ARKA JAIN University, Jharkhand

SUBJECT: MOBILE DEVELOPMENT

Assignment No. 1

Name :	
Class	**Roll No. :**
Section :	
Registration No. :	

1-Creating “Hello world” Application

The Main Activity File

```
package com.example.helloworld;


import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;


public class MainActivity extends AppCompatActivity {

   @Override

   protected void onCreate(Bundle savedInstanceState) {

      super.onCreate(savedInstanceState);

      setContentView(R.layout.activity_main);

   }

}
```

The Manifest File

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

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

    package="com.example.tutorialspoint7.myapplication">


   <application

      android:allowBackup="true"

      android:icon="@mipmap/ic_launcher"

      android:label="@string/app_name"

      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>
```

The Strings File

```
<resources>
   <string name="app_name">HelloWorld</string>
   <string name="hello_world">Hello world!</string>
   <string name="menu_settings">Settings</string>
   <string name="title_activity_main">MainActivity</string>
</resources
```

The Layout File

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent" >

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
```

```
        android:layout_centerHorizontal="true"

        android:layout_centerVertical="true"

        android:padding="@dimen/padding_medium"

        android:text="@string/hello_world"

        tools:context=".MainActivity" />


</RelativeLayout
```

2-Creating an Application That display Message based on the Screen Orientaion

activity_main.xml

File: activity_main.xml

```
1.  <?xml version="1.0" encoding="utf-8"?>
2.  <android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android
    .com/apk/res/android"
3.      xmlns:app="http://schemas.android.com/apk/res-auto"
4.      xmlns:tools="http://schemas.android.com/tools"
5.      android:layout_width="match_parent"
6.      android:layout_height="match_parent"
7.      tools:context="example.javatpoint.com.screenorientation.MainActivity">
8.
9.
10.     <Button
11.         android:id="@+id/button1"
12.         android:layout_width="wrap_content"
13.         android:layout_height="wrap_content"
14.         android:layout_marginBottom="8dp"
15.         android:layout_marginTop="112dp"
16.         android:onClick="onClick"
17.         android:text="Launch next activity"
18.         app:layout_constraintBottom_toBottomOf="parent"
19.         app:layout_constraintEnd_toEndOf="parent"
20.         app:layout_constraintHorizontal_bias="0.612"
```

```
21.         app:layout_constraintStart_toStartOf="parent"
22.         app:layout_constraintTop_toBottomOf="@+id/editText1"
23.         app:layout_constraintVertical_bias="0.613" />
24.
25.     <TextView
26.         android:id="@+id/editText1"
27.         android:layout_width="wrap_content"
28.         android:layout_height="wrap_content"
29.         android:layout_centerHorizontal="true"
30.         android:layout_marginEnd="8dp"
31.         android:layout_marginStart="8dp"
32.         android:layout_marginTop="124dp"
33.         android:ems="10"
34.         android:textSize="22dp"
35.         android:text="This activity is portrait orientation"
36.         app:layout_constraintEnd_toEndOf="parent"
37.         app:layout_constraintHorizontal_bias="0.502"
38.         app:layout_constraintStart_toStartOf="parent"
39.         app:layout_constraintTop_toTopOf="parent" />
40. </android.support.constraint.ConstraintLayout>
```

File: MainActivity.java

```
1.  package example.javatpoint.com.screenorientation;
2.
3.  import android.content.Intent;
4.  import android.support.v7.app.AppCompatActivity;
5.  import android.os.Bundle;
6.  import android.view.View;
7.  import android.widget.Button;
8.
9.  public class MainActivity extends AppCompatActivity {
10.
11.     Button button1;
12.     @Override
13.     protected void onCreate(Bundle savedInstanceState) {
14.         super.onCreate(savedInstanceState);
15.         setContentView(R.layout.activity_main);
16.
```

```
17.         button1=(Button)findViewById(R.id.button1);
18.     }
19.     public void onClick(View v) {
20.         Intent intent = new Intent(MainActivity.this,SecondActivity.class);
21.         startActivity(intent);
22.     }
23. }
```

activity_second.xml

File: activity_second.xml

```
1.  <?xml version="1.0" encoding="utf-8"?>
2.  <android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android
    .com/apk/res/android"
3.      xmlns:app="http://schemas.android.com/apk/res-auto"
4.      xmlns:tools="http://schemas.android.com/tools"
5.      android:layout_width="match_parent"
6.      android:layout_height="match_parent"
7.      tools:context="example.javatpoint.com.screenorientation.SecondActivity">
8.
9.      <TextView
10.         android:id="@+id/textView"
11.         android:layout_width="wrap_content"
12.         android:layout_height="wrap_content"
13.         android:layout_marginEnd="8dp"
14.         android:layout_marginStart="8dp"
15.         android:layout_marginTop="180dp"
16.         android:text="this is landscape orientation"
17.         android:textSize="22dp"
18.         app:layout_constraintEnd_toEndOf="parent"
19.         app:layout_constraintHorizontal_bias="0.502"
20.         app:layout_constraintStart_toStartOf="parent"
21.         app:layout_constraintTop_toTopOf="parent" />
22. </android.support.constraint.ConstraintLayout>
```

SecondActivity class

File: SecondActivity.java

```
1.  package example.javatpoint.com.screenorientation;
2.
```

```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class SecondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);

    }
}
```

AndroidManifest.xml

File: AndroidManifest.xml

In AndroidManifest.xml file add the screenOrientation attribute in activity and provides its orientation. In this example, we provide "portrait" orientation for MainActivity and "landscape" for SecondActivity.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="example.javatpoint.com.screenorientation">

    <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="example.javatpoint.com.screenorientation.MainActivity"
            android:screenOrientation="portrait">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

```
21.         <activity android:name=".SecondActivity"
22.             android:screenOrientation="landscape">
23.         </activity>
24.     </application>
25.
26. </manifest>
```

4-Played Audio Based On User event

```
import android.support.v7.app.AppCompatActivity;

import android.media.MediaPlayer;

import android.os.Bundle;

import android.widget.Button;

import android.widget.ImageButton;

import android.widget.ImageView;


public class MainActivity extends AppCompatActivity {

ImageViewbtnplay,btnstop,btnpause;

boolean playing= false;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

btnplay=(ImageView) findViewById(R.id.btnplay);

btnpause=(ImageView)findViewById(R.id.btnpause);

btnstop=(ImageView) findViewById(R.id.btnstop);
```

```
//creating media player
final MediaPlayermp=MediaPlayer.create(AudioActivity.this,R.raw.audio);


btnplay.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(!playing) {
mp.start();
playing = true;
            }
      }
});


btnpause.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(playing) {
mp.pause();
playing = false;
            }
       }
});
btnstop.setOnClickListener(new View.OnClickListener() {
@Override
```

```
public void onClick(View v) {
if(playing) {
mp.stop();
playing = false;
        }
       }
    });
  }
}
```

5-Create UI with All views

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="fill_parent"
   android:layout_height="fill_parent"
   android:orientation="vertical" >

   <TextView android:id="@+id/text"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="This is a TextView" />

   <Button android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="This is a Button" />
```

```
   <!-- More GUI components go here  -->
```

```
import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.ImageButton;

import android.widget.Toast;



public class MainActivity extends AppCompatActivity {

ImageButton imgbtn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

imgbtn=(ImageButton)findViewById(R.id.ImageButton);

imgbtn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Toast.makeText(MainActivity.this,"Clicked",Toast.LENGTH_LONG).show();

                    }

          });


     }
```

```
}
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.widget.EditText;
import android.widget.TextView;



public class MainActivity extends AppCompatActivity {
   EditText edttxt;
   TextView txtedt;
           @Override
           protected void onCreate(Bundle savedInstanceState) {
                   super.onCreate(savedInstanceState);
                   setContentView(R.layout.activity_main);
                   edttxt=(EditText)findViewById(R.id.edtdemo);
                   txtedt=(TextView)findViewById(R.id.txtedt);
                   edttxt.addTextChangedListener(new TextWatcher() {
                      @Override
                      public void beforeTextChanged(CharSequence charSequence, int i, int i1, int i2) {
                      }


                      @Override
                      public void onTextChanged(CharSequence charSequence, int i, int i1, int i2) {
```

```
                String str=edttxt.getText().toString();
                txtedt.setText(str);
            }

            @Override
            public void afterTextChanged(Editable editable) {
            }
        });
    }
}
```

6- Create Menu in Application

```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
public boolean onCreateOptionsMenu(Menu menu) {
// Inflate the menu,add items to the action bar if it is present.
getMenuInflater().inflate(R.menu.option_menu, menu);//Menu ResourceFile
```

```
return true;
        }
@Override
public boolean onOptionsItemSelected(MenuItem item) {
switch (item.getItemId()) {
case R.id.item1:
Toast.makeText(getApplicationContext(),"Item 1 Selected",Toast.LENGTH_LONG).show();
return true;
case R.id.item2:
Toast.makeText(getApplicationContext(),"Item 2 Selected",Toast.LENGTH_LONG).show();
return true;
case R.id.item3:
Toast.makeText(getApplicationContext(),"Item 3 Selected",Toast.LENGTH_LONG).show();
return true;
default:
return super.onOptionsItemSelected(item);


            }
        }
}
```

7-Read/Write the local Data

```
import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.telephony.TelephonyManager;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
```

```
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends Activity {

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      final EditText num = (EditText) findViewById(R.id.sNum);
      Button ch = (Button) findViewById(R.id.rButton);
      TelephonyManager operator = (TelephonyManager) getSystemService(Context.TELEPHONY_SERVICE);
      String opname = operator.getNetworkOperatorName();
      TextView status = (TextView) findViewById(R.id.setStatus);
      final EditText ID = (EditText) findViewById(R.id.IQID);
      Button save = (Button) findViewById(R.id.sButton);

      final String myID = ""; //When Reading The File Back, I Need To Store It In This String For Later Use

      save.setOnClickListener(new OnClickListener() {

         @Override
         public void onClick(View v) {
            // TODO Auto-generated method stub

            //Get Text From EditText "ID" And Save It To Internal Memory
         }
      });
      if (opname.contentEquals("zain SA")) {
         status.setText("Your Network Is: " + opname);
      } else {
         status.setText("No Network");
      }
      ch.setOnClickListener(new OnClickListener() {

         @Override
         public void onClick(View v) {
            // TODO Auto-generated method stub

            //Read From The Saved File Here And Append It To String "myID"


            String hash = Uri.encode("#");
            Intent intent = new Intent(Intent.ACTION_CALL);
            intent.setData(Uri.parse("tel:*141*" + /*Use The String With Data Retrieved Here*/ num.getText()
                  + hash));
            startActivity(intent);
         }
      });
   }
```

8-Create/Read/write data with database(SQlite)

```
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteException;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
   DatabaseHelper myDb;
   EditText editName,editCompanyname,editPhno,editDesignation ,editTextId;
   Button btnAddData;
   private SQLiteDatabase sql;
            @Override
            protected void onCreate(Bundle savedInstanceState) {
               super.onCreate(savedInstanceState);
               setContentView(R.layout.activity_main);
               myDb = new DatabaseHelper(this);
               editName = (EditText)findViewById(R.id.editText_name);
               editCompanyname = (EditText)findViewById(R.id.editText_companyname);
               editPhno = (EditText)findViewById(R.id.editText_phno);
               editDesignation = (EditText)findViewById(R.id.editText_designation);
               btnAddData = (Button)findViewById(R.id.button_add);
               AddData();
            }
           public  void AddData() {
```

```
        btnAddData.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        String name = editName.getText().toString();
                        String company = editCompanyname.getText().toString();
                        String des = editDesignation.getText().toString();
                        String phno = editPhno.getText().toString();
                        if (TextUtils.isEmpty(name)) {
                            Toast.makeText(MainActivity.this, "Plase enter the Name",
Toast.LENGTH_LONG).show();
                            return;
                        }
                        if (TextUtils.isEmpty(company)) {
                            Toast.makeText(MainActivity.this, "Plase enter the Company Name",
Toast.LENGTH_LONG).show();
                            return;
                        }
                        if (TextUtils.isEmpty(des)) {
                            Toast.makeText(MainActivity.this, "Plase enter the Desigantion",
Toast.LENGTH_LONG).show();
                            return;
                        }
                        if (TextUtils.isEmpty(phno)) {
                            Toast.makeText(MainActivity.this, "Plase enter the Contact Number",
Toast.LENGTH_LONG).show();
                            return;
```

```
                    }
                    boolean isInserted = myDb.insertData(name, company, des, phno);
                    if (isInserted == true){
                       Toast.makeText(MainActivity.this, "Data Inserted", Toast.LENGTH_LONG).show();
                    editName.setText("");
                    editDesignation.setText("");
                    editPhno.setText("");
                    editCompanyname.setText("");
                  }
                    else
                       Toast.makeText(MainActivity.this,"Data not
Inserted",Toast.LENGTH_LONG).show();
                  }
                }
            );
        }
        public void showMessage(String title,String Message){
           AlertDialog.Builder builder = new AlertDialog.Builder(this);
           builder.setCancelable(true);
           builder.setTitle(title);
           builder.setMessage(Message);
           builder.show();
        }
}
```

```
,import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
Button btnfetch;
DatabaseHelper myDb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        myDb = new DatabaseHelper(this);
        btnfetch=(Button)findViewById(R.id.btnfetch);
        viewAll();

    }
    public void showMessage(String title,String Message){
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setCancelable(true);
        builder.setTitle(title);
        builder.setMessage(Message);
        builder.show();
    }
    public void viewAll() {
        btnfetch.setOnClickListener(
                new View.OnClickListener() {
```

```
        @Override
        public void onClick(View v) {
            Cursor res = myDb.getAllData();
            if(res.getCount() == 0) {
                // show message
                showMessage("Alert","Nothing found");
                return;
            }

            StringBuffer buffer = new StringBuffer();
            while (res.moveToNext()) {
                buffer.append("Id :"+ res.getString(0)+"\n");
                buffer.append("Name :"+ res.getString(1)+"\n");
                buffer.append("Company Name :"+ res.getString(2)+"\n");
                buffer.append("Designation :"+ res.getString(3)+"\n");
                buffer.append("Contact Num :"+ res.getString(4)+"\n\n");
            }

            // Show all data
            showMessage("Data",buffer.toString());
        }
    });
      }
```

9-Create A Application to send Email

```
import android.support.v7.app.AppCompatActivity;
```

```
import android.os.Bundle;


public class MainActivity extends AppCompatActivity {
EditTexteditTextTo,editTextSubject,editTextMessage;
   Button sendEmail;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
editTextTo=(EditText)findViewById(R.id.edtemailto);
editTextSubject=(EditText)findViewById(R.id.edtemailsub);
editTextMessage=(EditText)findViewById(R.id.edtemailmsg);
sendEmail=(Button)findViewById(R.id.btnemail);
sendEmail.setOnClickListener(new View.OnClickListener(){
@Override
public void onClick(View arg0) {
String to=editTextTo.getText().toString();
String subject=editTextSubject.getText().toString();
String message=editTextMessage.getText().toString()
Intent email = new Intent(Intent.ACTION_SEND);
email.putExtra(Intent.EXTRA_EMAIL, new String[]{ to});
email.putExtra(Intent.EXTRA_SUBJECT, subject);
email.putExtra(Intent.EXTRA_TEXT, message);
email.setType("message/rfc822");
startActivity(Intent.createChooser(email, "Choose an Email client :"));
```

```
                }

            });

    }

}
```

10-Create An application to send a SMS

```
1. package abu.sms;
2.
3. import android.os.Bundle;
4. import android.app.Activity;
5. import android.app.PendingIntent;
6. import android.content.Intent;
7. import android.telephony.SmsManager;
8. import android.view.Menu;
9. import android.view.View;
10.     import android.view.View.OnClickListener;
11.     import android.widget.Button;
12.     import android.widget.EditText;
13.     import android.widget.Toast;
14.
15.     public class MainActivity extends Activity {
16.
17.         EditText mobileno,message;
18.         Button sendsms;
19.         @Override
20.         protected void onCreate(Bundle savedInstanceState) {

21.             super.onCreate(savedInstanceState);
22.             setContentView(R.layout.activity_main);
23.
24.             mobileno=(EditText)findViewById(R.id.editText1);

25.             message=(EditText)findViewById(R.id.editText2);
26.             sendsms=(Button)findViewById(R.id.button1);
27.             sendsms.setOnClickListener(new OnClickListener()
   {
28.
29.                 @Override
30.                 public void onClick(View arg0) {
31.                     String no=mobileno.getText().toString();
```

```
32.                     String msg=message.getText().toString();
33.                     Intent intent=new Intent(getApplicationCo
   ntext(),MainActivity.class);
34.                     PendingIntent pi=PendingIntent.getActivit
   y(getApplicationContext(), 0, intent,0);
35.                     SmsManager sms=SmsManager.getDefault();
36.                     sms.sendTextMessage(no, null, msg, pi,nul
   l);
37.
38.                     Toast.makeText(getApplicationContext(), "
   Message Sent successfully!",
39.                                 Toast.LENGTH_LONG).show();
40.                 }
41.             });
42.         }
43.
44.         @Override
45.         public boolean onCreateOptionsMenu(Menu menu)
46.            getMenuInflater().inflate(R.menu.activity_main, me
   nu);
47.             return true;
48.         }
49.
50.     }
```

11-Display the Map based on the current/given locations

```
import android.support.v7.app.AppCompatActivity;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;


public class MainActivity extends AppCompatActivity  {

Button btnmap;

String uri = "geo:0,0?q=india";
```

```
  @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
btnmap=(Button) findViewById(R.id.btndemo);
btnmap.setOnClickListener(new View.OnClickListener() {
  @Override
    public void onClick(View view) {
     Uri gmmIntentUri = Uri.parse(uri);
     Intent mapIntent = new Intent(Intent.ACTION_VIEW, gmmIntentUri);
mapIntent.setPackage("com.google.android.apps.maps");
 if (mapIntent.resolveActivity(getPackageManager()) != null) {
startActivity(mapIntent);
                                }
               }
             });
          }
 }
```

12-Learn to Deploy Android application

Run your app

In the previous lesson, you created an Android project that displays "Hello World!". You can now run the app on a real device or an emulator.

Run on a real device

Set up your device as follows:

1. Connect your device to your development machine with a USB cable. If you're developing on Windows, you might need to install the appropriate USB driver for your device.
2. Enable **USB debugging** in the **Developer options** as follows.

   First, you must enable the developer options:

a. Open the **Settings** app.

b. (Only on Android 8.0 or higher) Select **System**.

c. Scroll to the bottom and select **About phone**.

d. Scroll to the bottom and tap **Build number** 7 times.

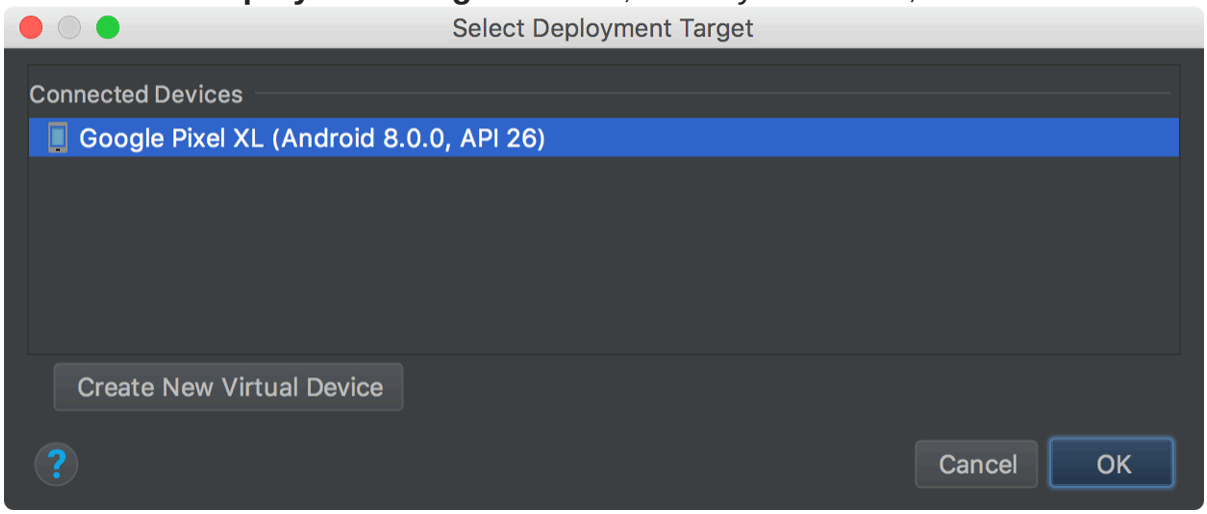
e. Return to the previous screen to find **Developer options** near the bottom.

   Open **Developer options**, and then scroll down to find and enable **USB debugging**.

Run the app on your device as follows:

1. In Android Studio, click the **app** module in the **Project** window and then select **Run > Run** (or click **Run**  in the toolbar).

2. In the **Select Deployment Target** window, select your device, and click **OK**.



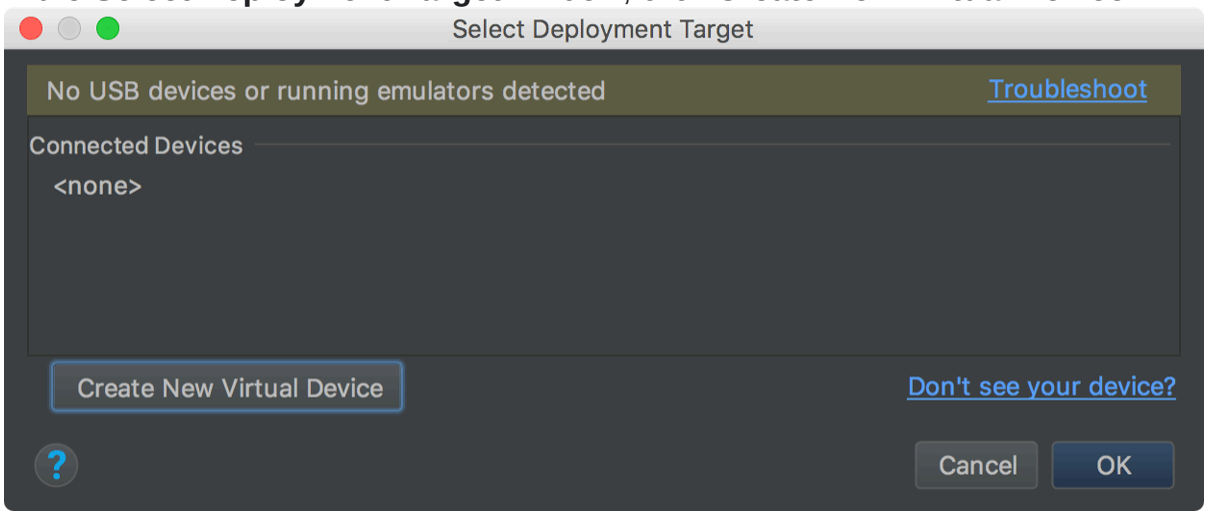
Android Studio installs the app on your connected device and starts it. You should now see "Hello World!" displayed in the app running on your device.

To start developing, continue to the next lesson.

Run on an emulator

Run the app on an emulator as follows:

1. In Android Studio, click the **app** module in the **Project** window and then select **Run > Run** (or click **Run** in the toolbar).
2. In the **Select Deployment Target** window, click **Create New Virtual Device**.



3. In the **Select Hardware** screen, select a phone device, such as Pixel, and then click **Next**.
4. In the **System Image** screen, select the version with the highest API level. If you don't have that version installed, a **Download** link is shown, so click that and complete the download.
5. Click **Next**.
6. On the **Android Virtual Device (AVD)** screen, leave all the settings alone and click **Finish**.
7. Back in the **Select Deployment Target** dialog, select the device you just created and click **OK**.

   Android Studio installs the app on the emulator and starts it. You should now see "Hello World!" displayed in the app running on the emulator.

   To start developing, continue to the next lesson.