

# Practical: 4

**AIM:** What is Intent? Write down types of Intent and types of Intent Action. Create an application which demonstrates **implicit Intent** for following features and also create different activities and demonstrate **explicit Intent**. Use parent theme Theme.Material3.Dark.NoActionBar for Dark theme and Theme.Material3.Light.NoActionBar for Light Theme

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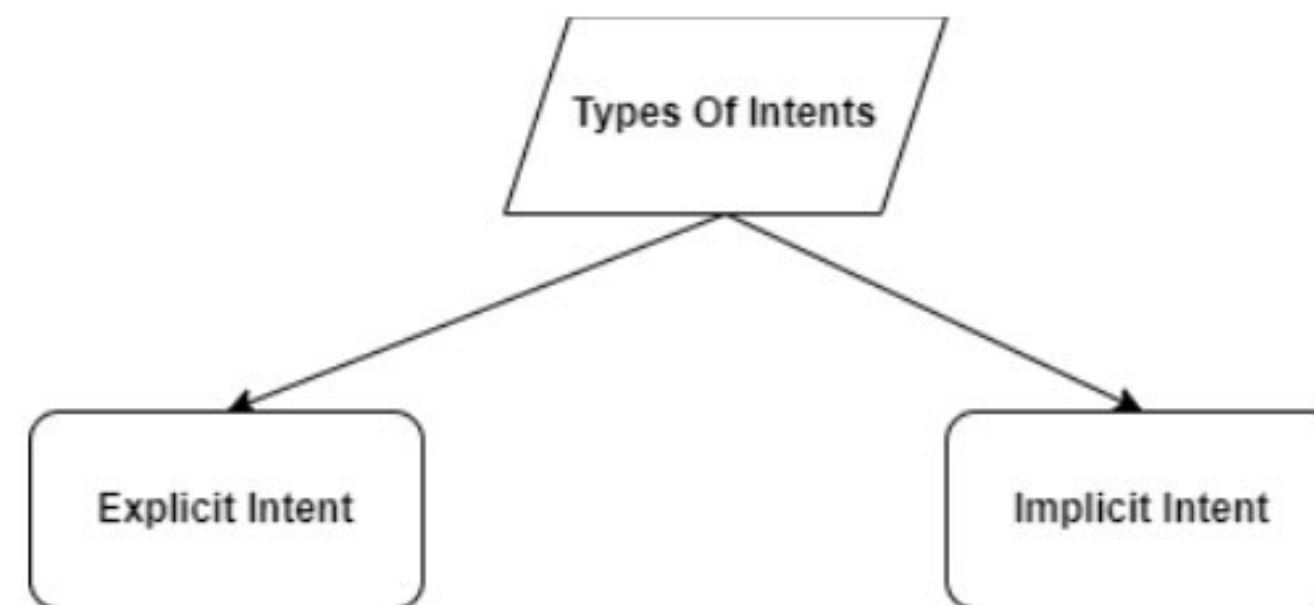
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### What is Intent?

- Intent are the objects which is used in android for passing the information among Activities in an Application and from one app to another also.
- Intent are used for communicating between the Application components and it also provides the connectivity between two apps.

### Types of Intent?



#### 1. Explicit Intent:

Explicit Intents are used to connect the application internally.

- ```
Intent intent = new Intent(getApplicationContext(), SecondActivity.class);
startActivity(intent);
```

#### 2. Implicit Intent:

- It mainly use for passing data from one app to another or open another application.
- Ex: Open link, Open camera, Set alarm, Choose images from gallery, get contacts from contact app, dial number, open file with another app, select file from file system and many more.

- ```
Intent intentObj = new Intent(Intent.ACTION_VIEW);
intentObj.setData(Uri.parse("https://www.google.com"));
startActivity(intentObj);
```

### Types of Intent Action

- **ACTION\_CALL:** This is for initiating calls from the user's device.
- **ACTION\_EDIT:** This is to edit and make changes in the data that is visible to the users.
- **ACTION\_MAIN:** This is an initial activity of a task. It takes no input and returns no output.
- **ACTION\_DIAL:** This is used to display a Dialer to the users.
- **ACTION\_SYNC:** This is to synchronize the user's data on their device on a server.
- **ACTION\_HEADSET\_PLUG:** This displays that a headset is plugged in or taken out.
- **ACTION\_SCREENON:** This is for turning on the screen of the user's device.
- **ACTION\_BATTERY\_LOW:** This is a warning for a low running battery.
- **ACTION\_VIEW:** This displays the data to the users on the screens of their devices.



### activity\_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.coordinatorlayout.widget.CoordinatorLayout
    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=".MainActivity">

    <androidx.core.widget.NestedScrollView
        android:id="@+id/txt_camera"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_behavior="@string/appbar_scrolling_view_behavior">

        <androidx.constraintlayout.widget.ConstraintLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <com.google.android.material.textfield.TextInputLayout
                android:layout_width="0dp"
                android:layout_height="wrap_content"
                android:layout_marginStart="20dp"
                android:layout_marginEnd="5dp"
                android:hint="Web URL"
                app:layout_constraintBottom_toBottomOf="@id/btn_browse"
                app:layout_constraintEnd_toStartOf="@id/btn_browse"
                app:layout_constraintStart_toStartOf="parent"
                app:layout_constraintTop_toTopOf="@id/btn_browse"
                app:startIconDrawable="@drawable/ic_baseline_link_24">

                <com.google.android.material.textfield.TextInputEditText
                    android:id="@+id/txt_browse"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content" />

            </com.google.android.material.textfield.TextInputLayout>

            <Button
                android:id="@+id/btn_browse"
                android:layout_width="0dp"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:layout_marginEnd="20dp"
                android:backgroundTint="@color/btn_back_color"
                android:gravity="center"
                android:text="Browse"
                app:cornerRadius="25dp"
                app:layout_constraintEnd_toEndOf="parent"
                app:layout_constraintTop_toTopOf="parent" />

            <com.google.android.material.textfield.TextInputLayout
                android:layout_width="0dp"
```



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```
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginEnd="5dp"
        android:hint="Call Number"
        app:layout_constraintBottom_toBottomOf="@id/btn_call"
        app:layout_constraintEnd_toStartOf="@id/btn_call"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@id/btn_call"
        app:startIconDrawable="@drawable/ic_baseline_phone_24">

        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/txt_call"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:inputType="phone" />

    </com.google.android.material.textfield.TextInputLayout>

    <Button
        android:id="@+id/btn_call"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:backgroundTint="@color/btn_back_color"
        android:text="Call"
        app:cornerRadius="25dp"
        app:layout_constraintEnd_toEndOf="@+id/btn_browse"
        app:layout_constraintTop_toBottomOf="@+id/btn_browse" />

    <com.google.android.material.textfield.TextInputLayout
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginEnd="5dp"
        android:hint="Contact List"
        app:layout_constraintBottom_toBottomOf="@id/btn_contact"
        app:layout_constraintEnd_toStartOf="@id/btn_contact"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@id/btn_contact"
        app:startIconDrawable="@drawable/ic_baseline_folder_24">

        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/txt_contact"
            android:layout_width="match_parent"
            android:layout_height="wrap_content" />

    </com.google.android.material.textfield.TextInputLayout>

    <Button
        android:id="@+id/btn_contact"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:backgroundTint="@color/btn_back_color"
        android:text="Contact"
        app:cornerRadius="25dp"
```



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```
        app:layout_constraintEnd_toEndOf="@+id/btn_call"
        app:layout_constraintTop_toBottomOf="@+id/btn_call" />

<com.google.android.material.textfield.TextInputLayout
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginEnd="5dp"
    android:hint="Call Log"
    app:layout_constraintBottom_toBottomOf="@id/btn_call_log"
    app:layout_constraintEnd_toStartOf="@id/btn_call_log"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@id/btn_call_log"
    app:startIconDrawable="@drawable/ic_baseline_phone_forwarded_24">

    <com.google.android.material.textfield.TextInputEditText
        android:id="@+id/txt_call_log"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

</com.google.android.material.textfield.TextInputLayout>

<Button
    android:id="@+id/btn_call_log"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp"
    android:backgroundTint="@color/btn_back_color"
    android:text="Call Log"
    app:cornerRadius="25dp"
    app:layout_constraintEnd_toEndOf="@+id/btn_contact"
    app:layout_constraintTop_toBottomOf="@+id/btn_contact" />

<com.google.android.material.textfield.TextInputLayout
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginEnd="5dp"
    android:hint="Gallery"
    app:layout_constraintBottom_toBottomOf="@id/btn_gallery"
    app:layout_constraintEnd_toStartOf="@id/btn_gallery"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@id/btn_gallery"
    app:startIconDrawable="@drawable/ic_baseline_photo_24">

    <com.google.android.material.textfield.TextInputEditText
        android:id="@+id/txt_gallery"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

</com.google.android.material.textfield.TextInputLayout>

<Button
    android:id="@+id/btn_gallery"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
```



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```
        android:layout_marginTop="30dp"
        android:backgroundTint="@color/btn_back_color"
        android:text="Gallery"
        app:cornerRadius="25dp"
        app:layout_constraintEnd_toEndOf="@+id/btn_call_log"
        app:layout_constraintTop_toBottomOf="@+id/btn_call_log" />

<com.google.android.material.textfield.TextInputLayout
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginEnd="5dp"
    android:hint="Camera"
    app:layout_constraintBottom_toBottomOf="@id/btn_camera"
    app:layout_constraintEnd_toStartOf="@id/btn_camera"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@id/btn_camera"
    app:startIconDrawable="@drawable/ic_baseline_photo_camera_24">

    <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

</com.google.android.material.textfield.TextInputLayout>

<Button
    android:id="@+id/btn_camera"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp"
    android:backgroundTint="@color/btn_back_color"
    android:text="Camera"
    app:cornerRadius="25dp"
    app:layout_constraintEnd_toEndOf="@+id/btn_gallery"
    app:layout_constraintTop_toBottomOf="@+id/btn_gallery" />

<com.google.android.material.textfield.TextInputLayout
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginEnd="5dp"
    android:hint="Alarm"
    app:layout_constraintBottom_toBottomOf="@id/btn_alarm"
    app:layout_constraintEnd_toStartOf="@id/btn_alarm"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@id/btn_alarm"
    app:startIconDrawable="@drawable/ic_baseline_alarm_24">

    <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:id="@+id/txt_alarm"
        android:layout_height="wrap_content" />

</com.google.android.material.textfield.TextInputLayout>
```



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```
<Button
    android:id="@+id/btn_alarm"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp"
    android:backgroundTint="@color/btn_back_color"
    android:text="Alarm"
    app:cornerRadius="25dp"
    app:layout_constraintEnd_toEndOf="@+id/btn_camera"
    app:layout_constraintTop_toBottomOf="@+id/btn_camera" />

</androidx.constraintlayout.widget.ConstraintLayout>
</androidx.core.widget.NestedScrollView>
</androidx.coordinatorlayout.widget.CoordinatorLayout>
```



### MainActivity.kt:

```
package com.example.madpractical4_21012022026

import android.content.Intent
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.provider.AlarmClock
import android.provider.CallLog
import android.provider.ContactsContract
import android.provider.MediaStore
import android.widget.Button
import android.widget.EditText
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val btnBrowse: Button = findViewById(R.id.btn_browse)
        val txtBrowse: EditText = findViewById(R.id.txt_browse)
        val btnCall: Button = findViewById(R.id.btn_call)
        val txtCall: EditText = findViewById(R.id.txt_call)
        val txtAlarm: EditText = findViewById(R.id.txt_alarm)

        val btnContact: Button = findViewById(R.id.btn_contact)
        val btnCallLog: Button = findViewById(R.id.btn_call_log)
        val btnGallery: Button = findViewById(R.id.btn_gallery)
        val btnCamera: Button = findViewById(R.id.btn_camera)
        val btnAlarm: Button = findViewById(R.id.btn_alarm)

        btnBrowse.setOnClickListener {
            if(txtBrowse.text.toString()!="")
            {
                Intent(Intent.ACTION_VIEW).setData(
                    Uri.parse("https://" + txtBrowse.text.toString()))
                    .apply {
                        startActivity(this)
                    }
            }
            else{
                Toast.makeText(this, "Please enter URL", Toast.LENGTH_SHORT).show()
            }
        }
        btnCall.setOnClickListener {
            if(txtCall.text.toString()!="")
            {
                Intent(Intent.ACTION_DIAL).setData(
                    Uri.parse("tel:" + txtCall.text.toString()))
                    .apply {
                        startActivity(this)
                    }
            }
            else{
                Toast.makeText(this, "Please enter mobile number", Toast.LENGTH_SHORT).show()
            }
        }
    }
}
```



```
    }
}

btnContact.setOnClickListener {
    Intent(Intent.ACTION_VIEW).setType(
        ContactsContract.Contacts.CONTENT_TYPE).apply {
        startActivity(this)
    }
}

btnCallLog.setOnClickListener {
    Intent(Intent.ACTION_VIEW).setType(CallLog.Calls.CONTENT_TYPE).apply {
        startActivity(this)
    }
}

btnGallery.setOnClickListener {
    Intent(Intent.ACTION_PICK).setType("image/*").apply {
        startActivity(this)
    }
}

btnCamera.setOnClickListener {
    Intent(MediaStore.ACTION_IMAGE_CAPTURE).apply {
        startActivity(this)
    }
}

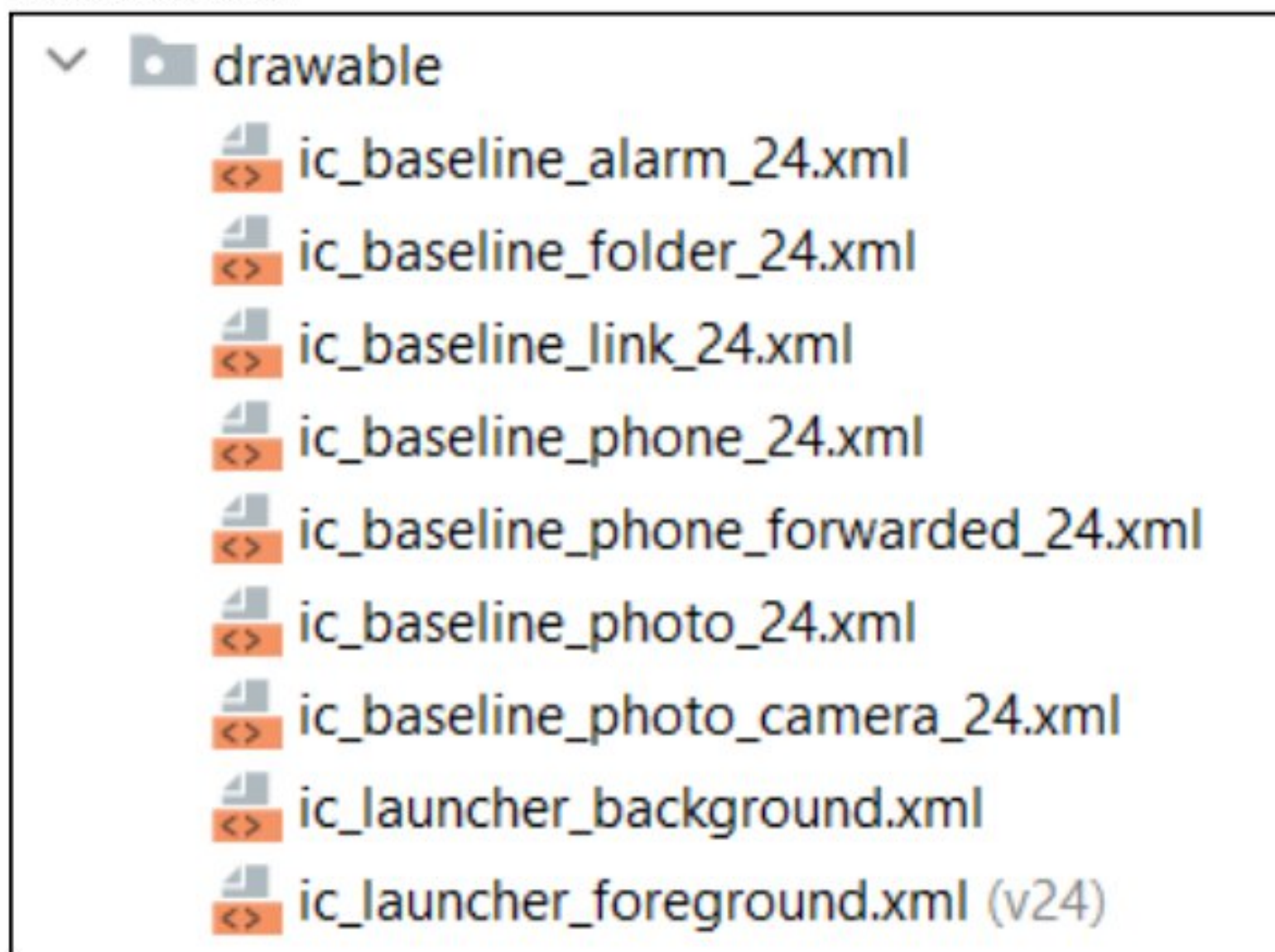
btnAlarm.setOnClickListener {
    if(txtAlarm.text.toString()!="")
    {
        Intent(AlarmClock.ACTION_SET_ALARM).apply {
            this.putExtra(AlarmClock.EXTRA_MESSAGE, txtAlarm.text.toString())
            this.putExtra(AlarmClock.EXTRA_HOUR, 10)
            this.putExtra(AlarmClock.EXTRA_MINUTES, 30)
            startActivity(this)
        }
    }
    else{
        Toast.makeText(this,"Please enter Alarm Name",Toast.LENGTH_SHORT).show()
    }
}
}
```



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### Resource:



### Output:

