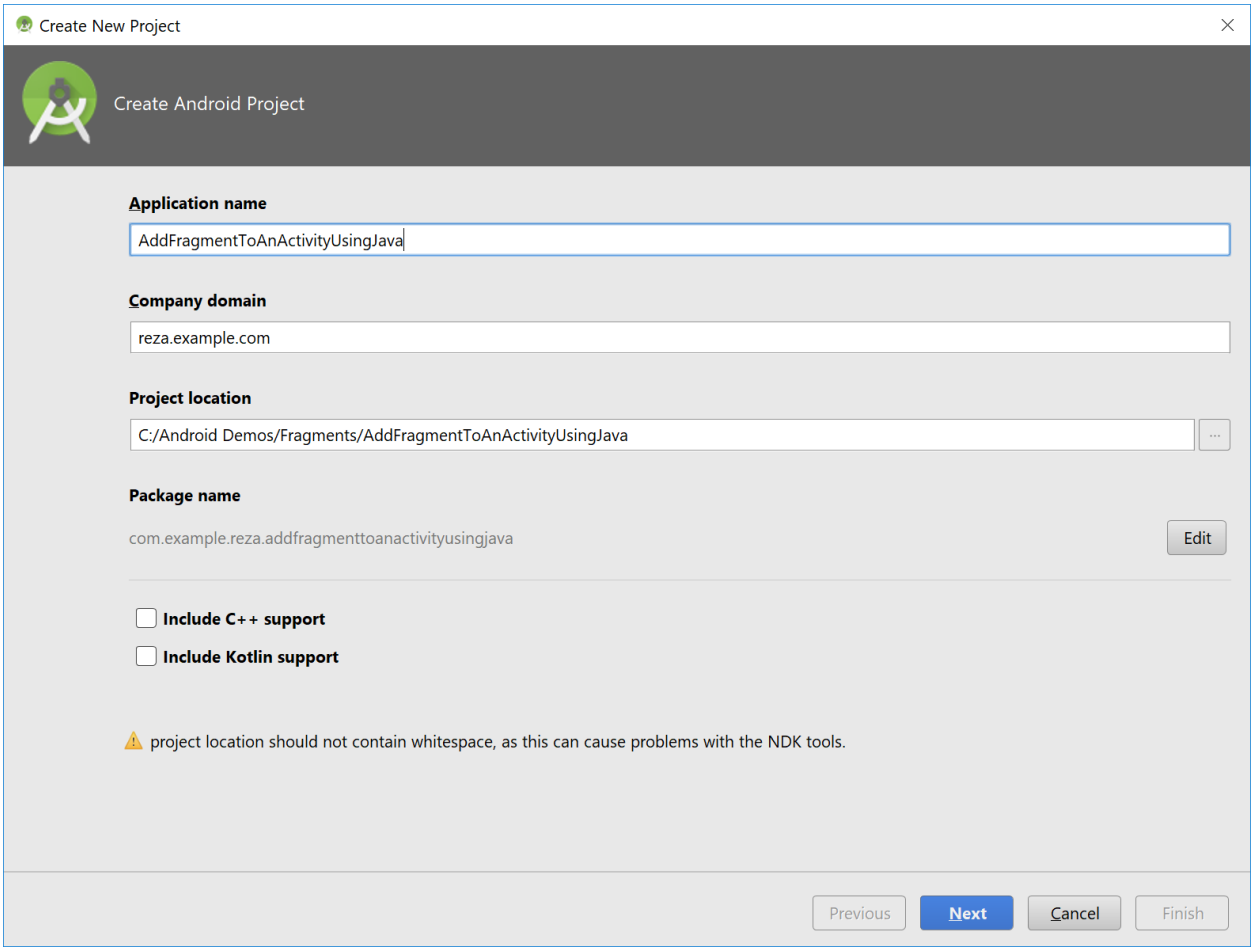
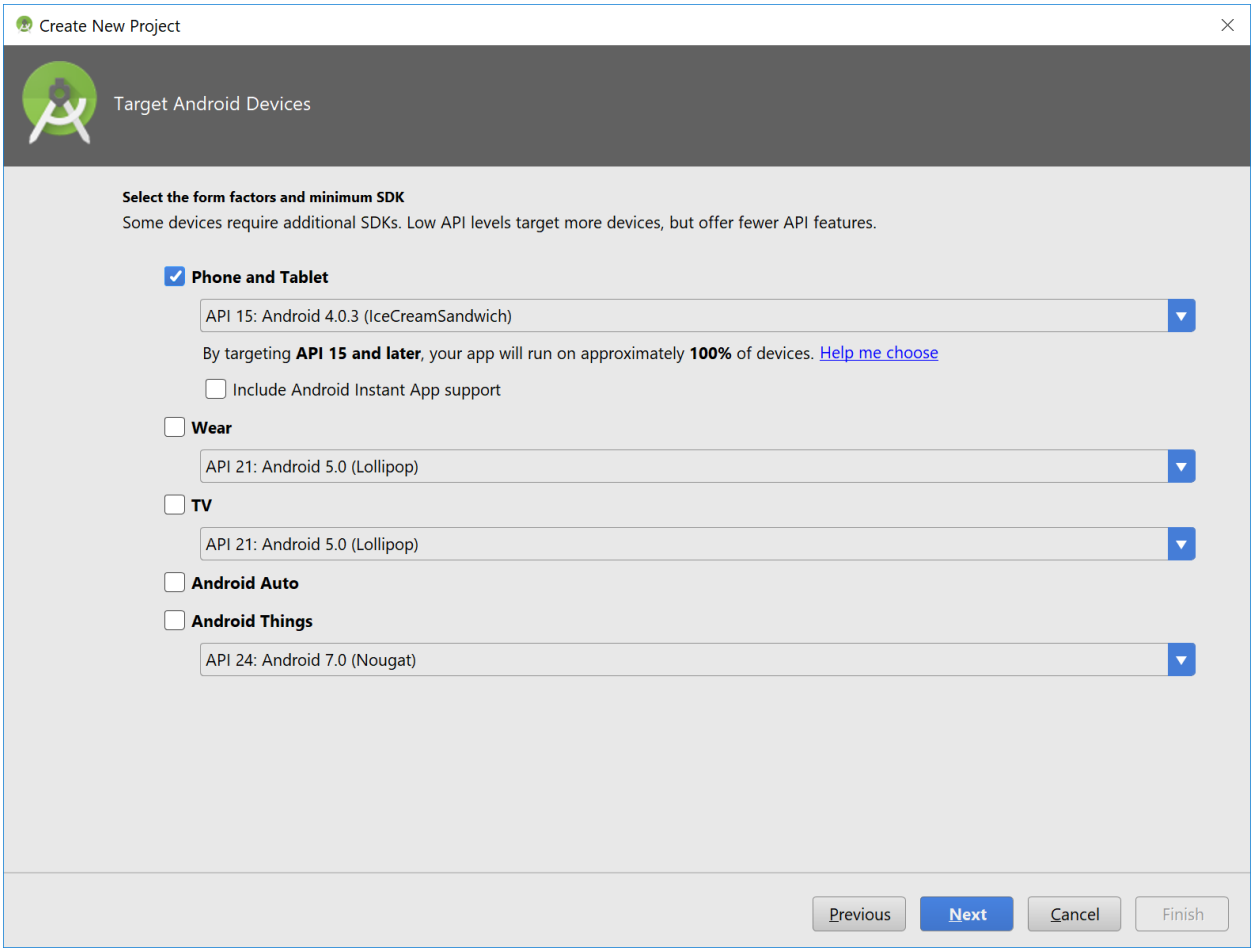
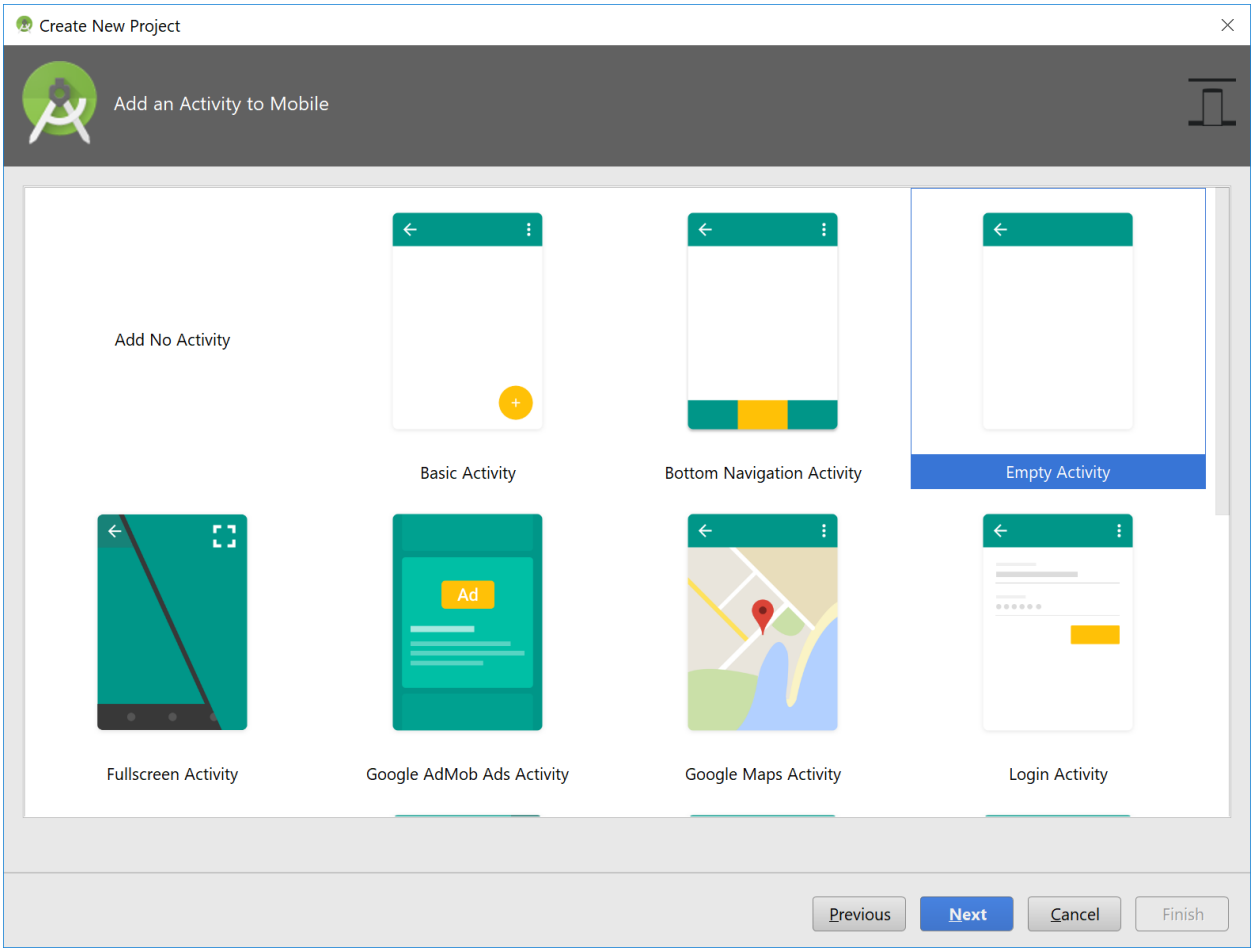
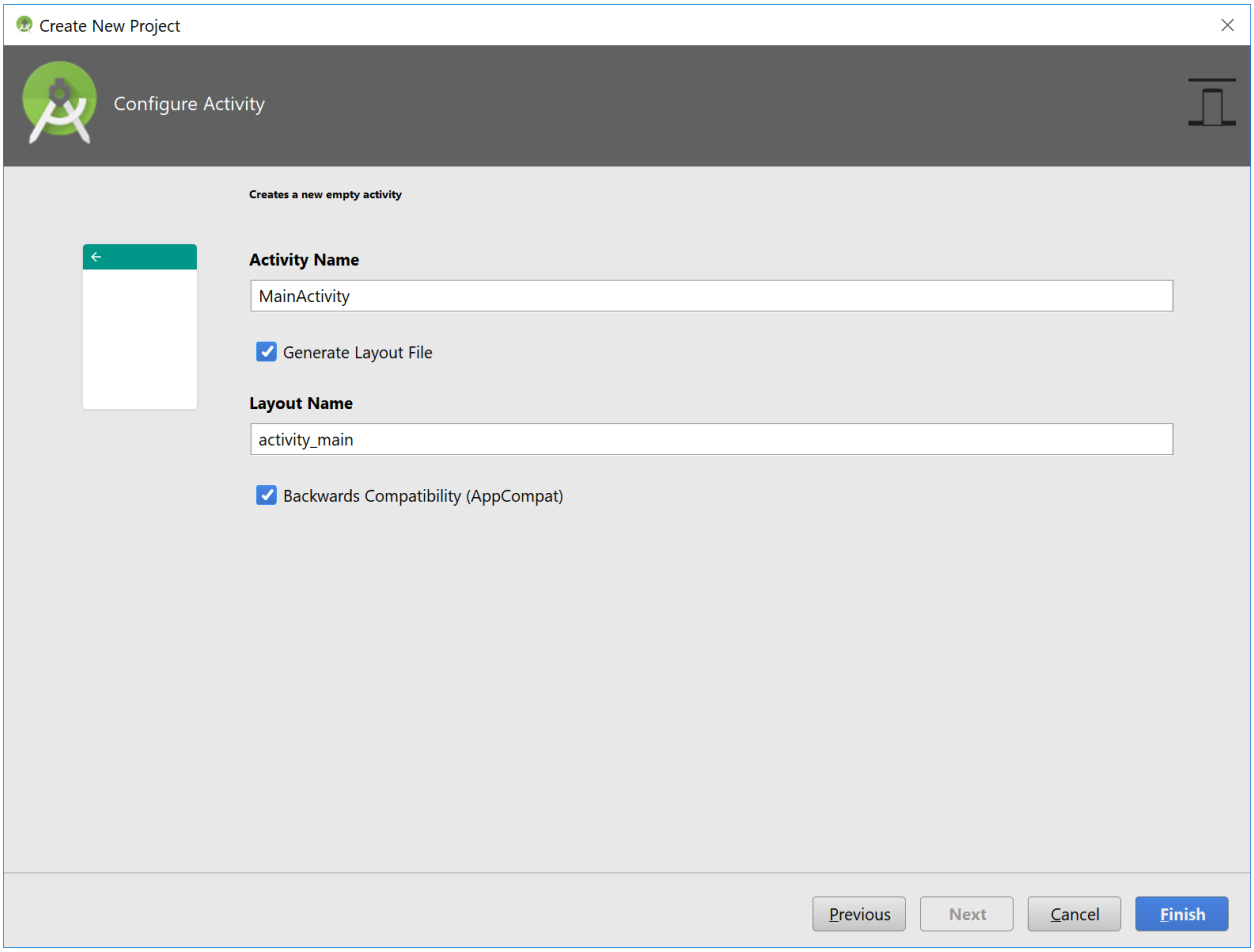
Adding a Fragment to an Activity using Java (programmatically)

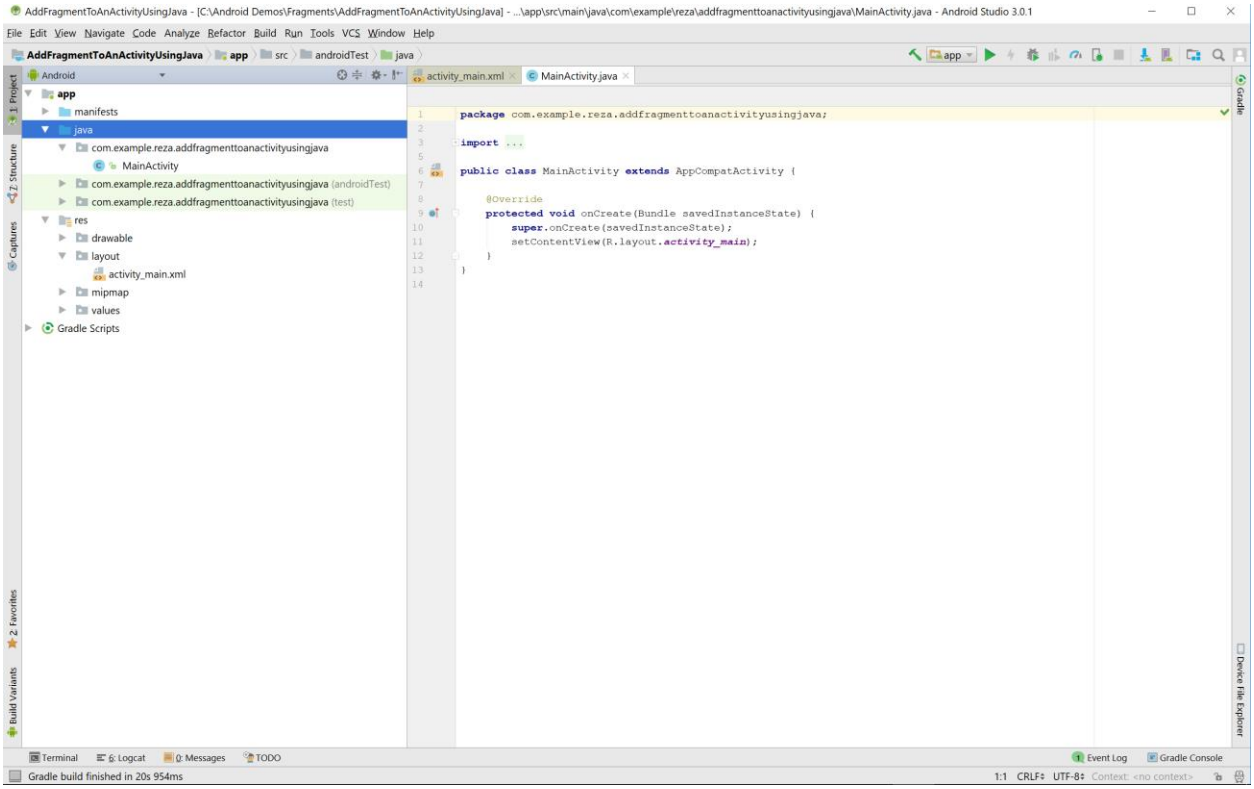
Create a new project as shown:

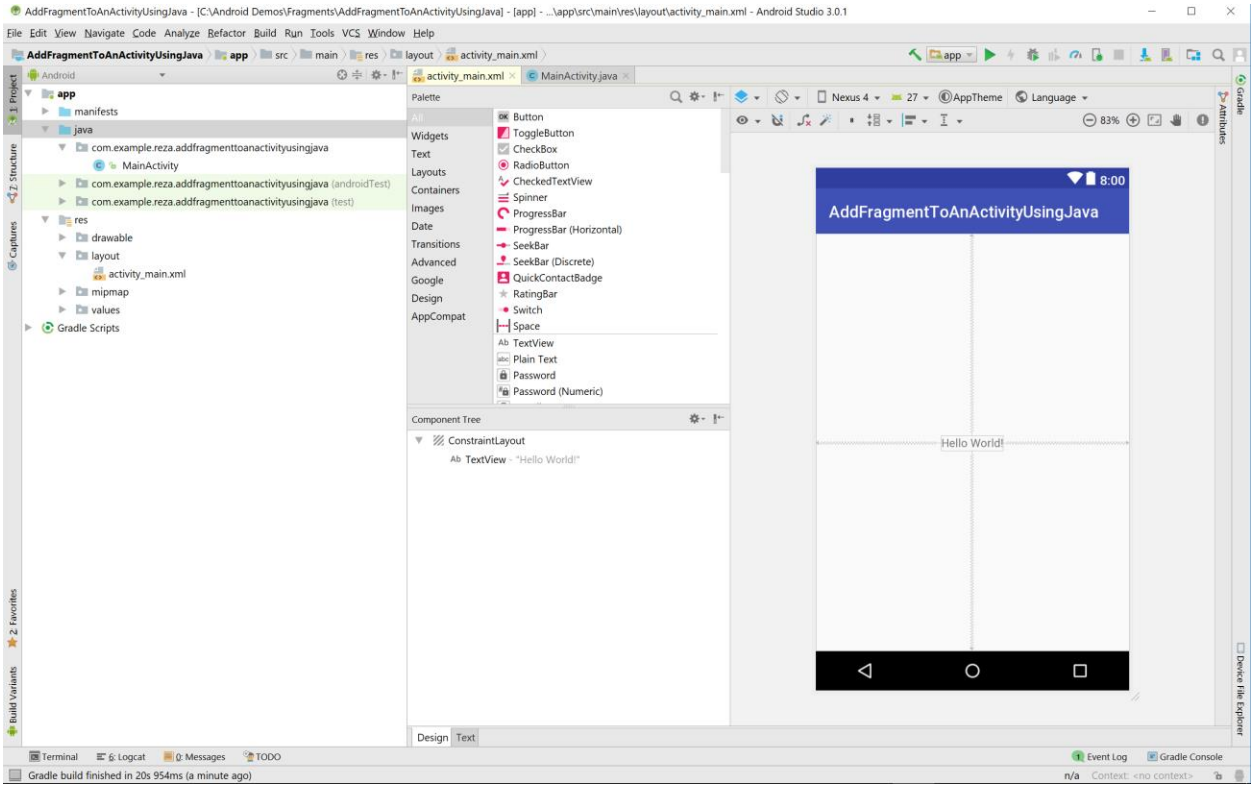


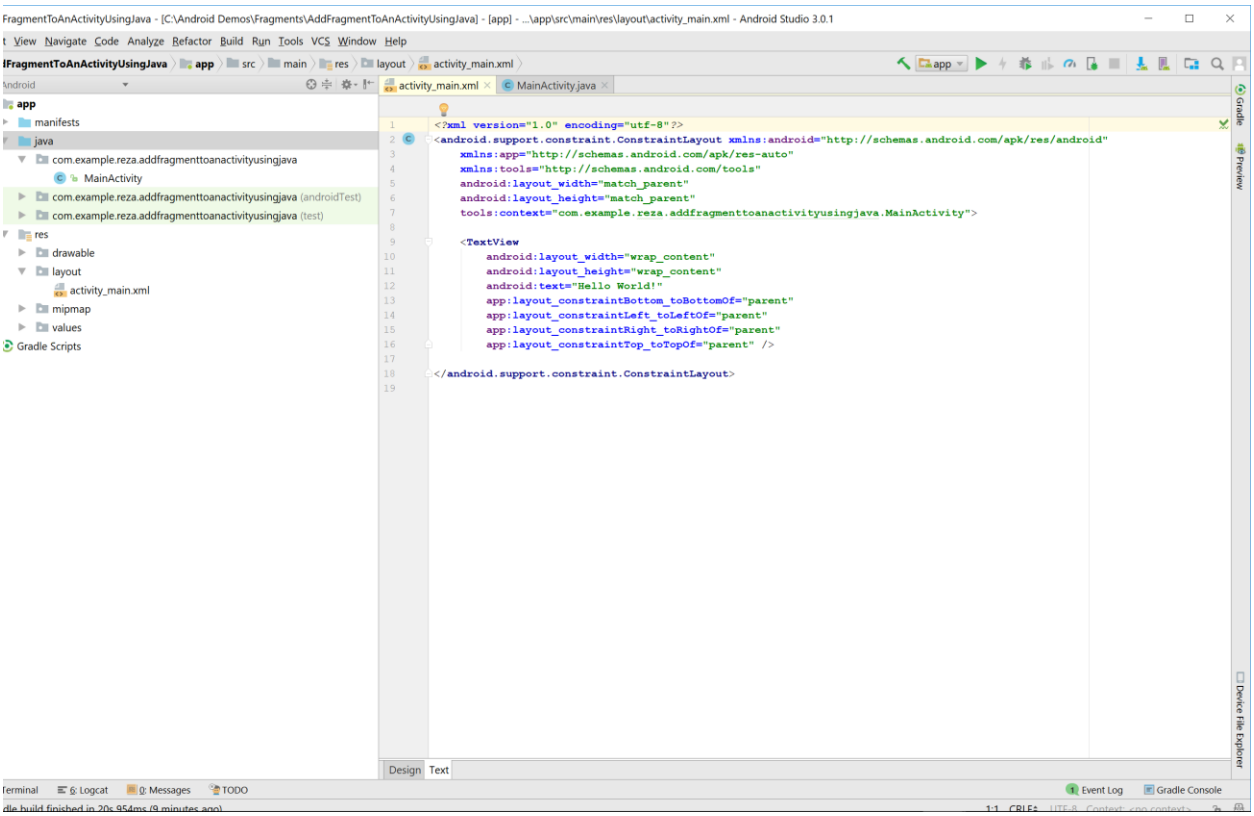

Create New Project
Target Android Devices
Select the form factors and minimum SDK
Some devices require additional SDKs. Low API levels target more devices, but offer fewer API features.
Phone and Tablet
API 15: Android 4.0.3 (IceCreamSandwich)
By targeting API 15 and later, your app will run on approximately 100% of devices. Help me choose
Include Android Instant App support
Wear
API 21: Android 5.0 (Lollipop)
TV
API 21: Android 5.0 (Lollipop)
Android Auto
Android Things
API 24: Android 7.0 (Nougat)
Previous
Next
Cancel
Finish


Create New Project
Add an Activity to Mobile
Add No Activity
Basic Activity
Bottom Navigation Activity
Empty Activity
Fullscreen Activity
Ad
Google AdMob Ads Activity
Google Maps Activity
Login Activity
Previous
Next
Cancel
Finish

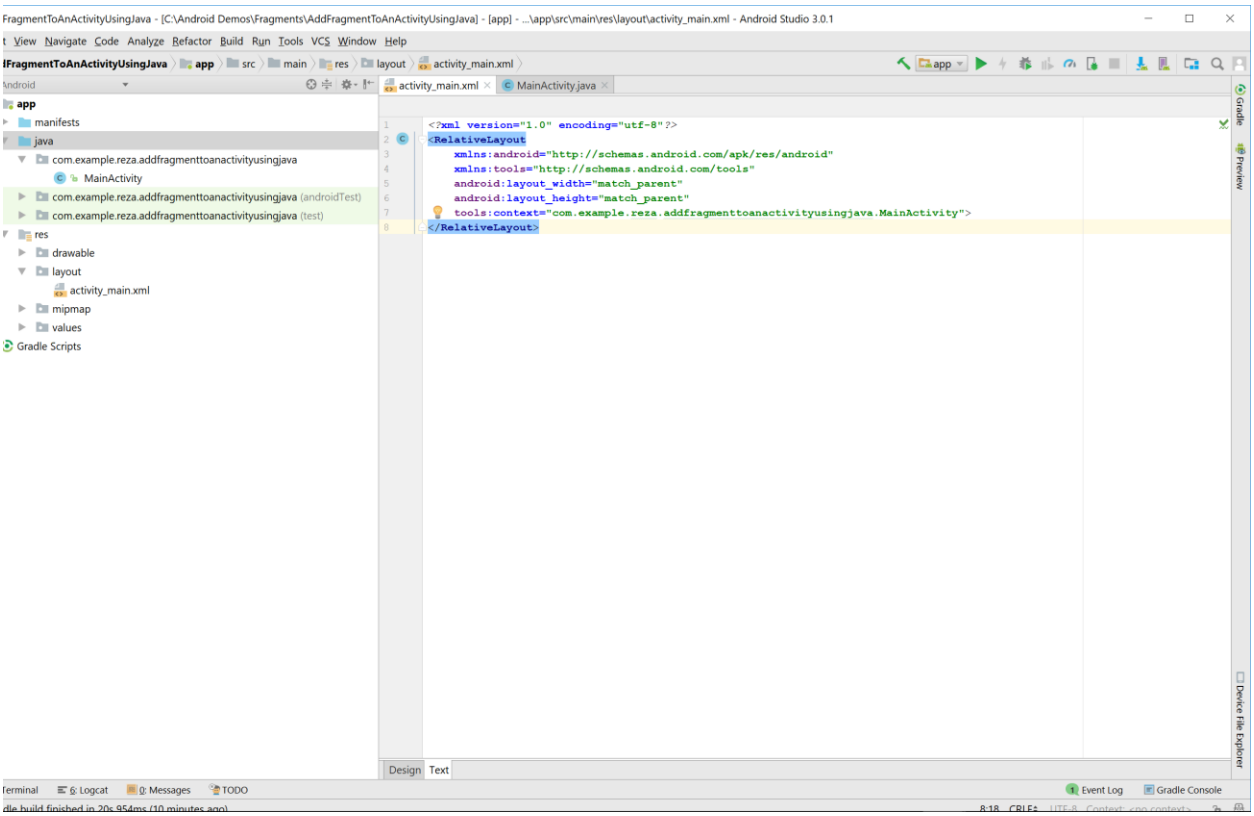

Create New Project
Configure Activity
Creates a new empty activity
Activity Name
MainActivity
Generate Layout File
Layout Name
activity_main
Backwards Compatibility (AppCompat)
Previous
Next
Cancel
Finish


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src androidTest java
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
package com.example.reza.addfragmenttoanactivityusingjava;
import ...
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
}
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle build finished in 20s 954ms
1:1 CRLF UTF-8 Context: <no context>

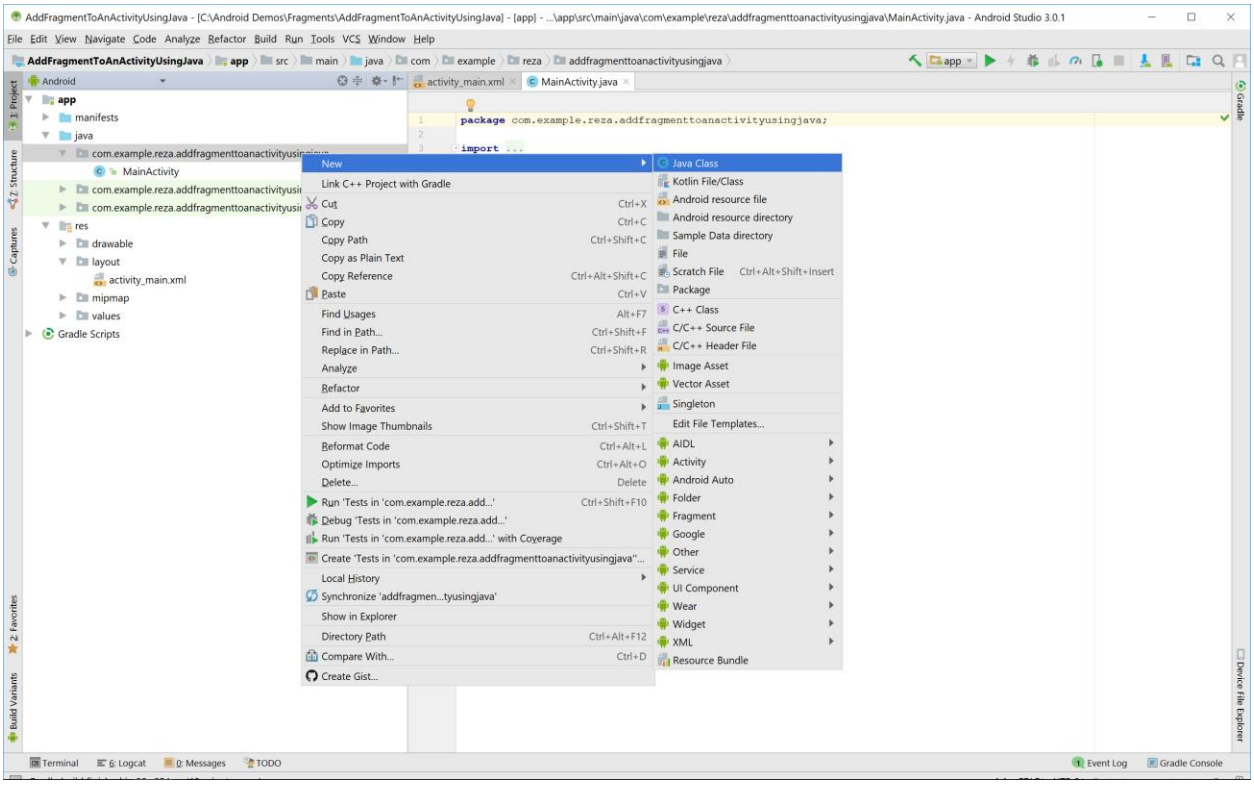

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
Palette
Widgets
Text
Layouts
Containers
Images
Date
Transitions
Advanced
Google
Design
AppCompat
Button
ToggleButton
CheckBox
RadioButton
CheckedTextView
Spinner
ProgressBar
ProgressBar (Horizontal)
SeekBar
SeekBar (Discrete)
QuickContactBadge
RatingBar
Switch
Space
TextView
Plain Text
Password
Password (Numeric)
Component Tree
ConstraintLayout
TextView "Hello World!"
Nexus 4
27
AppTheme
Language
83%
8:00
AddFragmentToAnActivityUsingJava
Hello World!
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle build finished in 20s 954ms (a minute ago)
n/a Context: <no context>

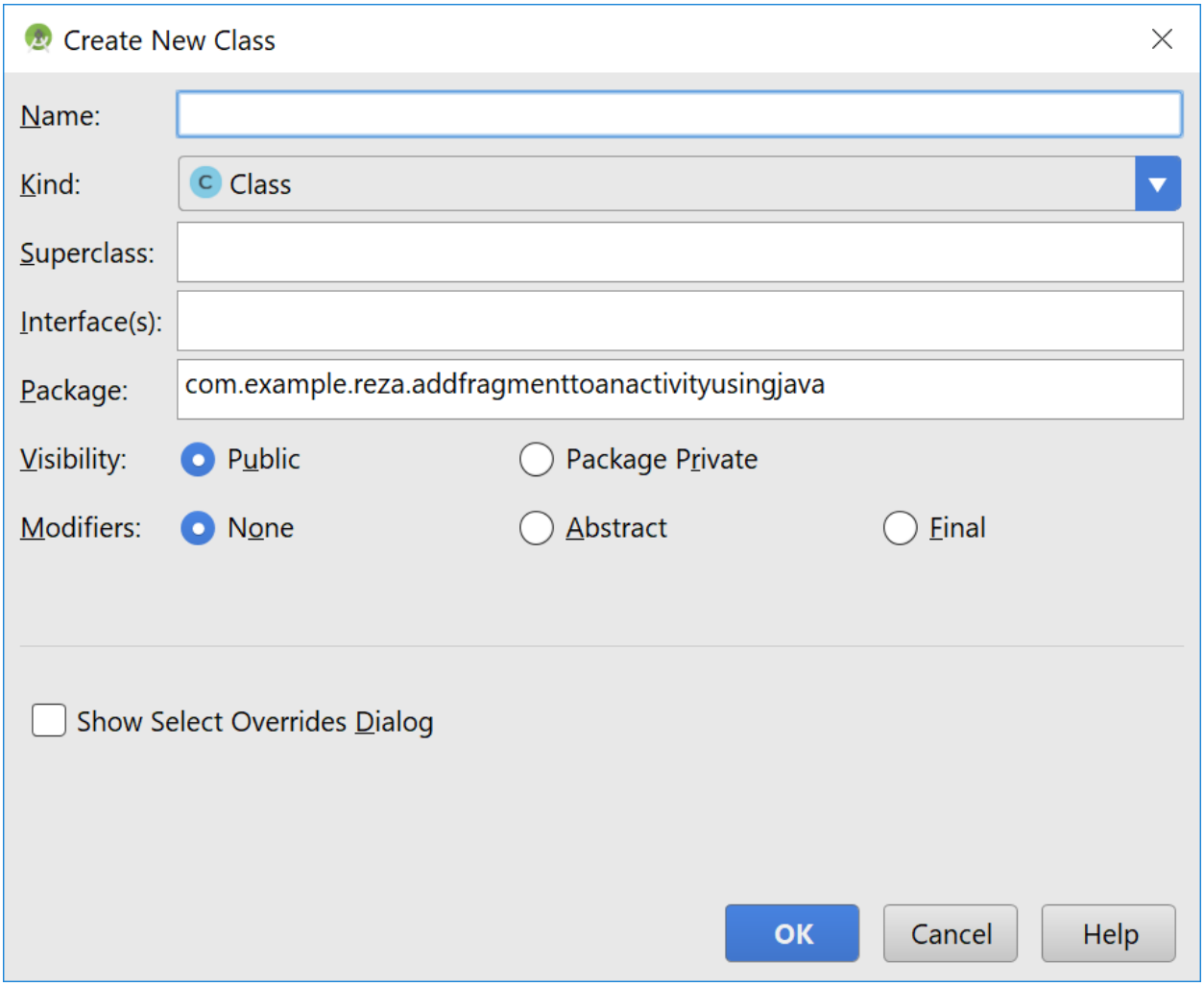

FragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle
Preview
Device File Explorer

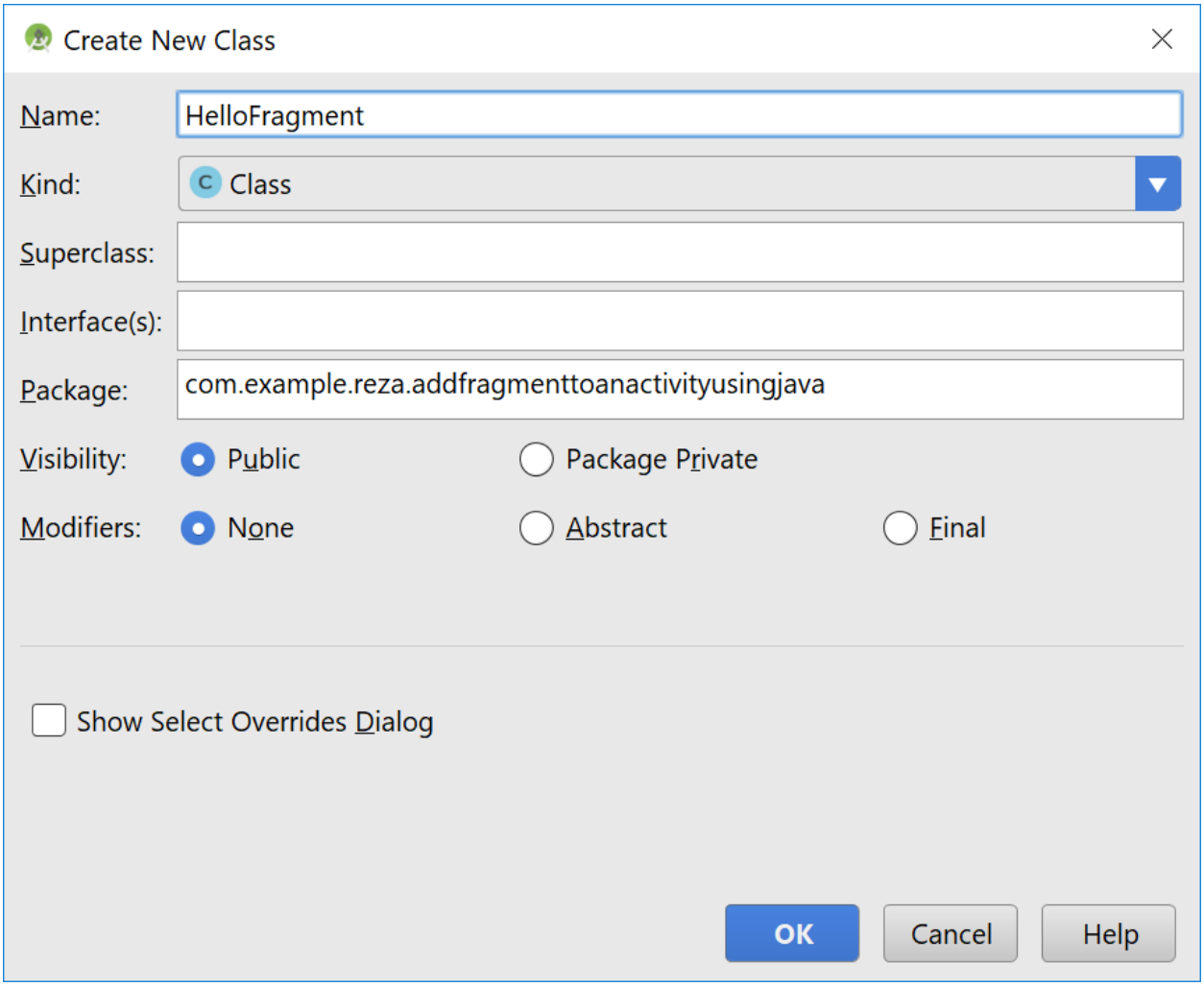
Change the layout file (activity_main.xml) as shown:

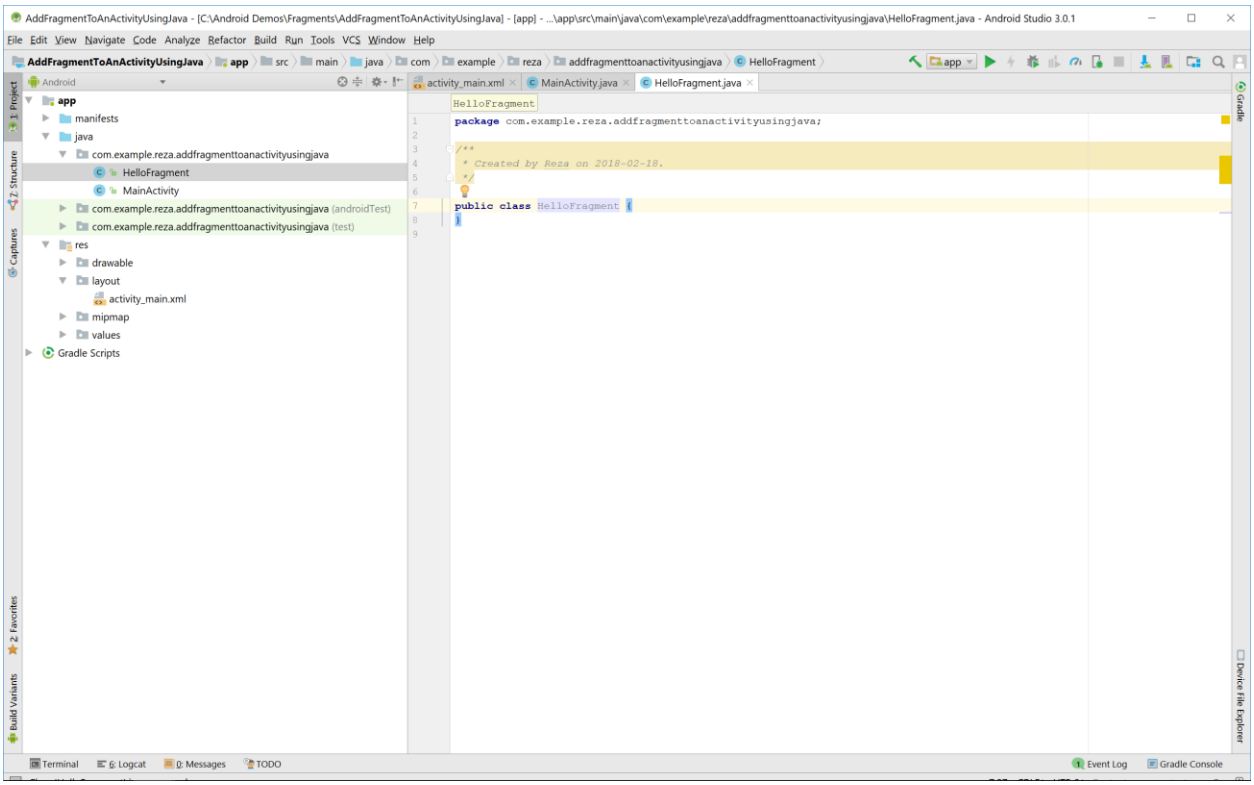


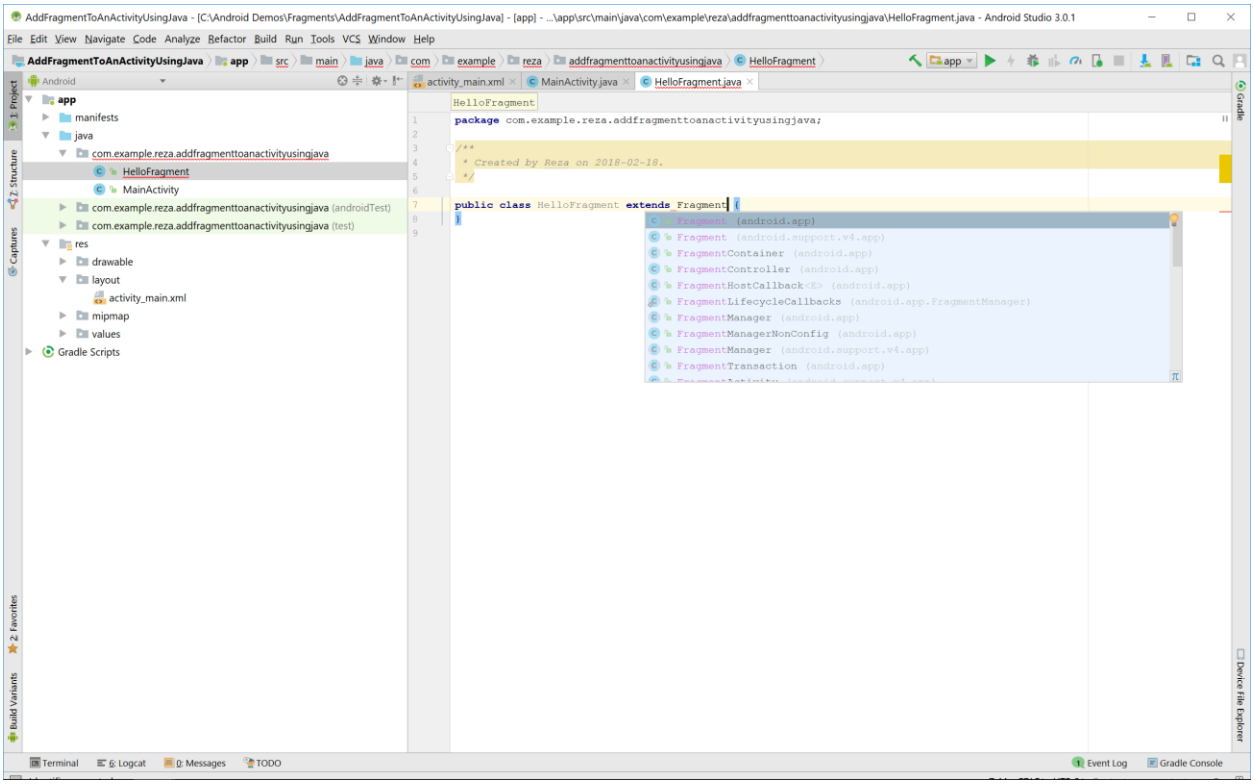
Now you need to create your fragment which is a subclass of Fragment class. So create a new Java class:

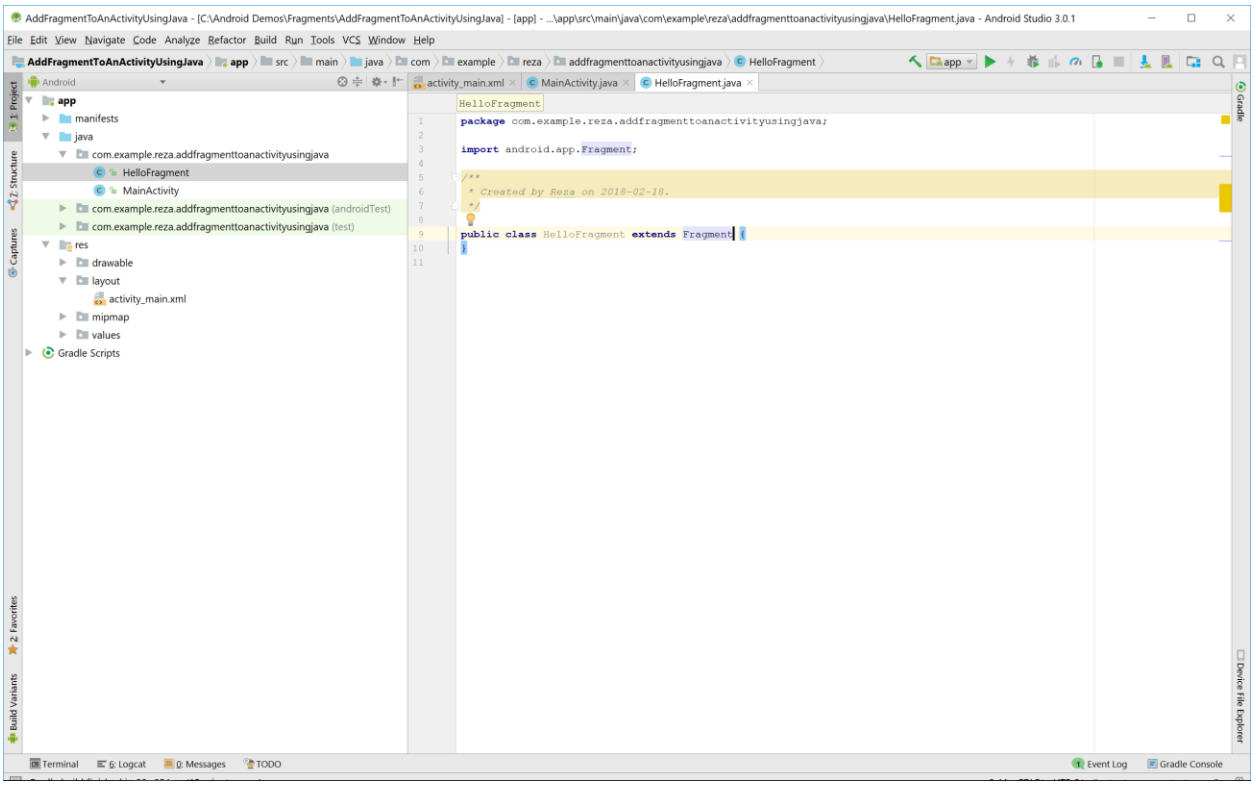



Create New Class
Name:
Kind:
Class
Superclass:
Interface(s):
Package:
com.example.reza.addfragmenttoanactivityusingjava
Visibility:
Public
Package Private
Modifiers:
None
Abstract
Final
Show Select Overrides Dialog
OK
Cancel
Help

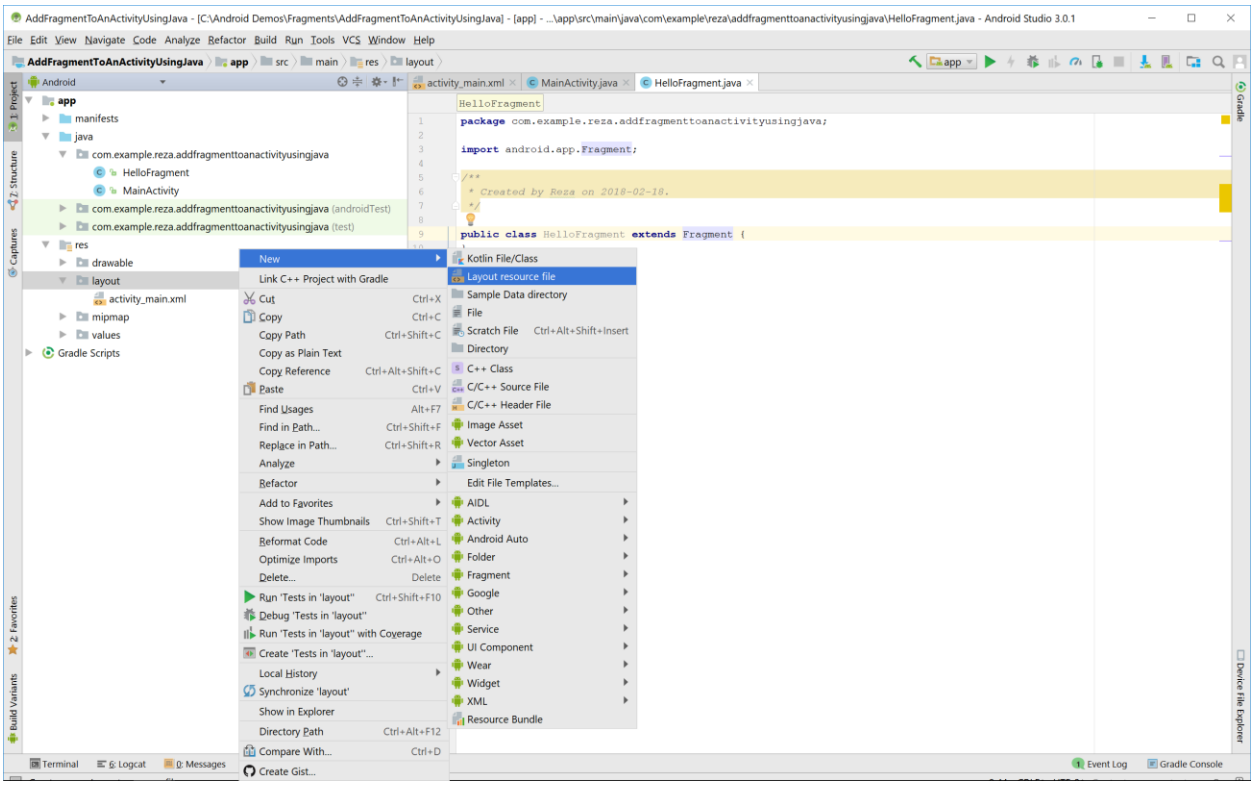

Create New Class
Name:
HelloFragment
Kind:
Class
Superclass:
Interface(s):
Package:
com.example.reza.addfragmenttoanactivityusingjava
Visibility:
Public
Package Private
Modifiers:
None
Abstract
Final
Show Select Overrides Dialog
OK
Cancel
Help

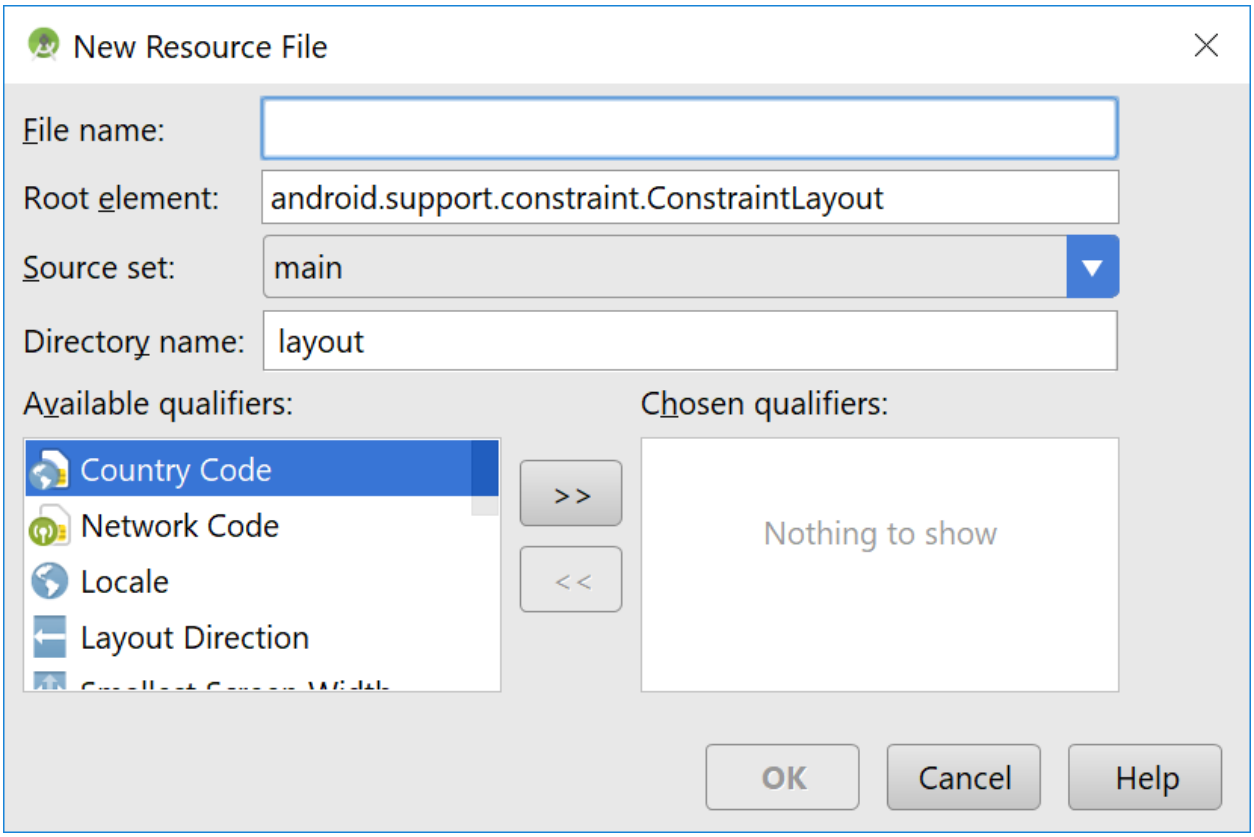

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava HelloFragment
activity_main.xml MainActivity.java HelloFragment.java
HelloFragment
1 package com.example.reza.addfragmenttoanactivityusingjava;
3 /**
4 * Created by Reza on 2018-02-18.
5 */
7 public class HelloFragment {
8 }
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

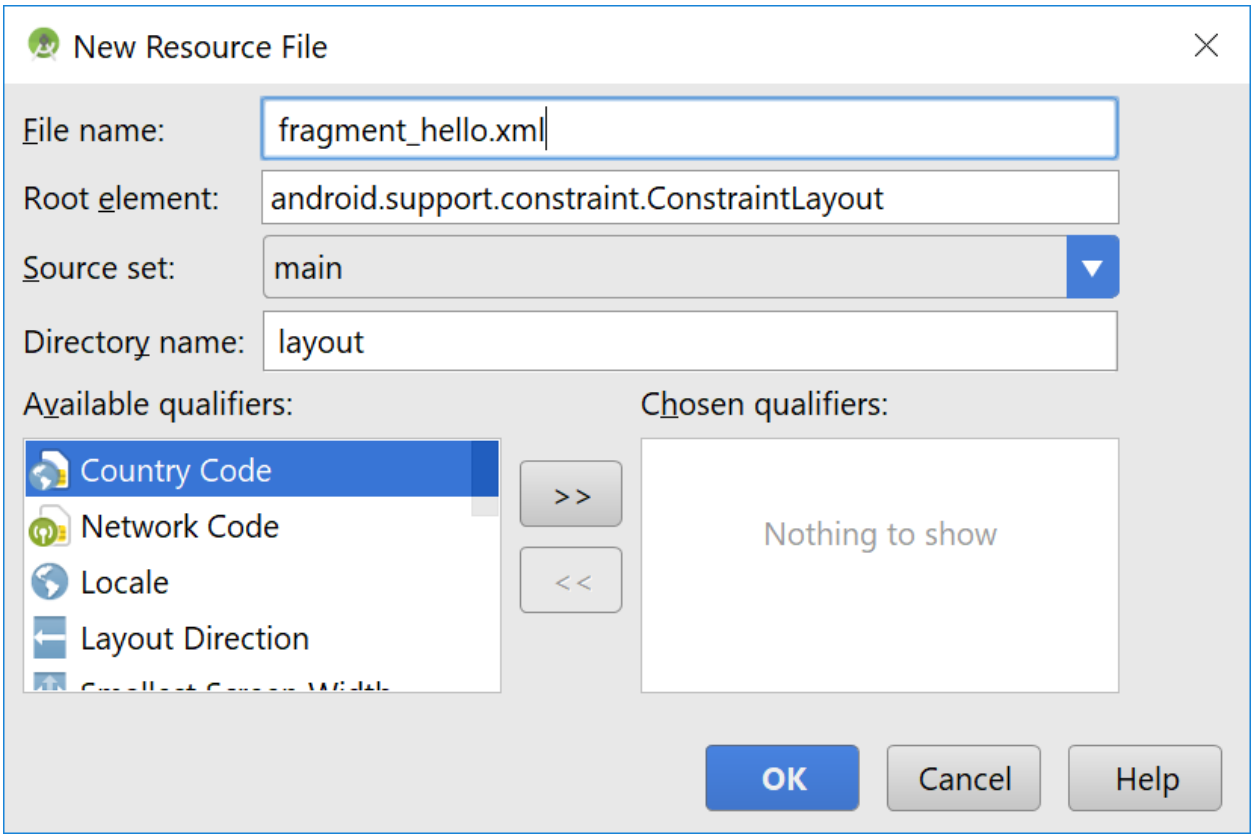

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava HelloFragment
activity_main.xml MainActivity.java HelloFragment.java
HelloFragment
1 package com.example.reza.addfragmenttoanactivityusingjava;
3 /**
4 * Created by Reza on 2018-02-18.
5 */
7 public class HelloFragment extends Fragment {
8 }
Fragment (android.app)
Fragment (android.support.v4.app)
FragmentContainer (android.app)
FragmentController (android.app)
FragmentHostCallback<E> (android.app)
FragmentLifecycleCallbacks (android.app.FragmentManager)
FragmentManager (android.app)
FragmentManagerNonConfig (android.app)
FragmentManager (android.support.v4.app)
FragmentTransaction (android.app)
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava HelloFragment
app
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
HelloFragment.java
HelloFragment
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.Fragment;
/**
* Created by Reza on 2018-02-18.
*/
public class HelloFragment extends Fragment {
}
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
1: Project
7: Structure
Captures
2: Favorites
Build Variants
Gradle
Device File Explorer

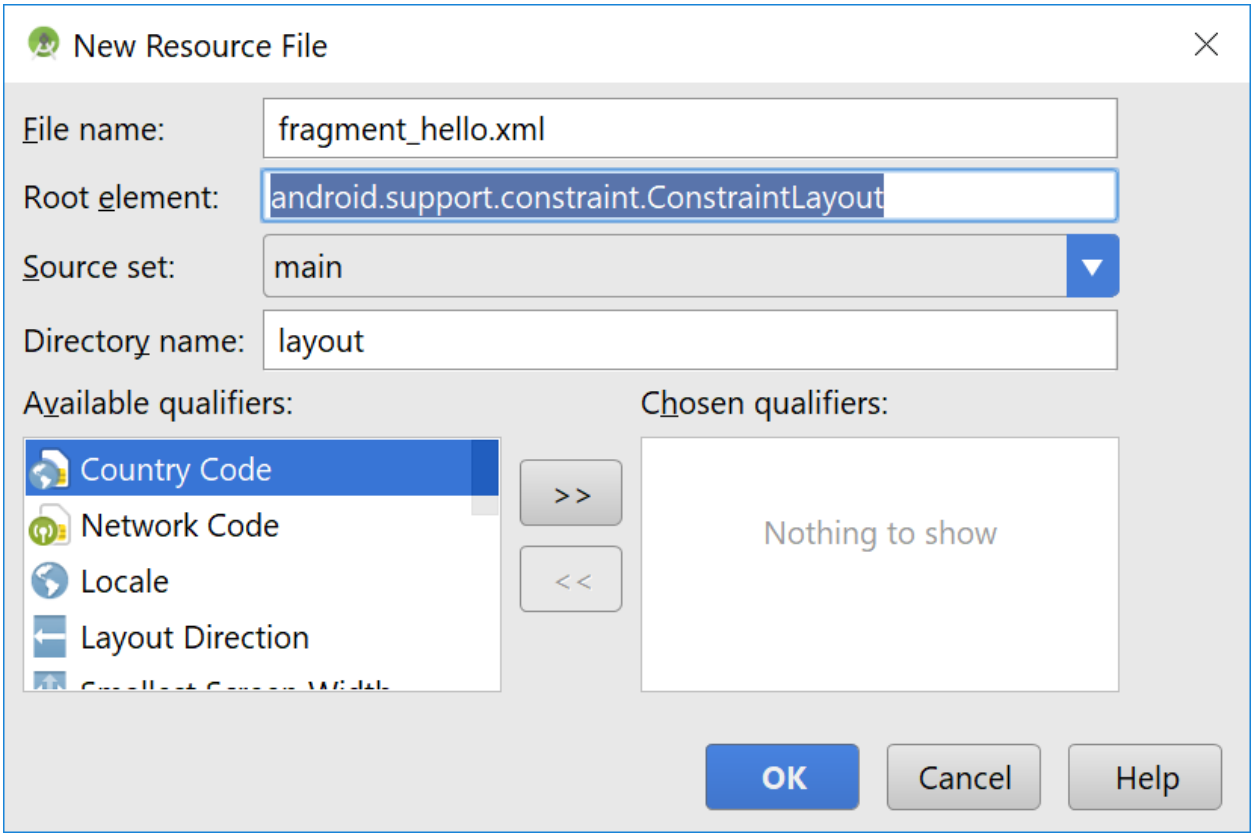
Next create a layout for your fragment class as shown:

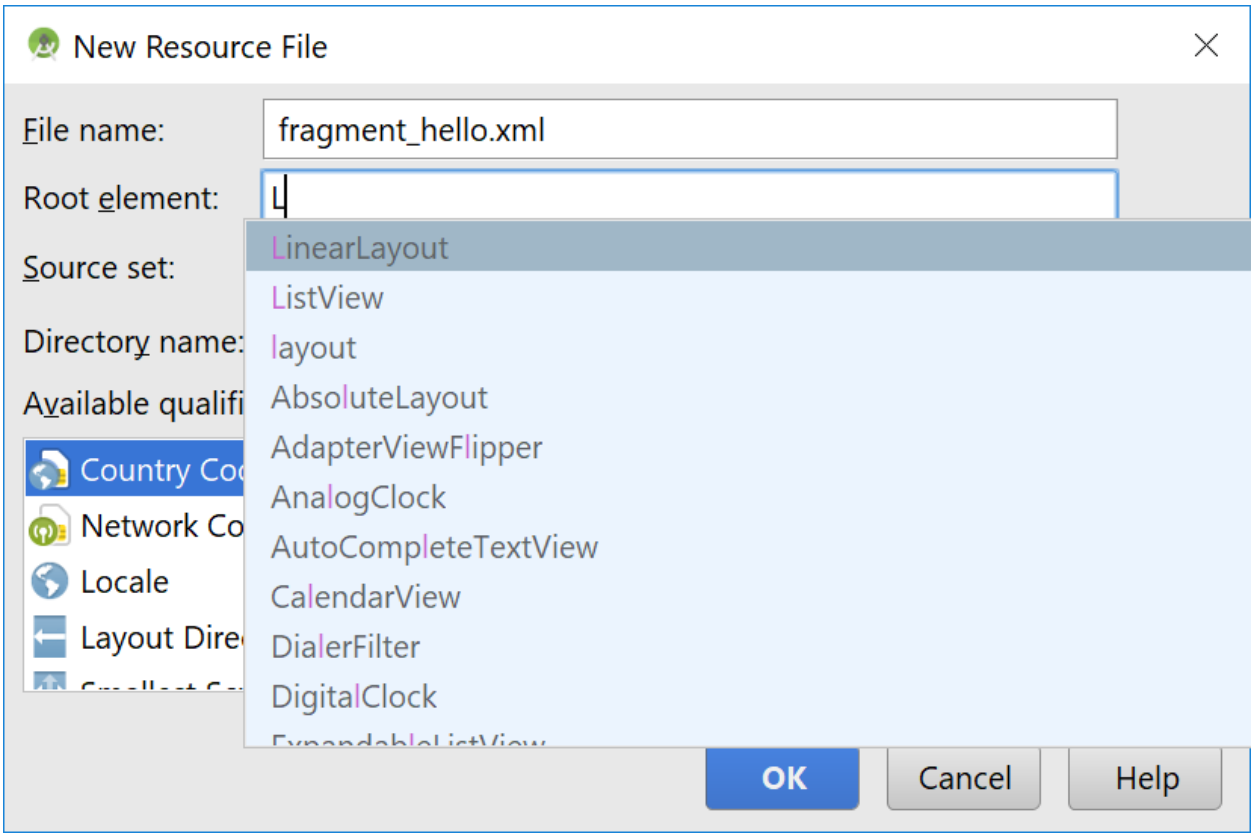


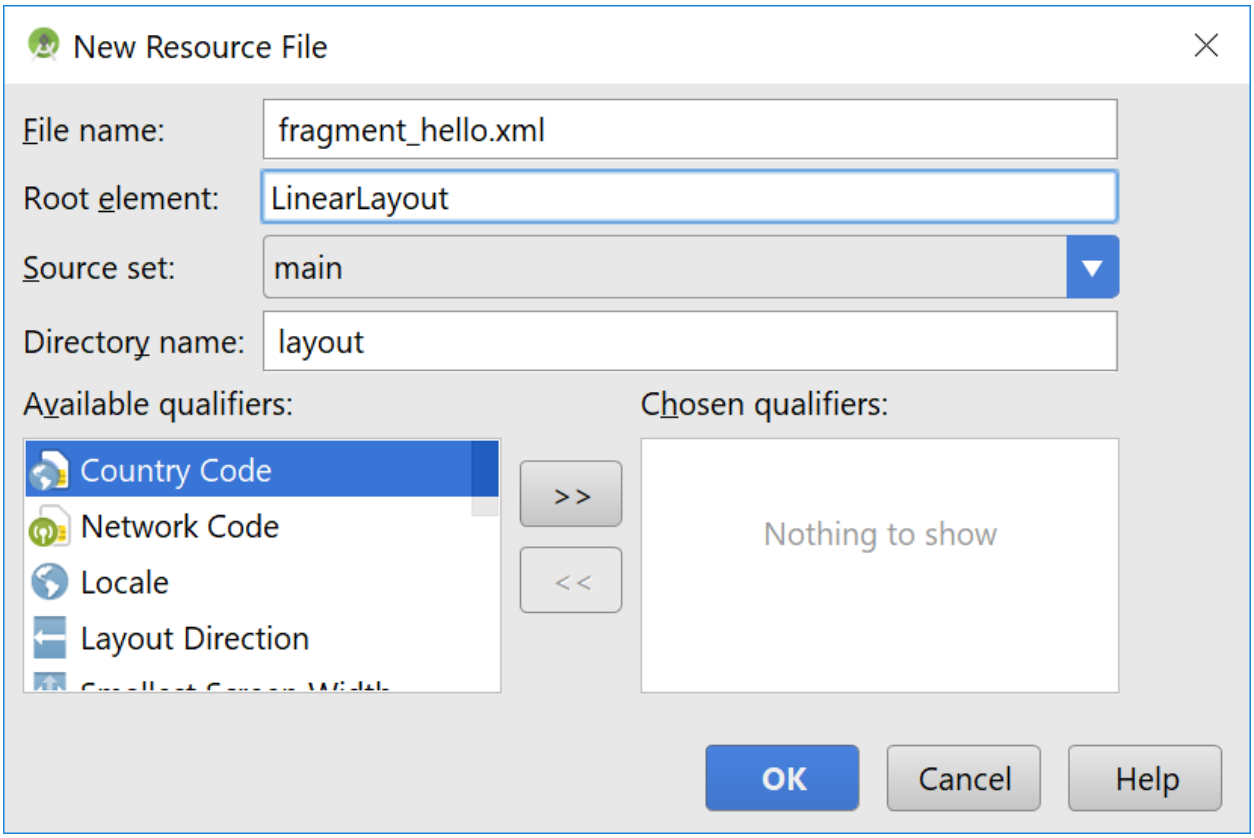

New Resource File
File name:
Root element:
android.support.constraint.ConstraintLayout
Source set:
main
Directory name:
layout
Available qualifiers:
Chosen qualifiers:
Country Code
Network Code
Locale
Layout Direction
>>
<<
Nothing to show
OK
Cancel
Help

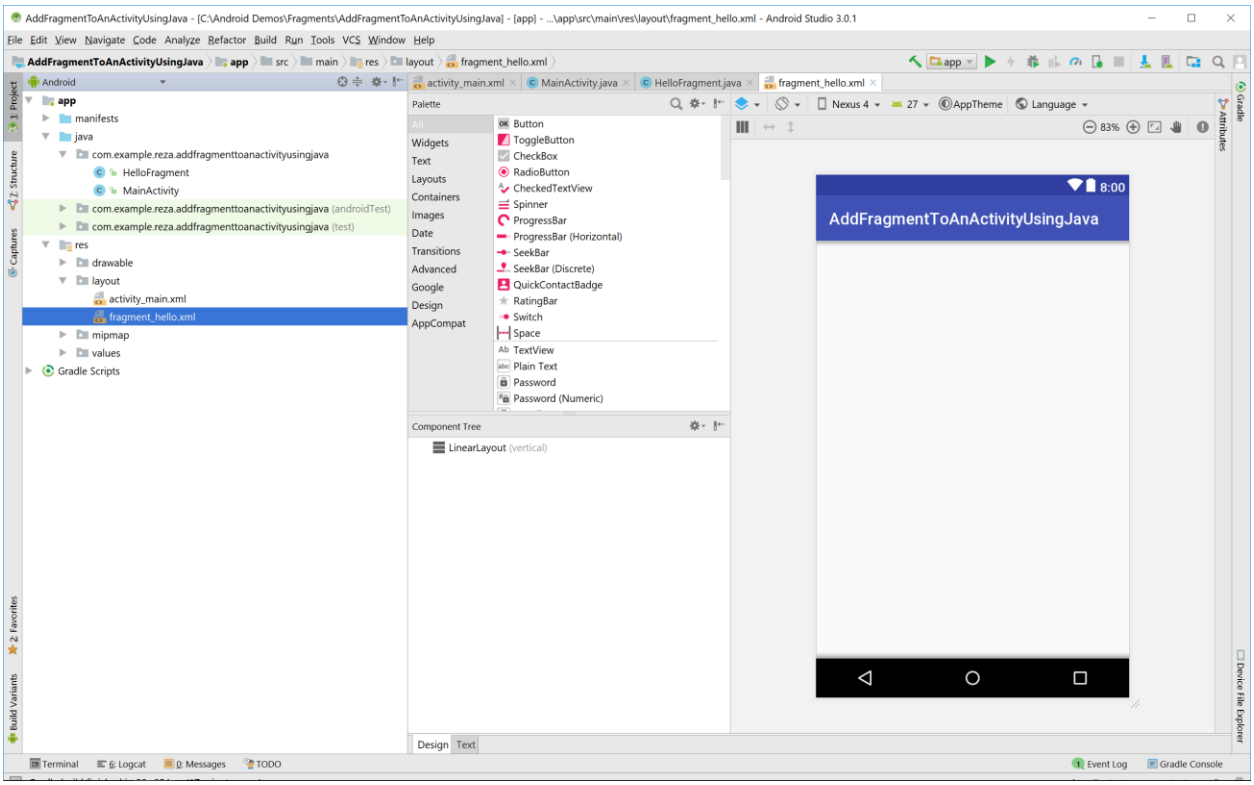

New Resource File
File name:
fragment_hello.xml
Root element:
android.support.constraint.ConstraintLayout
Source set:
main
Directory name:
layout
Available qualifiers:
Chosen qualifiers:
Country Code
Network Code
Locale
Layout Direction
>>
<<
Nothing to show
OK
Cancel
Help

We are going to change the root layout to a LinearLayout as shown:

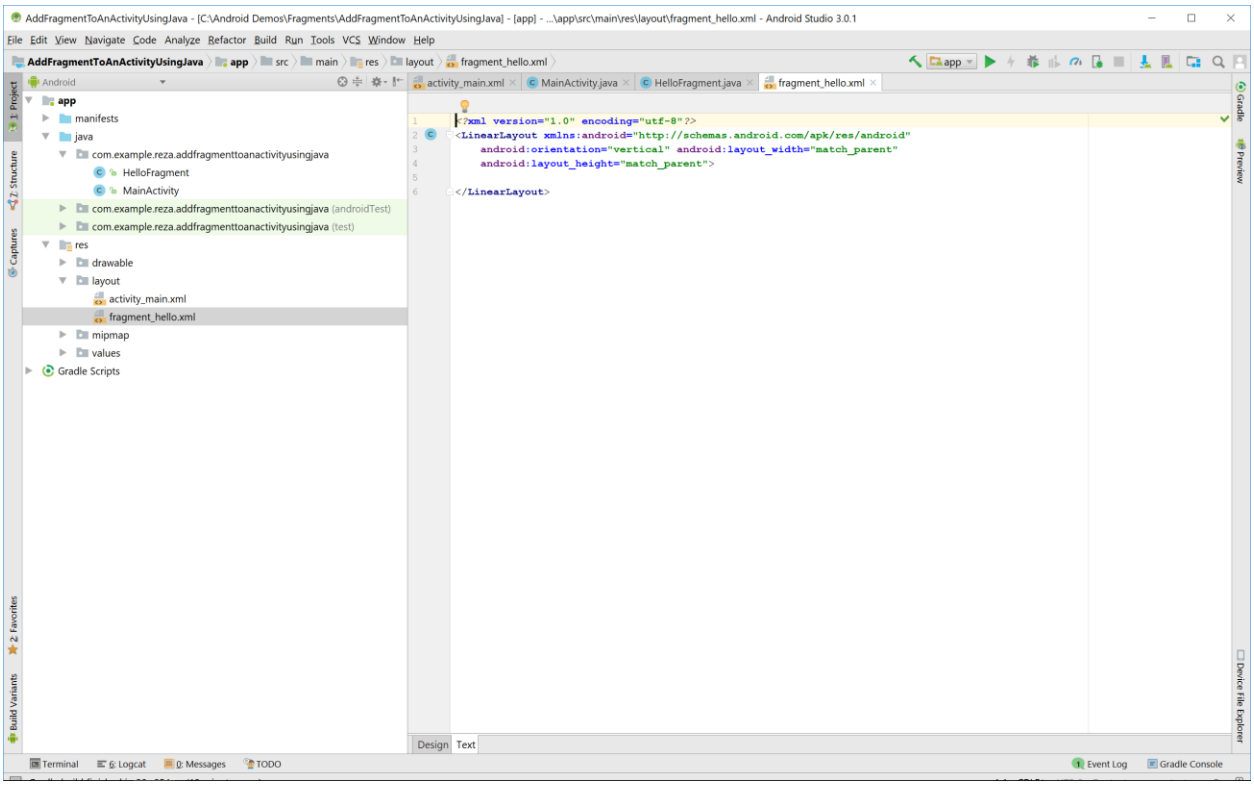



New Resource File
File name:
fragment_hello.xml
Root element:
L
Source set:
Directory name:
Available qualifi
Country Co
Network Co
Locale
Layout Dire
LinearLayout
ListView
layout
AbsoluteLayout
AdapterViewFlipper
AnalogClock
AutoCompleteTextView
CalendarView
DialerFilter
DigitalClock
OK
Cancel
Help

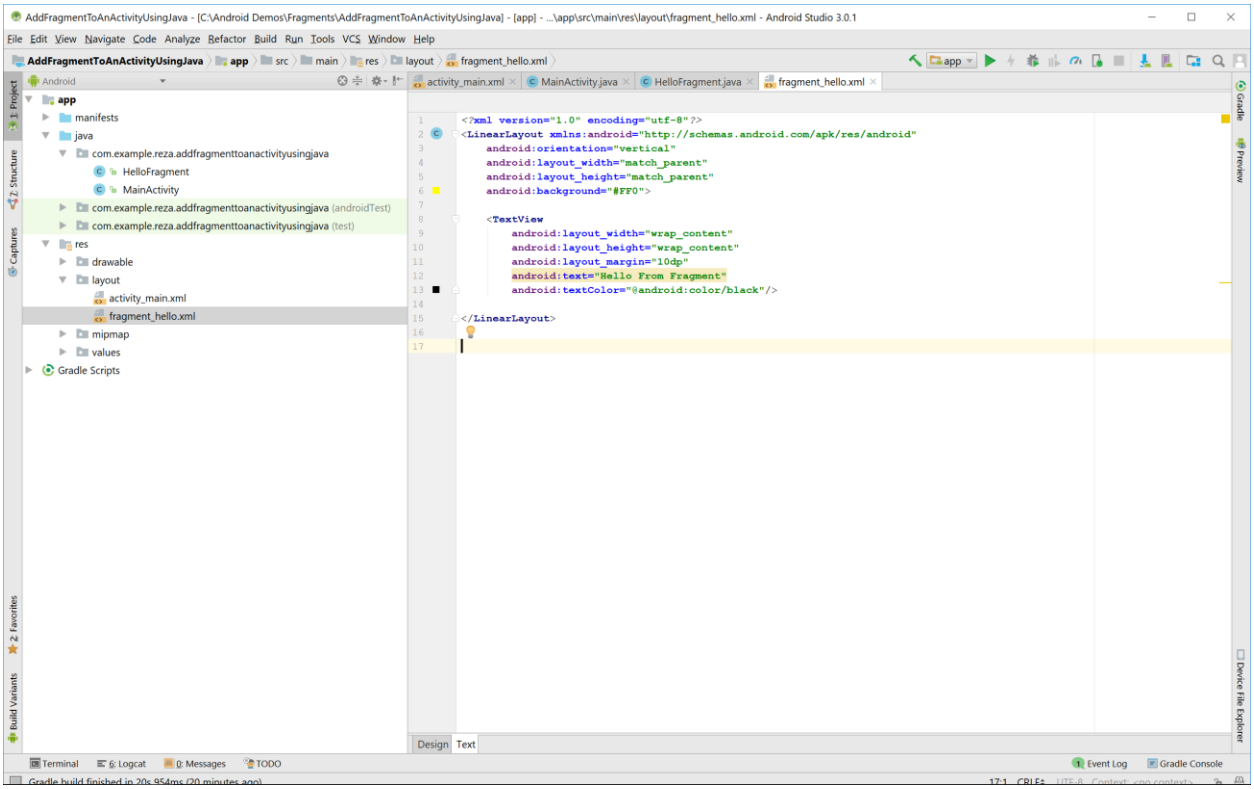

New Resource File
File name:
fragment_hello.xml
Root element:
LinearLayout
Source set:
main
Directory name:
layout
Available qualifiers:
Chosen qualifiers:
Country Code
Network Code
Locale
Layout Direction
>>
<<
Nothing to show
OK
Cancel
Help

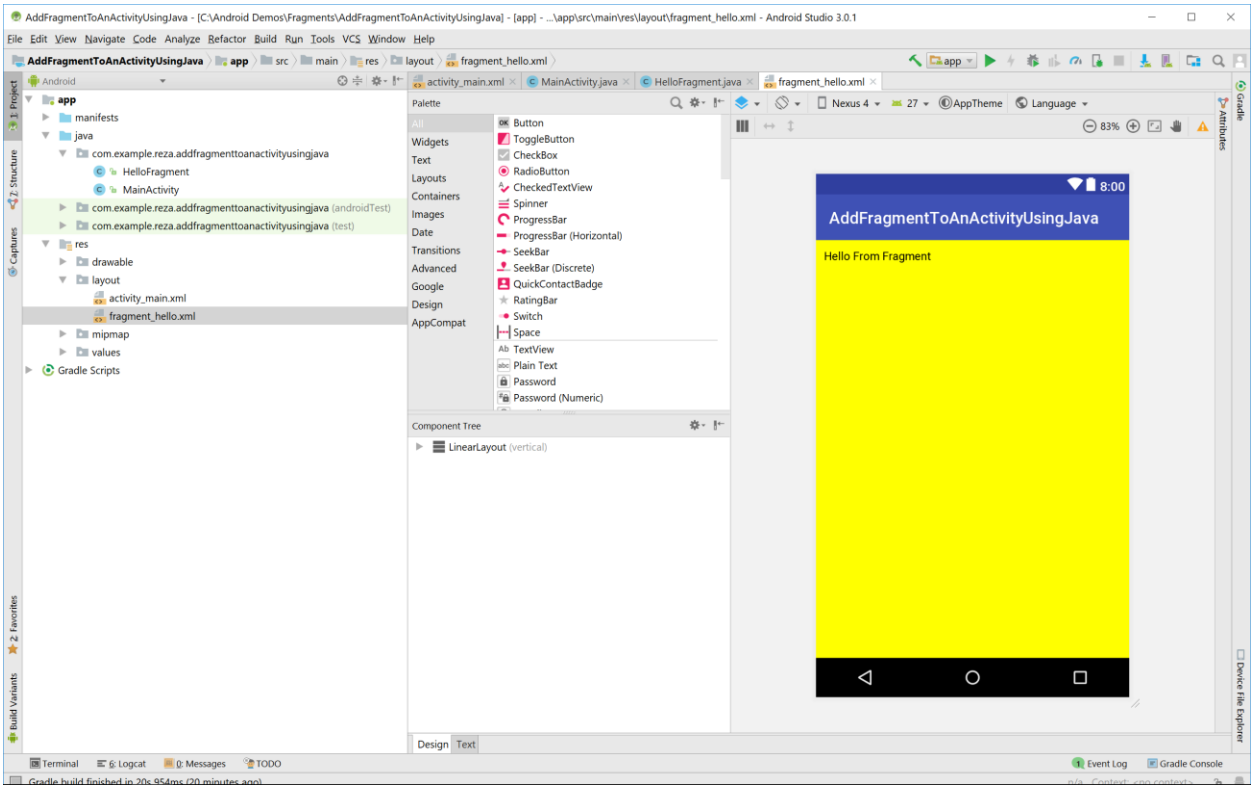

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout fragment_hello.xml
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
HelloFragment.java
fragment_hello.xml
Palette
Widgets
Text
Layouts
Containers
Images
Date
Transitions
Advanced
Google
Design
AppCompat
Button
ToggleButton
CheckBox
RadioButton
CheckedTextView
Spinner
ProgressBar
ProgressBar (Horizontal)
SeekBar
SeekBar (Discrete)
QuickContactBadge
RatingBar
Switch
Space
TextView
Plain Text
Password
Password (Numeric)
Component Tree
LinearLayout (vertical)
Nexus 4
27
AppTheme
Language
83%
8:00
AddFragmentToAnActivityUsingJava
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console

Here is the layout:

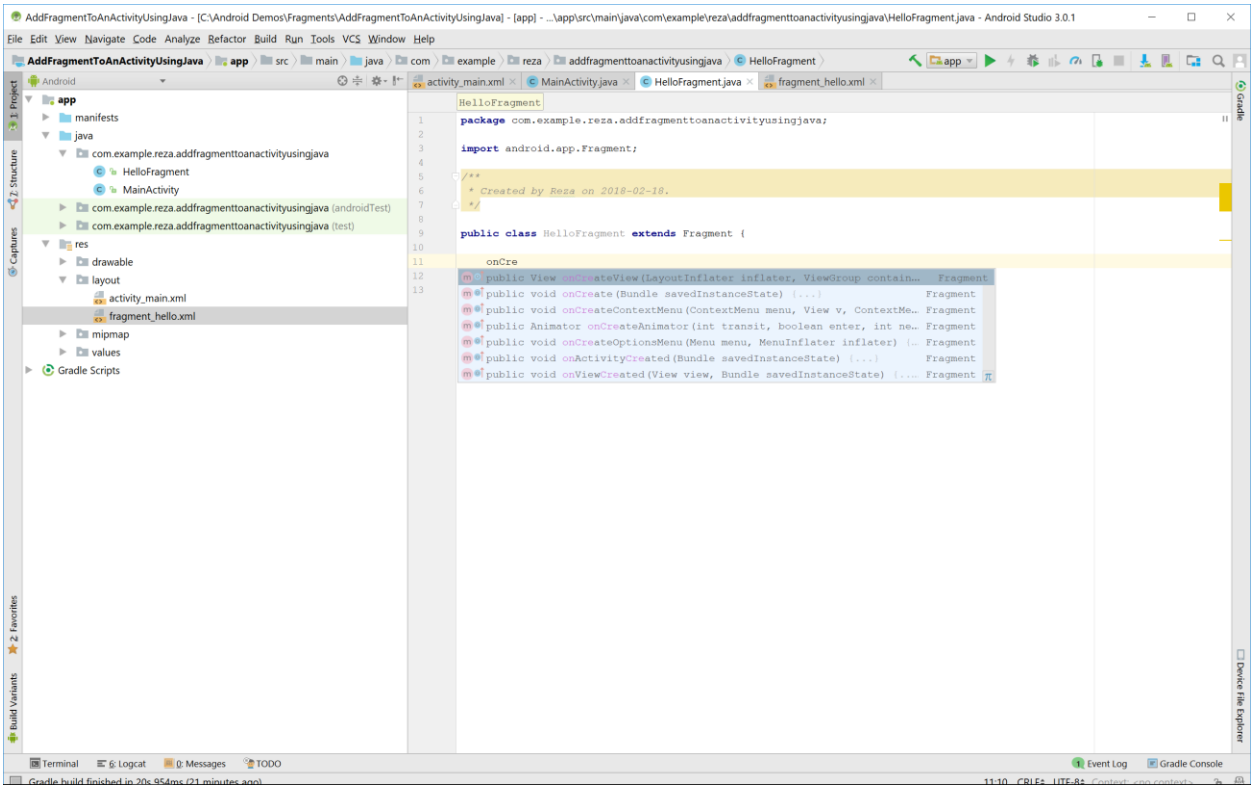


Add an element and set the background color so it is easy to see the fragment when displayed in the activity:

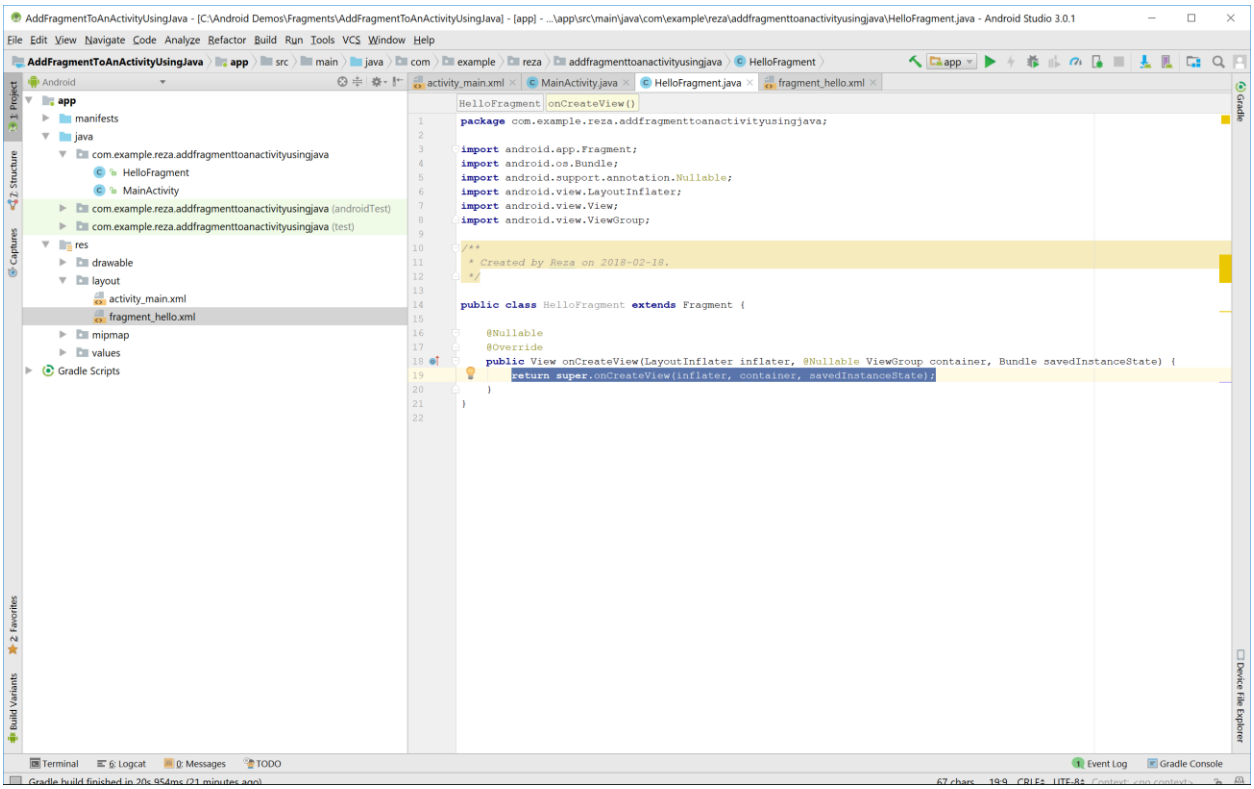


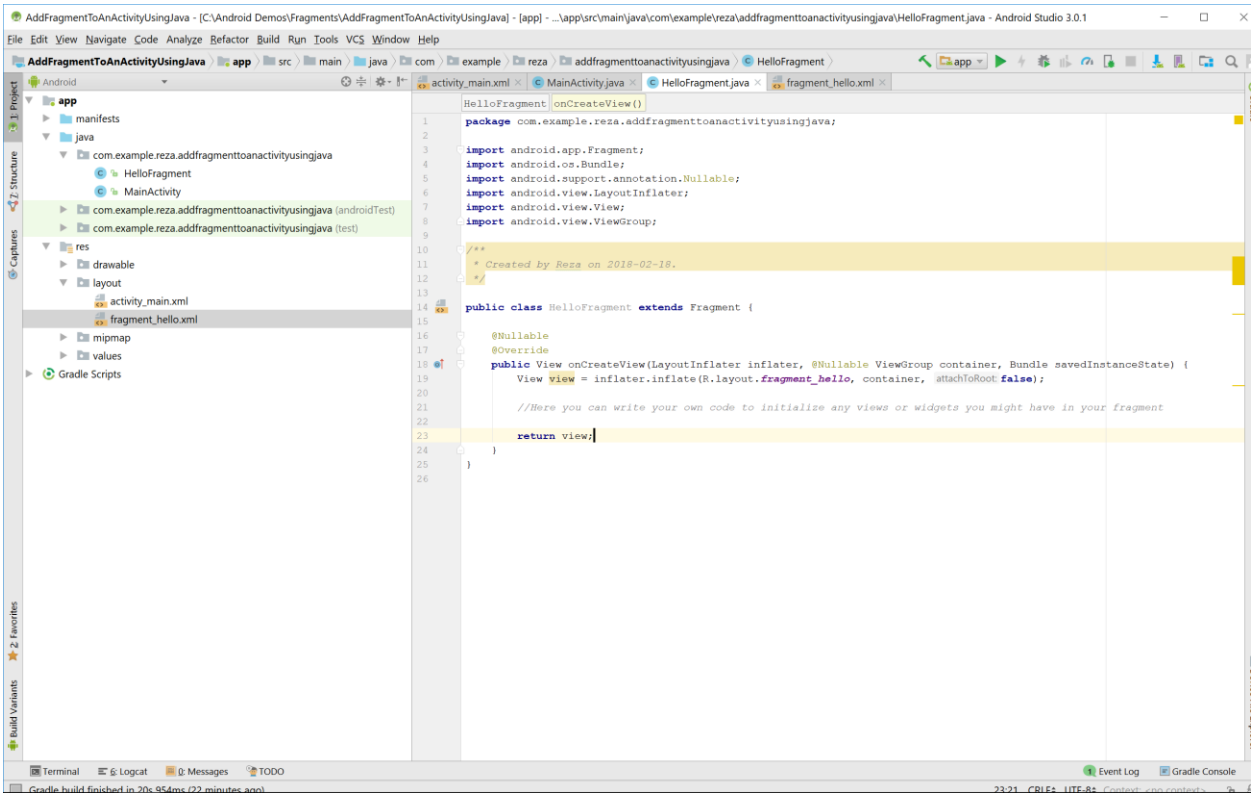

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout fragment_hello.xml
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
HelloFragment.java
fragment_hello.xml
Palette
All
Widgets
Text
Layouts
Containers
Images
Date
Transitions
Advanced
Google
Design
AppCompat
Button
ToggleButton
CheckBox
RadioButton
CheckedTextView
Spinner
ProgressBar
ProgressBar (Horizontal)
SeekBar
SeekBar (Discrete)
QuickContactBadge
RatingBar
Switch
Space
TextView
Plain Text
Password
Password (Numeric)
Component Tree
LinearLayout (vertical)
Nexus 4
27
AppTheme
Language
83%
8:00
AddFragmentToAnActivityUsingJava
Hello From Fragment
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle build finished in 20s 954ms (20 minutes ago)

Now go back to HelloFragment.java code and use the onCreate () method to create the connection between the java code and its layout file.



You need to replace the highlighted code as shown:



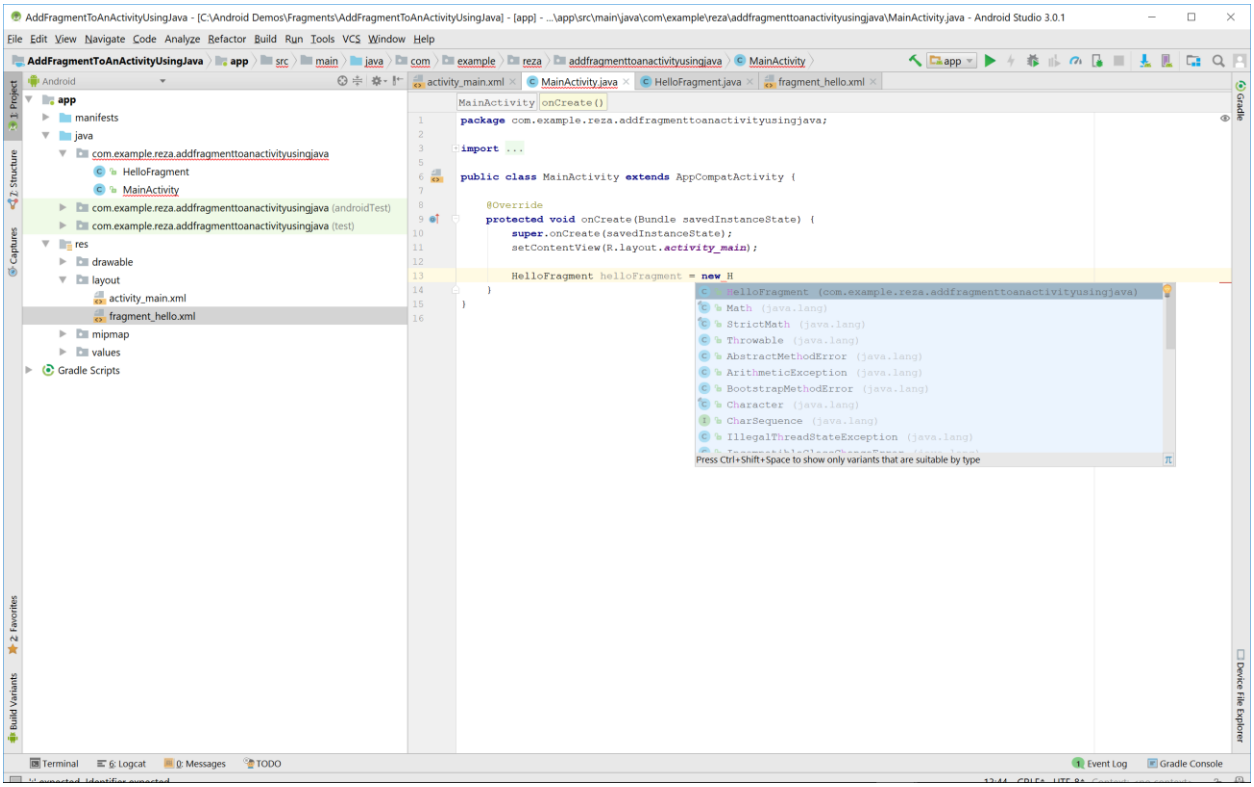


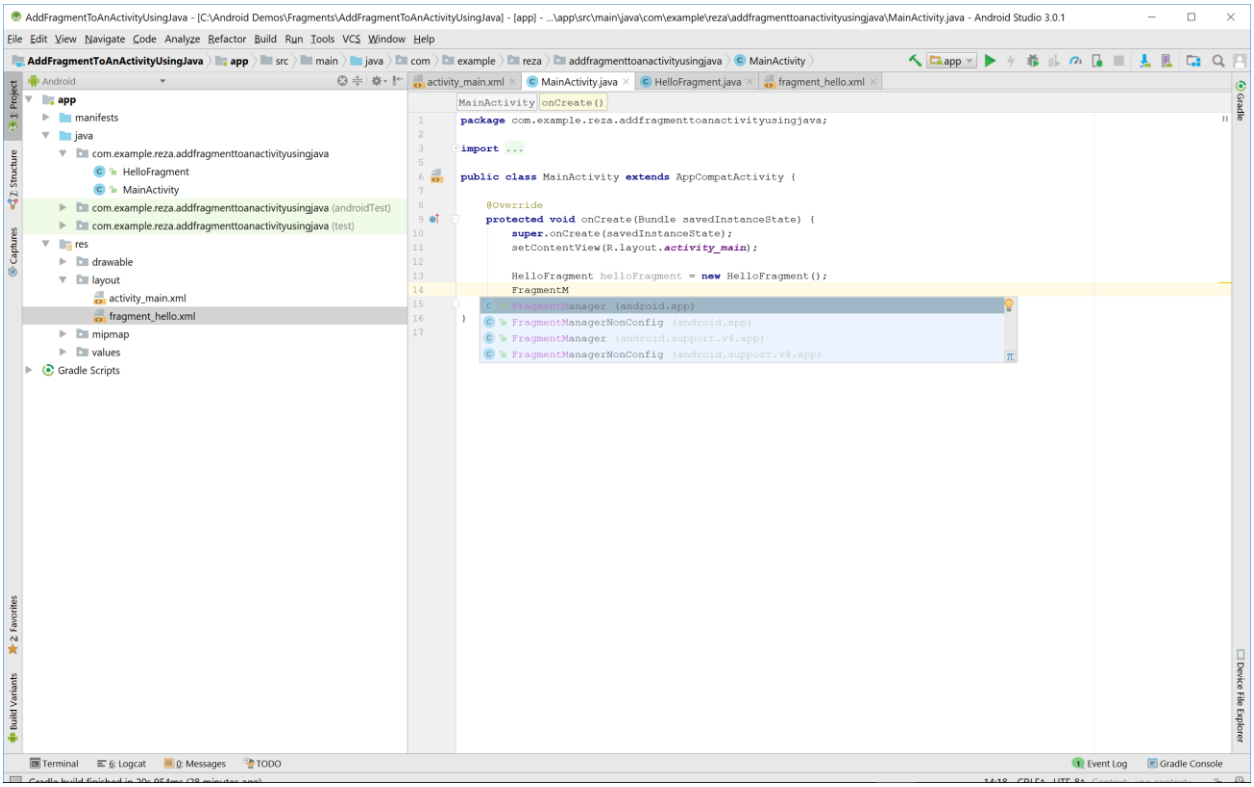
In the comment section you can write the code to initialize any other views you might have in your fragment.

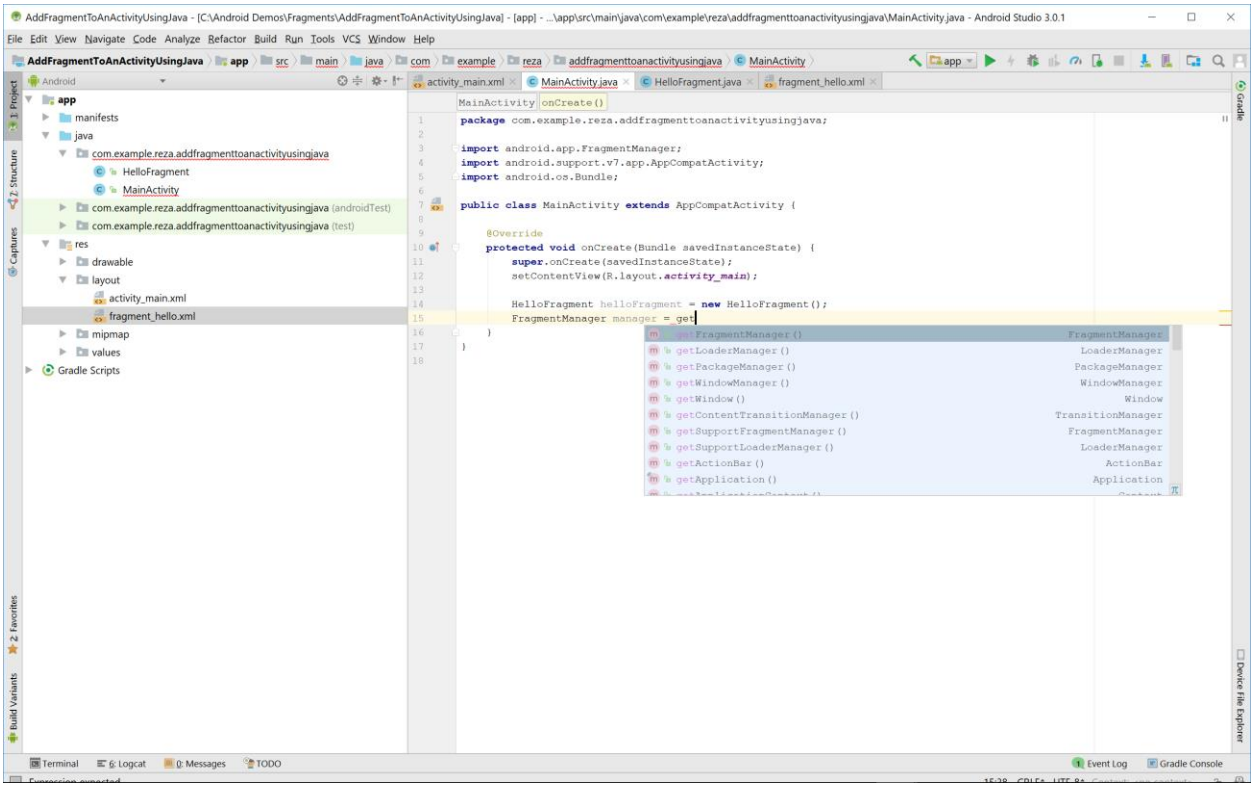
To this point everything we did was identical with the steps we took when we created and added a fragment to the activity by dragging it into the user interface of the main activity.

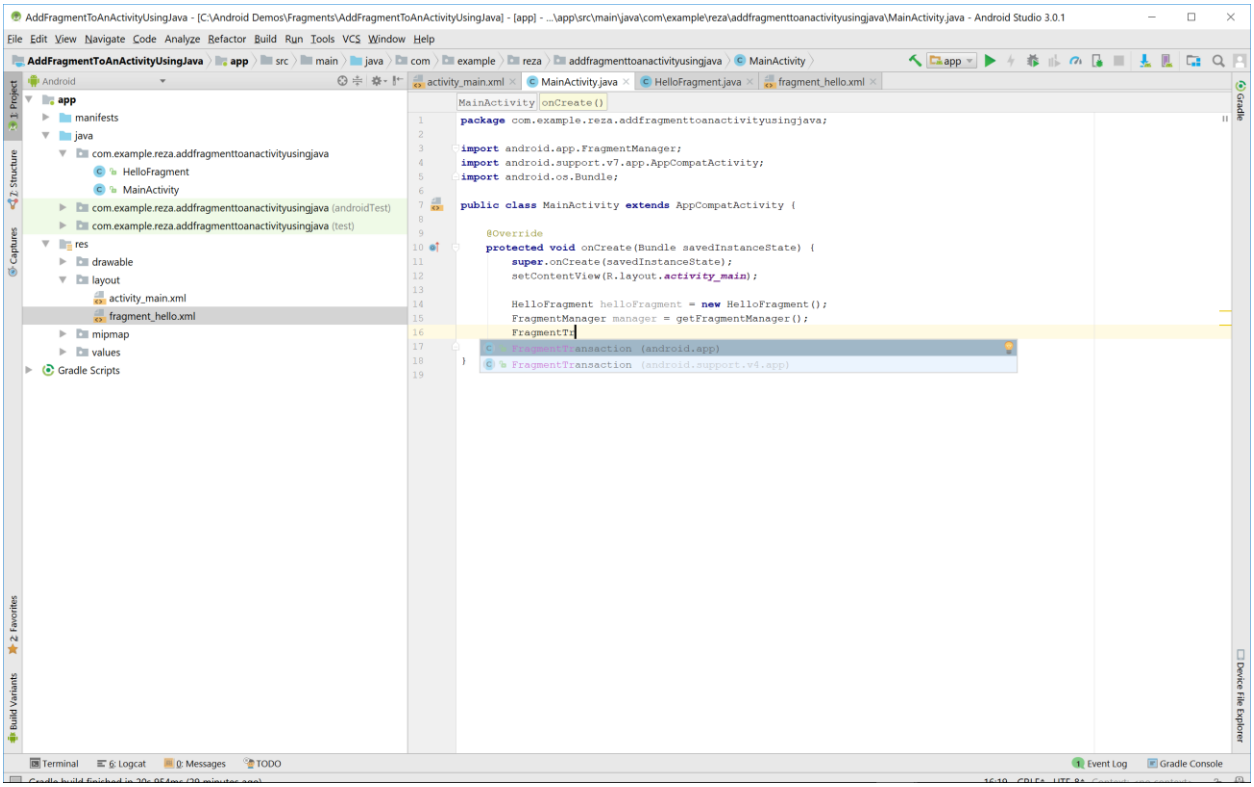
However in this new method we are going to add this fragment to our activity programmatically so the steps from this point forward are different.

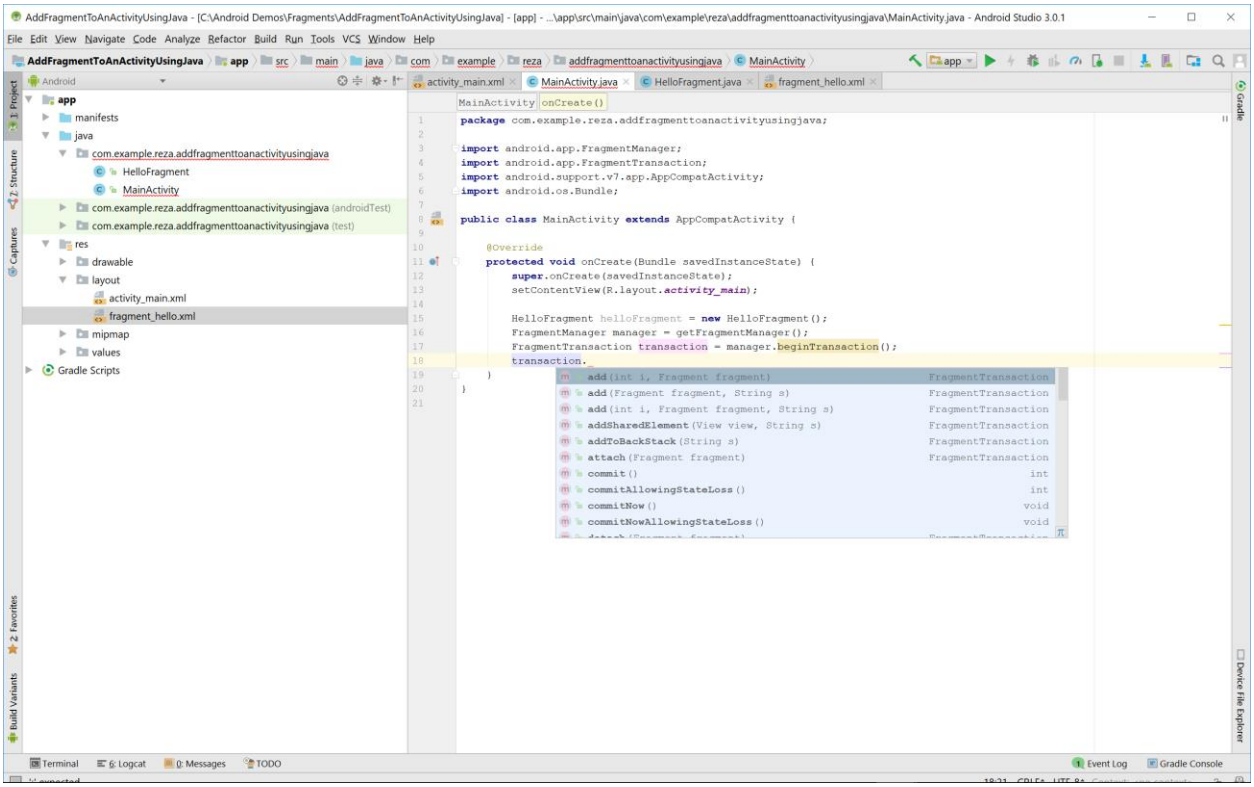
Go to MainActivity.java and add the following:

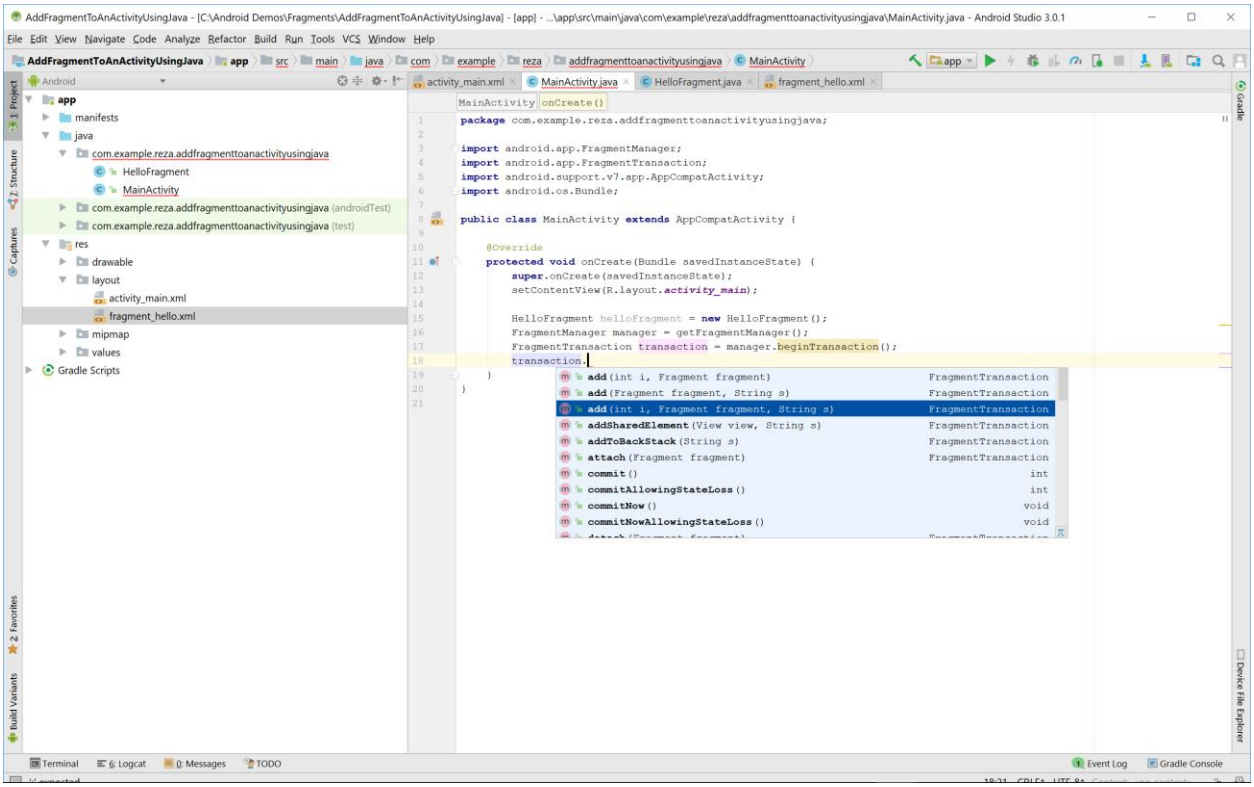


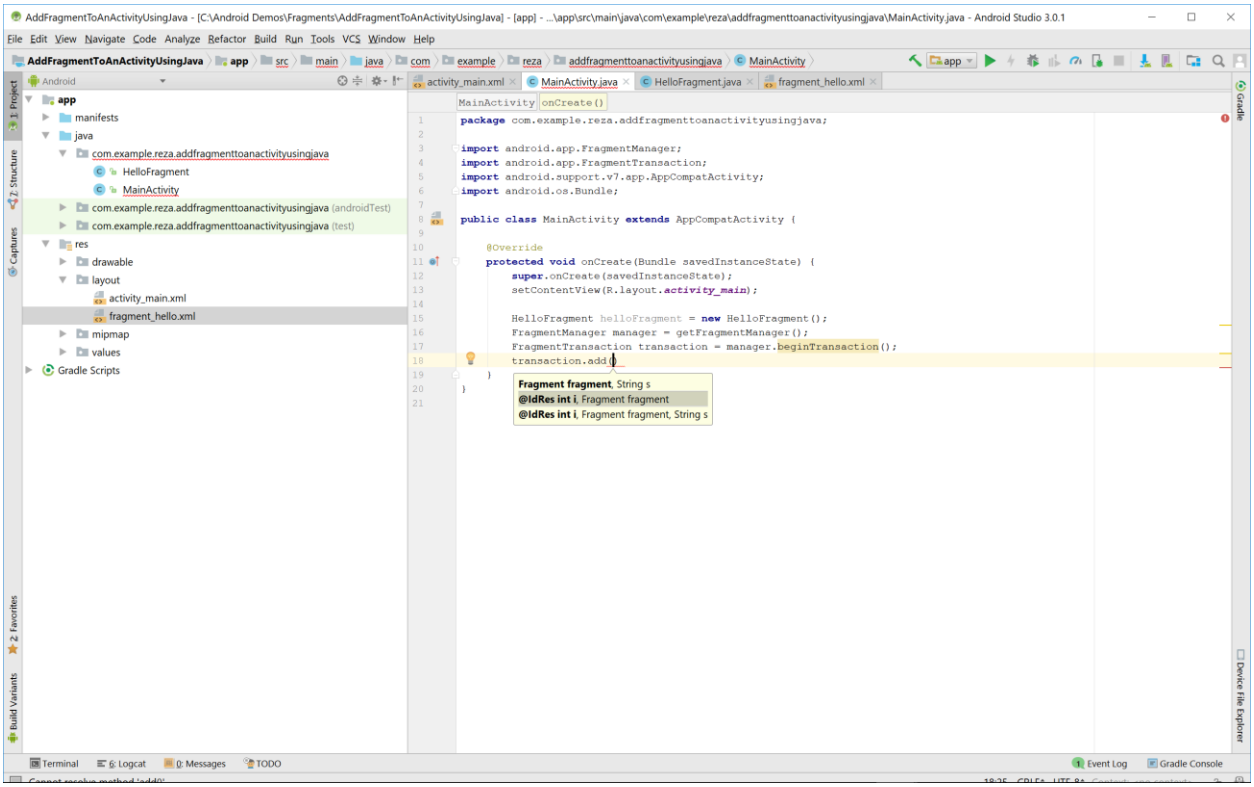

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
package com.example.reza.addfragmenttoanactivityusingjava;
import ...
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentM
FragmentManager (android.app)
FragmentManagerNonConfig (android.app)
FragmentManager (android.support.v4.app)
FragmentManagerNonConfig (android.support.v4.app)
}
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = get
getFragmentManager() FragmentManager
getLoaderManager() LoaderManager
getPackageManager() PackageManager
getWindowManager() WindowManager
getWindow() Window
getContentTransitionManager() TransitionManager
getSupportFragmentManager() FragmentManager
getSupportLoaderManager() LoaderManager
getActionBar() ActionBar
getApplication() Application
}
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

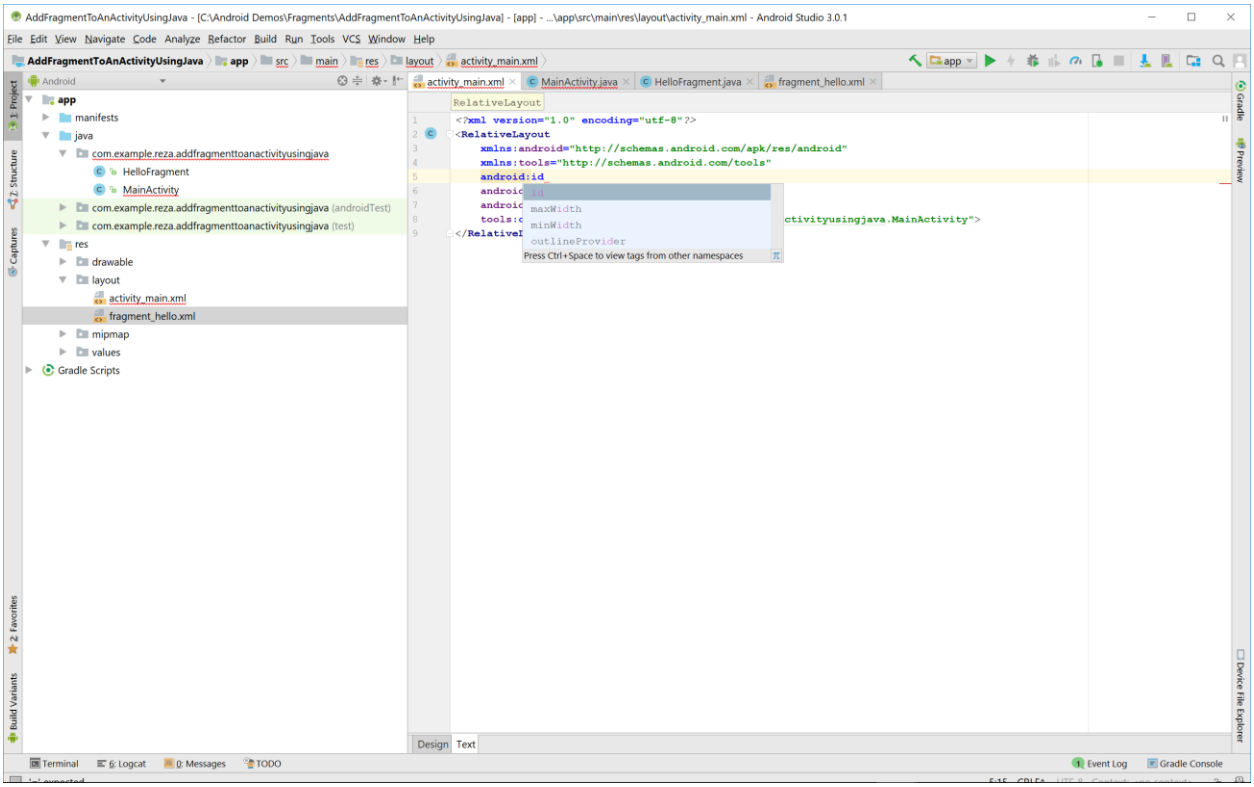

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = getFragmentManager();
FragmentTr
FragmentTransaction (android.app)
FragmentTransaction (android.support.v4.app)
}
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

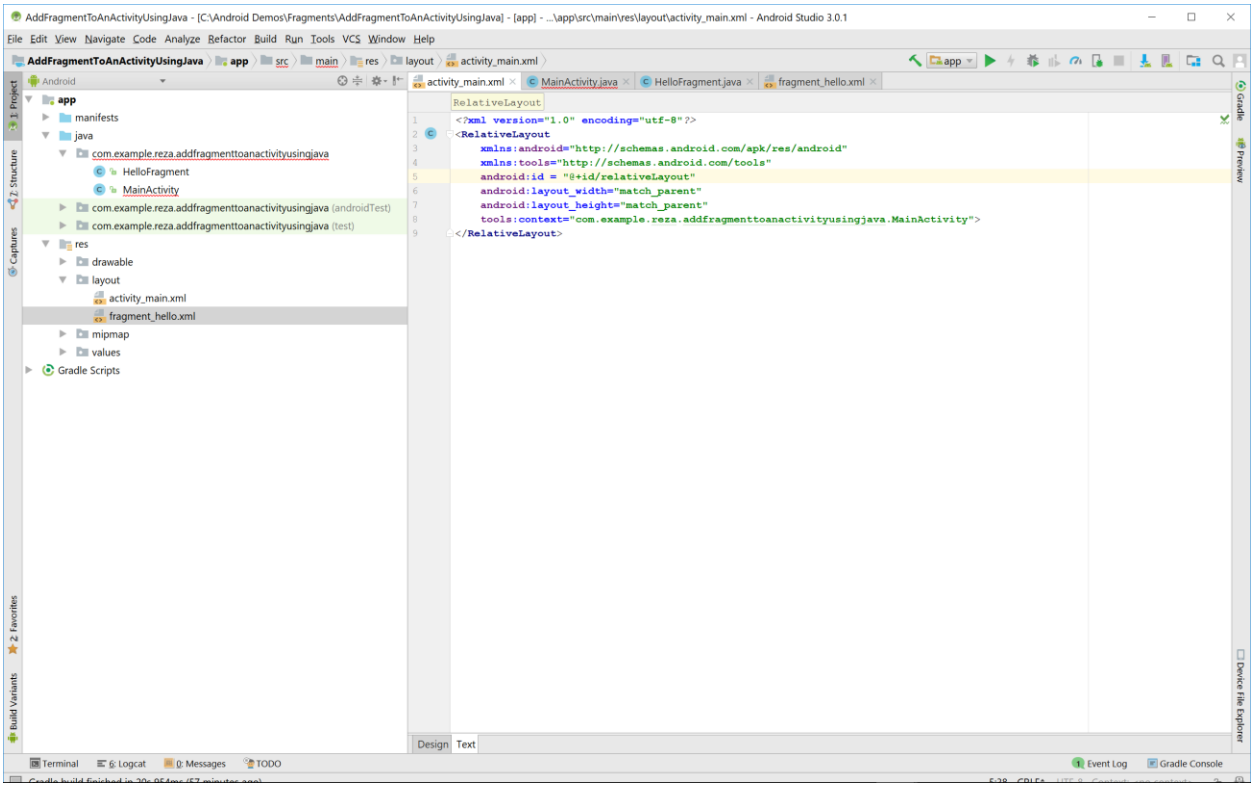

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = getFragmentManager();
FragmentTransaction transaction = manager.beginTransaction();
transaction.
add(int i, Fragment fragment) FragmentTransaction
add(Fragment fragment, String s) FragmentTransaction
add(int i, Fragment fragment, String s) FragmentTransaction
addSharedElement(View view, String s) FragmentTransaction
addToBackStack(String s) FragmentTransaction
attach(Fragment fragment) FragmentTransaction
commit() int
commitAllowingStateLoss() int
commitNow() void
commitNowAllowingStateLoss() void
}
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = getFragmentManager();
FragmentTransaction transaction = manager.beginTransaction();
transaction.
add (int i, Fragment fragment) FragmentTransaction
add (Fragment fragment, String s) FragmentTransaction
add (int i, Fragment fragment, String s) FragmentTransaction
addSharedElement (View view, String s) FragmentTransaction
addToBackStack (String s) FragmentTransaction
attach (Fragment fragment) FragmentTransaction
commit () int
commitAllowingStateLoss () int
commitNow () void
commitNowAllowingStateLoss () void
Terminal 6: Logcat 0: Messages TODO Event Log Gradle Console

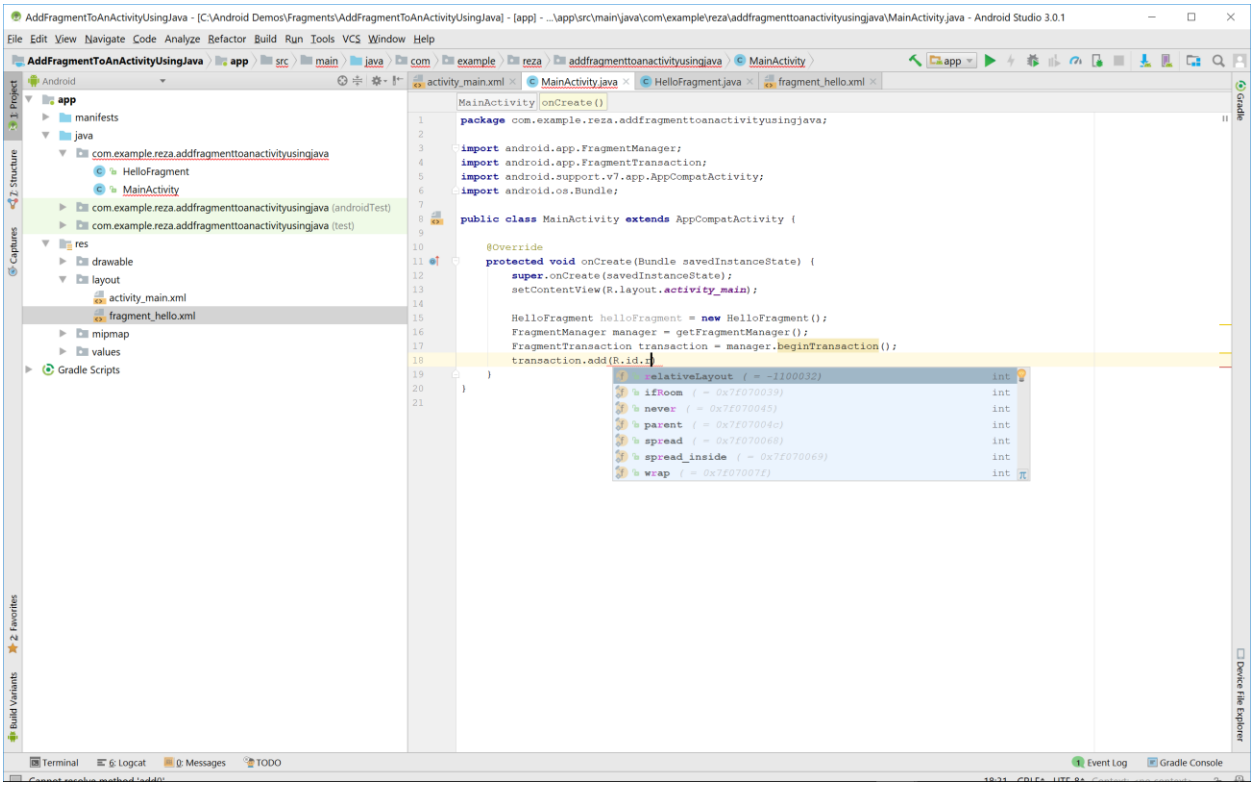

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
MainActivity onCreate()
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = getFragmentManager();
FragmentTransaction transaction = manager.beginTransaction();
transaction.add()
Fragment fragment, String s
@IdRes int i, Fragment fragment
@IdRes int i, Fragment fragment, String s
Terminal 6: Logcat 0: Messages TODO Event Log Gradle Console

We need to give an id to our container (which is our RelativeLayout here) since we need to provide that as an argument to method add so go back to activity_main.xml and give your RelativeLayout an id as shown:

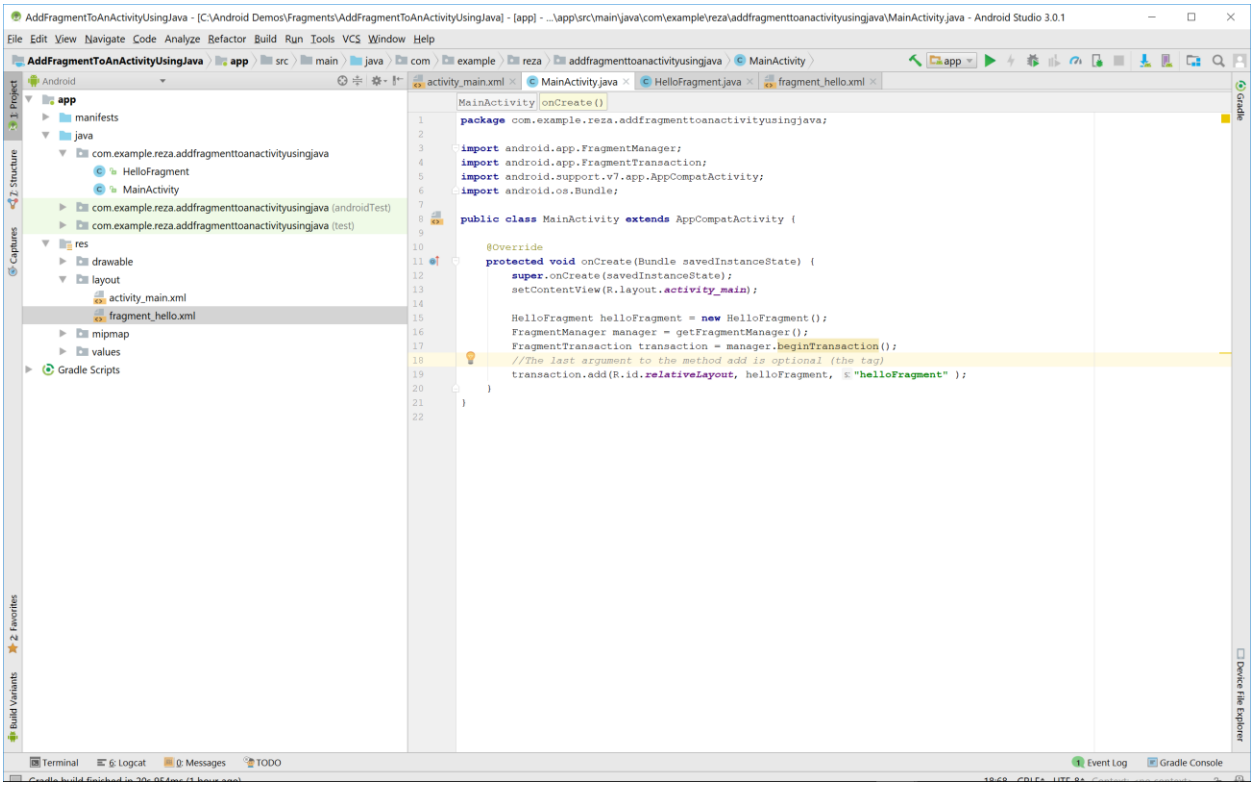




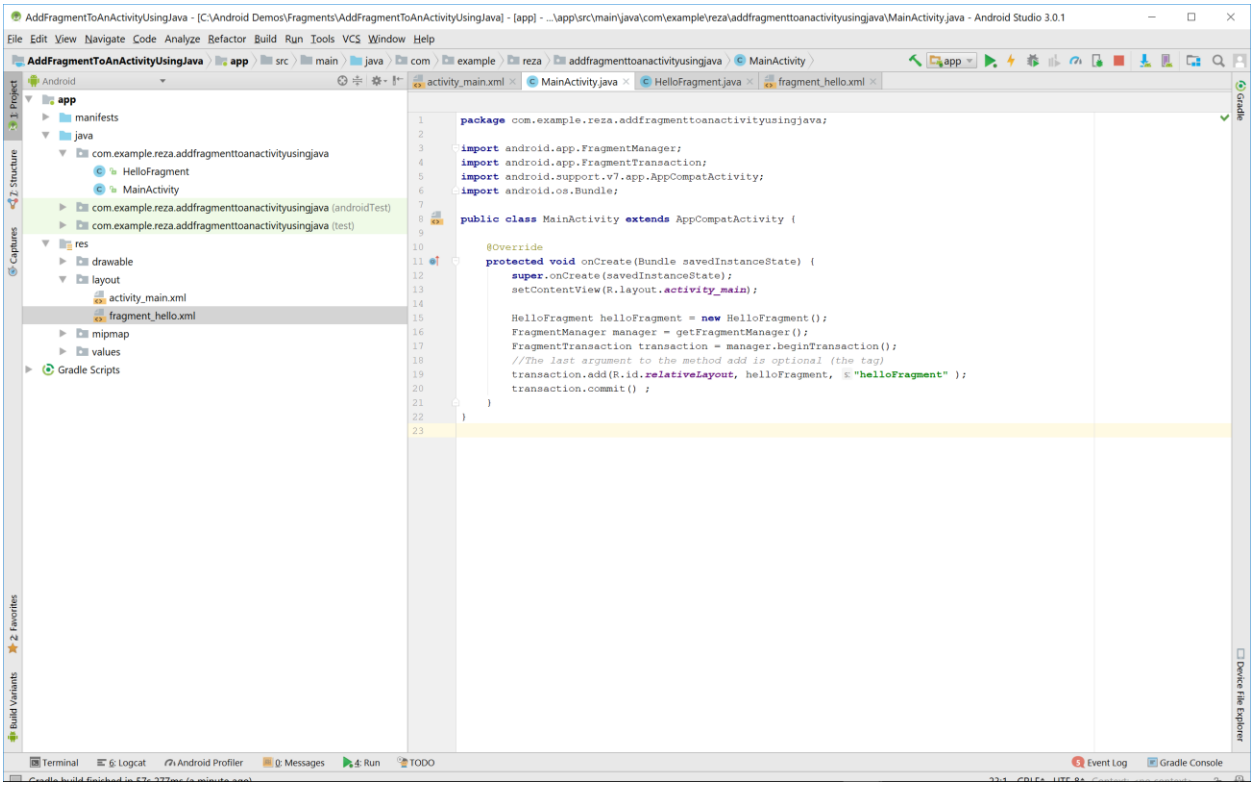
Now go back to your MainActivity.java and complete the call to the add method:



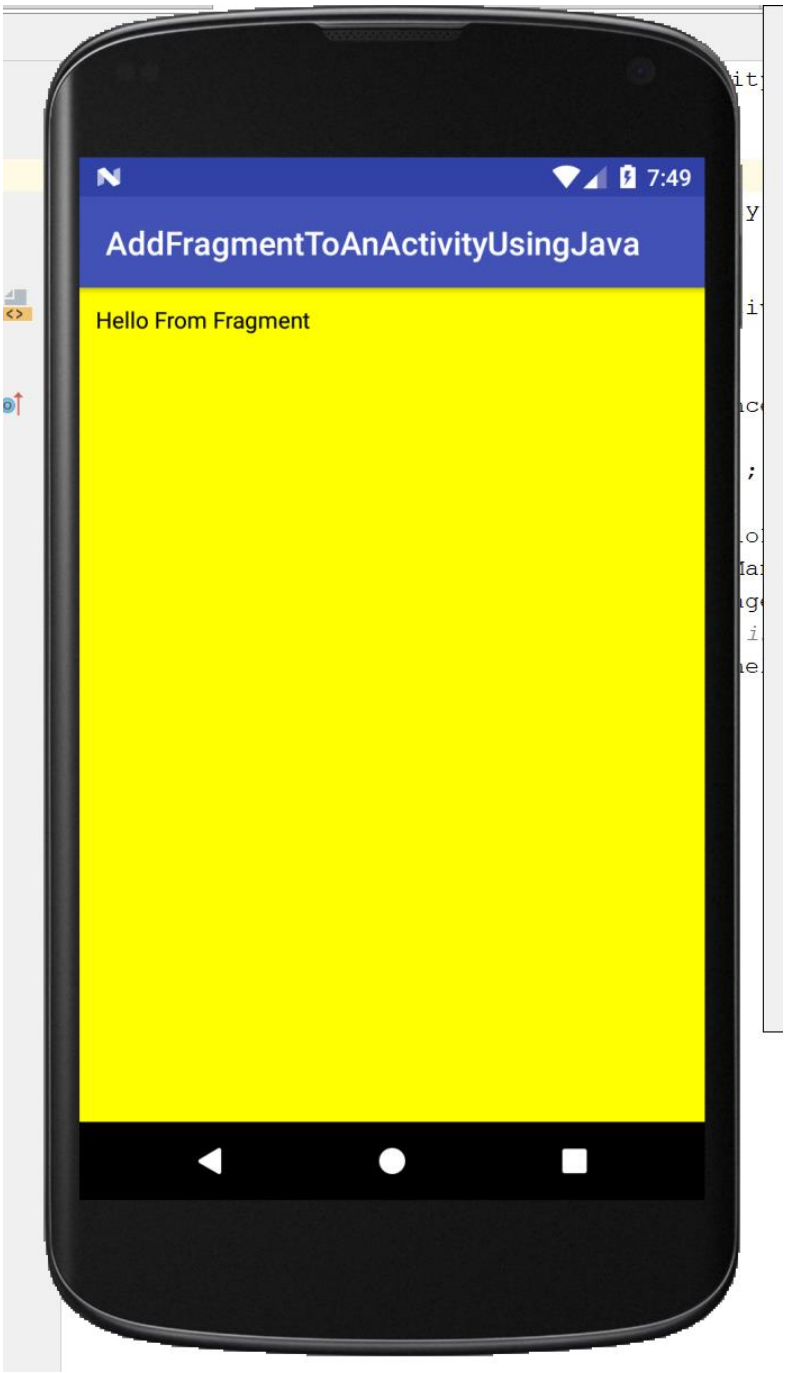
Here is the completed call to the method add with the last optional argument. We provided the arbitrary string of “helloFragment” here. So with calling the add method, we are asking that fragment “helloFragment” to be added to the container with the id “relativeLayout” which is the layout of our main activity so we are adding our fragment to the main activity.



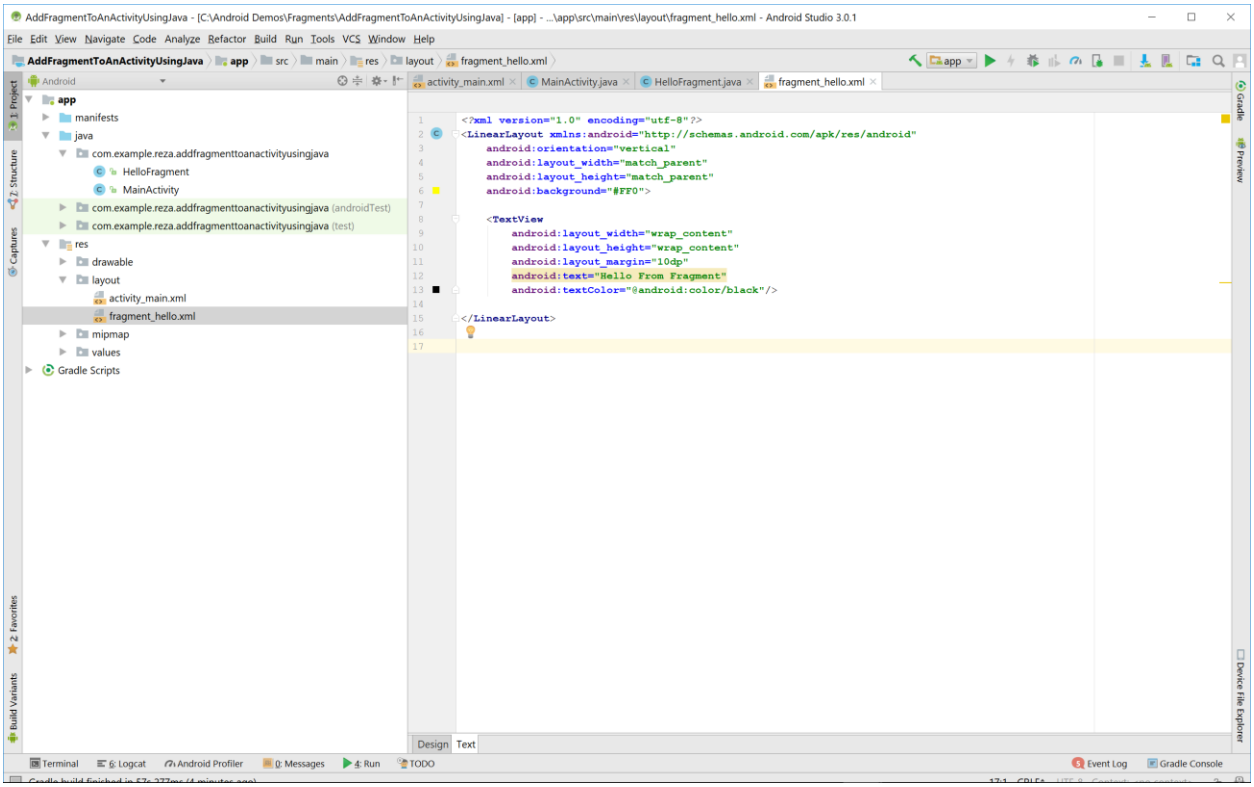
Then call the commit() method. Without this call you won't be able to perform the add operation that you requested in the previous line.

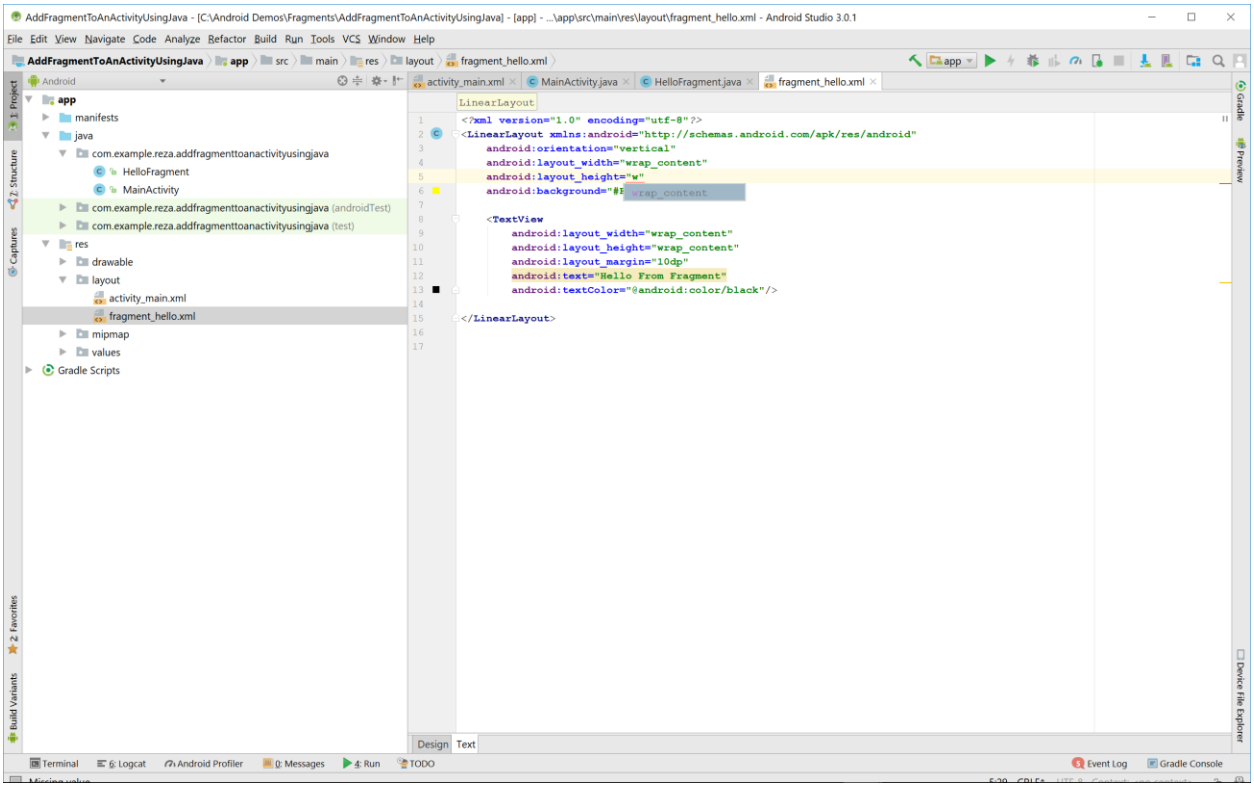


Now if you run the app, you'll see your fragment displayed in the Relative layout.

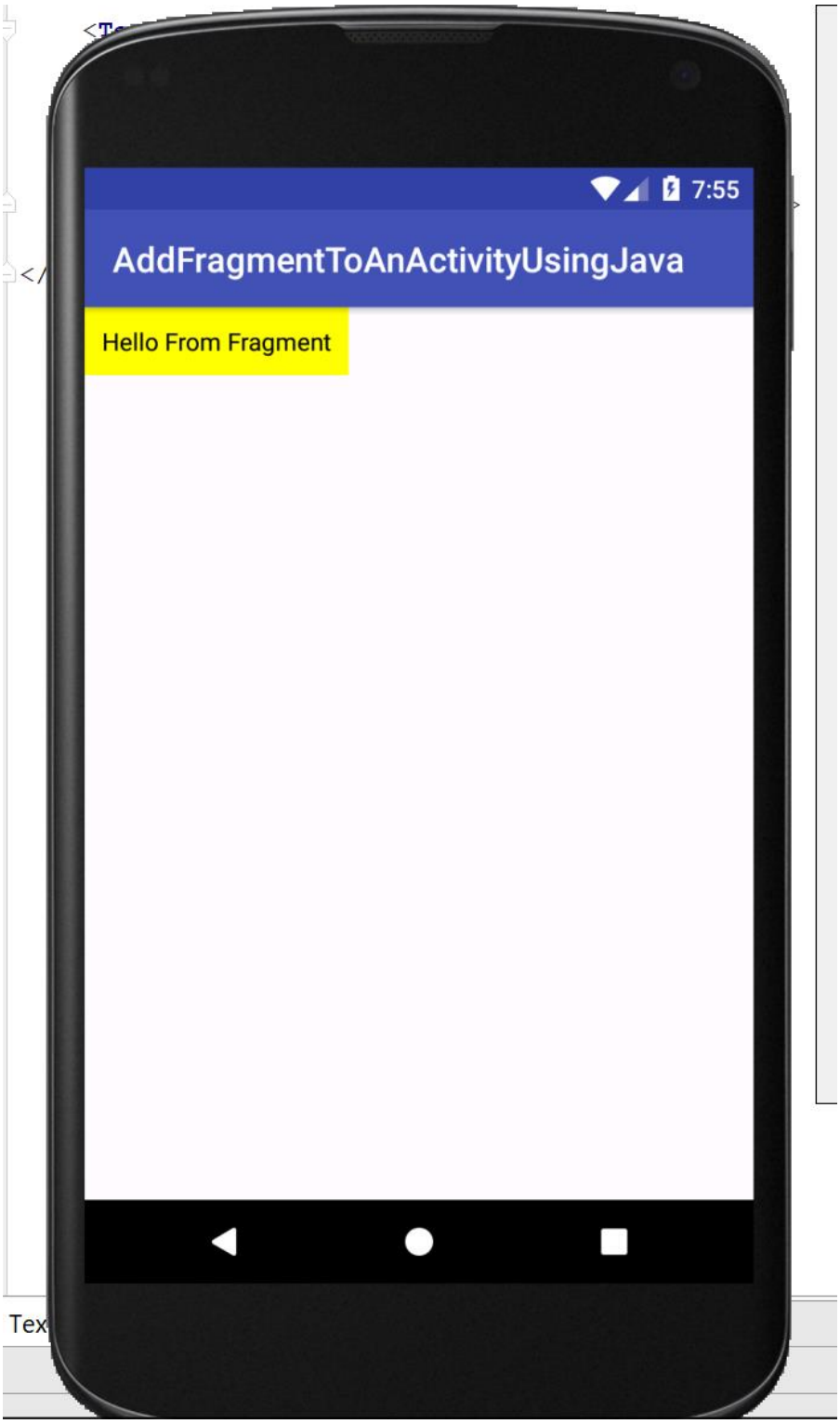


Now this fragment has occupied the whole screen, another word the whole layout of the main activity. The reason is that the layout width and layout height of the fragment is match_parent as shown in the following screen capture so we can change it:

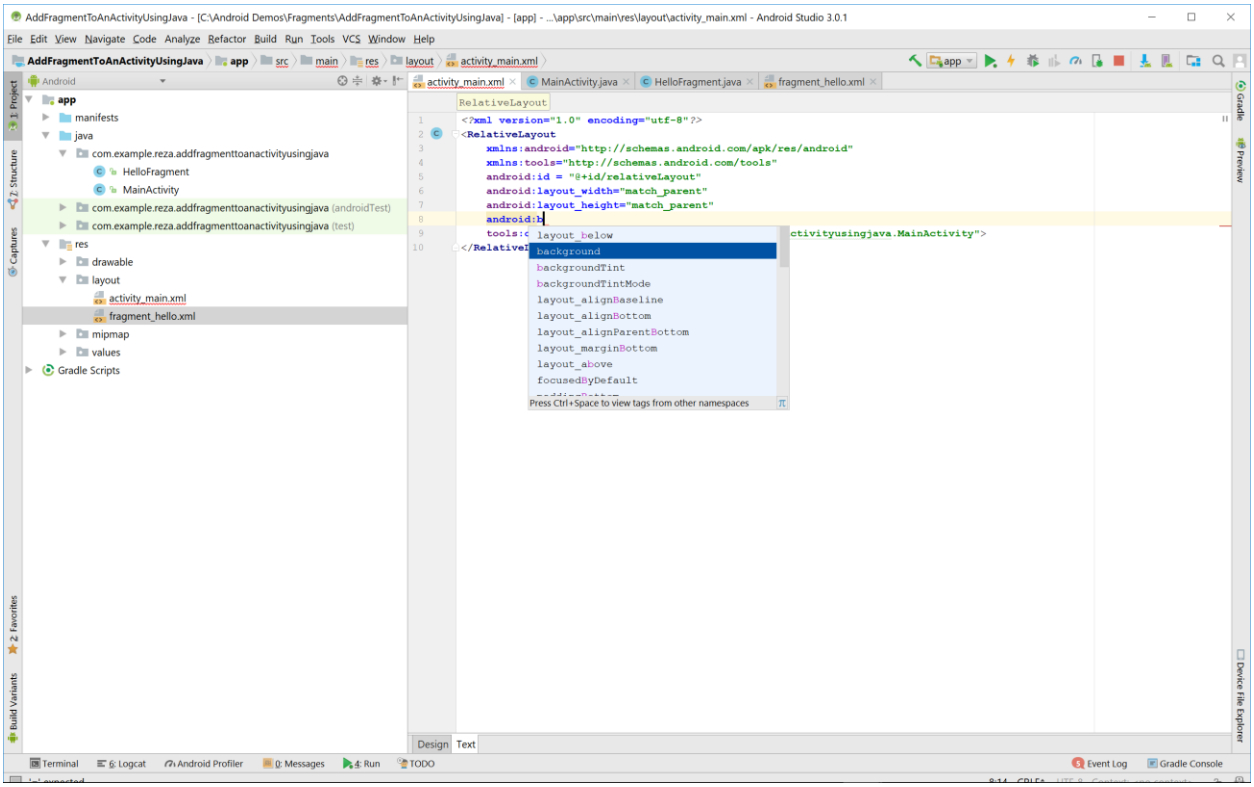

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout fragment_hello.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:orientation="vertical"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#FF0">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="Hello From Fragment"
android:textColor="@android:color/black"/>
</LinearLayout>
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

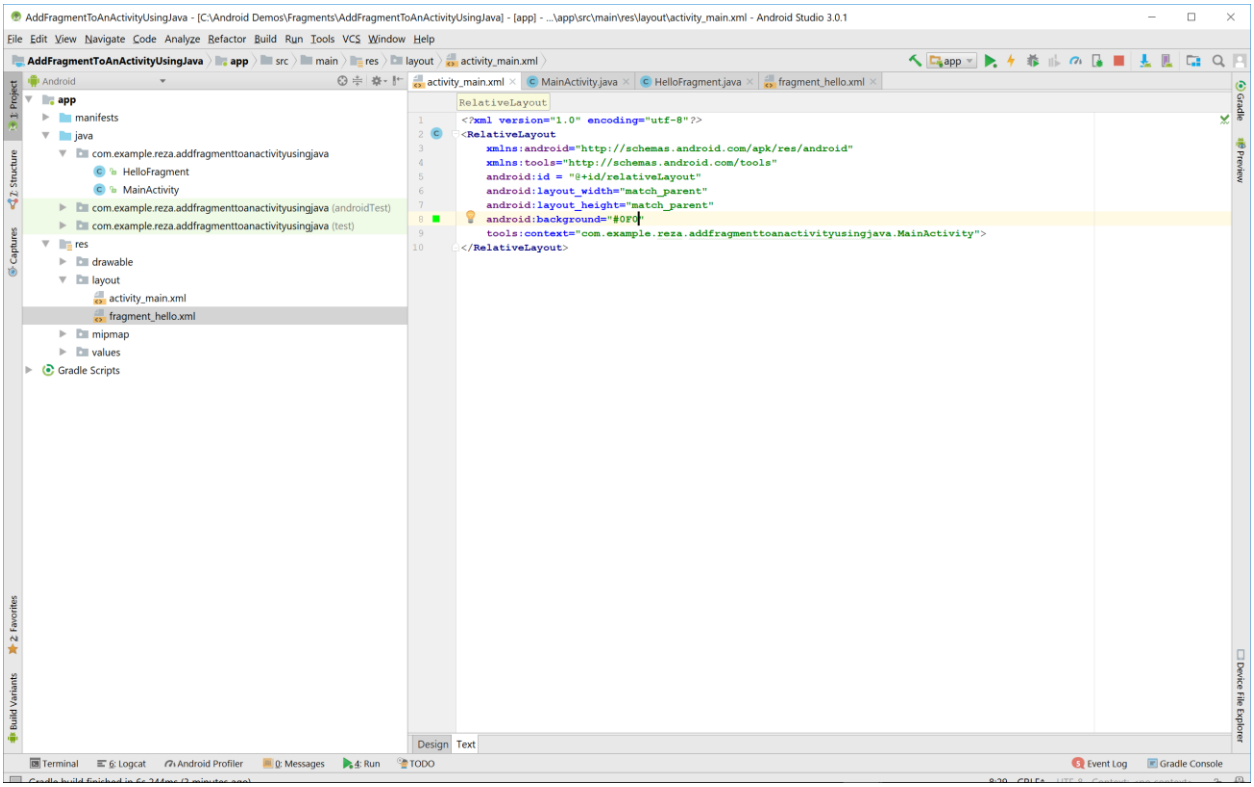

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout fragment_hello.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
LinearLayout
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:orientation="vertical"
android:layout_width="wrap_content"
android:layout_height="w"
android:background="#F
wrap_content
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="Hello From Fragment"
android:textColor="@android:color/black"/>
</LinearLayout>
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

Once you make that change and run your app, this is what you get:

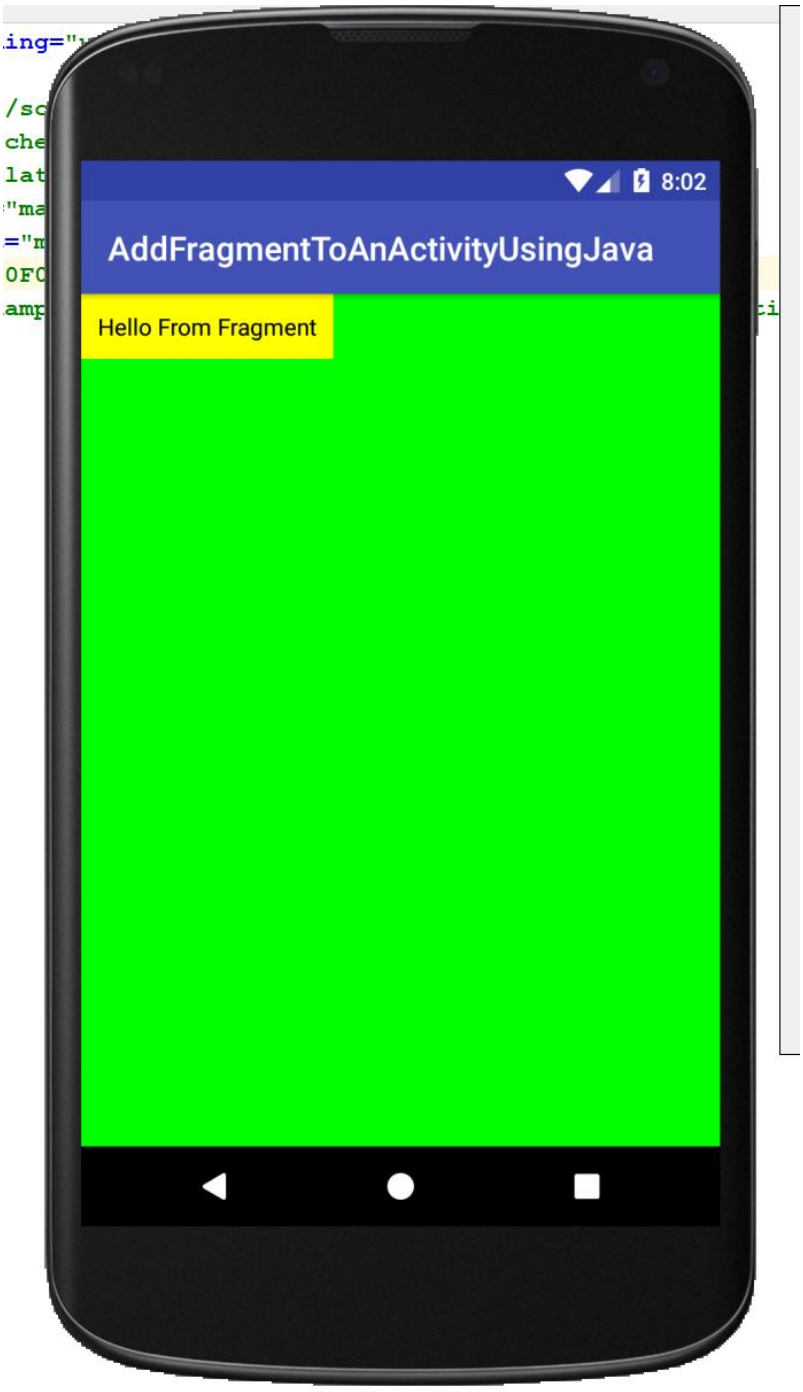


The fragment doesn't appear at the center as it did in the previous example so we can fix it as follows and as long as we are at it we can change the background color of the main activity to green so it matches with the previous example:

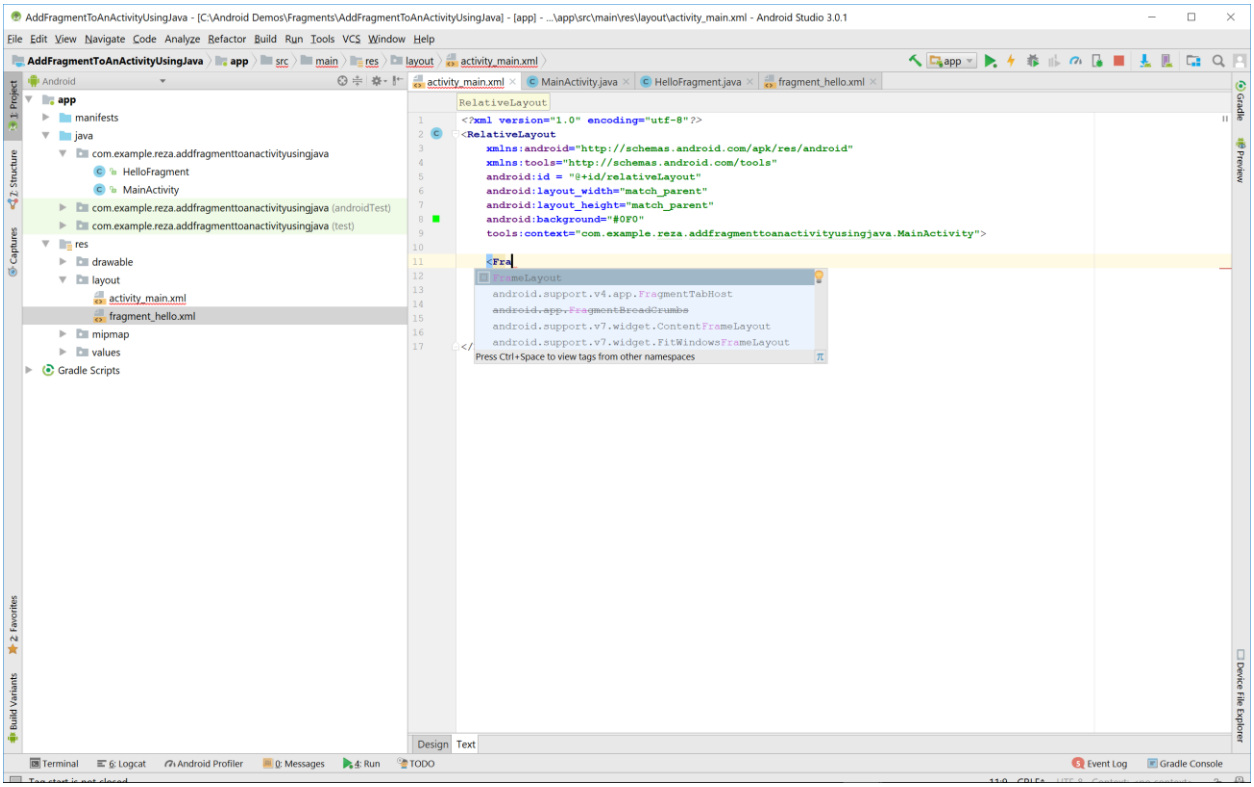


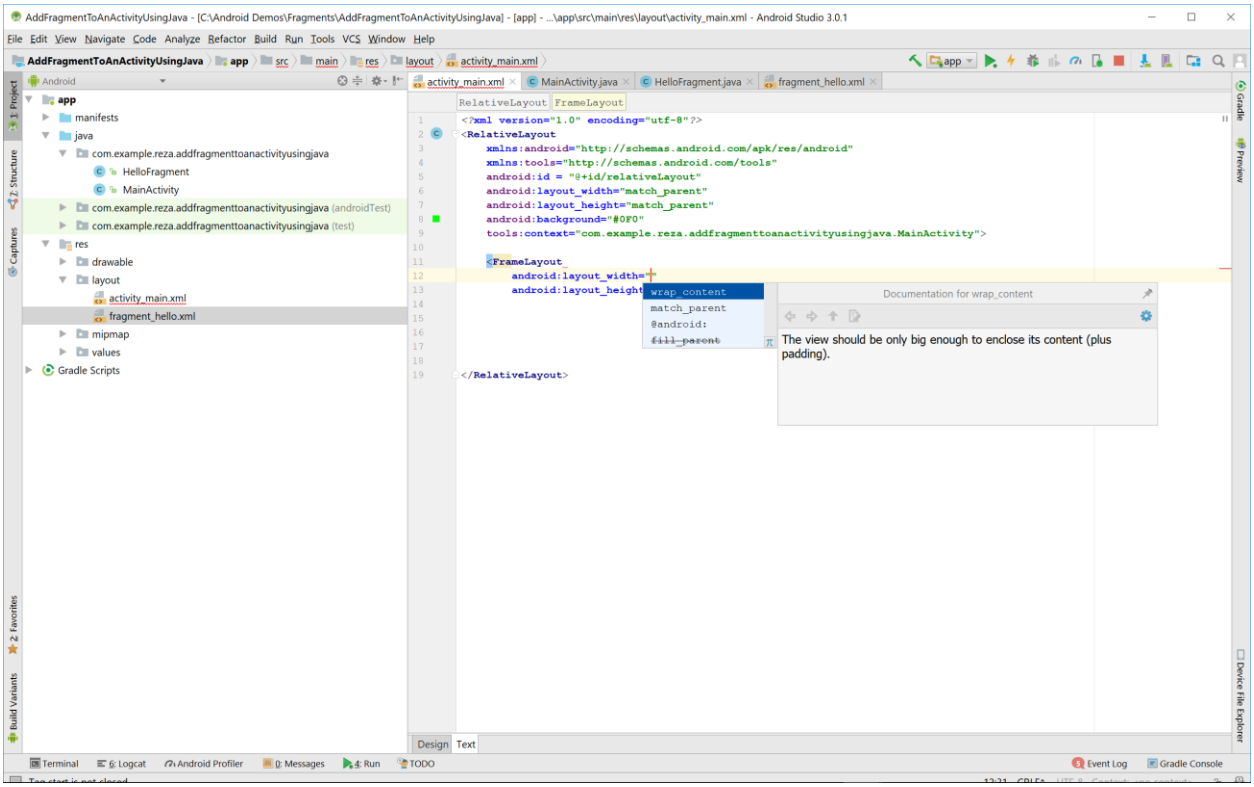

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
HelloFragment.java
fragment_hello.xml
RelativeLayout
<?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:id = "@+id/relativeLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#0F0
tools:context="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
</RelativeLayout>
Design
Text
Terminal
6: Logcat
Android Profiler
0: Messages
4: Run
TODO
Event Log
Gradle Console

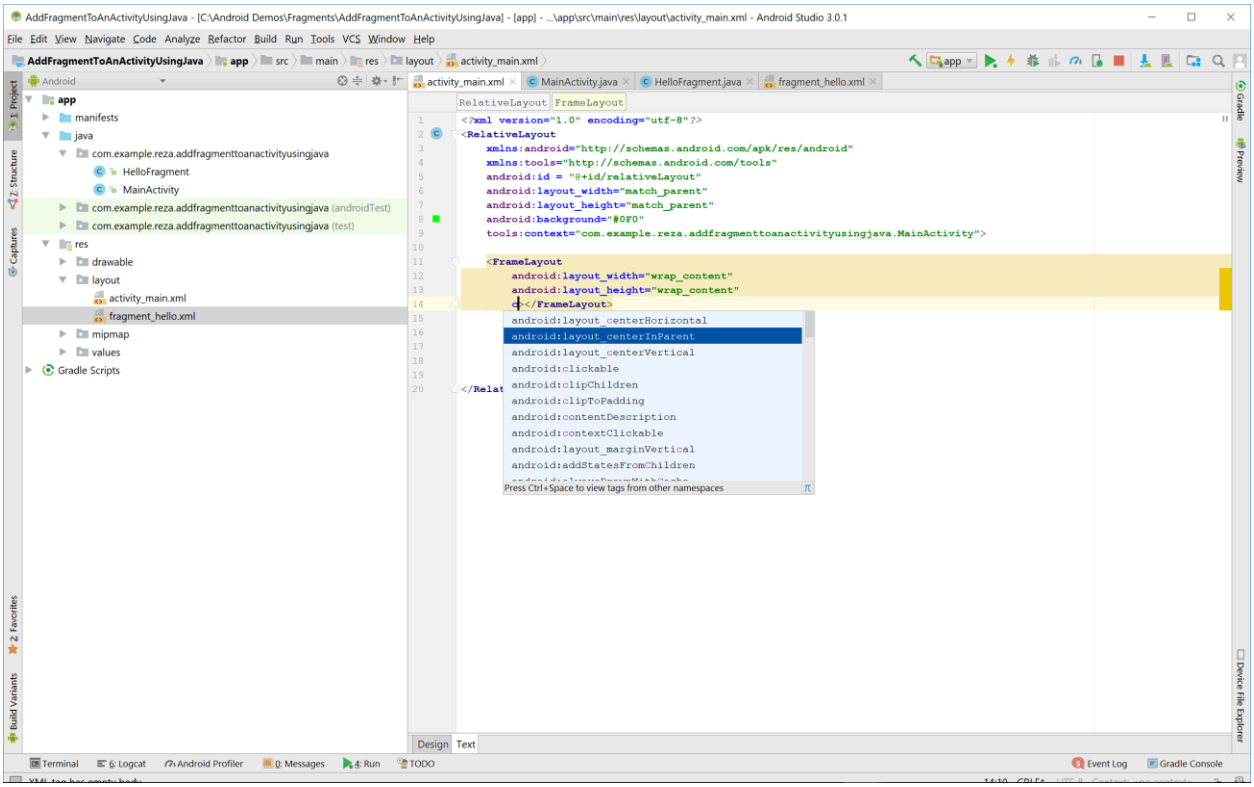
Here is the background:

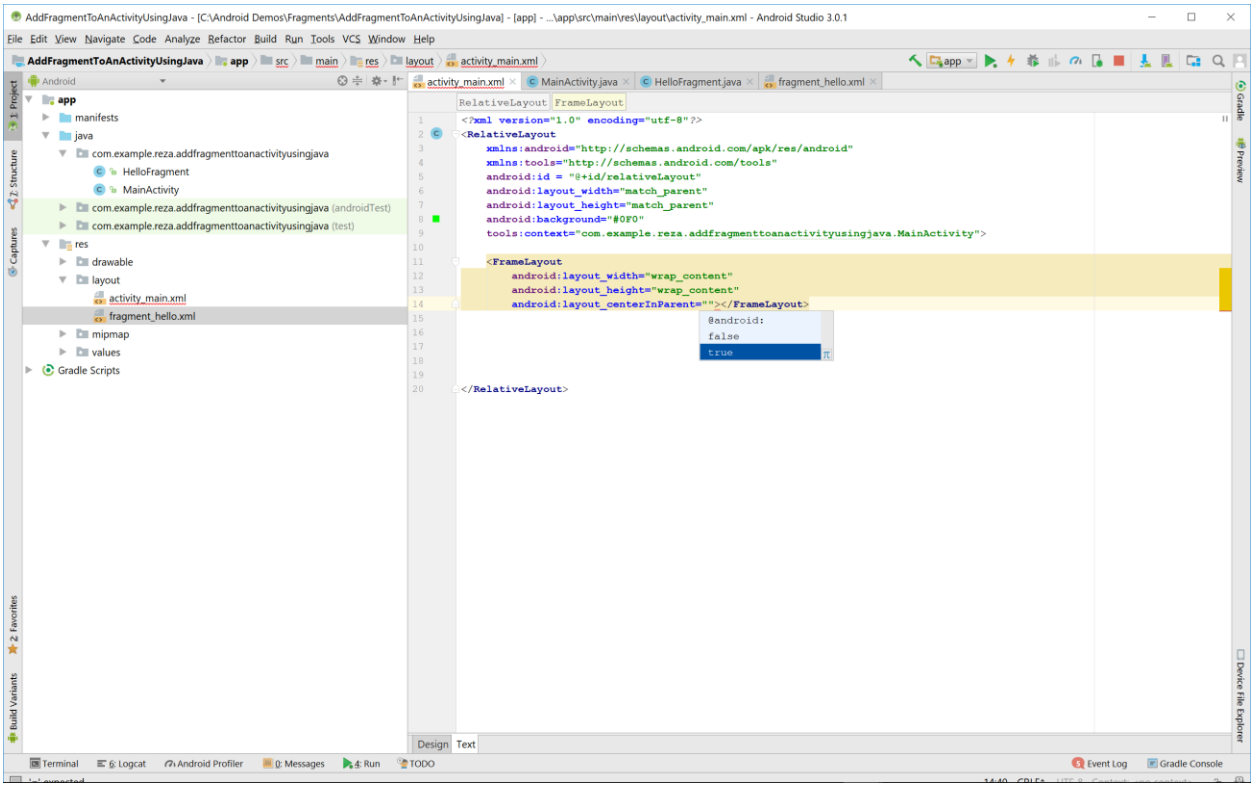


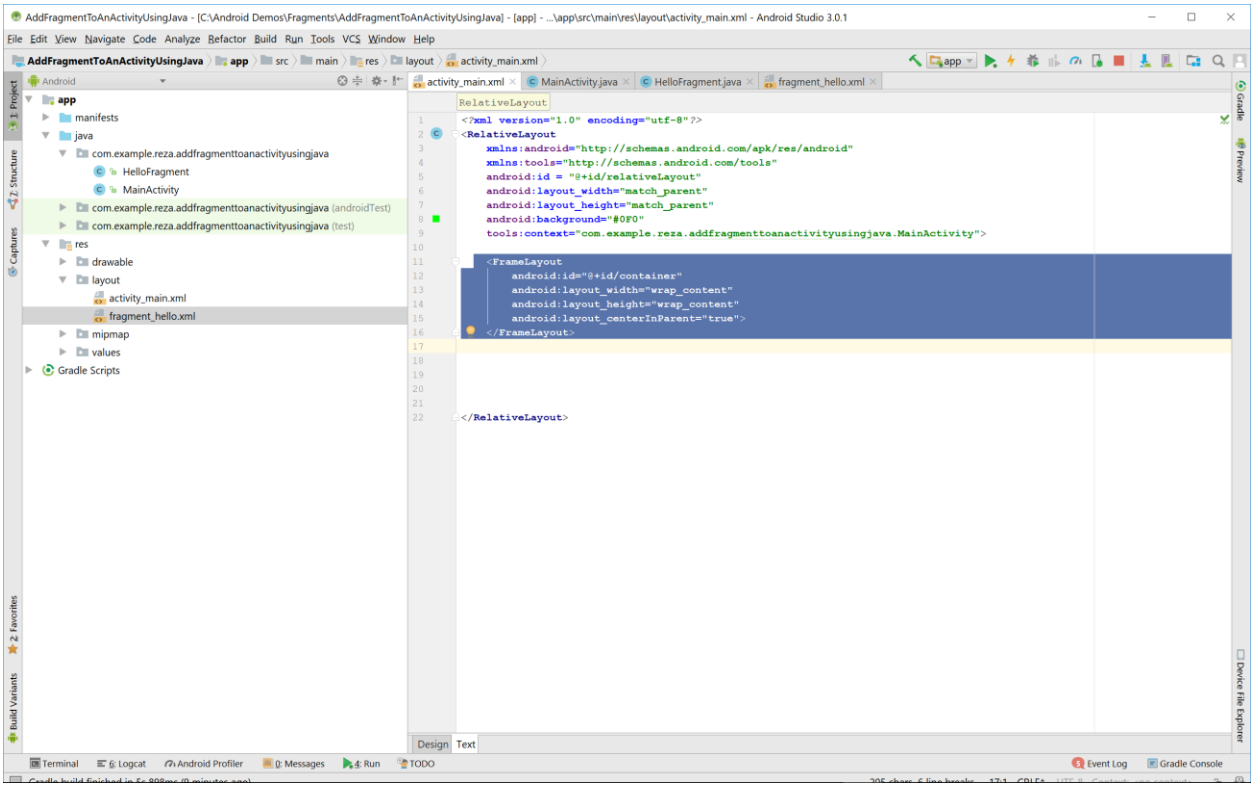
Let's say if we wanted to put our fragment at the center of the screen of the layout for the main activity, we could add a Frame layout to our Relative layout and center this Frame layout in our Relative layout and then add our fragment to this Frame layout as shown below:


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
RelativeLayout
<?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:id = "@+id/relativeLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#0F0"
tools:context="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
<Fra
FrameLayout
android.support.v4.app.FragmentTabHost
android.app.FragmentBreadCrumbs
android.support.v7.widget.ContentFrameLayout
android.support.v7.widget.FitWindowsFrameLayout
Press Ctrl+Space to view tags from other namespaces
</
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

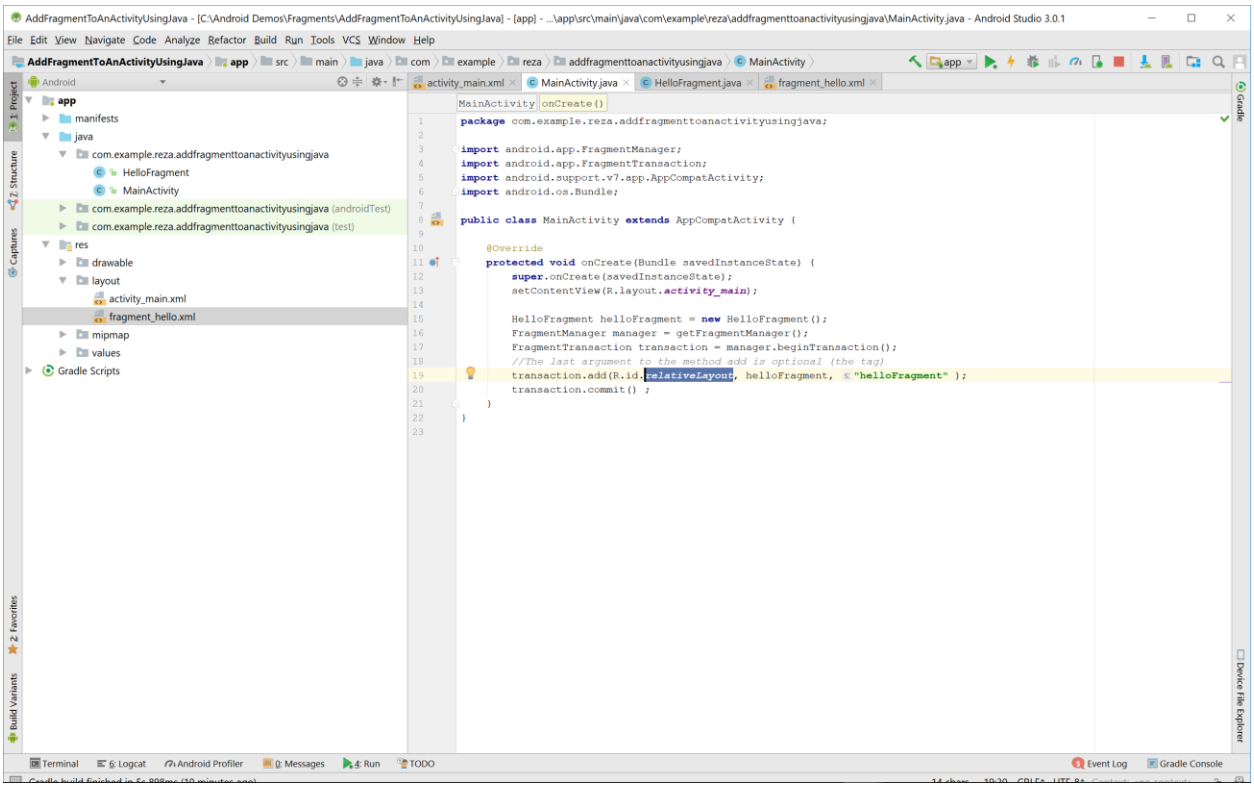

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
RelativeLayout FrameLayout
<?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:id = "@+id/relativeLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#0F0"
tools:context="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
<FrameLayout
android:layout_width="
android:layout_height
wrap_content
match_parent
@android:
fill_parent
Documentation for wrap_content
The view should be only big enough to enclose its content (plus padding).
</RelativeLayout>
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

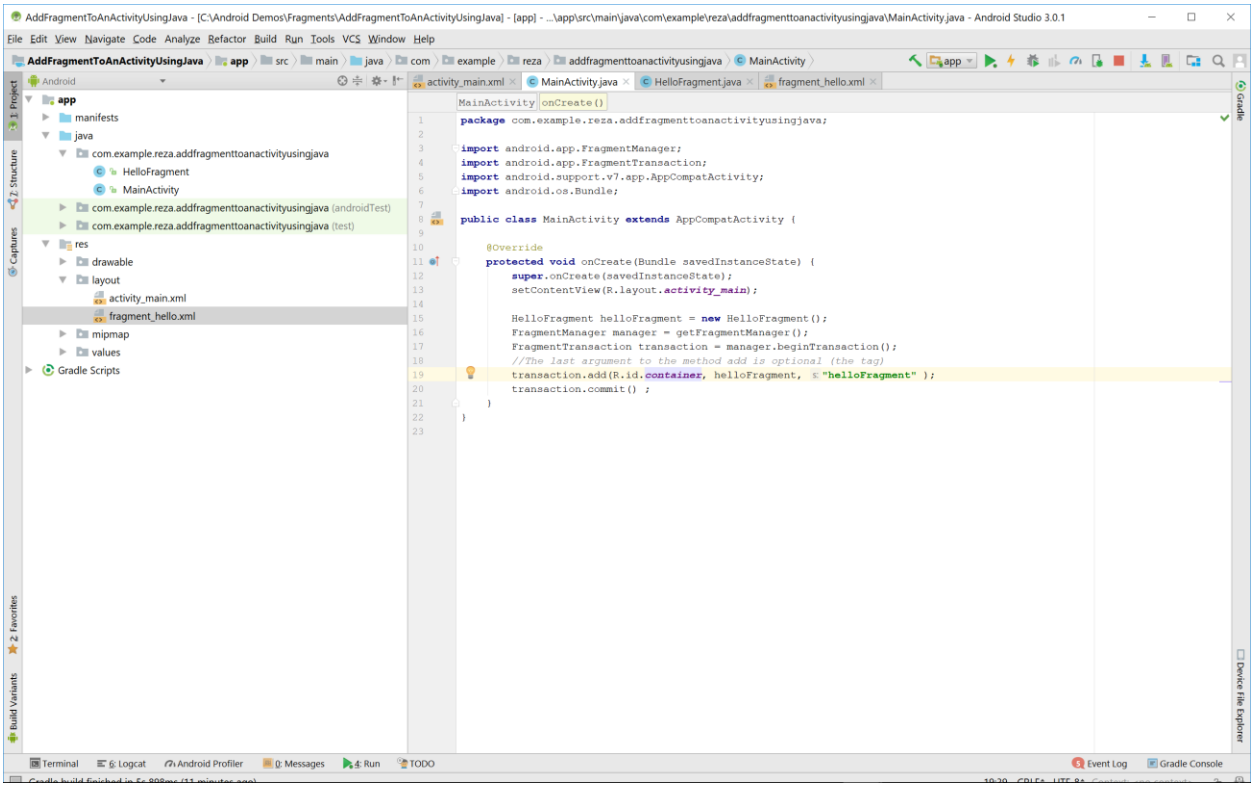

AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
RelativeLayout FrameLayout
<?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:id = "@+id/relativeLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#0F0"
tools:context="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
<FrameLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
c></FrameLayout>
android:layout_centerHorizontal
android:layout_centerInParent
android:layout_centerVertical
android:clickable
android:clipChildren
android:clipToPadding
android:contentDescription
android:contextClickable
android:layout_marginVertical
android:addStatesFromChildren
Press Ctrl+Space to view tags from other namespaces
</Relat
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console


AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main res layout activity_main.xml
activity_main.xml MainActivity.java HelloFragment.java fragment_hello.xml
RelativeLayout FrameLayout
<?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:id = "@+id/relativeLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#0F0"
tools:context="com.example.reza.addfragmenttoanactivityusingjava.MainActivity">
<FrameLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerInParent=""></FrameLayout>
@android:
false
true
</RelativeLayout>
Design Text
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console



Now go back to MainActivity.java and in the add method instead of "R.id.relativeLayout" pass "R.id.container" to the add method as shown:




AddFragmentToAnActivityUsingJava - [C:\Android Demos\Fragments\AddFragmentToAnActivityUsingJava] - [app] - ...\app\src\main\java\com\example\reza\addfragmenttoanactivityusingjava\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
AddFragmentToAnActivityUsingJava app src main java com example reza addfragmenttoanactivityusingjava MainActivity
Android
app
manifests
java
com.example.reza.addfragmenttoanactivityusingjava
HelloFragment
MainActivity
com.example.reza.addfragmenttoanactivityusingjava (androidTest)
com.example.reza.addfragmenttoanactivityusingjava (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
activity_main.xml
MainActivity.java
HelloFragment.java
fragment_hello.xml
MainActivity
onCreate()
package com.example.reza.addfragmenttoanactivityusingjava;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
HelloFragment helloFragment = new HelloFragment();
FragmentManager manager = getFragmentManager();
FragmentTransaction transaction = manager.beginTransaction();
//The last argument to the method add is optional (the tag)
transaction.add(R.id.container, helloFragment, "helloFragment");
transaction.commit() ;
}
}
Terminal
6: Logcat
Android Profiler
0: Messages
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TODO
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Now run your app and you have the exact result as the previous example when you added the fragment by dragging it to the main activity layout: