Java Code:

MainActivity.java

package com.example.jonathanacharya.lab10;  
  
  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import java.util.ArrayList;  
import android.content.Intent;  
import android.os.Bundle;  
import android.content.res.TypedArray;  
import android.graphics.Bitmap;  
import android.graphics.BitmapFactory;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.AdapterView.OnItemClickListener;  
import android.widget.GridView;  
  
  
public class MainActivity extends AppCompatActivity {  
 private GridView gridView;  
 private GridViewAdapter gridAdapter;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 gridView = (GridView) findViewById(R.id.*gridView*);  
 gridAdapter = new GridViewAdapter(this, R.layout.*grid\_item\_layout*, getData());  
 gridView.setAdapter(gridAdapter);  
  
 gridView.setOnItemClickListener(new OnItemClickListener() {  
 public void onItemClick(AdapterView<?> parent, View v, int position, long id) {  
 ImageItem item = (ImageItem) parent.getItemAtPosition(position);  
  
 //Create intent  
 Intent intent = new Intent(MainActivity.this, DetailsActivity.class);  
  
 intent.putExtra("image", item.getImage());  
  
 //Start details activity  
 startActivity(intent);  
 }  
 });  
 }  
  
  
 private ArrayList<ImageItem> getData() {  
 final ArrayList<ImageItem> imageItems = new ArrayList<>();  
 TypedArray imgs = getResources().obtainTypedArray(R.array.*image\_ids*);  
 for (int i = 0; i < imgs.length(); i++) {  
 Bitmap bitmap = BitmapFactory.*decodeResource*(getResources(), imgs.getResourceId(i, -1));  
 imageItems.add(new ImageItem(bitmap, "Image " + i));  
 }  
 return imageItems;  
  
 }  
}

DetailsActivity.java

package com.example.jonathanacharya.lab10;  
  
import android.graphics.Bitmap;  
import android.os.Bundle;  
import android.support.v7.app.AppCompatActivity;  
import android.widget.ImageView;  
import android.widget.TextView;  
  
public class DetailsActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*details\_activity*);  
  
  
 Bitmap bitmap = getIntent().getParcelableExtra("image");  
  
  
 ImageView imageView = (ImageView) findViewById(R.id.*image*);  
 imageView.setImageBitmap(bitmap);  
 }  
}

GridItemAdapter.java

package com.example.jonathanacharya.lab10;  
  
import java.util.ArrayList;  
  
import android.app.Activity;  
import android.content.Context;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.ArrayAdapter;  
import android.widget.ImageView;  
  
public class GridViewAdapter extends ArrayAdapter<ImageItem> {  
  
 private Context context;  
 private int layoutResourceId;  
 private ArrayList<ImageItem> data = new ArrayList<ImageItem>();  
  
 public GridViewAdapter(Context context, int layoutResourceId, ArrayList<ImageItem> data) {  
 super(context, layoutResourceId, data);  
 this.layoutResourceId = layoutResourceId;  
 this.context = context;  
 this.data = data;  
 }  
  
 @Override  
 public View getView(int position, View convertView, ViewGroup parent) {  
 View row = convertView;  
 ViewHolder holder;  
  
 if (row == null) {  
 LayoutInflater inflater = ((Activity) context).getLayoutInflater();  
 row = inflater.inflate(layoutResourceId, parent, false);  
 holder = new ViewHolder();  
 holder.image = (ImageView) row.findViewById(R.id.*image*);  
 row.setTag(holder);  
 } else {  
 holder = (ViewHolder) row.getTag();  
 }  
  
  
 ImageItem item = data.get(position);  
 holder.image.setImageBitmap(item.getImage());  
 return row;  
 }  
  
 static class ViewHolder {  
 ImageView image;  
 }  
}

ImageItem.java

package com.example.jonathanacharya.lab10;  
  
import android.graphics.Bitmap;  
  
public class ImageItem {  
 private Bitmap image;  
 private String title;  
  
 public ImageItem(Bitmap image, String title) {  
 super();  
 this.image = image;  
 }  
  
 public Bitmap getImage() {  
 return image;  
 }  
  
 public void setImage(Bitmap image) {  
 this.image = image;  
 }  
  
}

XML Code:

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:background="#FF00ABEA"  
 tools:context=".MainActivity">  
  
 <GridView  
 android:id="@+id/gridView"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="5dp"  
 android:columnWidth="100dp"  
 android:layout\_gravity="center"  
 android:drawSelectorOnTop="true"  
 android:gravity="center"  
 android:numColumns="auto\_fit"  
 android:stretchMode="columnWidth"  
 android:verticalSpacing="5dp"  
 android:focusable="true"  
 android:clickable="true"/>  
  
</RelativeLayout>

Details\_activity.xml

<?xml version="1.0" encoding="utf-8"?>  
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="#000">  
  
 <ImageView  
 android:id="@+id/image"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:layout\_gravity="center"  
 android:scaleType="fitCenter" />  
  
</FrameLayout>

Grid\_item\_layout.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:layout\_marginTop="5dp"  
 android:orientation="vertical"  
 android:padding="5dp"  
 android:background="@drawable/grid\_color\_selector">  
  
 <ImageView  
 android:id="@+id/image"  
 android:layout\_width="100dp"  
 android:layout\_height="100dp" />  
  
</LinearLayout>

Output