THE STATE UNIVERSITY OF ZANZIBAR SCHOOL OF BUSINESS (SOBSUZA)

ASSIGNMENT NAME: **ANDROID STUDIO**

TITLE: **REPORT OF INSTALLING ANDROID STUDIO**

DATE: **12/APRIL/2023**

LECTURE NAME: **MR.MASSOUD HAMAD**

STUDENT NAME: **HAMADA JUMA CHANDE**

REG NUMBER: **BITA/5/21/054/TZ**

Introduction

we will learn how to set up the Android software development environment and how to implement image processing operations on an Android mobile device. Android is an open-source platform developed by Google and the Open Handset Alliance on which interesting and powerful new applications can be quickly developed and distributed to many mobile devices. There is a large, growing community of Android developers and a vast selection of Android devices, which includes smartphones, tablets, and TV setup boxes.

In the first part, I will explain how to download and install the Android software tools onto your computer. Then, in the second part, we will explain how to develop image processing programs that can run on an Android mobile device.

Part I: Creating the Software Development Environment 1

I will use the Google Android SDK and the Eclipse IDE to design, implement, and debug Android-compatible programs in this class. *Important:* Starting from December 2014, the official IDE became Android Studio, and Eclipse is not officially supported anymore. However, there is currently no official support for the NDK (native development kit, necessary for using native code) yet, so we strongly encourage students to use Eclipse for this class. *Downloading and Installing Java JDK* the Java JDK from SUN/Oracle is required for development.

Download the latest version of the JDK from this website:

In this new window, check the boxes of the packages you want to install or update. It is necessary to install/update the following packages:

```
Tools > Android SDK Tools
Tools > Android SDK Platform-tools
Tools > Android SDK Build-tools
Android 5.1 (API 22) > SDK Platform
Extras > Android Support Repository
Extras > Android Support Library
```

Finally, if you plan to use the emulator (not necessary if you have already a device) you need to download a system image, for example

```
Android 5.1 (API 22) > ARM EABI v7a System Image
```

Click “Install <number> packages”, choose “Accept License” for all items listed, and click “Install”. The selected packages will now be downloaded and copied to your Android SDK installation folder. You can monitor the download/installation progress at the bottom of the Android SDK Manager window.

3. Add the location of the “tools” and “platform-tools” subfolders for the Android SDK to your system PATH. For help on editing the PATH, please follow the tips here:

Creating Android SDK directory

I don’t embrace the idea that each user should have his own copy of Android SDK tools (build tools, source codes, system images, etc..) but Android Studio works exactly that way (it's likely because of permissions issue). Let's make it use another folder shared among all users in the system.

4.1 Create directory

Make the android-sdk folder for future use:

```
sudo mkdir /opt/google/android-sdk
sudo chmod o+w /opt/google/android-sdk
```

The last command changes permissions so every user in the system is able to edit this android-sdk folder (installing and removing packages).

4.2 Setting Environment Variables

Android Studio is still pointing to its own path at this moment. To make Android Studio install SDKs in shared folder, we need to specify environment variables. Currently there are two variables pointing to SDK folder: **ANDROID_HOME** and **ANDROID_SDK_ROOT**. The first is deprecated, but Android Studio won’t use ANDROID_SDK_ROOT when launching it first time even if it’s specified, so i would recommend to specify both variables. To keep things consistent and clear, let’s specify them in a separate shell for the android-studio in the profile.d folder (so you can remove them later in case of removing Android Studio):

```
sudo -i
cd /etc/profile.d/
echo export ANDROID_SDK_ROOT=/opt/google/android-sdk/ > android_studio.sh
echo export ANDROID_HOME=/opt/google/android-sdk/ >> android_studio.sh
```

4.2.1 Setting JAVA_HOME Variable

If you going to use gradlew commands via CLI interface, it will be useful to add JAVA_HOME pointing to embedded JRE (otherwise gradle won't be able to locate it)

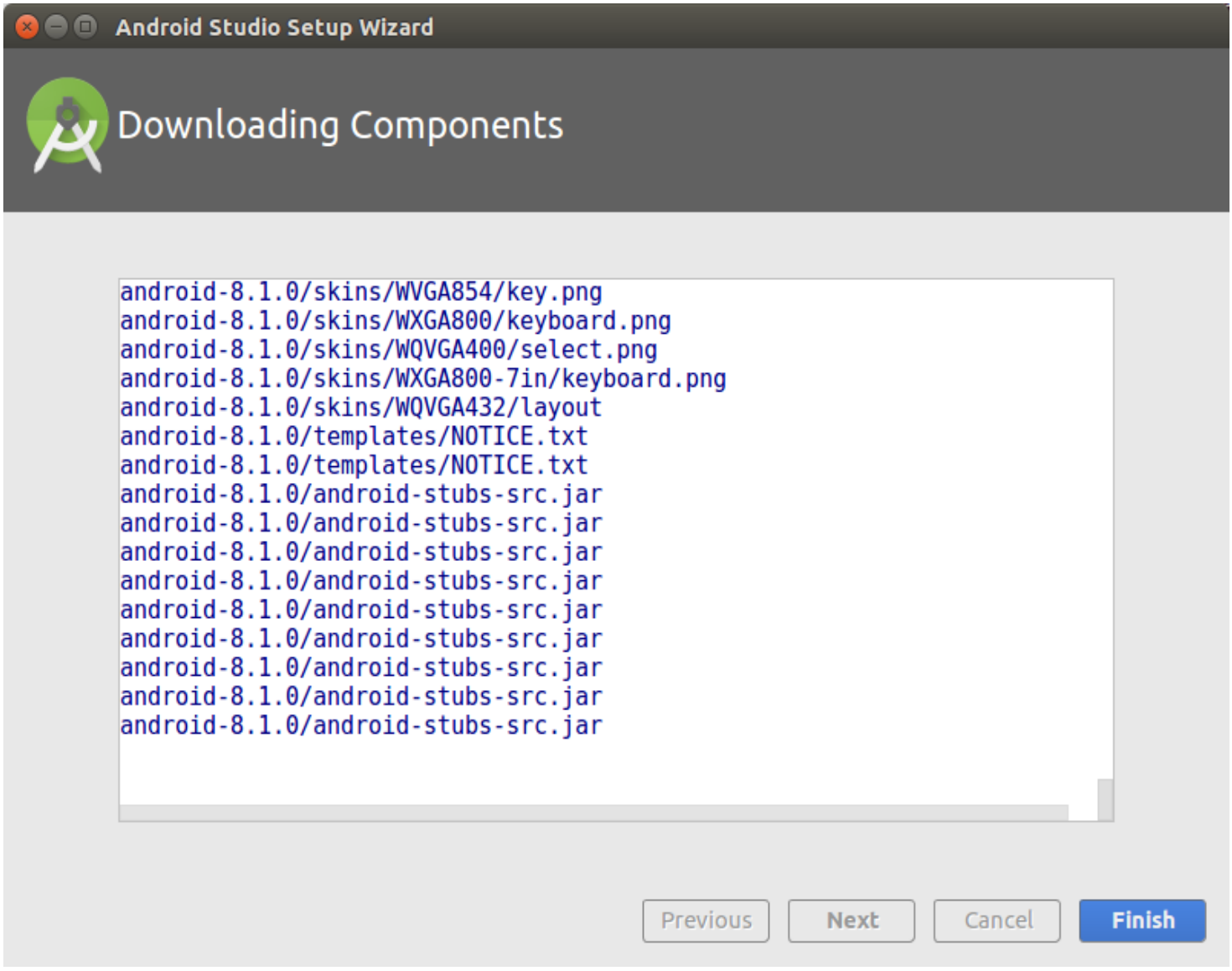
```
echo export JAVA_HOME=/opt/google/android-studio/jre >> android_studio.sh
```

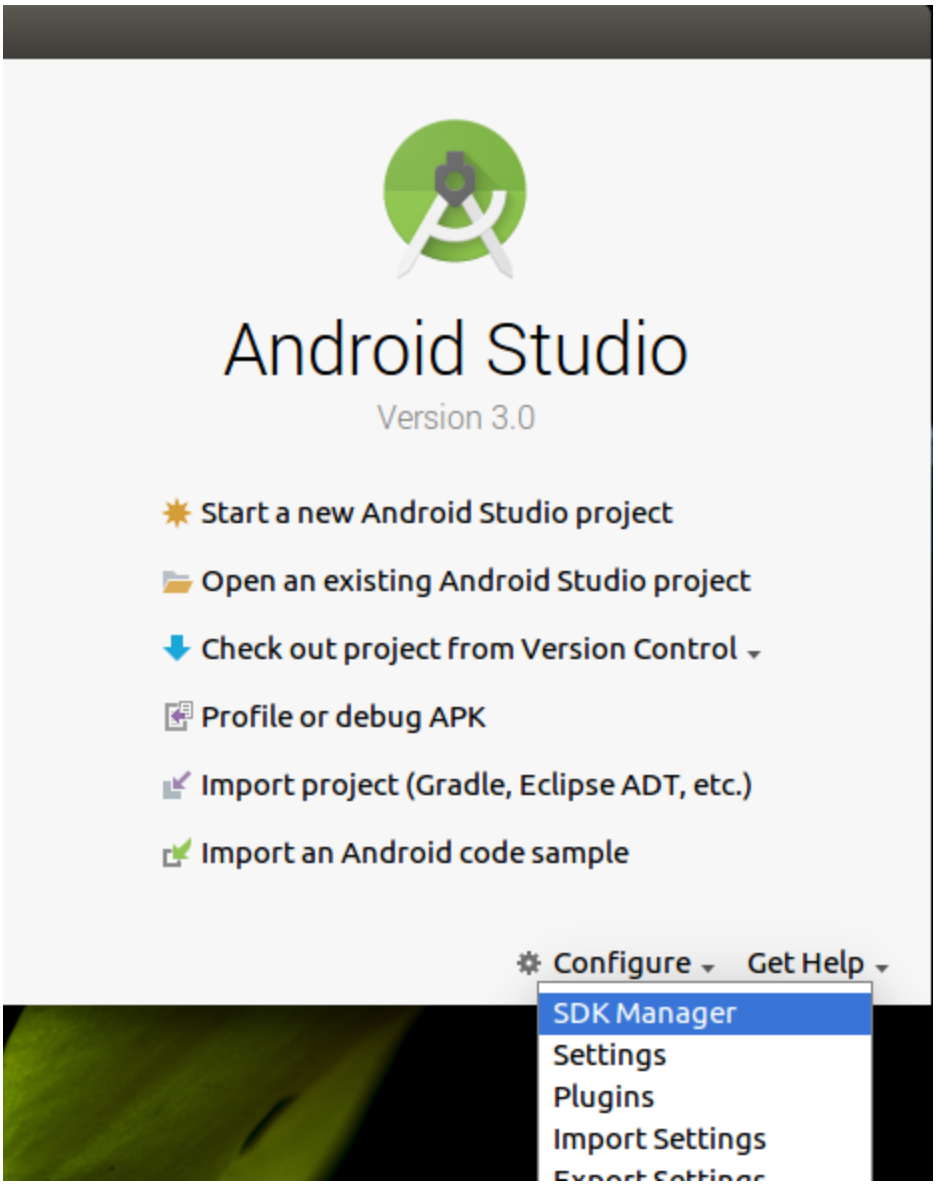
Now you need log out the system and log in back to apply this new script.

Reference for more details

5. Installing SDK

Since we changed permissions for the SDK folder (/opt/google/android-sdk/), we don't need any special permissions to write in it. Just run android-studio on behalf of your current user:
/opt/google/android-studio/bin/studio.sh
Now follow setup wizard instructions. Eventually you will hit Downloading Components window. It may take for a while until required components are installed. As we took care about all required libraries and software from very beginning (part 2), this process should be finished without any error.





From here you can choose whatever you need to develop Android apps. P.S. You can actually install everything from the list (even obsolete packages), but it will take ages to download.

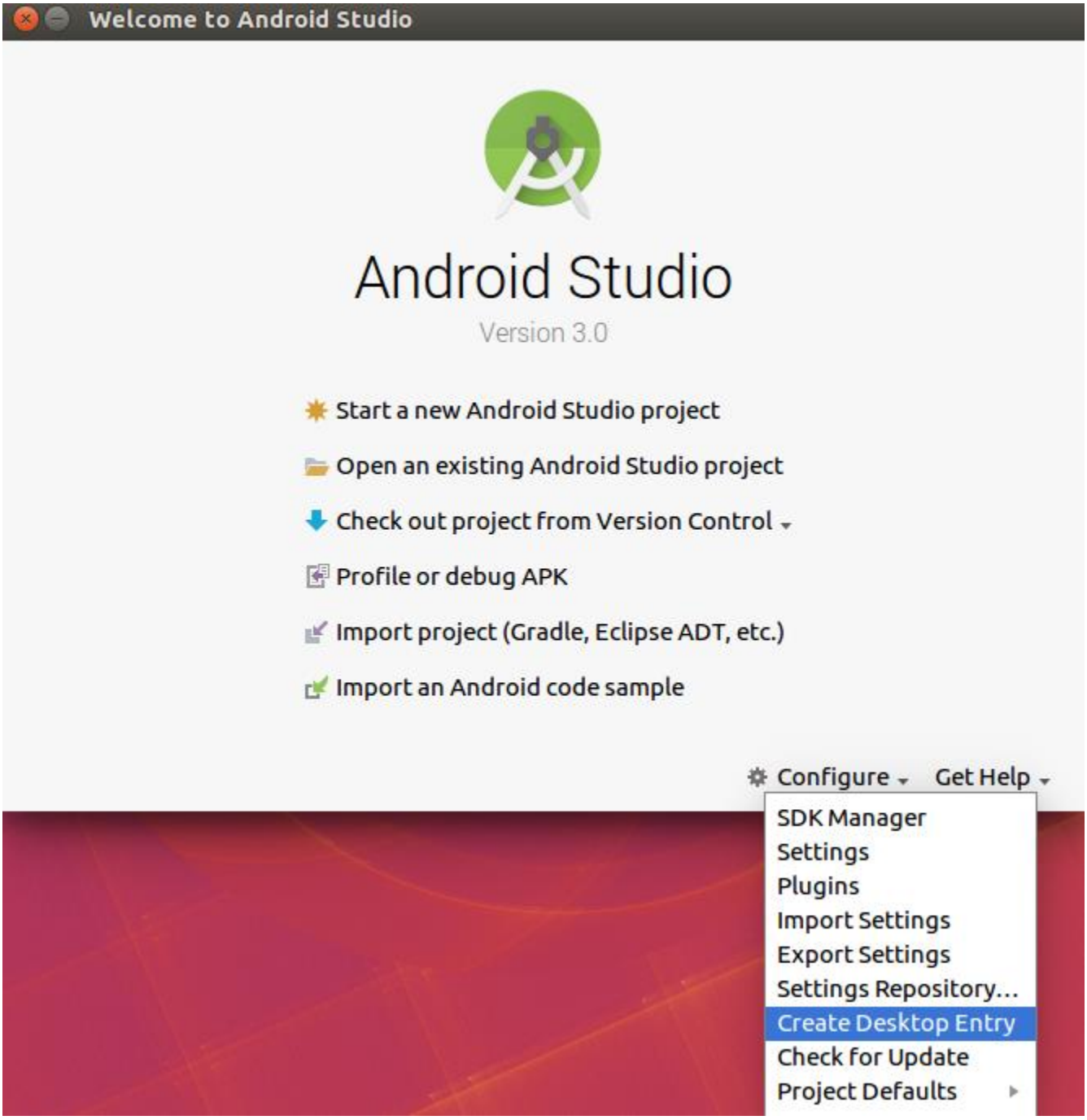
6. Creating desktop entry

Currently Android Studio offers embedded feature in order to create desktop entry. We need to run Studio with root permissions, so it's possible to do that for all users in the system, :

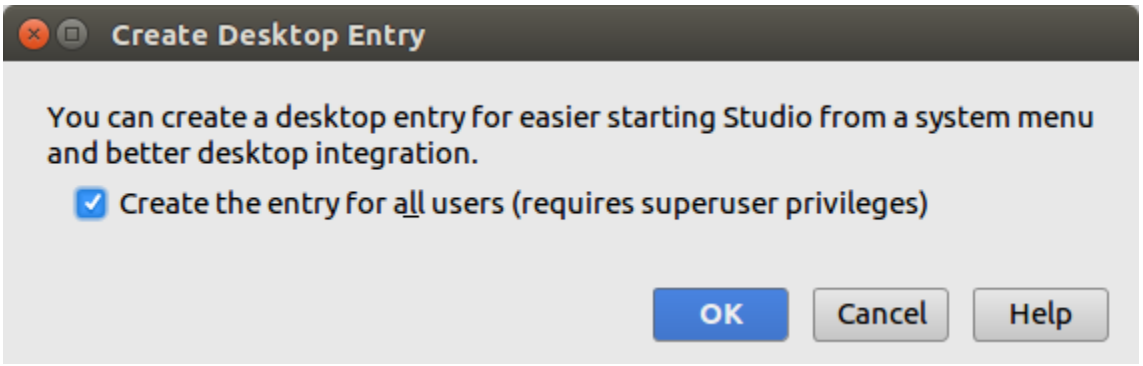
```
sudo -E /opt/google/android-studio/bin/studio.sh
```

P.S. -E option is needed to keep our environment variables (ANDROID_HOME/ANDROID_SDK_ROOT) available while sudoing.

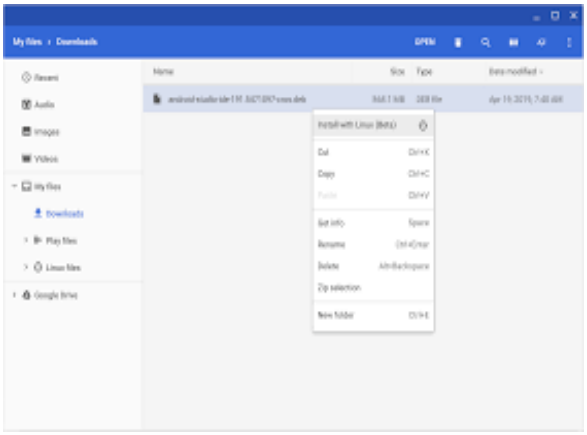
You will have to pass the same Setup Wizard again (it's being performed for the root user now) and once you hit the Welcoming screen, you can find option Create Desktop Entry from "Configure" menu:

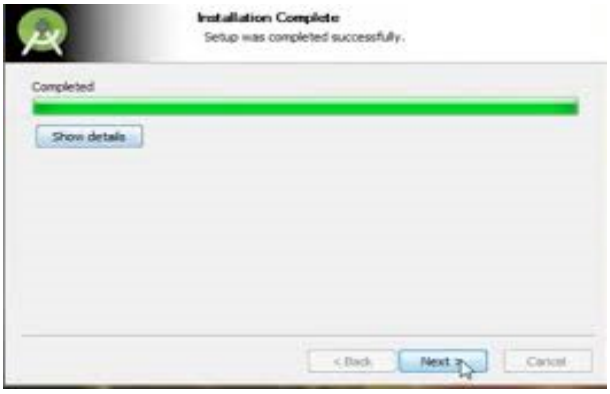


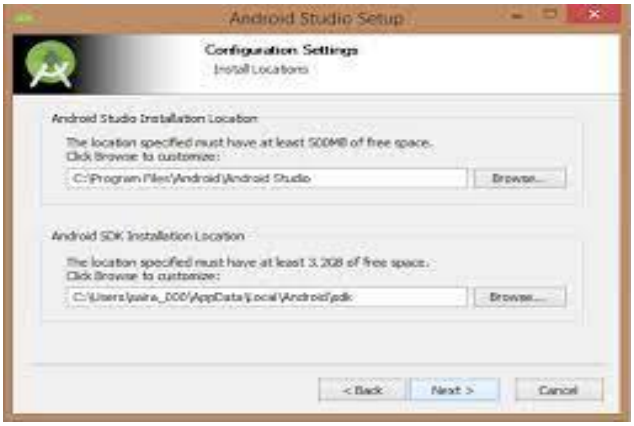
In the dialog box that opens, ensure that "Create the entry for all users" checkbox is checked and click OK.

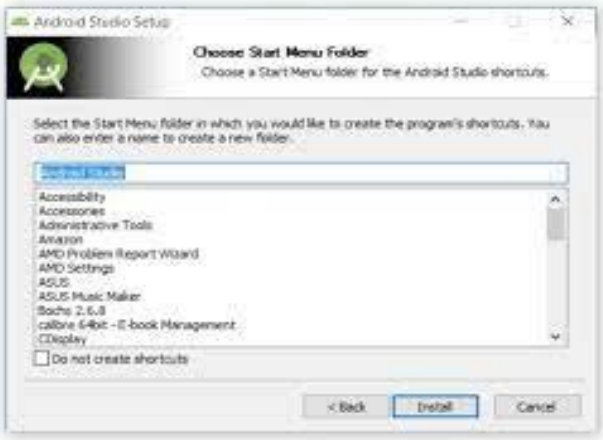


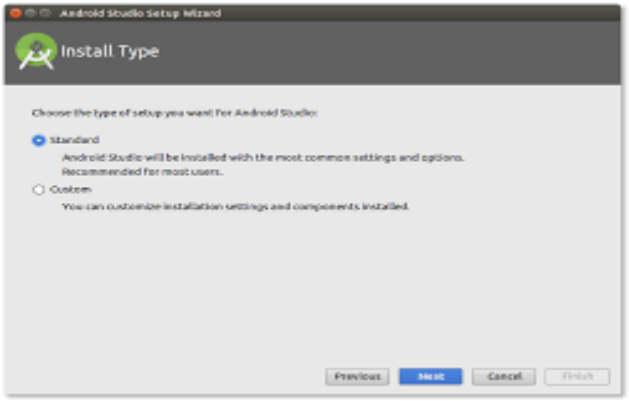
Now you can close Android Studio and open from Unity Launcher!

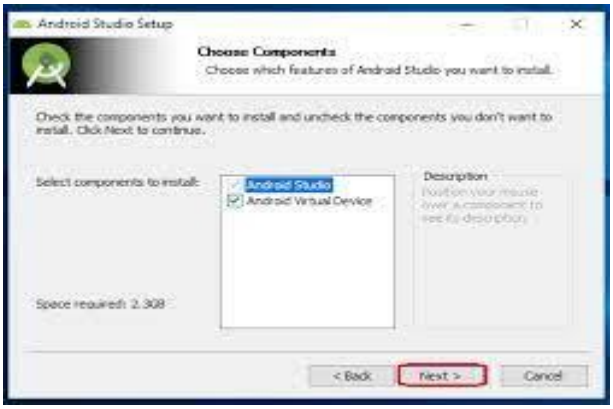


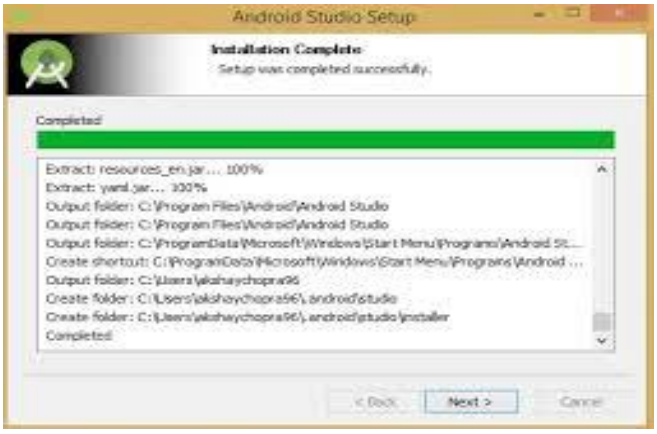


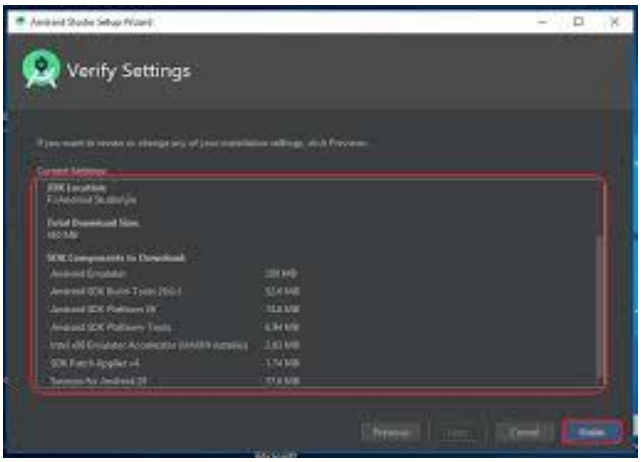

Android Studio Setup
Configuration Settings
Install Locations
Android Studio Installation Location
The location specified must have at least 500MB of free space.
Click Browse to customize:
C:\Program Files\Android\Android Studio
Browse...
Android SDK Installation Location
The location specified must have at least 3.2GB of free space.
Click Browse to customize:
C:\Users\saira_000\AppData\Local\Android\sdk
Browse...
< Back
Next >
Cancel


Android Studio Setup
Choose Start Menu Folder
Choose a Start Menu folder for the Android Studio shortcuts.
Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.
Accessibility
Accessories
Administrative Tools
Amazon
AMD Problem Report Wizard
AMD Settings
ASUS
ASUS Music Maker
Bochs 2.6.8
calibre 64bit - E-book Management
CDisplay
Do not create shortcuts
< Back
Install
Cancel


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.
Previous
Next
Cancel
Finish

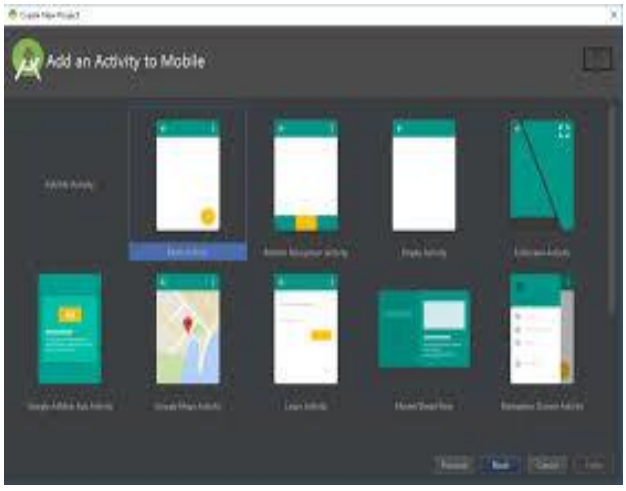

Android Studio Setup
Choose Components
Choose which features of Android Studio you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Android Studio
Android Virtual Device
Description
Position your mouse over a component to see its description.
Space required: 2.3GB
< Back
Next >
Cancel

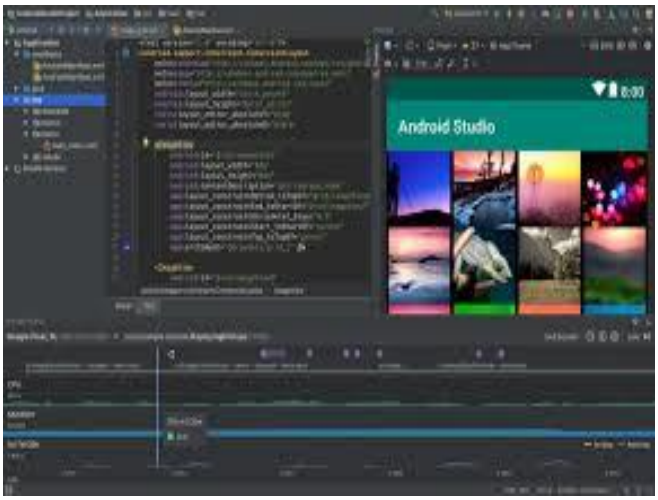

Android Studio Setup
Installation Complete
Setup was completed successfully.
Completed
Extract: resources_en.jar... 100%
Extract: yarn.jar... 100%
Output folder: C:\Program Files\Android\Android Studio
Output folder: C:\Program Files\Android\Android Studio
Output folder: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Android St...
Create shortcut: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Android ...
Output folder: C:\Users\akshaychopra96
Create folder: C:\Users\akshaychopra96\.AndroidStudio
Create folder: C:\Users\akshaychopra96\.android\studio\installer
Completed
< Back
Next >
Cancel


Verify Settings


Welcome
Android Studio
Cancel


android studio


Add an Activity to Mobile


Android Studio