

## Guías Prácticas N° 3

Asignatura

### DESARROLLO DE APLICACIONES MÓVILES

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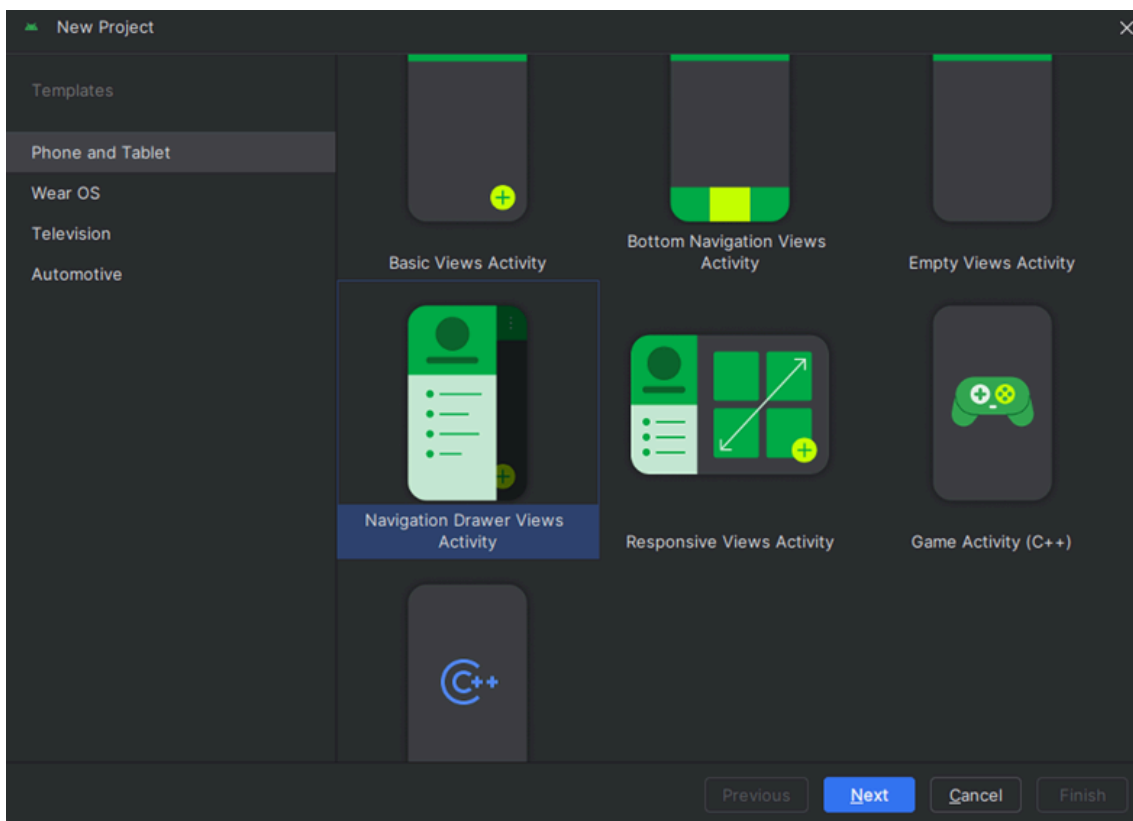
**Facultad** : Ingeniería

**Sección:** \_\_\_\_\_

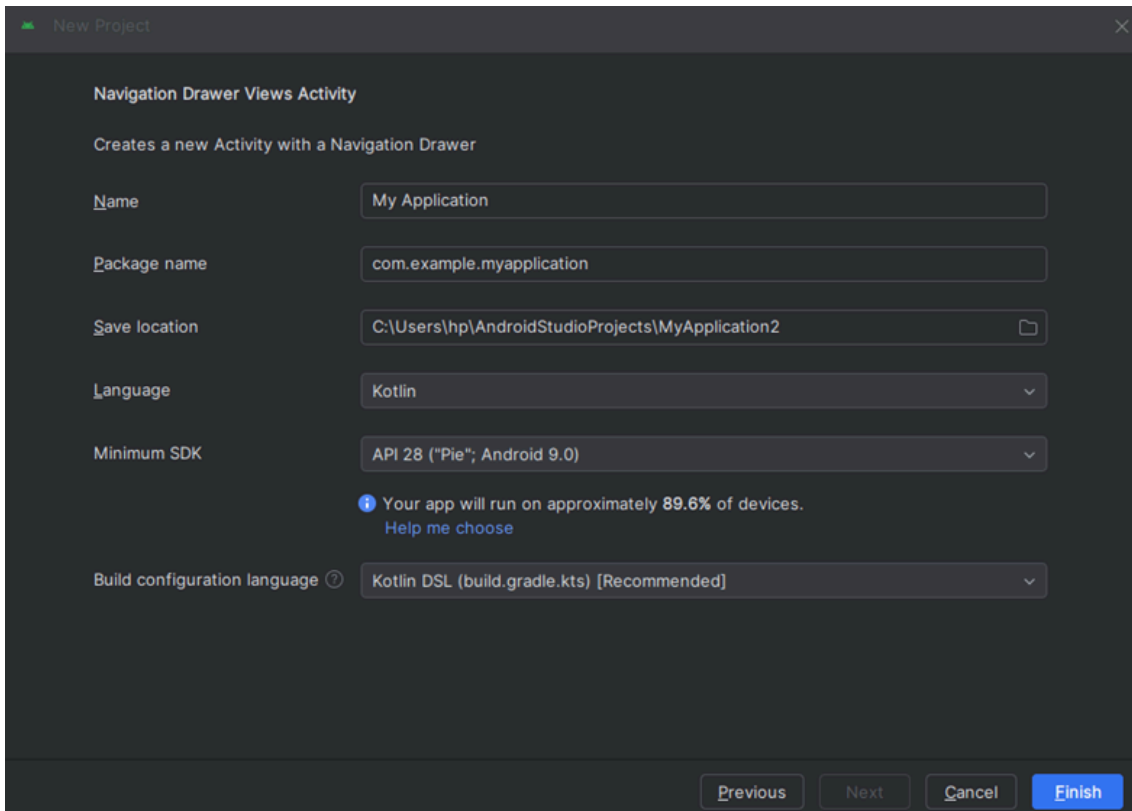
**Fecha:** \_\_\_\_\_

## Crea un nuevo proyecto

Selecciona “Navigation Drawer Views Activity”



## Usa esta configuración



New Project

Navigation Drawer Views Activity

Creates a new Activity with a Navigation Drawer

Name: My Application

Package name: com.example.myapplication

Save location: C:\Users\hp\AndroidStudioProjects\MyApplication2

Language: Kotlin

Minimum SDK: API 28 ("Pie"; Android 9.0)

ⓘ Your app will run on approximately 89.6% of devices.  
[Help me choose](#)

Build configuration language ⓘ: Kotlin DSL (build.gradle.kts) [Recommended]

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## 1. MainActivity.kt

```
package com.example.myapplication

import android.os.Bundle
import android.view.Menu
import com.google.android.material.snackbar.Snackbar
import com.google.android.material.navigation.NavigationView
import androidx.navigation.findNavController
import androidx.navigation.ui.AppBarConfiguration
import androidx.navigation.ui.navigateUp
import androidx.navigation.ui.setupActionBarWithNavController
import androidx.navigation.ui.setupWithNavController
import androidx.drawerlayout.widget.DrawerLayout
import androidx.appcompat.app.AppCompatActivity
import com.example.myapplication.databinding.ActivityMainBinding

import android.view.MenuItem
import androidx.appcompat.app.AppCompatActivityDelegate
```

```
> </> class MainActivity : AppCompatActivity() {

    private lateinit var appBarConfiguration: AppBarConfiguration
    private lateinit var binding: ActivityMainBinding

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)

        setSupportActionBar(binding.appBarMain.toolbar)

        binding.appBarMain.fab.setOnClickListener { view ->
            Snackbar.make(view, text: "Reemplaza con tu propia acción", Snackbar.LENGTH_LONG)
                .setAction(text: "Acción", listener: null).show()
        }

        val drawerLayout: DrawerLayout = binding.drawerLayout
        val navView: NavigationView = binding.navView
        val navController = findNavController(R.id.nav_host_fragment_content_main)
        appBarConfiguration = AppBarConfiguration(
            listOf(R.id.nav_home, R.id.nav_gallery, R.id.nav_slideshow), drawerLayout
        )
        setupActionBarWithNavController(navController, appBarConfiguration)
        navView.setupWithNavController(navController)
    }

    override fun onCreateOptionsMenu(menu: Menu): Boolean {
        menuInflater.inflate(R.menu.main, menu)
        return true
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        return when (item.itemId) {
            R.id.action_toggle_theme -> {
                val nightMode = AppCompatActivity.getDefaultNightMode()
                AppCompatActivity.setDefaultNightMode(
                    if (nightMode == AppCompatActivity.MODE_NIGHT_YES)

```

```

override fun onCreateOptionsMenu(menu: Menu): Boolean {
    menuInflater.inflate(R.menu.main, menu)
    return true
}

override fun onOptionsItemSelected(item: MenuItem): Boolean {
    return when (item.itemId) {
        R.id.action_toggle_theme -> {
            val nightMode = AppCompatActivity.getDefaultNightMode()
            AppCompatActivity.setDefaultNightMode(
                if (nightMode == AppCompatActivity.MODE_NIGHT_YES)
                    AppCompatActivity.MODE_NIGHT_NO
                else AppCompatActivity.MODE_NIGHT_YES
            )
            true
        }
        else -> super.onOptionsItemSelected(item)
    }
}

override fun onSupportNavigateUp(): Boolean {
    val navController = findNavController(R.id.nav_host_fragment_content_main)
    return navController.navigateUp(appBarConfiguration) || super.onSupportNavigateUp()
}
}

```

## 2. res/menu/main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/action_settings"
        android:orderInCategory="100"
        android:title="Settings"
        app:showAsAction="never" />

    <item
        android:id="@+id/action_toggle_theme"
        android:title="Cambiar tema"
        android:orderInCategory="100"
        app:showAsAction="never" />
</menu>

```

### 3. res/layout/fragment\_home.xml

```
<?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=".ui.home.HomeFragment">

    <TextView
        android:id="@+id/text_home"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:padding="16dp">

        <Button
            android:id="@+id/btnToggleGrafico"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Mostrar Gráfico" />

        <View
            android:id="@+id/graficoSimulado"
            android:layout_width="match_parent"
            android:layout_height="150dp"
            android:background="@android:color/holo_blue_light">
```

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <Button
        android:id="@+id/btnToggleGrafico"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Mostrar Gráfico" />

    <View
        android:id="@+id/graficoSimulado"
        android:layout_width="match_parent"
        android:layout_height="150dp"
        android:background="@android:color/holo_blue_light"
        android:visibility="gone"
        android:layout_marginTop="16dp" />

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

## 4. res/layout/fragment\_gallery.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res-
    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=".ui.gallery.GalleryFragment">

    <TextView
        android:id="@+id/text_gallery"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```

<TextView
    android:id="@+id/text_gallery"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="8dp"
    android:textAlignment="center"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <Button
        android:id="@+id/btnNotificacionToast"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Mostrar Toast" />

    <Button
        android:id="@+id/btnNotificacionSystem"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Notificación Superior"
        android:layout_marginTop="8dp" />

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

```



## 5. res/layout/fragment\_slideshow.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res-
    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=".ui.slideshow.SlideshowFragment">

    <TextView
        android:id="@+id/text_slideshow"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:padding="16dp">

        <View
            android:id="@+id/circuloAnimado"
            android:layout_width="50dp"
            android:layout_height="50dp"
            android:layout_gravity="center"
            android:background="@drawable/circle" />

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

## 6. res/drawable/circle.xml

```
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android" android:shape="oval">
    <solid android:color="@android:color/holo_red_dark" />
</shape>
```

## 7. HomeFragment.kt

```
package com.example.myapplication.ui.home

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.fragment.app.Fragment
import androidx.lifecycle.ViewModelProvider
import com.example.myapplication.databinding.FragmentHomeBinding
import android.animation.ObjectAnimator
import android.view.animation.LinearInterpolator
import android.widget.Button
import com.example.myapplication.R

import android.widget.Toast

class HomeFragment : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?
    ): View? {
        val root = inflater.inflate(R.layout.fragment_home, container, attachToRoot: false)

        val btnToggleGrafico = root.findViewById<Button>(R.id.btnToggleGrafico)
        val grafico = root.findViewById<View>(R.id.graficoSimulado)

        btnToggleGrafico.setOnClickListener {
            if (grafico.visibility == View.GONE) {
                grafico.visibility = View.VISIBLE
                btnToggleGrafico.text = "Ocultar Gráfico"
            } else {
                grafico.visibility = View.GONE
                btnToggleGrafico.text = "Mostrar Gráfico"
            }
        }

        return root
    }
}
```

## 8. GalleryFragment.kt

```
package com.example.myapplication.ui.gallery

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.fragment.app.Fragment
import androidx.lifecycle.ViewModelProvider
import com.example.myapplication.databinding.FragmentGalleryBinding

import android.app.NotificationChannel
import android.app.NotificationManager
import android.content.Context
import android.os.Build
import android.widget.Button
import android.widget.Toast
import androidx.core.app.NotificationCompat
import androidx.core.app.NotificationManagerCompat
import com.example.myapplication.R

class GalleryFragment : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?
    ): View? {
        val root = inflater.inflate(R.layout.fragment_gallery, container, attachToRoot: false)

        val btnToast = root.findViewById<Button>(R.id.btnNotificacionToast)
        val btnNotificacion = root.findViewById<Button>(R.id.btnNotificacionSystem)

        btnToast.setOnClickListener {
            Toast.makeText(requireContext(), "¡Notificación en pantalla!", Toast.LENGTH_SHORT).show()
        }
    }
}
```

```
btnToast.setOnClickListener {
    Toast.makeText(requireContext(), "¡Notificación en pantalla!", Toast.LENGTH_SHORT).show()
}

btnNotificacion.setOnClickListener {
    val channelId = "canal_notificacion"

    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.TIRAMISU) {
        if (requireContext().checkSelfPermission(android.Manifest.permission.POST_NOTIFICATIONS)
            != android.content.pm.PackageManager.PERMISSION_GRANTED
        ) {
            requestPermissions(arrayOf(android.Manifest.permission.POST_NOTIFICATIONS), requestCode: 1001)
            return@setOnClickListener
        }
    }
}
```

```

        btnNotificacion.setOnClickListener {
            val channelId = "canal_notificacion"

            if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.TIRAMISU) {
                if (requireContext().checkSelfPermission(android.Manifest.permission.POST_NOTIFICATIONS)
                    != android.content.pm.PackageManager.PERMISSION_GRANTED
                ) {
                    requestPermissions(arrayOf(android.Manifest.permission.POST_NOTIFICATIONS), requestCode: 1001)
                    return@setOnClickListener
                }
            }

            if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
                val channel = NotificationChannel(
                    channelId,
                    name: "Notificación Simple",
                    NotificationManager.IMPORTANCE_DEFAULT
                )
                val manager = requireContext().getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager
                manager.createNotificationChannel(channel)
            }

            val builder = NotificationCompat.Builder(requireContext(), channelId)
                .setSmallIcon(android.R.drawable.ic_dialog_info)
                .setContentTitle("Notificación")
                .setContentText("Este es un mensaje desde GalleryFragment.")
                .setPriority(NotificationCompat.PRIORITY_DEFAULT)

            with(NotificationManagerCompat.from(requireContext())) {
                notify(id: 1, builder.build())
            }
        }

        return root
    }
}

```

## 9. SlideshowFragment.kt

```

package com.example.myapplication.ui.slideshow

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.fragment.app.Fragment
import androidx.lifecycle.ViewModelProvider
import com.example.myapplication.databinding.FragmentSlideshowBinding

import android.animation.ObjectAnimator
import com.example.myapplication.R

```

```
class SlideshowFragment : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?
    ): View? {
        val root = inflater.inflate(R.layout.fragment_slideshow, container, attachToRoot: false)

        val circulo = root.findViewById<View>(R.id.circuloAnimado)
        val animator = ObjectAnimator.ofFloat(circulo, propertyName: "translationX", ...values: 0f, 500f).apply {
            duration = 1000
            repeatMode = ObjectAnimator.REVERSE
            repeatCount = ObjectAnimator.INFINITE
        }
        start()

        return root
    }
}
```

## 10. AndroidManifest.xml

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.POST_NOTIFICATIONS" />
```