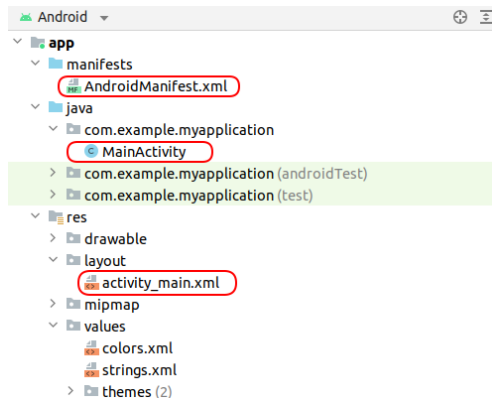


Create a Hybrid App

Demo 2nd day of class- just walk through creating an application
Create new 'Empty Activity' project, use all other defaults

These are the files to change



Use plain activity, put the following in layout/activity_main.xml;

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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">
```

```
<WebView
    android:id="@+id/wv1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintBottom_toTopOf="@+id/but1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/but1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="doClick"
    android:text="change site"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.944" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

In MainActivity add the following (replacing onCreate()), hover over any undefined classes and press alt-enter to fix imports

```
WebView wv;
String [] URLs={"https://www.washingtonpost.com","https://www.nytimes.com"};
int url_number = 0; //start with frst string
private void load_next_page() {
    wv.loadUrl(URLs[url_number]);
    url_number=(url_number+1)%URLs.length;
}
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    //get a handle to the widget in the UI
    wv=(WebView)findViewById(R.id.wv1);

    //go to the first page
    load_next_page();
}

//tied to the doClick event handler in the xml
public void doClick(View view) {
    load_next_page();
}
```

In manifest- add permissions to access things (add just after manifest tag and before the application tag)

```
<uses-permission android:name="android.permission.INTERNET" />

<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
```

That's it you now have a working Hybrid app. Or a web browser thats wrapped with a native application that controls the browser. Put most logic in the web page you are accessing so you get ease of updating your app. Also since the native portion of the app is simple (all logic is in web page), it's easy to create a iOS version. You can also host your app on app stores (both Apple's and Google Playstore)