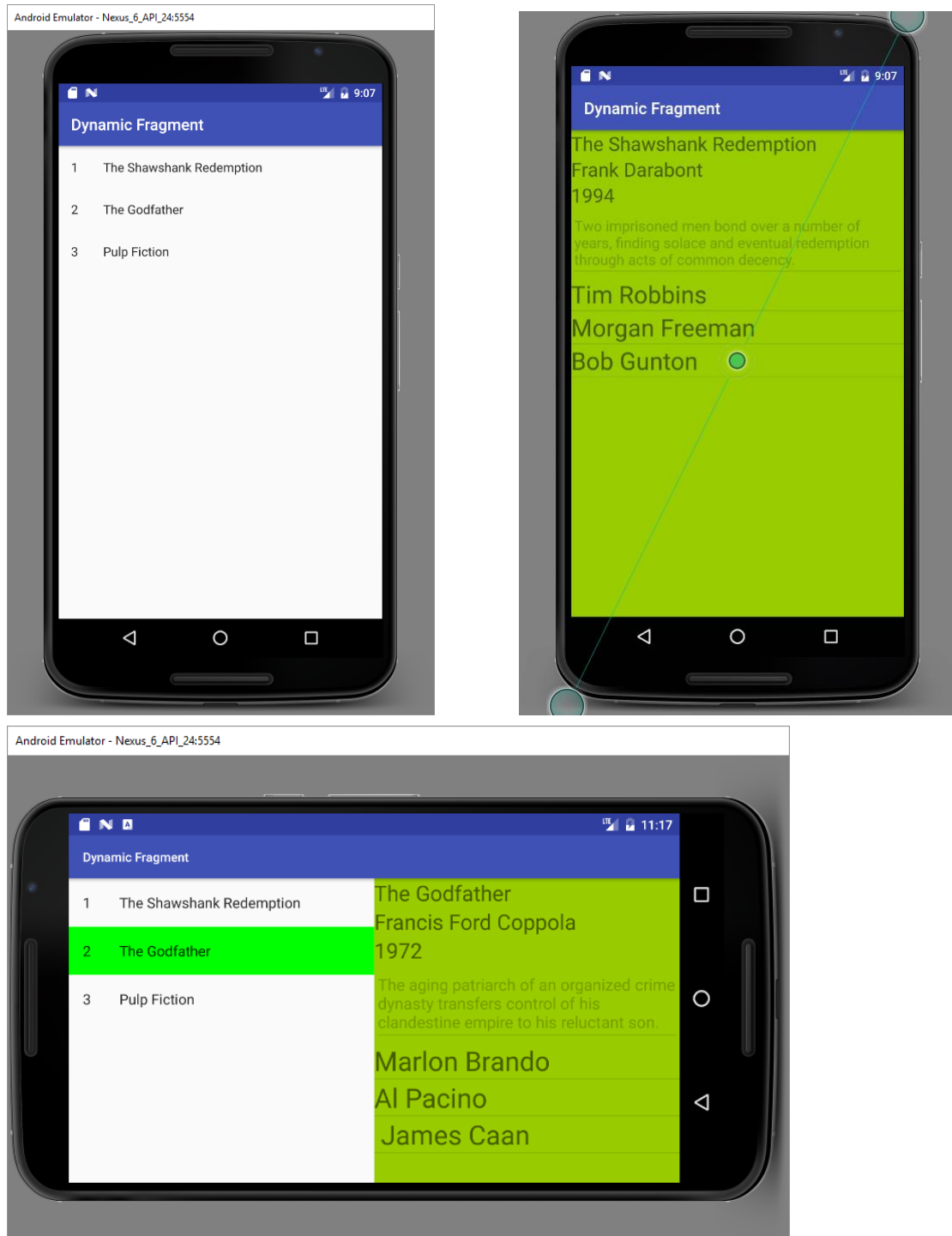


Lab 6: Movie Browser

In this lab we will be implementing the below UI using fragments. When the orientation changes the layout will locate fragments as shown below.

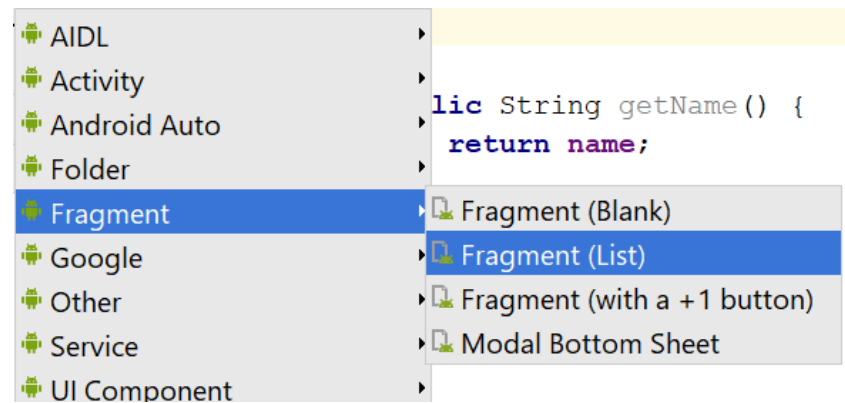


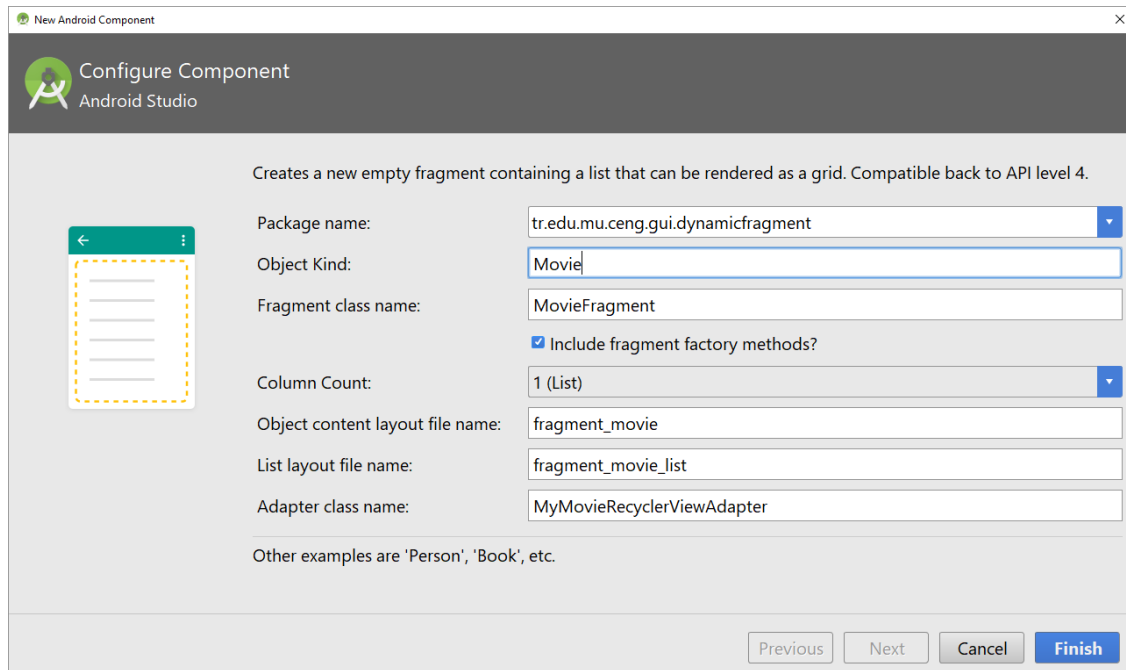
1. Create new project in Android Studio with an empty activity.

2. Select defaults for minimum SDK
3. Create a new Class named Movie as below.

```
public class Movie {  
    private String name;  
    private String director;  
    private int year;  
    private List<String> stars = new ArrayList<>();  
    private String description;  
  
    public Movie(String name, String director, int year, List<String> stars, String  
description) {  
        this.name = name;  
        this.director = director;  
        this.year = year;  
        this.stars = stars;  
        this.description = description;  
    }  
    //Getters and setters  
}
```

4. Create a ListFragment as shown below





5. Define an Interface OnMovieSelected which has movieSelected(Movie movie) method
6. Define a listener variable in MovieFragment having OnMovieSelected type and implement onAttach and onDetach methods of the fragment to assign Activity object to the variable
7. Modify the MainActivity to implement OnMovieSelected
8. Modify the MyMovieRecyclerViewAdapter to contain Movie list instead of Dummy list and handle selection.

```
public class MyMovieRecyclerViewAdapter extends
RecyclerView.Adapter<MyMovieRecyclerViewAdapter.ViewHolder> {
    private final List<Movie> mValues;
    private final OnMovieSelected mListener;
    int selectedIndex;
    public MyMovieRecyclerViewAdapter(List<Movie> items, OnMovieSelected listener) {
        mValues = items;
        mListener = listener;
    }
    @Override
    public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        View view = LayoutInflater.from(parent.getContext())
            .inflate(R.layout.fragment_movie, parent, false);
        return new ViewHolder(view);
    }
    @Override
    public void onBindViewHolder(final ViewHolder holder, int position) {
        holder.mItem = mValues.get(position);
        holder.mIdView.setText(Integer.toString(position));
    }
}
```

```

        holder.mContentView.setText(mValues.get(position).getName());
        holder.mView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (null != mListener) {
                    // Notify the active callbacks interface (the activity, if the
                    // fragment is attached to one) that an item has been selected.
                    mListener.movieSelected(holder.mItem);
                    // Redraw the old selection and the new
                    notifyItemChanged(selectedIndex);
                    selectedIndex = holder.getLayoutPosition();
                    notifyItemChanged(selectedIndex);
                }
            }
        });
        holder.itemView.setBackgroundColor(selectedIndex == position ? Color.GREEN :
Color.TRANSPARENT);
    }
    @Override
    public int getItemCount() {
        return mValues.size();
    }
    public class ViewHolder extends RecyclerView.ViewHolder {
        public final View mView;
        public final TextView mIdView;
        public final TextView mContentView;
        public Movie mItem;
        public ViewHolder(View view) {
            super(view);
            mView = view;
            mIdView = (TextView) view.findViewById(R.id.item_number);
            mContentView = (TextView) view.findViewById(R.id.content);
        }
        @Override
        public String toString() {
            return super.toString() + " '" + mContentView.getText() + "'";
        }
    }
}

```

9. Declare a member variable which contains list of movies in MovieFragment:

```
List<Movie> movies = new ArrayList<>();
```

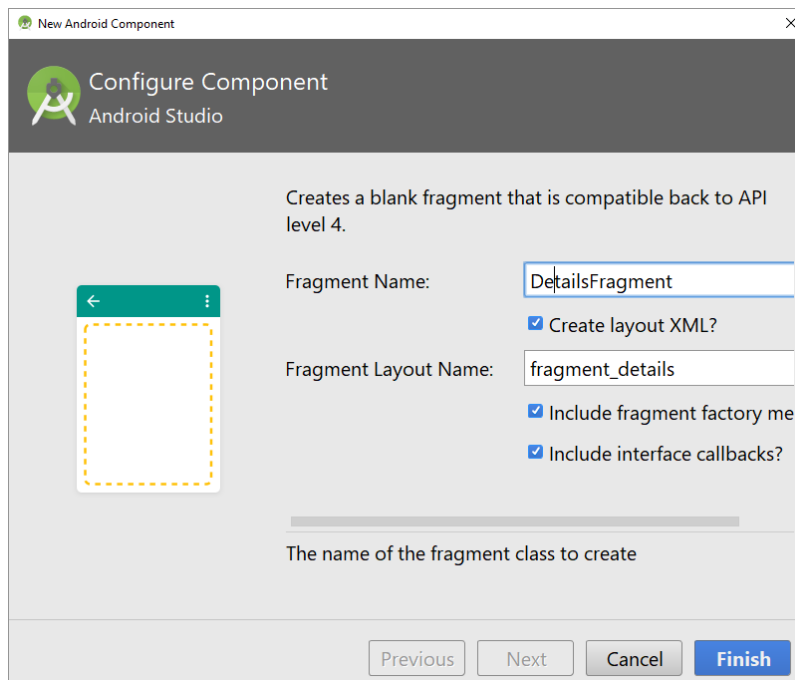
10. Create data for the above list in Oncreate method in MovieFragment:

```
@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

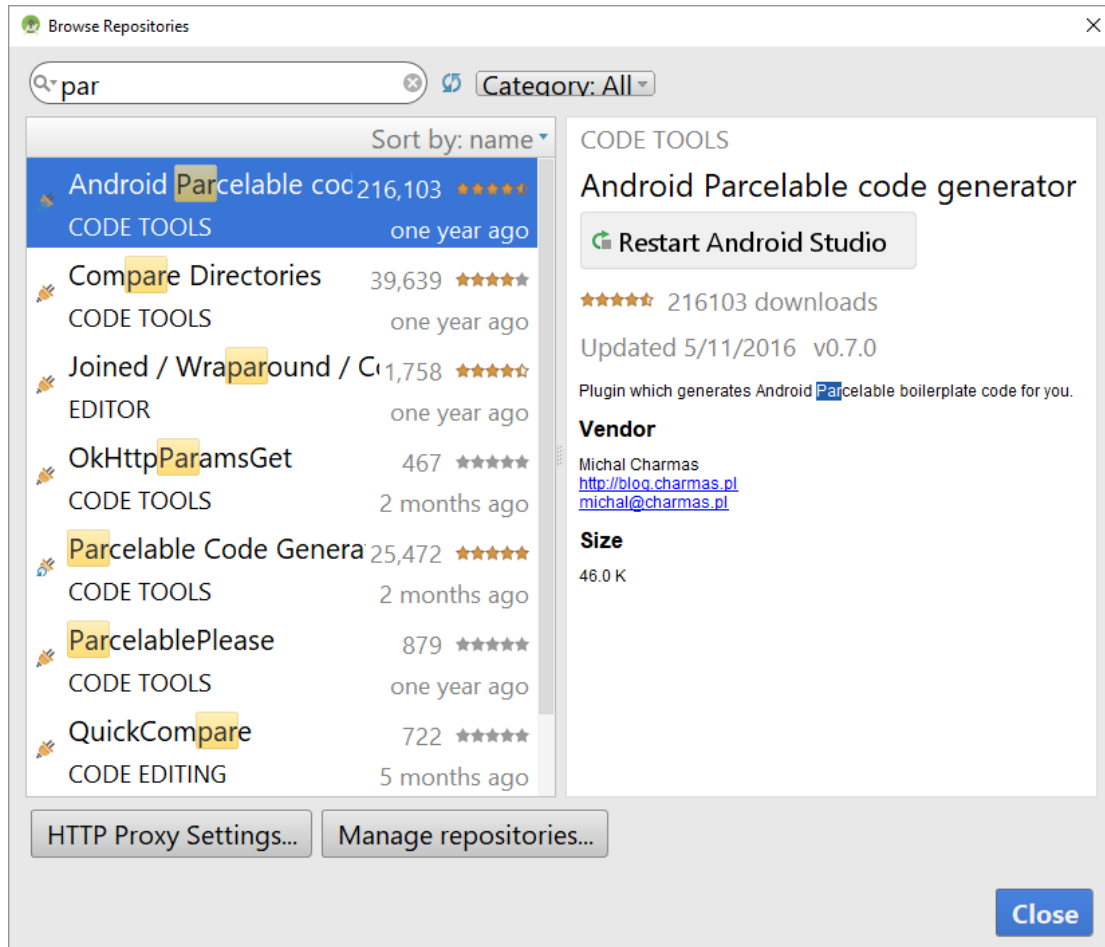
    if (getArguments() != null) {
        mColumnCount = getArguments().getInt(ARG_COLUMN_COUNT);
    }

    movies.add(new Movie("The Shawshank Redemption", "Frank Darabont", 1994,
        Arrays.asList(new String[]{"Tim Robbins", "Morgan Freeman", "Bob Gunton"}),
        "Two imprisoned men bond over a number of years, " +
            "finding solace and eventual redemption through acts of common decency.));
    movies.add(new Movie("The Godfather", "Francis Ford Coppola", 1972,
        Arrays.asList(new String[]{"Marlon Brando", "Al Pacino", "James Caan"}),
        "The aging patriarch of an organized crime dynasty transfers control of his "
+
            "clandestine empire to his reluctant son.));
    movies.add(new Movie("Pulp Fiction", "Quentin Tarantino", 1994,
        Arrays.asList(new String[]{"John Travolta", "Uma Thurman", "Samuel L.
Jackson"}),
        "The aging patriarch of an organized crime dynasty transfers control of " +
            "his clandestine empire to his reluctant son.));
}
```

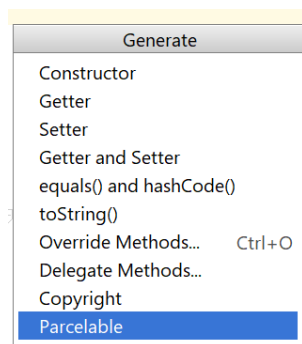
11. Create Details Fragment



12. Install the Parcelable code generator plugin in Android Studio.



13. Right click and generate Parcelable for Movie class.



```
public class Movie implements Parcelable {  
    private String name;  
    private String director;  
    private int year;  
    private List<String> stars = new ArrayList<>();  
    private String description;  
  
    public Movie(String name, String director, int year, List<String> stars, String  
description) {
```

```
        this.name = name;
        this.director = director;
        this.year = year;
        this.stars = stars;
        this.description = description;
    }

    public String getName() {
        return name;
    }

    public String getDirector() {
        return director;
    }

    public int getYear() {
        return year;
    }

    public List<String> getStars() {
        return stars;
    }

    public String getDescription() {
        return description;
    }

    @Override
    public int describeContents() {
        return 0;
    }

    @Override
    public void writeToParcel(Parcel dest, int flags) {
        dest.writeString(this.name);
        dest.writeString(this.director);
        dest.writeInt(this.year);
        dest.writeStringList(this.stars);
        dest.writeString(this.description);
    }

    protected Movie(Parcel in) {
        this.name = in.readString();
        this.director = in.readString();
    }
}
```

```

        this.year = in.readInt();
        this.stars = in.createStringArrayList();
        this.description = in.readString();
    }

    public static final Parcelable.Creator<Movie> CREATOR = new Parcelable.Creator<Movie>()
    {
        @Override
        public Movie createFromParcel(Parcel source) {
            return new Movie(source);
        }

        @Override
        public Movie[] newArray(int size) {
            return new Movie[size];
        }
    };
}

```

14. Modify the fragment_details.xml as shown below

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:orientation="vertical"
    tools:context=".DetailsFragment">

    <TextView
        android:id="@+id/txtMovieName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="@dimen/text_margin"
        android:textAppearance="?android:attr/textAppearanceListItem" />

    <TextView
        android:id="@+id/txtYear"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="@dimen/text_margin"
        android:textAppearance="?android:attr/textAppearanceListItem" />

    <TextView
        android:id="@+id/txtDirector"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```



```

        android:layout_margin="@dimen/text_margin"
        android:textAppearance="?android:attr/textAppearanceListItem" />
    <EditText
        android:id="@+id/txtDescription"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="@dimen/text_margin"
        android:textAppearance="?android:attr/textAppearanceListItem" />
    <ListView
        android:id="@+id/lstStars"
        android:layout_width="match_parent"
        android:layout_height="match_parent">

    </ListView>
</LinearLayout>

```

15. Create the array_adapter.xml as shown below

```

<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="TextView"
    android:textSize="30sp" />

```

16. Implement the onCreateView method of Details Fragment.

```

@Override
public void onCreateView(View view, @Nullable Bundle savedInstanceState) {
    super.onCreateView(view, savedInstanceState);

    TextView txtName = (TextView)view.findViewById(R.id.txtMovieName);
    txtName.setText(movie.getName());

    TextView txtYear = (TextView)view.findViewById(R.id.txtYear);
    txtYear.setText(Integer.toString(movie.getYear()));

    TextView txtDirector = (TextView)view.findViewById(R.id.txtDirector);
    txtDirector.setText(movie.getDirector());

    TextView txtDescription = (EditText)view.findViewById(R.id.txtDescription);
}

```

```

txtDescription.setText(movie.getDescription());
txtDescription.setEnabled(false);

ListView listView = (ListView) view.findViewById(R.id.lstStars);
listView.setAdapter(new ArrayAdapter<String>(getActivity(), R.layout.array_adapter,
movie.getStars().toArray(new String[1])));
}

```

17. Create Details Activity based on Empty Activity template

18. Modify the layout of the Details Activity as below.

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:orientation="vertical">

    <FrameLayout
        android:id="@+id/container"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:background="@android:color/holo_green_light">

    </FrameLayout>

</LinearLayout>

```

19. Modify the OnCreate callback of Details Activity as below

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_details);

    Movie movie = getIntent().getParcelableExtra("movie");

    FragmentTransaction fts = getSupportFragmentManager().beginTransaction();
    DetailsFragment df = DetailsFragment.newInstance(movie);
    fts.add(R.id.container, df);
    fts.commit();
}

```

20. Create activity_main.xml in directory called layout-land.

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <fragment
        android:id="@+id/titles"
        class="tr.edu.mu.ceng.mad.lab6.MovieFragment"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"/>

    <FrameLayout
        android:id="@+id/container"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:background="@android:color/holo_green_light"
        >

    </FrameLayout>
</LinearLayout>
```

21. Implement the onMovieSelected method as below

```
@Override
public void onMovieSelected(Movie movie) {

    int display_mode = getResources().getConfiguration().orientation;
    if (display_mode == Configuration.ORIENTATION_PORTRAIT) {
        Intent intent = new Intent(this, DetailsActivity.class);
        intent.putExtra("movie", movie);
        startActivity(intent);

    }else{

        DetailsFragment df =
        (DetailsFragment) getSupportFragmentManager().findFragmentByTag("details");

        if (df == null) {
```

```
        FragmentTransaction fts = getSupportFragmentManager().beginTransaction();
        df = DetailsFragment.newInstance(movie);
        fts.add(R.id.container, df, "details");
        fts.commit();

    }else{
        df.setMovie(findViewById(R.id.container), movie);
    }
}
```