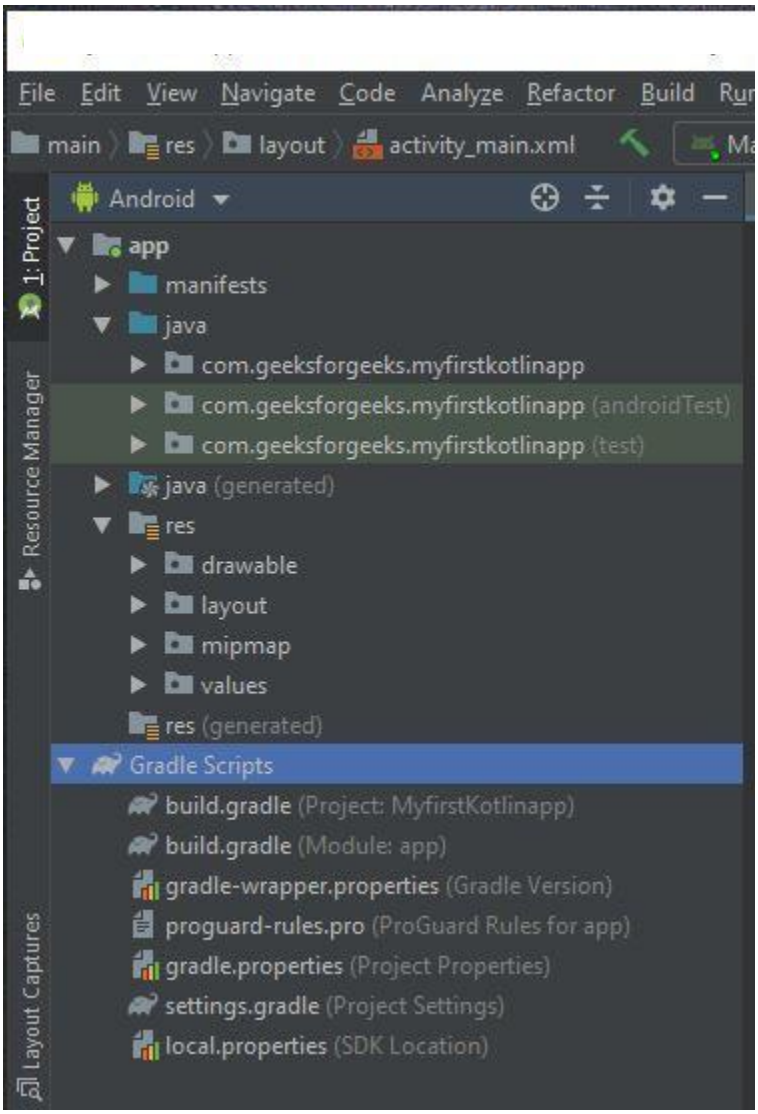
Android Project folder Structure

Android Studio is the official IDE (Integrated Development Environment) developed by JetBrains community which is freely provided by Google for android app development.

After completing the setup of Android Architecture we can create android application in the studio. We need to create new project for each sample application and we should understand about the folder structure. It look like this:



The android project contains different type of app modules, source code files and resource files. We will explore all the folders and files in android app.

1. Manifests Folder
2. Java Folder
3. res (Resources) Folder
    - Drawable Folder
    - Layout Folder

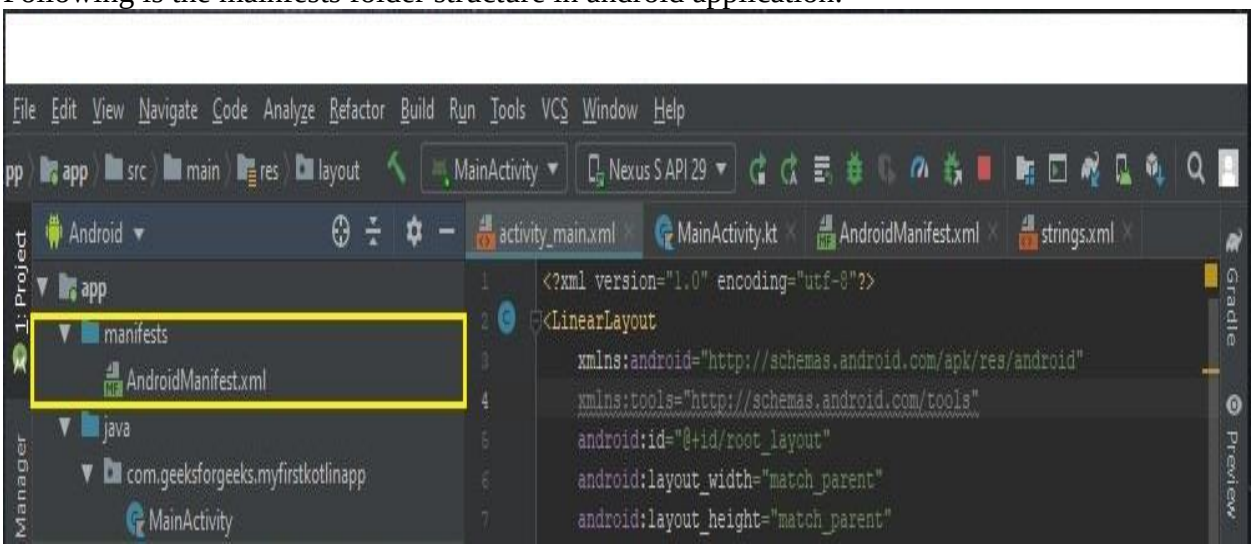
- Mipmap Folder
- Values Folder

4. Gradle Scripts

Manifests Folder

Manifests folder contains **AndroidManifest.xml** for our creating the android application. This file contains information about our application such as android version, metadata, states package for Kotlin file and other application components. It acts as an intermediator between android OS and our application.

Following is the mainfests folder structure in android application.



AndroidManifest.xml

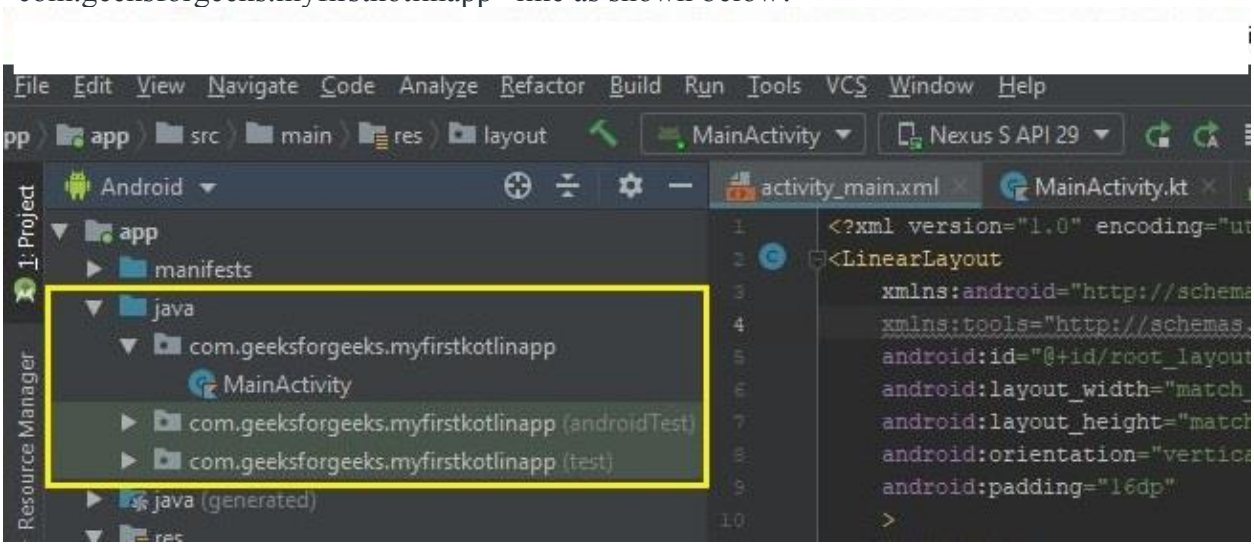
```
<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http:// schemas.android.com/apk/res/android"

    package="com.geeksforgeeks.myapplication">



    <application

        android:allowBackup="true"

        android:icon="@mipmap/ic_launcher"
```

```
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


                <category android:name="android.intent.category.LAUNCHER"
/>
            </intent-filter>
        </activity>
    </application>


</manifest>
```

Java folder

Java folder contains all the java and Kotlin source code (.java) files which we create during the app development, including other Test files. If we create any new project using Kotlin, by default the class file MainActivity.kt file will create automatically under the package name

“com.geeksforgeeks.myfirstkotlinapp” like as shown below.



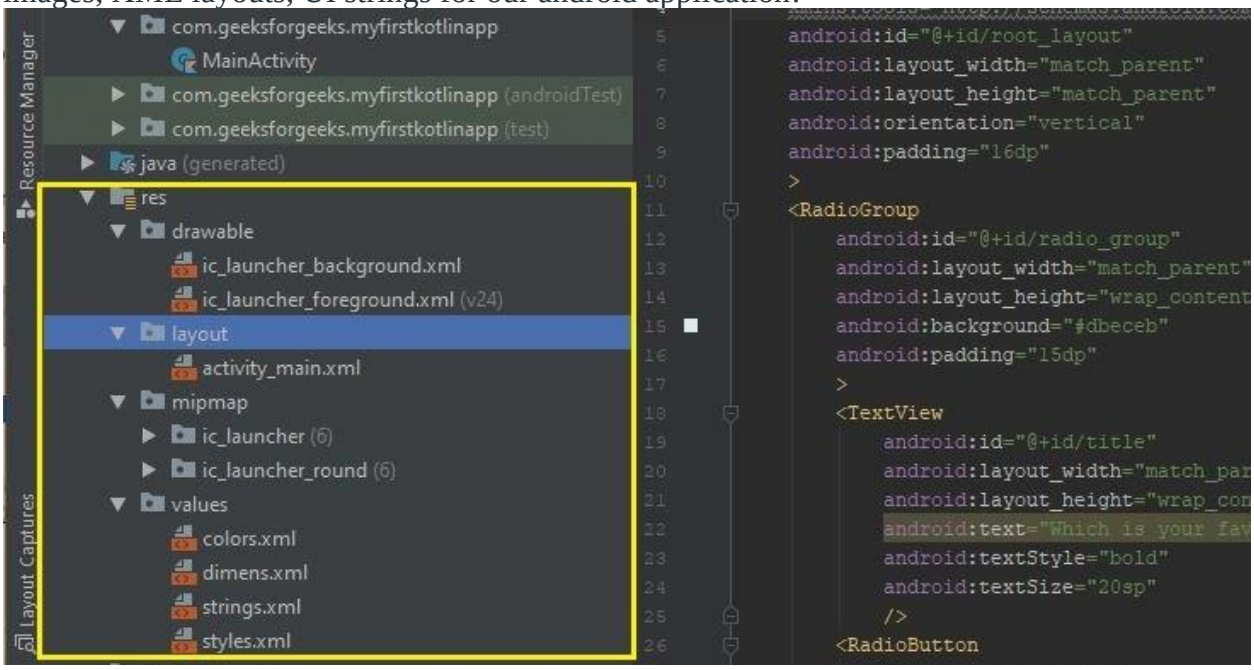
MainActivity.kt

```
package com.geeksforgeeks.myapplication

import androidx.appcompat.app.AppCompatActivity import
android.os.Bundle

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?)

{

super.onCreate(savedInstanceState)

setContentView(R.layout.activity_main)
```

```
    }

}
```

Resource (res) folder

Resource folder is the most important folder because it contains all the non-code sources like images, XML layouts, UI strings for our android application.



res/drawable folder

It contains the different type of images used for the development of the application. We need to add all the images in drawable folder for the application development.

res/layout folder

Layout folder contains all XML layout files which we used to define the user Interface of our application. It contains the **activity_main.xml** file.

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

    xmlns:android="http:// schemas.android.com/apk/res/android"
```

```
    xmlns:app="http:// schemas.android.com/apk/res-auto"
    xmlns:tools="http:// schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

res/midmap folder

This folder contains launcher.xml files to define icons which are used to show on the home screen. It contains different density type of icons depends upon the size of the device such as hdpi, mdpi, xhdpi.

res/values folder
Values folder contains a number of XML files like strings, dimens, colors and styles definitions. One of the most important file is **strings.xml** file which contains the resources.

```
<resources>

    <string name="app_name">NameOfTheApplication</string>

    <string name="checked">Checked</string>

    <string name="unchecked">Unchecked</string>

</resources>
```

Gradle Scripts folder
Gradle means automated build system and it contains number of files which are used to define a build configuration which can be apply to all modules in our application. In build.gradle (Project) there are buildscripts and in build.gradle (Module) plugins and implementations are used to build configurations that can be applied to all our application modules.

Android R.java File

Android R.java is *an auto-generated file by* ***aapt*** (Android Asset Packaging Tool) that contains resource IDs for all the resources of res/ directory.

If you create any component in the activity_main.xml file, id for the corresponding component is automatically created in this file. This id can be used in the activity source file to perform any action on the component.

Note:

If you delete R.java file, android recreates it automatically.