# How to run App

To run the app, you need to have installed:

* Android studio - <https://developer.android.com/studio/index.html#downloads>
* Python
* Pyperclip library

To install the app, open android studio as sudo and open the folder named android in the repository with the IDE. Then on your phone enable developer options by finding and tapping your android build number in the settings 8 times. After this step enable USB debugging from the developer options on your phone then plug it in the computer and allow the computer access from your phone. Then press the run icon in the top right of the IDE when the name of your phone appears.

To use phone, unlock developer options by taping the build number in the settings of your device then turning on USB debugging from the developer options menu

Use apt-get install to install the adb package. This gives you a community-maintained default set of udev rules for all Android devices.

apt-get install adb

Make sure that you are in the plugdev group. If you see the following error message, adb did not find you in the plugdev group:

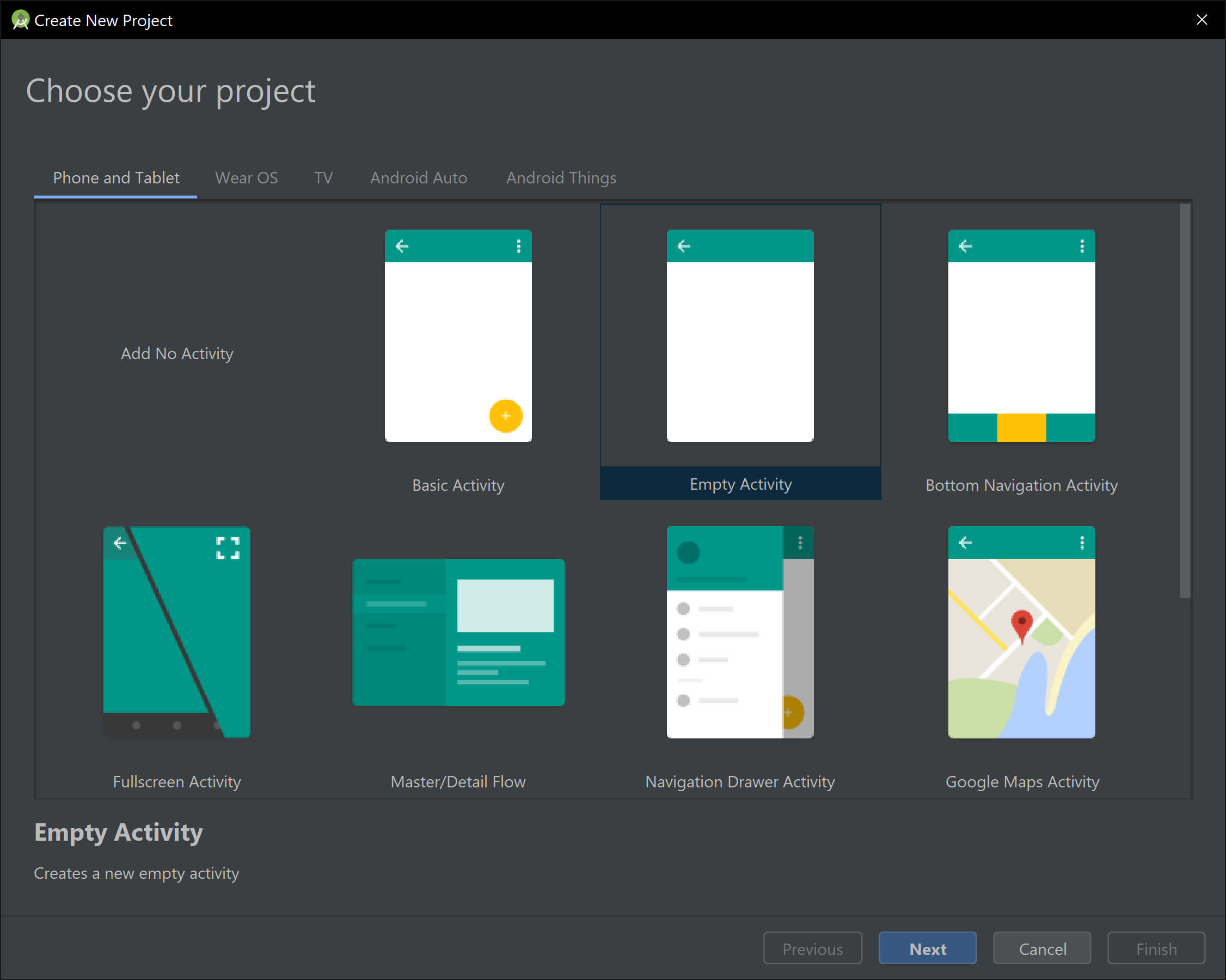
Use id to see what groups you are in. Use sudo usermod -aG plugdev $LOGNAME to add yourself to the plugdev group.

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

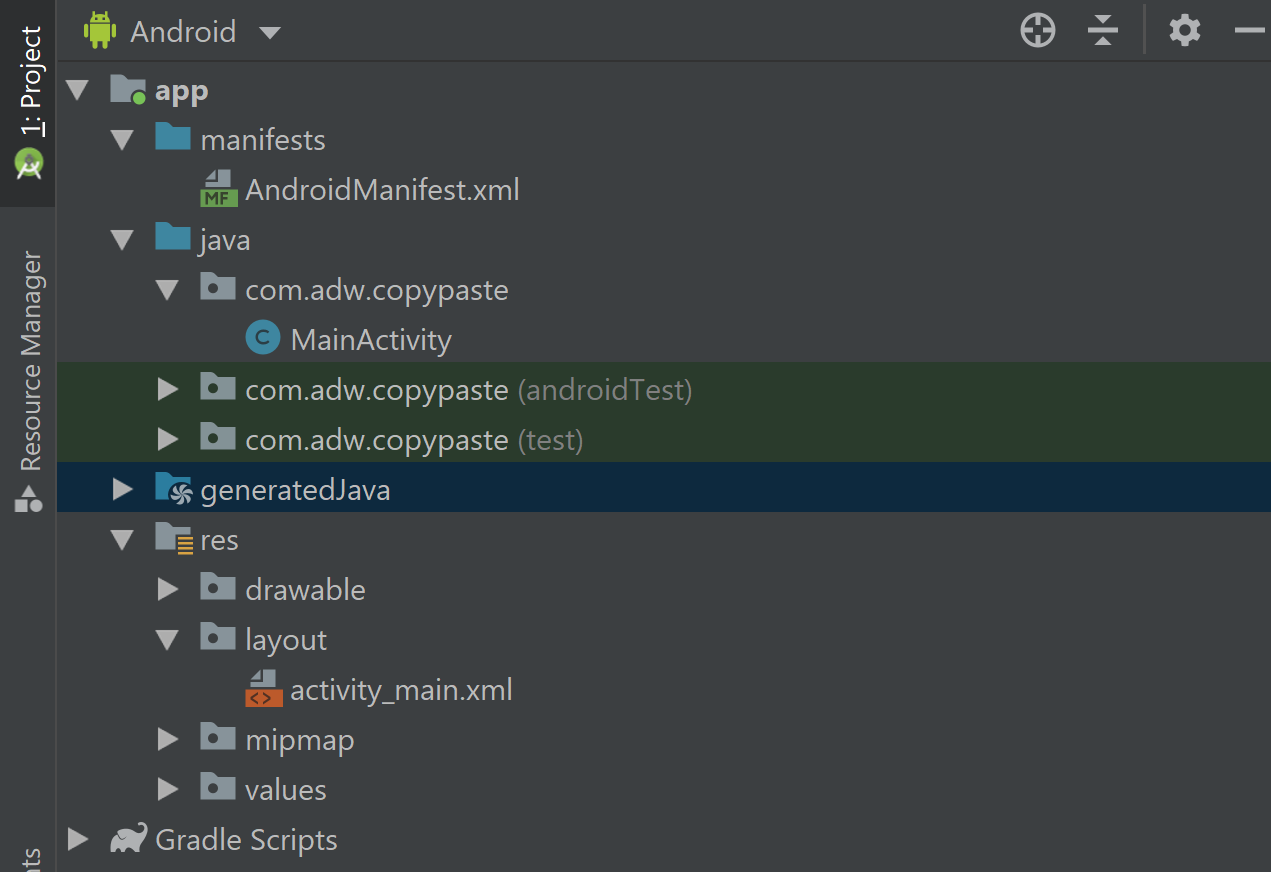
After this run the python script terminalCopy on your PC using python 2.7

# Creation of App

When creating the project pick empty activity



Once the app Is named android studio will make the project.



These files are made by android studio and the most important ones are:

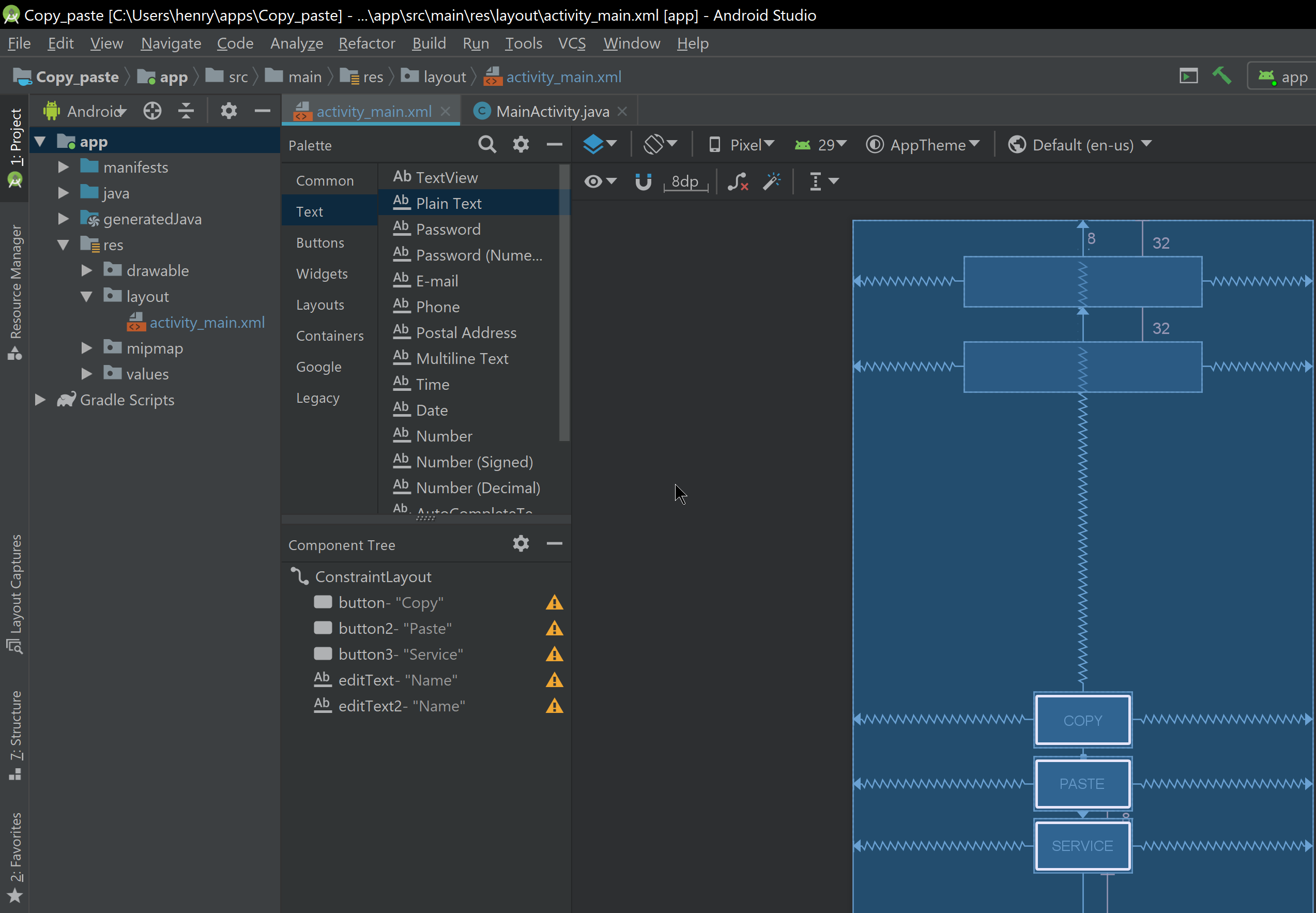
AndroidManifest.xml – This file is the file that describes the fundamental characteristics of the app and defines the components such as which activity is the home page. As well as being the file permitions are requested

MainActivity – This is the initial activity and will contain a hello world application by default to make a new activity right click the java folder new > activity > entry activity

res – This hold the data for the visual design of the app such as the layout and colours

The strings.xml file holds all the text for the application such as button names and labels

The activity\_main.xml is used to hold the code for what is displayed on the screen. The view is a drag and drop GUI to add elements to the screen however it can be changed to the text view by using the button at the bottom of the editing screen. The code for the display is done in the xml language.



In the text view you can change the properties of the on-screen elements



The Screen elements most used are:

Text View – This is a basic way to display text on the screen.

Edit Text – This allows for text input and can also be made to display text.

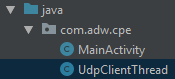
Button – This is a simple button to be pressed and the OS will handle the animation to give feedback to the user.

The onCreate method is run when the application is opened and, in this application, holds the handlers for when the buttons and text displayed on screen are clicked. To do this the buttons must be declared this can be done by id which is the name of the button, Edit Text or Text View then using the button Connect method make functions that will listen for each button to be pressed.

The onStart Method is also run when the program is started and I used this to start the UDP server which is a private class which will then run the method run when called, this run method contains the code for the UDP server and gets run on a thread as it would block the program if not.

The UDP client is done is a different java class and is called upon by the clipboard listener when the class is called it starts the classes run method. This is also done in a thread to stop the program from being blocked.

Each java class goes within its own file when you want to make a new java class right click the java folder new > java class



Link to android tutorial - <https://developer.android.com/training/basics/firstapp/>

# Creation of desktop App

Copy the script

Install python libarys:

To get the library for pyperclip use - pip install pyperclip

