



# Fragments

# Upon completion of this module, a student will be able to

- write a fragment class
- add a fragment to an activity using XML
- build and add a fragment programmatically
- show fragments in a dialog window
- work with two fragments on larger screens
- communicate between fragments and activities



# Assignment

- Task
  - This app is designed to demonstrate and reinforce the use of fragments in apps.
- Repo
  - [https://github.com/LambdaSchool/Android\\_Fragments\\_Basics](https://github.com/LambdaSchool/Android_Fragments_Basics)
- Submission
  - Fork on github and submit pull request





**A Student Can**  
write a fragment class

# What is a Fragment

- Inner Class for each Table
- Data member for each column



# Defining a Fragment

- Java class
- XML layout





**A Student Can**  
add a Fragment to an Activity in XML

# Attaching a Fragment in XML

```
<fragment
    android:id="@+id/list_fragment"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:name="com.lambdaschool.movieapifragments.MovieListFragment" />
```

- fragment tag
  - Notice the lowercase 'f'
- name attribute







# A Student Can

build and add a fragment programmatically

# Attaching a Fragment in Java

```
FirstFragment fragment = new FirstFragment();  
getSupportFragmentManager().beginTransaction()  
    .replace(R.id.fragment_holder, fragment)  
    .commit();
```

- Container, FrameLayout
- Construct the fragment object
- Begin transaction with  
FragmentManager
- Get FragmentTransaction Object
- add/replace





**A Student Can**  
show fragments in a dialog window

# Fragment Arguments

- Dialog Fragment
- show()

```
DialogFragment dialog = new DetailFragment();  
Bundle bundle = new Bundle();  
bundle.putSerializable("movie", item);  
dialog.setArguments(bundle);  
dialog.show(getSupportFragmentManager(), "DetailFragment");
```

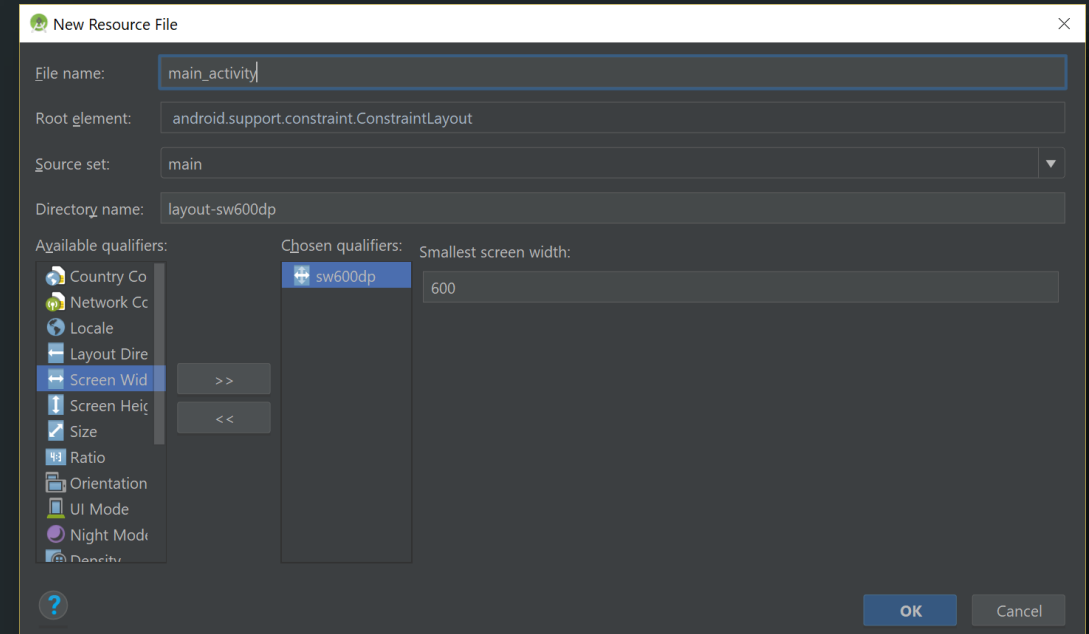




# A Student Can

work with two fragments on larger screens

# Building a Layout for a Tablet



# How to Determine Device Size

values\attr.xml	sw600dp\attr.xml
1 <?xml version="1.0" encoding="utf-8"?>	1 <?xml version="1.0" encoding="utf-8"?>
2 <resources>	2 <resources>
3 <bool name="is_tablet">false</bool>	3 <bool name="is_tablet">true</bool>
4 </resources>	4 </resources>

```
if (getResources().getBoolean(R.bool.is_tablet)) {  
    getSupportFragmentManager().beginTransaction()  
}
```

- 2 attr.xml files
- Boolean value in each



# Still Support Smaller Screens

- Swap out single fragment in single activity
- Two activities each with their own fragment







# A Student Can

communicate between fragments and  
activities

# Fragment Arguments

- Pass data into Fragment
- Bundle Object

```
DetailFragment fragment = new DetailFragment();  
  
Bundle bundle = new Bundle();  
bundle.putSerializable("movie", item);  
  
fragment.setArguments(bundle);
```

```
movie = (MovieOverview) getArguments().getSerializable("movie");
```



# OnListFragmentInteractionListener

- Interface
- Callback

```
/**
 * This interface must be implemented by activities that contain this
 * fragment to allow an interaction in this fragment to be communicated
 * to the activity and potentially other fragments contained in that
 * activity.
 * <p>
 * See the Android Training lesson <a href=
 * "http://developer.android.com/training/basics/fragments/communicating.html"
 * >Communicating with Other Fragments</a> for more information.
 */
public interface OnFragmentInteractionListener {
    // TODO: Update argument type and name
    void onFragmentInteraction(Uri uri);
}
```

