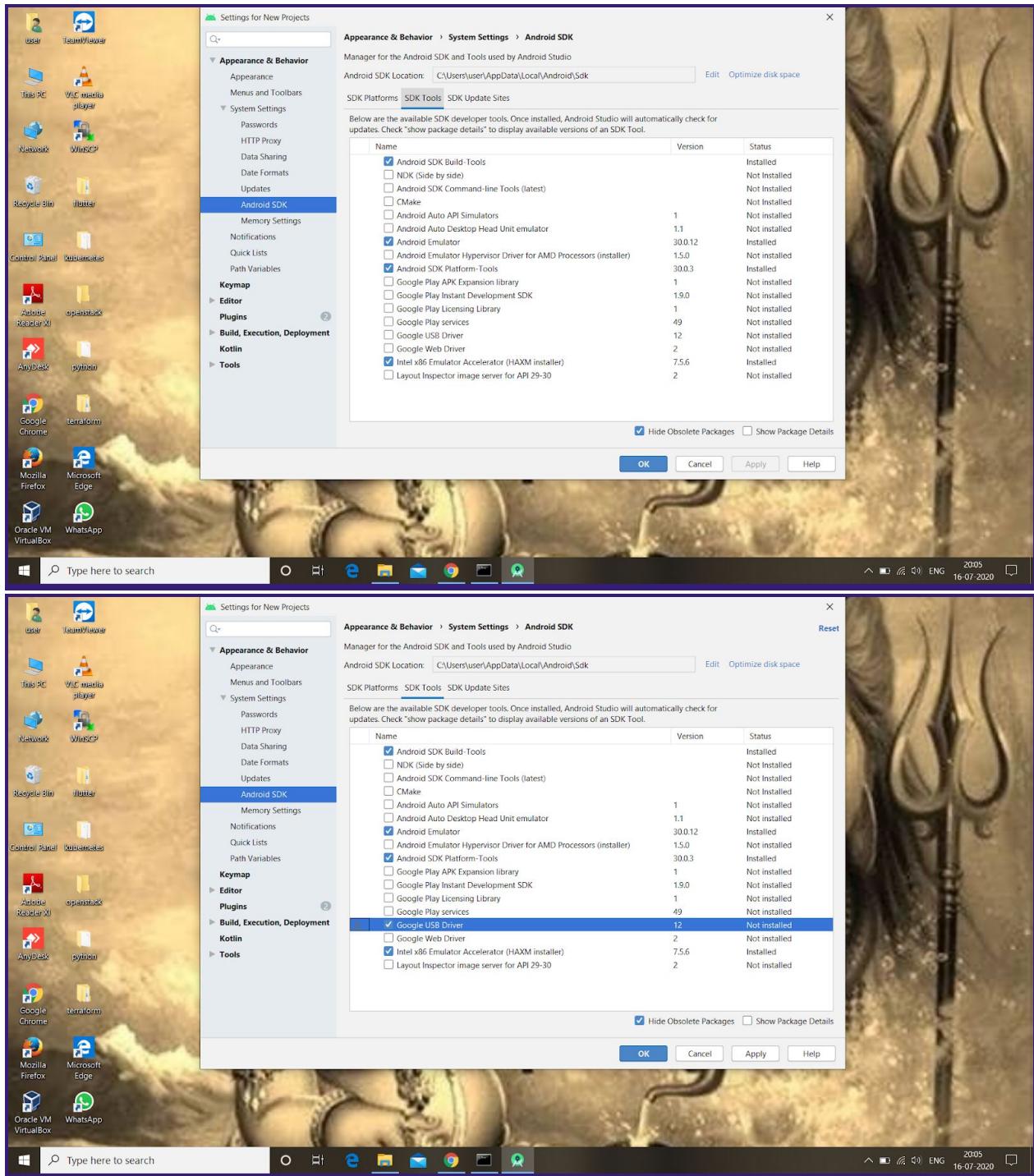
C:\Users\user>
```

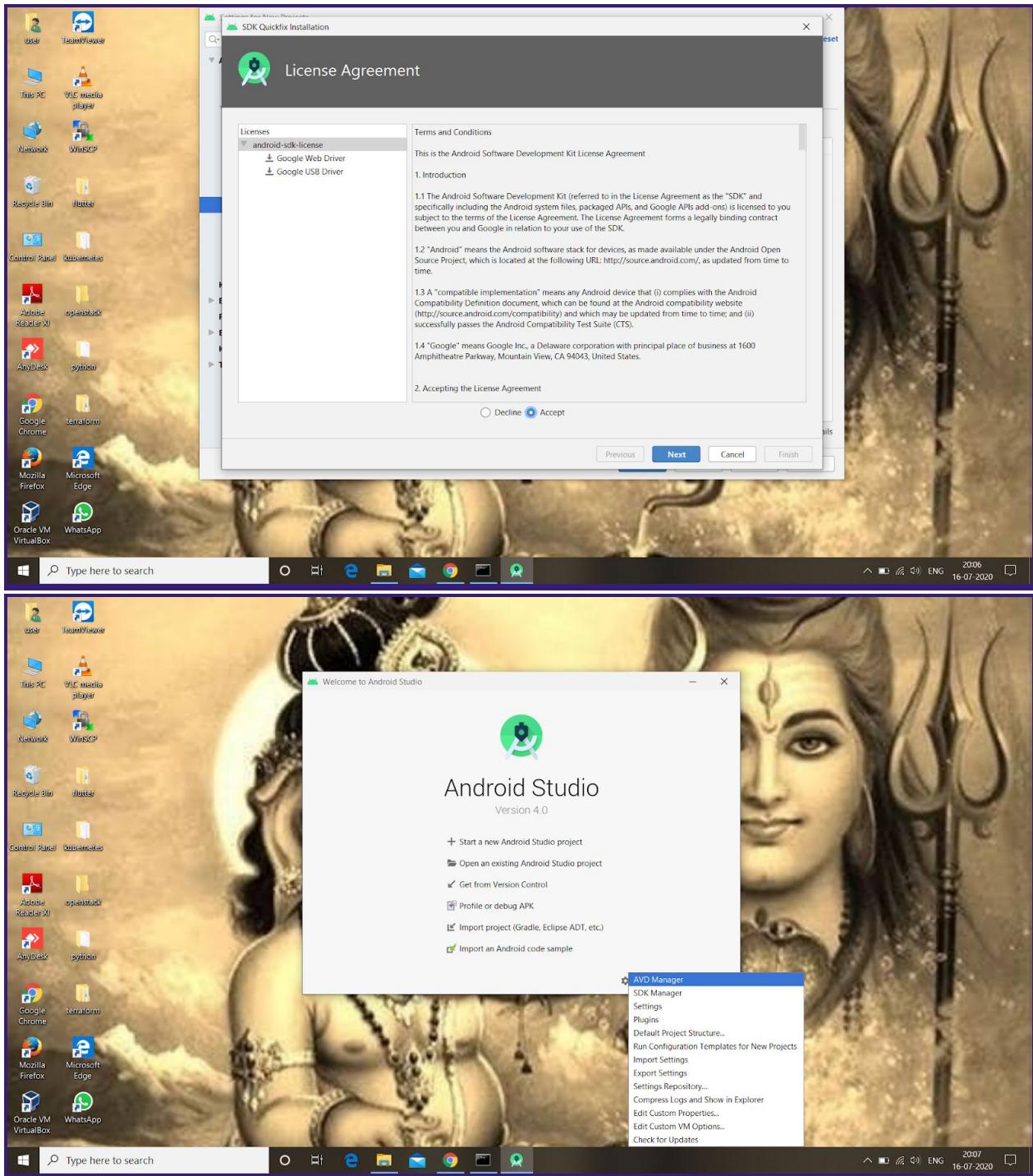


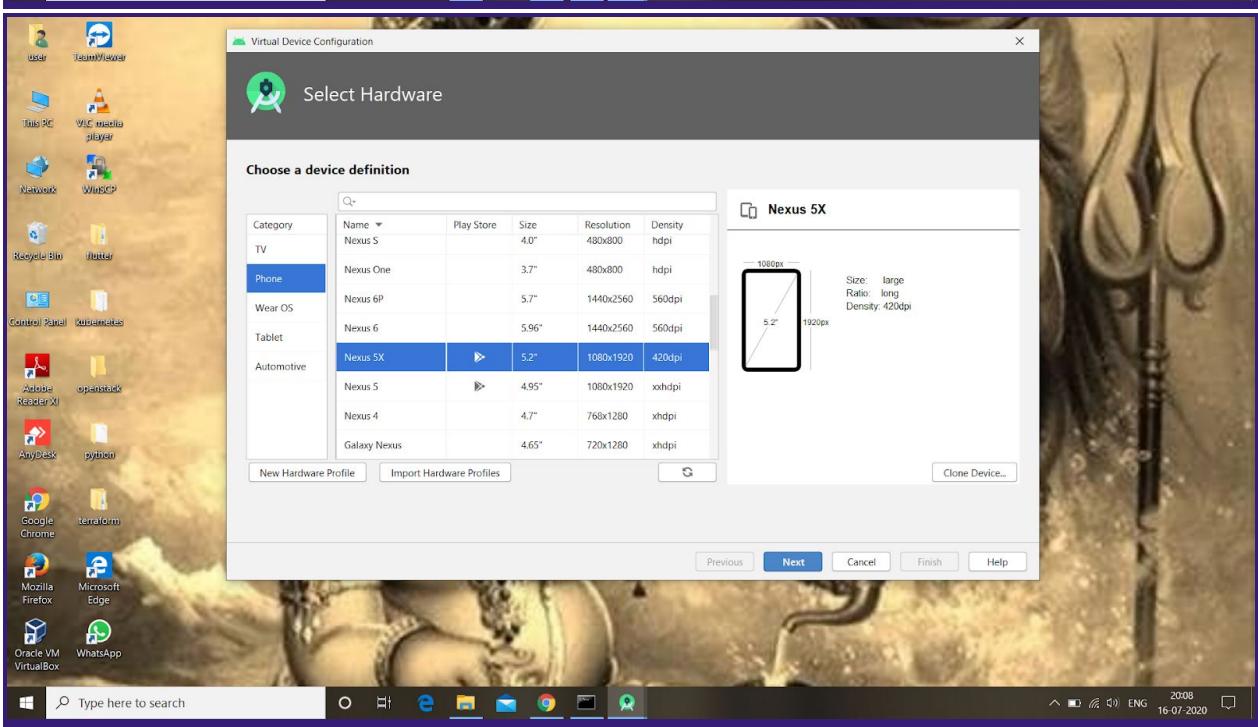
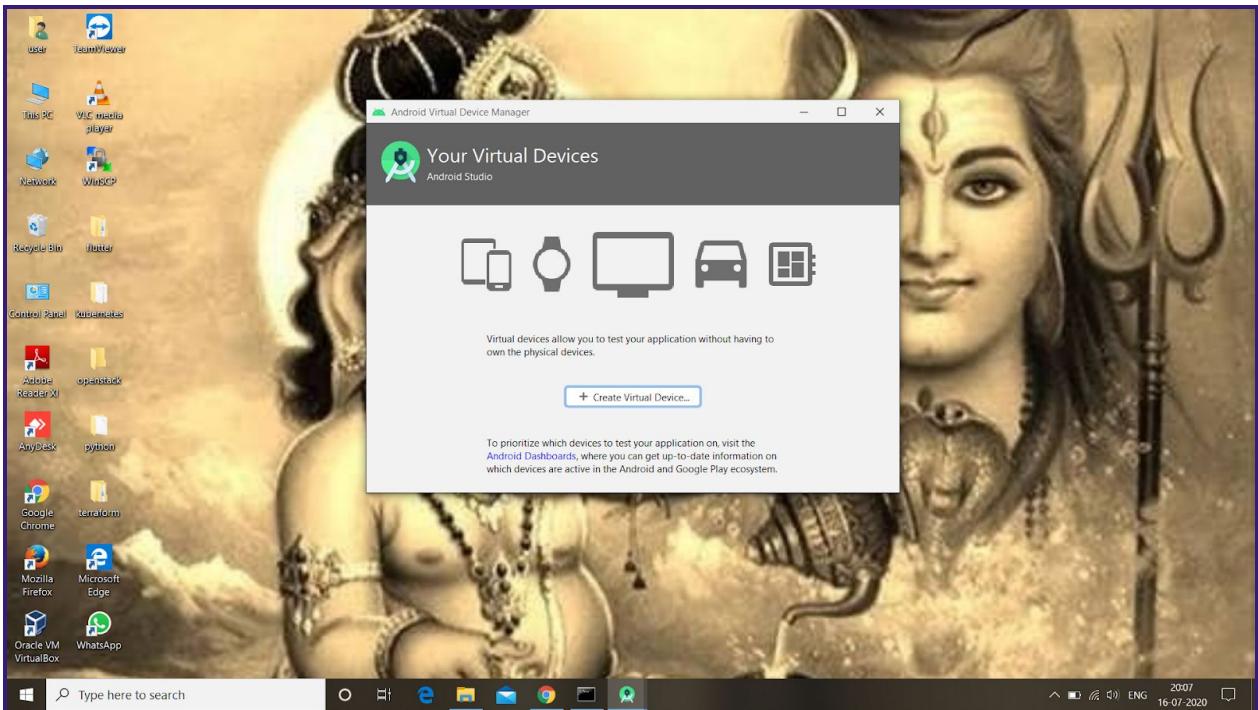












Google Drive Session 2 - Google Docs Windows install - Flutter Software - Google Drive android version list - Google Search

google.com/search?q=android+version+list&oq=android+version+list&aqs=chrome..69i5j0l7.10962j0j7&sourceid=chrome&ie=UTF-8

andriod version list

All Images News Books Shopping More Settings Tools

About 3,66,00,00,000 results (0.69 seconds)

Showing results for **android version list**
Search instead for **andriod version list**

All the different Android versions through the years

- 1.0 G1 (2008) Android 1.0 debuted on the HTC Dream (aka T-Mobile G1) and served up apps through Android Market with 35 apps at launch. ...
- 1.5 Cupcake (2009) ...
- 1.6 Donut (2009) ...
- 2.0 Eclair (2009) ...
- 2.2 Froyo (2010) ...

Type here to search

O E Mail Google Chrome

Virtual Device Configuration System Image

Select a system image

Recommended x86 Images Other Images

Release Name	API Level	ABI	Target
R Download	30	x86	Android 10.0+ (Google Play)
Q Download	29	x86	Android 10.0 (Google Play)
Pie Download	28	x86	Android 9.0 (Google Play)
Oreo Download	27	x86	Android 8.1 (Google Play)
Oreo Download	26	x86	Android 8.0 (Google Play)
Nougat Download	25	x86	Android 7.1.1 (Google Play)
Nougat Download	24	x86	Android 7.0 (Google Play)

Pie

API Level 28
Android 9.0
Google Inc.

We recommend these Google Play images because this device is compatible with Google Play.

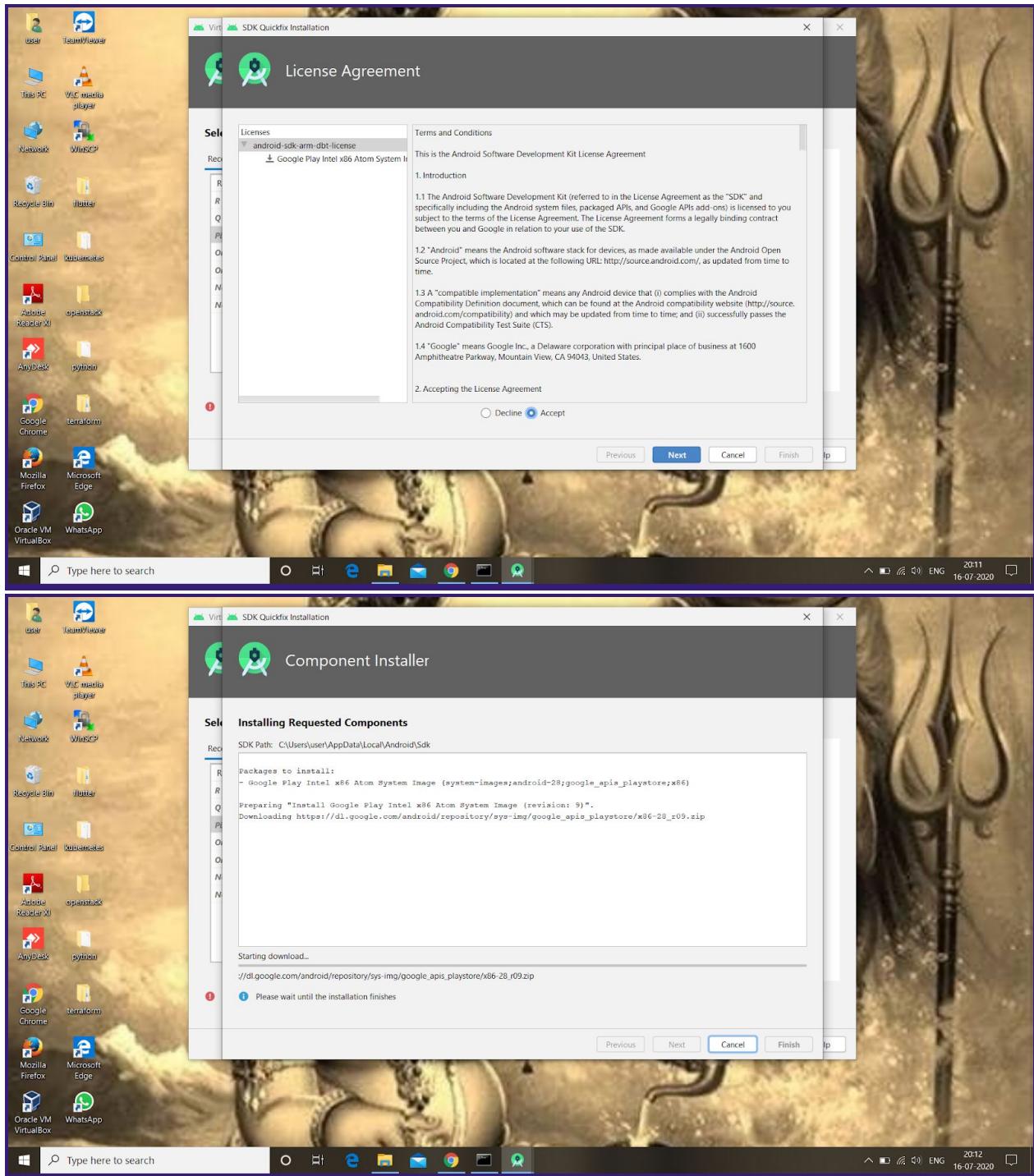
Questions on API level?
See the API level distribution chart

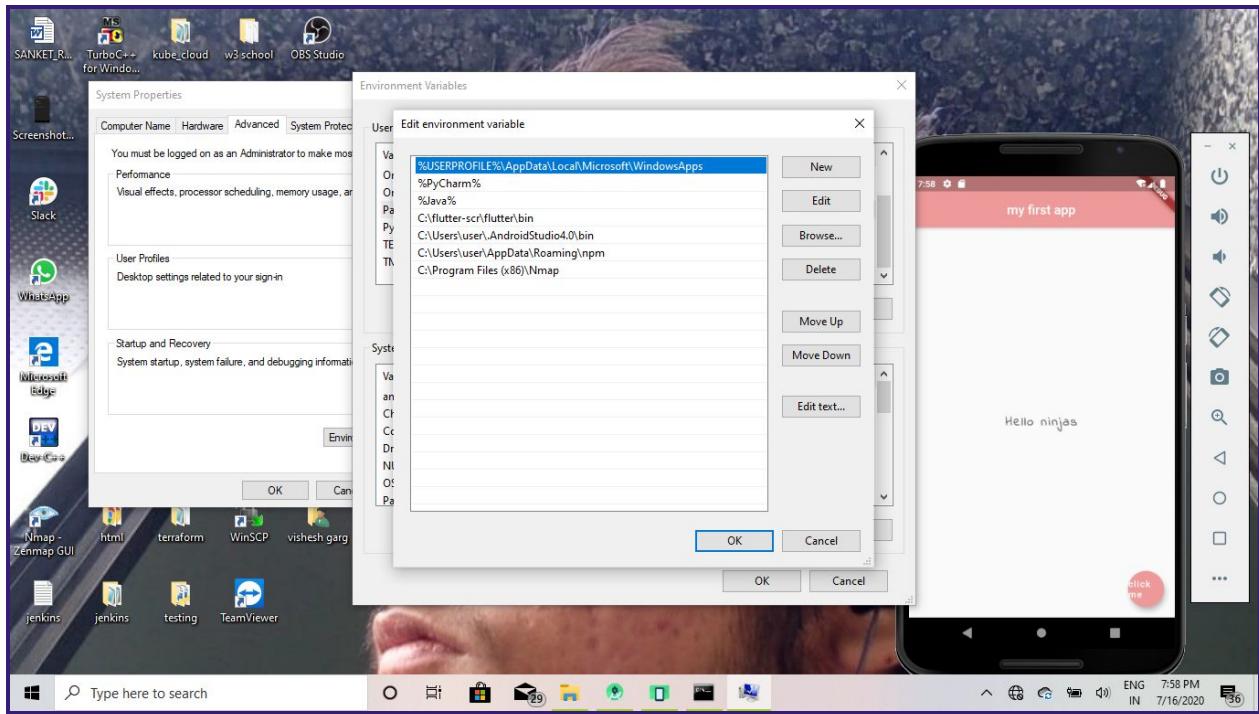
Previous Next Cancel Finish Help

Type here to search

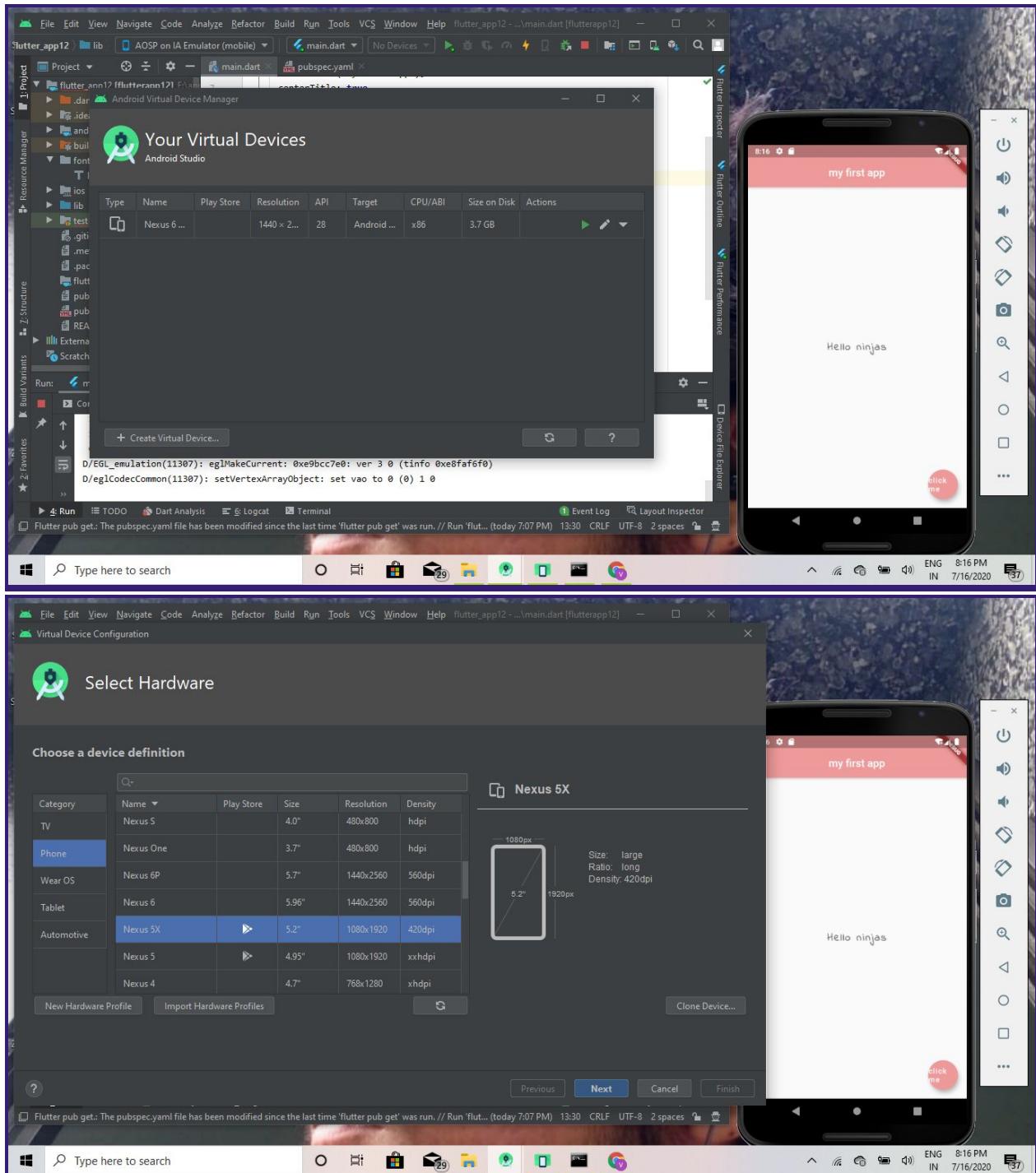
O E Mail Google Chrome

Oracle VM VirtualBox





AVD manager



C:\Users\user>flutter --version

Flutter 1.17.2 • channel stable • <https://github.com/flutter/flutter.git>

Framework • revision 5f21edf8b6 (7 weeks ago) • 2020-05-28 12:44:12 -0700

Engine • revision b851c71829

Tools • Dart 2.8.3

C:\Users\user>flutter doctor

Doctor summary (to see all details, run flutter doctor -v):

[✓] Flutter (Channel stable, v1.17.2, on Microsoft Windows [Version 10.0.18362.900],
locale en-US)

[✓] Android toolchain - develop for Android devices (Android SDK version 29.0.3)

[✓] Android Studio (version 4.0)

[✓] Connected device (1 available)

• No issues found!

C:\Users\user>flutter doctor

Doctor summary (to see all details, run flutter doctor -v):

[✓] Flutter (Channel stable, v1.17.2, on Microsoft Windows [Version 10.0.18362.900],
locale en-US)

[✓] Android toolchain - develop for Android devices (Android SDK version 29.0.3)

[✓] Android Studio (version 4.0)

[✓] Connected device (1 available)

• No issues found!

C:\Users\user>flutter devices

1 connected device:

AOSP on IA Emulator • emulator-5554 • android-x86 • Android 9 (API 28) (emulator)

C:\Users\user>flutter emulators

1 available emulator:

Nexus_6_API_28 • Nexus 6 API 28 • Google • android

To run an emulator, run 'flutter emulators --launch <emulator id>'.

To create a new emulator, run 'flutter emulators --create [--name xyz]'.

You can find more information on managing emulators at the links below:

<https://developer.android.com/studio/run/managing-avds>

<https://developer.android.com/studio/command-line/avdmanager>

C:\Users\user>cd Desktop

C:\Users\user\Desktop>mkdir flutter_project

C:\Users\user\Desktop>cd flutter

```
C:\Users\user\Desktop\flutter>flutter create test_app
Creating project test_app...
test_app\.gitignore (created)
test_app\.idea\libraries\Flutter_for_Android.xml (created)
test_app\.idea\libraries\KotlinJavaRuntime.xml (created)
test_app\.idea\modules.xml (created)
test_app\.idea\runConfigurations\main_dart.xml (created)
test_app\.idea\workspace.xml (created)
test_app\.metadata (created)
test_app\android\app\build.gradle (created)
test_app\android\app\src\main\kotlin\com\example\test_app\MainActivity.kt (created)
test_app\android\build.gradle (created)
test_app\android\test_app_android.iml (created)
test_app\android\.gitignore (created)
test_app\android\app\src\debug\AndroidManifest.xml (created)
test_app\android\app\src\main\AndroidManifest.xml (created)
test_app\android\app\src\main\res\drawable\launch_background.xml (created)
test_app\android\app\src\main\res\mipmap-hdpi\ic_launcher.png (created)
test_app\android\app\src\main\res\mipmap-mdpi\ic_launcher.png (created)
test_app\android\app\src\main\res\mipmap-xhdpi\ic_launcher.png (created)
test_app\android\app\src\main\res\mipmap-xxhdpi\ic_launcher.png (created)
test_app\android\app\src\main\res\mipmap-xxxhdpi\ic_launcher.png (created)
test_app\android\app\src\main\res\values\styles.xml (created)
test_app\android\app\src\profile\AndroidManifest.xml (created)
test_app\android\gradle\wrapper\gradle-wrapper.properties (created)
test_app\android\gradle.properties (created)
test_app\android\settings.gradle (created)
test_app\ios\RunnerAppDelegate.swift (created)
test_app\ios\Runner\Runner-Bridging-Header.h (created)
test_app\ios\Runner.xcodeproj\project.pbxproj (created)
test_app\ios\Runner.xcodeproj\xcshareddata\xcschemes\Runner.xcscheme (created)
test_app\ios\.gitignore (created)
test_app\ios\Flutter\AppFrameworkInfo.plist (created)
test_app\ios\Flutter\Debug.xcconfig (created)
test_app\ios\Flutter\Release.xcconfig (created)
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Contents.json (created)
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-1024x1024@1x.png
(created)
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-20x20@1x.png
(created)
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-20x20@2x.png
(created)
```

```
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-20x20@3x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-29x29@1x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-29x29@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-29x29@3x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-40x40@1x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-40x40@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-40x40@3x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-60x60@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-60x60@3x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-76x76@1x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-76x76@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\ApplIcon.appiconset\Icon-App-83.5x83.5@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\LaunchImage.imageset\Contents.json (created)  
test_app\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage.png  
(created)  
test_app\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@2x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\LaunchImage.imageset\LaunchImage@3x.png  
(created)  
test_app\ios\Runner\Assets.xcassets\LaunchImage.imageset\README.md (created)  
test_app\ios\Runner\Base.Iproj\LaunchScreen.storyboard (created)  
test_app\ios\Runner\Base.Iproj>Main.storyboard (created)  
test_app\ios\Runner\Info.plist (created)  
test_app\ios\Runner.xcodeproj\project.xcworkspace\contents.xcworkspacedata  
(created)  
  
test_app\ios\Runner.xcodeproj\project.xcworkspace\xcshareddata\IDEWorkspaceChecks  
.plist (created)  
  
test_app\ios\Runner.xcodeproj\project.xcworkspace\xcshareddata\WorkspaceSettings.xc  
settings (created)
```

```
test_app\ios\Runner.xcworkspace\contents.xcworkspacedata (created)
test_app\ios\Runner.xcworkspace\xcshareddata\IDEWorkspaceChecks.plist (created)
test_app\ios\Runner.xcworkspace\xcshareddata\WorkspaceSettings.xcsettings
(created)
test_app\lib\main.dart (created)
test_app\test_app.iml (created)
test_app\pubspec.yaml (created)
test_app\README.md (created)
test_app\test\widget_test.dart (created)
Running "flutter pub get" in test_app...                                8.2s
Wrote 72 files.
```

All done!

```
[✓] Flutter: is fully installed. (Channel stable, v1.17.2, on Microsoft Windows [Version
10.0.18362.900], locale en-US)
[✓] Android toolchain - develop for Android devices: is fully installed. (Android SDK
version 29.0.3)
[✓] Android Studio: is fully installed. (version 4.0)
[✓] Connected device: is fully installed. (1 available)
```

In order to run your application, type:

```
$ cd test_app
$ flutter run
```

```
Your application code is in test_app\lib\main.dart.
C:\Users\user\Desktop\flutter>dir
Volume in drive C is vishesh
Volume Serial Number is 1CF6-F84B
```

Directory of C:\Users\user\Desktop\flutter

```
07/16/2020  08:23 PM  <DIR>    .
07/16/2020  08:23 PM  <DIR>    ..
06/03/2020  01:47 PM  <DIR>    flutter-beginners-tutorial
07/16/2020  08:23 PM  <DIR>    test_app
      0 File(s)        0 bytes
      4 Dir(s)  133,411,336,192 bytes free
```

```
C:\Users\user\Desktop\flutter>cd test_app
```

```
C:\Users\user\Desktop\flutter\test_app>dir
Volume in drive C is vishesh
```

Volume Serial Number is 1CF6-F84B

Directory of C:\Users\user\Desktop\flutter\test_app

07/16/2020 08:23 PM <DIR>	.
07/16/2020 08:23 PM <DIR>	..
07/16/2020 08:23 PM <DIR>	.dart_tool
07/16/2020 08:23 PM	735 .gitignore
07/16/2020 08:23 PM <DIR>	.idea
07/16/2020 08:23 PM	315 .metadata
07/16/2020 08:23 PM	2,680 .packages
07/16/2020 08:23 PM <DIR>	android
07/16/2020 08:23 PM <DIR>	ios
07/16/2020 08:23 PM <DIR>	lib
07/16/2020 08:23 PM	4,184 pubspec.lock
07/16/2020 08:23 PM	2,961 pubspec.yaml
07/16/2020 08:23 PM	554 README.md
07/16/2020 08:23 PM <DIR>	test
07/16/2020 08:23 PM	913 test_app.iml
7 File(s) 12,342 bytes	
8 Dir(s) 133,401,374,720 bytes free	

C:\Users\user\Desktop\flutter\test_app>flutter run

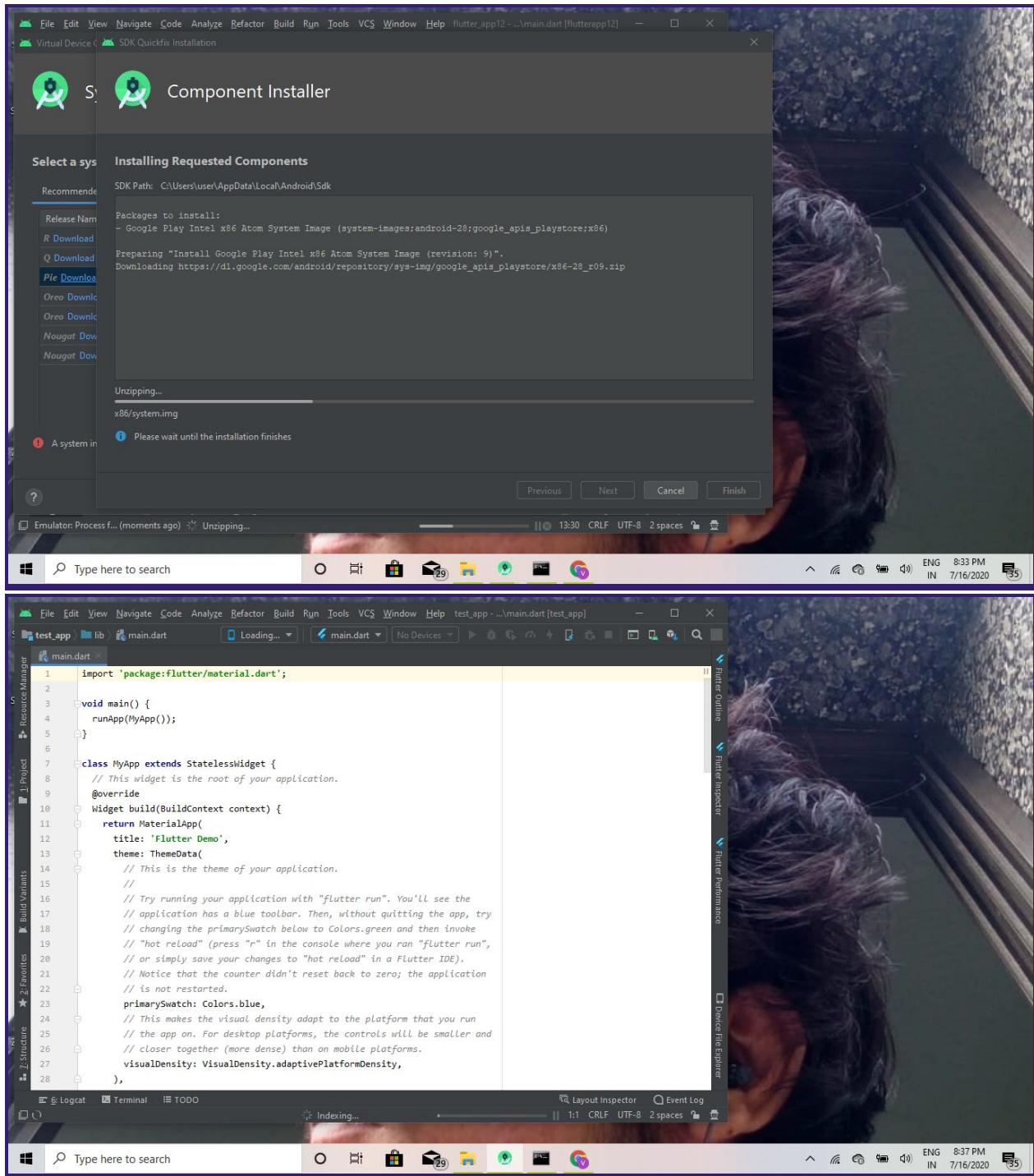
Using hardware rendering with device AOSP on IA Emulator. If you get graphics artifacts,

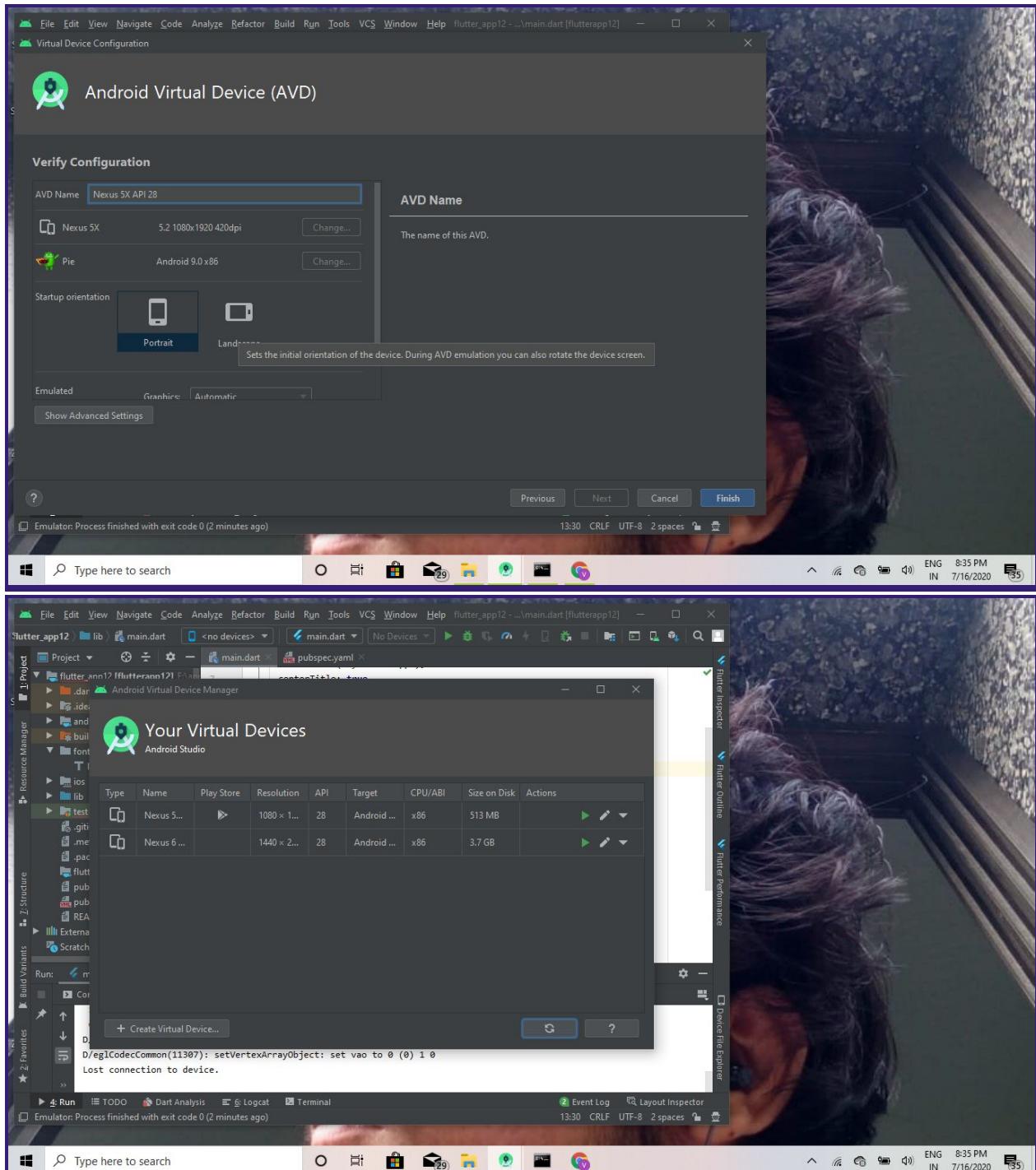
consider enabling software

rendering with "--enable-software-rendering".

Launching lib/main.dart on AOSP on IA Emulator in debug mode...

Running Gradle task 'assembleDebug'...





C:\Users\user\Desktop\flutter\test_app>flutter emulators

2 available emulators:

Nexus_5X_API_28 • Nexus 5X API 28 • Google • android

Nexus_6_API_28 • Nexus 6 API 28 • Google • android

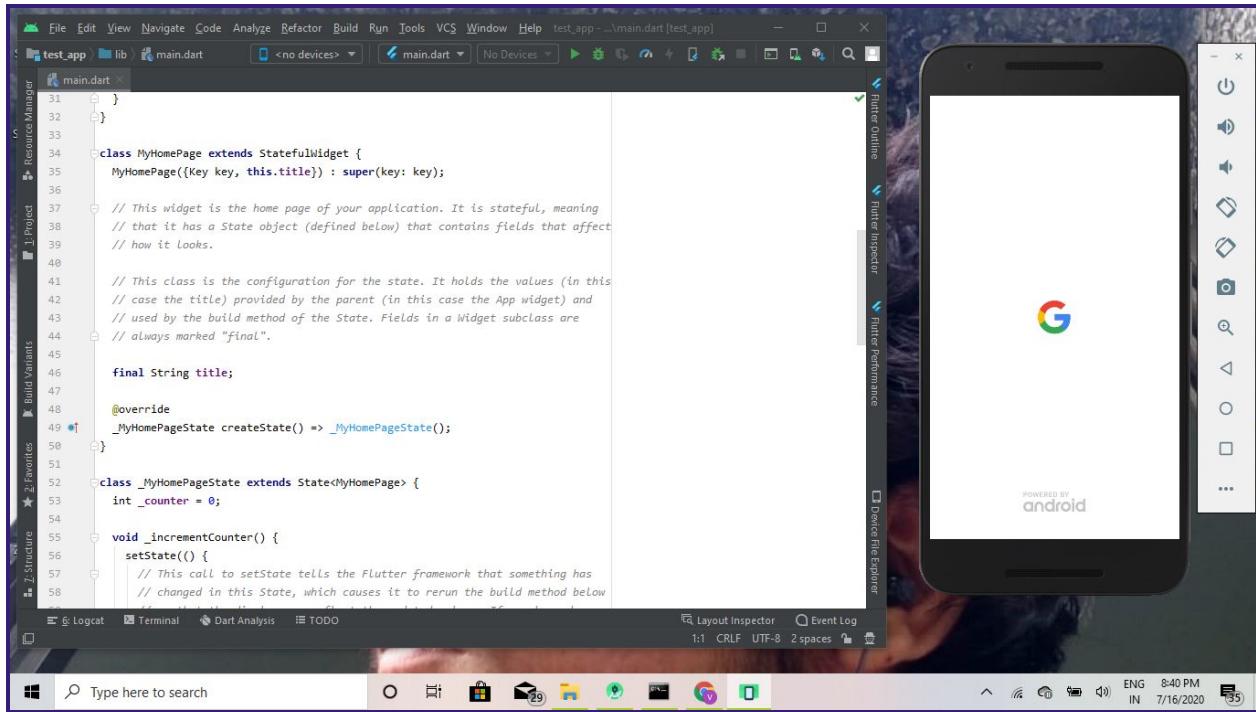
To run an emulator, run 'flutter emulators --launch <emulator id>'.

To create a new emulator, run 'flutter emulators --create [--name xyz]'.
You can find more information on managing emulators at the links below:

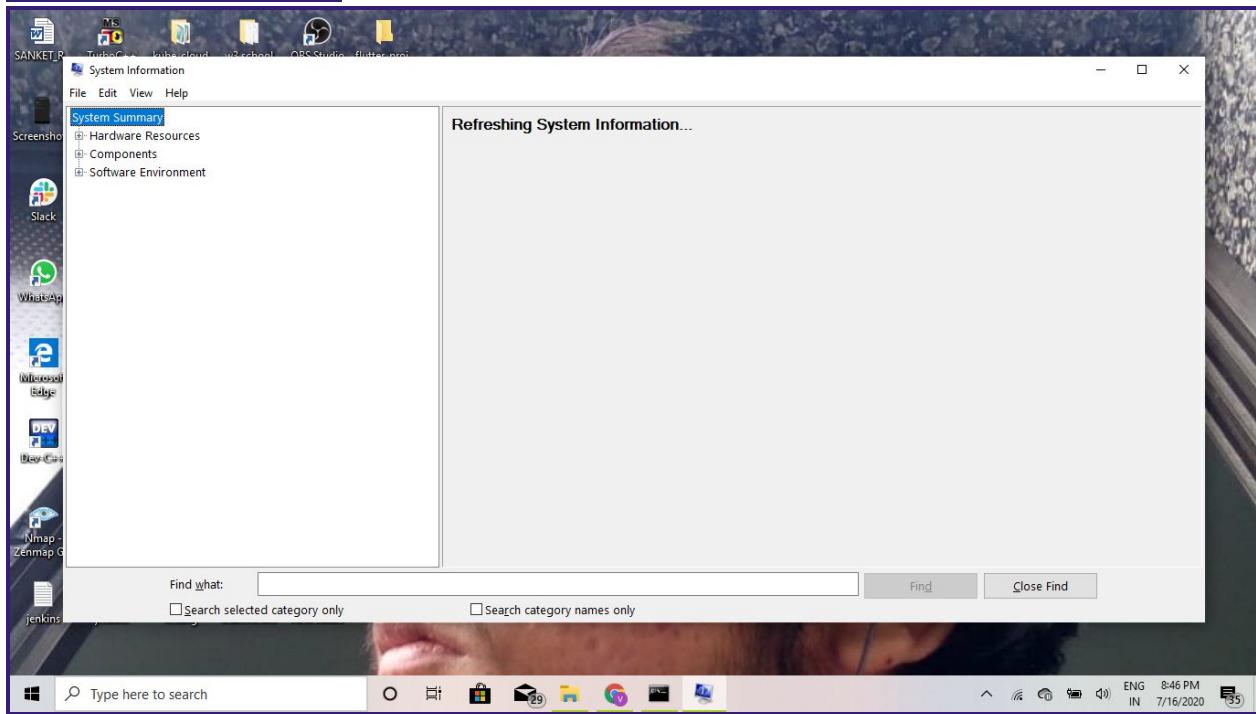
<https://developer.android.com/studio/run/managing-avds>

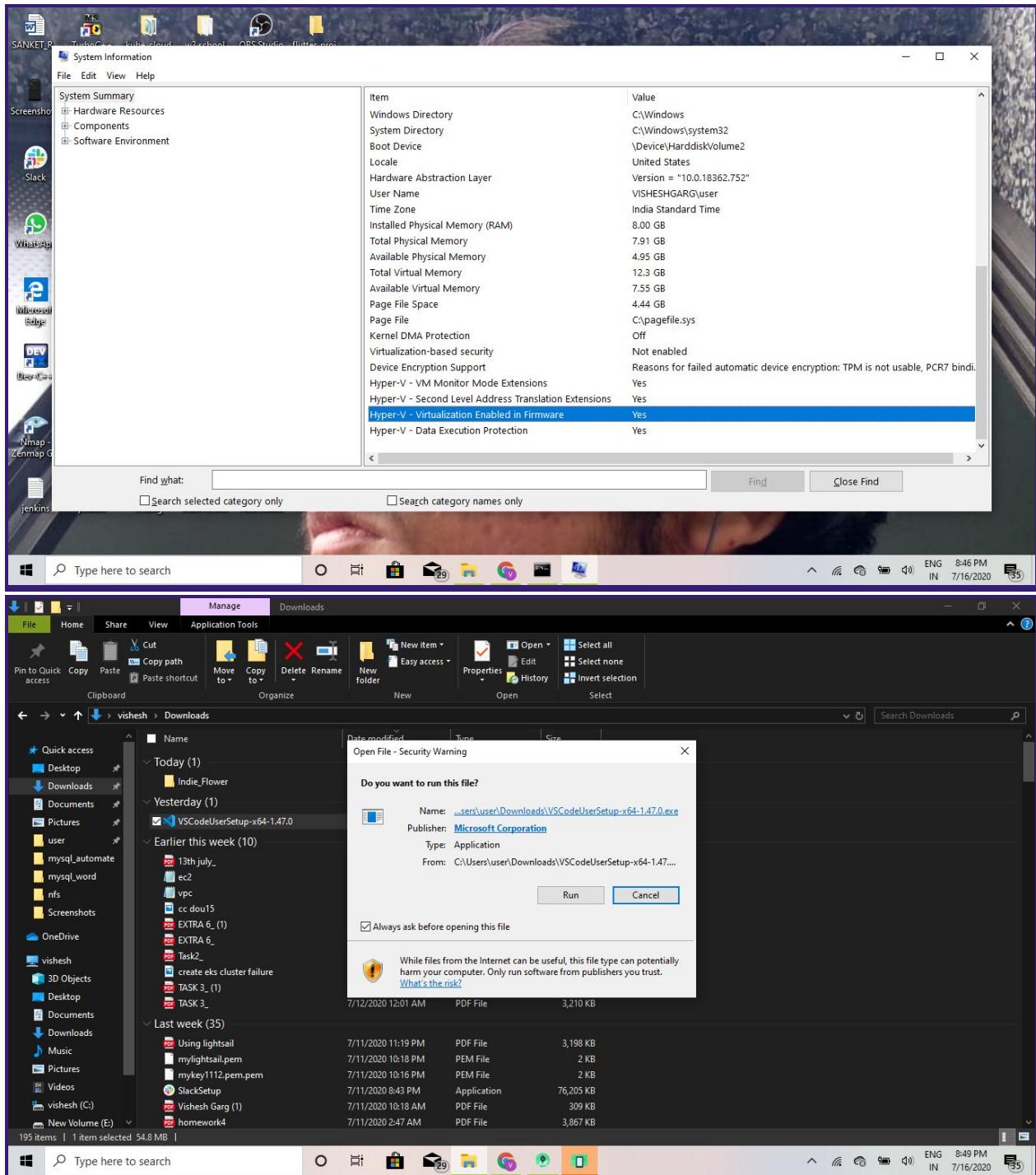
<https://developer.android.com/studio/command-line/avdmanager>

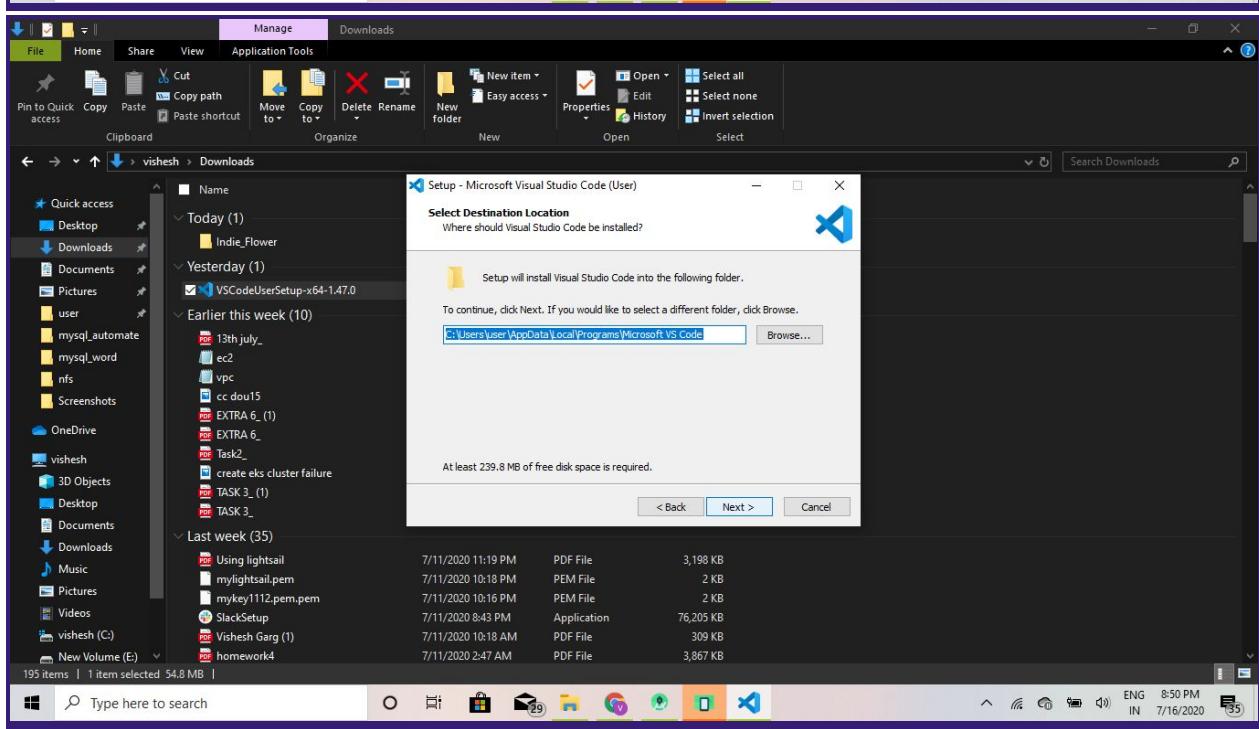
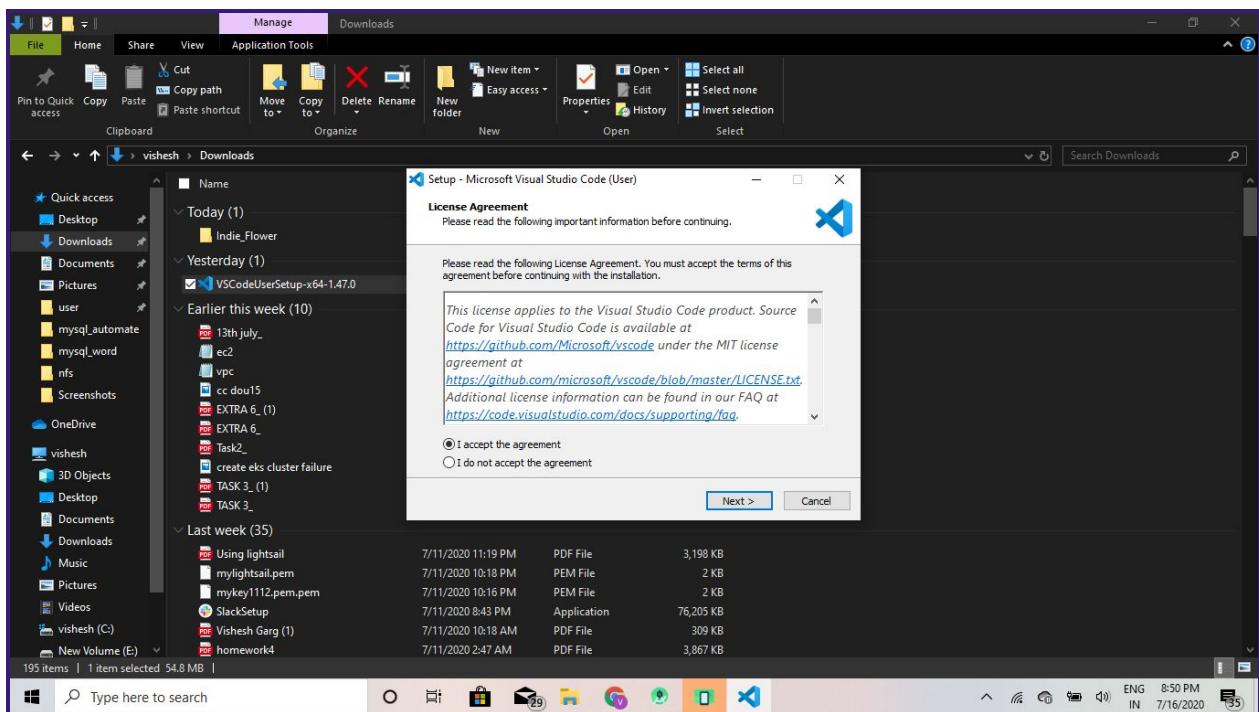
C:\Users\user\Desktop\flutter\test_app>flutter emulators --launch Nexus_5X_API_28

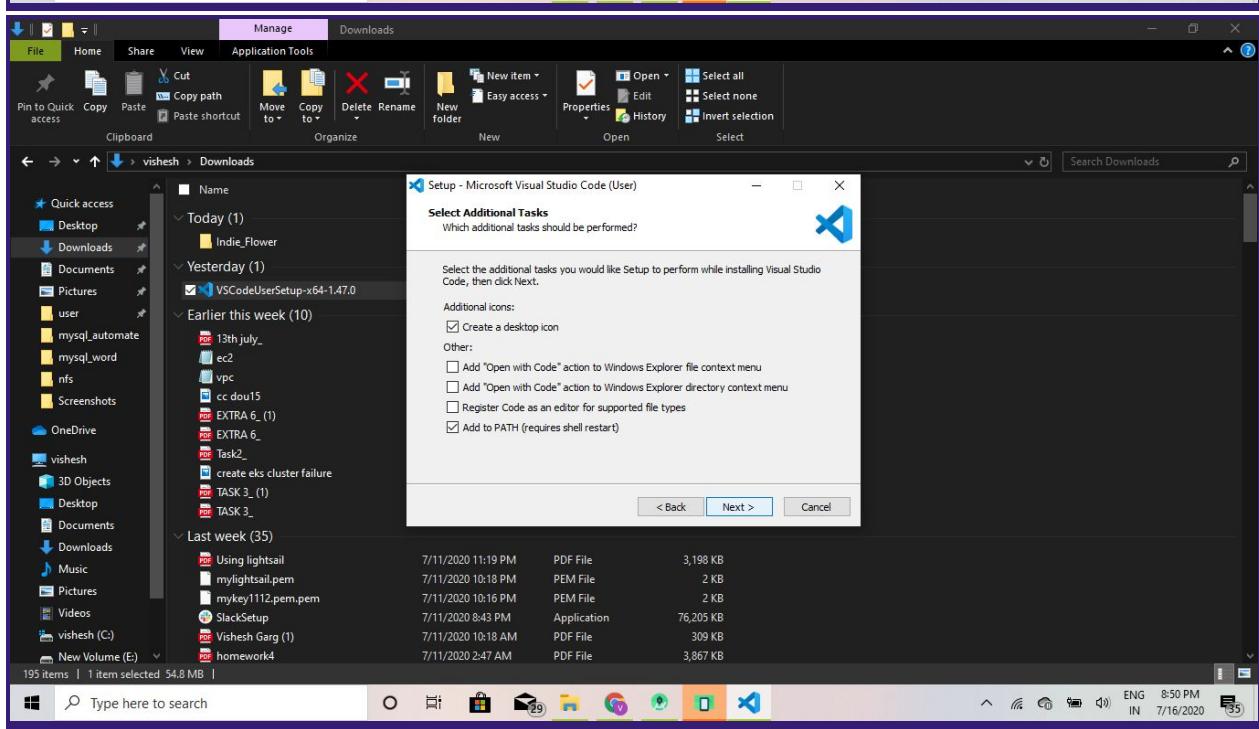
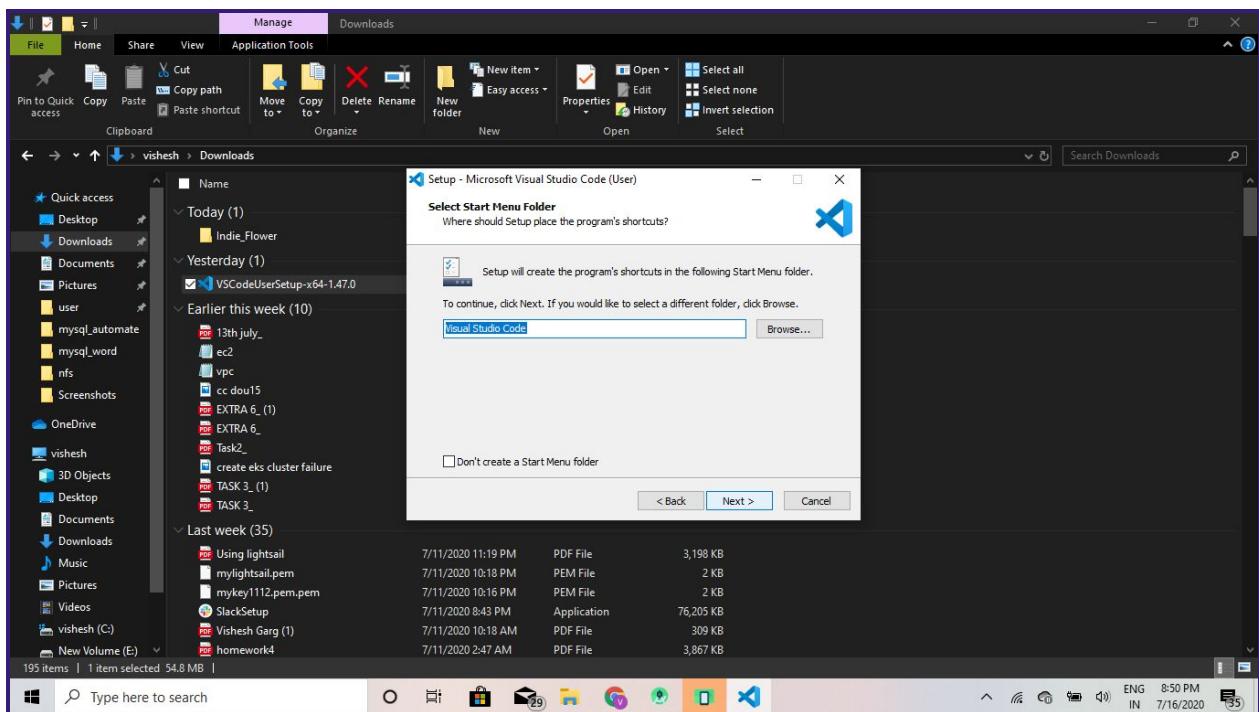


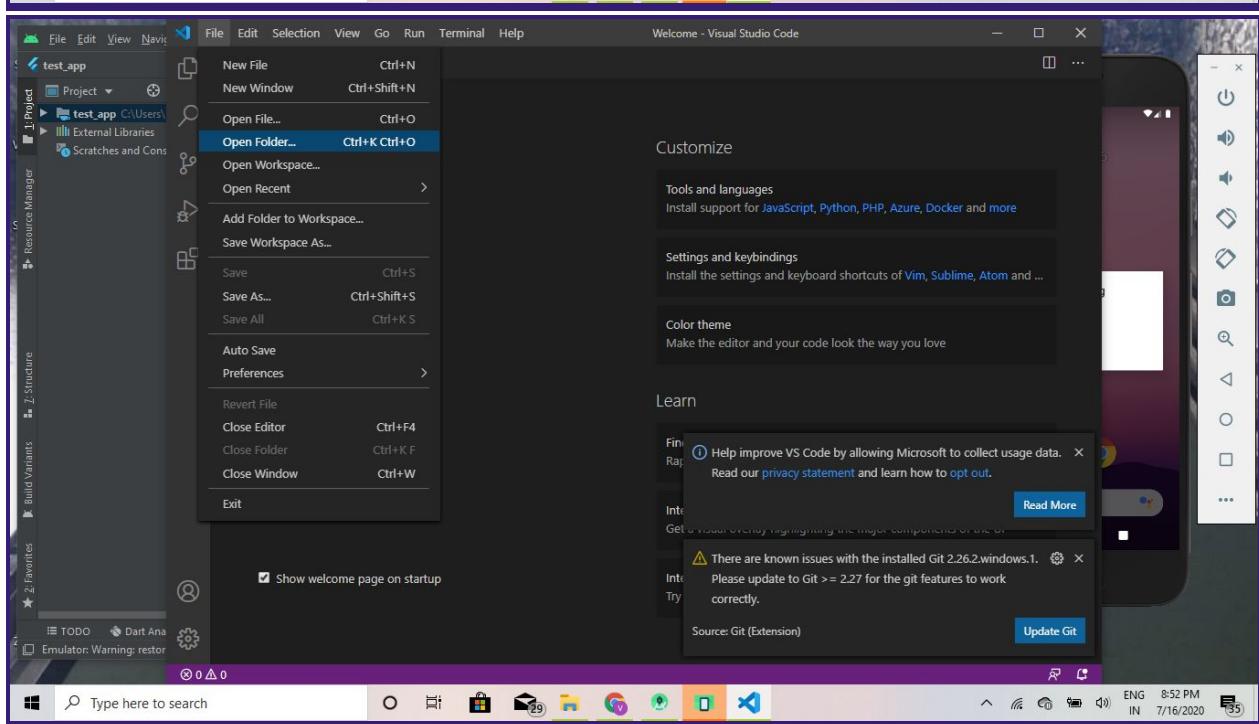
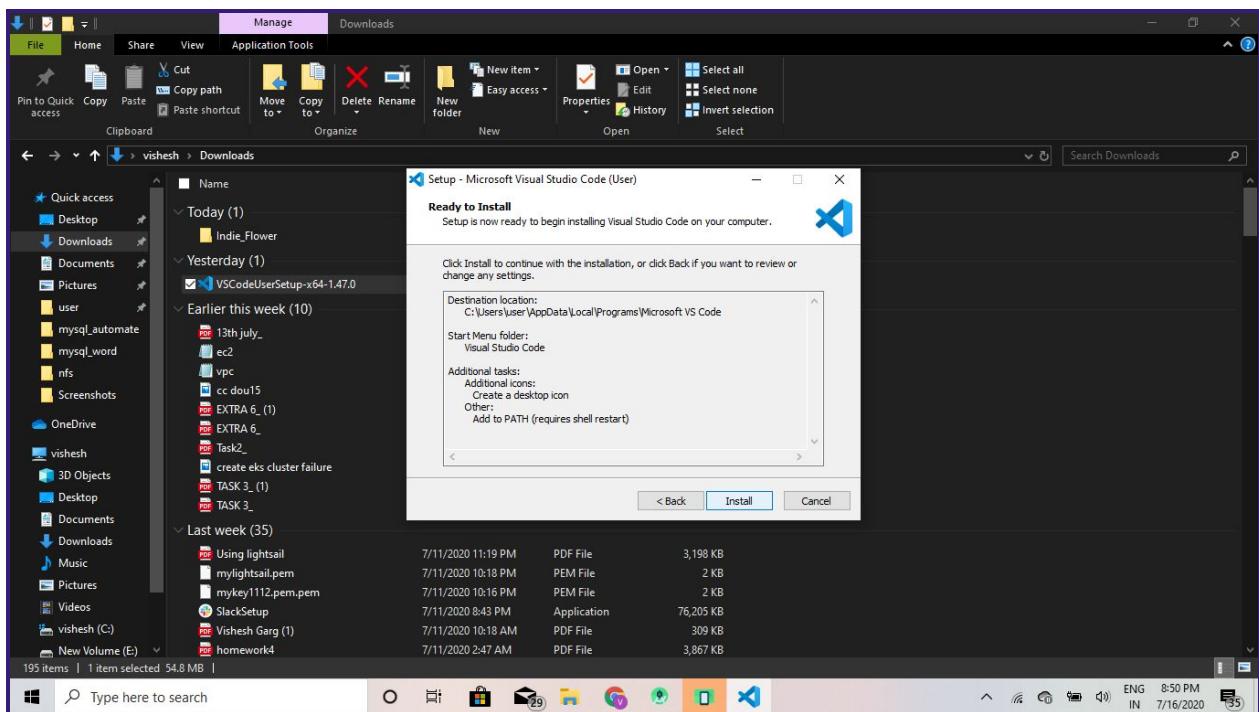
C:\Users\user>msinfo32









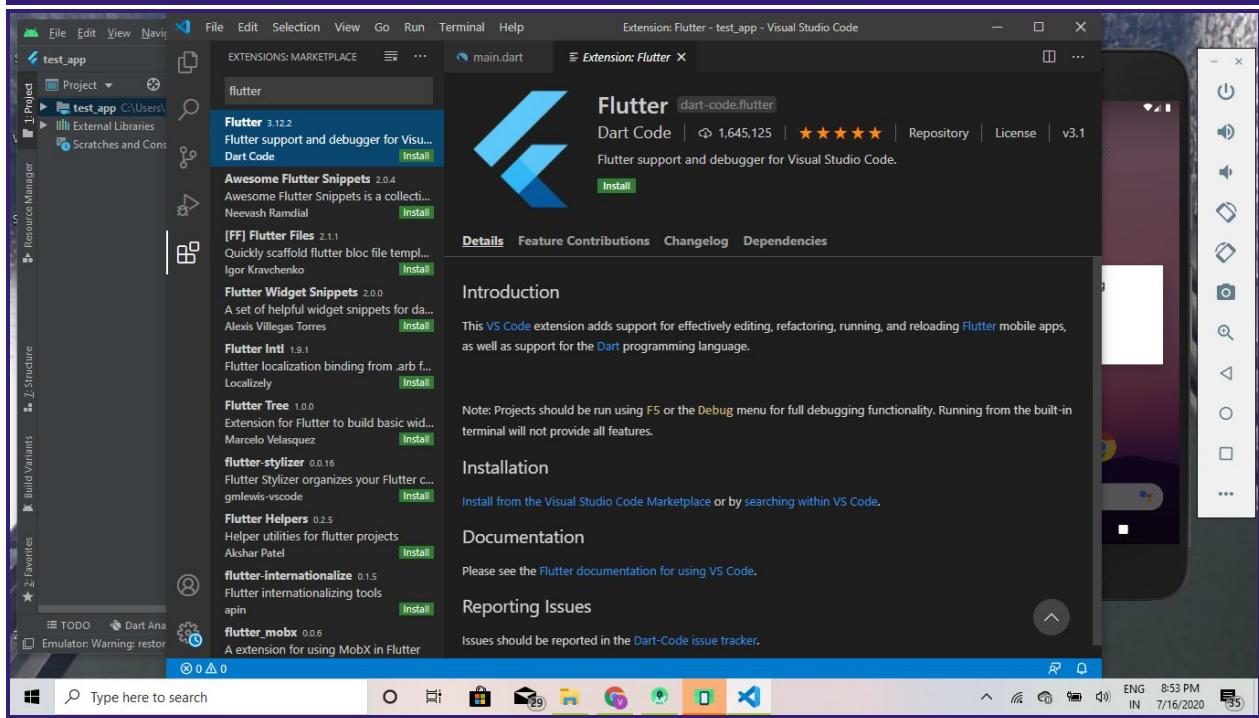


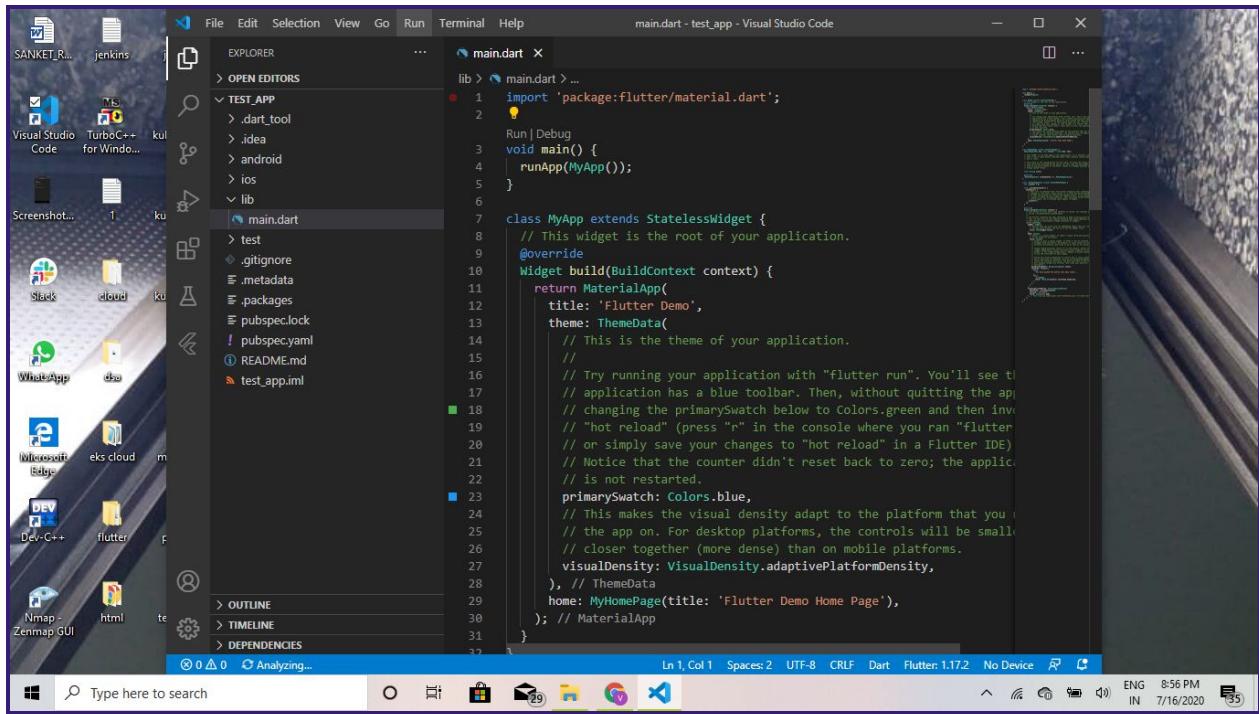
The screenshot shows the Visual Studio Code interface with the following details:

- Project Explorer:** Shows the project structure for "test_app" with files like ".gitignore", ".packages", "main.dart", "pubspec.lock", "pubspec.yaml", and "README.md".
- Editor:** The main editor window displays the content of "main.dart".

```
lib > main.dart
1 import 'package:flutter/material.dart';
2
3 void main() {
4   runApp(MyApp());
5 }
6
7 class MyApp extends StatelessWidget {
8   // This widget is the root of your application.
9   @override
10  Widget build(BuildContext context) {
11    return MaterialApp(
12      title: 'Flutter Demo',
13      theme: ThemeData(
14        // This is the theme of your application.
15        //
16        // Try running your application with "flutter run". You'll see the
17        // application has a blue toolbar. Then, without quitting the app,
18        // change the primarySwatch below to Colors.green and then invoke
19        // "hot reload" (press "r" in the console where you ran "flutter
20        // build") or simply save your changes to "hot reload" in a Flutter IDE).
21        // Notice that the counter didn't reset back to zero; the application
22        // is not restarted.
23        primarySwatch: Colors.blue,
24        // This makes the visual density adapt to the platform that you're
25        // building for. For desktop platforms, the controls will be smaller
26        // and closer together (more dense) than on mobile platforms.
27        visualDensity: VisualDensity.adaptivePlatformDensity,
28      ),
29      home: MyHomePage(title: 'Flutter Demo Home Page'),
30    );
31  }
32 }
```

- Output Panel:** Shows a message: "The Marketplace has extensions that can help with '.dart' files".
- Bottom Status Bar:** Shows "Ln 1, Col 1" and "8:53 PM 7/16/2020".



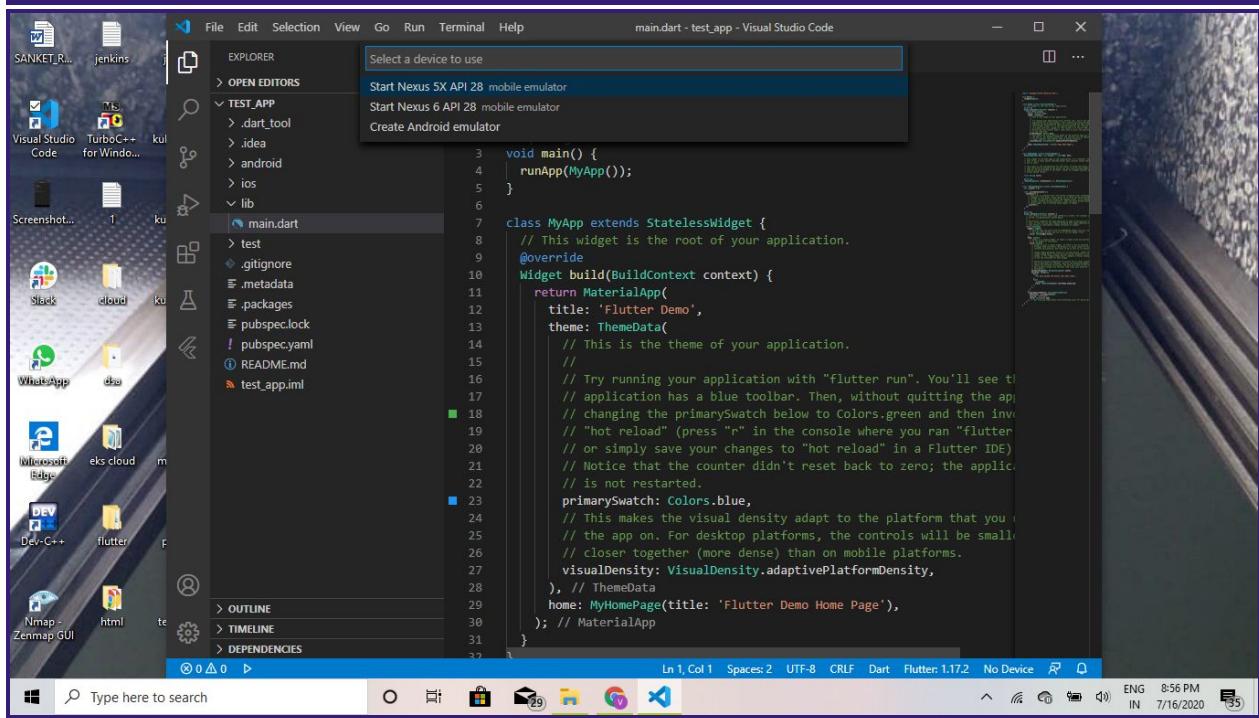


The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure for "TEST_APP" with files like ".dart_tool", ".idea", "android", "ios", and "lib/main.dart".
- Editor:** The main window displays the "main.dart" file content:

```
lib > main.dart > ...
1 import 'package:flutter/material.dart';
2
3 Run | Debug
4 void main() {
5   runApp(MyApp());
6
7 class MyApp extends StatelessWidget {
8   // This widget is the root of your application.
9   @override
10  Widget build(BuildContext context) {
11    return MaterialApp(
12      title: 'Flutter Demo',
13      theme: ThemeData(
14        // This is the theme of your application.
15        //
16        // Try running your application with "flutter run". You'll see that the
17        // application has a blue toolbar. Then, without quitting the app,
18        // change the primarySwatch below to Colors.green and then invoke
19        // "hot reload" (press "r" in the console where you ran "flutter
20        // run"). You'll see that the application has changed! Notice that the
21        // counter didn't reset back to zero; the application
22        // is not restarted.
23        primarySwatch: Colors.blue,
24        // This makes the visual density adapt to the platform that you're
25        // running on. For desktop platforms, the controls will be smaller
26        // and closer together (more dense) than on mobile platforms.
27        visualDensity: VisualDensity.adaptivePlatformDensity,
28      ), // ThemeData
29      home: MyHomePage(title: 'Flutter Demo Home Page'),
30    ); // MaterialApp
31  }
32 }
```

- Terminal:** Shows "Analyzing..."
- System Tray:** Displays the date and time as "7/16/2020 8:56 PM".



The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure for "TEST_APP" with files like ".dart_tool", ".idea", "android", "ios", and "lib". The "main.dart" file is selected.
- Editor:** Displays the content of "main.dart".

```
lib > main.dart > ...
1 import 'package:flutter/material.dart';
2   material
3 void ma package:flutter/material.dart
4   runAp Flutter widgets implementing Material Design.
5 }
6 To use, import package:flutter/material.dart .
7 class M www.youtube.com/watch?v=DL0lx1nC4w
8 // Th @over Widget • flutter.dev/widgets for a catalog of commonly-used Flutter widgets.
9 See also: • materialio/design for an introduction to Material Design.
10 ret
11 title: 'Flutter Demo',
12 theme: ThemeData(
13   // This is the theme of your application.
14   //
15   // Try running your application with "flutter run". You'll see that the
16   // application has a blue toolbar. Then, without quitting the app,
17   // change the primarySwatch below to Colors.green and then invoke
18   // "hot reload" (press "r" in the console where you ran "flutter
19   // run"). You'll see that the widget repaints without having to restart
20   // the application. For desktop platforms, the controls will be smaller
21   // and closer together (more dense) than on mobile platforms.
22   visualDensity: VisualDensity.adaptivePlatformDensity,
23 ),
24 // ThemeData(
25 //   primarySwatch: Colors.blue,
26 //   This makes the visual density adapt to the platform that you're
27 //   running on. For desktop platforms, the controls will be smaller
28 //   and closer together (more dense) than on mobile platforms.
29 home: MyHomePage(title: 'Flutter Demo Home Page'),
30 );
31 }
```
- Terminal:** Shows the command "Launching Nexus 5X API 28..."
- Bottom Status Bar:** Includes icons for signal strength, battery, and date/time (7/16/2020, 8:57 PM).

The screenshot shows the Visual Studio Code interface with the following details:

 - File Explorer:** Shows a project structure for "Flutter" with files like "variables", "watch", and "call stack".
 - Editor:** Displays the content of "main.dart".

```
lib > main.dart > ...
1 import 'package:flutter/material.dart';
2   Run | Debug
3 void main() {
4   runApp(MyApp());
5 }

6 class MyApp extends StatelessWidget {
7   // This widget is the root of your application.
8   @override
9   Widget build(BuildContext context) {
10     return MaterialApp(
11       title: 'Flutter Demo',
12       theme: ThemeData(
13         // This is the theme of your application.
14         //
15         // Try running your application with "flutter run". You'll see that the
16         // application has a blue toolbar. Then, without quitting the app,
17         // change the primarySwatch below to Colors.green and then invoke
18         // "hot reload" (press "r" in the console where you ran "flutter
19         // run"). You'll see that the widget repaints without having to restart
20         // the application. For desktop platforms, the controls will be smaller
21         // and closer together (more dense) than on mobile platforms.
22         visualDensity: VisualDensity.adaptivePlatformDensity,
23     ),
24   // ThemeData(
25   //   primarySwatch: Colors.blue,
26   //   This makes the visual density adapt to the platform that you're
27   //   running on. For desktop platforms, the controls will be smaller
28   //   and closer together (more dense) than on mobile platforms.
29   home: MyHomePage(title: 'Flutter Demo Home Page'),
30 );
31 }
```
 - Terminal:** Shows the command "PS C:\Users\user\Desktop\flutter\test_app> r".
 - Bottom Status Bar:** Includes icons for signal strength, battery, and date/time (7/16/2020, 9:01 PM).

For hot reload **ctrl+f5**