



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment1.2

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Branch: CSE

Semester: 6th

Subject Name: Mobile App Development

UID: 21BCS1569

Section/Group: 606/B

Date of Performance: 19/01/24

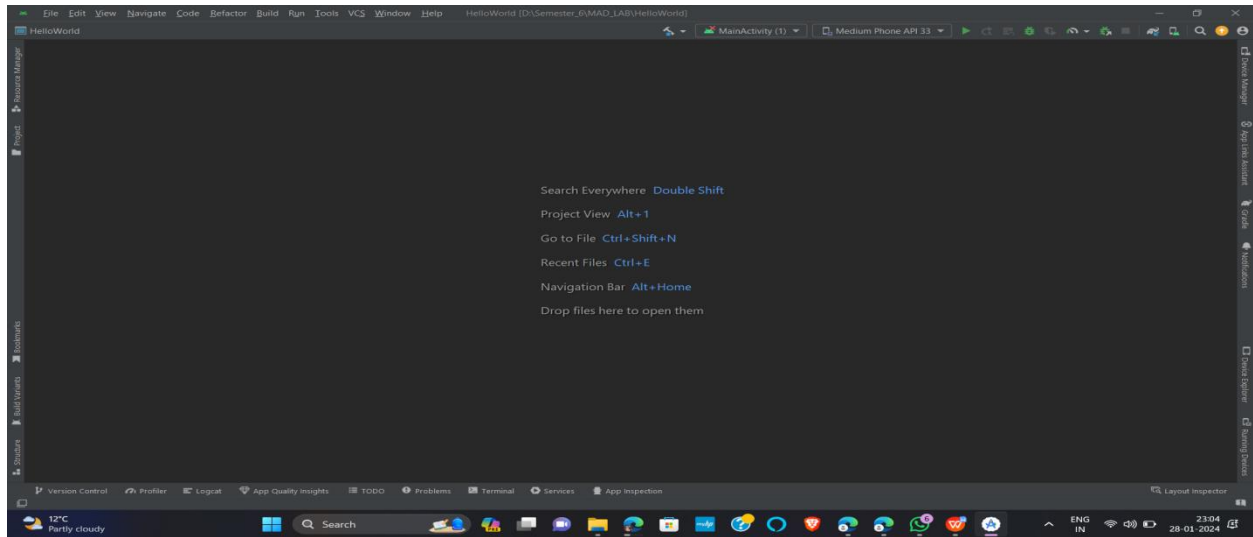
Subject Code: 21CSH-355

1. **Aim:** Create an application that takes the name from a "Text Box" and shows a "Hello" message along with the name entered in the "Text Box" when the user clicks the "OK" button.
2. **Objective:** Setting up Android Studio and configuring a basic Android project. Compiling and running a simple Android application on an emulator or a physical device.
3. **Input/Apparatus Used:**
 - **Computer:** Android Studio is compatible with Windows, macOS, and Linux. Ensure that your computer meets the minimum system requirements for the chosen operating system.
 - **Internet Connection:** A reliable internet connection is required to download Android Studio and the necessary SDK components during the installation process.
 - **Android Studio Installer:** Download the Android Studio installer from the official Android Studio Page (<https://developer.android.com/studio>). Choose the appropriate version for your operating system.
 - **Storage Space:** Ensure sufficient free storage space on your computer to accommodate the Android Studio installation and any additional SDK components you may download.

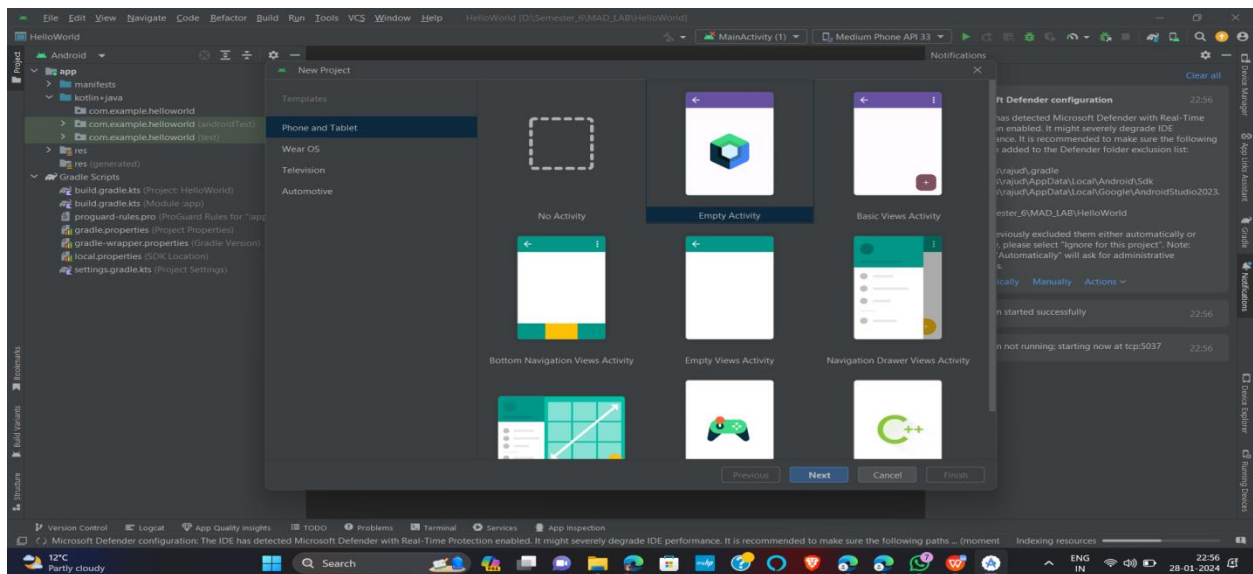
4. **Procedure:**

Step 1: Launch Android Studio

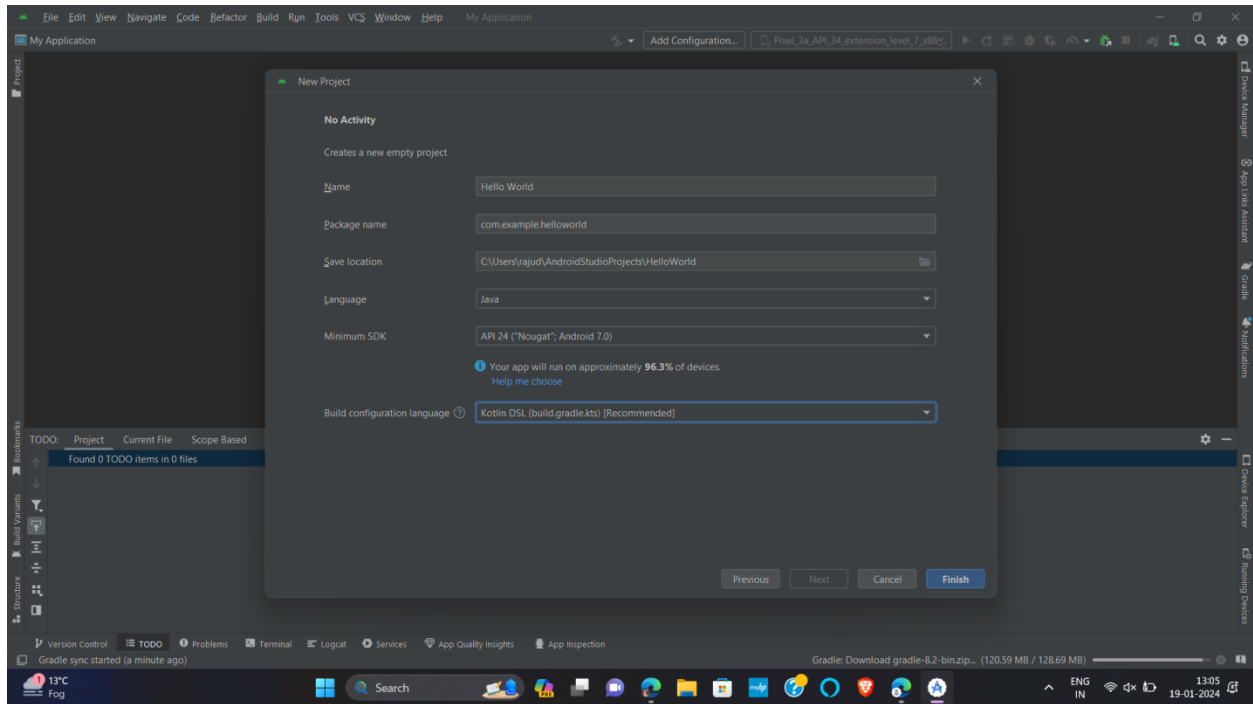
1. To create a simple android application open the Android studio.



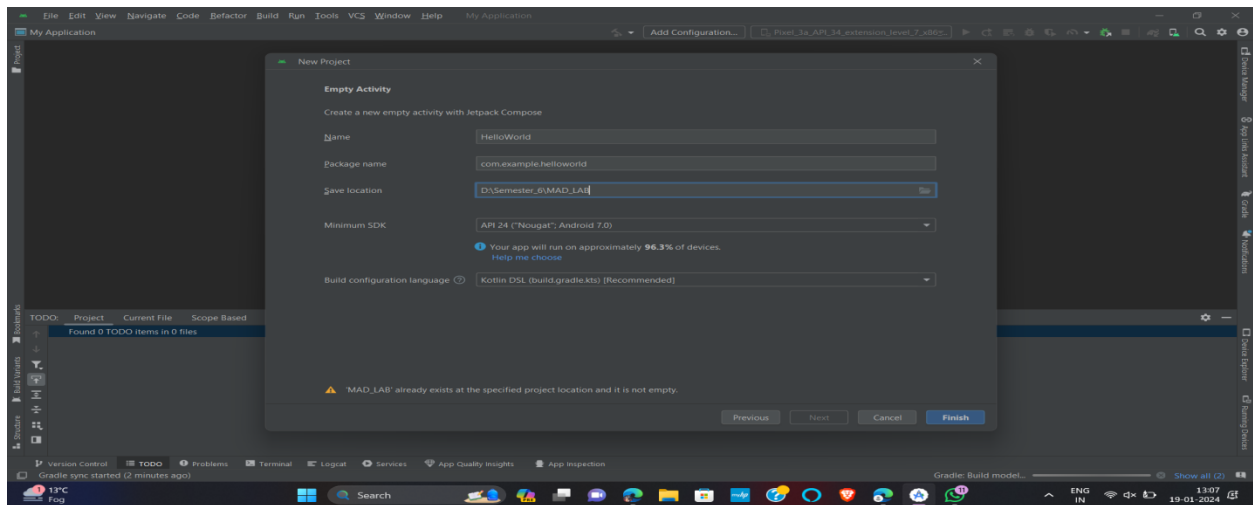
2. To start with the application development call start a new android studio project. After selecting the new project, then select the empty activity icon, it will show screen as below.



3. Then we will finish creating the project by configuring some details about its name, location, and the API version it.



4. Change the name of the application. Change the default **Project location** to your preferred directory or just leave it as the default location. On the **minimum API level**, ensure that **API 24: Android 7.0 Nougat** is set as the Minimum SDK. This ensures that your application runs on almost all devices.





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SOURCE CODE:

The Main Activity File: The main activity code is a Java file Main Activity.java. This is the actual application file which ultimately gets converted to a Dalvik executable and runs your application.

```
package com.example.helloworld

import android.os.Bundle
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.foundation.layout.fillMaxSize
import androidx.compose.material3.MaterialTheme
import androidx.compose.material3.Surface
import androidx.compose.material3.Text
import androidx.compose.runtime.Composable
import androidx.compose.ui.Modifier
import androidx.compose.ui.tooling.preview.Preview
import com.example.helloworld.ui.theme.HelloWorldTheme

class MainActivity : ComponentActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContent {
            HelloWorldTheme {
                // A surface container using the 'background' color from the theme
                Surface(
                    modifier = Modifier.fillMaxSize(),
                    color = MaterialTheme.colorScheme.background
                ) {
                    Greeting("Android")
                }
            }
        }
    }
}

@Composable
fun Greeting(name: String, modifier: Modifier = Modifier) {
    Text(
        text = "Hello $name!",

```

```

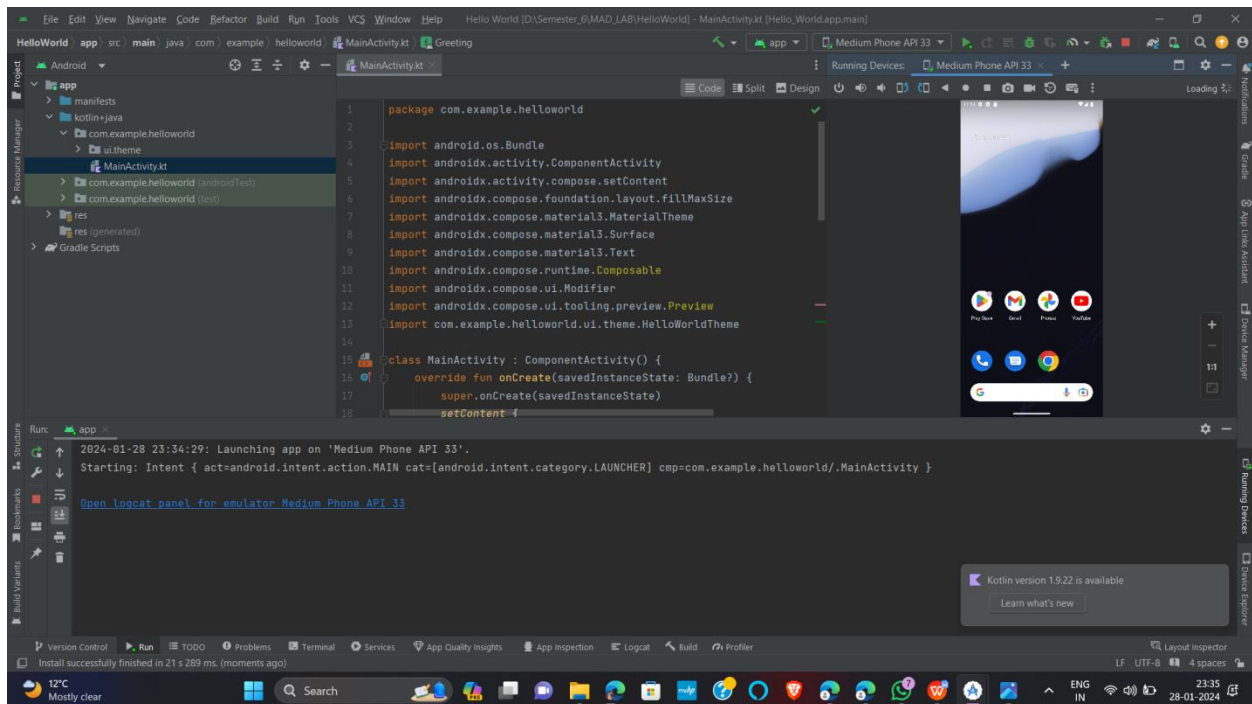
        modifier = modifier
    )
}

@Preview(showBackground = true)
@Composable
fun GreetingPreview() {
    HelloWorldTheme {
        Greeting("Android")
    }
}

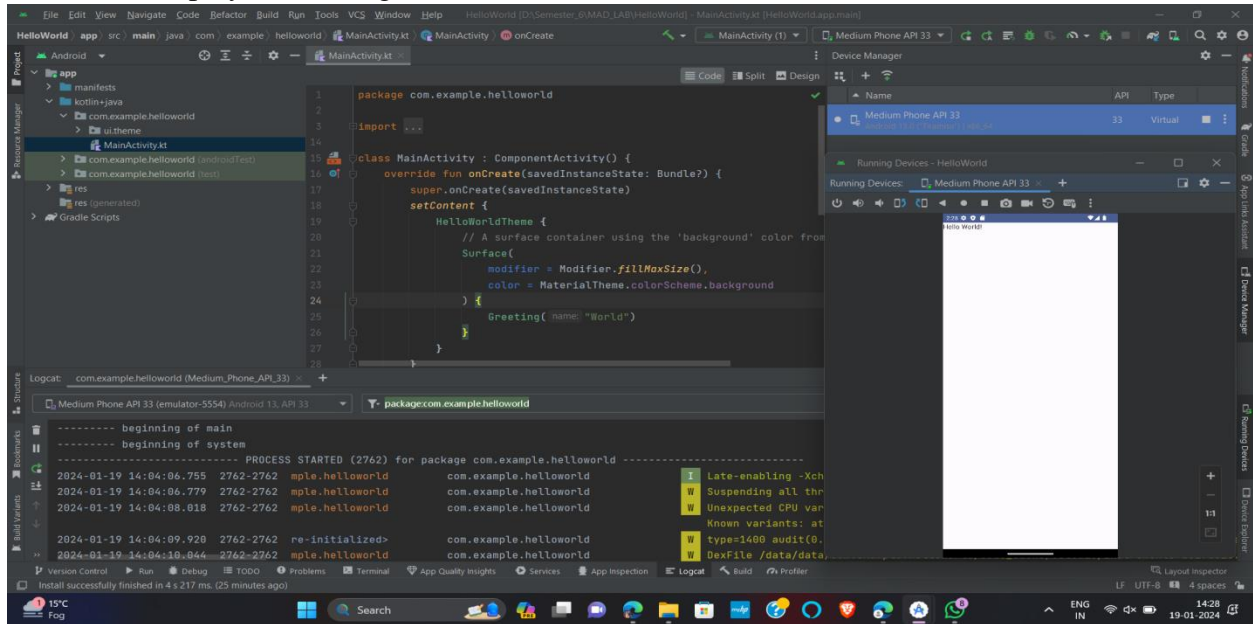
```

Step 2: Running app on Emulator (AVD)

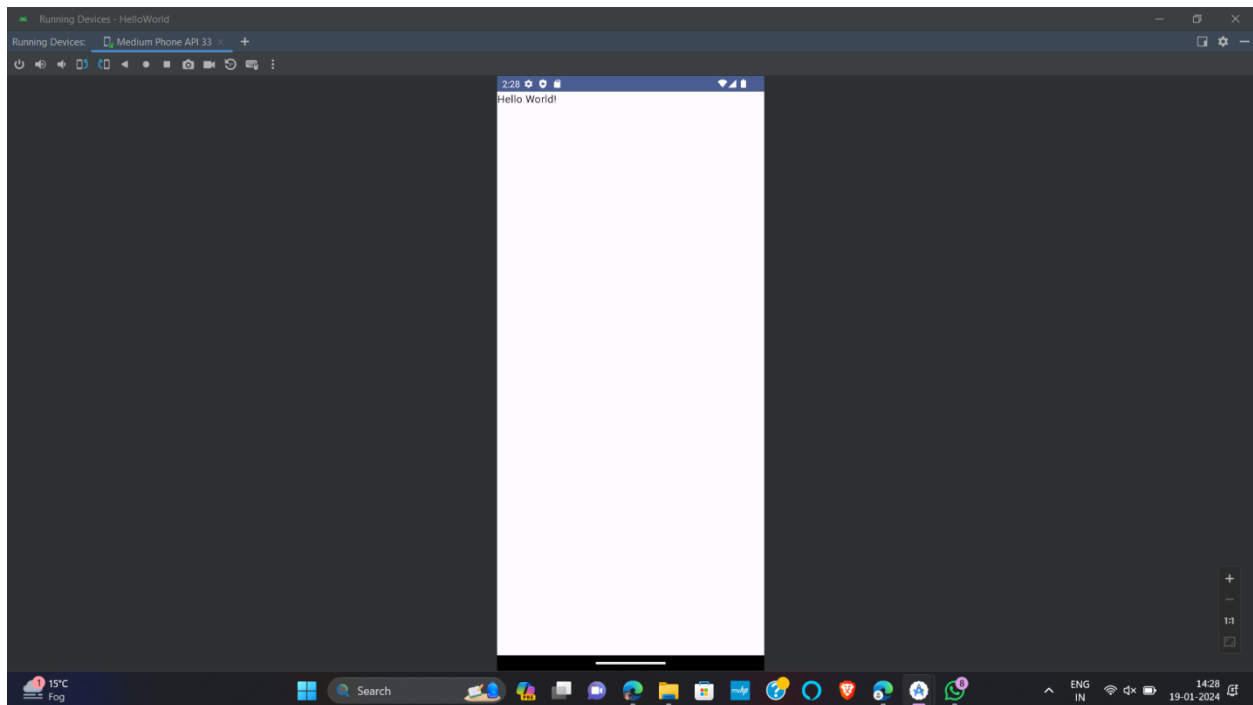
1. To run the app from Android studio, open one of your project's activity files and click Run icon from the toolbar. Android studio installs the app on your AVD and starts it and if everything is fine with the set-up and application, it will display Emulator window in the device manager.



2. Now we can see the running device, then after wait for some time the app will run on the device and display the message.



3. Now we can see the final output on the Emulator.





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5. Learning Outcomes:

1. I have learned the process of installing Android Studio, a tool for Android app development.
2. I understand the importance of configuring SDKs and virtual devices for a smooth development environment.
3. I now understand the significance of testing applications on a virtual device, ensuring a well-prepared development setup.