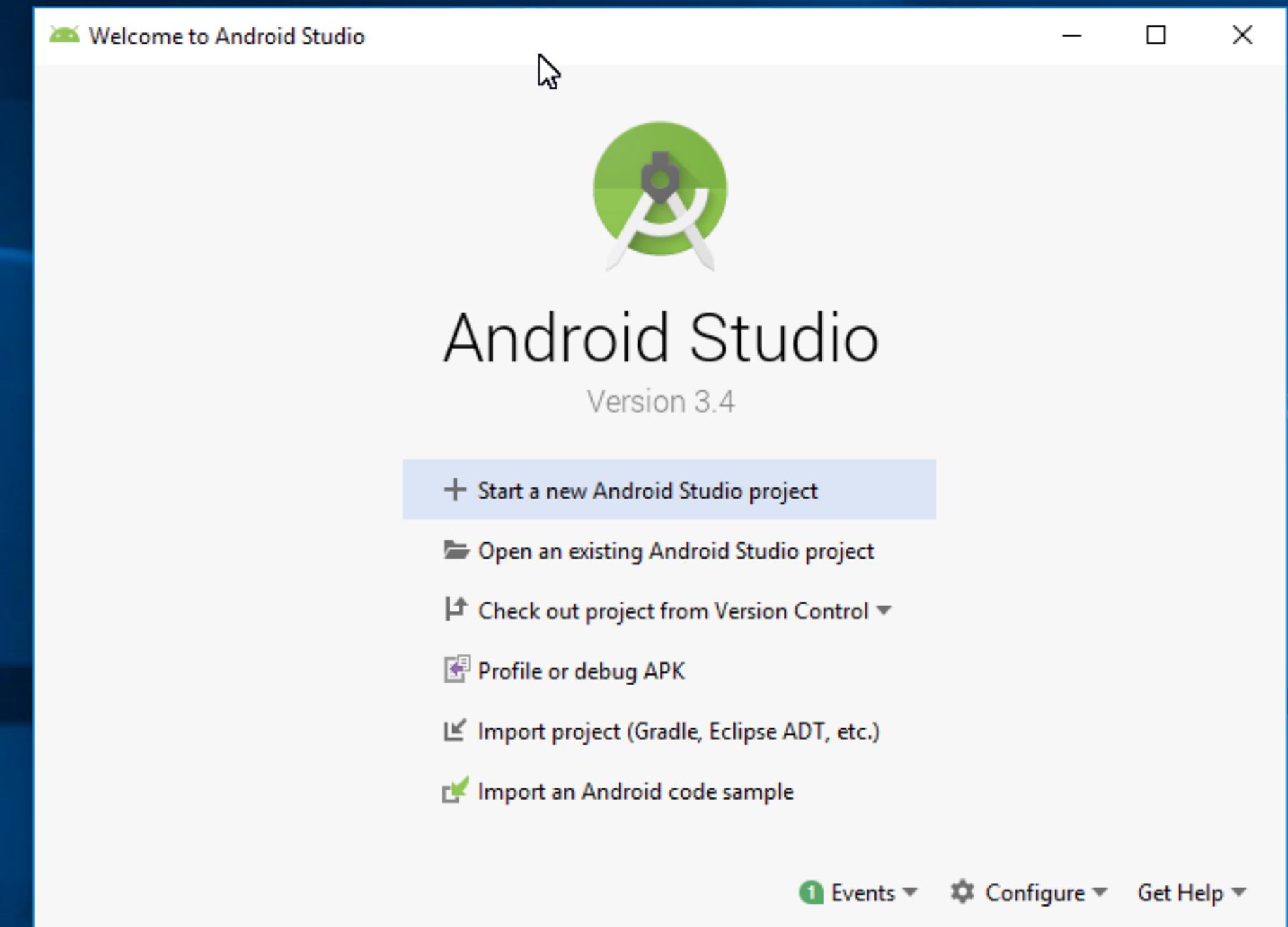
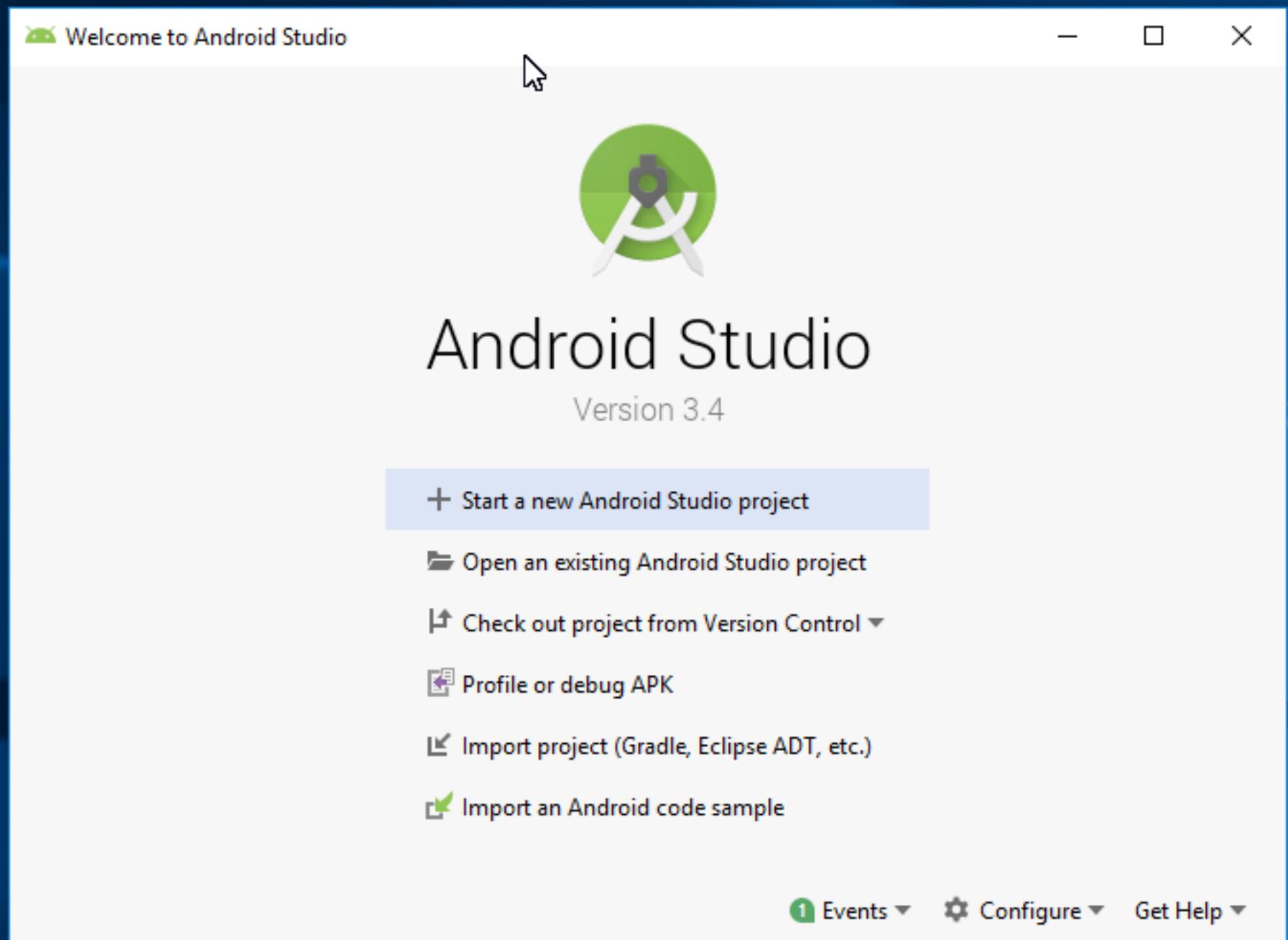


This lesson discusses using Android Studio version 3.4 to create the Hello Android World project, as described in the section First Venture into the Android World in Android Boot Camp, Chapter 1 (Voila! Meet the Android, pages 1-24).



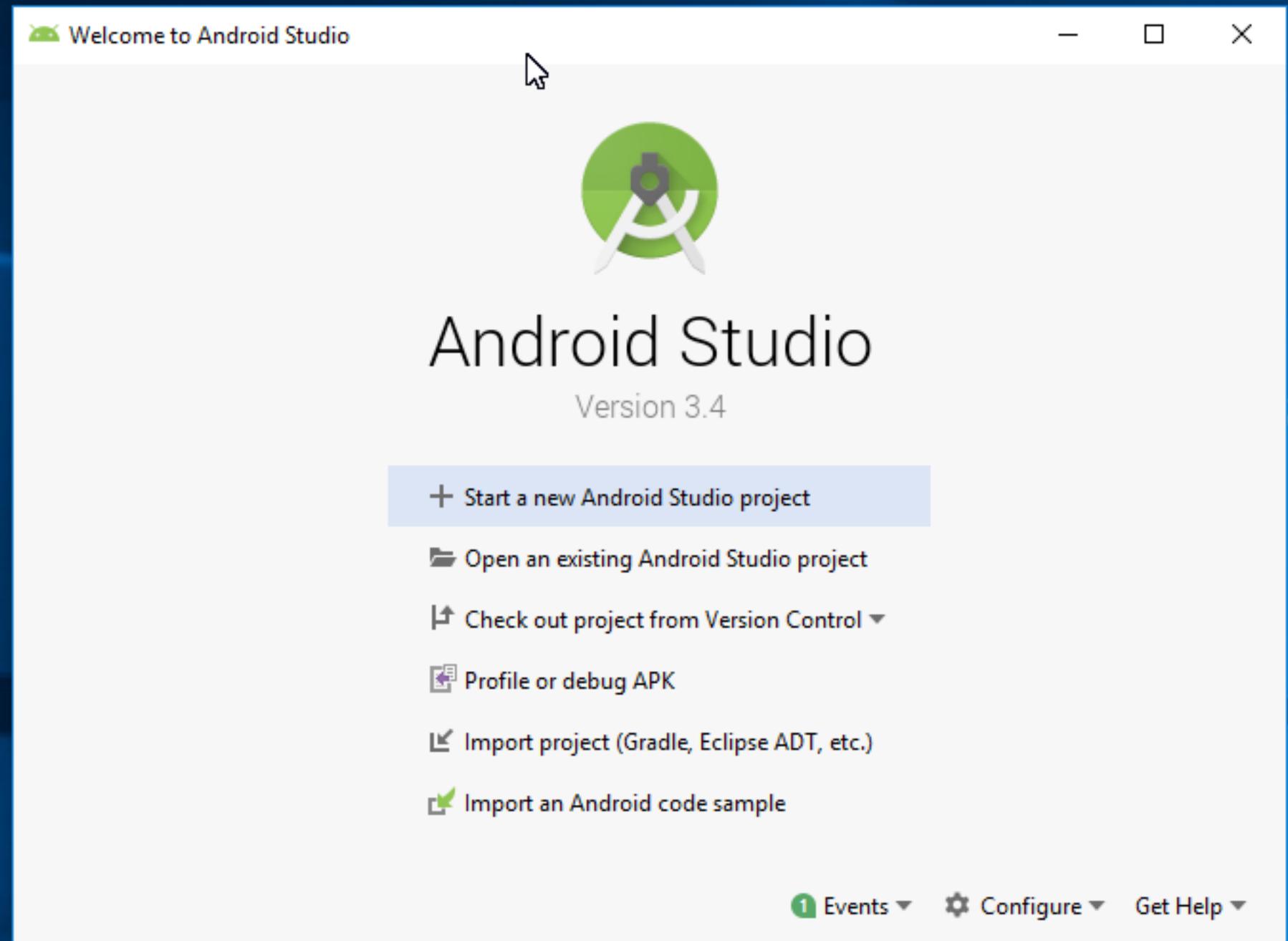
In this first part of Lesson 1, we show how to create the layout for the Hello Android World project; specifically, how to add and customize a text view to a layout.

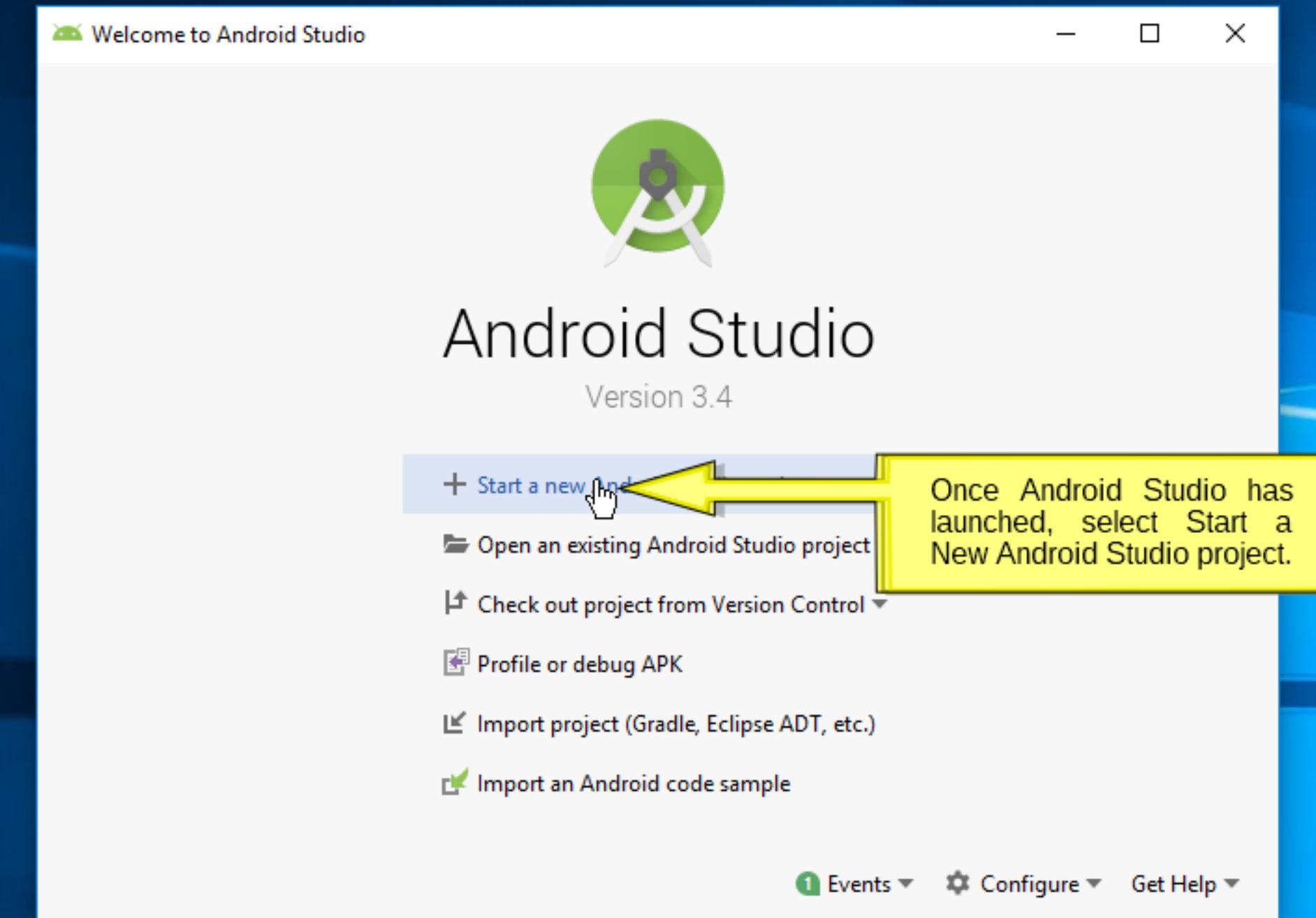
In the second part of Lesson 1, we show how to download a system image to create a virtual Google Nexus 5, how to launch the AVD emulator with this virtual device, and how to run the app in the emulated Nexus 5.

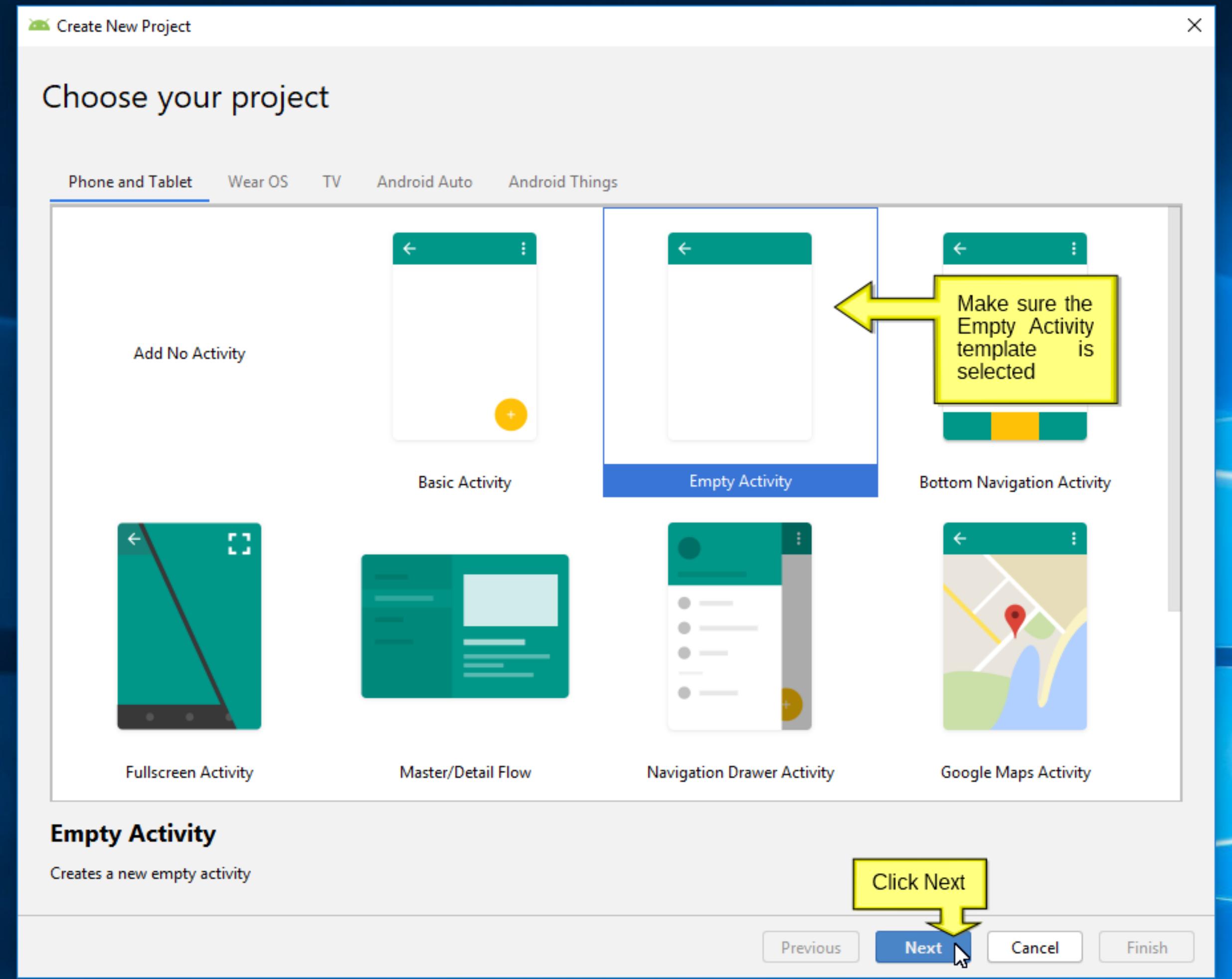


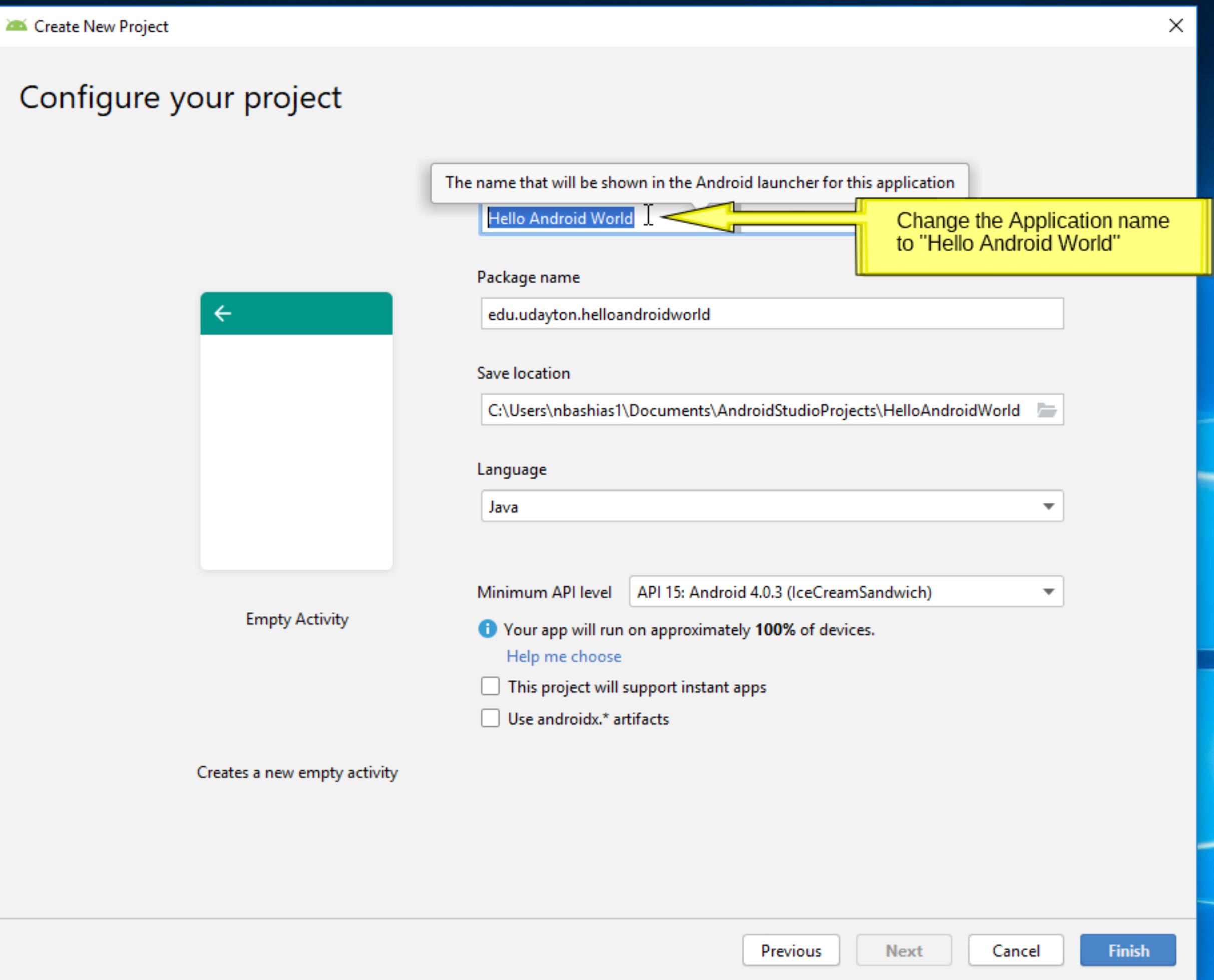
Note that this lesson assumes that you have:

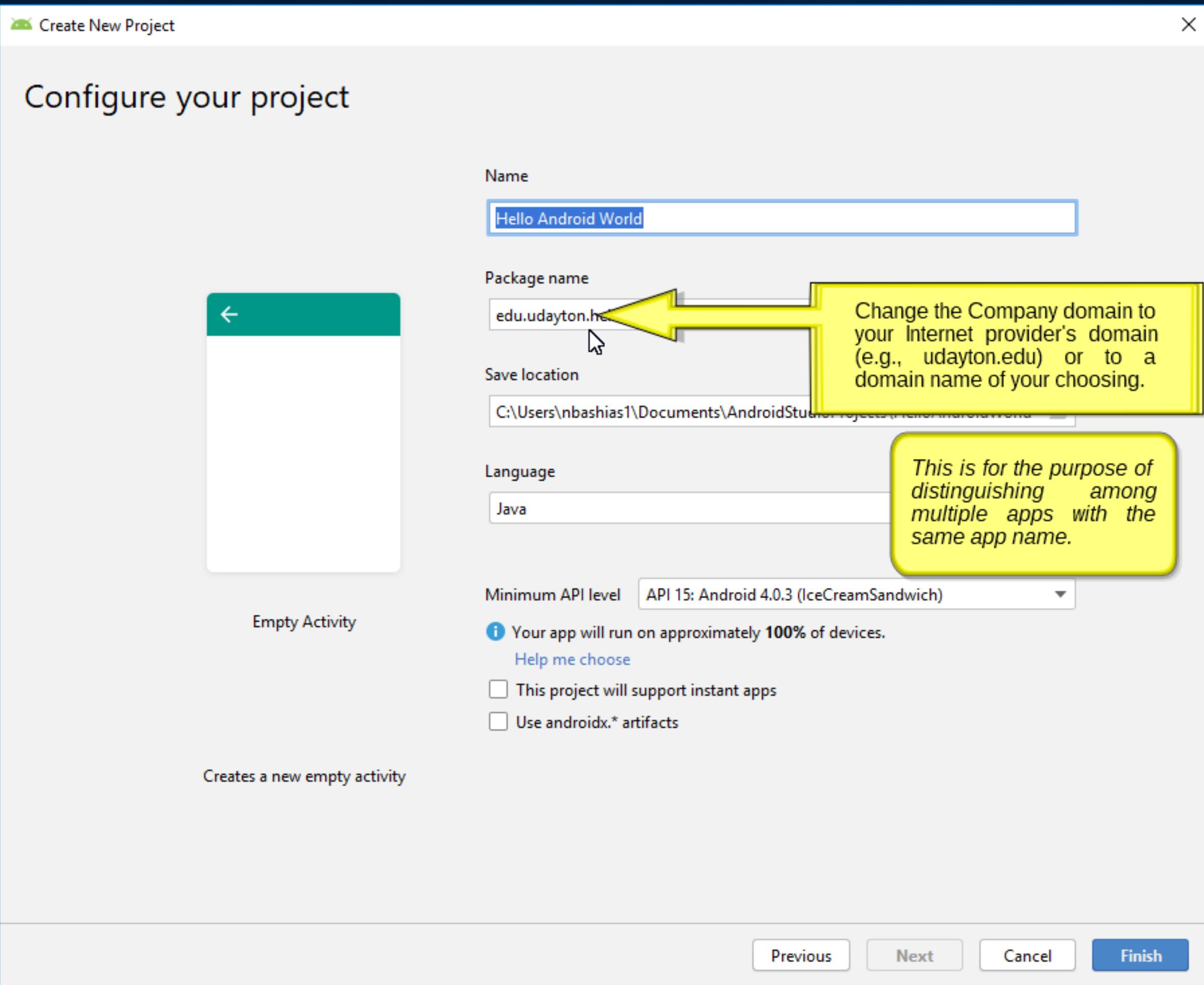
1. downloaded and installed the course software: Java SDK (JDK) 8, and Android Studio 3.4
 2. configured Android Studio using the Standard configuration, which is done during the initial launch of Android Studio.
- If both these steps have been completed, then launch Android Studio.

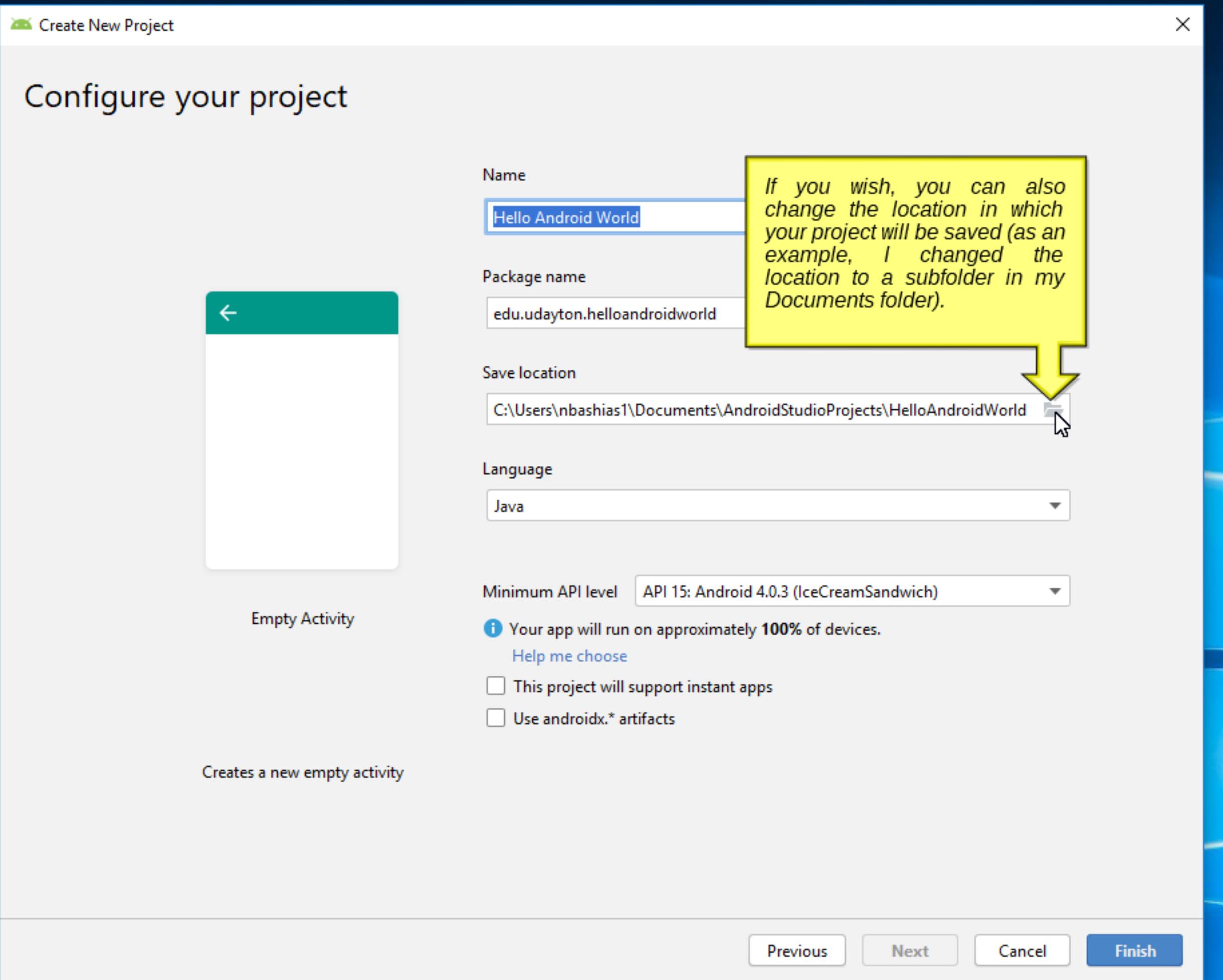


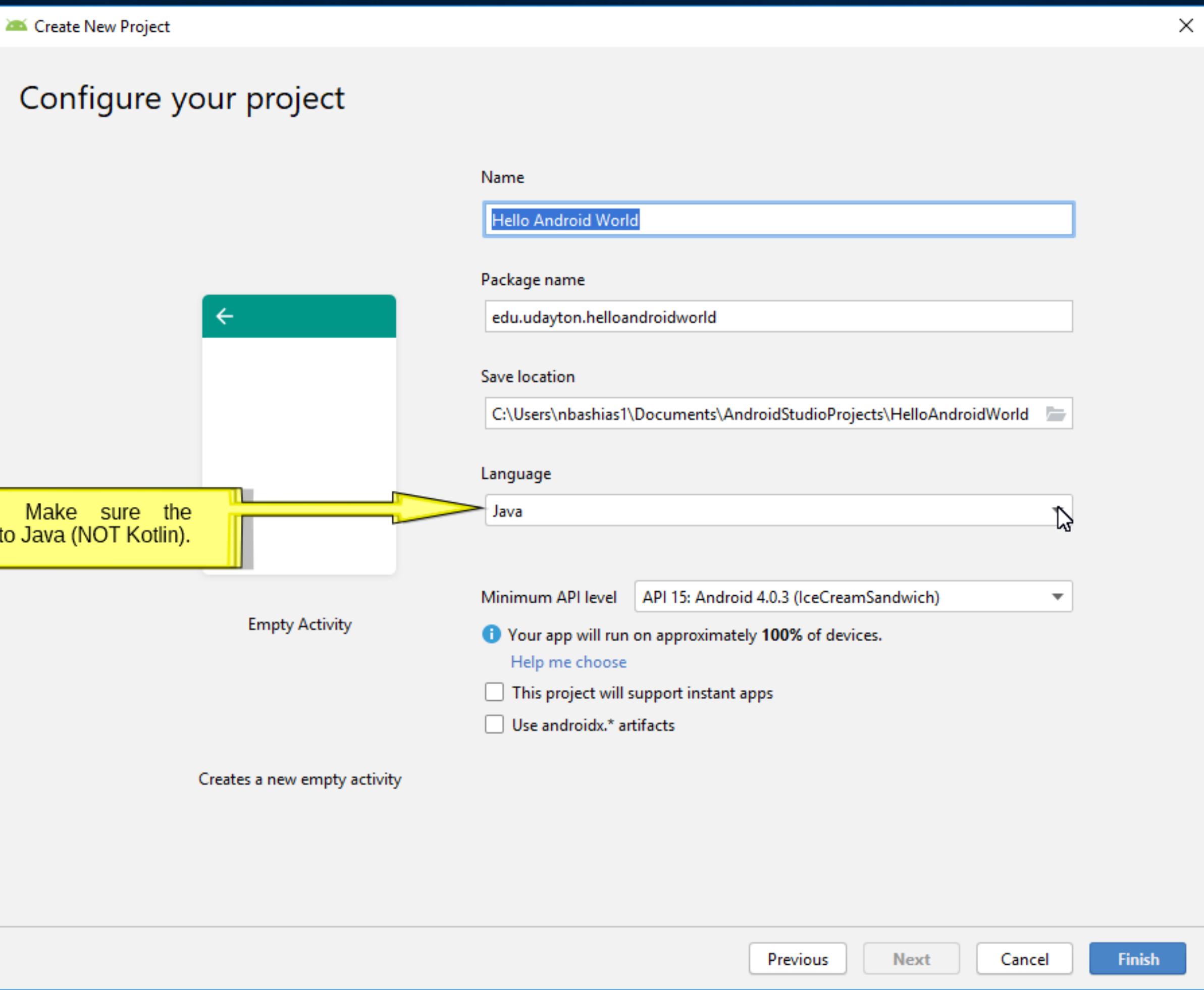


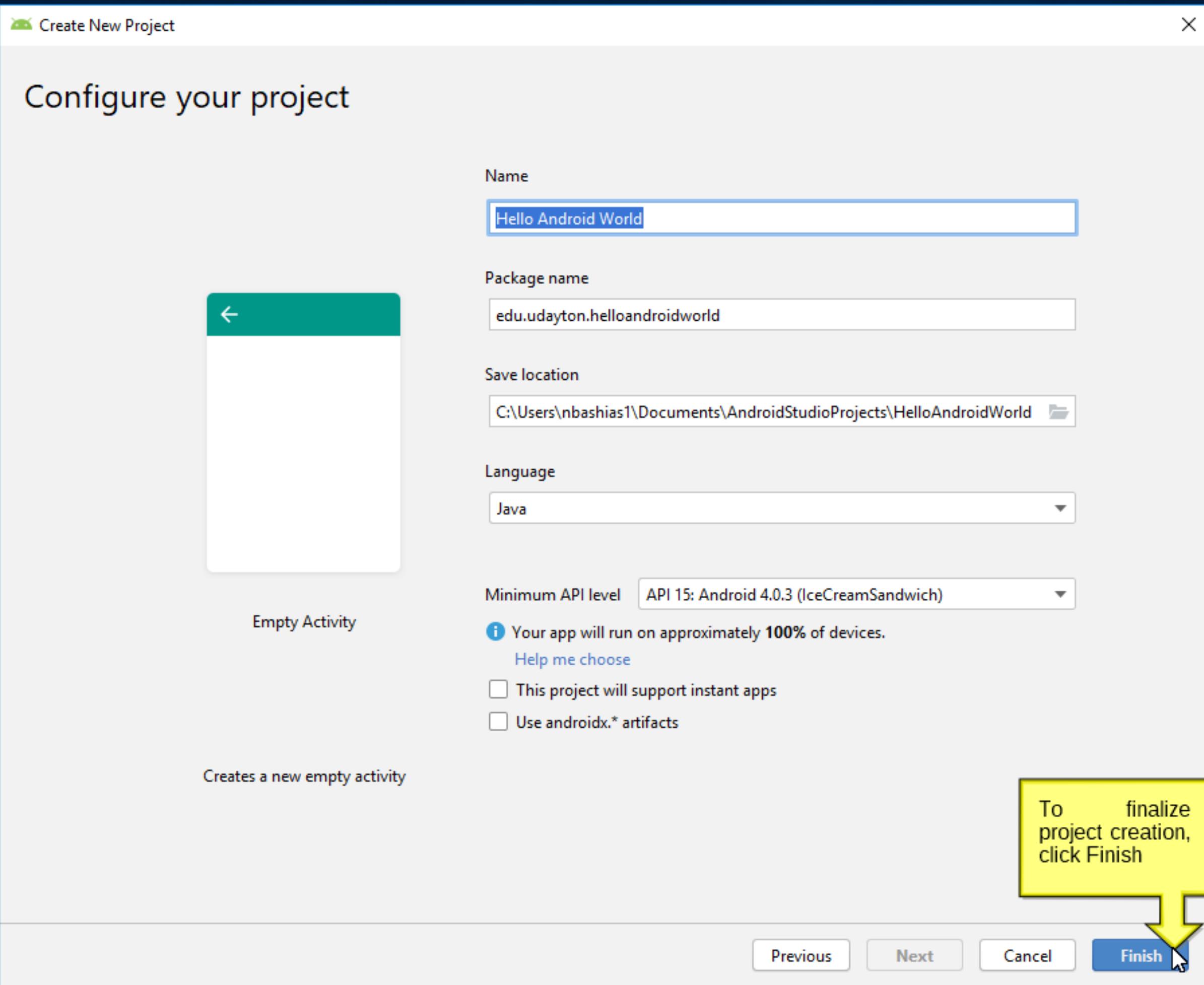


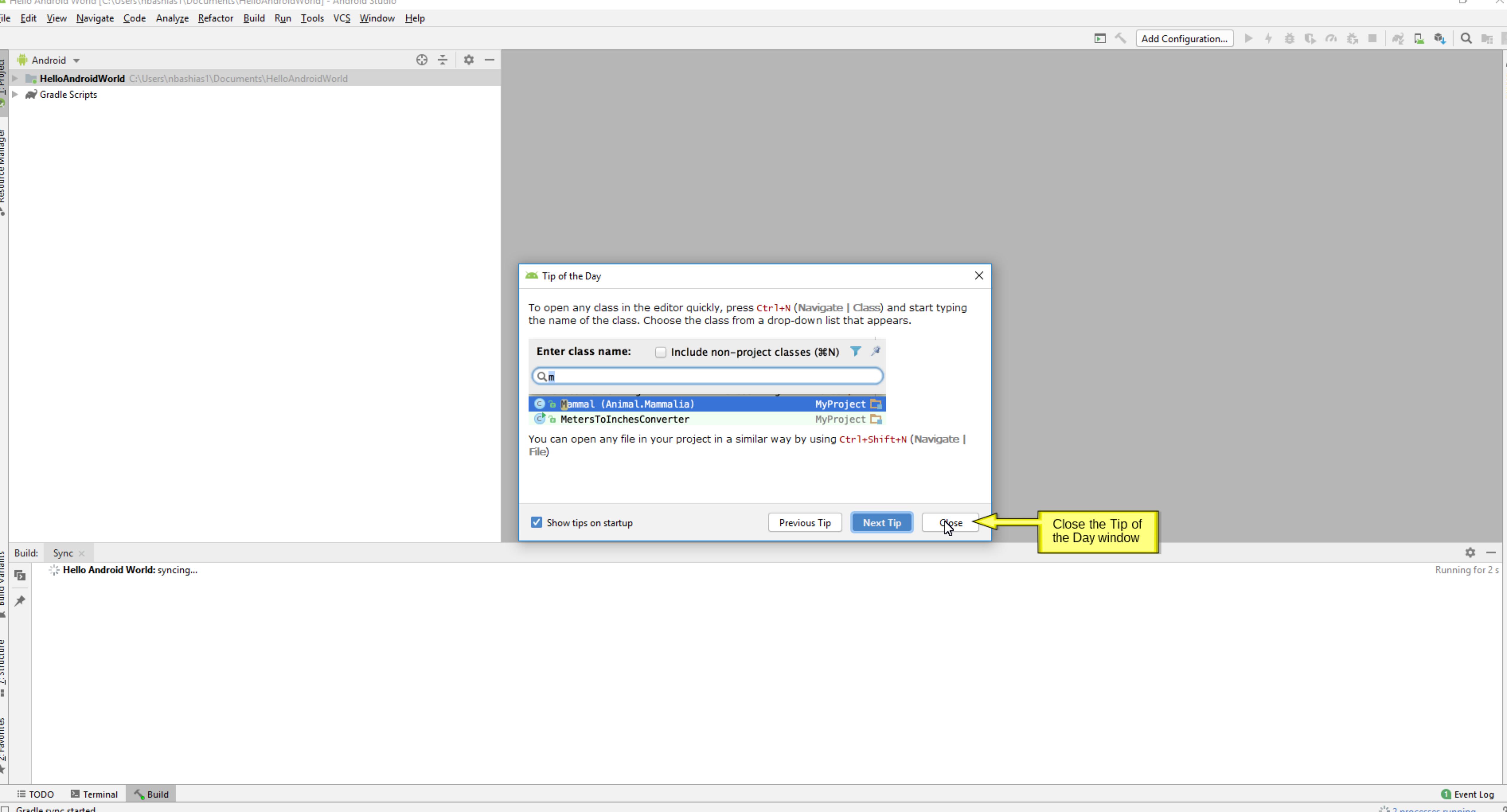












HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main java edu udayton helloandroidworld MainActivity

Android Project Resource Manager 1: Structure Favorites Build: Sync

activity_main.xml MainActivity.java

```
1 package edu.udayton.helloandroidworld;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6     @Override
7     protected void onCreate(Bundle savedInstanceState) {
8         super.onCreate(savedInstanceState);
9         setContentView(R.layout.activity_main);
10    }
11 }
12
13 }
```

We can now explore the Android Studio IDE

Build: Sync

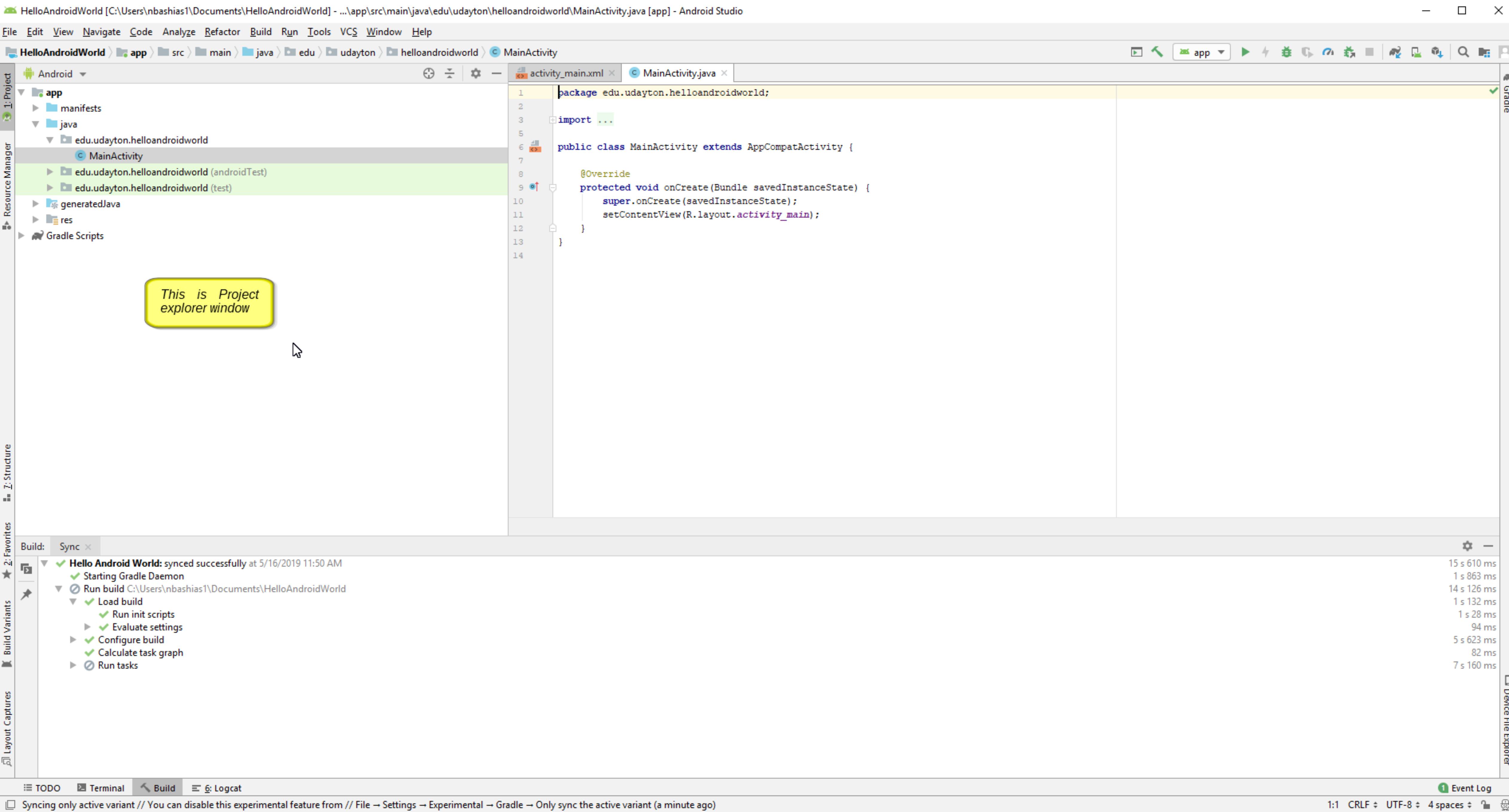
- ✓ Hello Android World: synced successfully at 5/16/2019 11:50 AM
 - ✓ Starting Gradle Daemon
 - ✗ Run build C:\Users\nbashias1\Documents\HelloAndroidWorld
 - ✓ Load build
 - ✓ Run init scripts
 - ✓ Evaluate settings
 - ✓ Configure build
 - ✓ Calculate task graph
 - ✗ Run tasks

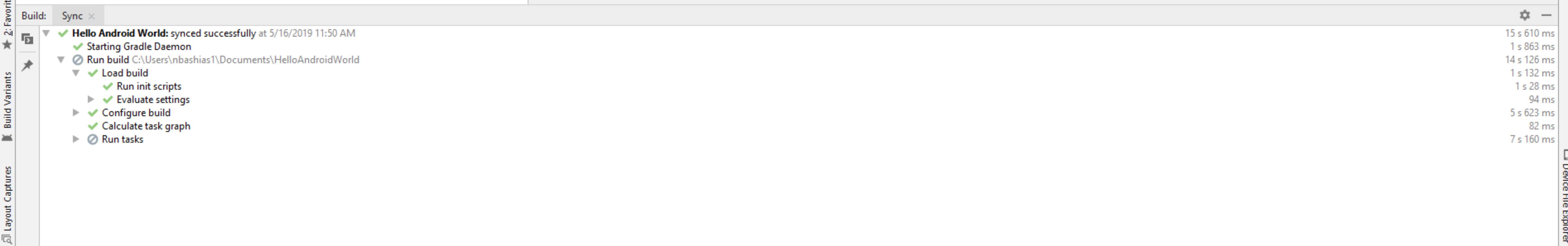
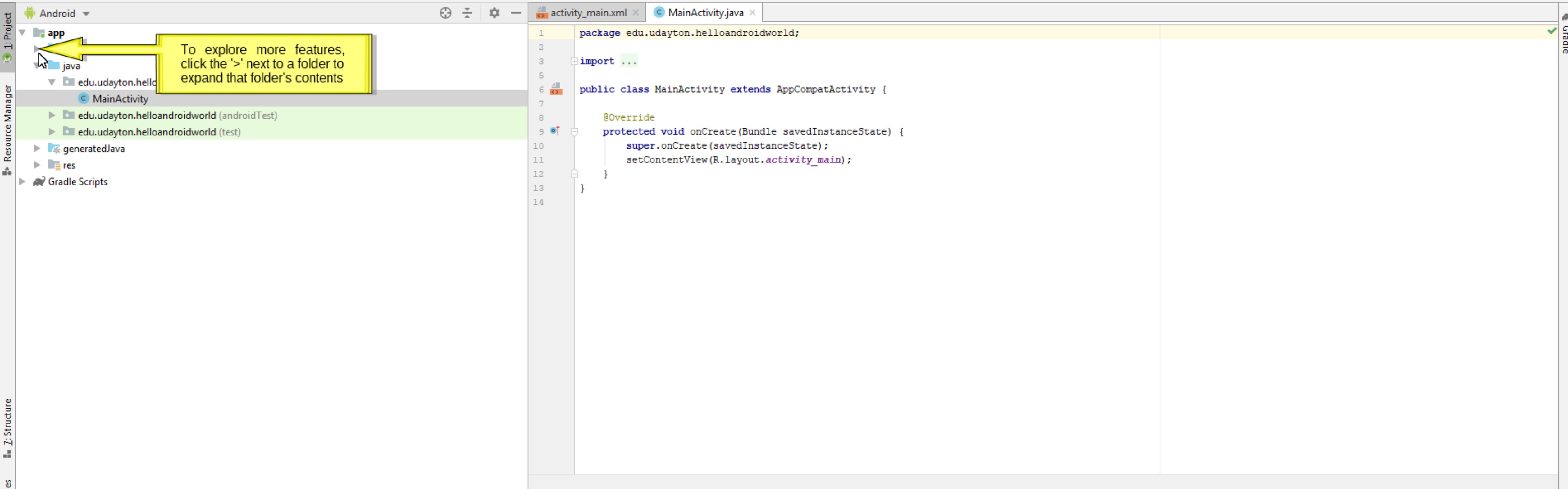
Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

1:1 CRLF UTF-8 4 spaces





HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main java edu udayton helloandroidworld MainActivity

Android Project Resource Manager Favorites Layout Captures Build Variants Build Captures

The manifests folder contains the manifest (.xml) files. You do not have to edit the manifest files until you build more sophisticated apps.

activity_main.xml MainActivity.java

```
package edu.udayton.helloandroidworld;  
import ...  
public class MainActivity extends AppCompatActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
    }  
}
```

Build Sync

Build: Sync

Build Variants

Layout Captures

Device File Explorer

Event Log

TODO Terminal Build Logcat

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

1:1 CRLF UTF-8 4 spaces

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld>MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res

Android Project Resource Manager 1: Structure Favorites Build: Sync

The res folder contains the resource (.xml) files.

activity_main.xml MainActivity.java

```
1 package edu.udayton.helloandroidworld;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    }
12
13 }
```

Build Variants Layout Captures Event Log

Synced successfully at 5/16/2019 11:50 AM

Starting Gradle Daemon

Run build C:\Users\nbashias1\Documents\HelloAndroidWorld

Load build

Run init scripts

Evaluate settings

Configure build

Calculate task graph

Run tasks

Device File Explorer

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld>MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src test java

Android Project Resource Manager

The java folder contains the source code (.java) files.

activity_main.xml MainActivity.java

```
1 package edu.udayton.helloandroidworld;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    }
12
13 }
```

Gradle Scripts

Build: Sync

Build Variants

Layout Captures

Device File Explorer

Build: Sync

Hello Android World: synced successfully at 5/16/2019 11:50 AM

- Starting Gradle Daemon
- Run build C:\Users\nbashias1\Documents\HelloAndroidWorld
 - Load build
 - Run init scripts
 - Evaluate settings
 - Configure build
 - Calculate task graph
 - Run tasks

15 s 610 ms
1 s 863 ms
14 s 126 ms
1 s 132 ms
1 s 132 ms
1 s 28 ms
94 ms
5 s 623 ms
82 ms
7 s 160 ms

Layout Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (a minute ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main java edu udayton helloandroidworld MainActivity

Android Project Resource Manager Favorites Build Sync

activity_main.xml MainActivity.java

```
1 package edu.udayton.helloandroidworld;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6     @Override
7     protected void onCreate(Bundle savedInstanceState) {
8         super.onCreate(savedInstanceState);
9         setContentView(R.layout.activity_main);
10    }
11 }
12
13 }
```

Here is the source code for the MainActivity, that is currently visible in the editor

Build: Sync

- ✓ Hello Android World: synced successfully at 5/16/2019 11:50 AM
 - ✓ Starting Gradle Daemon
 - ✗ Run build C:\Users\ nbashias1\Documents\HelloAndroidWorld
 - ✓ Load build
 - ✓ Run init scripts
 - ✓ Evaluate settings
 - ✓ Configure build
 - ✓ Calculate task graph
 - ✗ Run tasks

Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

1:1 CRLF UTF-8 4 spaces

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\java\edu\udayton\helloandroidworld\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main java edu udayton helloandroidworld MainActivity

Android app manifests java edu.udayton.helloandroidworld MainActivity

To view (and customize) the MainActivity's layout, click the 'activity_main.xml' tab

```
1 package edu.udayton.helloandroidworld;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6     @Override
7     protected void onCreate(Bundle savedInstanceState) {
8         super.onCreate(savedInstanceState);
9         setContentView(R.layout.activity_main);
10    }
11 }
12 }
```

Resource Manager

1: Project

Gradle Scripts

2: Favorites

Build: Sync

Build Variants

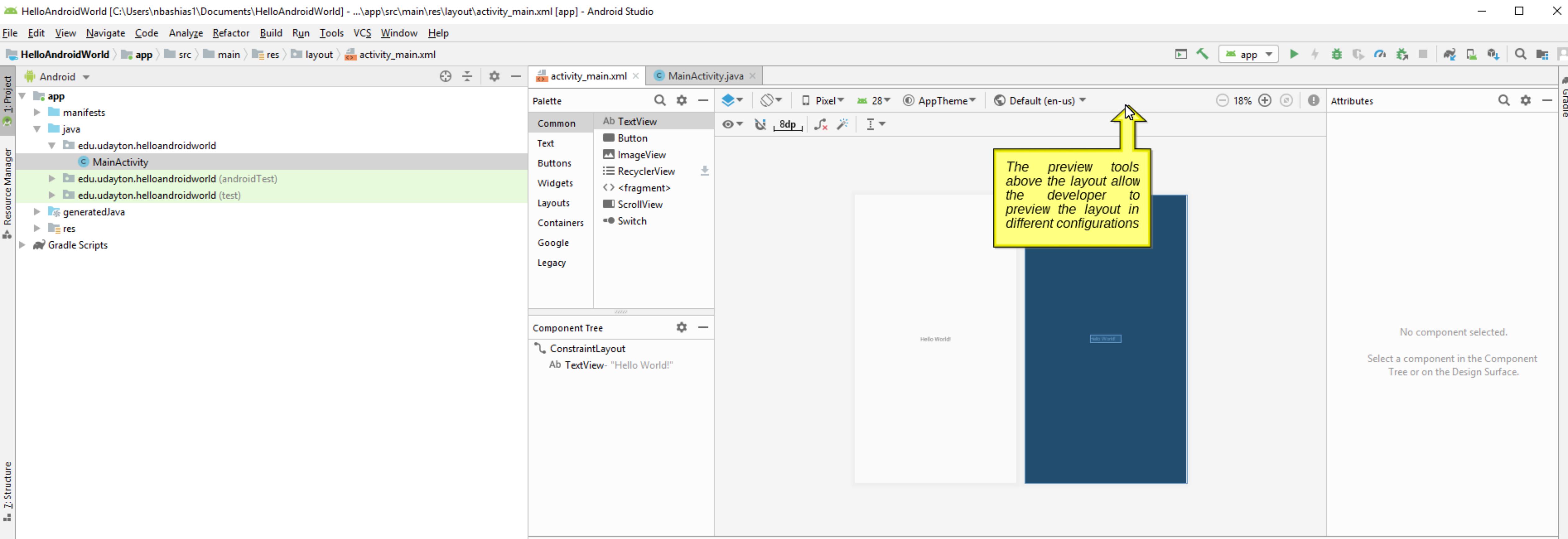
Layout Captures

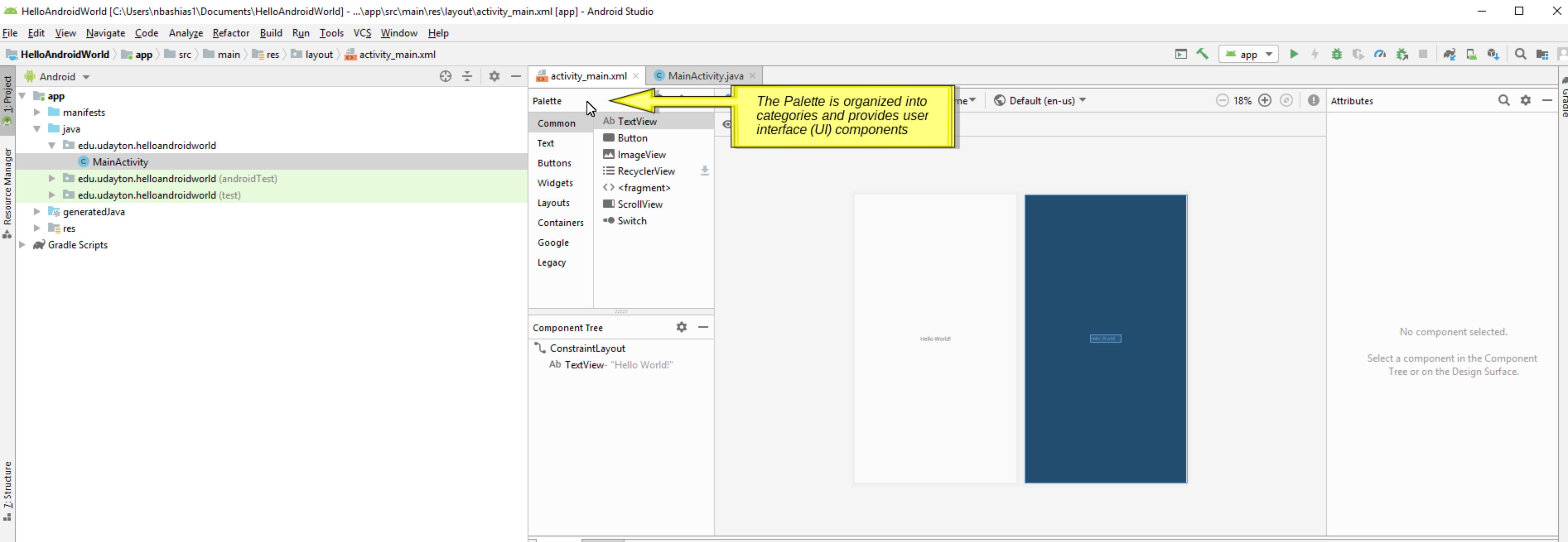
Device File Explorer

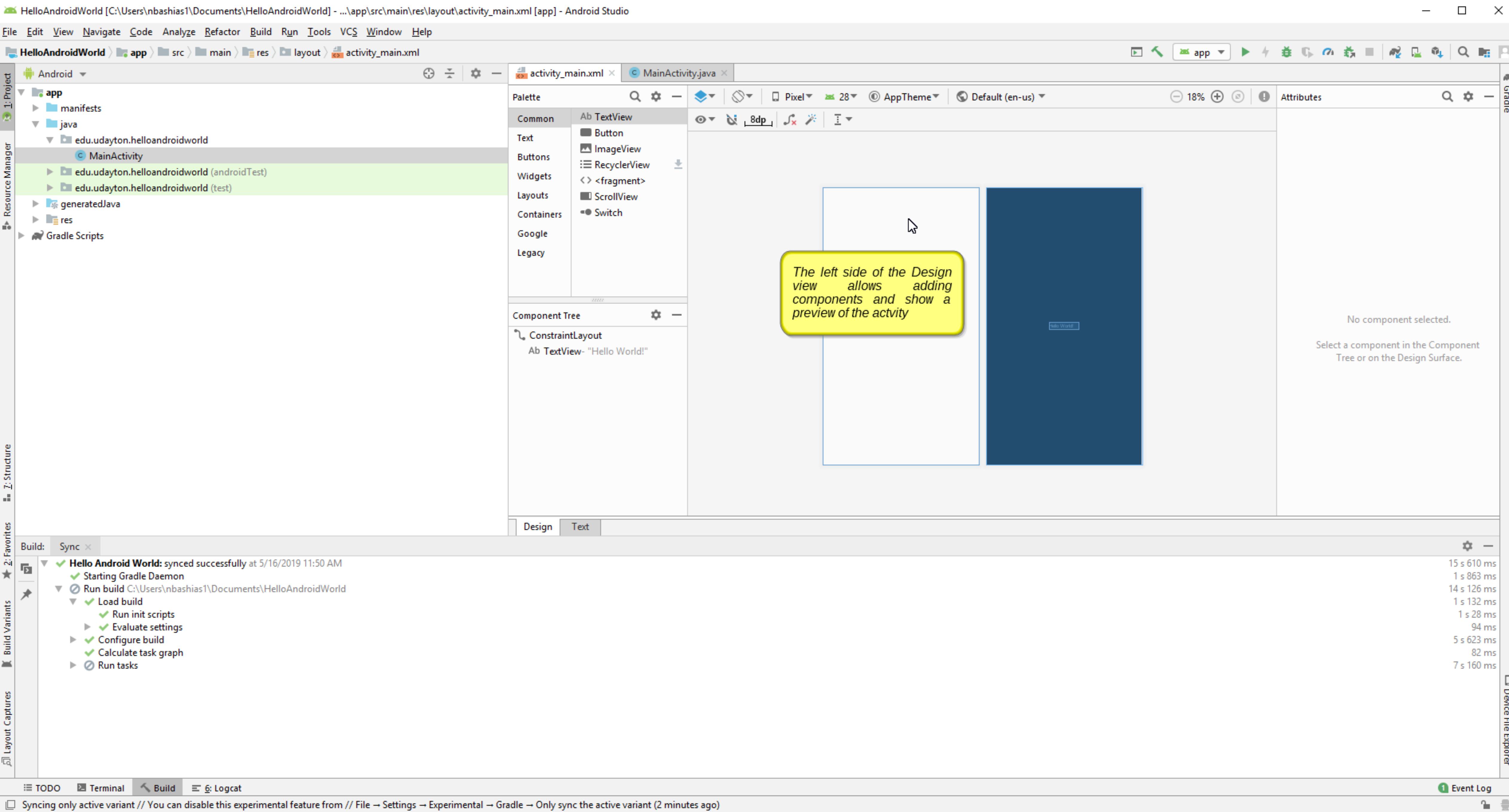
TODO Terminal Build Logcat Event Log

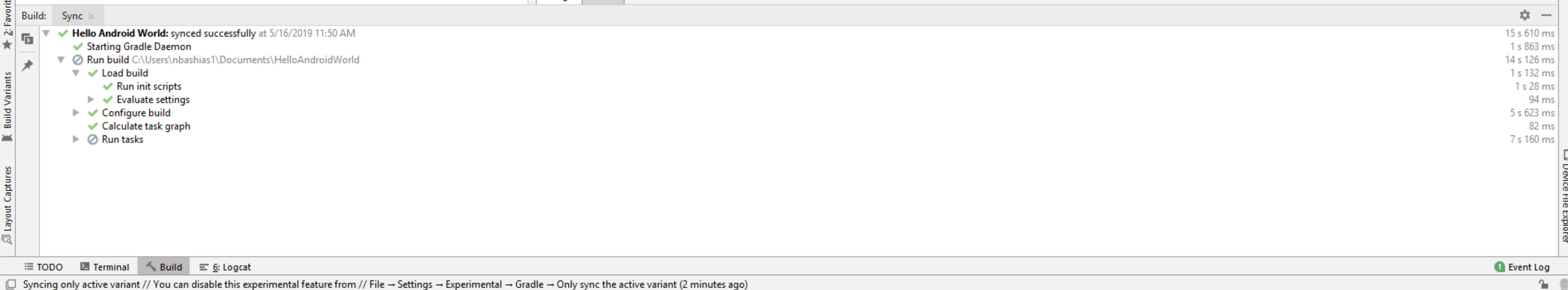
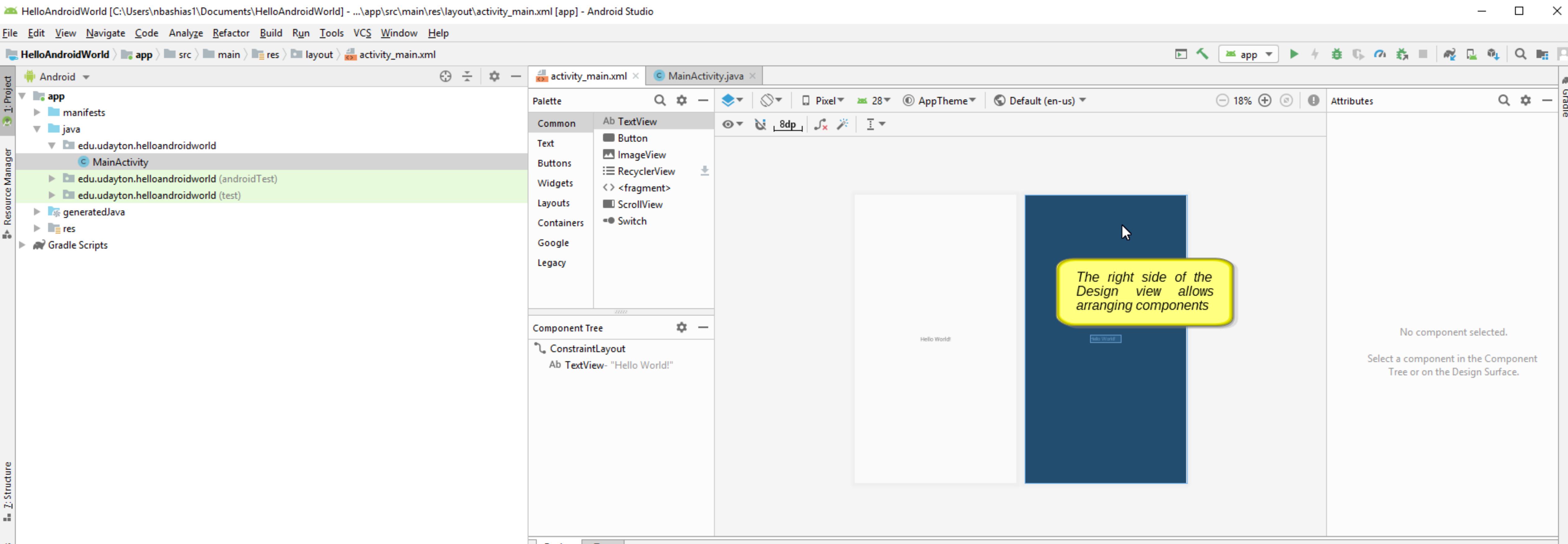
Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)

1:1 CRLF UTF-8 4 spaces









HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android Project Resource Manager I: Structure Favorites Build Variants Layout Captures Layout Explorer

activity_main.xml MainActivity.java

Palette Attributes Grade

Common Ab TextView

- Text
- Buttons
- Widgets
- Layouts
- Containers
- Google
- Legacy

Pixel 28 AppTheme Default (en-us) 18% + - ?

No component selected.

Select a component in the Component Tree or on the Design Surface.

The Component Tree shows the layout type and its included controls (widgets)

A ConstraintLayout type allows you to create large and complex layouts with a flat view hierarchy. Note that it is possible for a layout to contain other (sub-)layouts.

The TextView widget is similar to a label in desktop programs; it displays read-only text at runtime.

Build: Sync

Hello Android World: synced successfully at 5/16/2019 11:50 AM

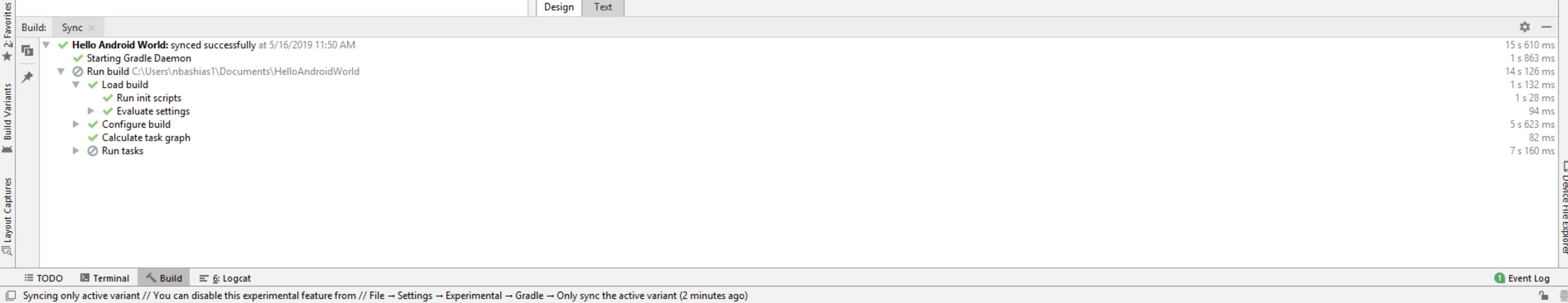
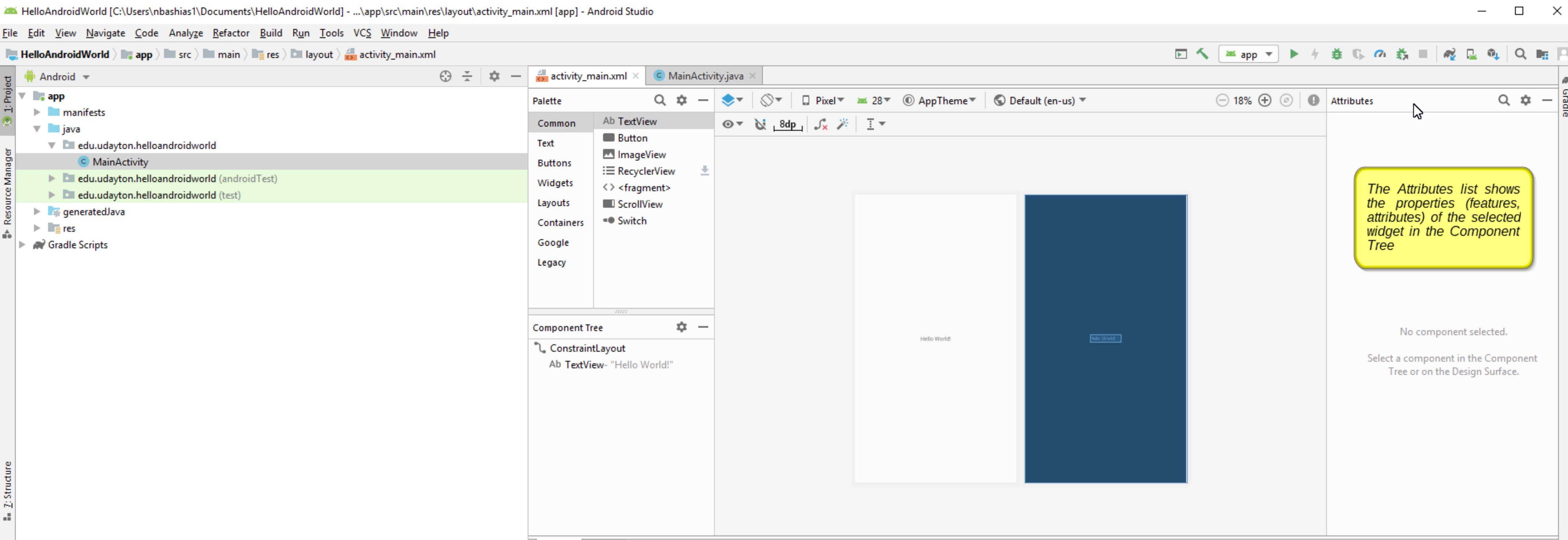
- Starting Gradle Daemon
- Run build C:\Users\nbashias1\Documents\HelloAndroidWorld
- Load build
 - Run init scripts
 - Evaluate settings
- Configure build
- Calculate task graph
- Run tasks

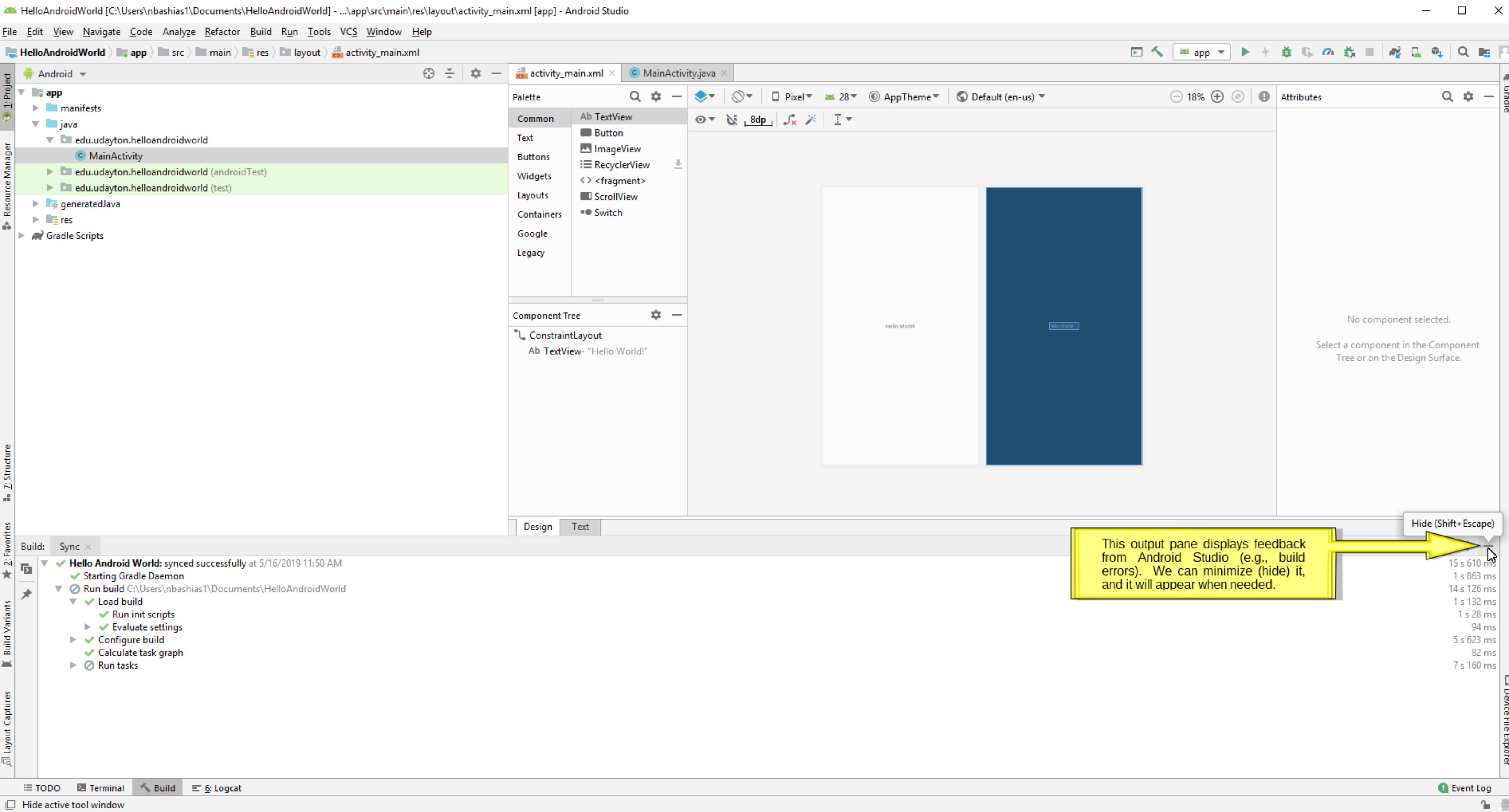
15 s 610 ms
1 s 863 ms
14 s 126 ms
1 s 132 ms
1 s 28 ms
94 ms
5 s 623 ms
82 ms
7 s 160 ms

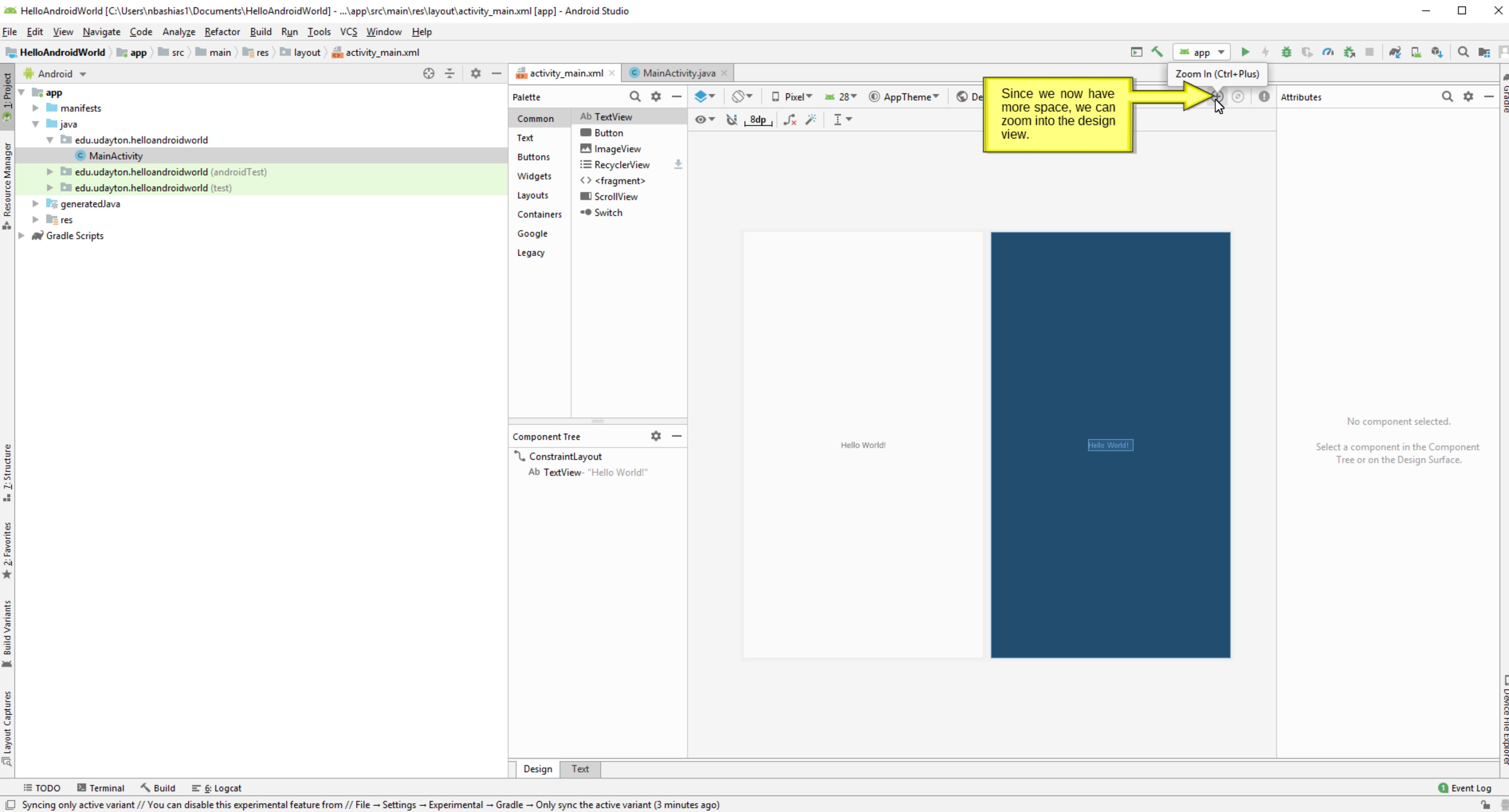
Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (2 minutes ago)







HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project

Resource Manager

1: Structure

2: Favorites

Build Variants

Layout Captures

File Explorer

activity_main.xml

MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

ConstraintLayout

Ab TextView- "Hello World!"

Attributes

Ab <unnamed> TextView

id

Declared Attributes

Layout

layout_width wrap_content

layout_height wrap_content

visibility visibility

Common Attributes

text Hello World!

contentDescription

textAppearance @android:style/Text/

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (3 minutes ago)

Let's now delete the auto-generated TextView, and then add a new one, for the purpose of learning how to add a component to a layout.

Select (click) the Hello World! TextView.
Then, right-click on it.

The screenshot shows the Android Studio interface with the 'activity_main.xml' layout file open. The layout consists of a single 'TextView' with the text 'Hello World!'. A yellow callout box with a black border and rounded corners points to the text view. Inside the callout box, there is a yellow arrow pointing towards the text view. The text inside the callout box reads: 'Let's now delete the auto-generated TextView, and then add a new one, for the purpose of learning how to add a component to a layout.' and 'Select (click) the Hello World! TextView. Then, right-click on it.' The background of the callout box is white. The rest of the screen shows the standard Android Studio tools like the palette, component tree, and attributes panel.

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project 1: HelloAndroidWorld

- app
- manifests
- java
 - edu.udayton.helloandroidworld
 - MainActivity
 - edu.udayton.helloandroidworld (androidTest)
 - edu.udayton.helloandroidworld (test)
 - generatedJava
 - res
- Gradle Scripts

Resource Manager

Component Tree

ConstraintLayout

Ab TextView- "Hello World!"

Attributes

Common

Ab TextView

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Pixel 28 AppTheme Default (en-us) 33%

Attributes

Ab <unnamed> TextView

id

Declared Attributes

Layout

layout_width wrap_content

layout_height wrap_content

visibility visibility

Common Attributes

text Hello World!

contentDescription

textAppearance @android:style/Text/

All Attributes

Palette

Component Tree

ConstraintLayout

Ab TextView- "Hello World!"

Set Sample Data

Show Baseline

Clear Constraints of Selection

Constrain

Organize

Align

Chains

Center

Helpers

Convert view...

Refactor

Cut Ctrl+X

Copy Ctrl+C

Paste Ctrl+V

Delete

Go to XML Ctrl+B

Design Text

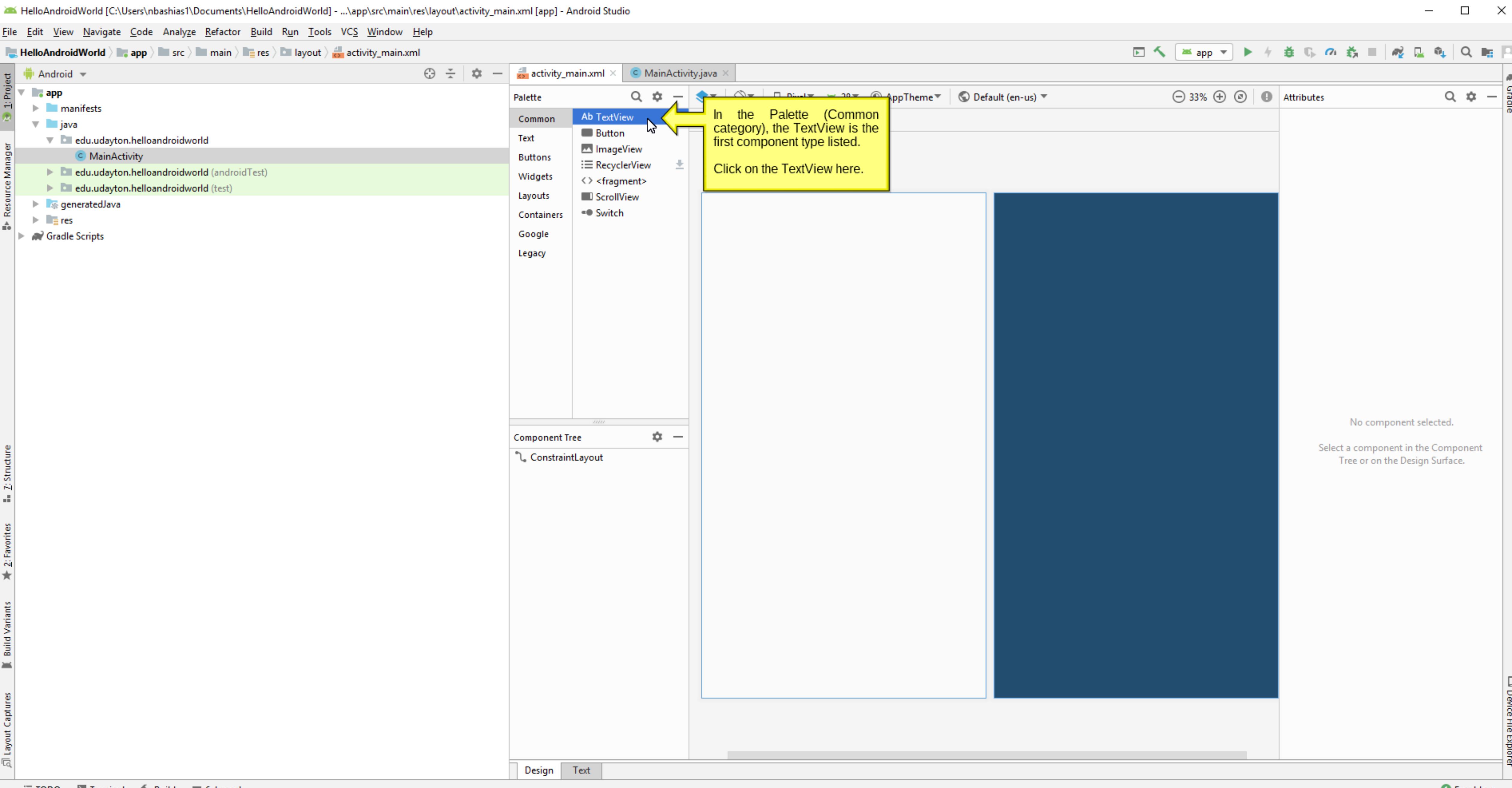
TODO Terminal Build Logcat Event Log

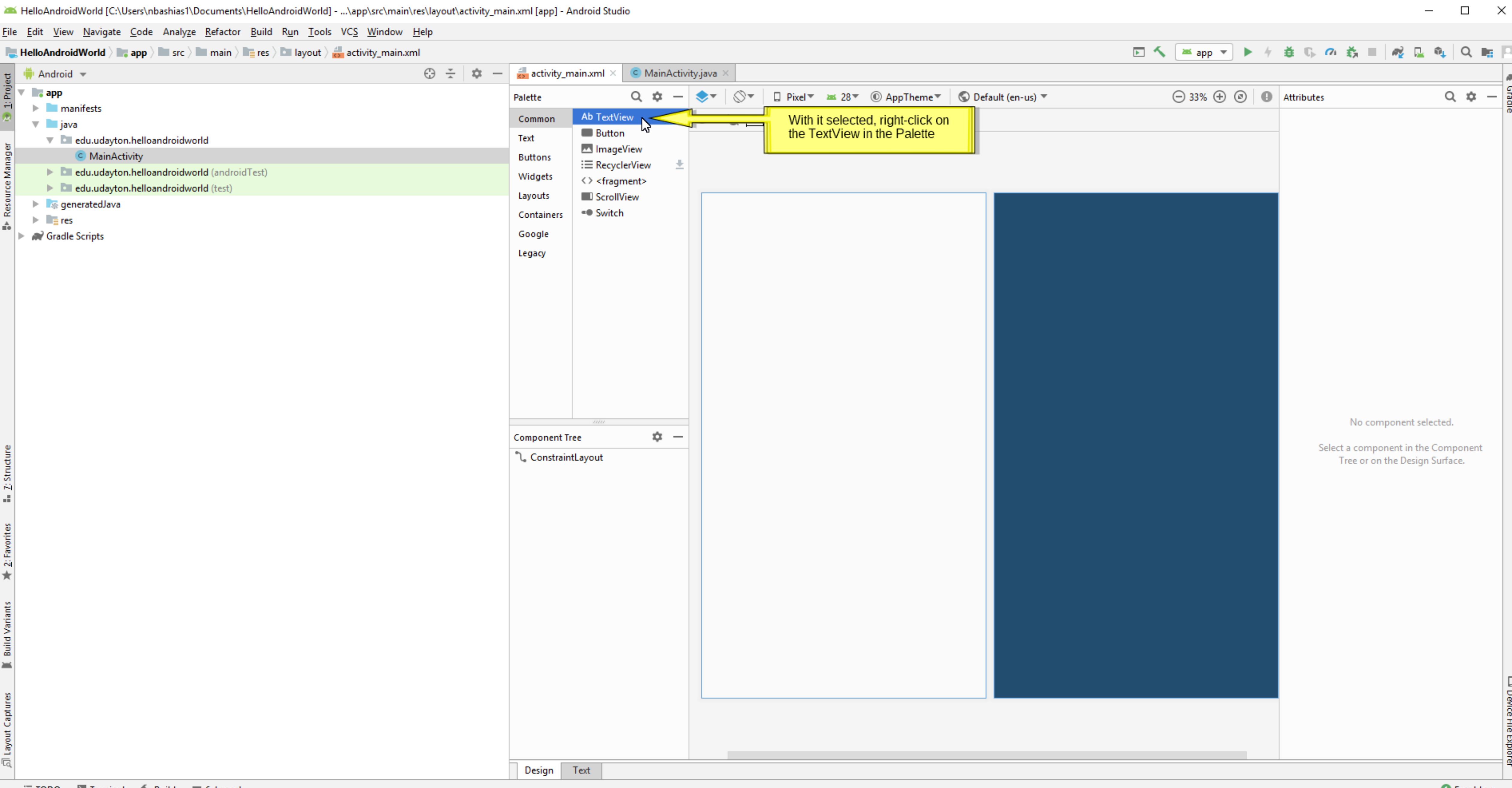
Delete selected item

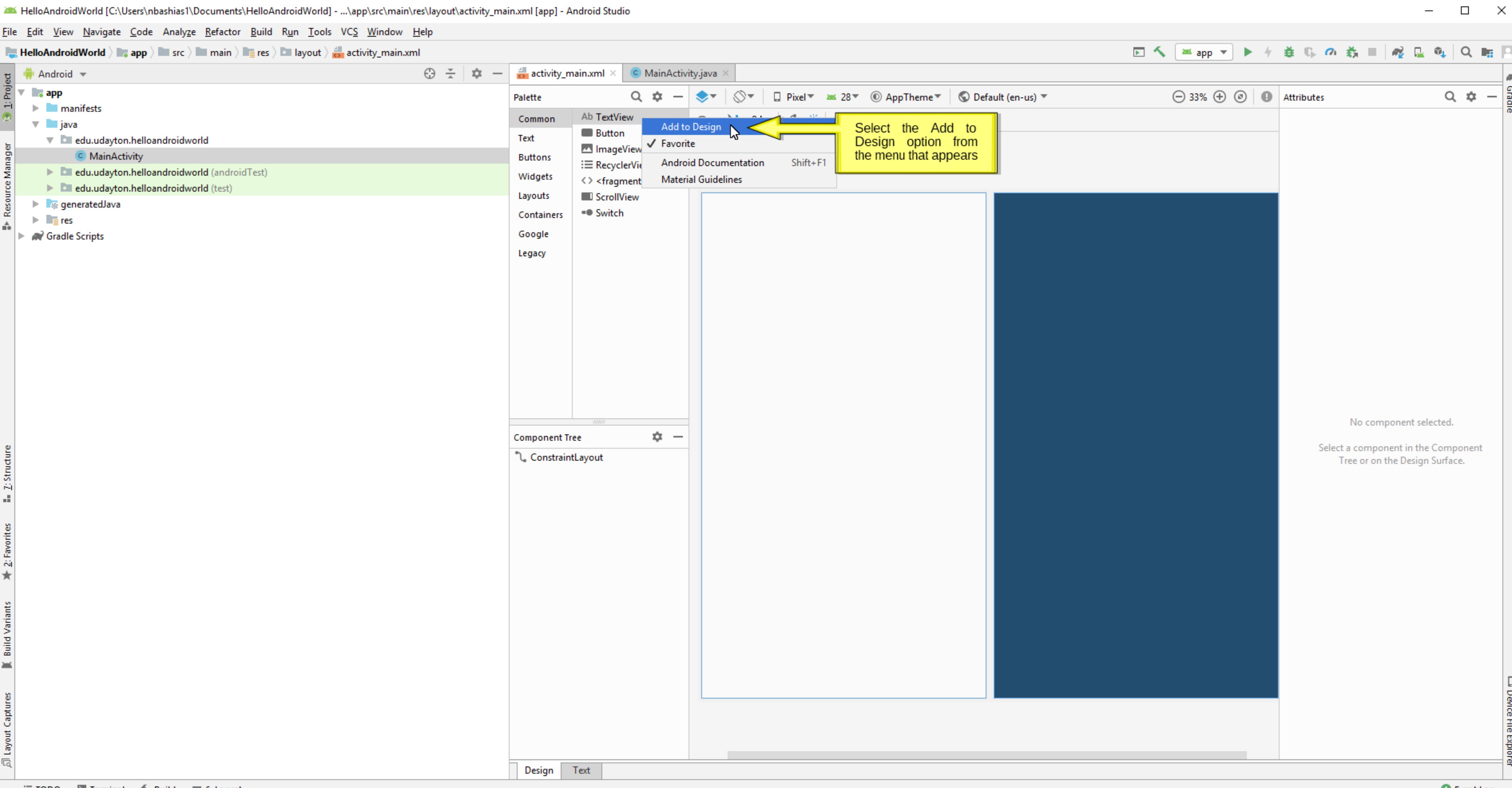
Alternatively, you can just
(1) select the component, and then
(2) hit the Delete key on the keyboard
to get the same result.

Select the Delete option
from the menu that appears

The screenshot shows the Android Studio interface with the Layout Editor open. A ConstraintLayout contains two 'Hello World!' TextViews. A context menu is open over the top TextView, with the 'Delete' option highlighted. A yellow callout box provides instructions for deleting components via the menu or keyboard.







HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project

Resource Manager

Component Tree

Layout Captures

Layout Editor

Design Text

Common Ab TextView

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Component Tree

ConstraintLayout

Ab textView- "TextView"

Now we can configure the new TextView.
First, make sure it is selected in the Component Tree.

Attributes

Ab textView

id textView

Declared Attributes

Layout

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text TextView

text

contentDescription

textAppearance @android:style/Text/

All Attributes

Device File Explorer

Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (4 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project 1: HelloAndroidWorld

- app
- manifests
- java
 - edu.udayton.helloandroidworld
 - MainActivity
 - edu.udayton.helloandroidworld (androidTest)
 - edu.udayton.helloandroidworld (test)
- generatedJava
- res

Resource Manager

Component Tree

ConstraintLayout

Ab helloTextView- "TextView" !

Attributes

Common Ab TextView

Text

Buttons

Widgets

Layouts

Containers

Google

Legacy

Pixel 28 AppTheme Default (en-us) 33% Attributes

Ab helloTextView TextView

Clicked Attributes + -

helloTextView

As with program variables, we should give the new TextView a more descriptive (and memorable) name.

Click in this box and change the TextView's name to 'helloTextView' Hit the Enter key to commit the change.

Similar to giving a variable a unique name (or ID) in a method/function, we need to give each TextView (each component, for that matter) in a layout a unique ID.

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text TextView

text

contentDescription

textAppearance @android:style/Text/

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (5 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Project

Resource Manager

1: Project

app
manifests
java
edu.udayton.helloandroidworld
MainActivity
edu.udayton.helloandroidworld (androidTest)
edu.udayton.helloandroidworld (test)
generatedJava
res
Gradle Scripts

2: Structure

3: Favorites

Build Variants

Layout Captures

4: Logcat

activity_main.xml x MainActivity.java x

Palette

Common Ab TextView

Text Button
Buttons ImageView
Widgets RecyclerView
Layouts <fragment>
Containers ScrollView
Google Switch
Legacy

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..." !

Design Text

Attributes

Ab helloTextView
id helloTextView

Declared Attributes

Layout

layout_width wrap_content
layout_height wrap_content
visibility
visibility

Common Attributes

We should now change the text displayed in the TextView.
Select the default text ("TextView") and change it to "Hello Android World".
Remember to use the Enter key to commit the change.

Hello Android World

Device File Explorer

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project 1: HelloAndroidWorld

app
manifests
java
edu.udayton.helloandroidworld
MainActivity
edu.udayton.helloandroidworld (androidTest)
edu.udayton.helloandroidworld (test)
generatedJava
res
Gradle Scripts

Resource Manager

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An... !"

Activity

activity_main.xml

MainActivity.java

Palette

Common Ab TextView

Text Button
Buttons ImageView
Widgets RecyclerView
Layouts <fragment>
Containers ScrollView
Google Switch
Legacy

Attributes

Ab helloTextView
id helloTextView

Declared Attributes

Layout

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An... !"

Design Text

To further customize the TextView, click the triangle next to textAppearance to expand the collection of appearance attributes.

text Hello Android World
text
contentDescription
textAppearance @android:style/Text/

All Attributes

Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

1: Project

app
manifests
java
edu.udayton.helloandroidworld
MainActivity
edu.udayton.helloandroidworld (androidTest)
edu.udayton.helloandroidworld (test)
generatedJava
res
Gradle Scripts

Resource Manager

2: Structure

2: Favorites

Build Variants

Layout Captures

activity_main.xml > MainActivity.java

Palette

Common Ab TextView
Text Button
Buttons ImageView
Widgets RecyclerView
Layouts <fragment>
Containers ScrollView
Google Switch
Legacy

Attributes

Ab helloTextView
id helloTextView

Declared Attributes

Layout

Component Tree

ConstraintLayout
Ab helloTextView- "Hello An..."

Design Text

To change the text size to a larger value, click to display the drop-down menu for the textSize attribute

Common Attributes

text Hello Android World
text
contentDescription
textAppearance @android:style/Text/
fontFamily
typeface
extra
14sp
@android:color/secondary

All Attributes

Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (6 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project 1: HelloAndroidWorld

- app
- manifests
- java
 - edu.udayton.helloandroidworld
 - MainActivity
 - edu.udayton.helloandroidworld (androidTest)
 - edu.udayton.helloandroidworld (test)
 - generatedJava
 - res
- Gradle Scripts

Resource Manager

1: Structure

2: Favorites

Build Variants

Layout Captures

activity_main.xml

MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..." !

Attributes

Ab helloTextView

id helloTextView

Declared Attributes

Layout

Grade

33%

Pixel 28 AppTheme Default (en-us)

Hello Android World

Select the new text size

Device File Explorer

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

The screenshot shows the Android Studio interface for editing the layout file 'activity_main.xml'. The left sidebar displays the project structure, with the 'app' module selected. The main workspace shows the XML layout code and its corresponding visual representation. A floating palette on the right provides quick access to common components like TextView, Button, ImageView, etc. The 'Text' tab of the palette is currently active, showing a preview of a TextView with the text 'Hello Android World'. The 'Attributes' panel on the right lists the TextView's attributes, including 'text' set to 'Hello Android World'. A dropdown menu for 'textSize' is open, showing options from 8sp to 36sp, with '36sp' highlighted. A yellow callout bubble points to this selection with the text 'Select the new text size'. The bottom status bar indicates that the active variant is being synced.

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project 1: HelloAndroidWorld

app
manifests
java
edu.udayton.helloandroidworld
MainActivity
edu.udayton.helloandroidworld (androidTest)
edu.udayton.helloandroidworld (test)
generatedJava
res
Gradle Scripts

Resource Manager

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..."

Attributes

Ab helloTextView
id helloTextView

Declared Attributes

Layout

Common
Text
Buttons
Widgets
Layouts
Containers
Google
Legacy

Pixel 28 AppTheme Default (en-us) 33% 8dp

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..."

Common Attributes

text Hello Android World
text
contentDescription
textAppearance
fontFamily
typeface
textSize 36sp

To change the text color to a more visible black, we can simply select the pre-defined Android color resource. Start by clicking this button to display the Resource Manager.

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project

Resource Manager

1: Project

2: Favorites

Build Variants

Layout Captures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml > MainActivity.java

Palette

Attributes

Grade

Resources

Add new resource

Project

colorAccent

colorPrimary

colorPrimaryDark

Theme attributes

No Preview

OK Cancel

Design Text

Ab helloTextView
id helloTextView
Declared Attributes
Layout

layout_width wrap_content
layout_height wrap_content
visibility
visibility

Common Attributes

text Hello Android World
text
contentDescription
textAppearance @android:style/Text/
fontFamily
typeface
textSize 36sp
lineSpacingExtra
textColor @android:color/second
textStyle B I Tr

All Attributes

Device File Explorer

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

Event Log

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld > app > src > main > res > layout > activity_main.xml

Android

Project

Resource Manager

Gradle Scripts

2: Favorites

Build Variants

Layout Captures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity_main.xml > MainActivity.java

Palette

Attributes

Grade

Resources

Add new resource

Name: black

Default

Project

colorAccent

colorPrimary

colorPrimaryDark

android

background_dark

background_light

black

darker_gray

holo_blue_bright

holo_blue_dark

holo_blue_light

holo_green_dark

holo_green_light

holo_orange_dark

holo_orange_light

Click to select the black Android system color

@android:color/black
= #ff000000

Then, click OK

OK Cancel

Design Text

Attributes

Declared Attributes

Layout

Layout Editor

Common Attributes

text: Hello Android World

text: Hello Android World

contentDescription:

textAppearance: @android:style/Text/

fontFamily:

typeface:

textSize: 36sp

lineSpacingExtra:

textColor: @android:color/secondary

textStyle: B I Tr

All Attributes

Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (7 minutes ago)

We've done a bit of work, so let's save our changes.

For convenience, we should display the toolbar, which includes a Save All button.

The option to display the toolbar is located in the View menu.

The screenshot shows the Android Studio interface with the following details:

- Project Bar:** Shows the project name "HelloAndroidWorld" and the file path "C:\Users\nbashias1\Documents\HelloAndroidWorld".
- File Menu:** The "View" menu is highlighted with a yellow arrow and a callout box.
- Toolbar:** Standard Android Studio toolbar with icons for file operations.
- Layout Editor:** The main workspace displays a ConstraintLayout containing a single TextView with the text "Hello Android World".
- Component Tree:** Shows the hierarchy: ConstraintLayout > Ab helloTextView- "Hello An...".
- Toolbars:** Top-level toolbars for Text, Buttons, Widgets, Layouts, Containers, Google, and Legacy components.
- Properties Panel:** On the right, it shows the attributes for the selected TextView:
 - Attributes:** Ab helloTextView, id: helloTextView.
 - Declared Attributes:** Layout (with a tree diagram).
 - Layout:** Shows layout_width: wrap_content, layout_height: wrap_content, visibility: visible, and Common Attributes.
 - Common Attributes:** text: Hello Android World, textAppearance: @android:style/Text/...
 - All Attributes:** A large list of other attributes like contentDescription, fontFamily, typeface, textSize, lineSpacingExtra, textColor, and textStyle.
- Bottom Navigation:** Includes tabs for Design, Text, TODO, Terminal, Build, Logcat, and Event Log.
- Status Bar:** Syncing message: "Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (8 minutes ago)".

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Tool Windows

Quick Definition Ctrl+Shift+I

Show Siblings

Open in Browser

Recent Files Ctrl+E

Recently Changed Files Ctrl+Shift+E

Recent Changes Alt+Shift+C

Compare With... Ctrl+D

Quick Switch Scheme... Ctrl+`

Toolbar

✓ Tool Buttons

✓ Status Bar

✓ Navigation Bar

Bidi Text Direction

Enter Presentation Mode

Enter Distraction Free Mode

Enter Full Screen

res layout activity_main.xml

activity_main.xml MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..." !

Attributes

Ab helloTextView TextView

id helloTextView

Declared Attributes

Layout

Hello Android World

Hello Android World

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/Text/

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

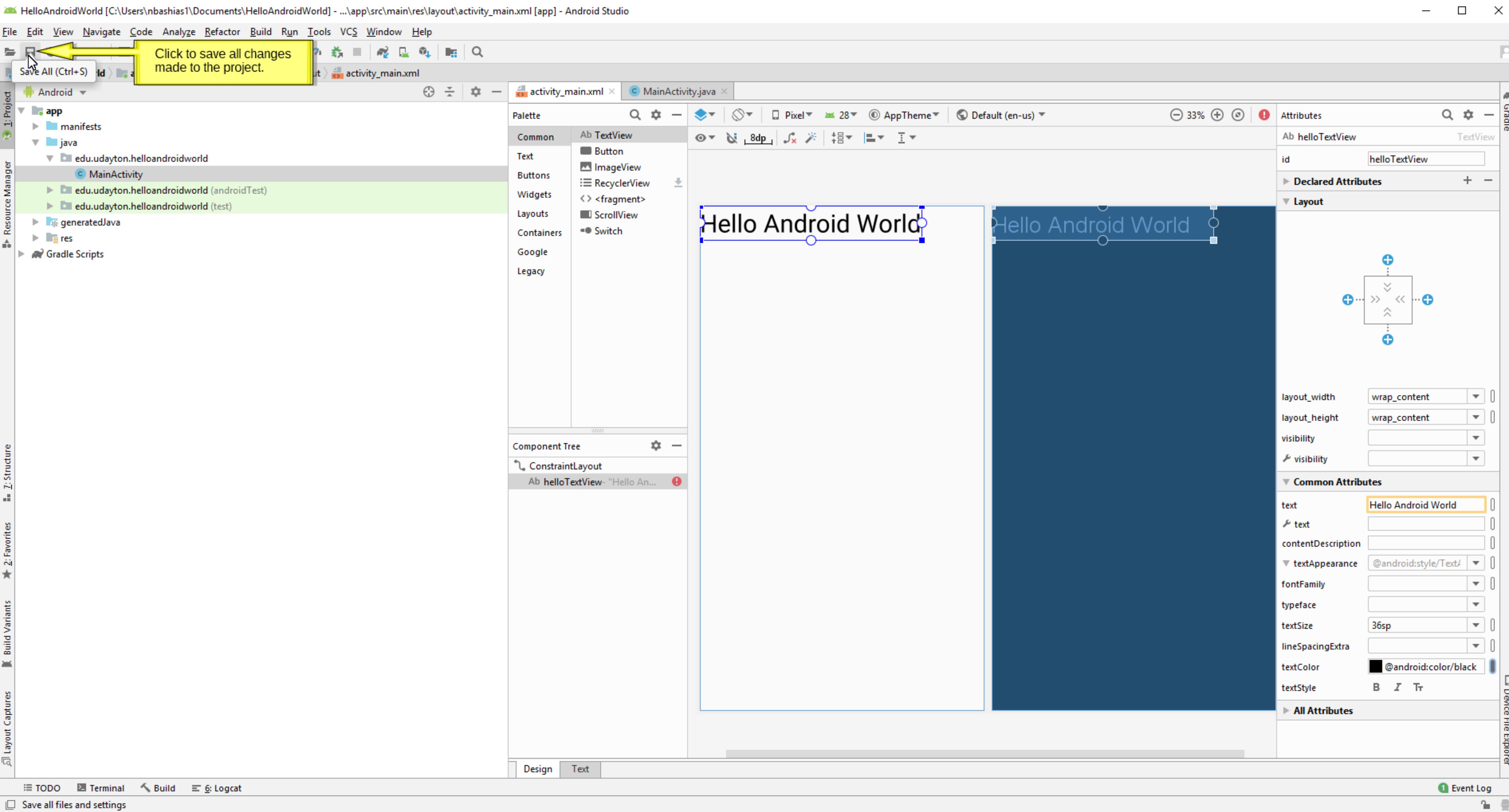
TODO Terminal Build Logcat

Show/hide the main toolbar

Event Log

A yellow arrow points from the 'Toolbar' option in the 'View' menu to a yellow callout box containing the text: 'Under the View menu, select the Toolbar option.'

The screenshot shows the Android Studio interface with the 'View' menu open. A yellow arrow points from the 'Toolbar' option in the 'View' menu to a yellow callout box containing the text: 'Under the View menu, select the Toolbar option.' The main workspace displays the 'activity_main.xml' layout editor, showing a single TextView with the text 'Hello Android World'. The 'Attributes' panel on the right shows the 'text' attribute set to 'Hello Android World'. The 'Component Tree' panel shows the same TextView node.



HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res layout activity_main.xml

1:Project

Resource Manager

2:Structure

Build Variants

Layout Captures

1: Favorites

Activity Main

activity_main.xml

MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..."

To center the TextView, click-and-drag it to the center of the layout ...

Attributes

Ab helloTextView

id helloTextView

Declared Attributes

Layout

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/TextAppearance

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

TODO Terminal Build Logcat

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

Event Log

The screenshot shows the Android Studio interface with the project 'HelloAndroidWorld' open. The left sidebar includes '1:Project', 'Resource Manager', '2:Structure', 'Build Variants', 'Layout Captures', and '1: Favorites'. The main area displays the 'activity_main.xml' layout file, which contains a single TextView with the text 'Hello Android World'. A yellow callout box with the text 'To center the TextView, click-and-drag it to the center of the layout ...' is positioned over the text view. The right side of the screen features the 'Attributes' panel, which lists several properties for the TextView: layout_width (wrap_content), layout_height (wrap_content), visibility, visibility, text (Hello Android World), text, contentDescription, textAppearance (@android:style/TextAppearance), fontFamily, typeface, textSize (36sp), lineSpacingExtra, textColor (@android:color/black), and textStyle (B I Tr). The bottom navigation bar includes 'Design' and 'Text' tabs, along with 'TODO', 'Terminal', 'Build', and 'Logcat' buttons. The status bar at the bottom indicates 'Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)'. The top status bar shows the title 'HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio' and standard system controls.

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res layout activity_main.xml

1:Project

Resource Manager

2:Structure

Favorites

Build Variants

Layout Captures

Android

app manifests java edu.udayton.helloandroidworld MainActivity edu.udayton.helloandroidworld (androidTest) edu.udayton.helloandroidworld (test) generatedJava res Gradle Scripts

activity_main.xml MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Pixel 28 AppTheme Default (en-us) 33% Attributes

Ab helloTextView TextView

id helloTextView

Declared Attributes

Layout

Component Tree

... until the guidelines appear.
Then, release the mouse button.

Hello Android World

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/TextAppearance

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res layout activity_main.xml

1:Project

Resource Manager

2:Structure

Favorites

Build Variants

Layout Captures

Activity

Manifest

Java

Generated Java

Res

Gradle Scripts

activity_main.xml

MainActivity.java

Palette

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..."

Pixel 28 AppTheme Default (en-us) 33% Attributes

8dp

Create a connection above

Add the connections on all four sides in the layout configuration.

wrap_content

wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/TextAppearance

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

The screenshot shows the Android Studio interface with the project 'HelloAndroidWorld' open. The left sidebar displays the project structure, including the 'app' module with its sub-directories like 'manifests', 'java', and 'res'. The 'activity_main.xml' layout file is selected in the center stage. The layout editor shows a single 'TextView' containing the text 'Hello Android World'. A yellow callout box with the text 'Add the connections on all four sides in the layout configuration.' points to the bottom-right corner of the text view. Another yellow callout box with the text 'Create a connection above' points to the top edge of the text view. The right side of the screen shows the 'Attributes' panel for the selected 'helloTextView' component, listing various properties such as 'text' (set to 'Hello Android World'), 'textSize' (set to '36sp'), and 'fontFamily'. The bottom navigation bar includes tabs for 'Design' and 'Text', along with other standard Android Studio toolbars.

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res layout activity_main.xml

1:Project

Resource Manager

2:Structure

2:Favorites

Build Variants

Layout Captures

Activity

Manifest

Java

edu.udayton.helloandroidworld

MainActivity

edu.udayton.helloandroidworld (androidTest)

edu.udayton.helloandroidworld (test)

generatedJava

res

Gradle Scripts

activity_main.xml

MainActivity.java

Attributes

Ab helloTextView

id helloTextView

Declared Attributes

Layout

341

341

Create a connection to the left

341

341

wrap_content

wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/TextAppearance

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

The screenshot shows the Android Studio interface with the project 'HelloAndroidWorld' open. The 'activity_main.xml' layout file is selected. The layout editor displays a ConstraintLayout containing a single TextView with the text 'Hello Android World'. The right side of the screen shows the 'Attributes' panel for this TextView, where the 'text' attribute is set to 'Hello Android World'. Other visible attributes include 'textSize' (36sp), 'textAppearance' (@android:style/TextAppearance), and 'fontFamily'. The 'Design' tab is selected at the bottom. The top navigation bar includes 'File', 'Edit', 'View', 'Navigate', 'Code', 'Analyze', 'Refactor', 'Build', 'Run', 'Tools', 'VCS', 'Window', and 'Help'.

HelloAndroidWorld [C:\Users\nbashias1\Documents\HelloAndroidWorld] - ...app\src\main\res\layout\activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

HelloAndroidWorld app src main res layout activity_main.xml

1:Project

Resource Manager

2:Structure

Favorites

Build Variants

Layout Captures

Activity

Manifest

Java

edu.udayton.helloandroidworld

MainActivity

edu.udayton.helloandroidworld (androidTest)

edu.udayton.helloandroidworld (test)

generatedJava

res

Gradle Scripts

activity_main.xml

MainActivity.java

Attributes

Ab helloTextView

id helloTextView

Declared Attributes

Layout

Component Tree

ConstraintLayout

Ab helloTextView- "Hello An..."

Pixel 28 AppTheme Default (en-us) 33% 8dp

Common Ab TextView

Text Button

Buttons ImageView

Widgets RecyclerView

Layouts <> <fragment>

Containers ScrollView

Google Switch

Legacy

341

341

45

45

Hello Android World

Create a connection below

341

341

45

45

Hello Android World

layout_width wrap_content

layout_height wrap_content

visibility

visibility

Common Attributes

text Hello Android World

text

contentDescription

textAppearance @android:style/TextAppearance

fontFamily

typeface

textSize 36sp

lineSpacingExtra

textColor @android:color/black

textStyle B I Tr

All Attributes

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (14 minutes ago)

The screenshot shows the Android Studio Layout Editor for the 'activity_main.xml' file. The left sidebar displays the project structure, with the 'app' module selected. The main editor area shows a ConstraintLayout containing two 'Hello Android World' TextViews. The left TextView is currently selected, indicated by a blue border and a blue outline. Its attributes are listed in the right-hand Attributes panel, including 'text' (Hello Android World), 'textSize' (36sp), and 'textColor' (@android:color/black). The right TextView is also present but not selected. The Attributes panel also shows other common attributes like 'layout_width' (wrap_content) and 'layout_height' (wrap_content). The bottom of the screen features a navigation bar with tabs for 'Design' and 'Text', and a status bar at the bottom indicating 'Syncing only active variant'. A tooltip 'Create a connection below' is visible near the bottom right.

