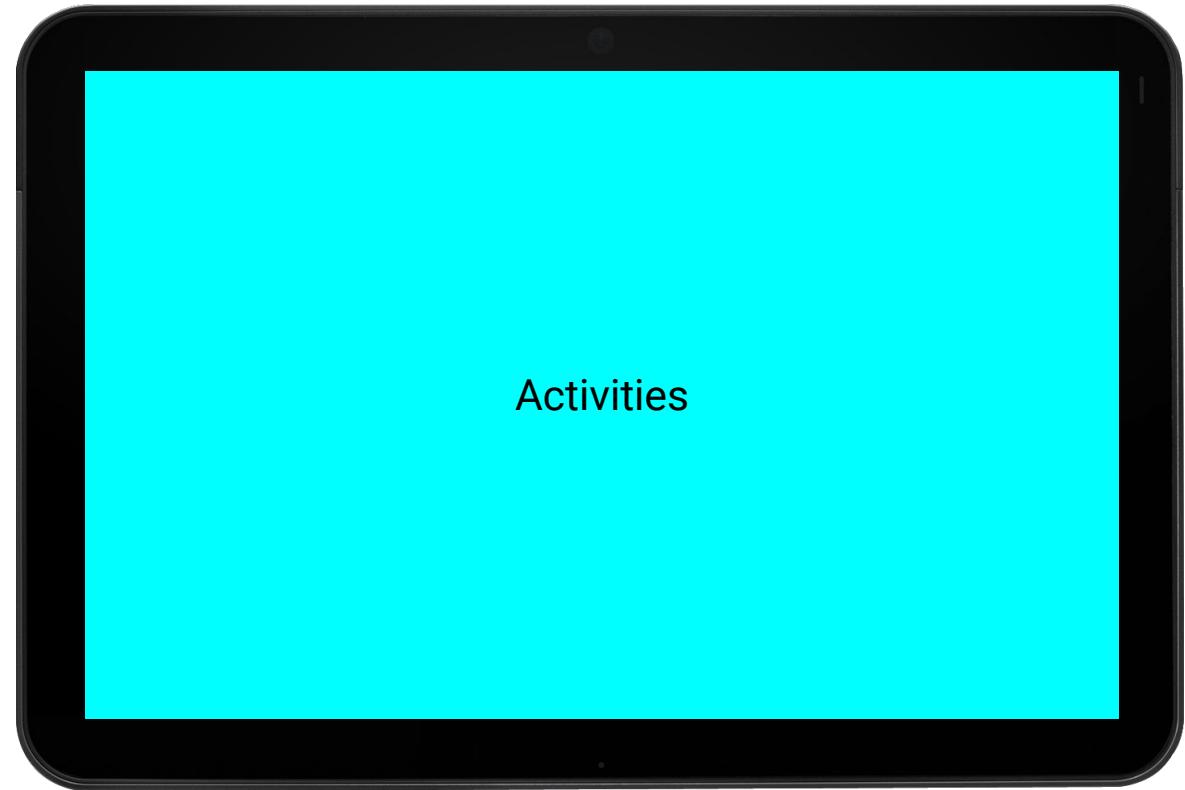




# Android Lecture #5

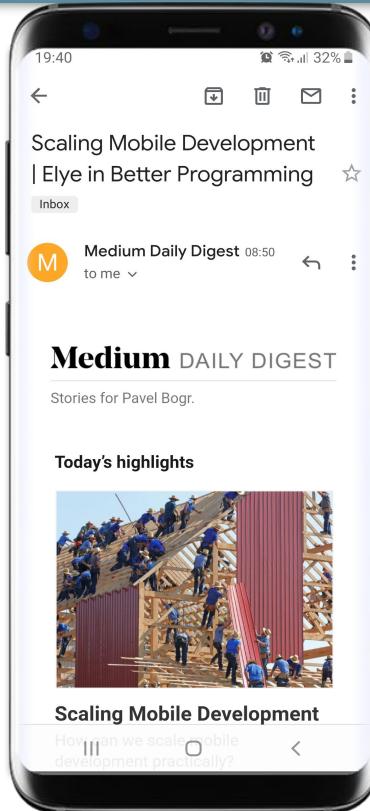


# What have we learned so far?



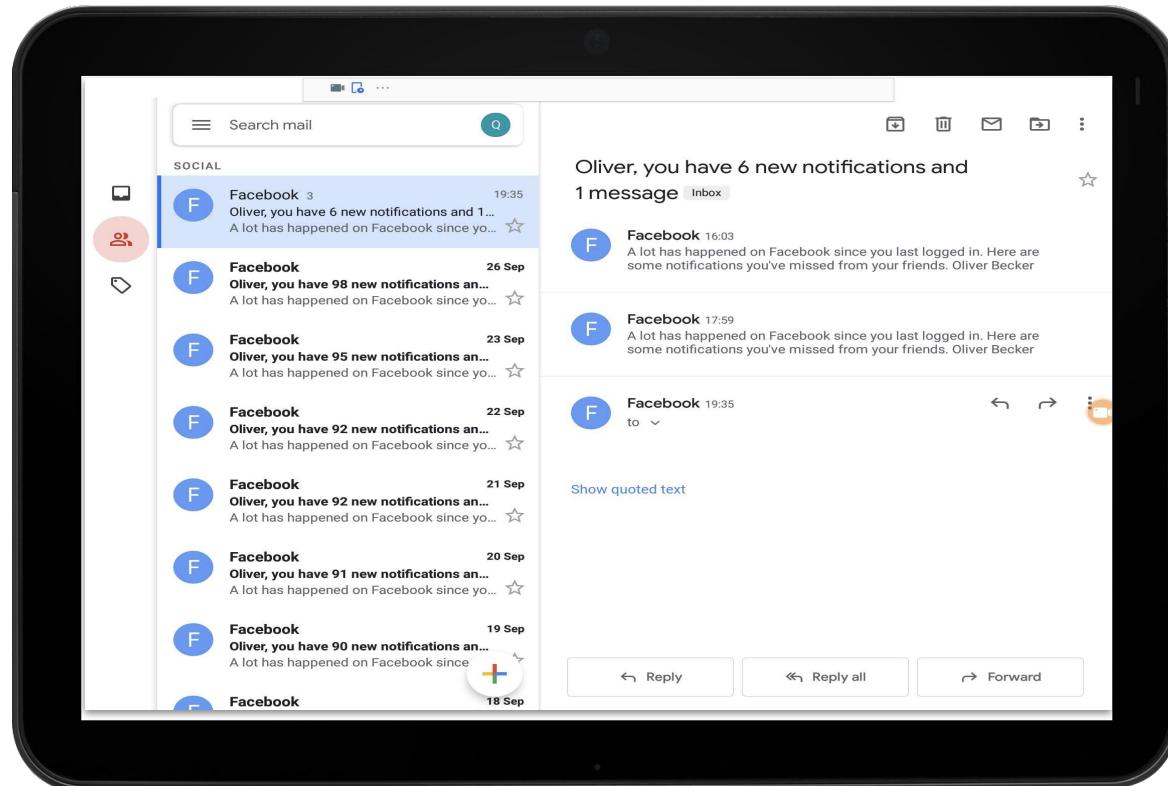


# Gmail phone mode



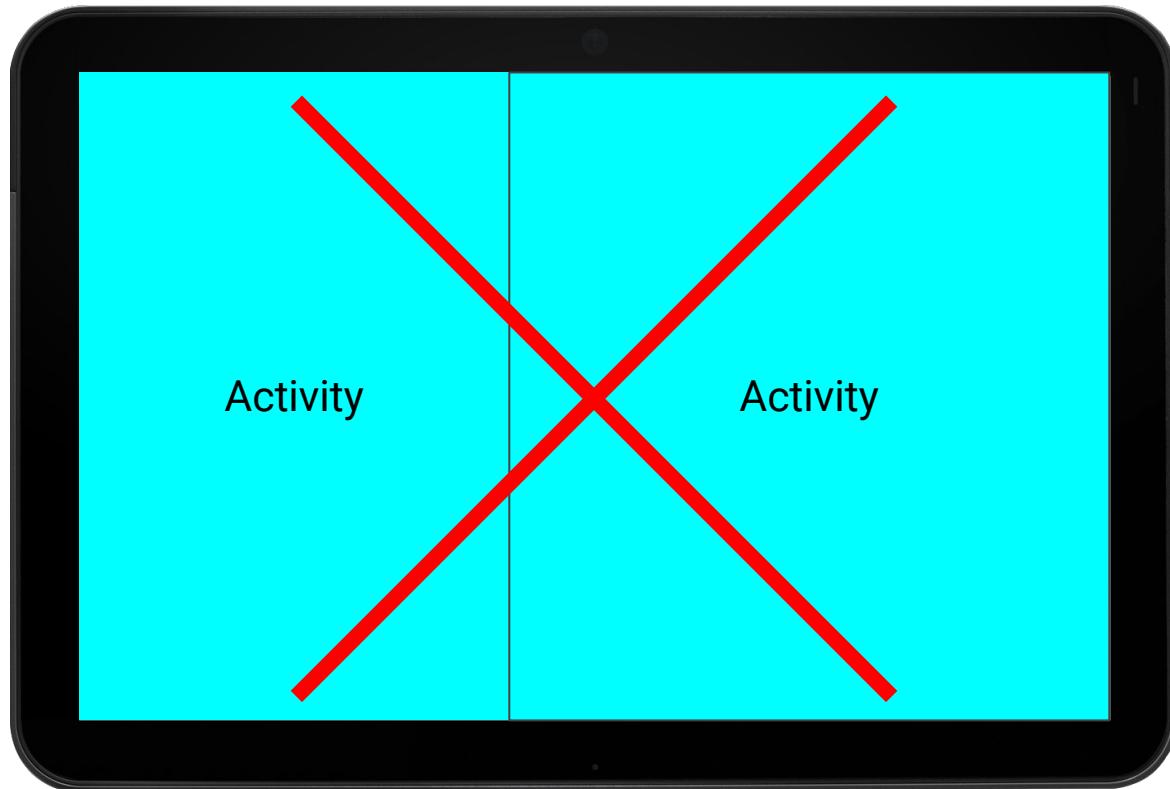


# Gmail tablet mode





?



?

# Fragments



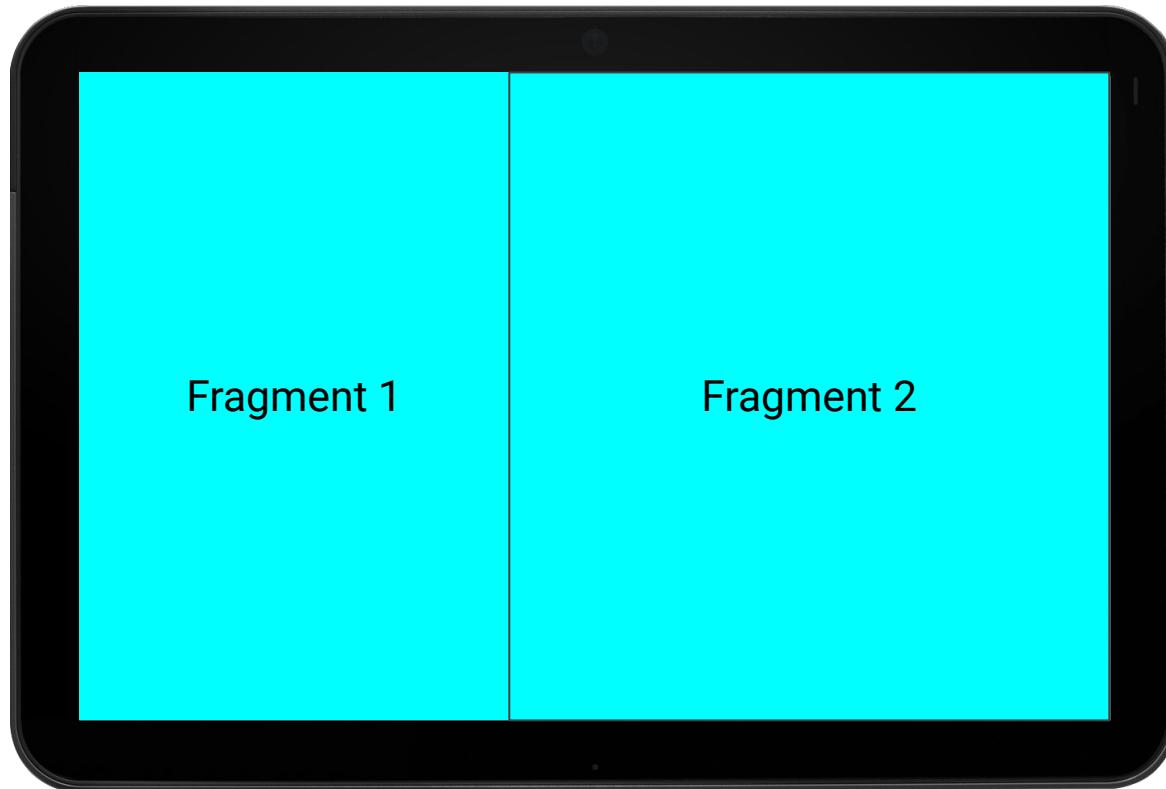
# Fragment

- A small activity-like component
- Has lifecycle.
- More powerful than a View but must sit on top of an Activity.
- Added in Android API 11 (Honeycomb)



# Why Fragments?

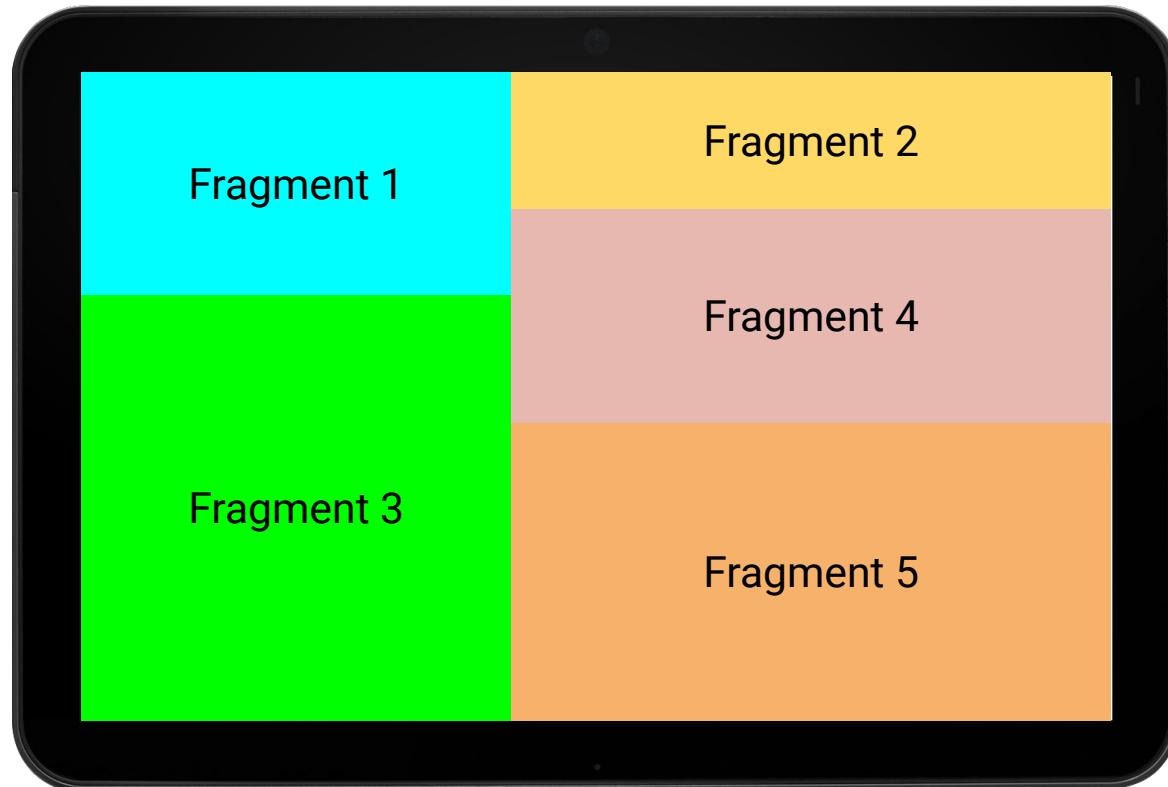
- We can have many fragments in one Activity.





# Why Fragments?

- We can have many fragments in one Activity.
- Can be Manipulated to fit any size and position just like a view.





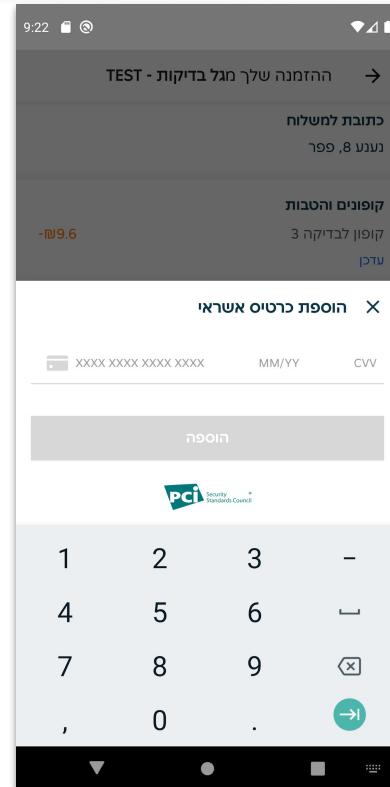
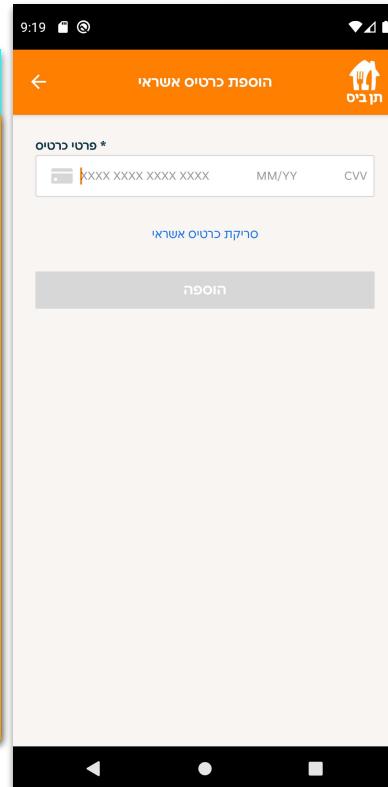
# Why Fragments?

- We can have many fragments in one Activity.
- Can be Manipulated to fit any size and position just like a view.
- Can be easily reused.



Activity

Credit card fragment



Activity

CheckoutFragment

Credit card fragment

# What are we going to do today?



# What are we going to do?

10:25

AcademyTlvMovies

Jurassic World - Fallen Kingdom  
Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the Isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady t...

The Meg  
A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct

The First Purge  
To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isolated c...

Deadpool 2  
Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life

Black Panther  
King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that he is c...

Ocean's Eight  
Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of the century at New York's annual Met Gala

Interstellar  
Interstellar chronicles the adventures of a group

10:26

AcademyTlvMovies

Jurassic World - Fallen Kingdom  
Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the Isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady to help prevent the extinction of the dinosaurs once again

The Meg  
A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct

The First Purge  
To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isolated community. But when the violence of oppressors meets the rage of the others, the contagion will explode from the trial-city borders and spread across the nation

Deadpool 2  
Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life

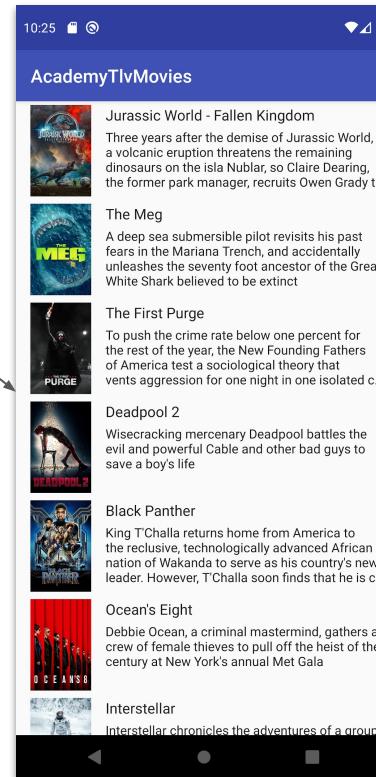
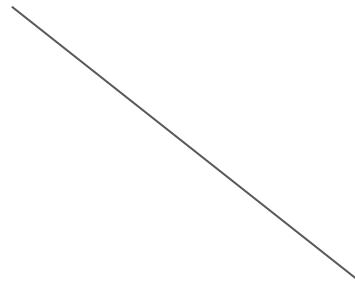
Black Panther  
King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that he is challenged for the throne by factions within his own country as well as without. Using powers reserved to Wakandan kings, T'Challa assumes the Black Panther mantle to join with girlfriend Nakia, the queen-mother, his princess-kid sister, members of the Dora Milaje (the Wakandan 'special forces') and an American secret agent, to prevent Wakanda from being dragged into a world war

Ocean's Eight  
Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of the century at New York's annual Met Gala



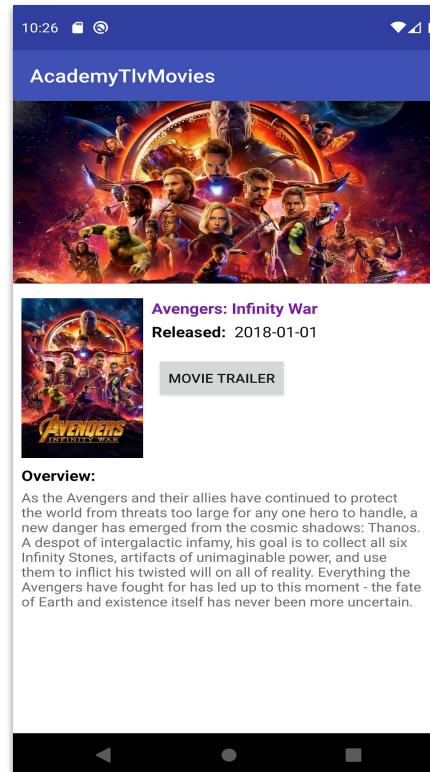
# What are we going to do?

Convert to fragment

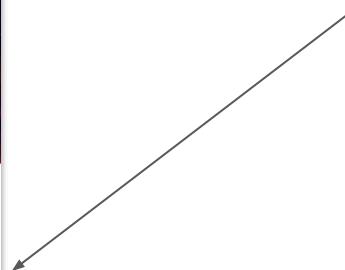




# What are we going to do?

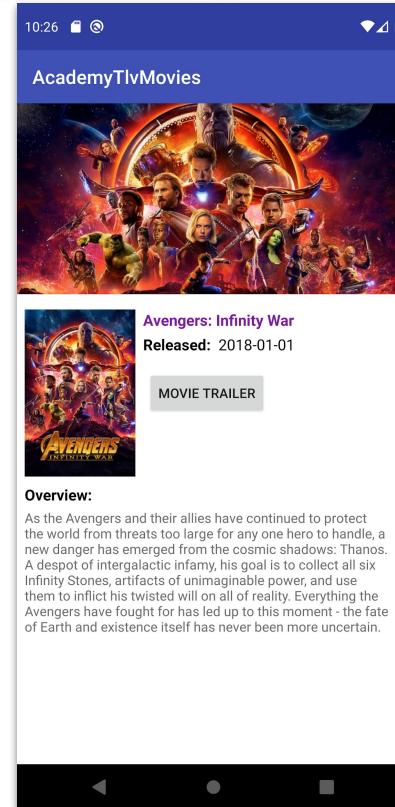
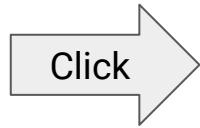
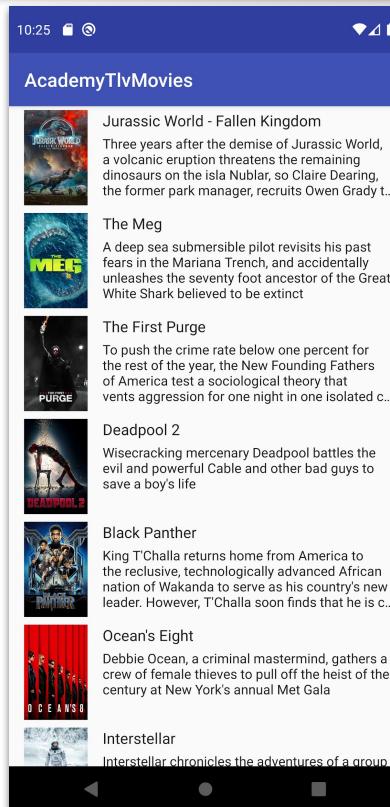


Create a new fragment





# What are we going to do?





# What are we going to do?

## Tablet layout

The screenshot shows a tablet screen with a blue header bar at the top. The header bar contains the text "AcademyTlvMovies" and several small icons. Below the header is a grid of movie cards. Each card includes a small thumbnail image, the movie title, and a brief description.

- The Meg**  
A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed...
- The First Purge**  
To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night i...
- Deadpool 2**  
Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life
- Black Panther**  
King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that he is challenged for the throne by factions within his own country as well as without. Using powers reserved to Wakandan kings, T'Challa assumes the Black Panther mantle to join with girlfriend Nakia, the queen-mother, his princess-kid sister, members of the Dora Milaje (the Wakandan 'special forces') and an American secret agent, to prevent Wakanda from being dragged into a world war
- Ocean's Eight**  
Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of the century at New York's annual Met Gala
- Interstellar**  
Interstellar chronicles the adventures of a group of explorers who make use of a newly discovered wormhole to surpass the limitations on human space travel and ...

On the right side of the screen, there is a detailed card for the movie **Black Panther**. This card includes the movie's title in purple, its release date ("Released: 2018-01-01"), and a "MOVIE TRAILER" button. Below this card is a section titled "Overview:" with a detailed description of the movie's plot.

# Let's create a Fragment



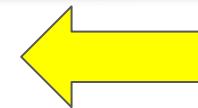
# Creating a Fragment - receipt

1. Create a class, extend Fragment
2. Create Fragment XML layout
3. Override onCreateView() method
4. Add the Fragment to our Activity XML layout
5. Add the Fragment using FrameLayout



# Creating a Fragment - receipt

1. Create a class, extend Fragment
2. Create Fragment XML layout
3. Override onCreateView() method
4. Add the Fragment to our Activity XML layout
5. Add the Fragment using FrameLayout



## MoviesFragment.java

```
public class MoviesFragment{  
}  
}
```

## MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
}  
}
```

## MoviesFragment.java

```
import androidx.fragment.app.Fragment;  
  
public class MoviesFragment extends Fragment {  
  
}
```

## MoviesFragment.java

```
import android.support.v4.app.Fragment;  
  
public class MoviesFragment extends Fragment {  
  
}
```

## MoviesFragment.java

```
import android.app.Fragment;  
public class MoviesFragment extends Fragment {  
}
```

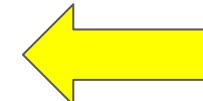
## MoviesFragment.java

```
import android.app.Fragment; Deprecated  
public class MoviesFragment extends Fragment {  
}
```



# Creating a Fragment - receipt

1. Create a class, extend Fragment
2. Create Fragment XML layout
3. Override onCreateView() method
4. Add the Fragment to our Activity XML layout
5. Add the Fragment using FrameLayout

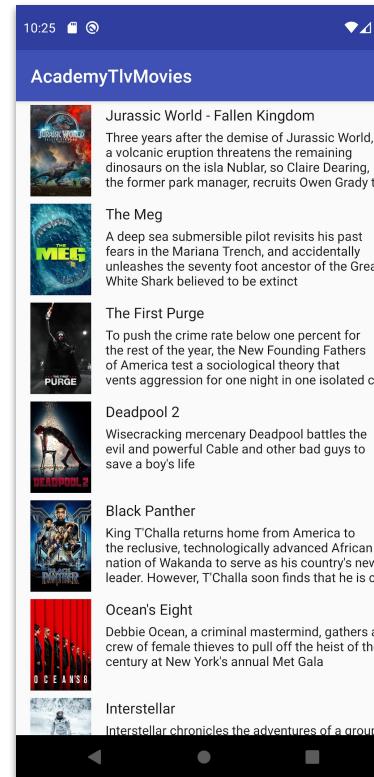




# Our layout

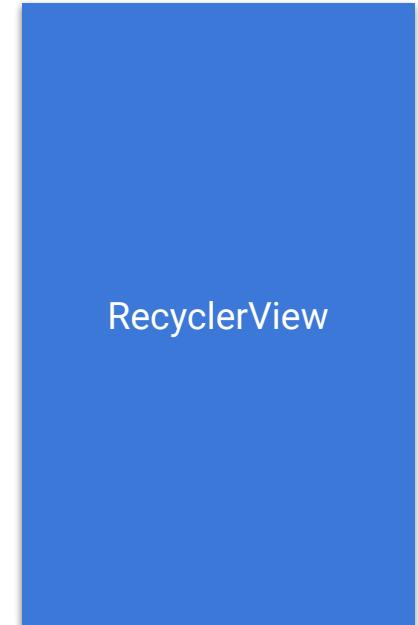


RecyclerView



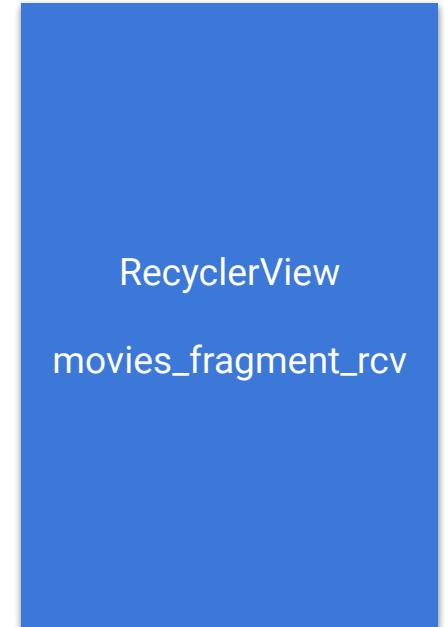
## activity\_movies.xml

```
<androidx.recyclerview.widget.RecyclerView  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:id="@+id/moviesRcv"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    tools:listitem="@layout/item_movie" />
```



## fragment\_movies.xml

```
<androidx.recyclerview.widget.RecyclerView  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:id="@+id/movies_fragment_rcv"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    tools:listitem="@layout/item_movie" />
```

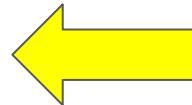


RecyclerView

movies\_fragment\_rcv



# Creating a Fragment - receipt

1. Create a class, extend Fragment
2. Create Fragment XML layout
3. Override onCreateView() method 
4. Add the Fragment to our Activity XML layout
5. Add the Fragment using FrameLayout

## MoviesActivity.java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
  
    protected void onCreate(Bundle savedInstanceState) {  
  
        super.onCreate(savedInstanceState);  
  
        setContentView(R.layout.activity_details);  
  
    }  
  
}
```

## MoviesActivity.java

```
class MoviesActivity : AppCompatActivity() {  
  
    override fun onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(R.layout.activity_movies)  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                           Bundle savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_movies, container, false);

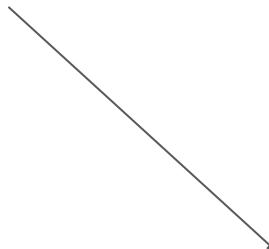
        return view;
    }
}
```

## MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                            Bundle savedInstanceState) {  
  
        View view = inflater.inflate(R.layout.fragment_movies, container, false);  
  
        return view;  
    }  
}
```

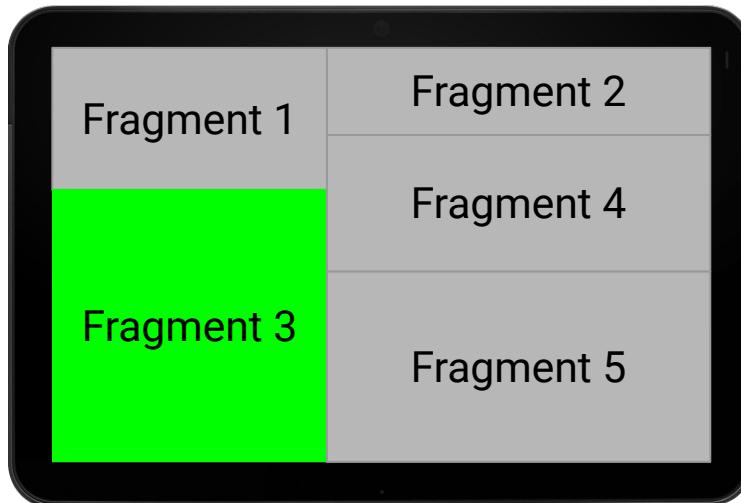
# MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                            Bundle savedInstanceState) {  
  
        View view = inflater.inflate(R.layout.fragment_movies, container, false);  
  
        return view;  
    }  
}
```



# MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                            Bundle savedInstanceState) {  
  
        View view = inflater.inflate(R.layout.fragment_movies, container, false);  
  
        return view;  
    }  
}
```



# MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                            Bundle savedInstanceState) {  
  
        View view = inflater.inflate(R.layout.fragment_movies, container, false);  
  
        return view;  
    }  
}
```

Do we want to handle the view  
or we want to let the system do  
it for us

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {

    RecyclerView mRecyclerView;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                           Bundle savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_movies, container, false);

        return view;
    }
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {

    RecyclerView mRecyclerView;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                           Bundle savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_movies, container, false);

        mRecyclerView = findViewById(R.id.fragment_movies_rcv);

        return view;
    }
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
  
    RecyclerView mRecyclerView;  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                             Bundle savedInstanceState) {  
  
        View view = inflater.inflate(R.layout.fragment_movies, container, false);  
  
        mRecyclerView = findViewById(R.id.fragment_movies_rcv);  
  
        return view;  
    }  
}
```

Function does not exist

## MoviesActivity.java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
  
    protected void onCreate(Bundle savedInstanceState) {  
  
        super.onCreate(savedInstanceState);  
  
        setContentView(R.layout.activity_details);  
  
    }  
  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {

    RecyclerView mRecyclerView;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                           Bundle savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_movies, container, false);

        mRecyclerView = view.findViewById(R.id.fragment_movies_rcv);

        return view;
    }
}
```

## MoviesFragment.java

```
private void initRecyclerView() {  
    m RecyclerView = findViewById(R.id.recyclerView);  
    m LayoutManager = new LinearLayoutManager(this);  
    m RecyclerView.setLayoutManager(m LayoutManager);  
    m Adapter = new MoviesViewAdapter(this, m DataSource);  
    m RecyclerView.setAdapter(m Adapter);  
}
```

## MoviesFragment.java

```
private void initRecyclerView(View view) {  
    m RecyclerView = view.findViewById(R.id.recyclerView);  
    m LayoutManager = new LinearLayoutManager(this);  
    m RecyclerView.setLayoutManager(m LayoutManager);  
    m Adapter = new MoviesViewAdapter(this, m DataSource);  
    m RecyclerView.setAdapter(m Adapter);  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {

    RecyclerView mRecyclerView;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                           Bundle savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_movies, container, false);
        initRecyclerView(view);

        return view;
    }
}
```

## MoviesFragment.java

```
private void initRecyclerView(View view) {  
    m RecyclerView = view.findViewById(R.id.recyclerView);  
    m LayoutManager = new LinearLayoutManager(this);  
    m RecyclerView.setLayoutManager(m LayoutManager);  
    m Adapter = new MoviesViewAdapter(this, m DataSource);  
    m RecyclerView.setAdapter(m Adapter);  
}
```

## MoviesFragment.java

```
private void initRecyclerView(View view) {  
    m RecyclerView = view.findViewById(R.id.recyclerView);  
    m LayoutManager = new LinearLayoutManager(getContext());  
    m RecyclerView.setLayoutManager(m LayoutManager);  
    m Adapter = new MoviesViewAdapter(getContext(), m DataSource);  
    m RecyclerView.setAdapter(m Adapter);  
}
```

## MoviesFragment#initRecyclerView

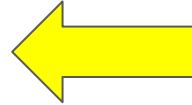
```
private void initRecyclerView(View view) {  
    if (getContext() != null) {  
        m RecyclerView = view.findViewById(R.id.recyclerView);  
        m LayoutManager = new LinearLayoutManager(getContext());  
        m RecyclerView.setLayoutManager(m LayoutManager);  
        m Adapter = new MoviesViewAdapter(getContext(), m DataSource);  
        m RecyclerView.setAdapter(m Adapter);  
    }  
}
```

# ≡ Any Questions?





# Creating a Fragment - receipt

1. Create a class, extend Fragment
2. Create Fragment XML layout
3. Override onCreateView() method
4. Add the Fragment to our Activity XML layout 
5. Add the Fragment using FrameLayout



# Adding Fragment via XML

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <fragment  
        android:id="@+id/movies_fragment"  
        android:name="com.sample.fragments.MoviesFragment"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
    />  
  
</LinearLayout>
```

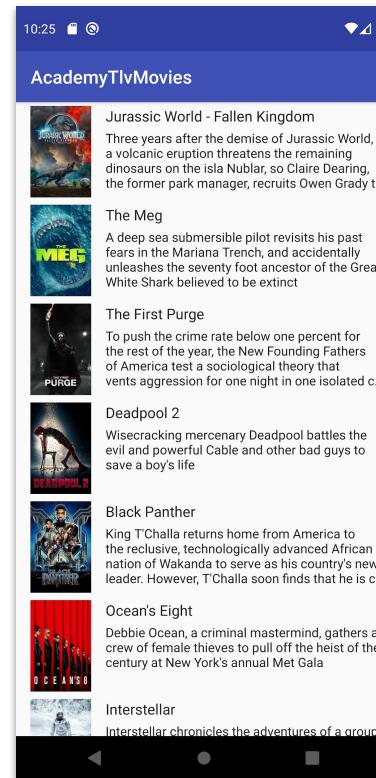


# Adding Fragment via XML

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <fragment  
        android:id="@+id/movies_fragment"  
        android:name="com.sample.fragments.MoviesFragment"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
    />  
  
</LinearLayout>
```



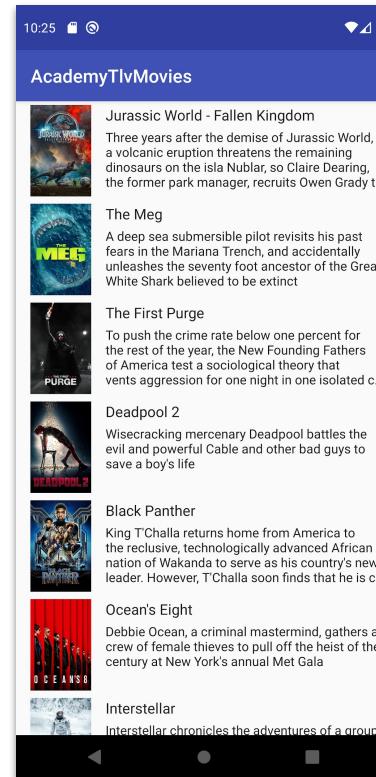
# Our fragment



# Our fragment

## Problem :

- We can't replace the fragment





# Adding Fragment via XML

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <fragment  
        android:id="@+id/movies_fragment"  
        android:name="com.sample.fragments.MoviesFragment"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
    />  
  
</LinearLayout>
```



# Our fragment

## Activity

MoviesFragment

10:25

AcademyTlvMovies

Jurassic World - Fallen Kingdom  
Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady t...

The Meg  
A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct

The First Purge  
To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isolated c...

Deadpool 2  
Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life

Black Panther  
King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that he is c...

Ocean's Eight  
Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of the century at New York's annual Met Gala

Interstellar  
Interstellar chronicles the adventures of a group

## Activity

FragmentContainer



# Our fragment

## Manage transactions

- **Add** a fragment to the frame
- **Replace** the fragment in the frame with another fragment
- **Remove** a fragment from the frame



## Manage fragments

- **Find** a fragment using a tag or an id

# FragmentManager



# FragmentManager

“Interface” for interacting with Fragments  
inside of an Activity

# FragmentManager

FragmentTransaction

Mainly used for

Add, remove or replace

Stack  
management

Manage  
fragments



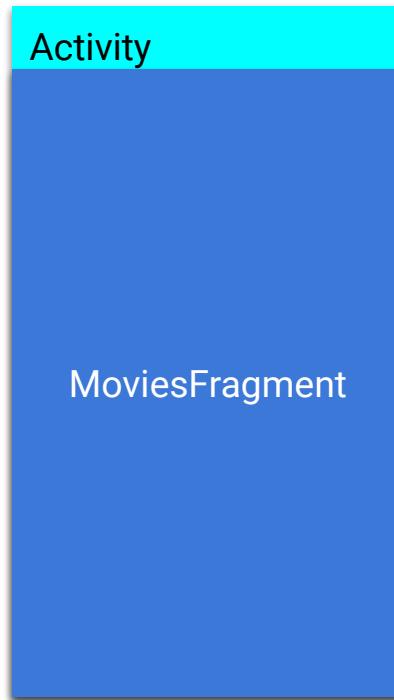
# FragmentManager

Getting a reference to the FragmentManager :

```
Activity.supportFragmentManager  
getSupportFragmentManager()
```



# Our fragment



## activity\_main.xml

```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <fragment
        android:id="@+id/movies_fragment"
        android:name="com.sample.fragments.MoviesFragment"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>

</LinearLayout>
```

## activity\_main.xml

```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <fragment
        android:id="@+id/movies_fragment"
        android:name="com.sample.fragments.MoviesFragment"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>

</LinearLayout>
```

## activity\_main.xml

```
<LinearLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
</LinearLayout>
```

## activity\_main.xml

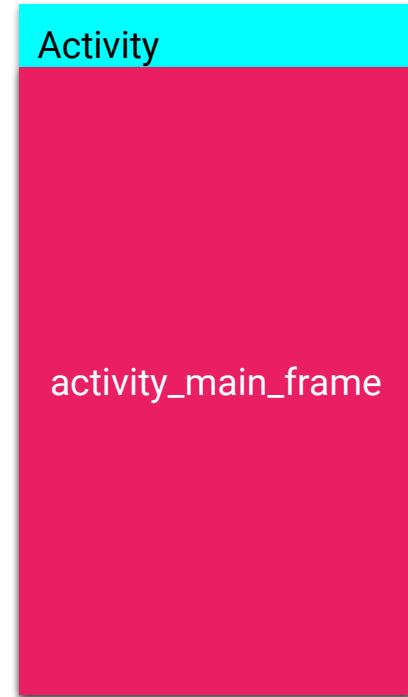
```
<LinearLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <FrameLayout  
        android:id="@+id/activity_main_frame"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"/>  
  
</LinearLayout>
```

## activity\_main.xml

```
<LinearLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <FrameLayout  
        android:id="@+id/activity_main_frame"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"/>  
  
</LinearLayout>
```



# Our fragment



# FragmentManager

FragmentTransaction

Stack  
management

Manage  
fragments

# FragmentManager

FragmentTransaction

Stack  
management

Manage  
fragments

# FragmentManager

## FragmentTransaction

- **add()**
- **replace()**
- **remove()**
- **hide()**
- **show()**
- **attach()**
- **detach()**
- **etc..**

Stack  
management

Manage  
fragments

# MoviesActivity .java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
  
        getSupportFragmentManager() } } } } }
```

FragmentManager

# MoviesActivity .java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
  
        getSupportFragmentManager().beginTransaction()  
    }  
}
```



FragmentTransaction

# MoviesActivity .java

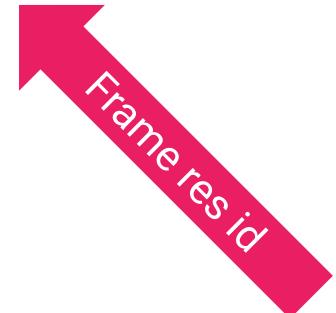
```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
  
        getSupportFragmentManager().beginTransaction()  
            .add(  
            ,  
            );  
    }  
}
```



Action

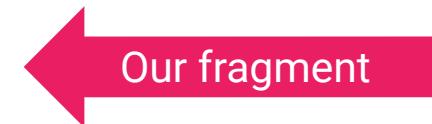
# MoviesActivity .java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
  
        getSupportFragmentManager().beginTransaction()  
            .add(R.id.activity_main_frame,  
            )  
    }  
}
```



# MoviesActivity .java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
        MoviesFragment moviesFragment = new MoviesFragment();  
        getSupportFragmentManager().beginTransaction()  
            .add(R.id.activity_main_frame,  
                moviesFragment)  
    }  
}
```



Our fragment

# MoviesActivity .java

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
        MoviesFragment moviesFragment = new MoviesFragment();  
        getSupportFragmentManager().beginTransaction()  
            .add(R.id.activity_main_frame, moviesFragment)  
    }  
}
```



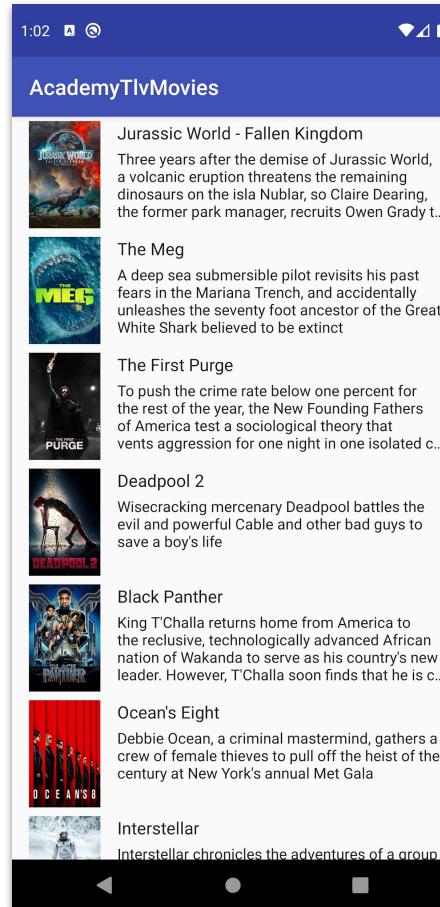
Our fragment

# MainActivity.kt

```
public class MoviesActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_movies);  
        MoviesFragment moviesFragment = new MoviesFragment();  
        getSupportFragmentManager().beginTransaction()  
            .add(R.id.activity_main_frame, moviesFragment)  
            .commit();  
    }  
}
```



# Our app



# ≡ Any Questions?



# Showing movie details

# fragment\_details



## Avengers: Infinity War

**Released:** 2018-01-01

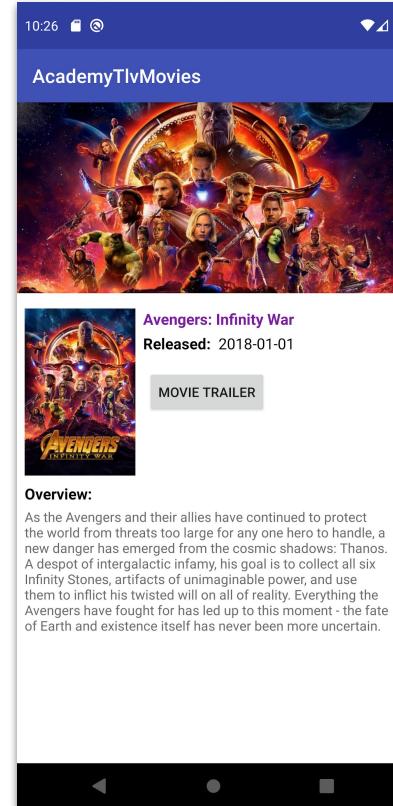
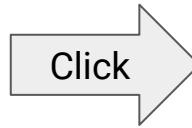
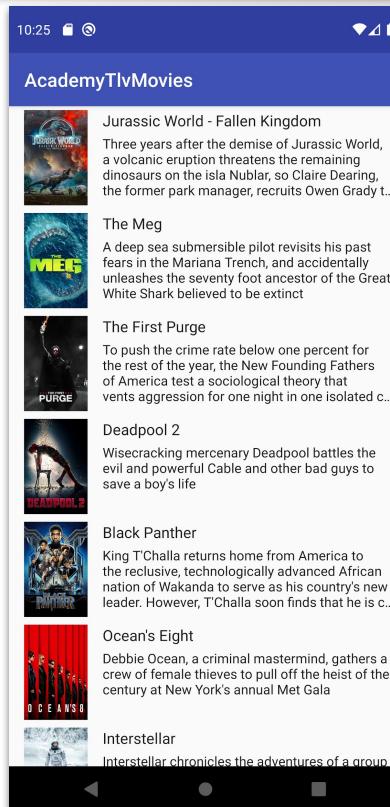
[MOVIE TRAILER](#)

### Overview:

As the Avengers and their allies have continued to protect the world from threats too large for any one hero to handle, a new danger has emerged from the cosmic shadows: Thanos. A despot of intergalactic infamy, his goal is to collect all six Infinity Stones, artifacts of unimaginable power, and use them to inflict his twisted will on all of reality. Everything the Avengers have fought for has led up to this moment - the fate of Earth and existence itself has never been more uncertain.



# Connect the fragments together





# Communicating with the Activity

**Mission :**

- Pass RecyclerView click events to MainActivity



# Communicating with the Activity

## Goals :

We want our Fragment to be **reusable**

(ex: Maybe add it to another Activity)



# Communicating with the Activity

Solution :

Use **onMovieClickListener** to abstract the hosting Activity !

# OnMovieClickListener

```
public interface OnMovieClickListener {  
  
    void onMovieClicked(int itemPosition);  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    ...  
  
    public MoviesViewAdapter(List<MovieModel> items, Context context) {  
        ...  
    }  
  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            ...  
        }  
    }  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    ...  
  
    public MoviesViewAdapter(List<MovieModel> items, Context context) {  
        ...  
    }  
  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            view.setOnClickListener( this );  
        }  
  
        @Override  
        public void onClick(View view) {  
            ...  
        }  
    }  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    private OnMovieClickListener movieClickListener;  
  
    public MoviesViewAdapter(List<MovieModel> items, Context context) {  
        ...  
    }  
  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            view.setOnClickListener( this );  
        }  
  
        @Override  
        public void onClick(View view) {  
            ...  
        }  
    }  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    private OnMovieClickListener movieClickListener;  
    public MoviesViewAdapter(List<MovieModel> items, OnMovieClickListener listener, Context context) {  
        movieClickListener = listener;  
    }  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            view.setOnClickListener( this );  
        }  
        @Override  
        public void onClick(View view) {  
        }  
    }  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    private OnMovieClickListener movieClickListener;  
  
    public MoviesViewAdapter(List<MovieModel> items, OnMovieClickListener listener, Context context) {  
        movieClickListener = listener;  
    }  
  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            view.setOnClickListener( this );  
        }  
  
        @Override  
        public void onClick(View view) {  
            movieClickListener.onMovieClicked( getAdapterPosition() );  
        }  
    }  
}
```

# MoviesViewAdapter

```
public class MoviesViewAdapter extends RecyclerView.Adapter<MoviesViewAdapter.ViewHolder> {  
    private OnMovieClickListener movieClickListener;  
  
    public MoviesViewAdapter(List<MovieModel> items, OnMovieClickListener listener, Context context) {  
        movieClickListener = listener;  
    }  
  
    public class ViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener {  
        public ViewHolder(View view) {  
            super(view);  
            view.setOnClickListener( this );  
        }  
  
        @Override  
        public void onClick(View view) {  
            if (movieClickListener == null) return;  
            movieClickListener.onMovieClicked(getAdapterPosition());  
        }  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment {  
    ...  
    private void initRecyclerView(View view) {  
        if (getContext() != null) {  
            m RecyclerView = view.findViewById(R.id.recyclerView);  
            mLayoutManager = new LinearLayoutManager(getContext());  
            m RecyclerView.setLayoutManager(mLayoutManager);  
            mAdapter = new MoviesViewAdapter(mDataSource, this, getContext());  
            m RecyclerView.setAdapter(mAdapter);  
        }  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
    ...  
    private void initRecyclerView(View view) {  
        if (getContext() != null) {  
            m RecyclerView = view.findViewById(R.id.recyclerView);  
            mLayoutManager = new LinearLayoutManager(getContext());  
            m RecyclerView.setLayoutManager(mLayoutManager);  
            mAdapter = new MoviesViewAdapter(mDataSource, this, getContext());  
            m RecyclerView.setAdapter(mAdapter);  
        }  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
    ...  
    private void initRecyclerView(View view) {  
        if (getContext() != null) {  
            m RecyclerView = view.findViewById(R.id.recyclerView);  
            mLayoutManager = new LinearLayoutManager(getContext());  
            m RecyclerView.setLayoutManager(mLayoutManager);  
            mAdapter = new MoviesViewAdapter(mDataSource, this, getContext());  
            m RecyclerView.setAdapter(mAdapter);  
        }  
    }  
    @Override  
    public void onMovieClicked(int itemPosition) {  
        // Todo: implement code  
    }  
}
```

# OnMovieFragmentClickListener

```
public interface OnMovieFragmentClickListener {  
  
    void onMovieClicked(MovieModel movieModel);  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
    private OnMovieFragmentClickListener mListener;
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
    private OnMovieFragmentClickListener mListener;  
  
    @Override  
    public void onAttach(Context context) {  
        super.onAttach(context);  
        if (context instanceof OnMovieFragmentClickListener) {  
            mListener = (OnMovieFragmentClickListener) context;  
        } else  
            throw new RuntimeException(context.toString() + " must implement  
OnMovieFragmentClickListener");  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
    private OnMovieFragmentClickListener mListener;  
  
    @Override  
    public void onAttach(Context context) {  
        super.onAttach(context);  
        if (context instanceof OnMovieFragmentClickListener) {  
            mListener = (OnMovieFragmentClickListener) context;  
        } else  
            throw new RuntimeException(context.toString() + " must implement  
OnMovieFragmentClickListener");  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {
```

```
    private OnMovieFragmentClickListener mListener;
```

```
@Override
```

```
public void onAttach(Context context) {
```

```
    super.onAttach(context);
```

```
    if (context instanceof OnMovieFragmentClickListener) {
```

```
        mListener = (OnMovieFragmentClickListener) context;
```

```
    } else
```

```
        throw new RuntimeException(context.toString() + " must implement
```

```
OnMovieFragmentClickListener");
```

```
}
```

```
@Override
```

```
public void onDetach() {
```

```
    super.onDetach();
```

```
    mListener = null;
```

```
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {  
  
    private OnMovieFragmentClickListener mListener;  
  
    @Override  
    public void onMovieClicked(int itemPosition) {  
        mListener.onMovieClicked(mDataSource.get(itemPosition));  
    }  
  
    @Override  
    public void onAttach(Context context) {  
        ...  
    }  
  
    @Override  
    public void onDetach() {  
        ...  
    }  
}
```

# MoviesFragment.java

```
public class MoviesFragment extends Fragment implements OnMovieClickListener {

    private OnMovieClickListener mListener;

    @Override
    public void onMovieClicked(int itemPosition) {
        if (mListener != null)
            mListener.onMovieClicked(mDataSource.get(itemPosition));
    }

    @Override
    public void onAttach(Context context) {
        ...
    }

    @Override
    public void onDetach() {
        ...
    }
}
```

## MainActivity.java

```
public class MainActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        ...  
    }  
  
}
```

# MainActivity.java

```
public class MainActivity extends AppCompatActivity implements OnMovieClickListener {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        ...  
    }  
  
}  
}
```

# MainActivity.java

```
public class MainActivity extends AppCompatActivity implements OnMovieClickListener {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        ...
    }

    @Override
    public void onMovieClicked(MovieModel movieModel) {
    }
}
```

# MainActivity.java

```
public class MainActivity extends AppCompatActivity implements OnMovieClickListener {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        ...  
    }  
  
    @Override  
    public void onMovieClicked(MovieModel movieModel) {  
        MovieDetailsFragment fragment = new MovieDetailsFragment();  
  
    }  
}
```

# MainActivity.java

```
public class MainActivity extends AppCompatActivity implements OnMovieClickListener {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        ...  
    }  
  
    @Override  
    public void onMovieClicked(MovieModel movieModel) {  
        MovieDetailsFragment fragment = new MovieDetailsFragment();  
        getSupportFragmentManager().beginTransaction()  
            .replace(R.id.activity_main_frame, fragment).commit();  
    }  
}
```

# Our app

4:40

AcademyTlvMovies

 Jurassic World - Fallen Kingdom  
Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady t...

 The Meg  
A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct

 The First Purge  
To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isolated c...

 Deadpool 2  
Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life

 Black Panther  
King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that he is c...

 Ocean's Eight  
Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of the century at New York's annual Met Gala

 Interstellar  
Interstellar chronicles the adventures of a group