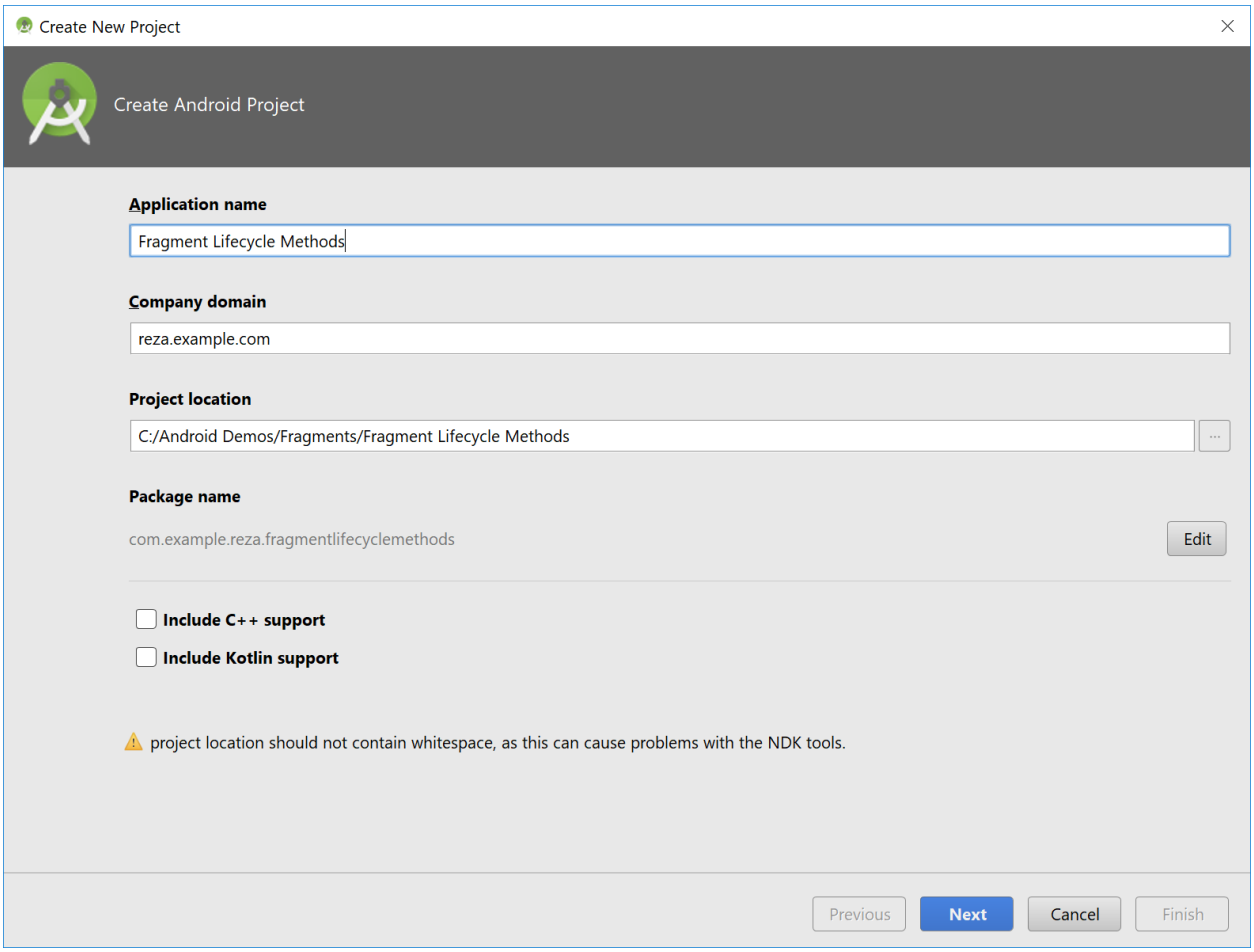
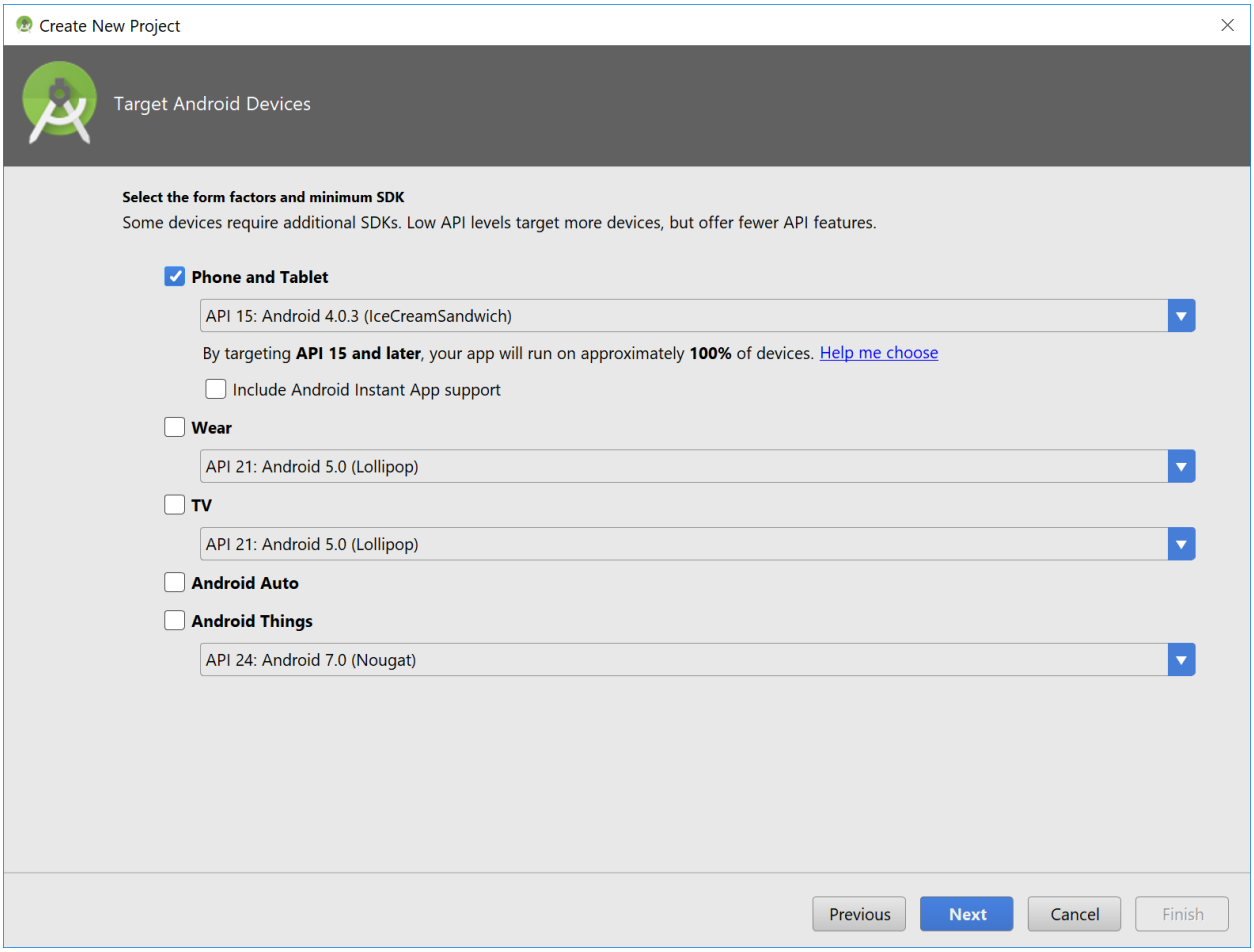
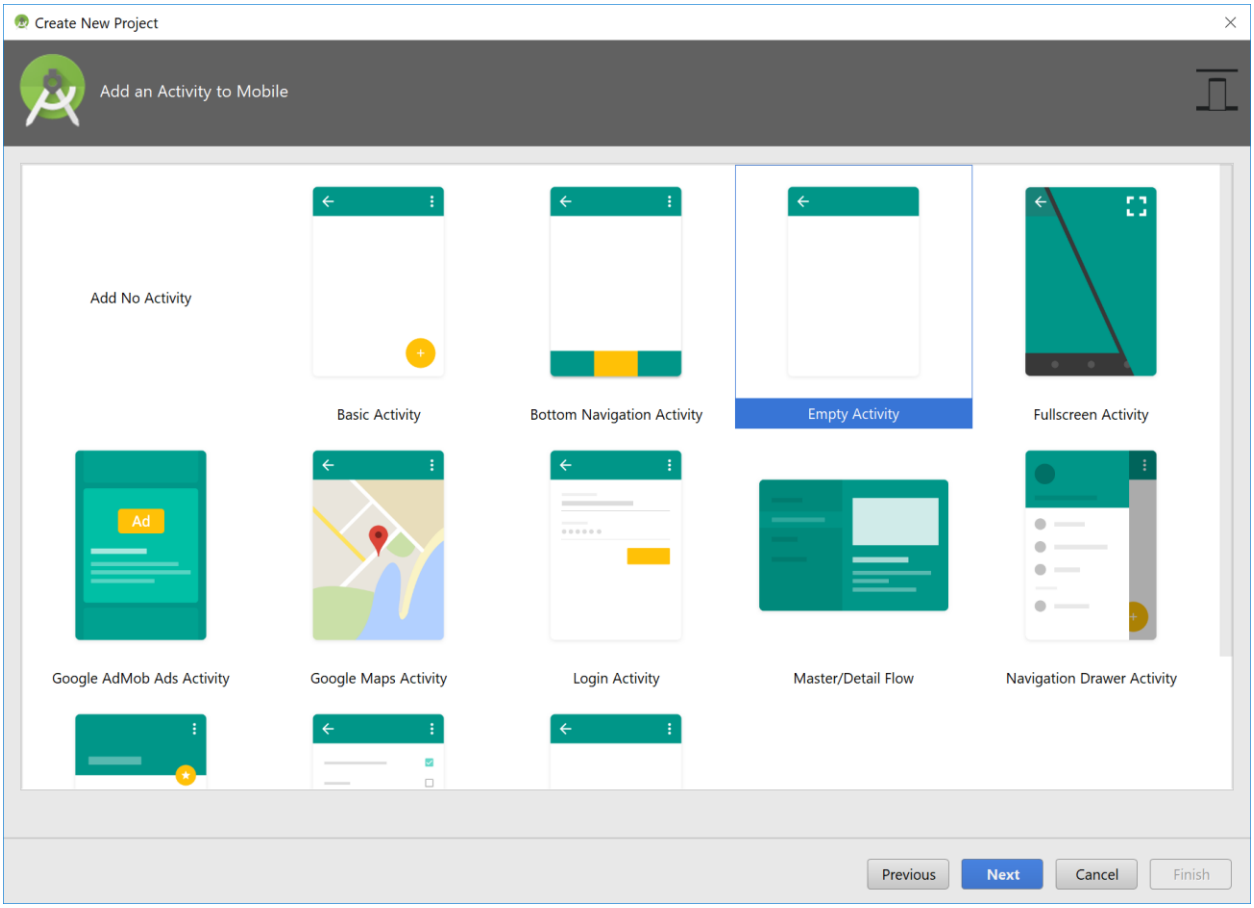
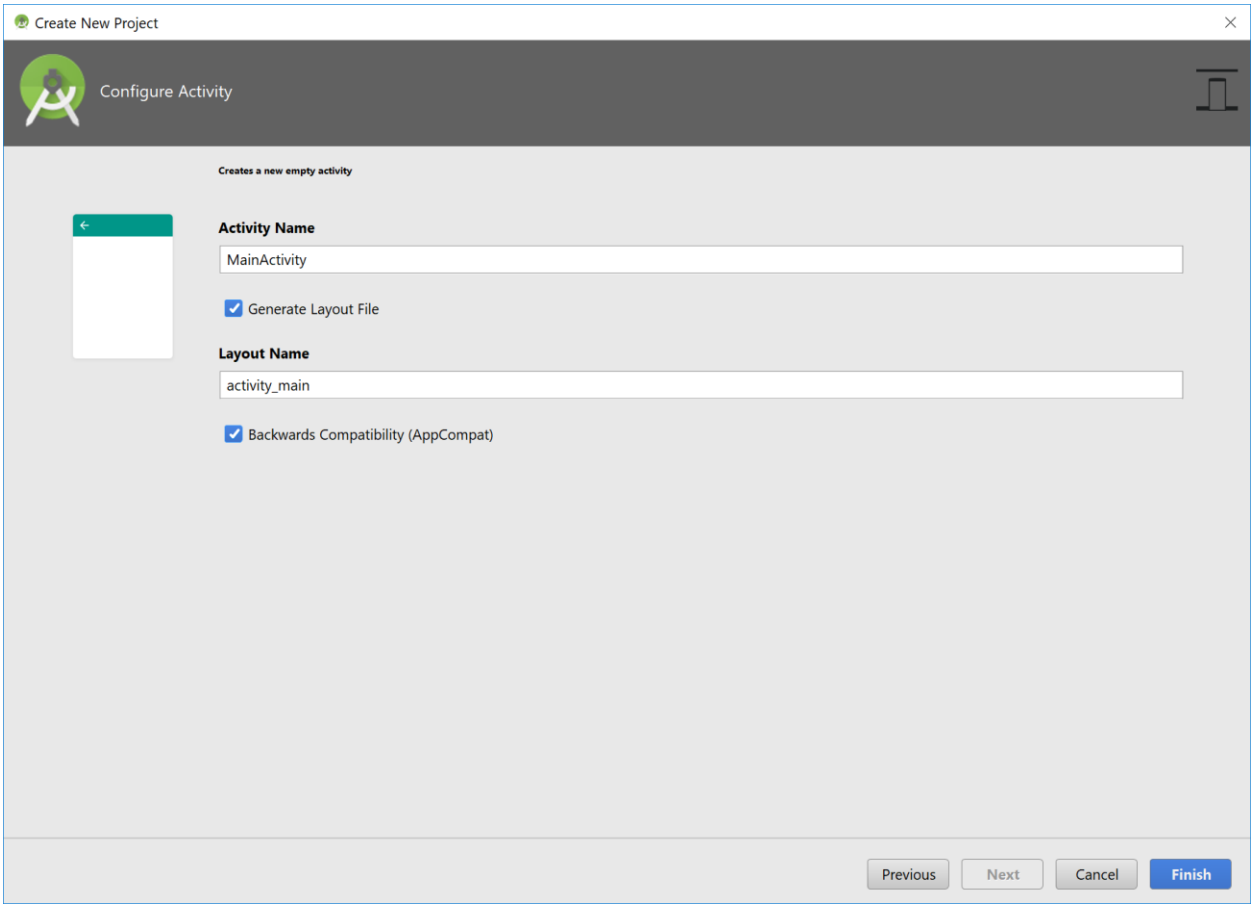
# Fragment Lifecycle Methods and How They Are Related to the Host Activity Lifecycle methods

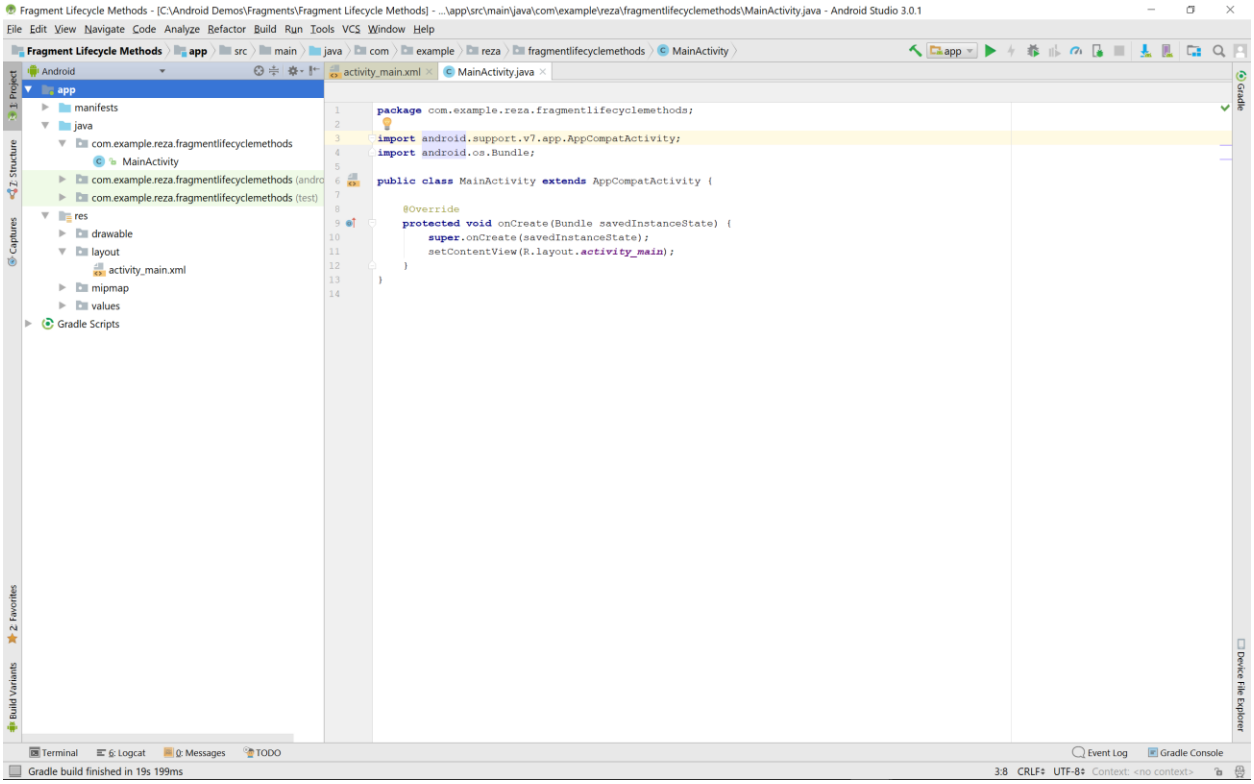
## Create a new project as shown:

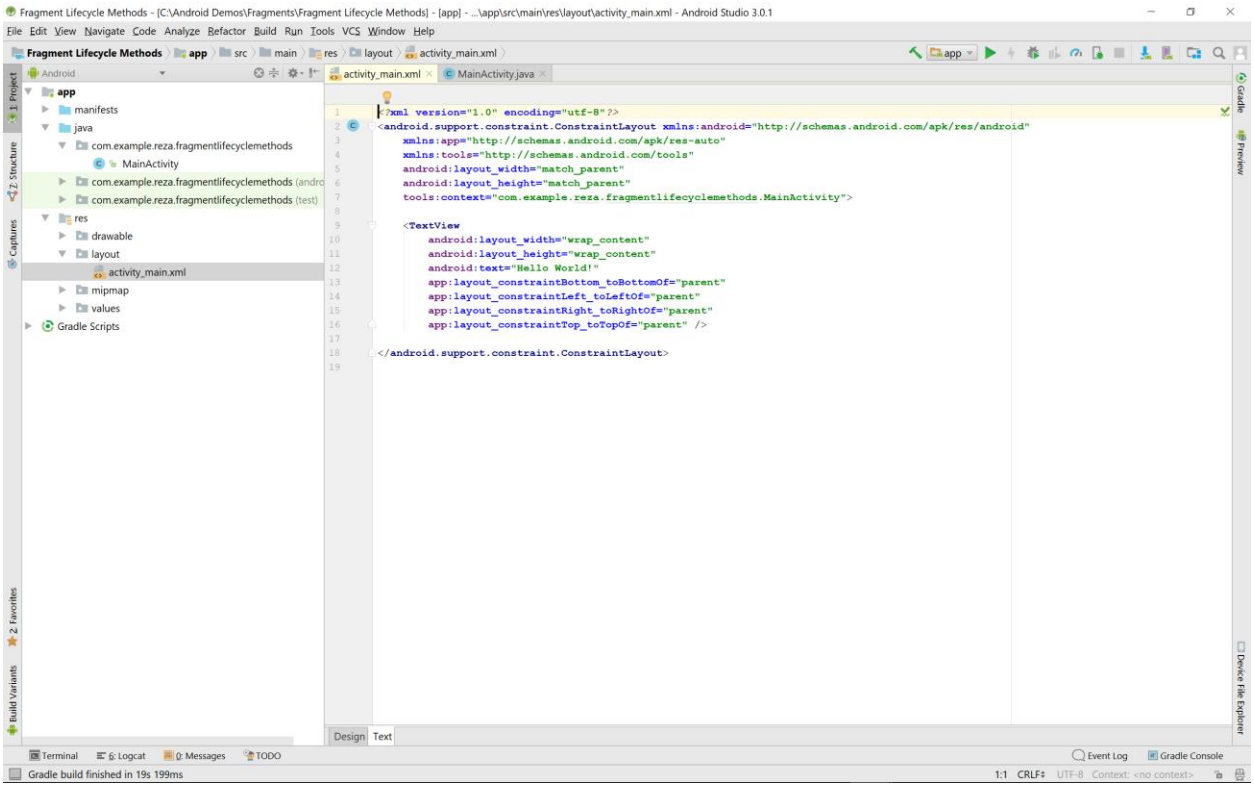


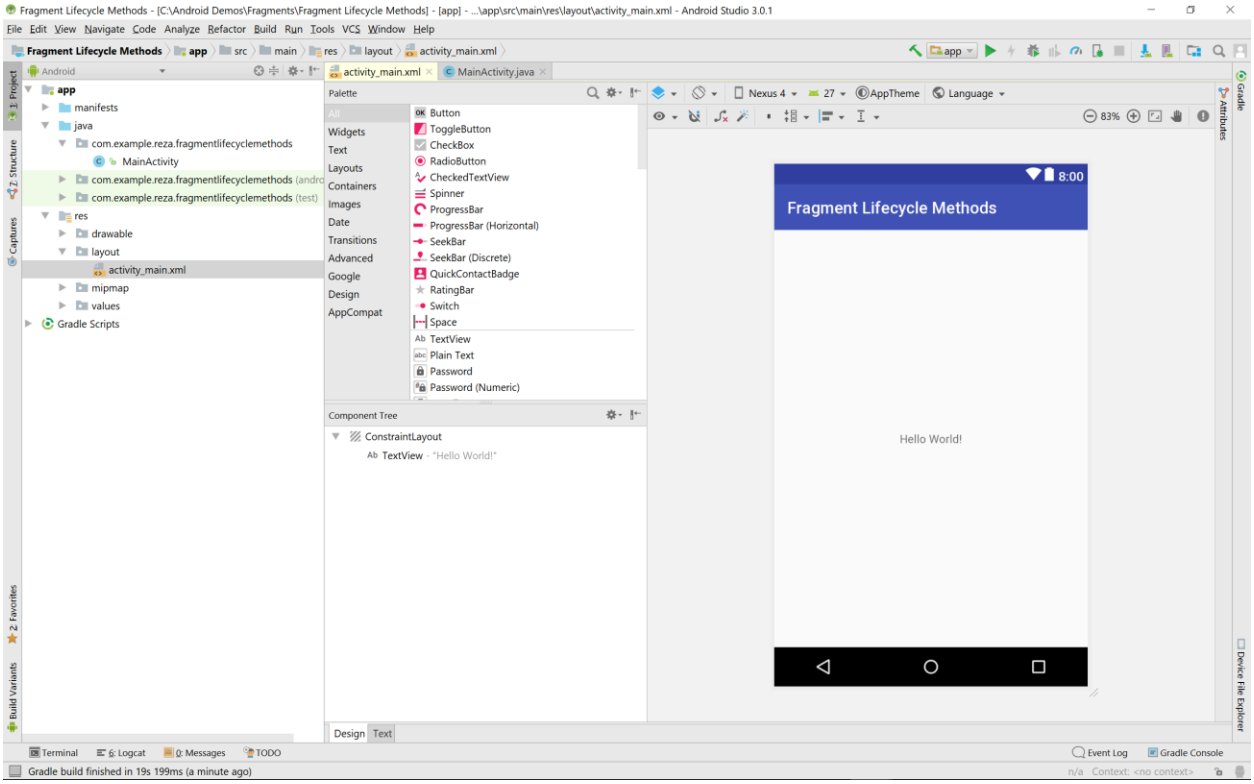

Create New Project
Target Android Devices
Select the form factors and minimum SDK
Some devices require additional SDKs. Low API levels target more devices, but offer fewer API features.
Phone and Tablet
API 15: Android 4.0.3 (IceCreamSandwich)
By targeting API 15 and later, your app will run on approximately 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
Master/Detail Flow
Navigation Drawer Activity
Previous
Next
Cancel
Finish

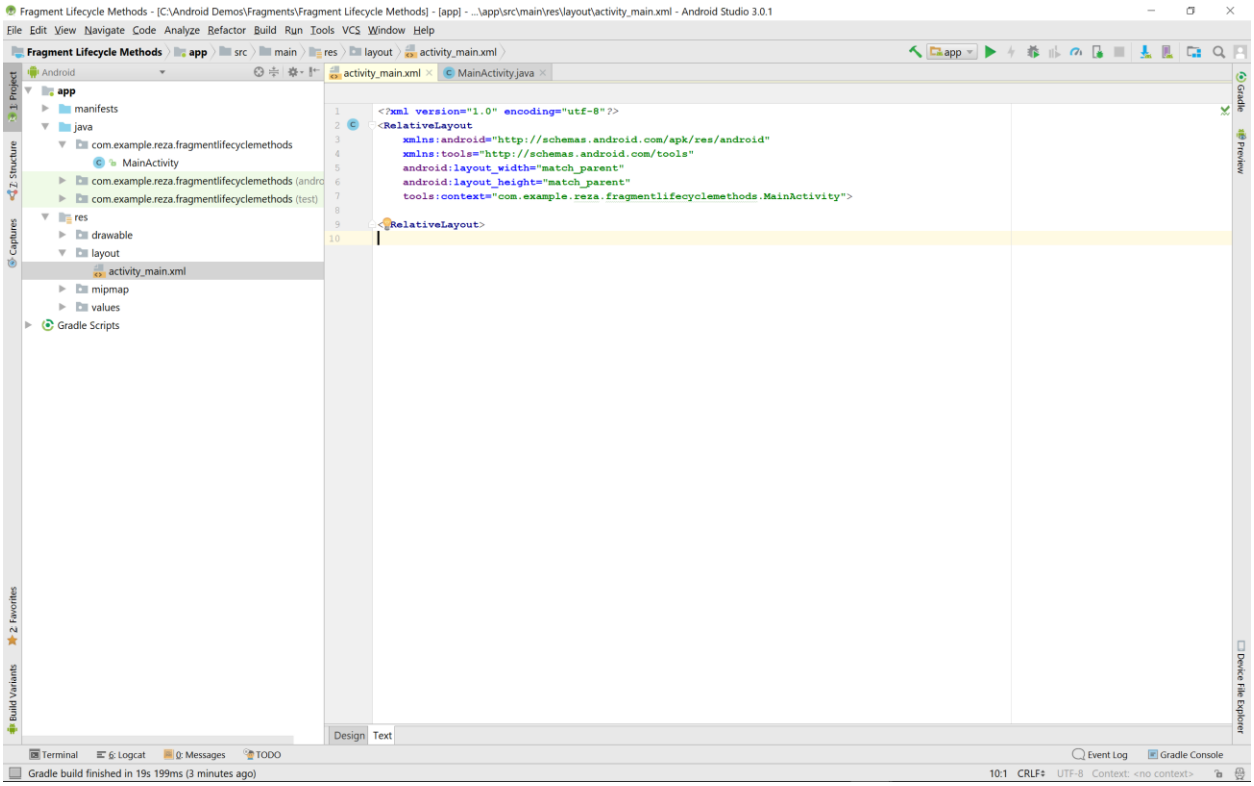

Create New Project
Configure Activity
Creates a new empty activity
Activity Name
MainActivity
Generate Layout File
Layout Name
activity_main
Backwards Compatibility (AppCompat)
Previous
Next
Cancel
Finish


Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods MainActivity
activity_main.xml
MainActivity.java
Android
app
manifests
java
com.example.reza.fragmentlifecyclemethods
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
package com.example.reza.fragmentlifecyclemethods;
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);
}
}
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle build finished in 19s 199ms
3:8 CRLF UTF-8 Context: <no context>

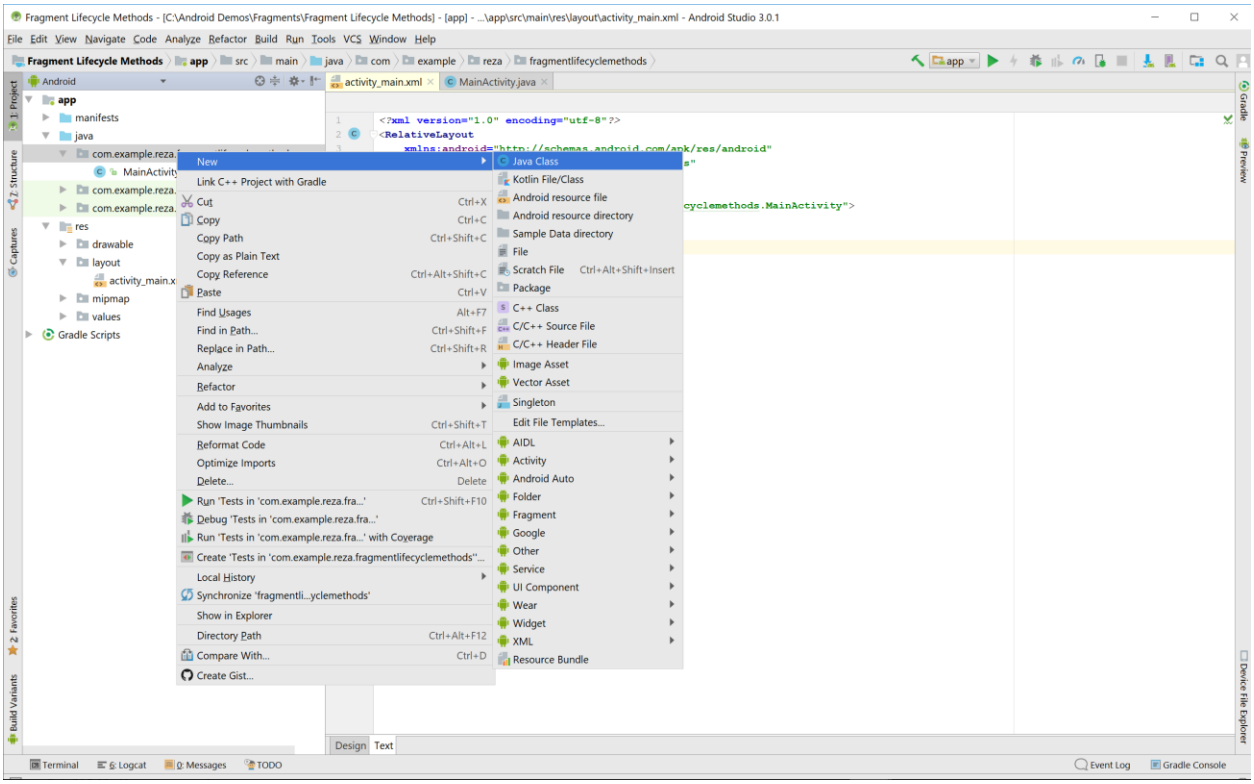

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main res layout activity_main.xml
activity_main.xml
MainActivity.java
Android
app
manifests
java
com.example.reza.fragmentlifecyclemethods
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
<?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.fragmentlifecyclemethods.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 build finished in 19s 199ms
1:1 CRLF UTF-8 Context: <no context>

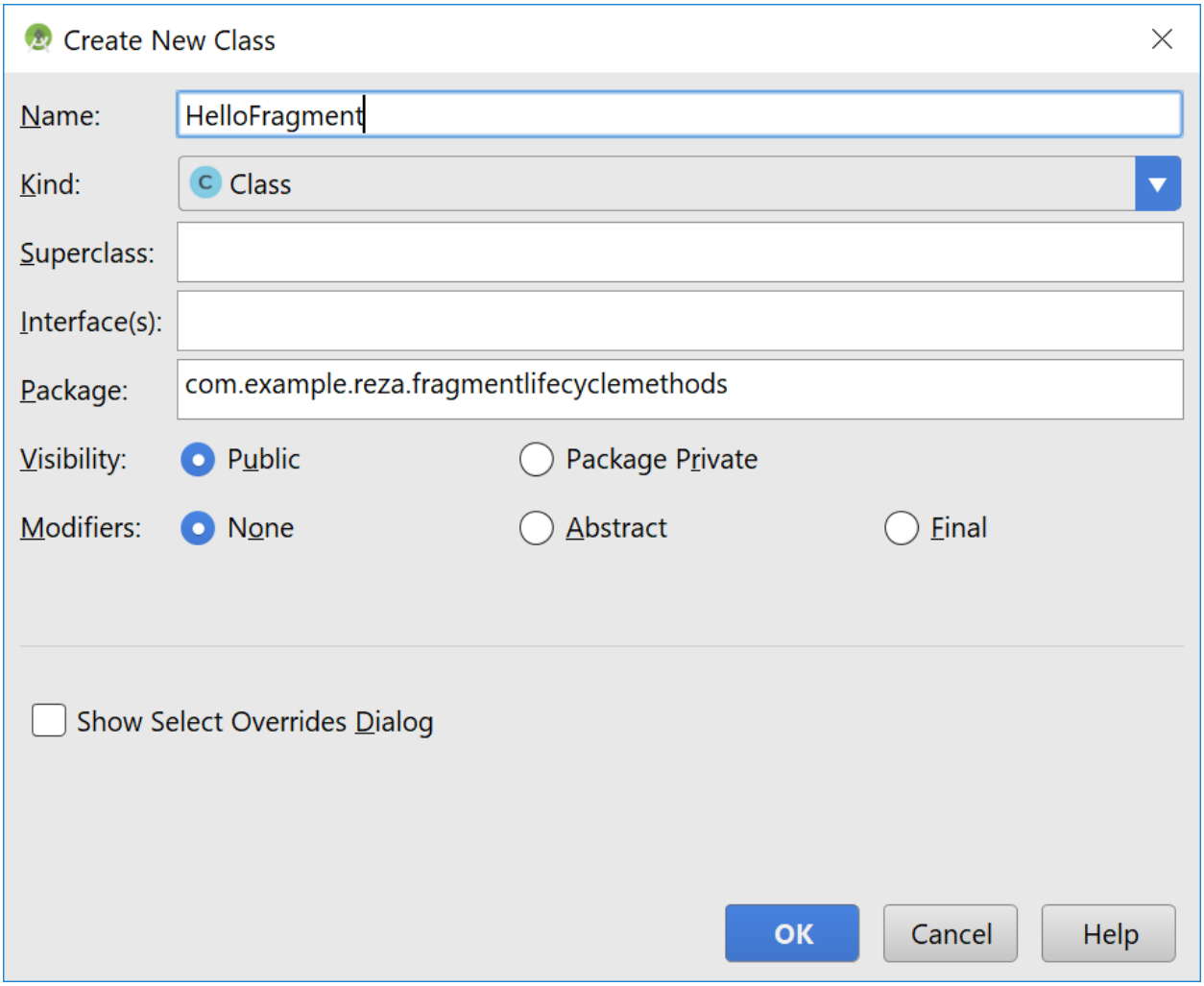

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\res\layout\activity_main.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main res layout activity_main.xml
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
AppTheme
Language
8:00
Fragment Lifecycle Methods
Hello World!
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console
Gradle build finished in 19s 199ms (a minute ago)

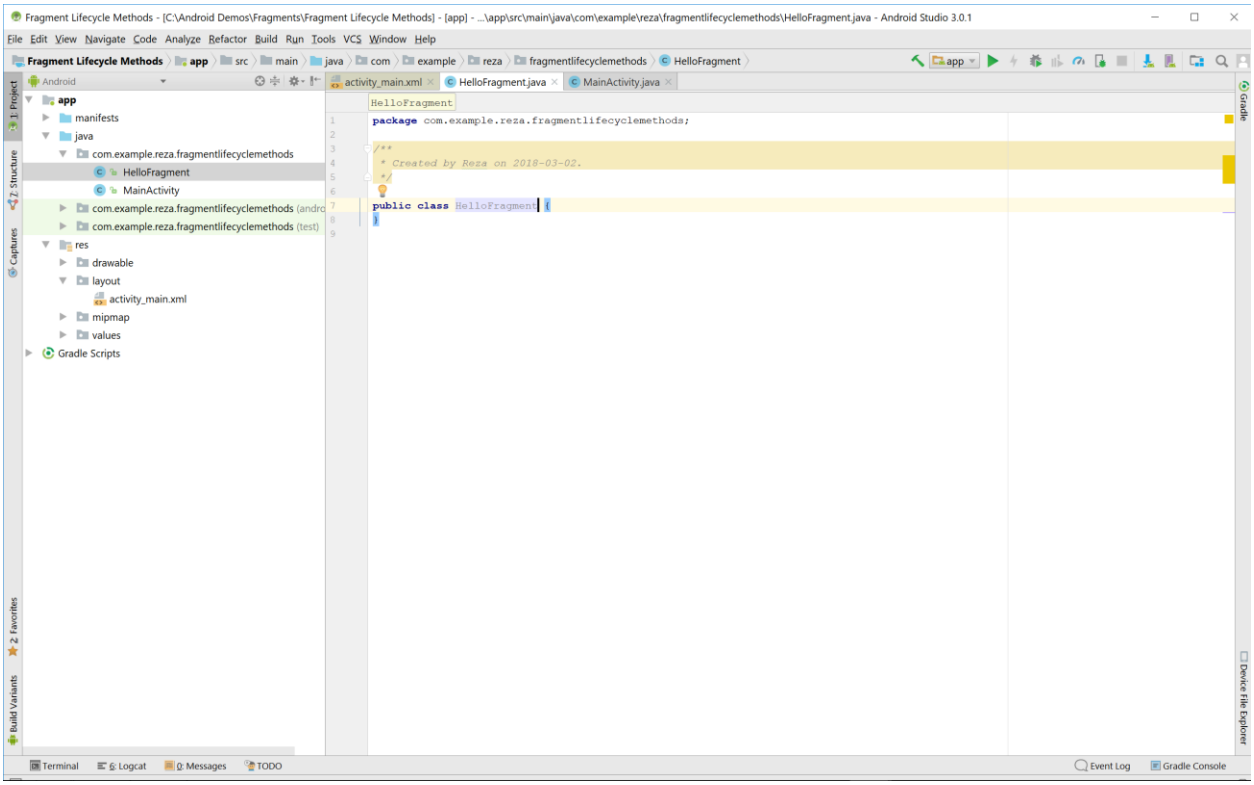
## Change the layout file (activity_main.xml) as shown:

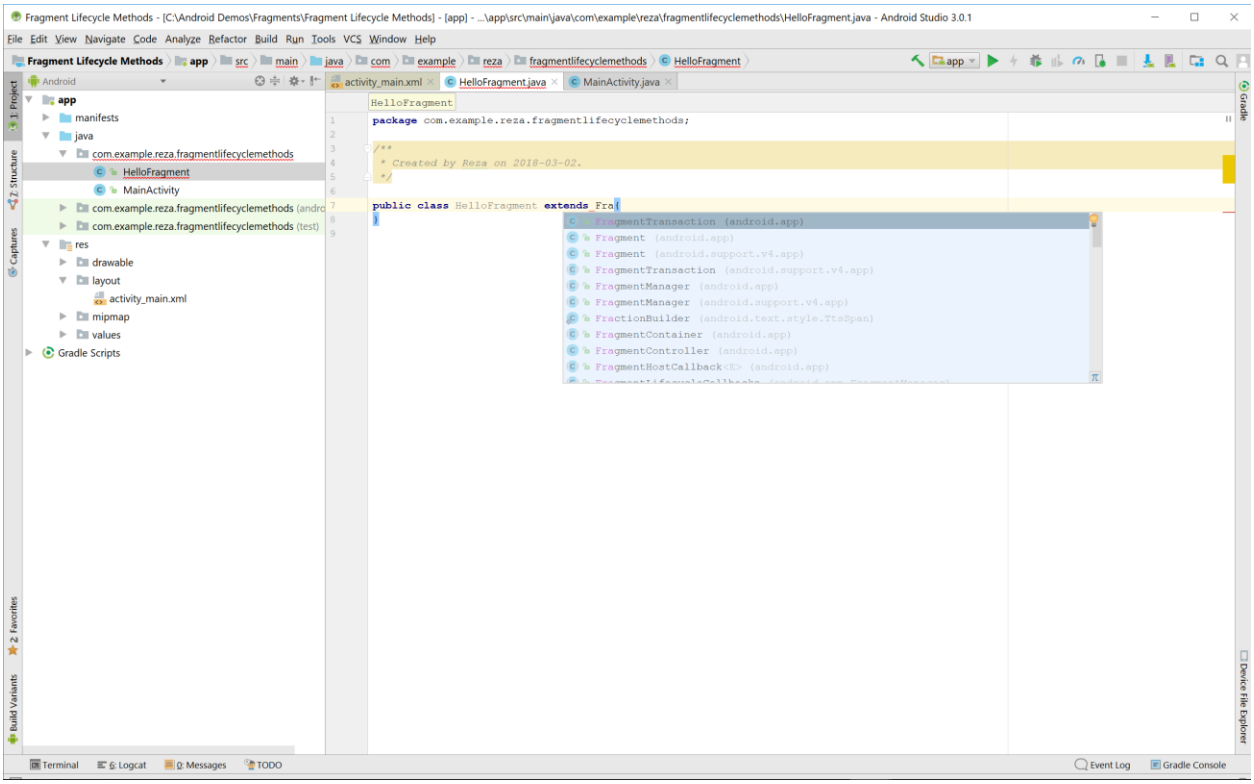


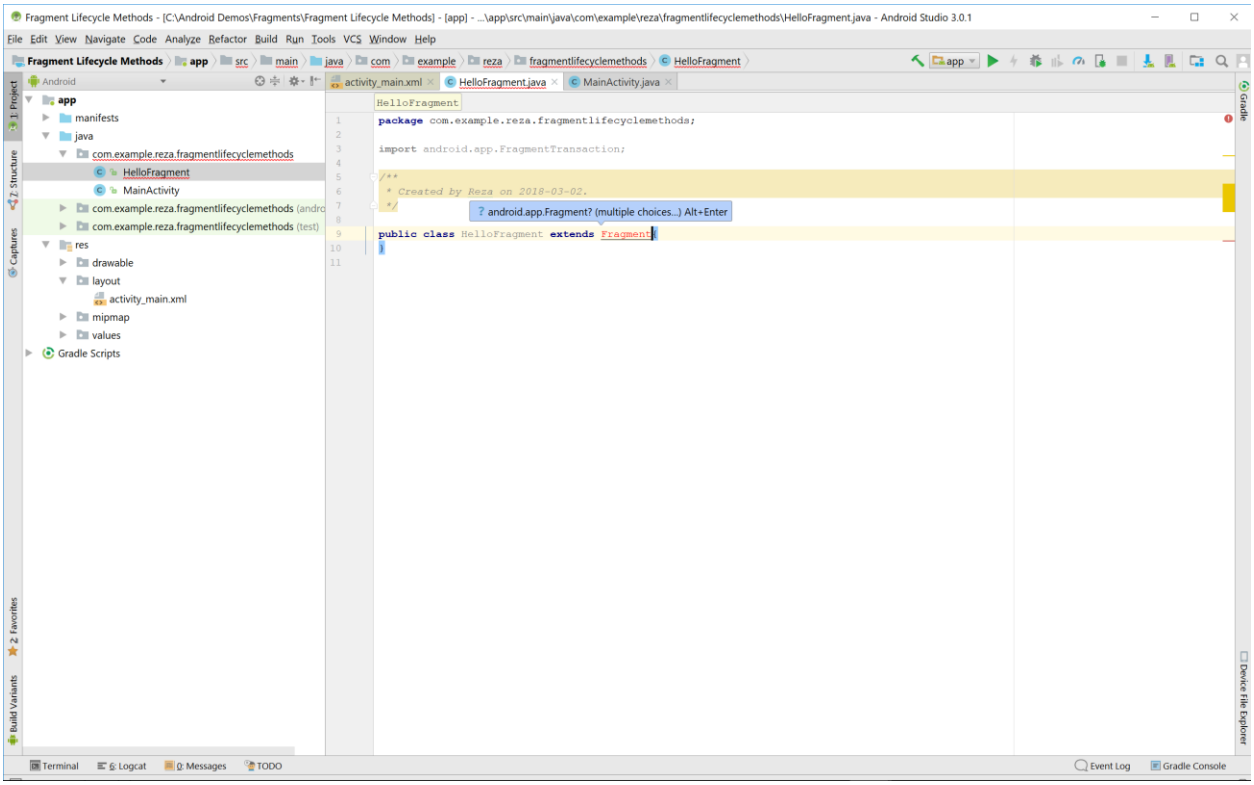
Now you need to create your fragment which is a subclass of Fragment class. So create a new Java class:

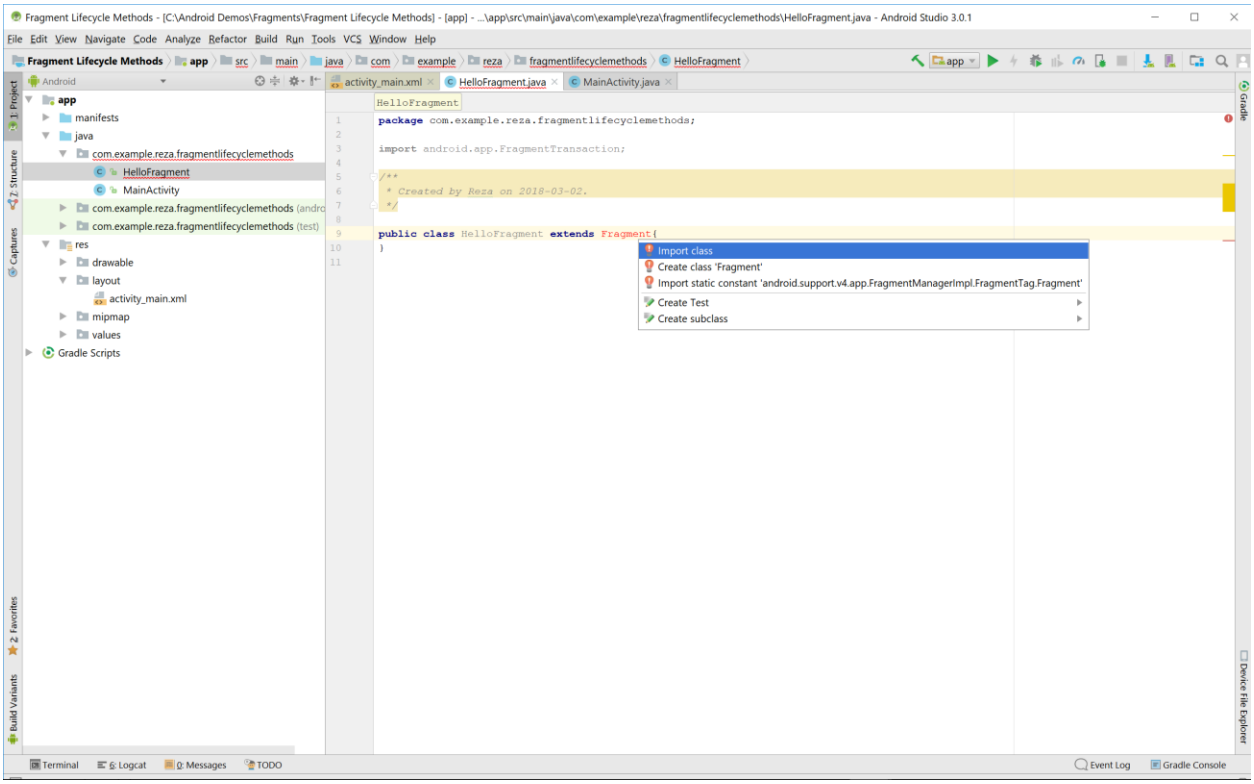


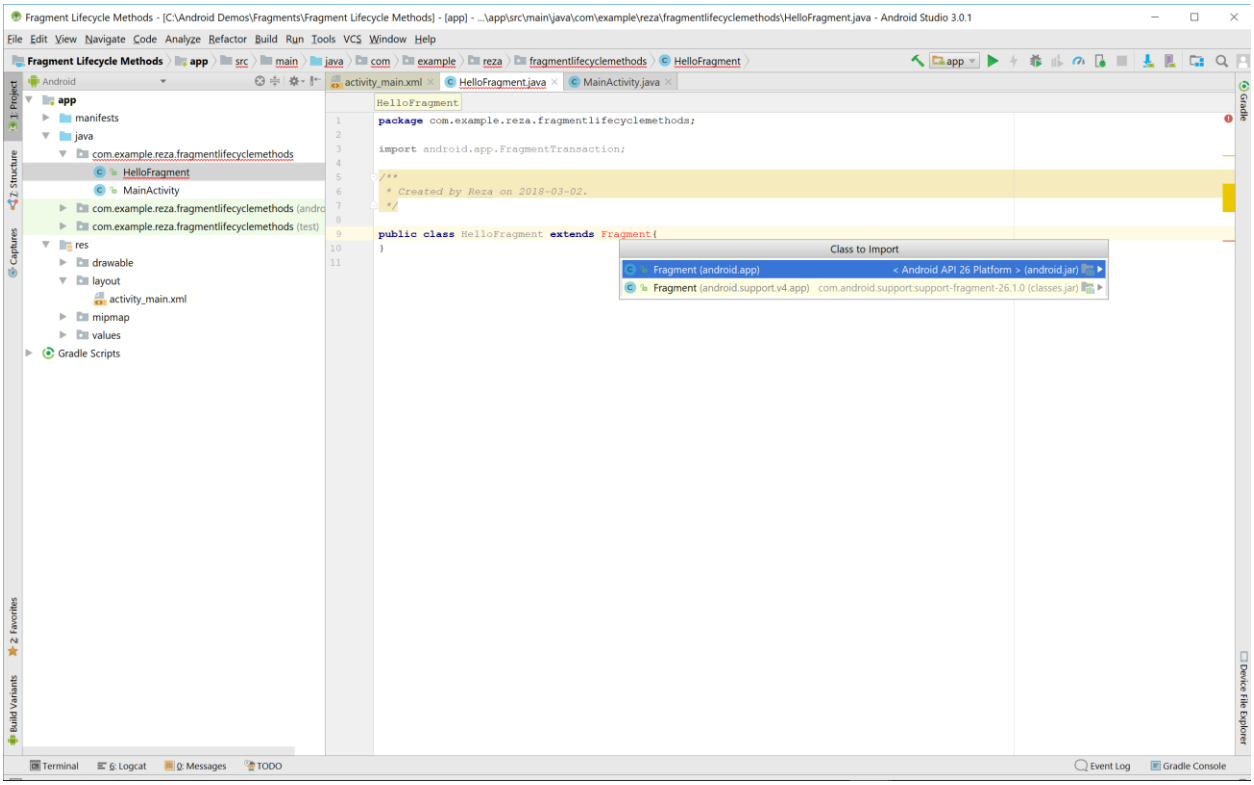

Create New Class
Name:
HelloFragment
Kind:
Class
Superclass:
Interface(s):
Package:
com.example.reza.fragmentlifecyclemethods
Visibility:
Public
Package Private
Modifiers:
None
Abstract
Final
Show Select Overrides Dialog
OK
Cancel
Help

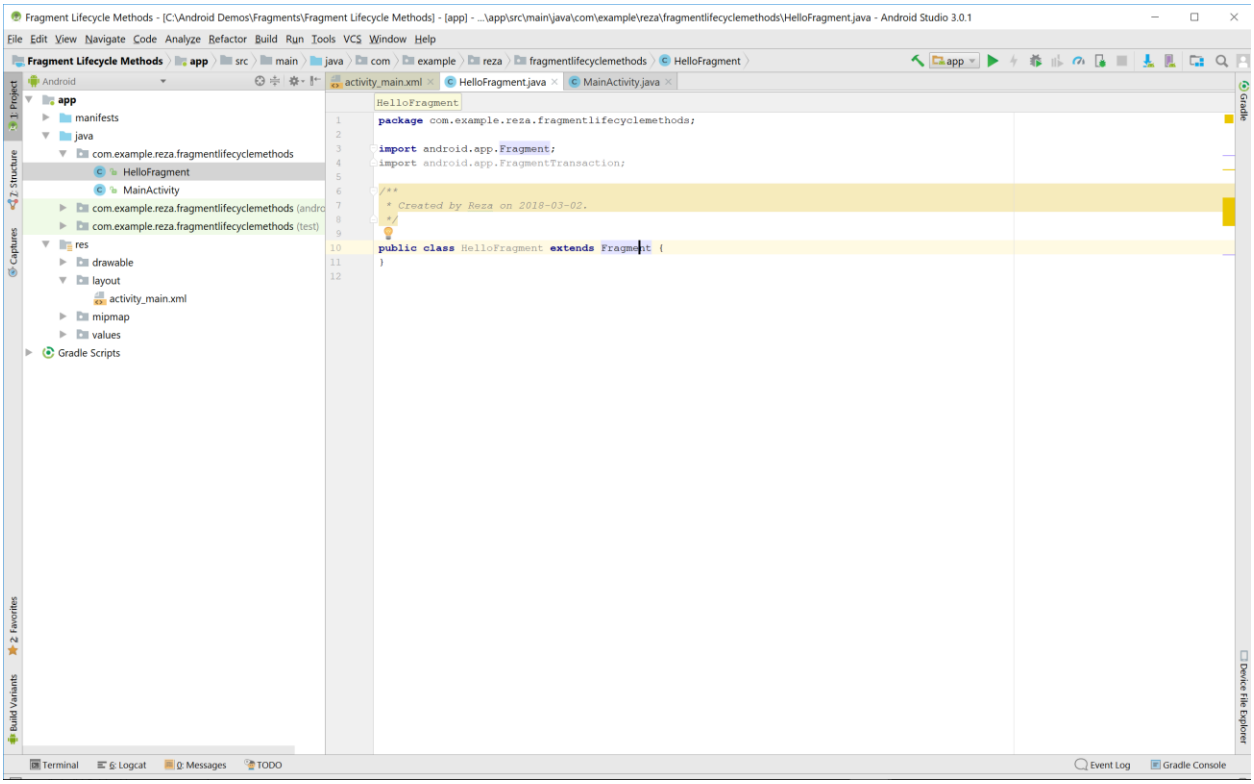

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment {
}
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console


Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fra
}
FragmentTransaction (android.app)
Fragment (android.app)
Fragment (android.support.v4.app)
FragmentTransaction (android.support.v4.app)
FragmentManager (android.app)
FragmentManager (android.support.v4.app)
FractionBuilder (android.text.style.TtsSpan)
FragmentContainer (android.app)
FragmentController (android.app)
FragmentHostCallback<E> (android.app)
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console

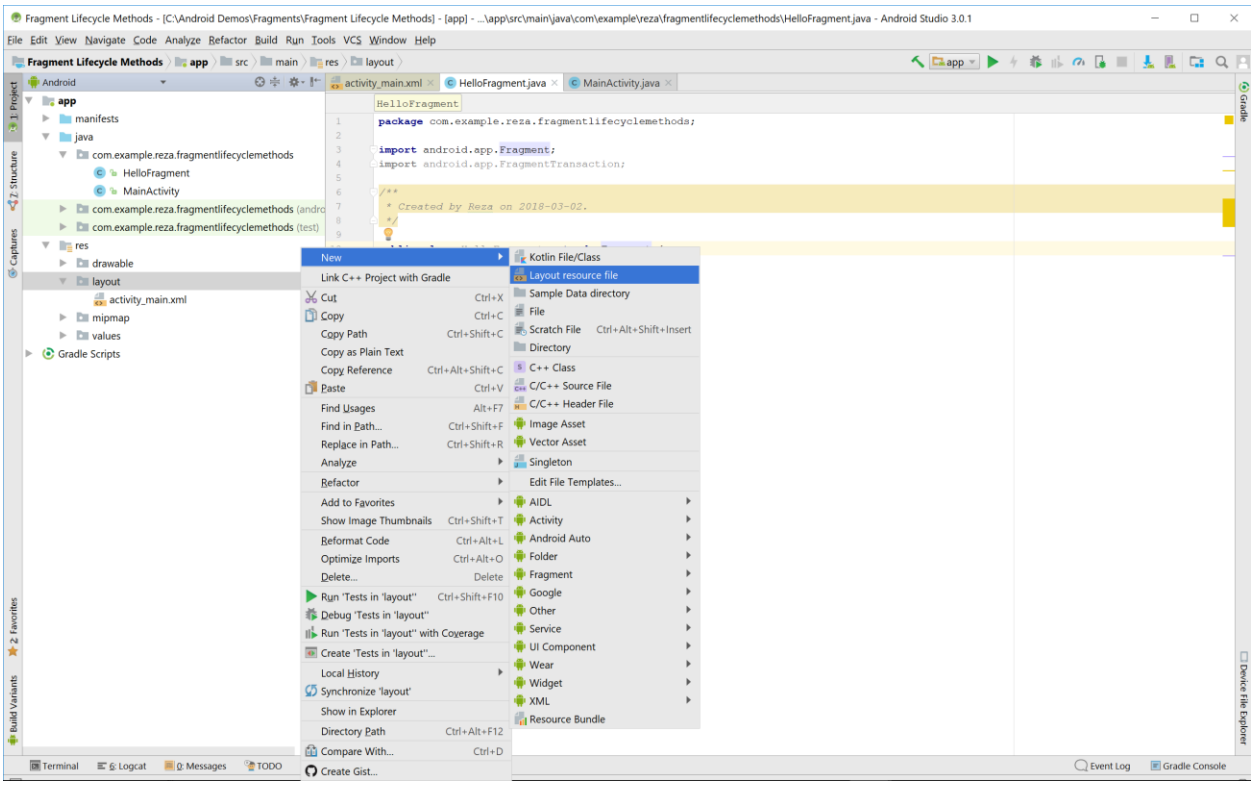

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.FragmentTransaction;
/**
* Created by Reza on 2018-03-02.
*/
android.app.Fragment? (multiple choices...) Alt+Enter
public class HelloFragment extends Fragment{
}
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

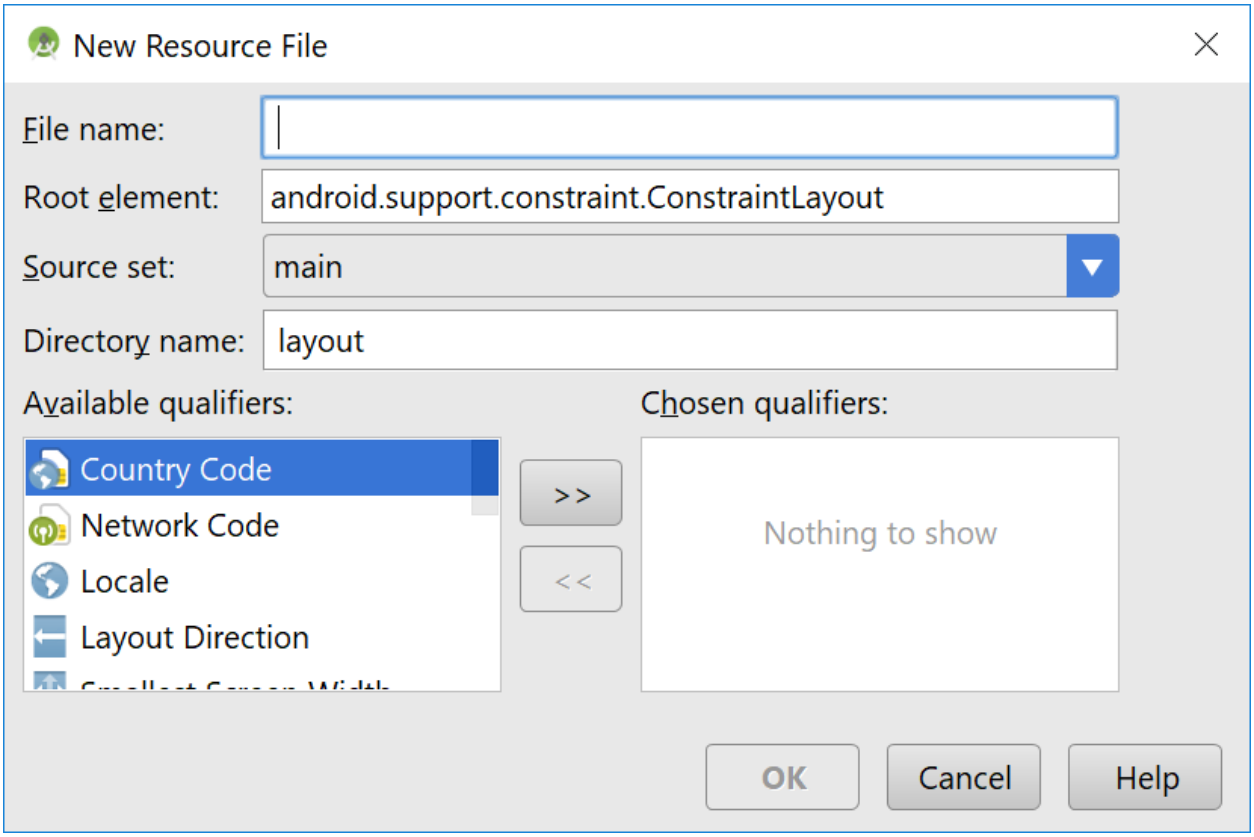

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.FragmentTransaction;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fragment{
}
Import class
Create class 'Fragment'
Import static constant 'android.support.v4.app.FragmentManagerImpl.FragmentTag.Fragment'
Create Test
Create subclass
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

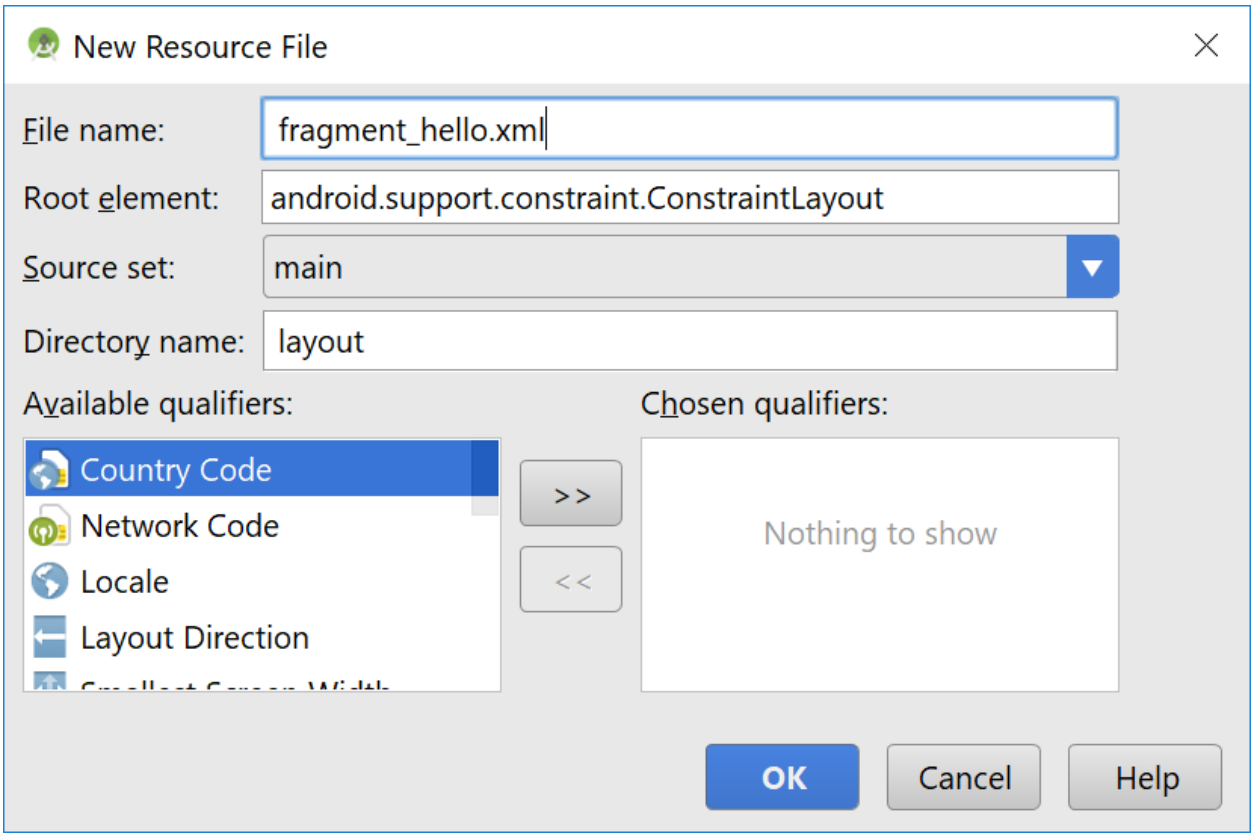

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.FragmentTransaction;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fragment{
}
Class to Import
Fragment (android.app) < Android API 26 Platform > (android.jar)
Fragment (android.support.v4.app) com.android.support:support-fragment-26.1.0 (classes.jar)
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console


Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.Fragment;
import android.app.FragmentTransaction;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fragment {
}
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
mipmap
values
Gradle Scripts
Terminal 6: Logcat 0: Messages TODO
Event Log Gradle Console

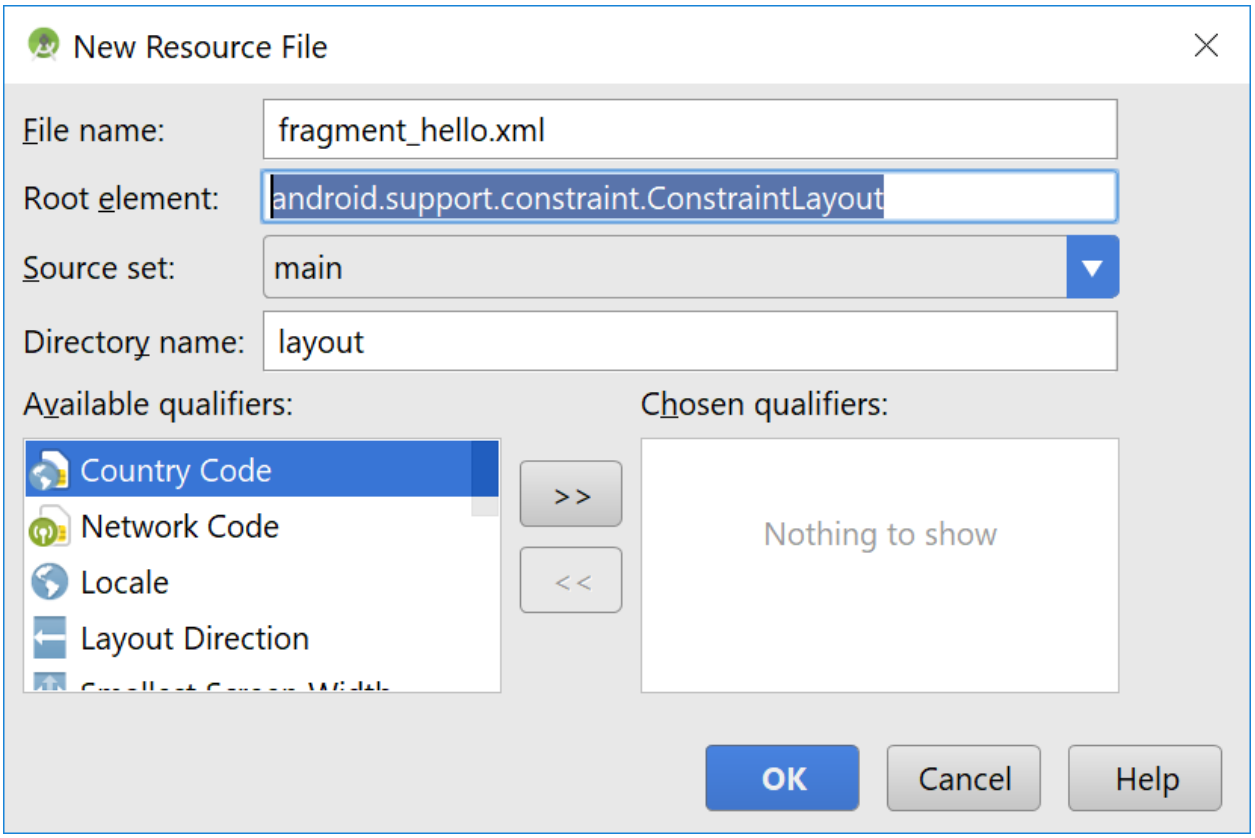
## Next create a layout for your fragment class as shown:

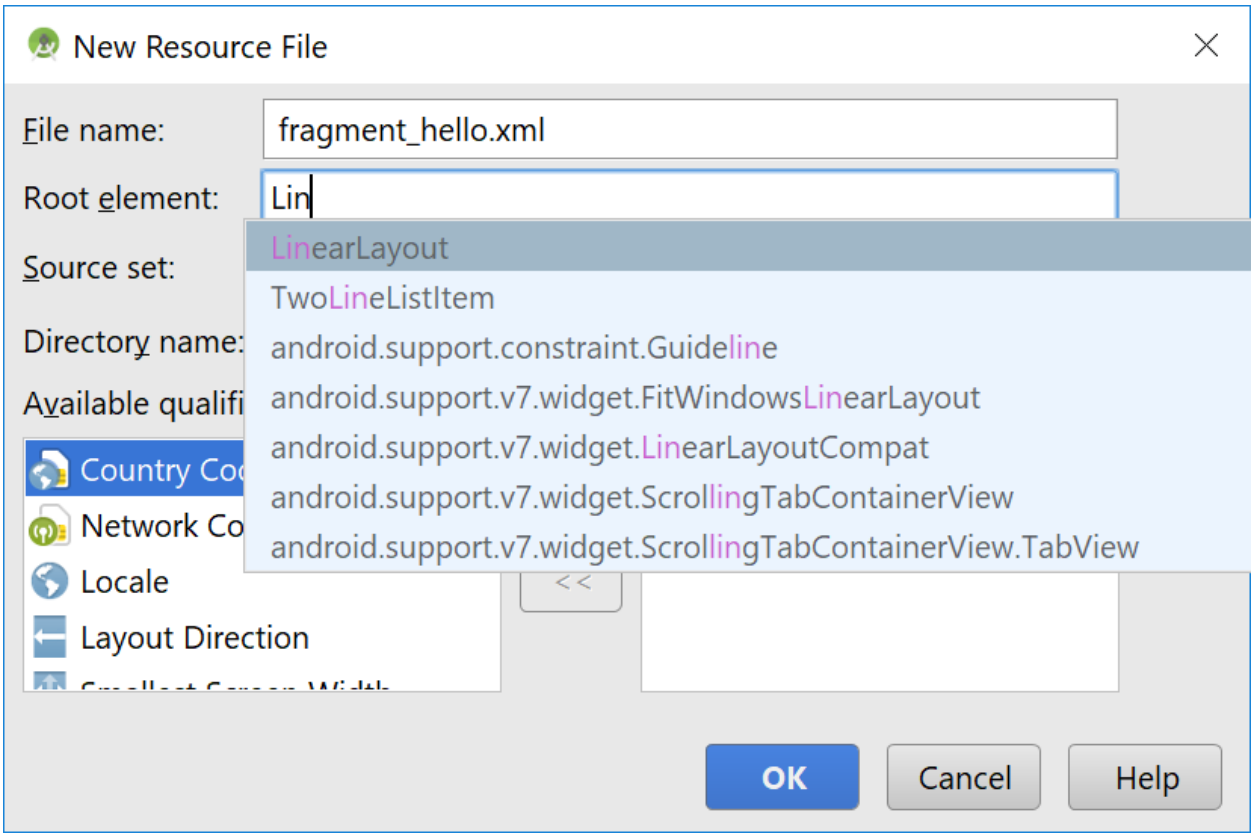


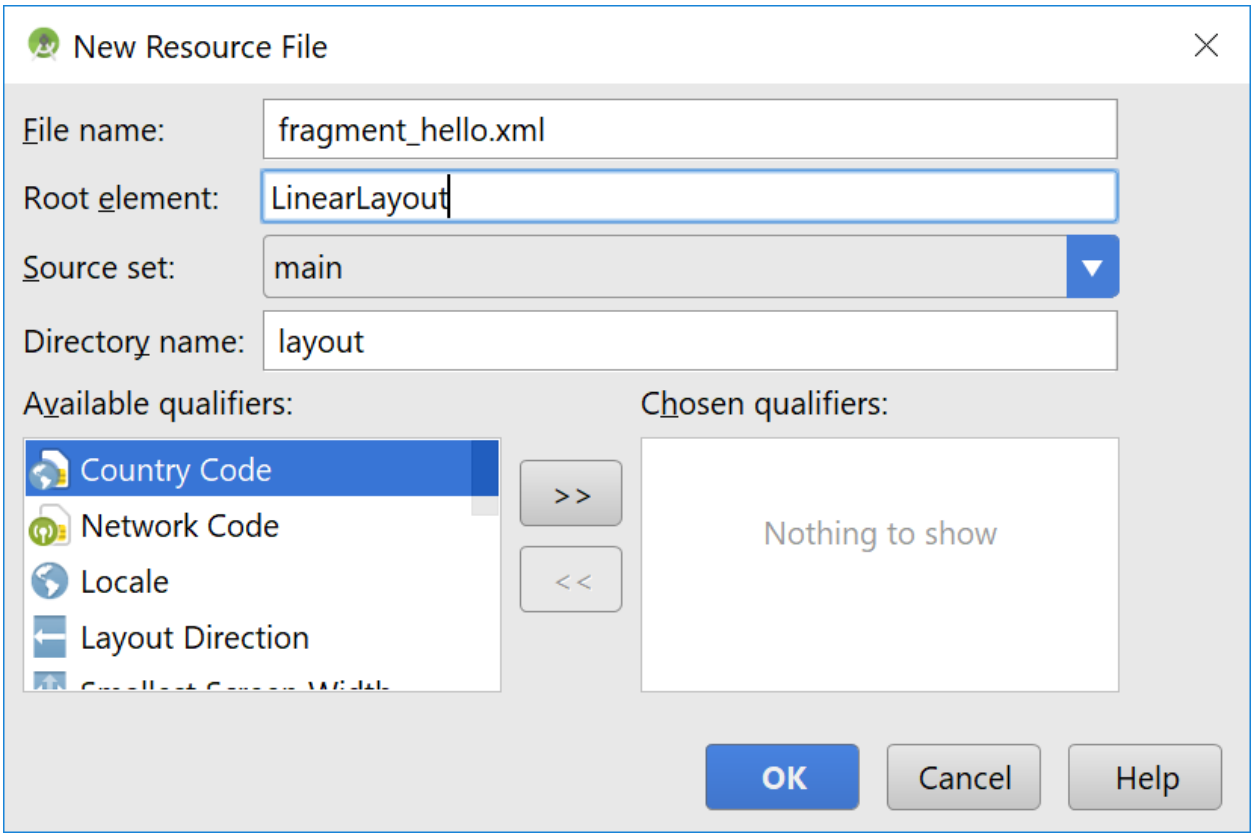



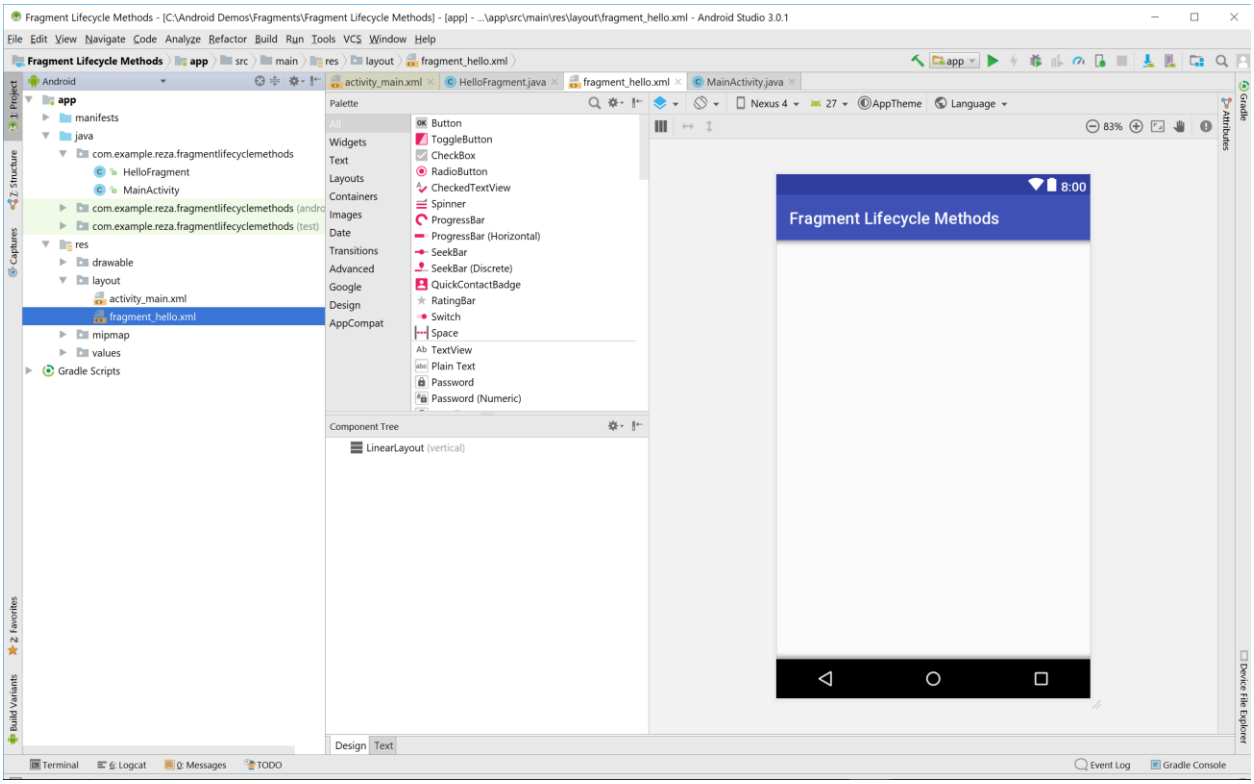

New Resource File
File name:
fragment_hello.xml
Root element:
android.support.constraint.ConstraintLayout
Source set:
main
Directory name:
layout
Available qualifiers:
Country Code
Network Code
Locale
Layout Direction
>>
<<
Chosen qualifiers:
Nothing to show
OK
Cancel
Help

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

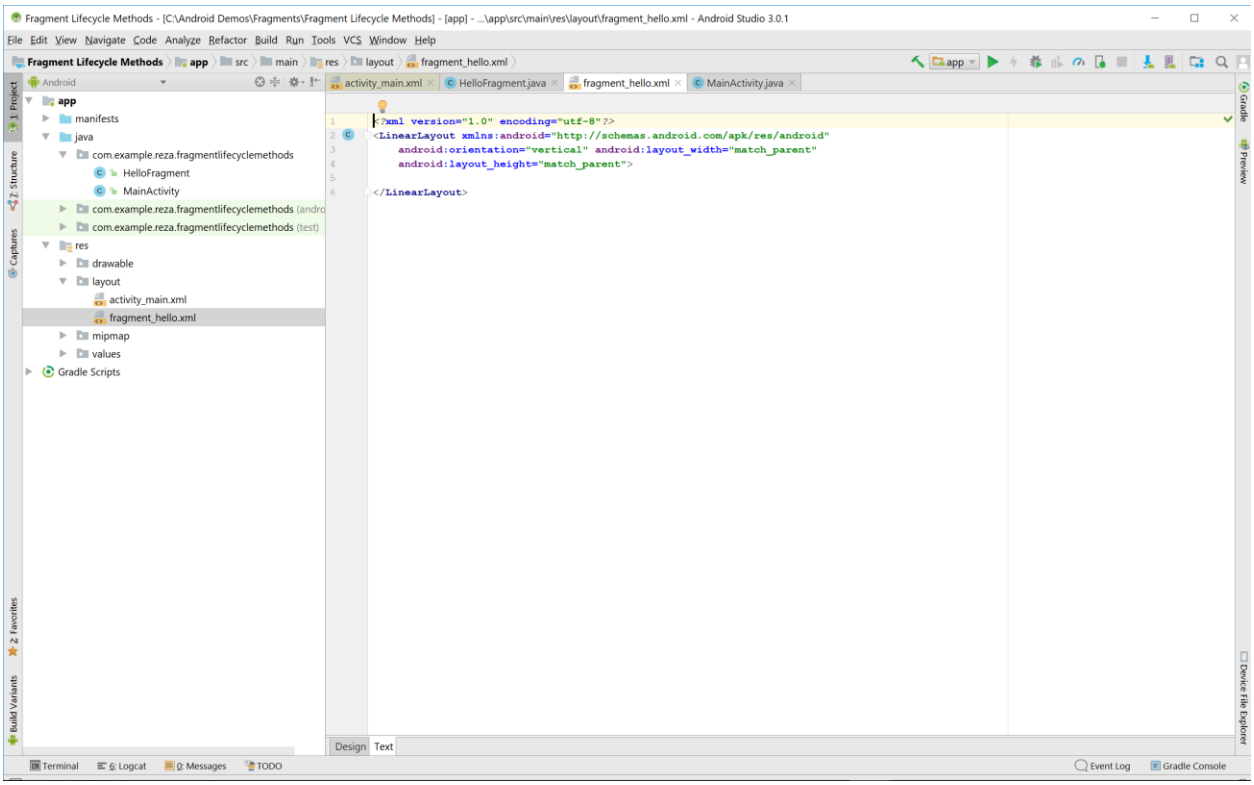



New Resource File
File name:
fragment_hello.xml
Root element:
Lin
Source set:
Directory name:
Available qualifi
LinearLayout
TwoLineListItem
android.support.constraint.Guideline
android.support.v7.widget.FitWindowsLinearLayout
android.support.v7.widget.LinearLayoutCompat
android.support.v7.widget.ScrollingTabContainerView
android.support.v7.widget.ScrollingTabContainerView.TabView
Country Co
Network Co
Locale
Layout Direction
<<
OK
Cancel
Help

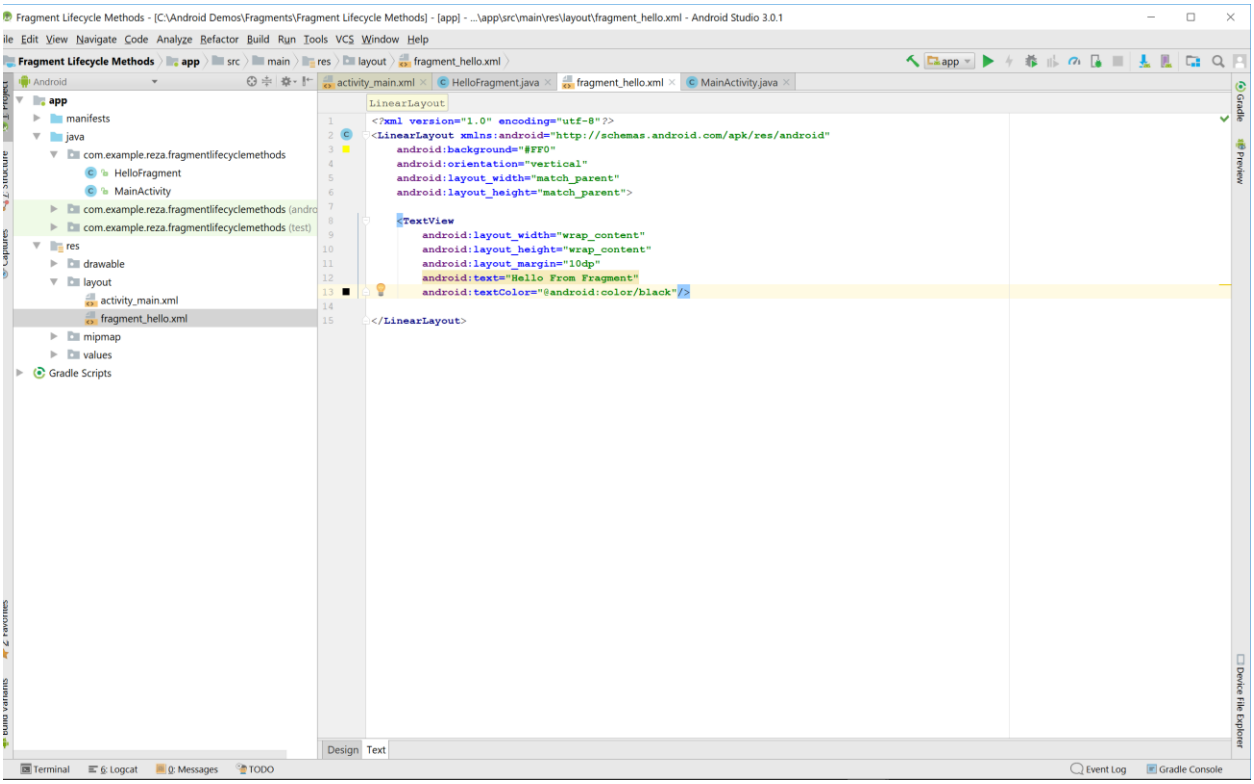

New Resource File
File name:
fragment_hello.xml
Root element:
LinearLayout
Source set:
main
Directory name:
layout
Available qualifiers:
Chosen qualifiers:
Country Code
Network Code
Locale
Layout Direction
>>
<<
Nothing to show
OK
Cancel
Help

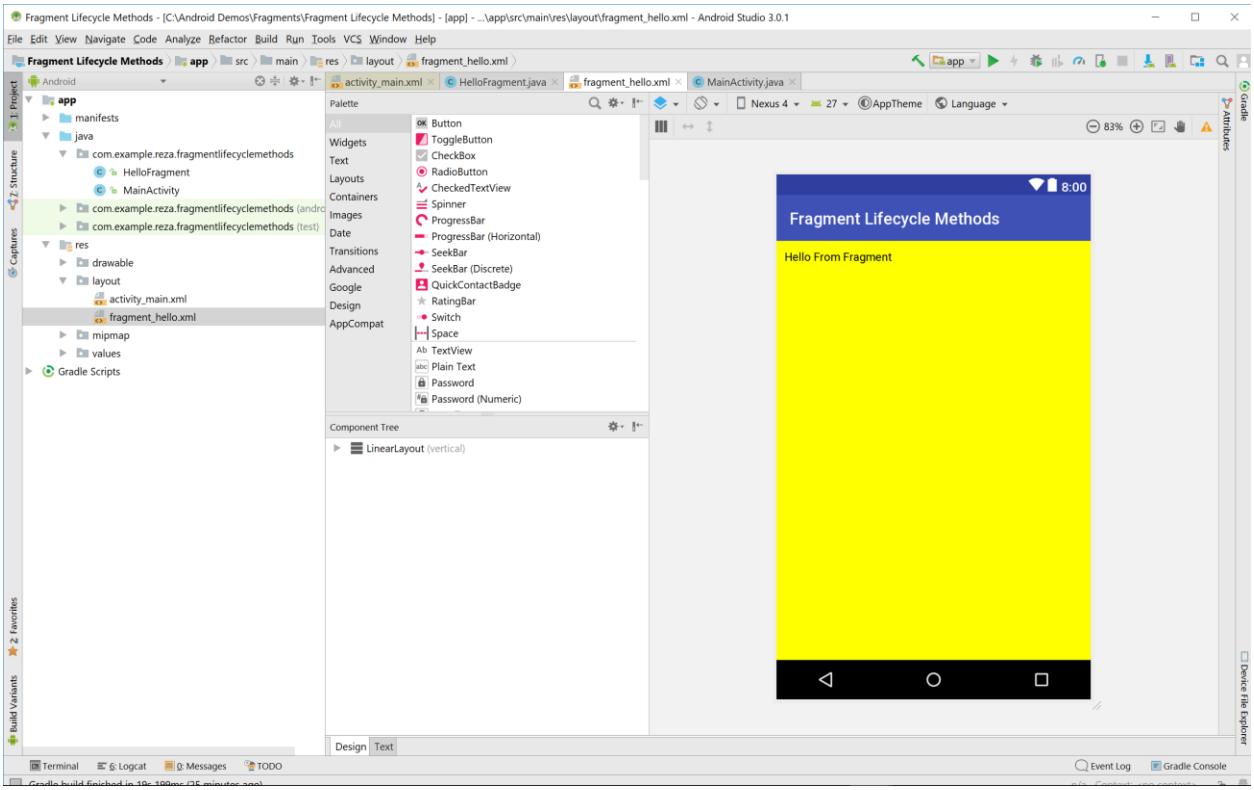

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
Fragment Lifecycle Methods
Fragment Lifecycle Methods
8:00
Design
Text

## Here is the layout:

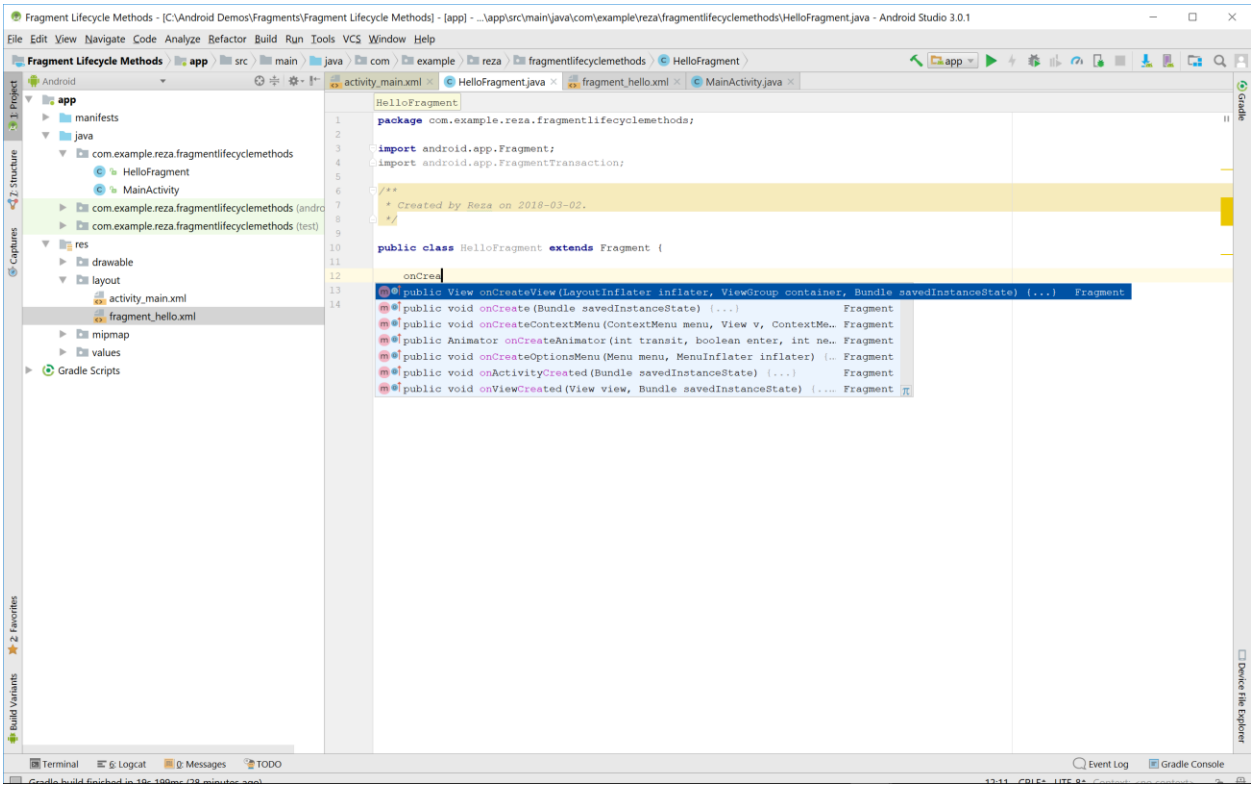


Add an element and set the background color so it is easy to see the fragment when displayed in the activity:

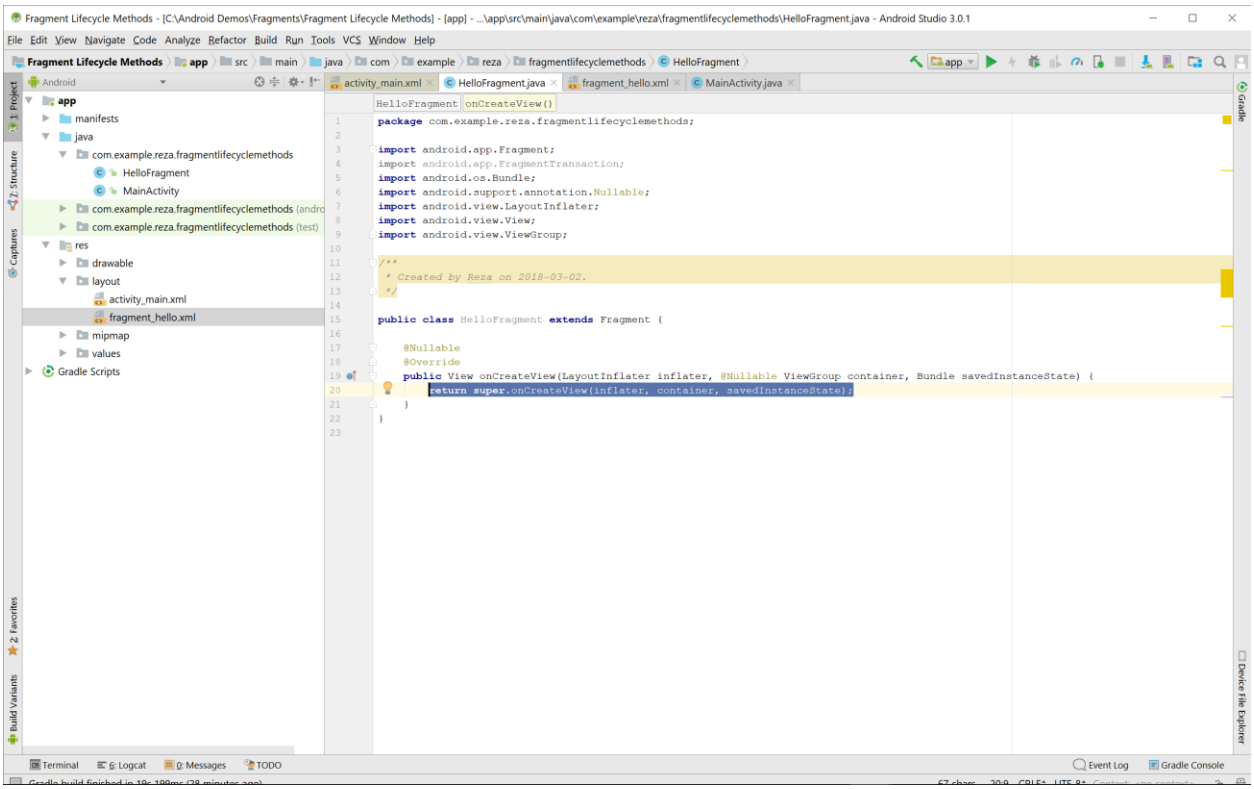


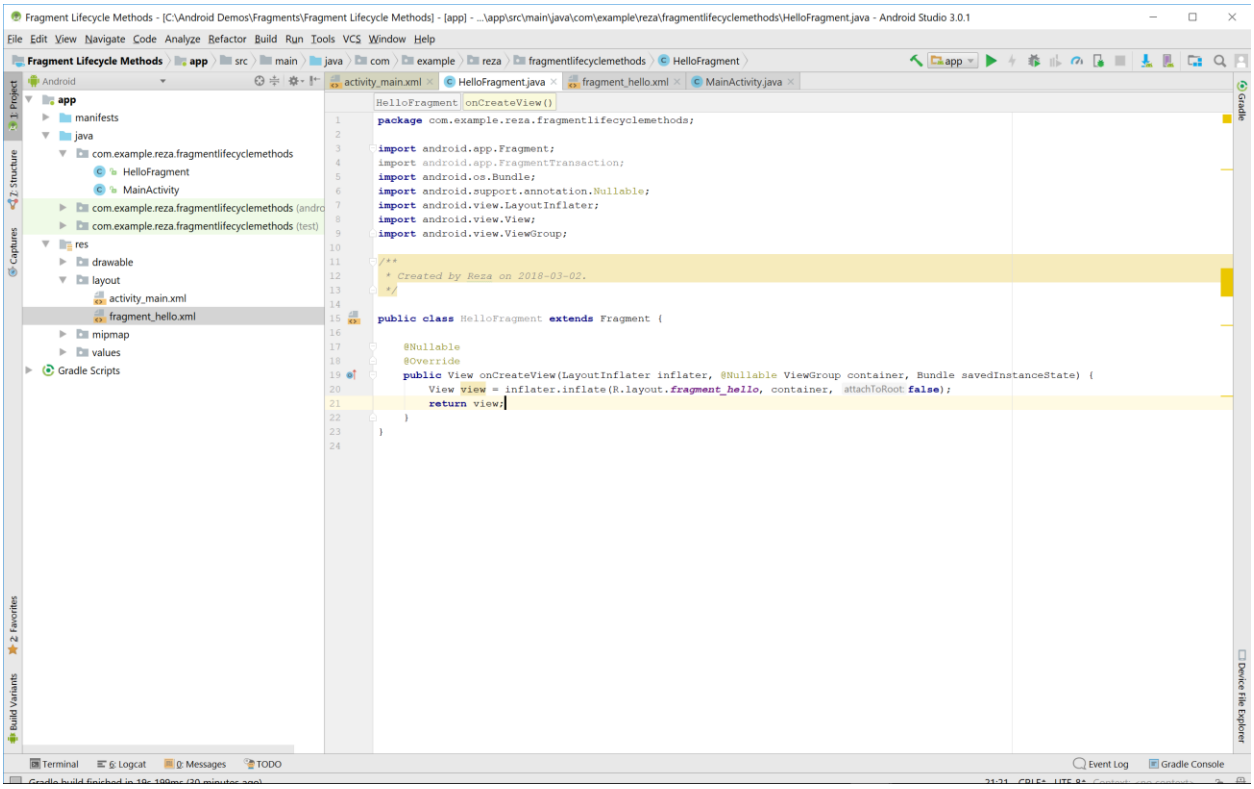

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\res\layout\fragment_hello.xml - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main res layout fragment_hello.xml
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
Palette
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
8:00
Fragment Lifecycle Methods
Hello From Fragment
Design
Text
Terminal
6: Logcat
0: Messages
TODO
Event Log
Gradle Console

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



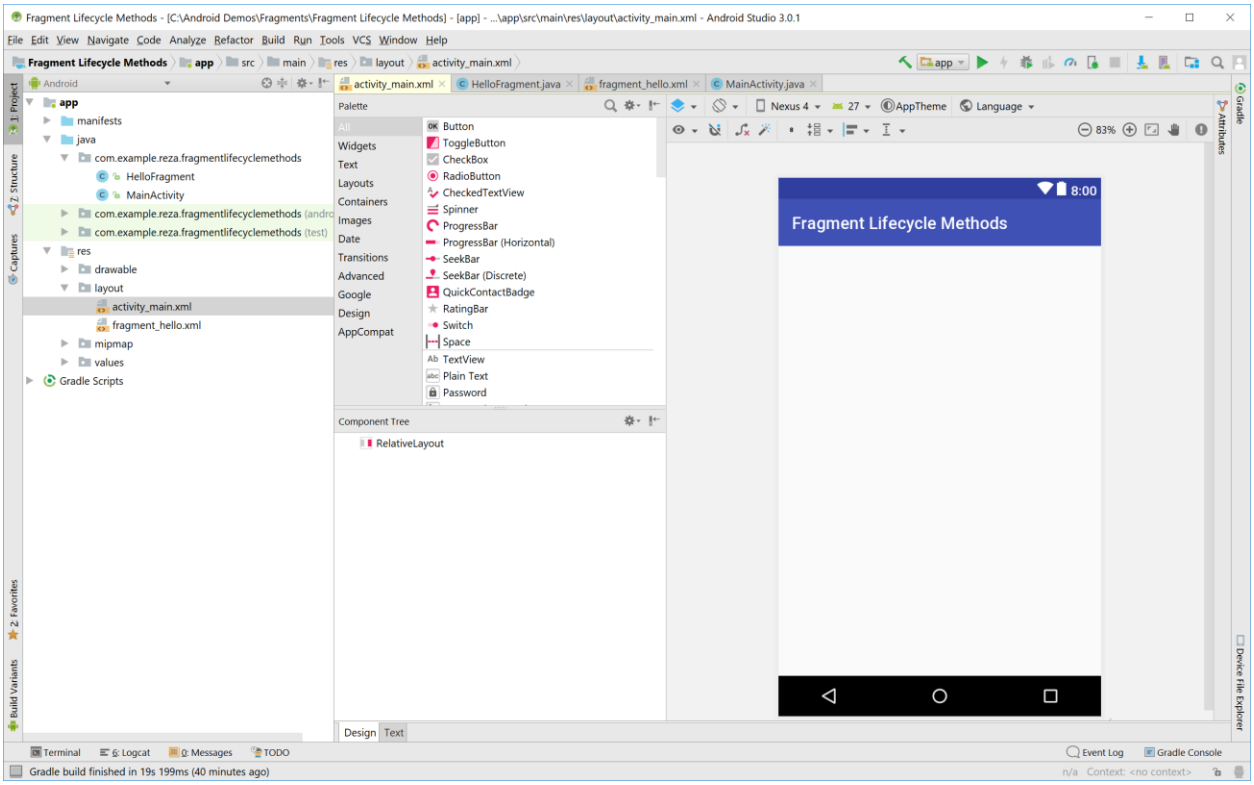
## You need to replace the highlighted code as shown:



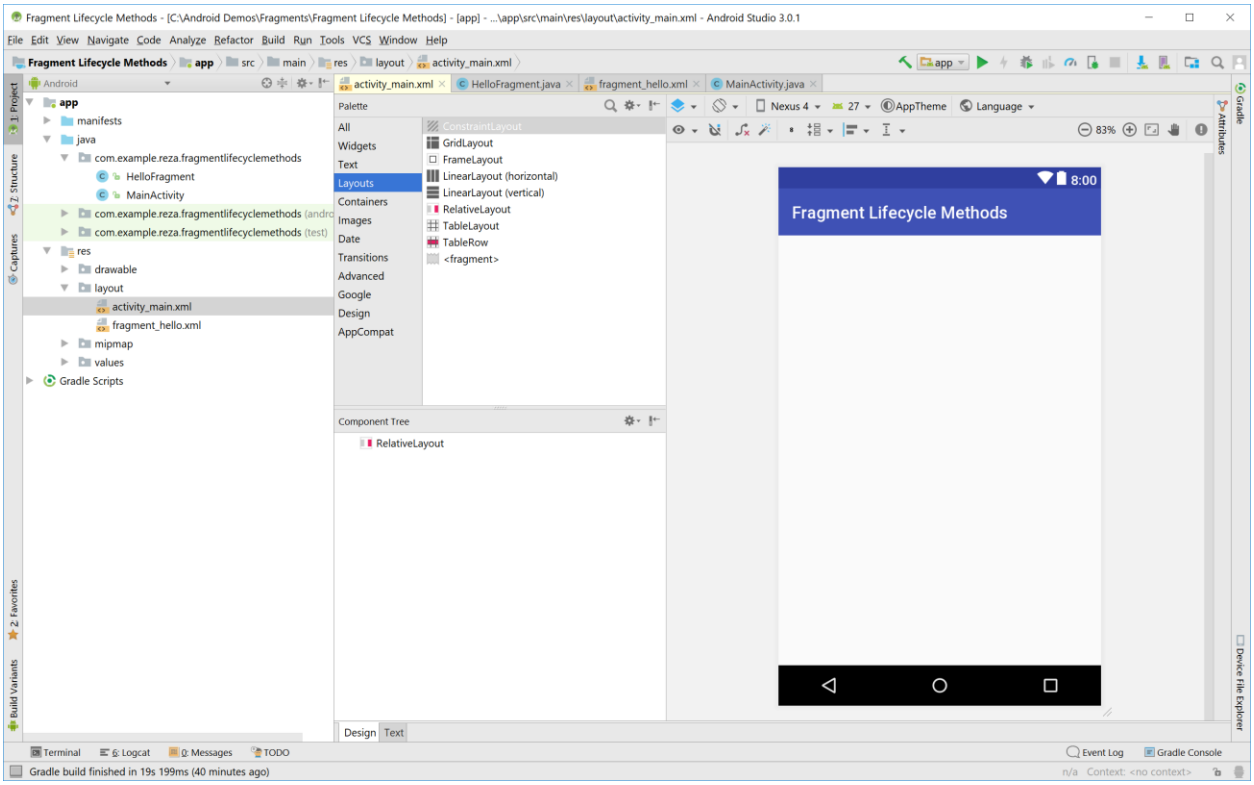



Next you need to add this fragment to the layout for your main activity. The process is the same as adding a TextView or EditText to the main activity layout.

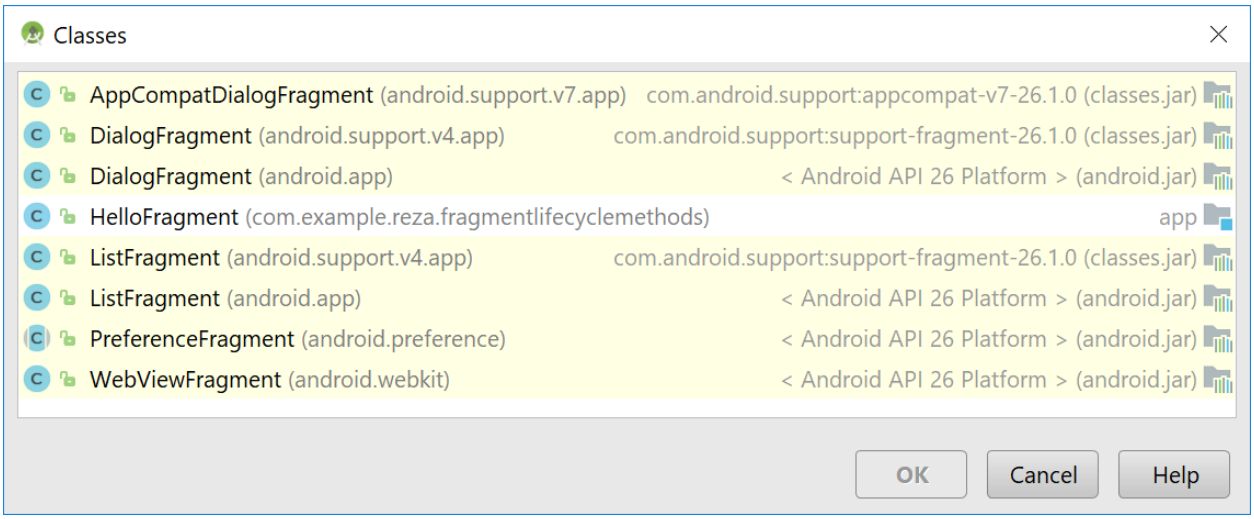
So select activity_main.xml in the design view and under Palette select Layouts and as shown:

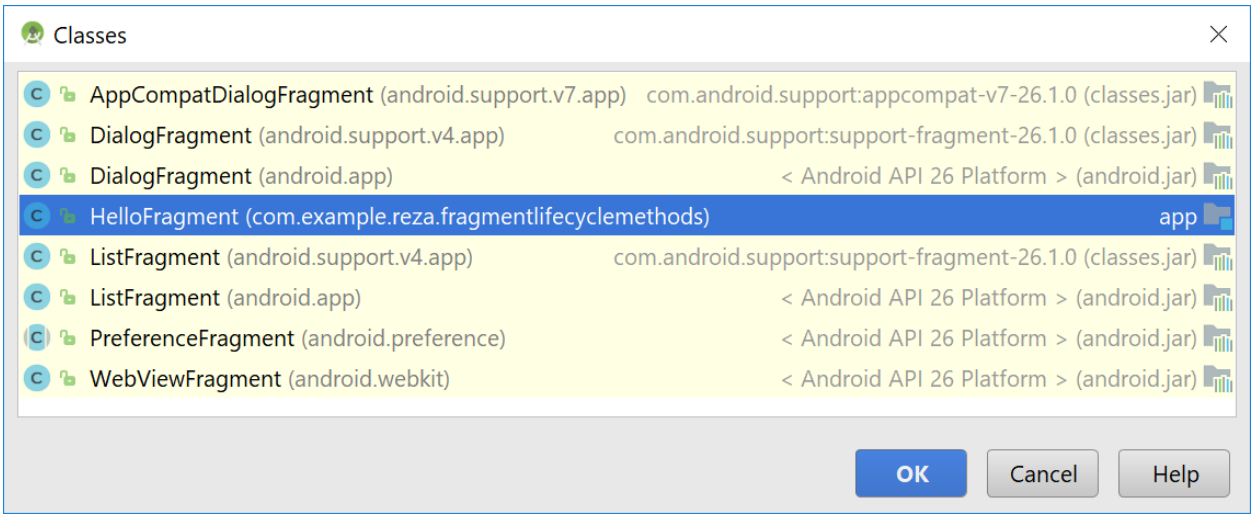


Now select <fragment> and drag into the activity_main.xml file and you will get this pop up that shows you several different fragments as shown:

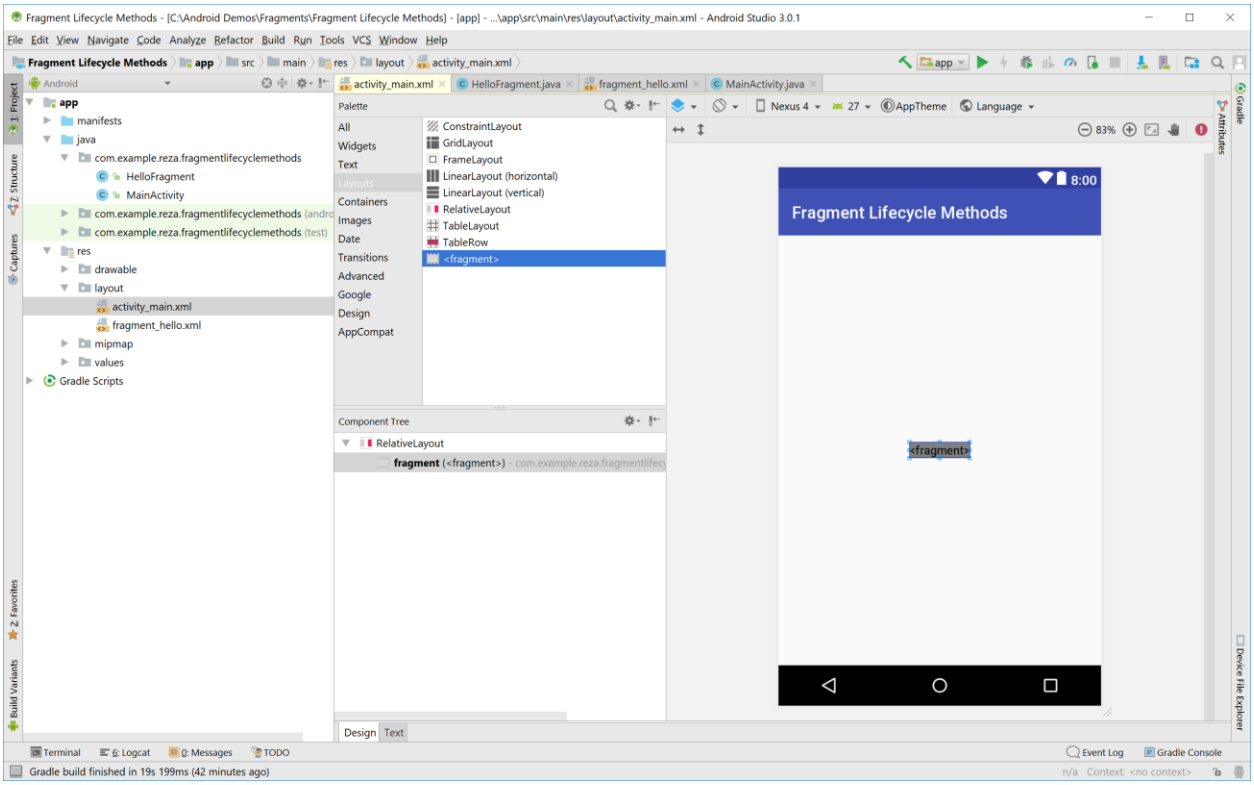



You see you can add many different predefined fragments but what you are interested is the HelloFragment fragment so select HelloFragment and click Ok as shown:

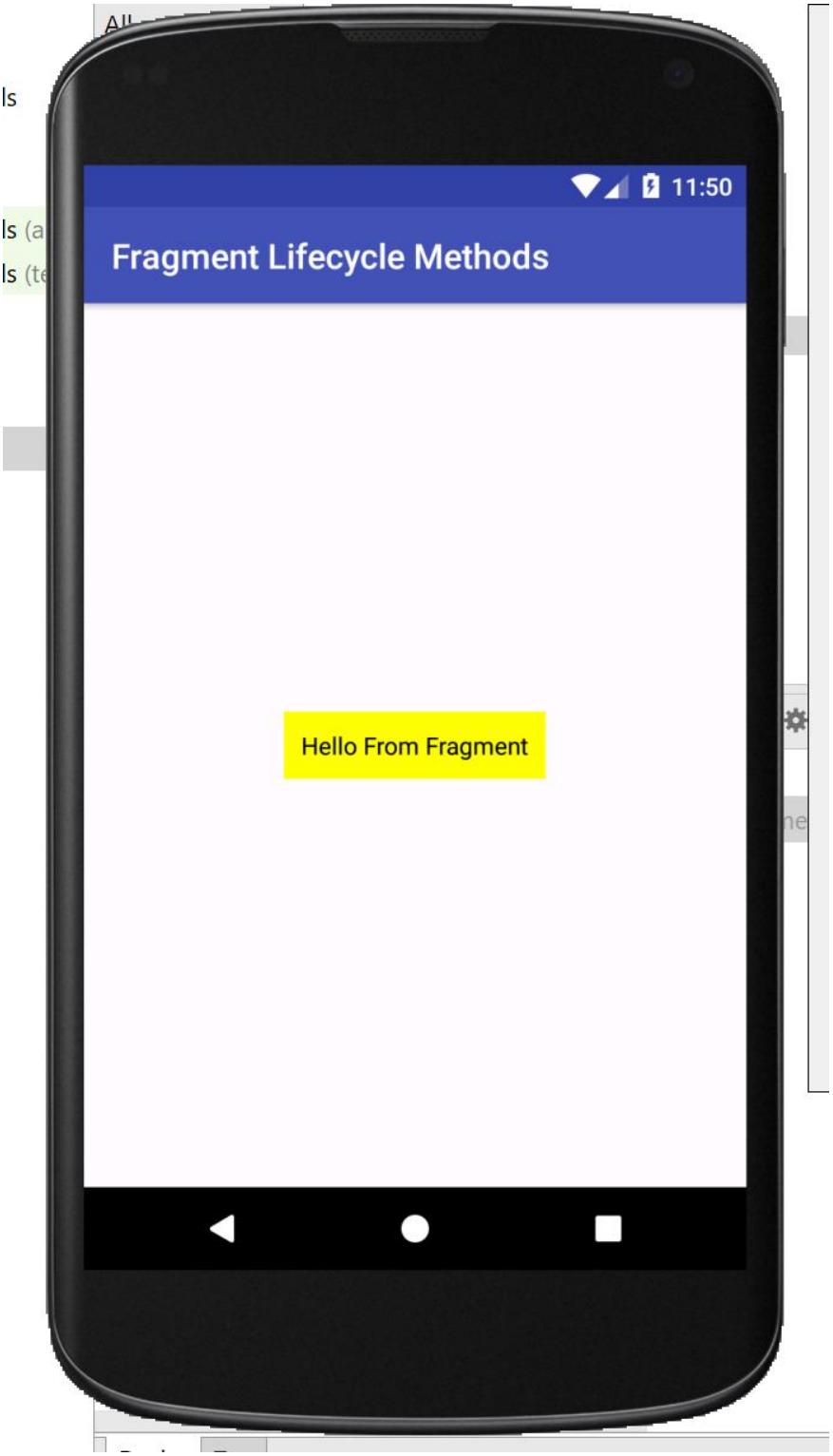




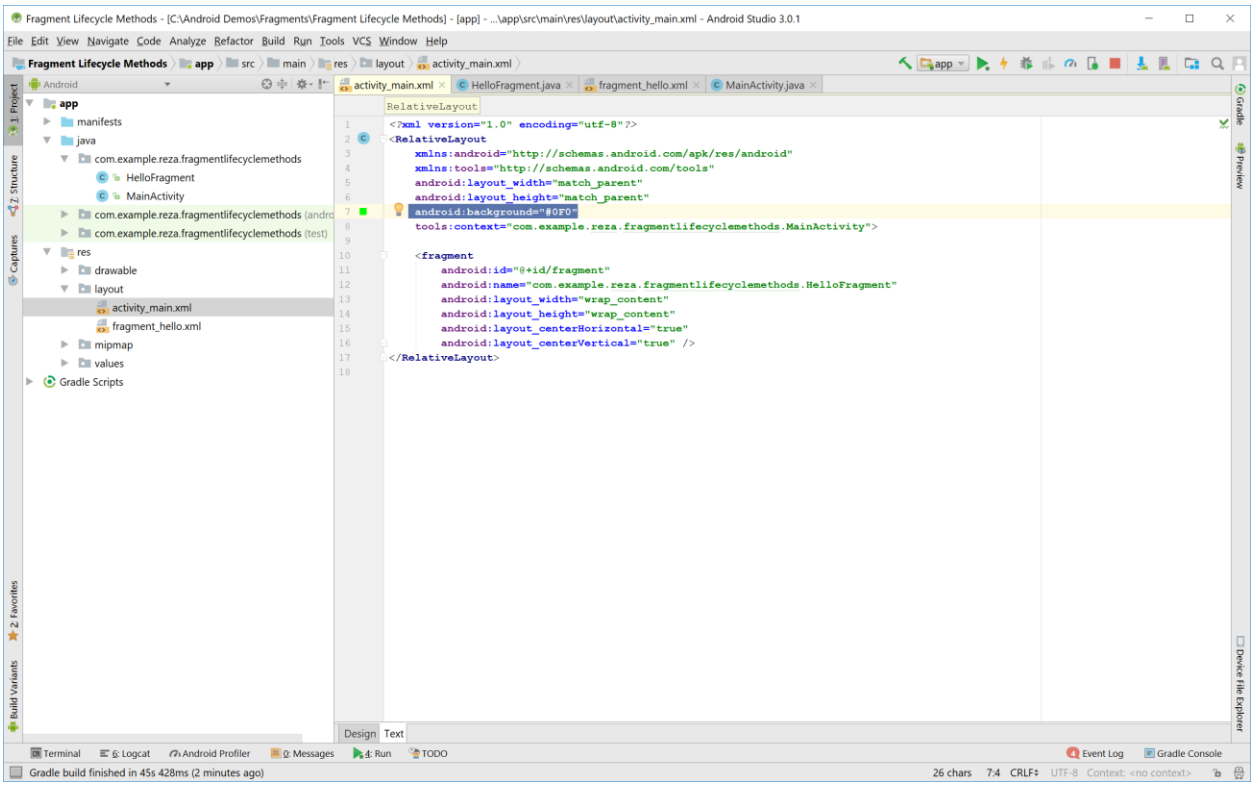

The fragment has been added to the layout file of the main activity. Again you can think of a fragment as another view that you drag to your design of your main activity:



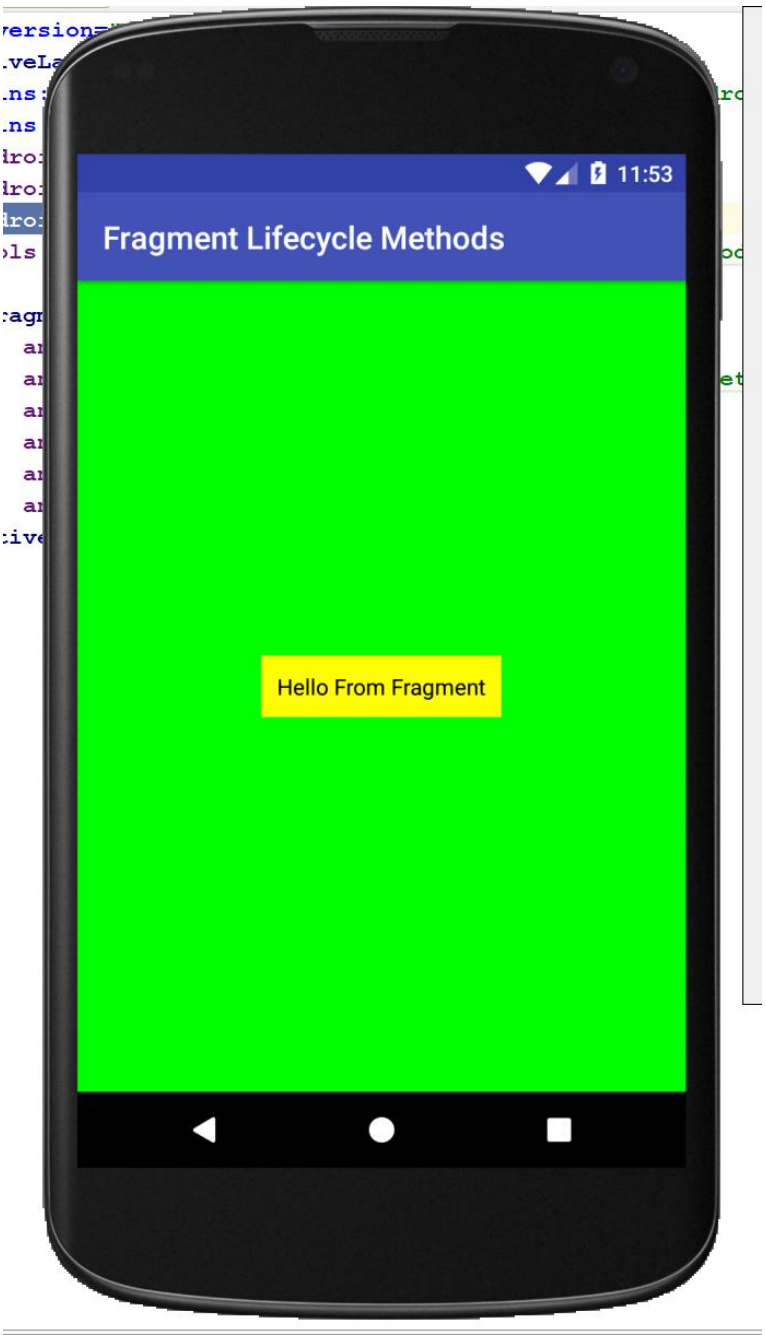
Now if you run the app, you will see your fragment in the activity as shown:



We can change the background color of layout for the main activity to a different color. So add the following to the RelativeLayout tag to assign a background color to the main activity so we are giving a green background to the main activity and our fragment has the yellow background:

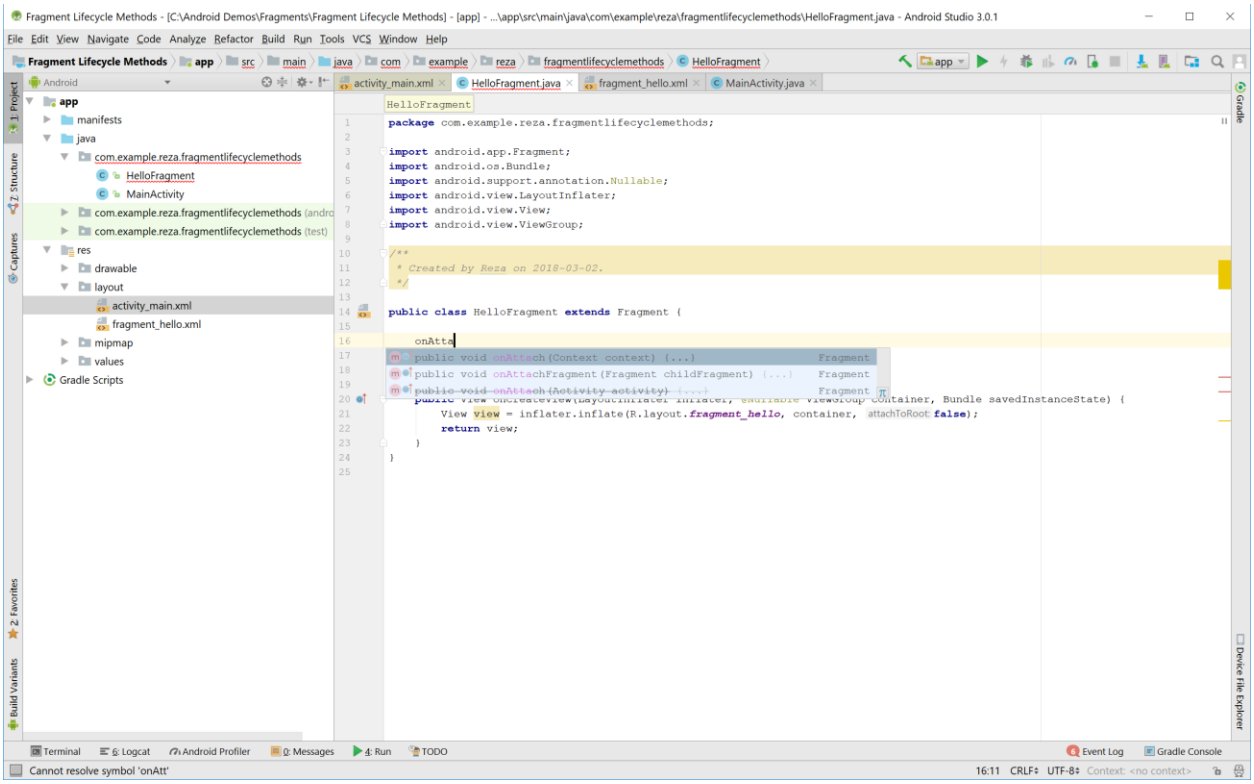


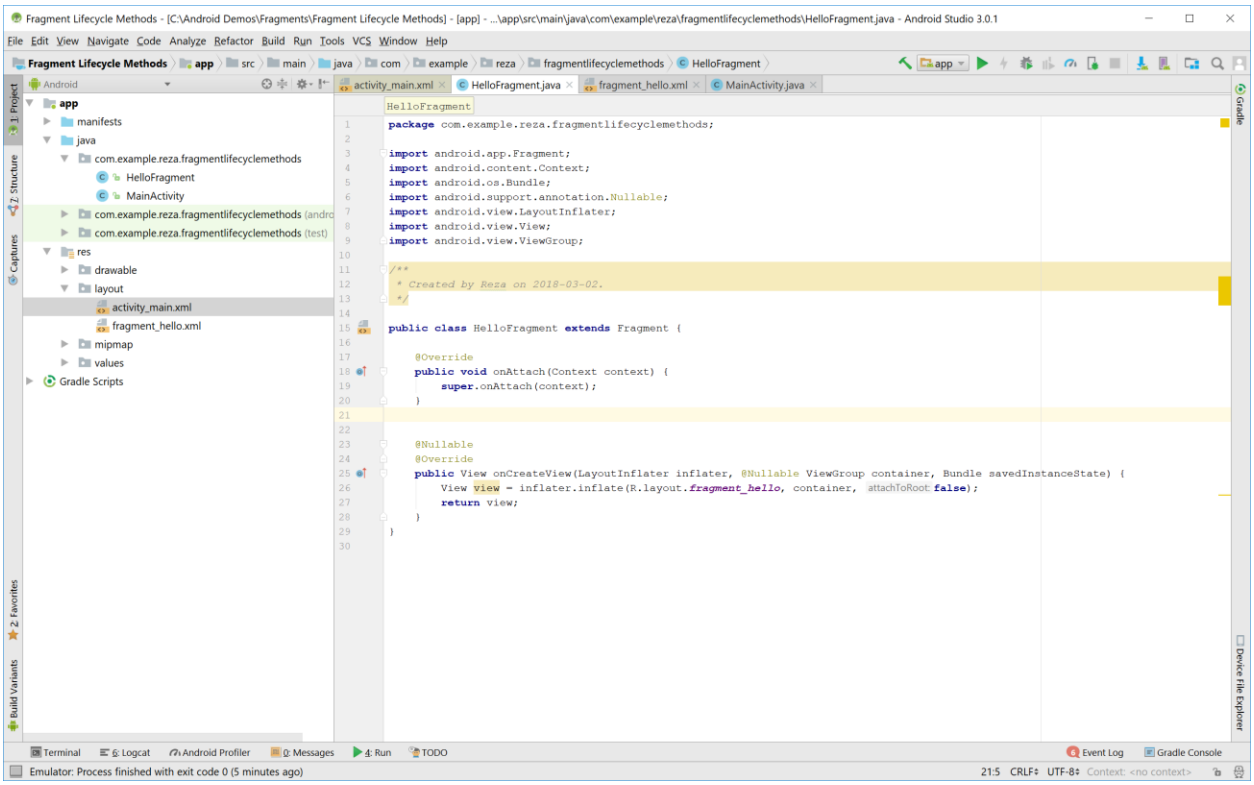
Now you run the app again and you will see your fragment displayed in your main activity. Notice that our fragment with its yellow background contains only one text view which has the option wrap-content for both of its height and width, so it appears the way it does but it could also contain any other view elements.

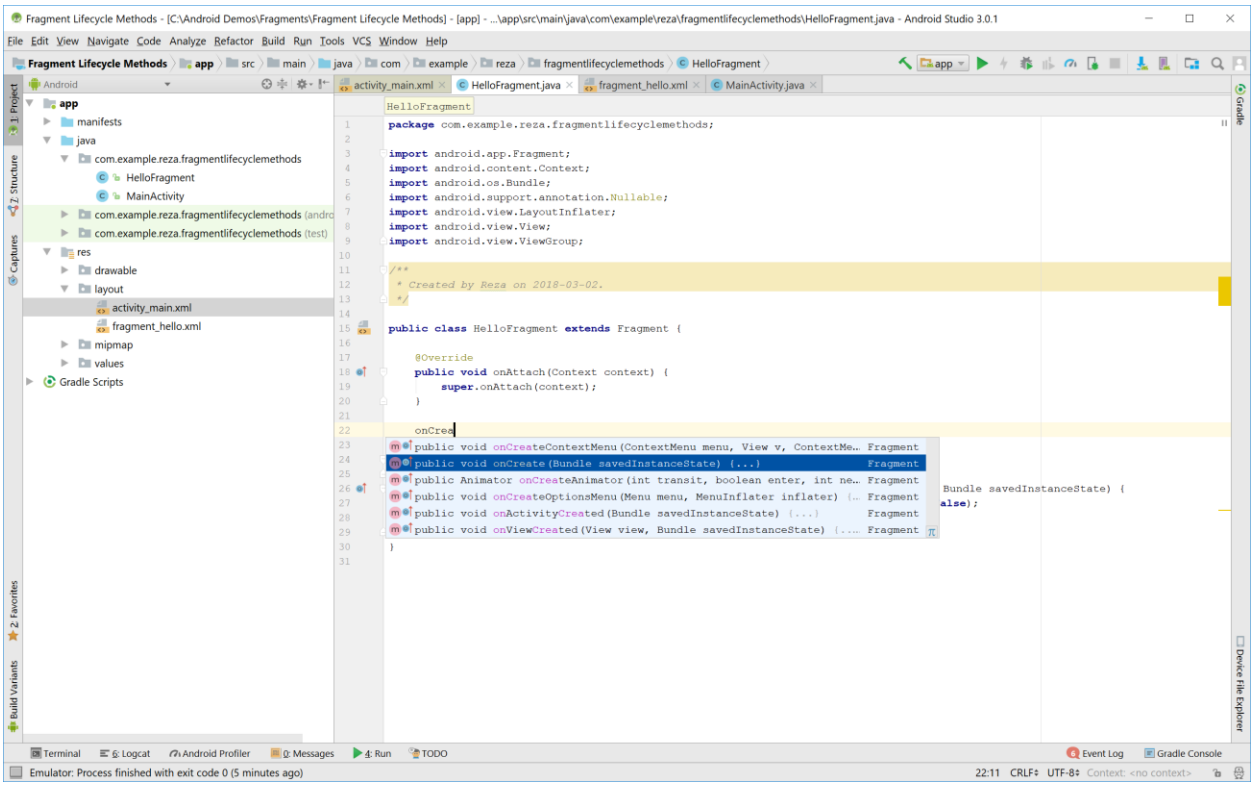


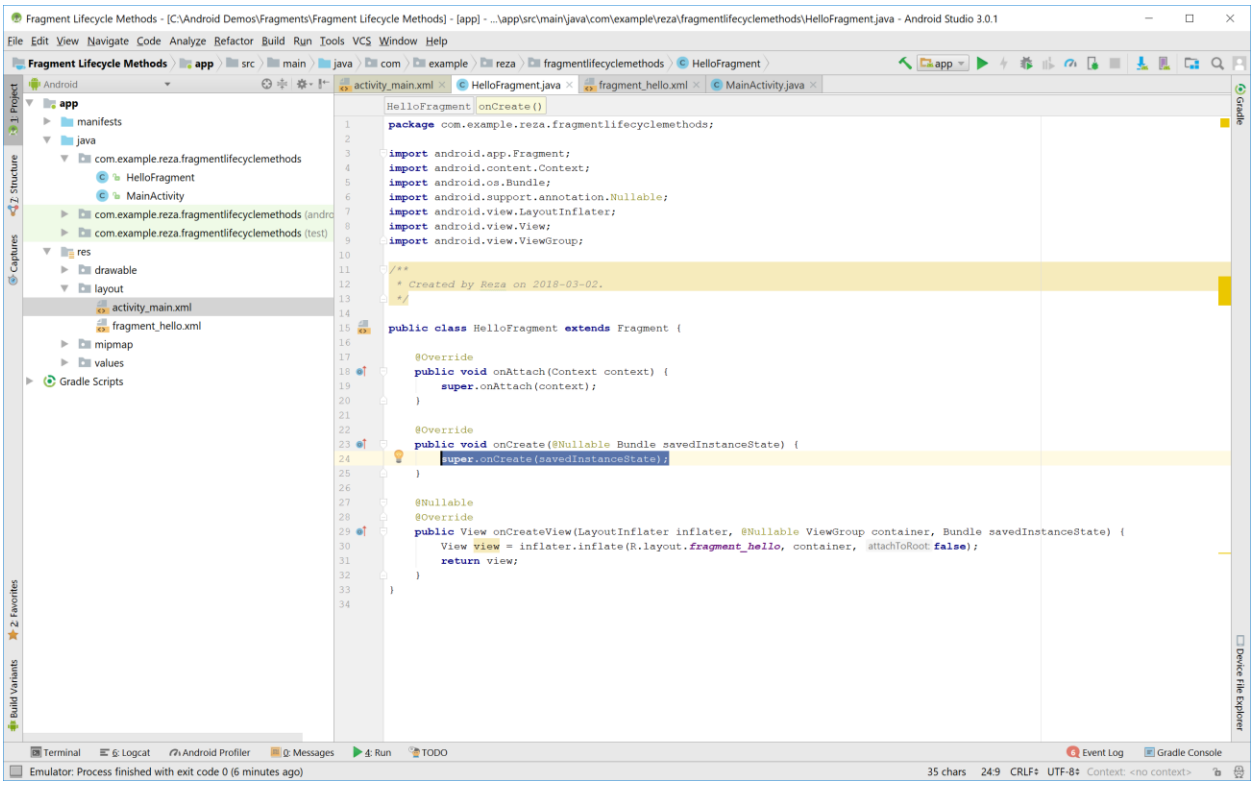
Now we need to override our methods so go to HelloFragment.java and add the lifecycle methods as shown. Don't forget to add the log statement to each method.

The following screen capture shows the onAttach() method. Note that onAttach() method with the activity argument has been deprecated and you should use the onAttach() method with the context argument. This new method was introduced in API 23, the marshmallow:

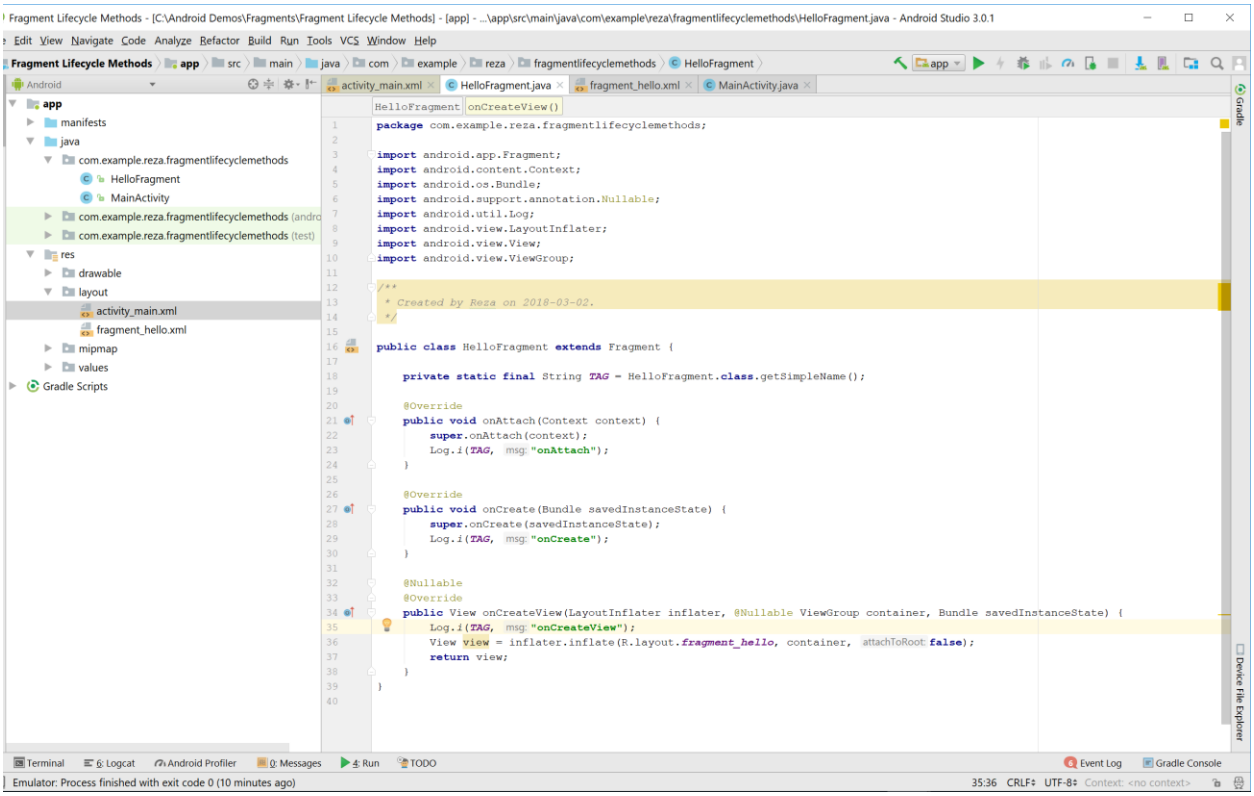


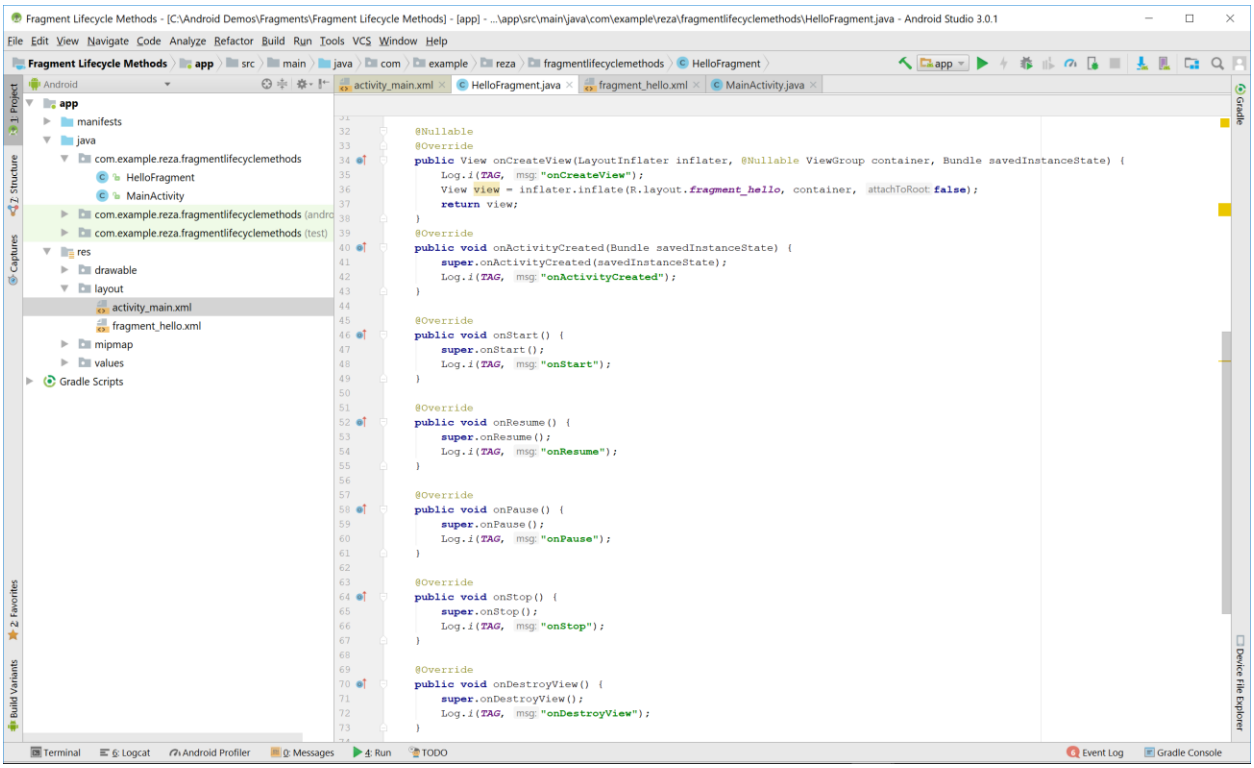

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.Fragment;
import android.content.Context;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fragment {
@Override
public void onAttach(Context context) {
super.onAttach(context);
}
@Nullable
@Override
public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup container, Bundle savedInstanceState) {
View view = inflater.inflate(R.layout.fragment_hello, container, attachToRoot: false);
return view;
}
}
Terminal Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console
Emulator: Process finished with exit code 0 (5 minutes ago)
21:5 CRLF UTF-8 Context: <no context>

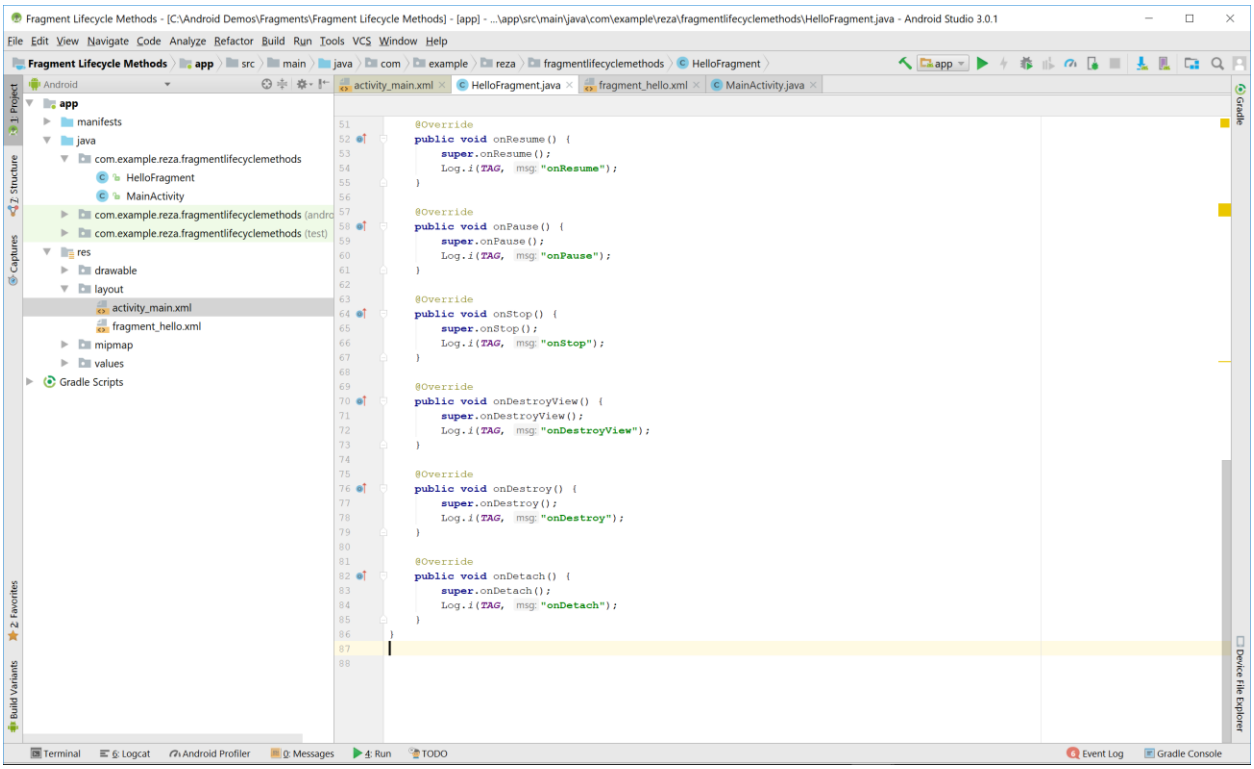

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
HelloFragment
package com.example.reza.fragmentlifecyclemethods;
import android.app.Fragment;
import android.content.Context;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
/**
* Created by Reza on 2018-03-02.
*/
public class HelloFragment extends Fragment {
@Override
public void onAttach(Context context) {
super.onAttach(context);
}
onCrea
public void onCreateContextMenu(ContextMenu menu, View v, ContextMe... Fragment
public void onCreate(Bundle savedInstanceState) {...} Fragment
public Animator onCreateAnimator(int transit, boolean enter, int ne... Fragment
public void onCreateOptionsMenu(Menu menu, MenuInflater inflater) {... Fragment
public void onActivityCreated(Bundle savedInstanceState) {...} Fragment
public void onViewCreated(View view, Bundle savedInstanceState) {... Fragment
Bundle savedInstanceState) {
alse);
}
Terminal Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console
Emulator: Process finished with exit code 0 (5 minutes ago)
22:11 CRLF UTF-8 Context: <no context>



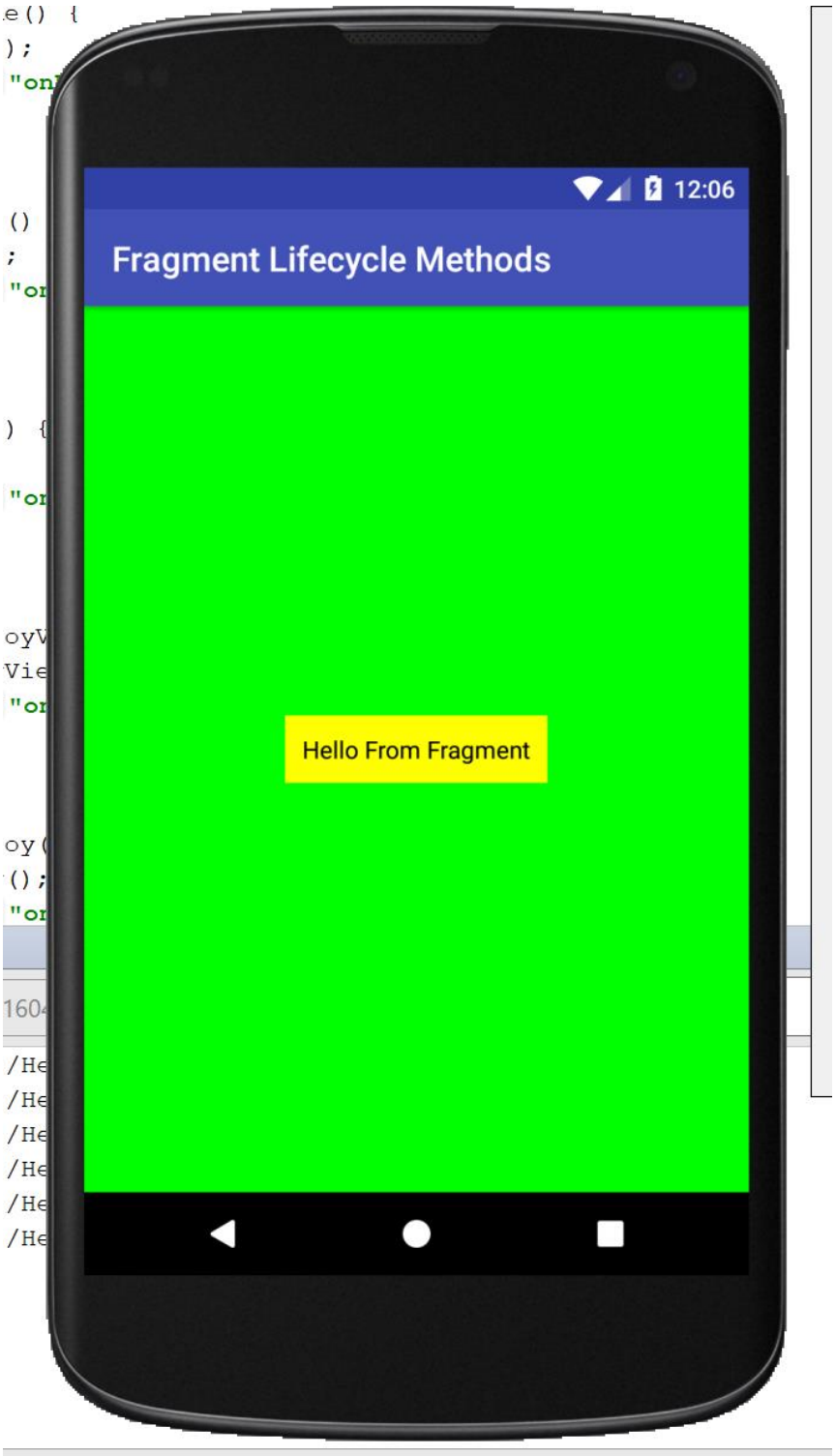

The following screen capture show the completed version of HelloFragment.java:



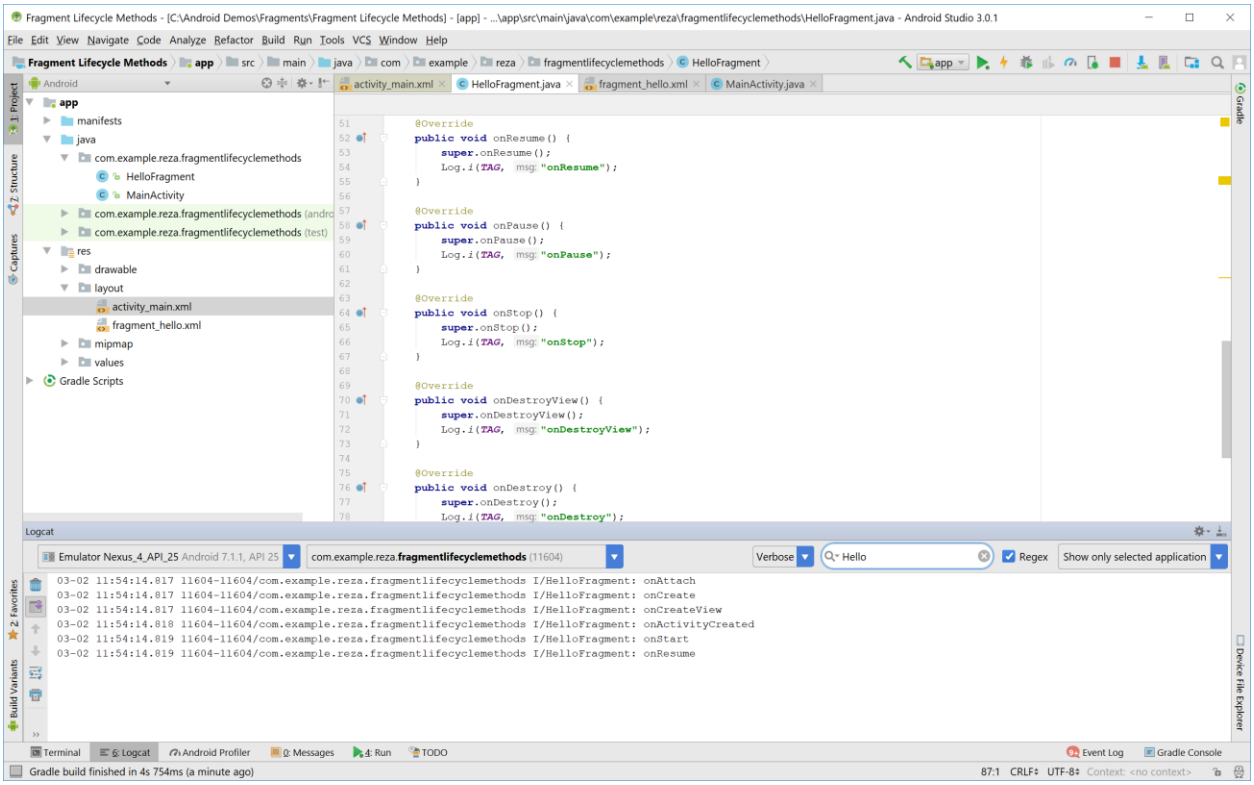

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
Android
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
@Nullable
@Override
public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup container, Bundle savedInstanceState) {
Log.i(TAG, msg: "onCreateView");
View view = inflater.inflate(R.layout.fragment_hello, container, attachToRoot: false);
return view;
}
@Override
public void onActivityCreated(Bundle savedInstanceState) {
super.onActivityCreated(savedInstanceState);
Log.i(TAG, msg: "onActivityCreated");
}
@Override
public void onStart() {
super.onStart();
Log.i(TAG, msg: "onStart");
}
@Override
public void onResume() {
super.onResume();
Log.i(TAG, msg: "onResume");
}
@Override
public void onPause() {
super.onPause();
Log.i(TAG, msg: "onPause");
}
@Override
public void onStop() {
super.onStop();
Log.i(TAG, msg: "onStop");
}
@Override
public void onDestroyView() {
super.onDestroyView();
Log.i(TAG, msg: "onDestroyView");
}
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

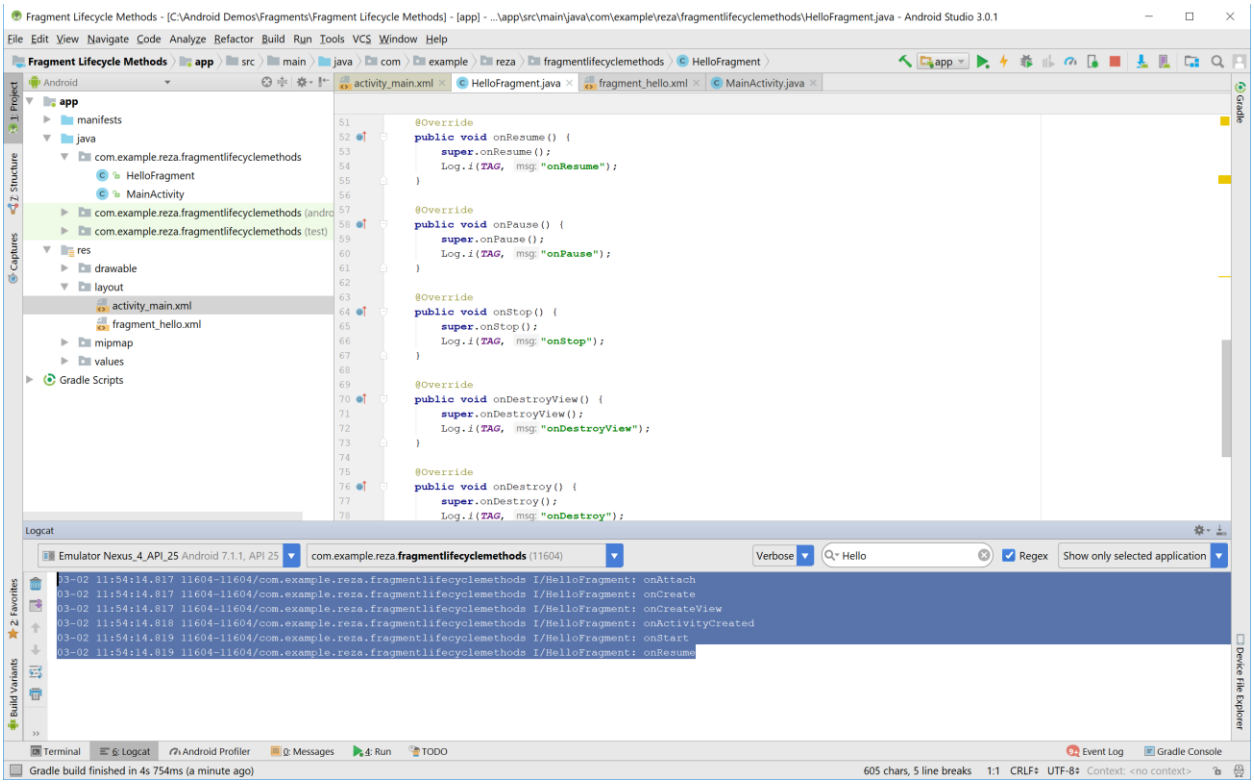

Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\HelloFragment.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods HelloFragment
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
Android
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
@Override
public void onResume() {
super.onResume();
Log.i(TAG, msg: "onResume");
}
@Override
public void onPause() {
super.onPause();
Log.i(TAG, msg: "onPause");
}
@Override
public void onStop() {
super.onStop();
Log.i(TAG, msg: "onStop");
}
@Override
public void onDestroyView() {
super.onDestroyView();
Log.i(TAG, msg: "onDestroyView");
}
@Override
public void onDestroy() {
super.onDestroy();
Log.i(TAG, msg: "onDestroy");
}
@Override
public void onDetach() {
super.onDetach();
Log.i(TAG, msg: "onDetach");
}
}
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console

## Now run the app:

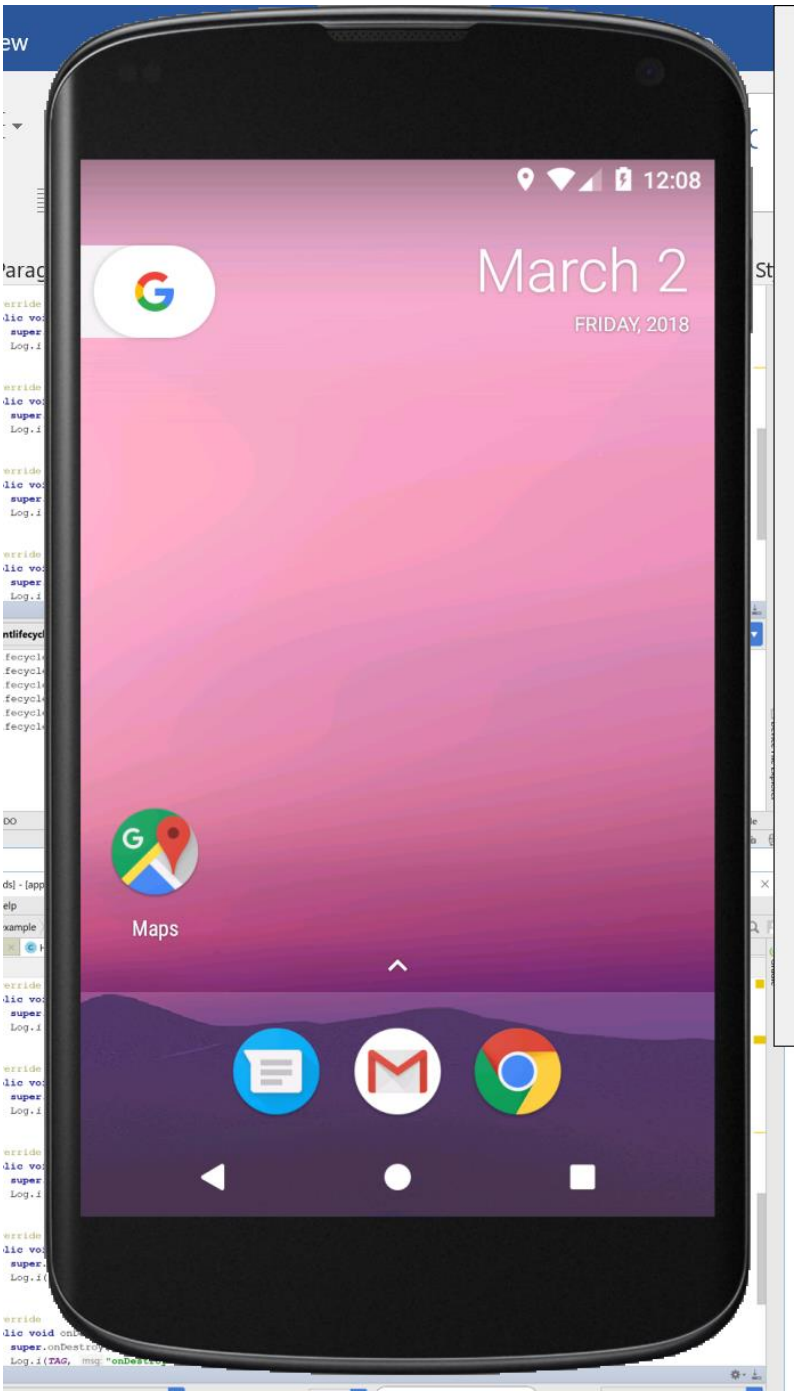


And examine the logcat window, use the filter “Hello” as shown. Notice the order that the fragment lifecycle methods are called:

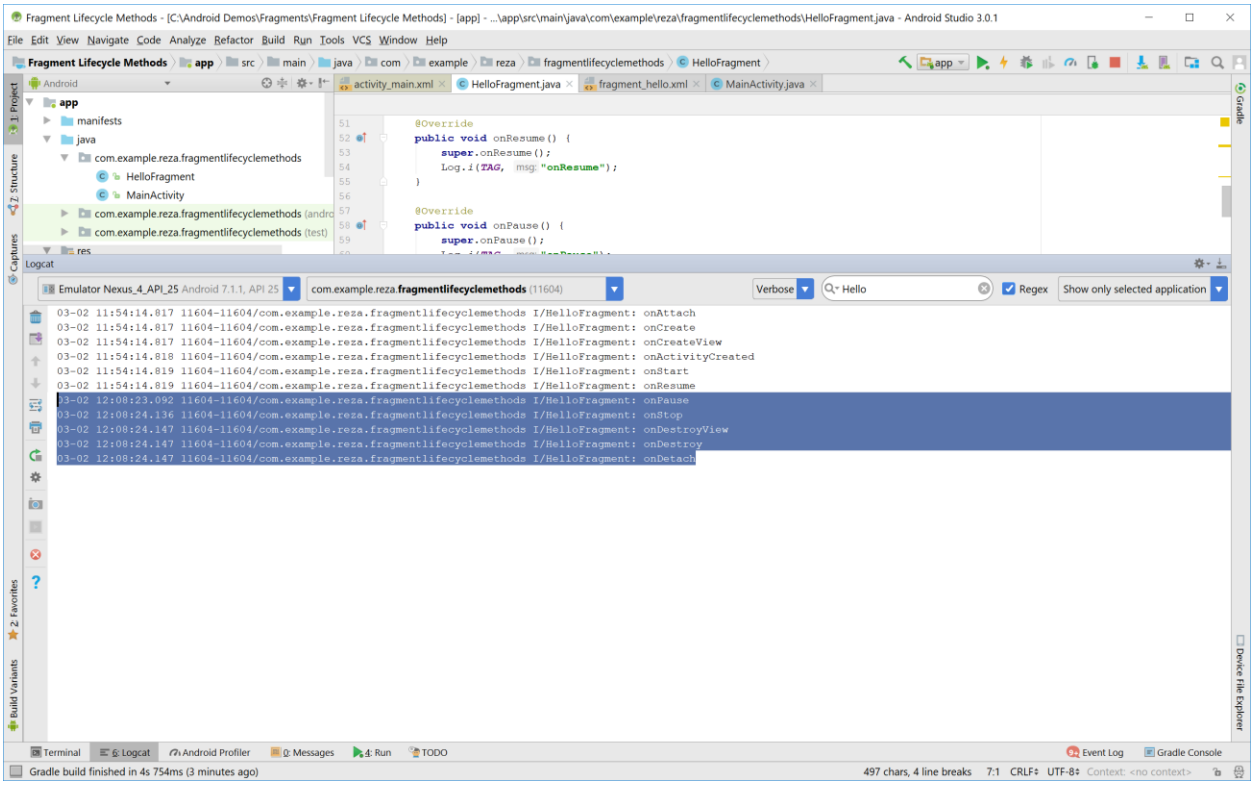


Now press the back button on your device (the simulator) as shown:



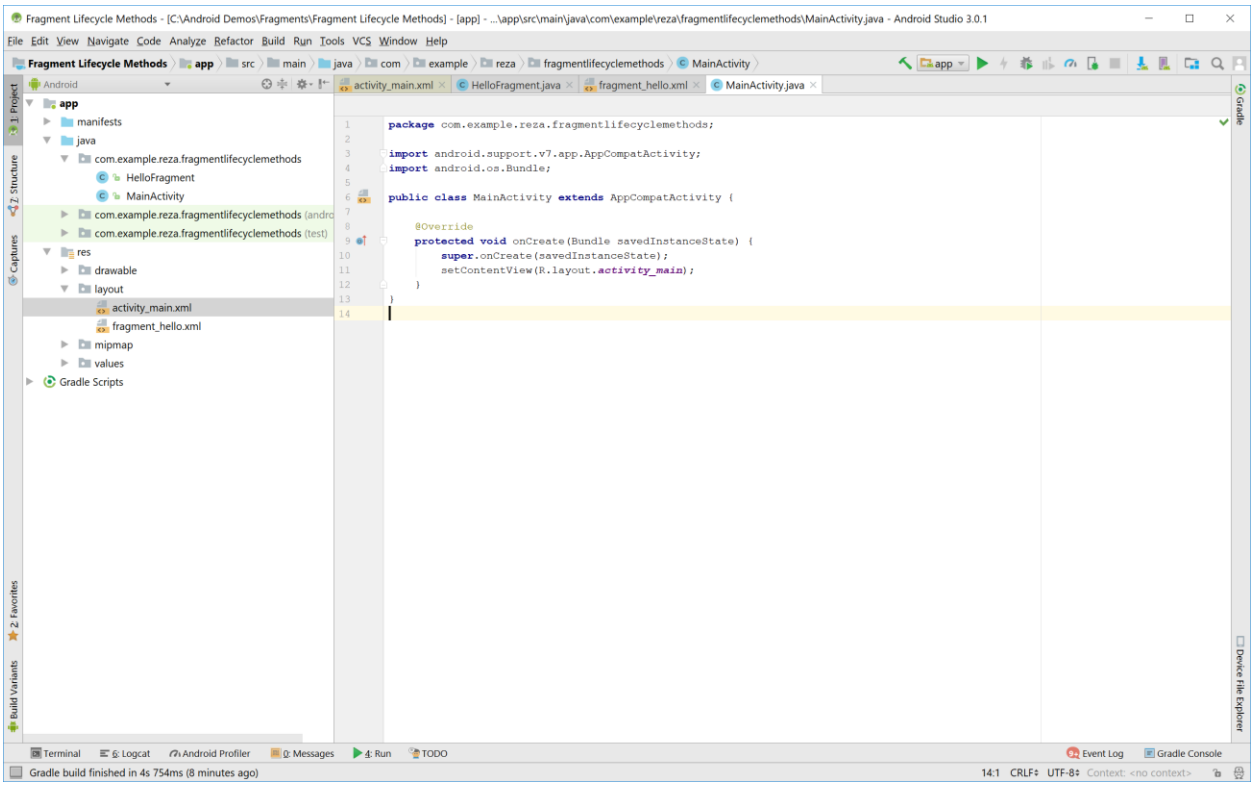
Examine the lifecycle methods that were called. I have highlighted them for easy reference:



# Examining the relationship between the fragment lifecycle methods and its host activity lifecycle methods

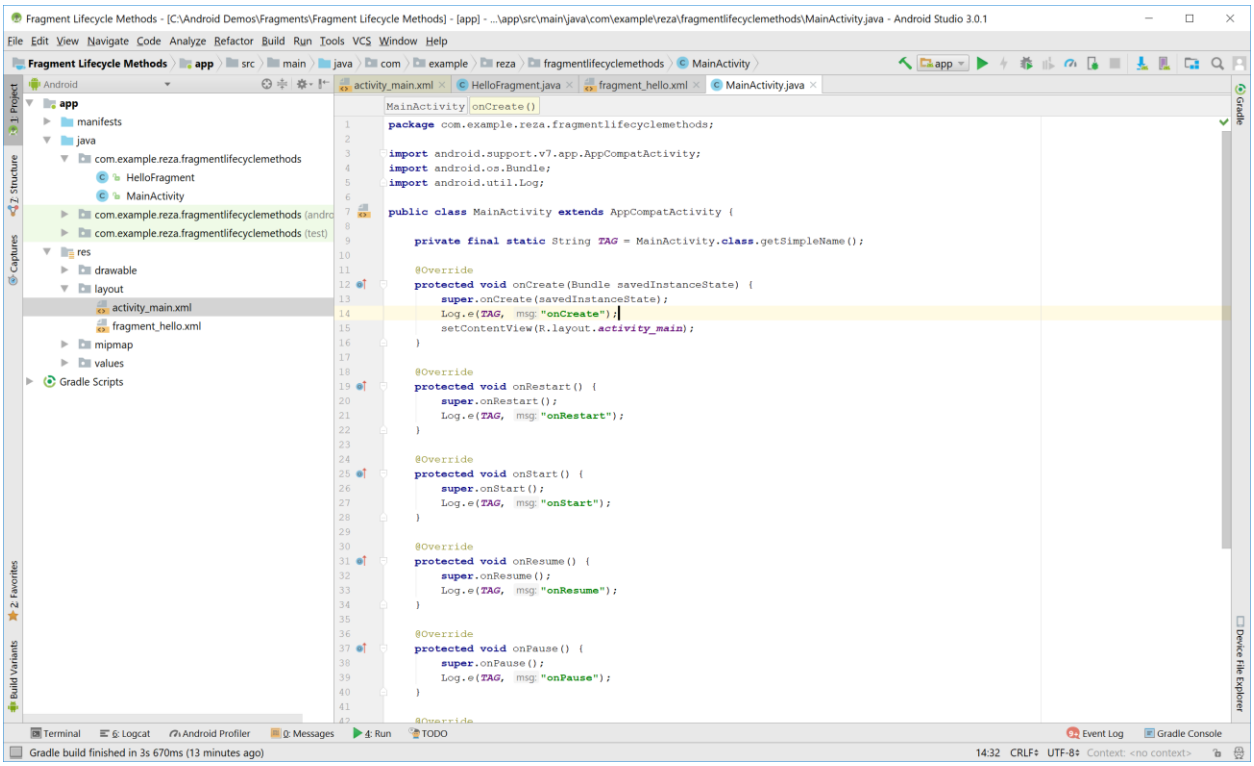
Now to examine the relationship between the Fragment lifecycle methods and the Activity lifecycle methods. To do that we are going to modify our MainActivity.java with adding its lifecycle methods as shown:

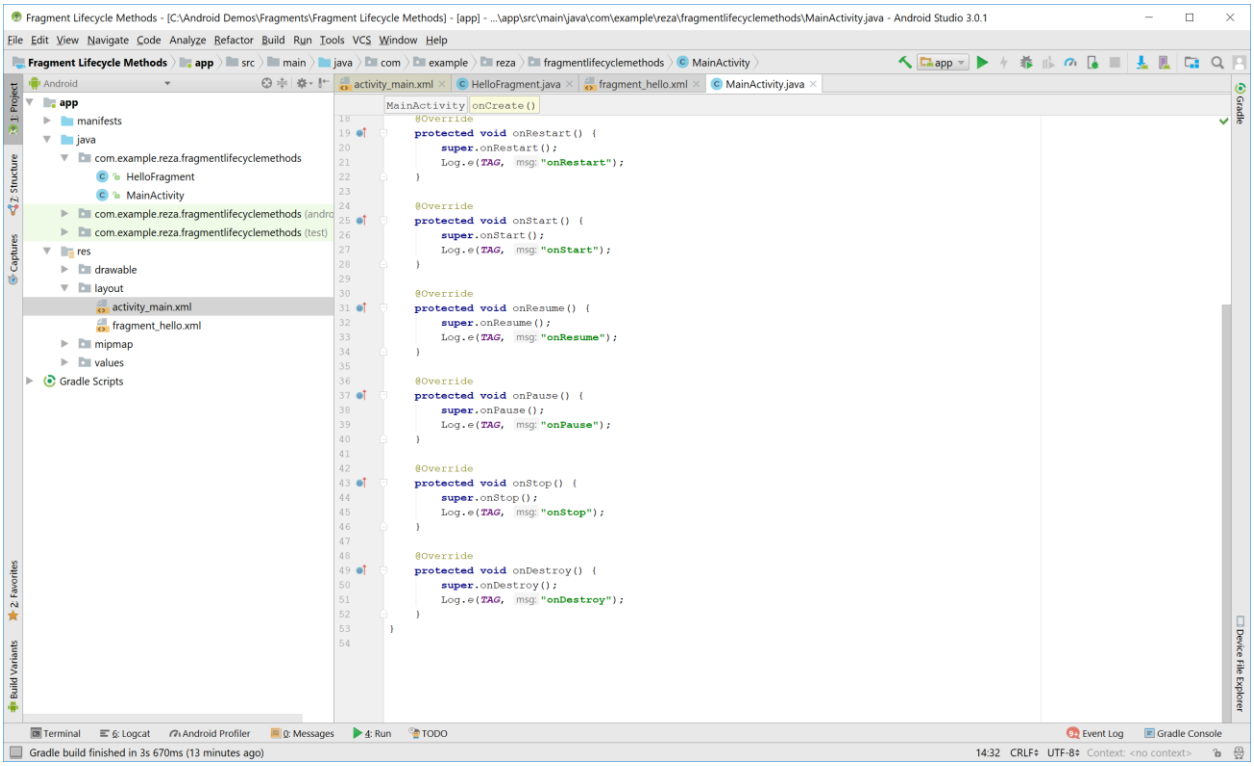
This is how currently our MainActivity.java looks like:



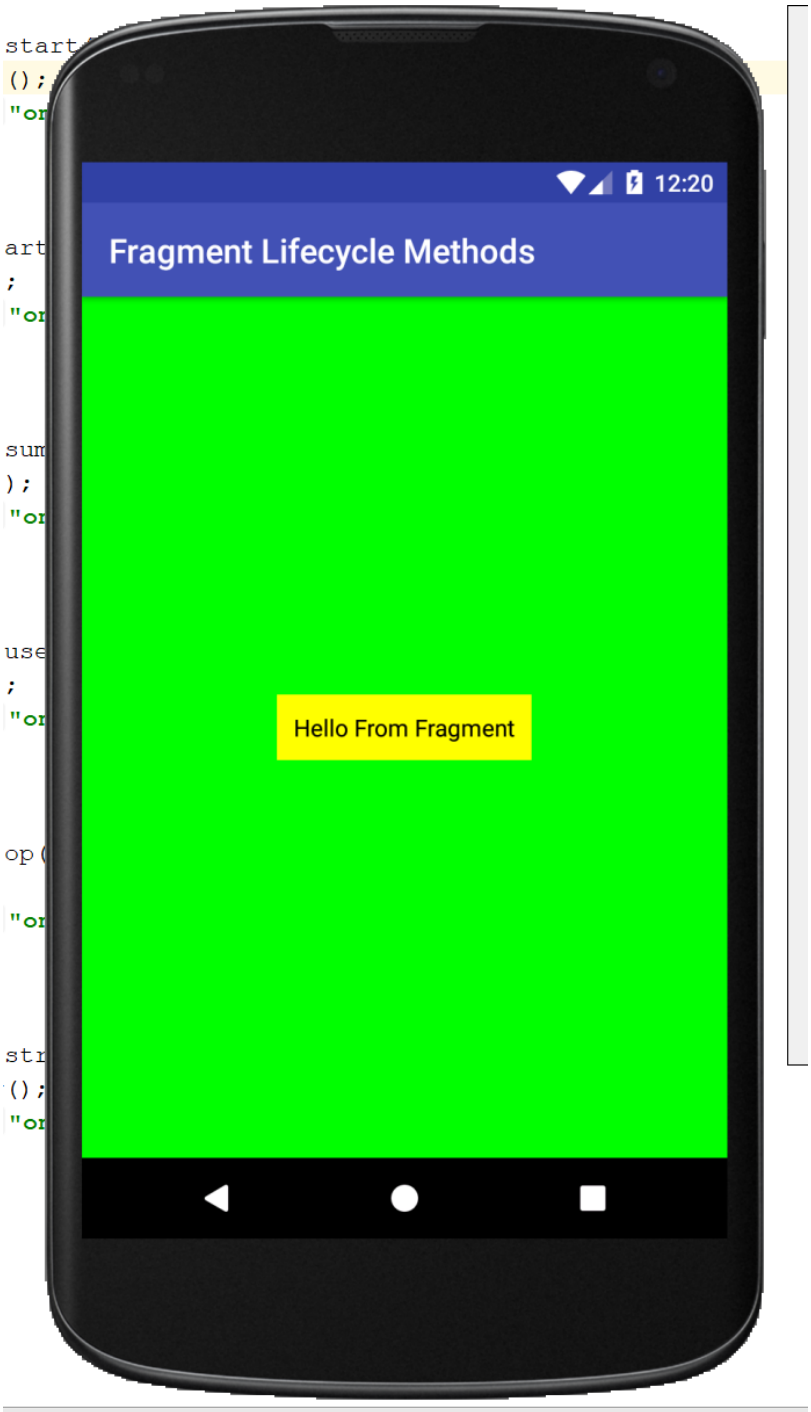
The following screen capture shows the completed MainActivity.java file:

Notice that we are using Log.e (e stands for error) for the Activity lifecycle methods versus Log.i (i stands for info) which we used for Fragment lifecycle methods. It is just so we can easily differentiate which one is which.

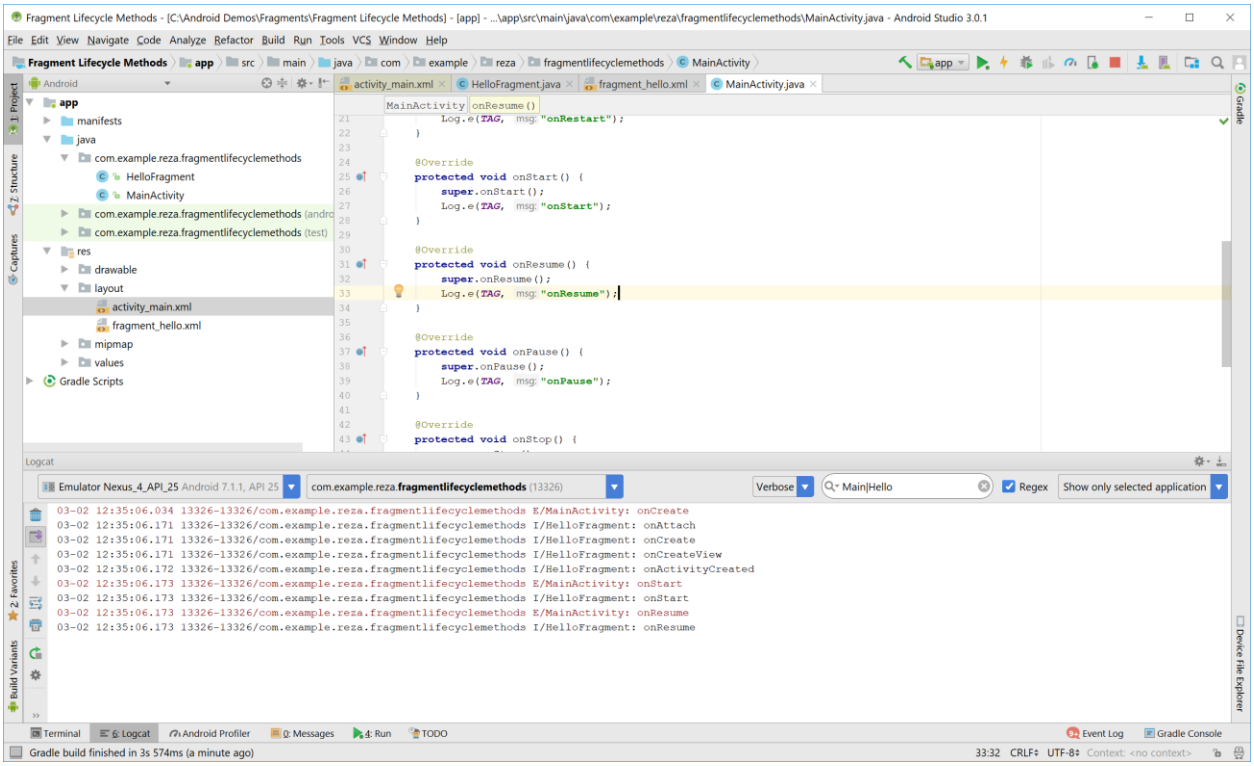



Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods MainActivity
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
MainActivity onCreate()
app
manifests
java
com.example.reza.fragmentlifecyclemethods
HelloFragment
MainActivity
com.example.reza.fragmentlifecyclemethods (andro
com.example.reza.fragmentlifecyclemethods (test)
res
drawable
layout
activity_main.xml
fragment_hello.xml
mipmap
values
Gradle Scripts
@Override
protected void onRestart() {
super.onRestart();
Log.e(TAG, msg: "onRestart");
}
@Override
protected void onStart() {
super.onStart();
Log.e(TAG, msg: "onStart");
}
@Override
protected void onResume() {
super.onResume();
Log.e(TAG, msg: "onResume");
}
@Override
protected void onPause() {
super.onPause();
Log.e(TAG, msg: "onPause");
}
@Override
protected void onStop() {
super.onStop();
Log.e(TAG, msg: "onStop");
}
@Override
protected void onDestroy() {
super.onDestroy();
Log.e(TAG, msg: "onDestroy");
}
}
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO
Event Log Gradle Console
Gradle build finished in 3s 670ms (13 minutes ago)
14:32 CRLF UTF-8 Context: <no context>

Now run the app so we can examine the methods that were called:

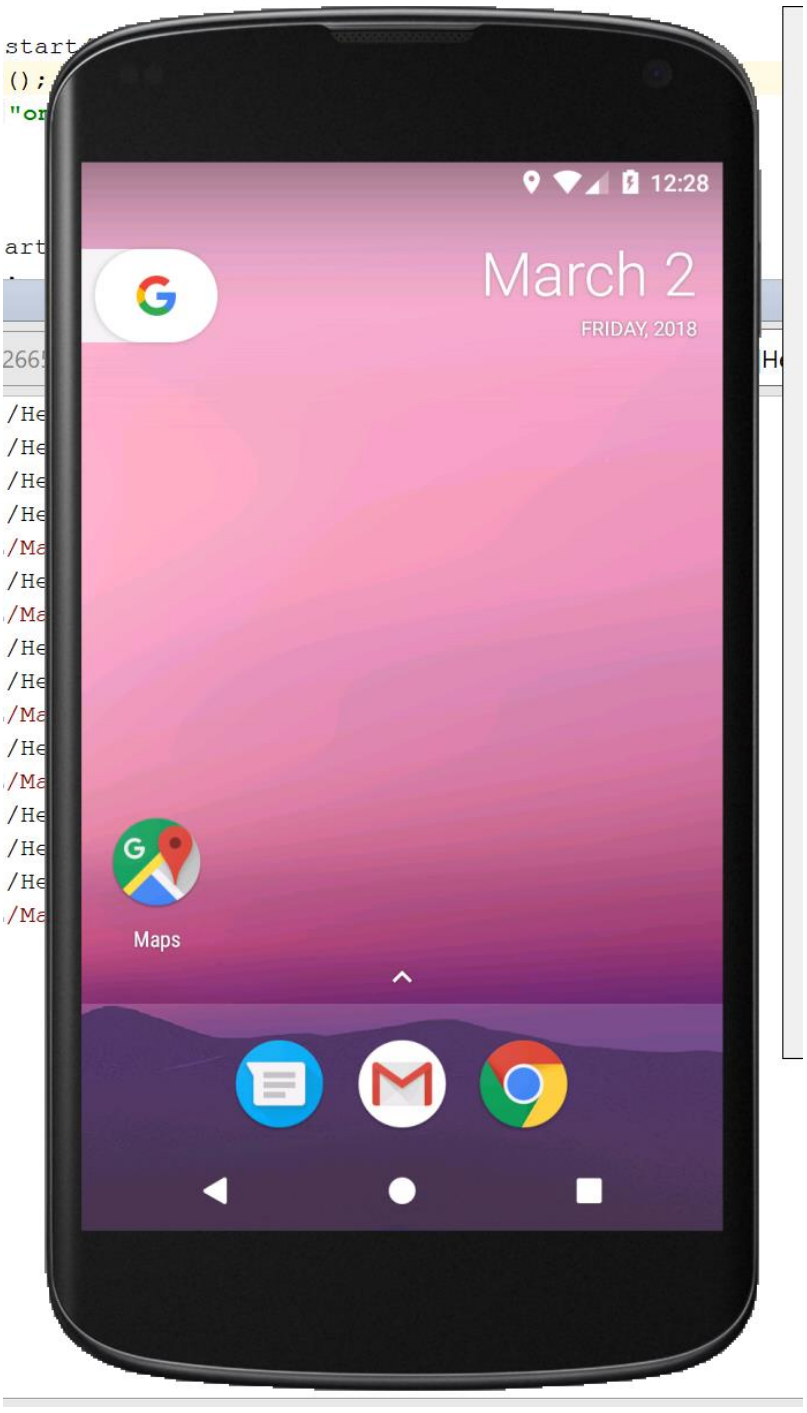


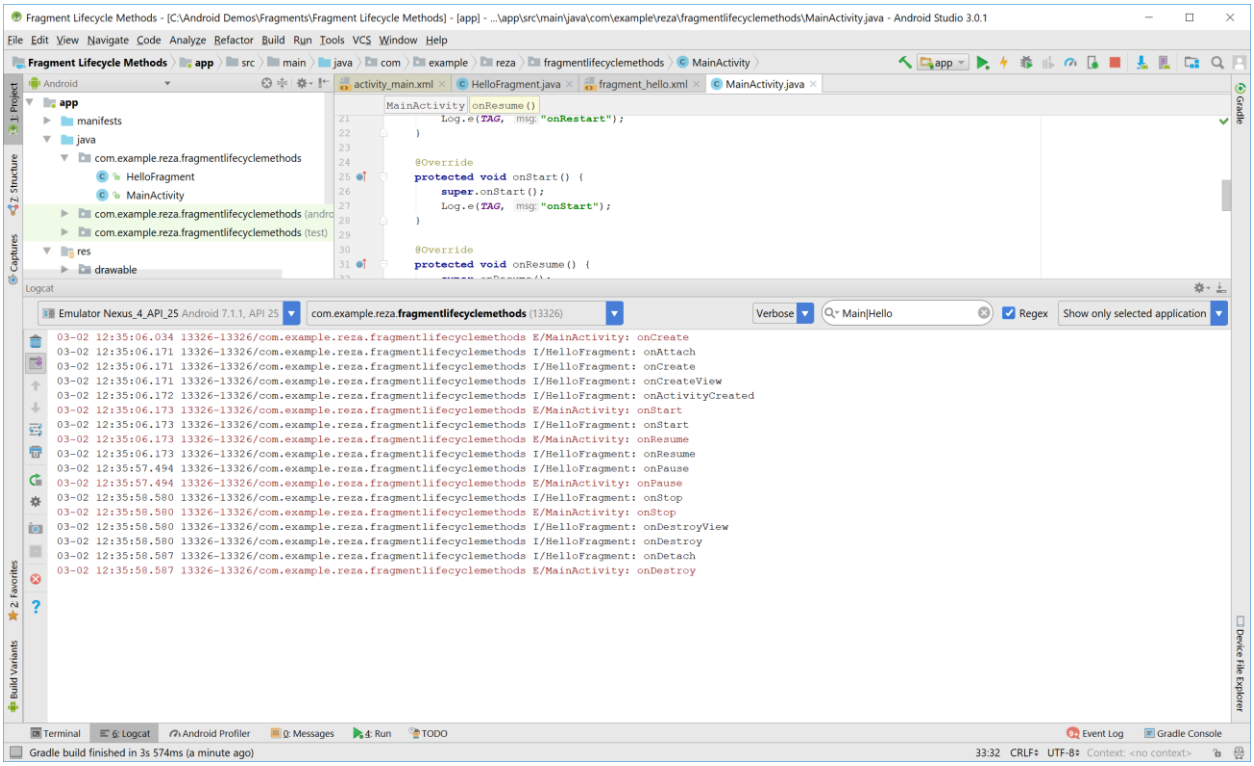
Now examine the Logcat. Notice that the filter we are using is “Main|Hello” (that’s the word Main followed by the pipe symbol followed by the word Hello) where for examining the Fragment lifecycle methods we used “Hello” filter:

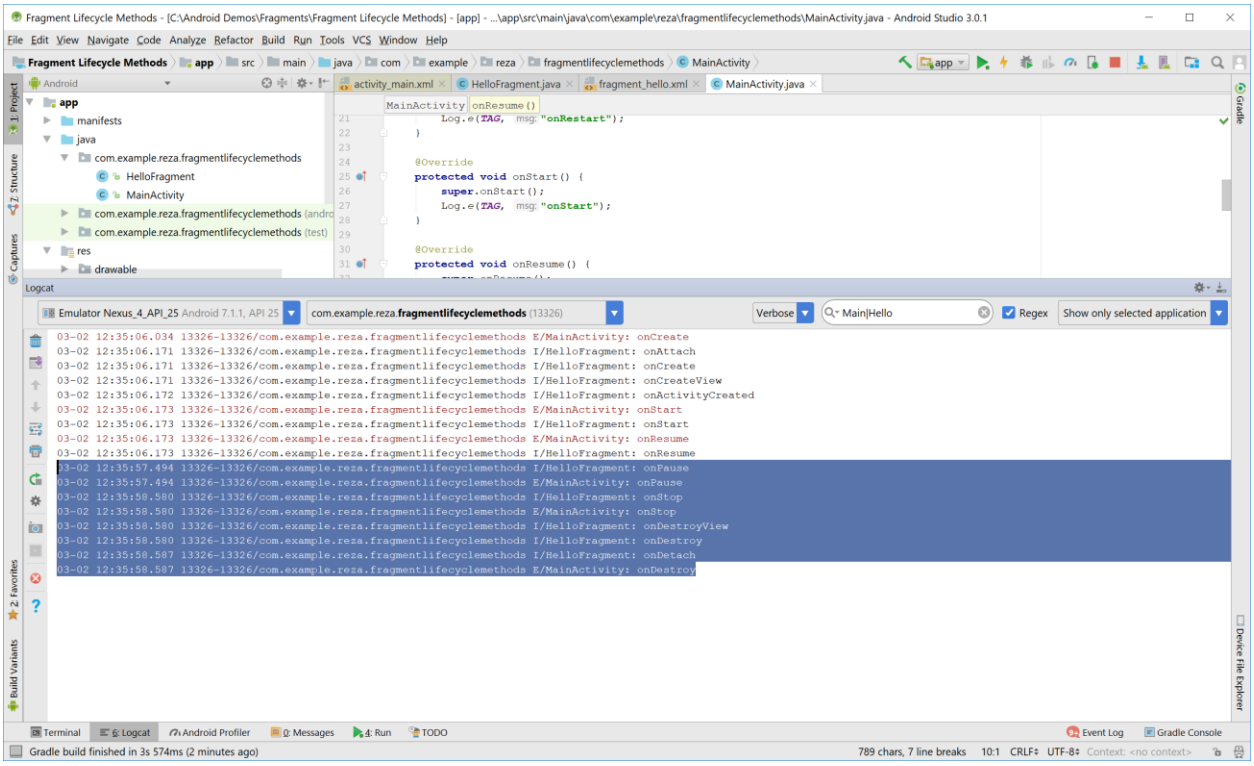



Notice that since we used Log.e instead of Log.i and Log.e is for reporting errors, the color used is red and makes it easier to see the methods called belong to the activity or the fragment. It should be easy now to see how the fragment and the activity lifecycle methods are related and in which order they are being called.

Now press the back button on the phone as shown:




Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods MainActivity
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
MainActivity onResume()
Log.e(TAG, msg: "onRestart");
@Override
protected void onStart() {
super.onStart();
Log.e(TAG, msg: "onStart");
@Override
protected void onResume() {
Logcat
Emulator Nexus_4_API_25 Android 7.1.1, API 25
com.example.reza.fragmentlifecyclemethods (13326)
Verbose
Main|Hello
Regex
Show only selected application
03-02 12:35:06.034 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onCreate
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onAttach
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onCreate
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onCreateView
03-02 12:35:06.172 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onActivityCreated
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onStart
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onStart
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onResume
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onResume
03-02 12:35:57.494 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onPause
03-02 12:35:57.494 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onPause
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onStop
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onStop
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDestroyView
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDestroy
03-02 12:35:58.587 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDetach
03-02 12:35:58.587 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onDestroy
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console
Gradle build finished in 3s 574ms (a minute ago)
33:32 CRLF UTF-8 Context: <no context>


Fragment Lifecycle Methods - [C:\Android Demos\Fragments\Fragment Lifecycle Methods] - [app] - ...\app\src\main\java\com\example\reza\fragmentlifecyclemethods\MainActivity.java - Android Studio 3.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Fragment Lifecycle Methods app src main java com example reza fragmentlifecyclemethods MainActivity
activity_main.xml HelloFragment.java fragment_hello.xml MainActivity.java
MainActivity onResume()
Log.e(TAG, msg: "onRestart");
@Override
protected void onStart() {
super.onStart();
Log.e(TAG, msg: "onStart");
@Override
protected void onResume() {
Logcat
Emulator Nexus_4_API_25 Android 7.1.1, API 25
com.example.reza.fragmentlifecyclemethods (13326)
Verbose
Main|Hello
Regex
Show only selected application
03-02 12:35:06.034 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onCreate
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onAttach
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onCreate
03-02 12:35:06.171 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onCreateView
03-02 12:35:06.172 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onActivityCreated
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onStart
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onStart
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onResume
03-02 12:35:06.173 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onResume
03-02 12:35:57.494 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onPause
03-02 12:35:57.494 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onPause
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onStop
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onStop
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDestroyView
03-02 12:35:58.580 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDestroy
03-02 12:35:58.587 13326-13326/com.example.reza.fragmentlifecyclemethods I/HelloFragment: onDetach
03-02 12:35:58.587 13326-13326/com.example.reza.fragmentlifecyclemethods E/MainActivity: onDestroy
Terminal 6: Logcat Android Profiler 0: Messages 4: Run TODO Event Log Gradle Console
Gradle build finished in 3s 574ms (2 minutes ago)
789 chars, 7 line breaks 10:1 CRLF UTF-8 Context: <no context>