**Week – 11**

**Q. Develop an applicaƟon that creates a noƟﬁcaƟon upon receiving a message**

# acƟvity\_main.xml

<?xml version="1.0" encoding="uƞ-8"?>

<LinearLayout xmlns:android="hƩp://schemas.android.com/apk/res/android" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

android:layout\_margin="10dp" android:orientaƟon="verƟcal">

<TextView android:id="@+id/textView"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Message"/>

<EditText android:id="@+id/editTextText"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:ems="10" android:inputType="text"/>

<BuƩon android:id="@+id/buƩon"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="NoƟfy"/>

</LinearLayout>

# MainAcƟvity.java

package com.example.week11noƟf;

import android.os.Bundle;

import androidx.appcompat.app.AppCompatAcƟvity; import android.app.NoƟﬁcaƟon;

import android.app.NoƟﬁcaƟonManager; import android.app.NoƟﬁcaƟonChannel;

import android.app.PendingIntent; import android.content.Intent; import android.os.Build;

import android.widget.BuƩon; import android.widget.EditText;

import androidx.core.app.AcƟvityCompat; import androidx.core.content.ContextCompat; import android.Manifest;

import android.content.pm.PackageManager; import android.widget.Toast;

public class MainAcƟvity extends AppCompatAcƟvity { BuƩon noƟfy;

EditText e;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*acƟvity\_main*);

noƟfy = ﬁndViewById(R.id.*buƩon*); e = ﬁndViewById(R.id.*editTextText*);

if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*TIRAMISU*) {

if (ContextCompat.*checkSelfPermission*(this, Manifest.permission.*POST\_NOTIFICATIONS*) !=

PackageManager.*PERMISSION\_GRANTED*) { AcƟvityCompat.*requestPermissions*(this,

new String[]{Manifest.permission.*POST\_NOTIFICATIONS*}, 1);

}

}

if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*O*) {

CharSequence name = "Default Channel";

String descripƟon = "Channel for general noƟﬁcaƟons";

int importance = NoƟﬁcaƟonManager.IMPORTANCE\_DEFAULT;

NoƟﬁcaƟonChannel channel = new NoƟﬁcaƟonChannel("default\_channel\_id", name, importance);

channel.setDescripƟon(descripƟon); NoƟﬁcaƟonManager noƟﬁcaƟonManager =

getSystemService(NoƟﬁcaƟonManager.class); noƟﬁcaƟonManager.createNoƟﬁcaƟonChannel(channel);

}

noƟfy.setOnClickListener(v -> {

String message = e.getText().toString().trim(); if (message.isEmpty()) {

Toast.makeText(MainAcƟvity.this, "Please enter a message", Toast.LENGTH\_SHORT).show();

return;

}

// Create an intent to launch SecondAcƟvity

Intent intent = new Intent(MainAcƟvity.this, MainAcƟvity2.class); intent.putExtra("message", message); // Pass the message from EditText

// Handle PendingIntent ﬂags for backward compaƟbility

int ﬂags = Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.S ?

PendingIntent.*FLAG\_IMMUTABLE* : PendingIntent.*FLAG\_UPDATE\_CURRENT*;

// Create a PendingIntent to trigger when the noƟﬁcaƟon is clicked PendingIntent pendingIntent = PendingIntent.*getAcƟvity*(

MainAcƟvity.this, 0, intent, ﬂags);

// Build the noƟﬁcaƟon NoƟﬁcaƟon noƟ = null;

if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*O*) {

noƟ = new NoƟﬁcaƟon.Builder(MainAcƟvity.this, "default\_channel\_id")

.setContentTitle("New Message")

.setContentText(message)

.setSmallIcon(R.mipmap.*ic\_launcher*)

.setContentIntent(pendingIntent)

.build();

}

// Issue the noƟﬁcaƟon

NoƟﬁcaƟonManager manager = (NoƟﬁcaƟonManager) getSystemService(*NOTIFICATION\_SERVICE*);

assert noƟ != null;

noƟ.ﬂags |= NoƟﬁcaƟon.*FLAG\_AUTO\_CANCEL*; // AutomaƟcally cancel aŌer clicking manager.noƟfy(0, noƟ); // Display noƟﬁcaƟon

});

}

@Override

public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {

super.onRequestPermissionsResult(requestCode, permissions, grantResults); if (requestCode == 1) {

if (grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

Toast.makeText(this, "NoƟﬁcaƟon permission granted", Toast.LENGTH\_SHORT).show();

} else {

Toast.makeText(this, "Permission required for noƟﬁcaƟons", Toast.LENGTH\_SHORT).show();

}

}

}

}

# acƟvity\_main2.xml

<?xml version="1.0" encoding="uƞ-8"?>

<LinearLayout xmlns:android="hƩp://schemas.android.com/apk/res/android" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

android:orientaƟon="verƟcal" android:padding="16dp">

<TextView android:id="@+id/textView2"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="TextView" />

</LinearLayout>

# MainAcƟvity2.java

package com.example.week11noƟf;

import android.os.Bundle; import android.widget.TextView;

import androidx.appcompat.app.AppCompatAcƟvity;

public class MainAcƟvity2 extends AppCompatAcƟvity { TextView messageTextView;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*acƟvity\_main2*); messageTextView = ﬁndViewById(R.id.*textView2*);

String message = getIntent().getStringExtra("message"); if (message != null) {

messageTextView.setText(message);

}

}

}

# AndroidManifest.xml

<?xml version="1.0" encoding="uƞ-8"?>

<manifest xmlns:android="hƩp://schemas.android.com/apk/res/android" xmlns:tools="hƩp://schemas.android.com/tools">

<uses-permission android:name="android.permission.POST\_NOTIFICATIONS" />

<applicaƟon android:allowBackup="true"

android:dataExtracƟonRules="@xml/data\_extracƟon\_rules" android:fullBackupContent="@xml/backup\_rules" android:icon="@mipmap/ic\_launcher" android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_round" android:supportsRtl="true" android:theme="@style/Theme.Week11noƟf" tools:targetApi="31">

<acƟvity android:name=".MainAcƟvity2" android:exported="false" />

<acƟvity android:name=".MainAcƟvity" android:exported="true">

<intent-ﬁlter>

<acƟon android:name="android.intent.acƟon.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-ﬁlter>

</acƟvity>

</applicaƟon>

</manifest>