



Lab1. Activity Life Cycle

1. Start a new project with blank activity
2. Do the following changes in MainActivity.java file

```
import android.util.Log; //
public class MainActivity extends Activity {
    String msg = "Android : "; //
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(msg, "The onCreate() event, activity is first created");
    }
    @Override
    protected void onStart() {
        super.onStart();
        Log.d(msg, "The onStart() event, activity is about to become visible.");
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d(msg, "The onResume() event, activity has become visible.");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d(msg, "The onPause() event, another activity is taking focus." );
    }
    @Override
    protected void onStop() {
        super.onStop();
        Log.d(msg, "The onStop() event, activity is no longer visible.");
    }
    @Override
    public void onDestroy() {
        super.onDestroy();
        Log.d(msg, "The onDestroy() event, just before the activity is destroyed.");
    }
}
```

3. Build and run the app
4. Check the LogCat window



Lab2. Start and Stop Service

1. Start a new project with blank activity
2. Do the following changes in MainActivity.java file

```
import android.app.Activity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.content.Intent;
import android.view.View;
public class MainActivity extends Activity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.menu_main, menu);
        return true;
    }

    public void startService(View view) {
        startService(new Intent(getApplicationContext(), MyService.class));
    }

    public void stopService(View view) {
        stopService(new Intent(getApplicationContext(), MyService.class));
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        // Handle action bar item clicks here. The action bar will
        // automatically handle clicks on the Home/Up button, so long
        // as you specify a parent activity in AndroidManifest.xml.
        int id = item.getItemId();

        //noinspection SimplifiableIfStatement
        if (id == R.id.action_settings) {
            return true;
        }

        return super.onOptionsItemSelected(item);
    }
}
```

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3. Add new java file MyService.java and add following content

```
package com.example.pc.testservice;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.widget.Toast;
public class MyService extends Service
{
    @Override
    public IBinder onBind(Intent arg0)
    { return null; }
    @Override
    public int onStartCommand(Intent intent, int flags, int startId)
    {
        Toast.makeText(this, "Service Started", Toast.LENGTH_LONG).show();
        return START_STICKY;
    }
    @Override
    public void onDestroy()
    {
        super.onDestroy();
        Toast.makeText(this, "Service Destroyed", Toast.LENGTH_LONG).show();
    }
}
```

4. Do the following changes in AndroidManifest.xml

```
<application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:theme="@style/AppTheme" >
    <activity
        android:name=".MainActivity"
        android:label="@string/app_name" >
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

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

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5. Add two buttons to activity_main.xml and do following code

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Start Service"
    android:id="@+id/button1"
    android:onClick="startService"
    android:nestedScrollingEnabled="false" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Stop Service"
    android:id="@+id/button2"
    android:onClick="stopService"
    android:nestedScrollingEnabled="false" />
```





Lab3. Broadcast Receivers – Detect Network Connection

1. Start a new project with blank activity
2. Add new java file Netdetected.java with following content (Create Broadcast receiver)

```
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.widget.Toast;
public class Netdetected extends BroadcastReceiver {
    @Override
    public void onReceive(Context context, Intent intent) {
        Toast.makeText(context, "Intent Detected.", Toast.LENGTH_LONG).show();
    }
}
```

3. Do the following changes in AndroidManifest.xml file (Register Broadcast Receiver)

```
<application
    android:icon="@drawable/ic_launcher"
    android:label="@string/app_name"
    android:theme="@style/AppTheme" >
    <receiver android:name="Netdetected">
        <intent-filter>
            <action android:name="android.net.conn.CONNECTIVITY_CHANGE">
            </action>
        </intent-filter>
    </receiver>
</application>
```