**[2CEIT5PE5: MOBILE APPLICATION DEVELOPMENT]**

Practical: 5



AIM: What is Service? Write down types of Service. Create an MP3 player application by using service by following below instructions.

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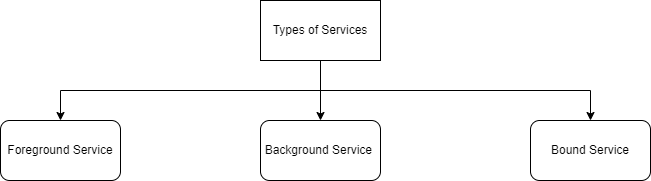


# Department of Computer Engineering/Information Technology

**What is Service?**

Service are code that runs in the background. They can be started and stopped. Services doesn’t have UI.

# Types of Service?



1. **Foreground:** Foreground services require user interface.
2. **Background:** Background services do not require any user intervention.
3. **Bound:** This type of android service allows the components of the application like activity to bound themselves with it.

# activity\_main.xml

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/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">

<com.google.android.material.card.MaterialCardView android:id="@+id/img\_cardview" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintStart\_toStartOf="parent" android:layout\_marginStart="30dp" android:layout\_marginEnd="30dp" android:layout\_marginTop="50dp" app:cardElevation="20dp" app:cardCornerRadius="15dp">

<androidx.constraintlayout.widget.ConstraintLayout android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<com.google.android.material.card.MaterialCardView android:layout\_width="300dp" android:layout\_height="300dp" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" android:layout\_marginTop="10dp" android:layout\_marginBottom="10dp" app:cardCornerRadius="25dp">

<ImageView

android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:src="@drawable/song"

/>

</com.google.android.material.card.MaterialCardView>

<View

android:layout\_width="30dp" android:layout\_height="120dp" android:background="@drawable/design\_view1" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" android:layout\_marginEnd="-10dp"/>

<View

android:layout\_width="30dp" android:layout\_height="120dp" android:background="@drawable/design\_view2" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" android:layout\_marginStart="-10dp"/>

</androidx.constraintlayout.widget.ConstraintLayout>

</com.google.android.material.card.MaterialCardView>

<com.google.android.material.card.MaterialCardView android:id="@+id/control\_cardView" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" app:cardElevation="20dp" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" android:layout\_marginBottom="-5dp">

<androidx.constraintlayout.widget.ConstraintLayout android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<androidx.constraintlayout.widget.ConstraintLayout android:id="@+id/song\_layout" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:padding="10dp" app:layout\_constraintBottom\_toTopOf="@id/view1" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent">

<TextView

android:id="@+id/song\_text" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Song Name" android:textSize="24dp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

<View

android:id="@+id/view1" android:layout\_width="0dp" android:layout\_height="120dp" android:background="@drawable/design\_view3" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintEnd\_toEndOf="parent"/>

<androidx.constraintlayout.widget.ConstraintLayout android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp" android:layout\_marginBottom="40dp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@id/song\_layout">

<com.google.android.material.floatingactionbutton.FloatingActionButton android:id="@+id/btn\_play"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:backgroundTint="@color/white" android:src="@drawable/ic\_baseline\_play\_arrow\_24" app:elevation="0dp" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintStart\_toEndOf="@+id/btn\_previous" app:layout\_constraintEnd\_toStartOf="@+id/btn\_stop" android:layout\_marginStart="5dp"

/>

<com.google.android.material.floatingactionbutton.FloatingActionButton android:id="@+id/btn\_stop"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:backgroundTint="@color/white" android:src="@drawable/ic\_baseline\_stop\_24" app:elevation="0dp" app:layout\_constraintStart\_toEndOf="@id/btn\_play" app:layout\_constraintEnd\_toStartOf="@+id/btn\_next" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintBottom\_toBottomOf="parent"

android:layout\_marginStart="5dp"/>

<com.google.android.material.floatingactionbutton.FloatingActionButton android:id="@+id/btn\_next"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:backgroundTint="@color/white" android:src="@drawable/ic\_baseline\_keyboard\_arrow\_right\_24" app:elevation="0dp" app:layout\_constraintStart\_toEndOf="@id/btn\_stop" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintBottom\_toBottomOf="parent" android:layout\_marginStart="5dp"/>

<com.google.android.material.floatingactionbutton.FloatingActionButton android:id="@+id/btn\_previous"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:backgroundTint="@color/white" android:src="@drawable/ic\_baseline\_keyboard\_arrow\_left\_24" app:elevation="0dp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toStartOf="@id/btn\_play" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

</com.google.android.material.card.MaterialCardView>

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity.kt

**package com.example.madpractical5\_21012012004**

**import android.content.Intent import android.os.Bundle import android.widget.TextView**

**import androidx.appcompat.app.AppCompatActivity**

**import com.google.android.material.floatingactionbutton.FloatingActionButton**

**class MainActivity : AppCompatActivity() {**

**override fun onCreate(savedInstanceState: Bundle?) { super.onCreate(savedInstanceState) setContentView(R.layout.*activity\_main*)**

**val btnPlay:FloatingActionButton=findViewById(R.id.*btn\_play*) val btnStop:FloatingActionButton=findViewById(R.id.*btn\_stop*) val btnNext:FloatingActionButton=findViewById(R.id.*btn\_next*)**

**val btnPrevious:FloatingActionButton=findViewById(R.id.*btn\_previous*) val txtSong:TextView=findViewById(R.id.*song\_text*)**

**txtSong.*text*="No Song Playing" var i=0;**

btnPlay.setOnClickListener { txtSong.*text*="Song" play()

if(i==0)

{

**btnPlay.setImageResource(android.R.drawable.*ic\_media\_pause*) i=1**

}

else{

**btnPlay.setImageResource(android.R.drawable.*ic\_media\_play*) i=0**

}

}

btnStop.setOnClickListener { txtSong.*text*="No Song Playing" stop()

if(i==1)

{

**btnPlay.setImageResource(android.R.drawable.*ic\_media\_play*) i=0**

}

}

btnNext.setOnClickListener {

}

btnPrevious.setOnClickListener {

}

}

fun play()

{

**Intent(*applicationContext*,MediaService::class.*java*)**

.putExtra(MediaService.DATA\_KEY,MediaService.DATA\_VALUE).*apply* { startService(this)

}

}

fun stop()

{

**Intent(*applicationContext*,MediaService::class.*java*).*apply* { stopService(this)**

}

}

}

# MediaService.kt

package com.example.madpractical5\_21012012004

import android.app.Service import android.content.Intent import android.media.MediaPlayer import android.os.IBinder

class MediaService : Service() { companion object{

public final val DATA\_KEY="service" public val DATA\_VALUE="play/pause"

}

private lateinit var player: MediaPlayer override fun onBind(intent: Intent): IBinder {

*TODO*("Return the communication channel to the service.")

}

override fun onStartCommand(intent: Intent?, flags: Int, startId: Int): Int { if(!this::player.*isInitialized*){

player=MediaPlayer.create(this,R.raw.*song*)

}

if(intent!=null){

val str=intent.getStringExtra(DATA\_KEY) if(str == DATA\_VALUE)

{

**if(player.*isPlaying*)**

{

player.pause()

}

else{

player.start()

**var dur = player.*duration***

}

}

}

else{

player.start()

}

**return *START\_STICKY***

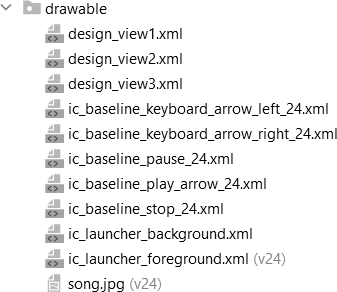
}

override fun onDestroy() { player.stop() super.onDestroy()

}

}

# Resource:



# Output:

