Department of Information Technology

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Semester: VI
Class / Branch / Div: TE- IT A/B/C
Subject: MAD & PWA Lab
Submission: Name of Instructor: Mrs. Sujata Oak

Name of Student:
Student ID:
Roll No.
Date of

Experiment No.:1

Aim: To install and configure Flutter Environment.

Theory: Flutter Installation

To install and run Flutter, your Linux environment must meet the following hardware and software requirements.

Hardware requirements

Linux Flutter development environment must meet the following minimal hardware requirements.

Requirement	Minimum	Recommended
CPU Cores	4	8
Memory in GB	8	16
Display resolution in pixels	WXGA (1366 x 768)	FHD (1920 x 1080)
Free disk space in GB	11.0	60.0

Software requirements

Operating system

Flutter supports Debian Linux 11 or later and Ubuntu Linux 20.04 LTS or later .

Development tools

To develop Flutter on Linux:

Install the following packages: curl, git, unzip, xz-utils, zip, libglu1-mesa

sudo apt-get update -y && sudo apt-get upgrade -y;

```
sujata@Ubuntu:~/Desktop$ su root
Password:
root@Ubuntu:/home/sujata/Desktop# sudo apt-get update -y && sudo apt-get upgrad
e -y;
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:2 https://pkg.jenkins.io/debian-stable binary/ Release [2,044 B]
Get:3 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:4 https://pkg.jenkins.io/debian-stable binary/ Packages [28.2 kB]
Hit:5 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:6 http://security.ubuntu.com/ubuntu focal-security InRelease [128 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [128 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [128 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [844
```

```
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.
Processing triggers for initramfs-tools (0.136ubuntu6.7) ...
update-initramfs: Generating /boot/initrd.img-5.15.0-117-generic
root@Ubuntu:/home/sujata/Desktop#
```

sudo apt-get install -y curl git unzip xz-utils zip libglu1-mesa

```
root@Ubuntu:/home/sujata/Desktop# sudo apt-get install -y curl git unzip xz-uti
ls zip libglu1-mesa
Reading package lists... Done
Building dependency tree
Reading state information... Done
libglu1-mesa is already the newest version (9.0.1-1build1).
libglu1-mesa set to manually installed.
zip is already the newest version (3.0-11build1).
zip set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.25).
git is already the newest version (1:2.25.1-1ubuntu3.13).
unzip is already the newest version (6.0-25ubuntu1.2).
unzip set to manually installed.
xz-utils is already the newest version (5.2.4-1ubuntu1.1).
xz-utils set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
```

To develop Android apps:

1. Install the following prerequisite packages for Android Studio:

sudo apt-get install libc6:amd64 libstdc++6:amd64 lib32z1 libbz2-1.0:amd64

```
root@Ubuntu:/home/sujata/Desktop# sudo apt-get install libc6:amd64 libstdc++6:a
md64 lib32z1 libbz2-1.0:amd64
Reading package lists... Done
Building dependency tree
Reading state information... Done
libbz2-1.0 is already the newest version (1.0.8-2).
libbz2-1.0 set to manually installed.
```

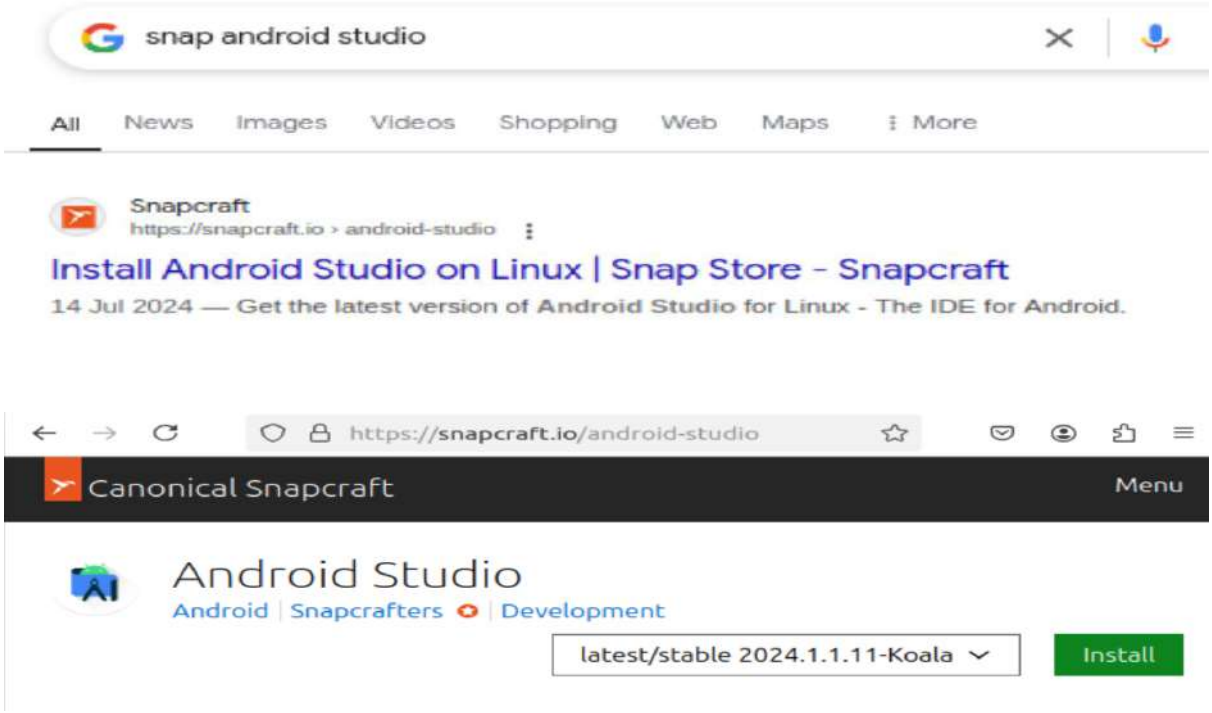
```
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libc6-i386 a
md64 2.31-0ubuntu9.16 [2,727 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 lib32z1 amd6
4 1:1.2.11.dfsg-2ubuntu1.5 [57.1 kB]
Fetched 2,784 kB in 3s (974 kB/s)
Selecting previously unselected package libc6-i386.
(Reading database ... 216005 files and directories currently installed.)
Preparing to unpack .../libc6-i386_2.31-0ubuntu9.16_amd64.deb ...
Unpacking libc6-i386 (2.31-0ubuntu9.16) ...
Selecting previously unselected package lib32z1.
Preparing to unpack .../lib32z1_1%3a1.2.11.dfsg-2ubuntu1.5_amd64.deb ...
Unpacking lib32z1 (1:1.2.11.dfsg-2ubuntu1.5) ...
Setting up libc6-i386 (2.31-0ubuntu9.16) ...
Setting up lib32z1 (1:1.2.11.dfsg-2ubuntu1.5) ...
Processing triggers for libc-bin (2.31-0ubuntu9.16) ...
```

Open new terminal:

$ snap find “android-studio”

```
sujata@Ubuntu:~/Desktop$ snap find "android-studio"
Name                Version             Publisher      Notes     Summary
android-studio      2024.1.1.11-Koala   snapcrafters*  classic   The IDE for A
ndroid
android-studio-canary  2023.2.1.7       snapcrafters*  classic   The IDE for A
ndroid (Canary build)
```

1. Install Android Studio 2023.3.1 (Jellyfish) or later to debug and compile Java or Kotlin code for Android. Flutter requires the full version of Android Studio.



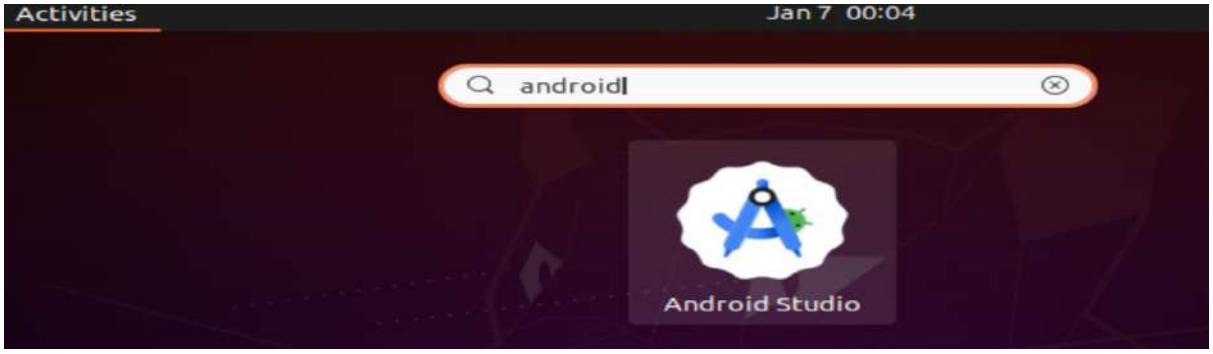
Click on Install and goto terminal , take sudo privilege

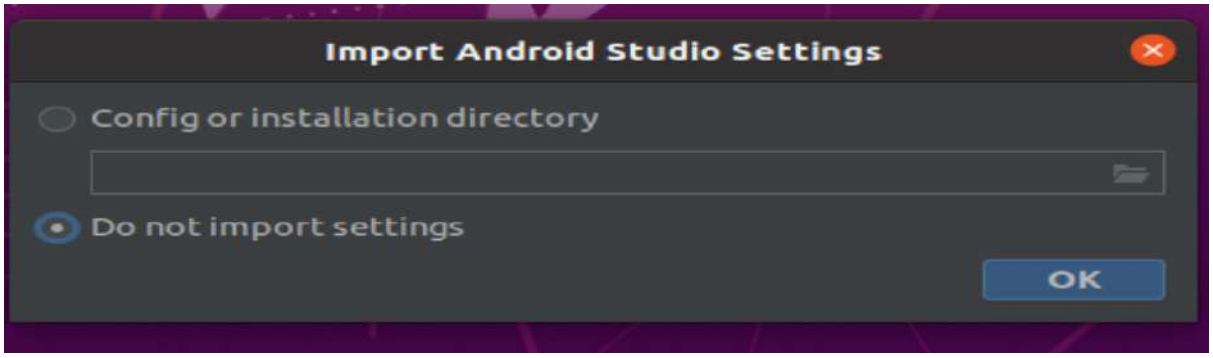
$sudo snap install android-studio –classic

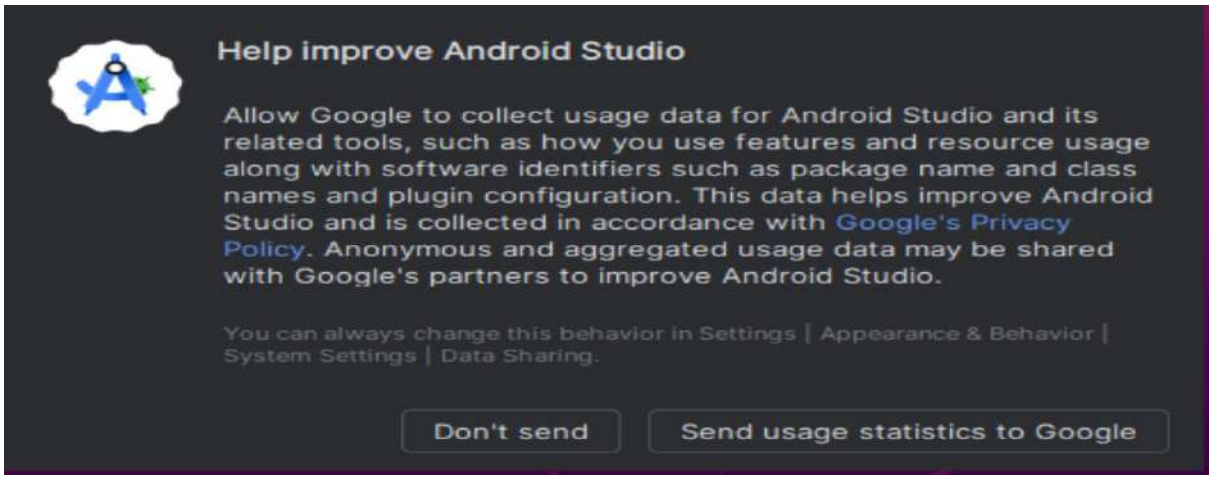
```
sujata@Ubuntu:~/Desktop$ snap find "android-studio"
Name                  Version             Publisher       Notes     Summary
android-studio        2024.1.1.11-Koala   snapcrafters*   classic   The IDE for A
ndroid
android-studio-canary 2023.2.1.7          snapcrafters*   classic   The IDE for A
ndroid (Canary build)
sujata@Ubuntu:~/Desktop$ sudo snap install android-studio --classic
[sudo] password for sujata:
sujata is not in the sudoers file.  This incident will be reported.
sujata@Ubuntu:~/Desktop$ su root
Password:
root@Ubuntu:/home/sujata/Desktop# sudo snap install android-studio --classic
Download snap "android-studio" (161) from channel "stable"  76% 9.25MB/s 34.7s
```

If the output prompt is installed, then it indicates Android Studio is installed.

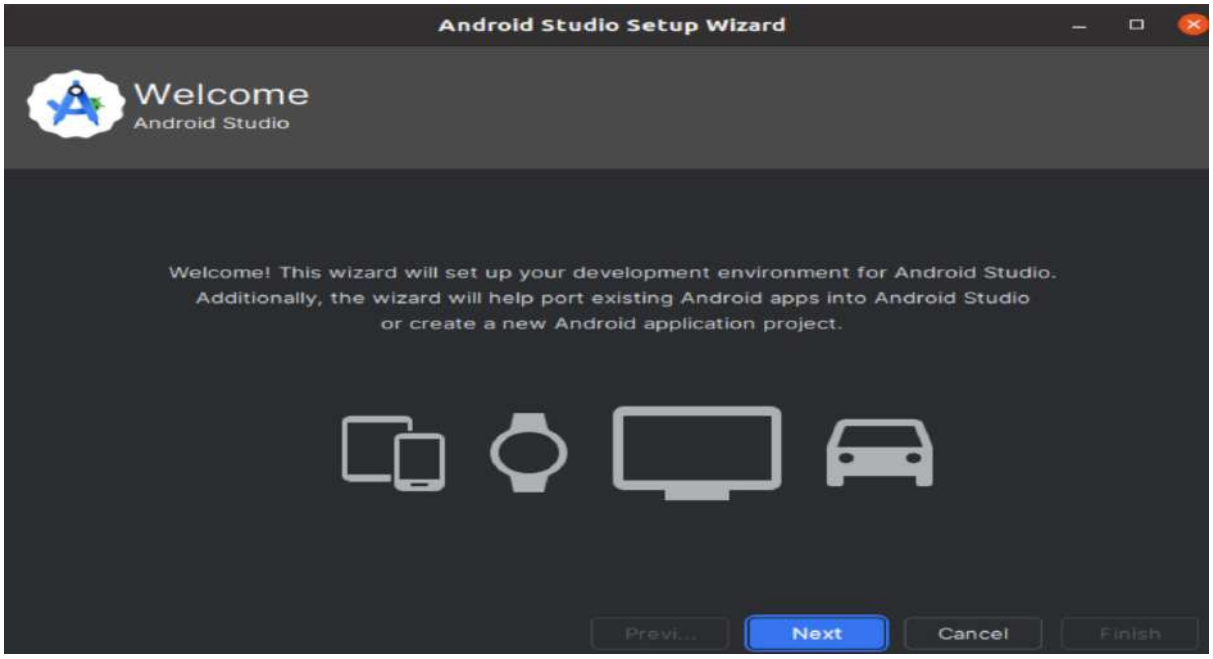
```
root@Ubuntu:/home/sujata/Desktop# sudo snap install android-studio --classic
android-studio 2024.1.1.11-Koala from Snapcrafters* installed
root@Ubuntu:/home/sujata/Desktop#
```



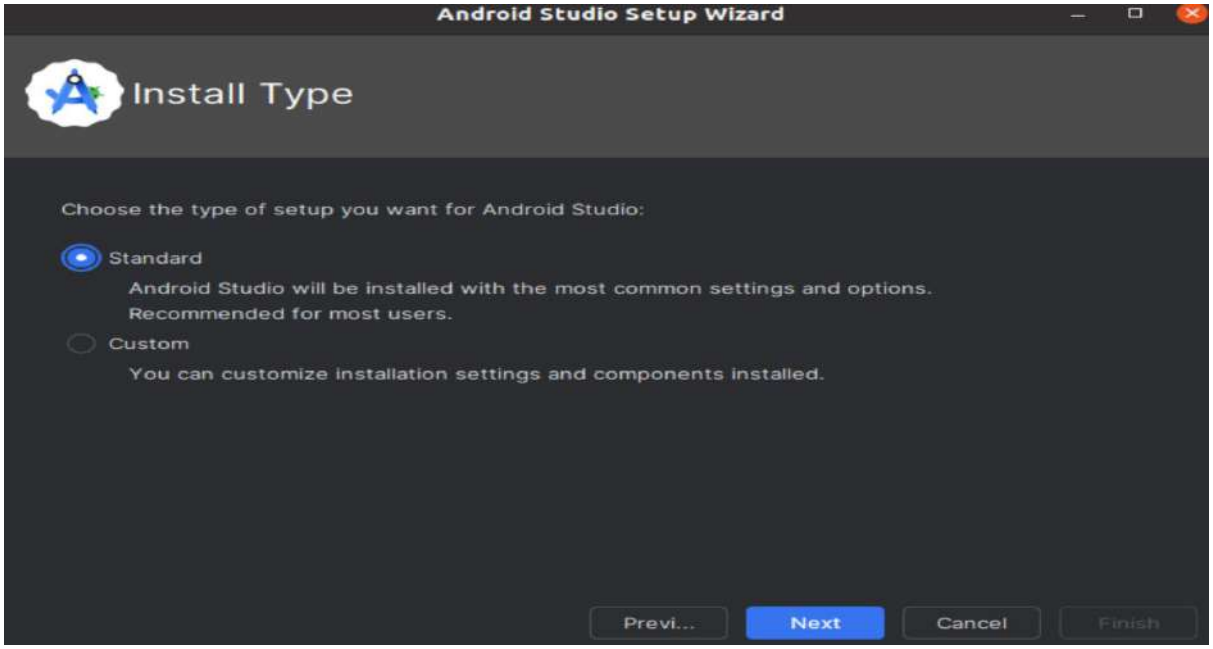


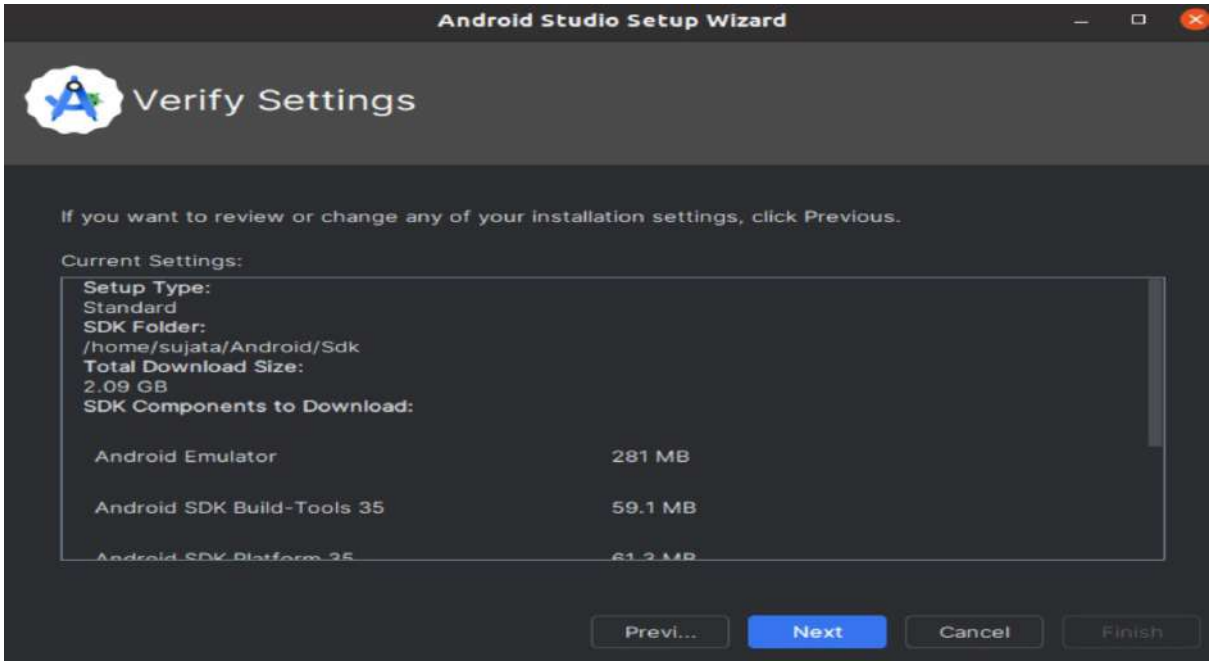


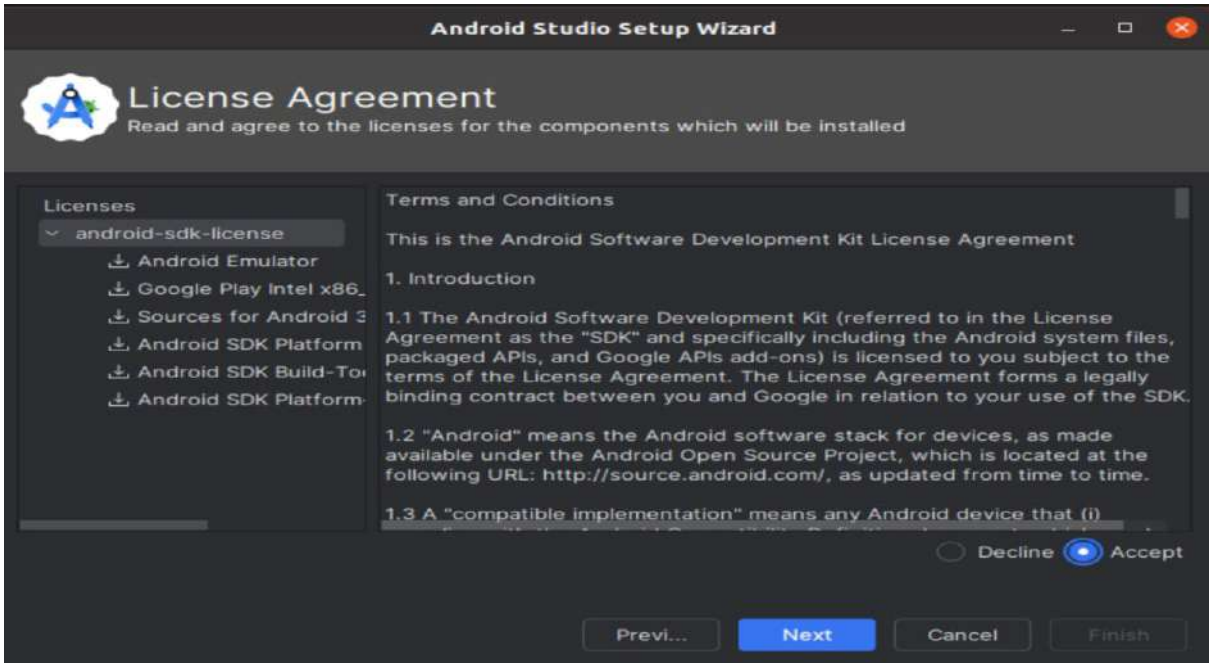
Click on Don't send



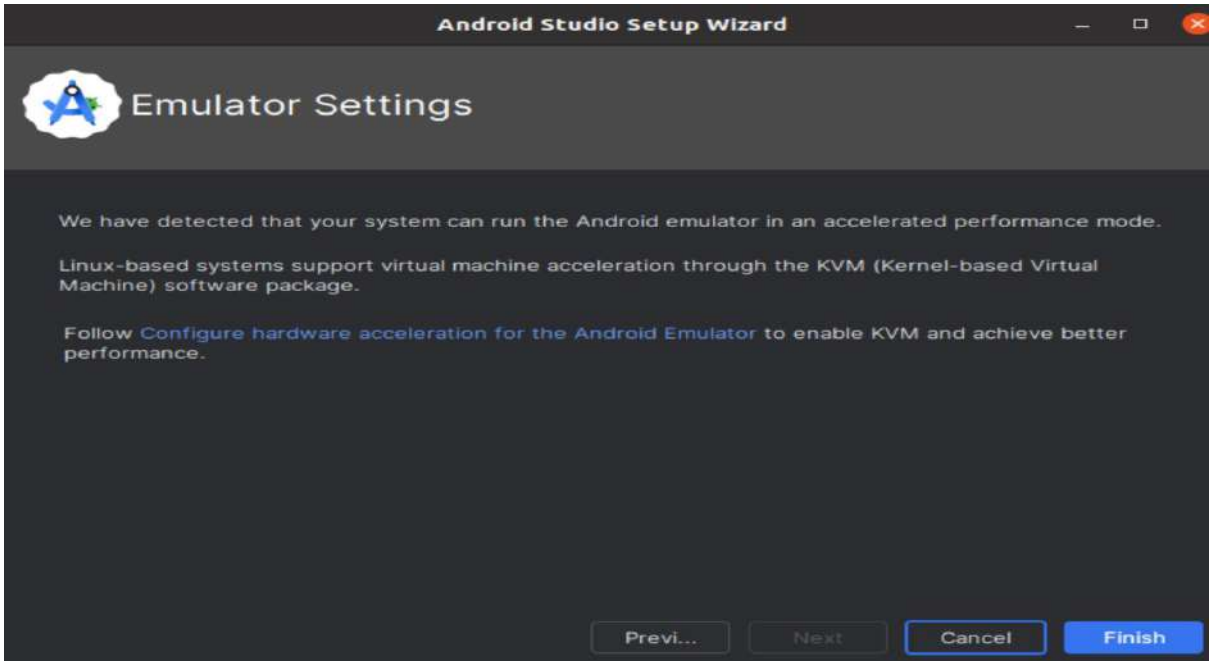
Click Next

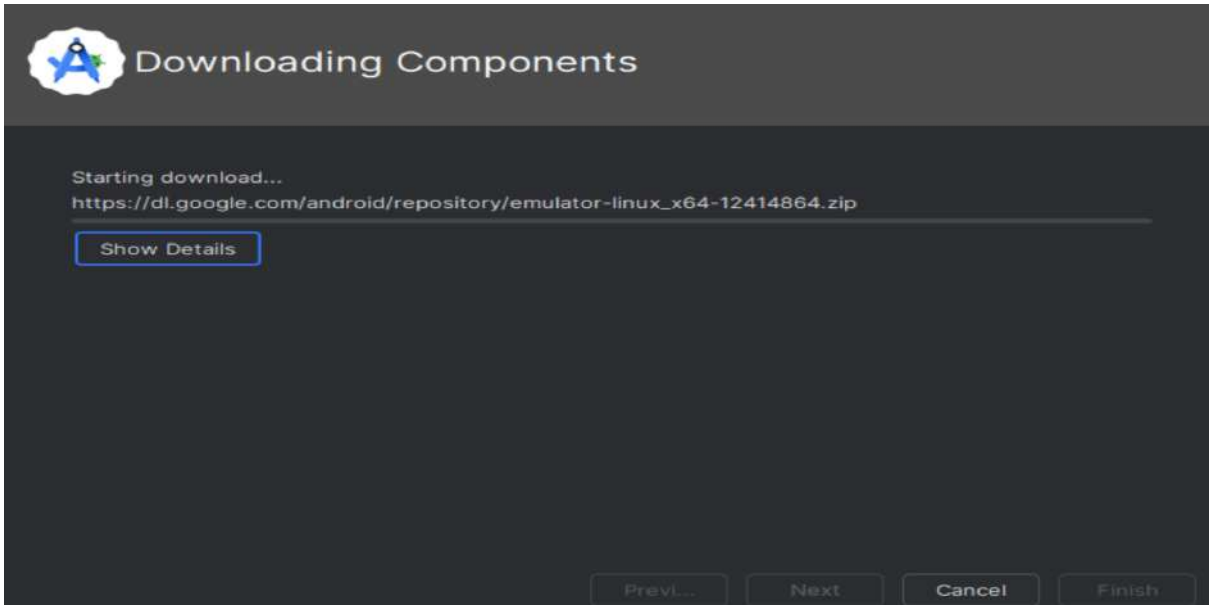

Android Studio Setup Wizard
Install Type
Choose the type of setup you want for Android Studio:
Standard
Android Studio will be installed with the most common settings and options.
Recommended for most users.
Custom
You can customize installation settings and components installed.
Previ...
Next
Cancel
Finish


Android Studio Setup Wizard
Verify Settings
If you want to review or change any of your installation settings, click Previous.
Current Settings:
Setup Type:
Standard
SDK Folder:
/home/sujata/Android/Sdk
Total Download Size:
2.09 GB
SDK Components to Download:
Android Emulator
281 MB
Android SDK Build-Tools 35
59.1 MB
Previ...
Next
Cancel
Finish

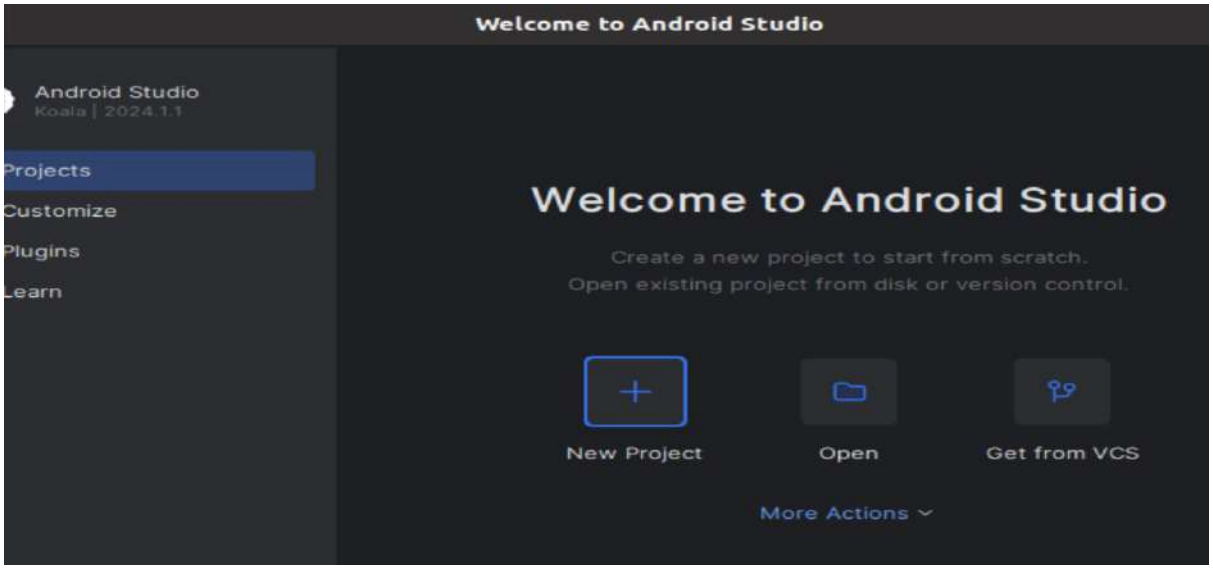


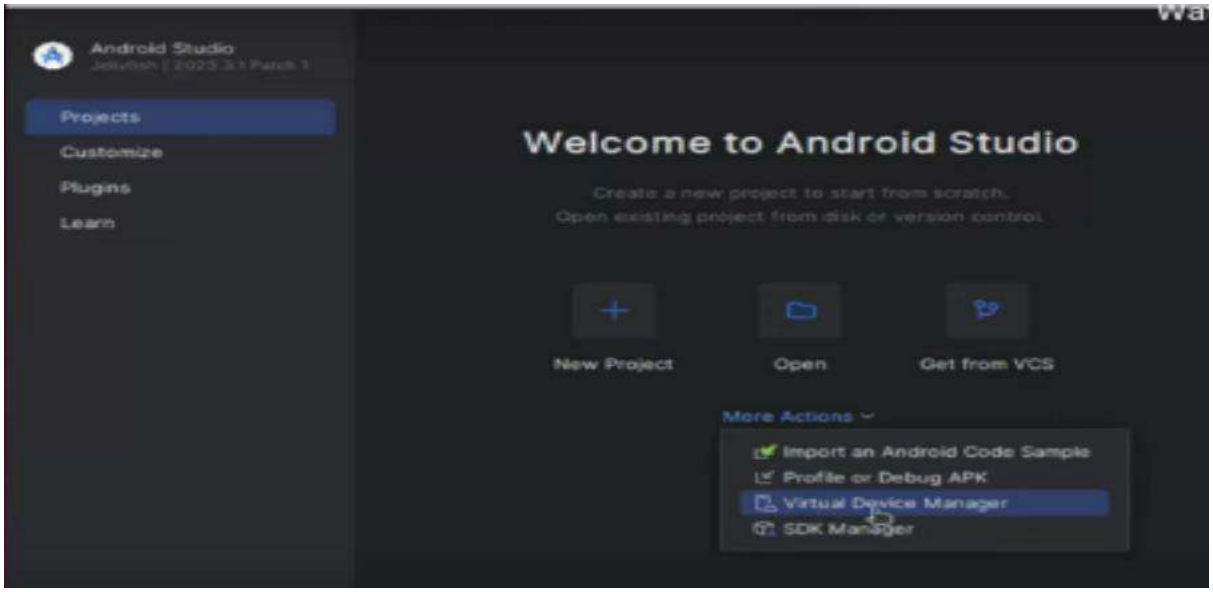
Accept License. Next

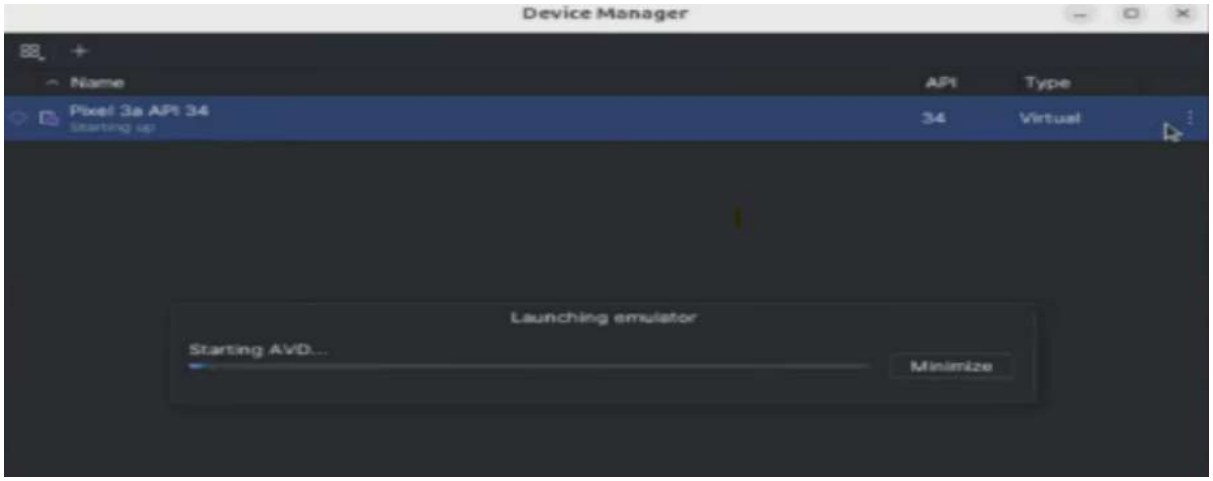


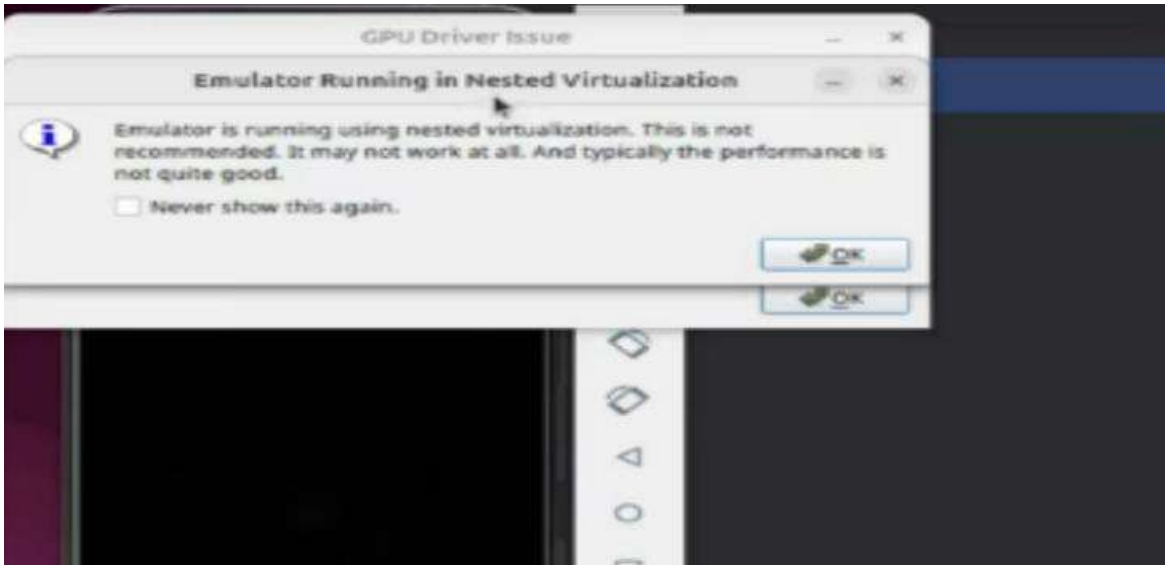


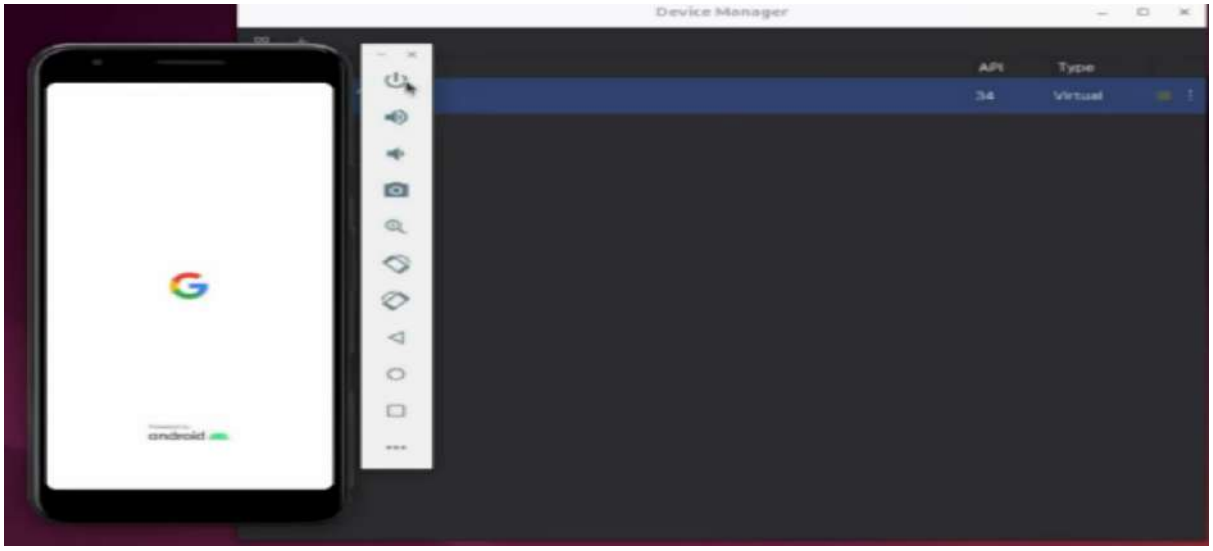
Click Finish



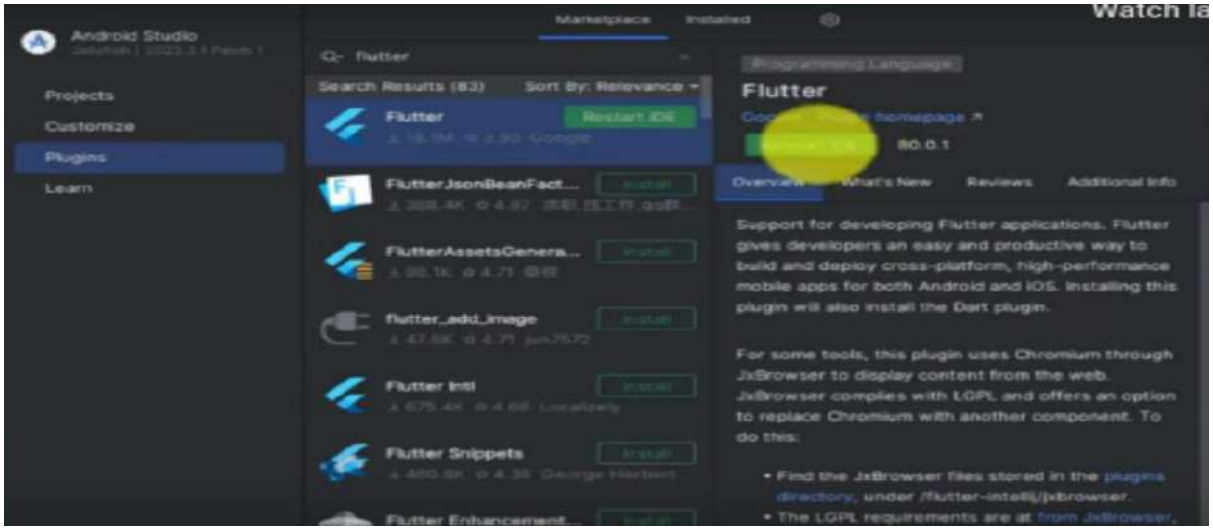

Android Studio
Projects
Customize
Plugins
Learn
Welcome to Android Studio
Create a new project to start from scratch.
Open existing project from disk or version control.
New Project
Open
Get from VCS
More Actions
Import an Android Code Sample
Profile or Debug APK
Virtual Device Manager
SDK Manager


Device Manager
Name
API
Type
Pixel 3a API 34
34
Virtual
Launching emulator
Starting AVD...
Minimize

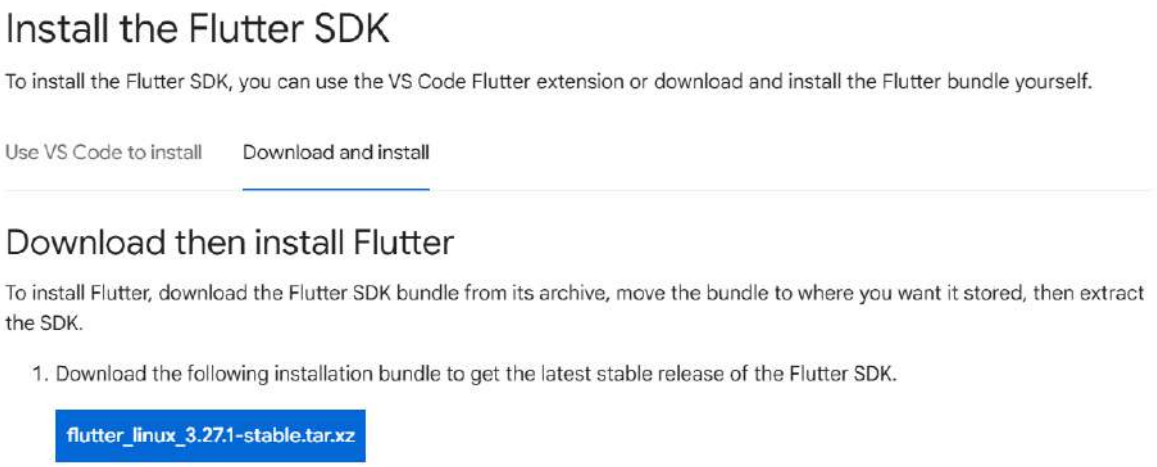

GPU Driver Issue
Emulator Running in Nested Virtualization
Emulator is running using nested virtualization. This is not recommended. It may not work at all. And typically the performance is not quite good.
Never show this again.
OK
OK


Device Manager
API
Type
34
Virtual

Restart and you see flutter plugins gets installed



Goto Flutter documentation and install flutter SDK:



1. The Flutter SDK should download to the Linux default download directory: ~/Downloads/.
2. Create a folder where you can install Flutter.

   Consider creating a directory at ~/development/.
3. Extract the file into the directory you want to store the Flutter SDK.

$sudo tar -xf ~/Downloads/flutter_linux_3.27.1-stable.tar.xz -C ~/development/

When finished, the Flutter SDK should be in the ~/development/flutter directory.

Add Flutter to your PATH:

To run Flutter commands in a shell, add Flutter to the PATH environment variable.

1. Check which shell starts when you open a new console window. This would be your *default shell*.

   echo $SHELL

   This differs from another command that tells you which shell runs in your current console.

   echo $0
2. To add Flutter to your PATH, expand the entry for your default shell, then choose the command.

Show bash command

echo 'export PATH="~/development/flutter/bin:$PATH"' >> ~/.bash_profile

1. To apply this change, restart all open terminal sessions.

Agree to Android licenses

Before you can use Flutter and after you install all prerequisites, agree to the licenses of the Android SDK platform.

1. Open an elevated console window.
2. Run the following command to enable signing licenses.

$flutter doctor --android-licenses

If you accepted the Android Studio licenses at another time, this command returns:

[======================================] 100% Computing updates...

All SDK package licenses accepted.

Check your development setup

Run Flutter doctor

The flutter doctor command validates that all components of a complete Flutter development environment for Linux.

1. Open a shell.
2. To verify your installation of all the components, run the following command.

$flutter doctor

As you chose to develop for Android, you do not need *all* components. If you followed this guide, the result of your command should resemble:

Running flutter doctor...

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

[✓] Flutter (Channel stable, 3.27.0, on Ubuntu 20.04 (LTS), locale en)

[✓] Android toolchain - develop for Android devices (Android SDK version 35.0.1)

[!] Chrome - develop for the web

[✓] Android Studio (version 2024.2)

[!] Linux toolchain - develop for Linux desktop

[✓] VS Code (version 1.95)

[✓] Connected device (1 available)

[✓] Network resources

! Doctor found issues in 2 categories.

If the flutter doctor command returns an error for any of these components, run it again with the verbose flag.

$flutter doctor -v

Conclusion: Having installed all prerequisites and the Flutter SDK, students can start developing Flutter apps for Android on Linux.

References:

https://docs.flutter.dev/get-started/install/linux/android

https://www.youtube.com/watch?v=mtqTnGAAHw0