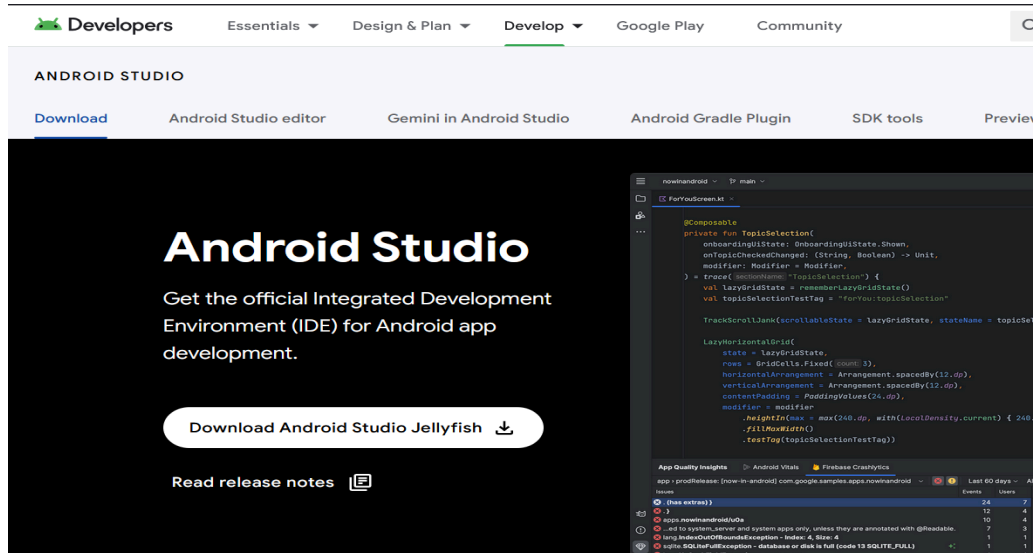


Android security

Aakash R
CB.SC.P2CYS23011

Lecture 1:

Installing android studio



1. Visit the official Android Studio download page: [Android Studio Download](#).
2. Click on "Download Android Studio" and follow the on-screen instructions to start the download.
3. Agree to the terms and conditions

Agreement available on the website where the SDK is made available.

14. General Legal Terms

14.1 The License Agreement constitutes the whole legal agreement between you and Google and governs your use of the SDK (excluding any services which Google may provide to you under a separate written agreement), and completely replaces any prior agreements between you and Google in relation to the SDK. 14.2 You agree that if Google does not exercise or enforce any legal right or remedy which is contained in the License Agreement (or which Google has the benefit of under any applicable law), this will not be taken to be a formal waiver of Google's rights and that those rights or remedies will still be available to Google. 14.3 If any court of law, having the jurisdiction to decide on this matter, rules that any provision of the License Agreement is invalid, then that provision will be removed from the License Agreement without affecting the rest of the License Agreement. The remaining provisions of the License Agreement will continue to be valid and enforceable. 14.4 You acknowledge and agree that each member of the group of companies of which Google is the parent shall be third party beneficiaries to the License Agreement and that such other companies shall be entitled to directly enforce, and rely upon, any provision of the License Agreement that confers a benefit on (or rights in favor of) them. Other than this, no other person or company shall be third party beneficiaries to the License Agreement. 14.5 EXPORT RESTRICTIONS. THE SDK IS SUBJECT TO UNITED STATES EXPORT LAWS AND REGULATIONS. YOU MUST COMPLY WITH ALL DOMESTIC AND INTERNATIONAL EXPORT LAWS AND REGULATIONS THAT APPLY TO THE SDK. THESE LAWS INCLUDE RESTRICTIONS ON DESTINATIONS, END USERS AND END USE. 14.6 The rights granted in the License Agreement may not be assigned or transferred by either you or Google without the prior written approval of the other party. Neither you nor Google shall be permitted to delegate their responsibilities or obligations under the License Agreement without the prior written approval of the other party. 14.7 The License Agreement, and your relationship with Google under the License Agreement, shall be governed by the laws of the State of California without regard to its conflict of laws provisions. You and Google agree to submit to the exclusive jurisdiction of the courts located within the county of Santa Clara, California to resolve any legal matter arising from the License Agreement. Notwithstanding this, you agree that Google shall still be allowed to apply for injunctive remedies (or an equivalent type of urgent legal relief) in any jurisdiction. July 27, 2021

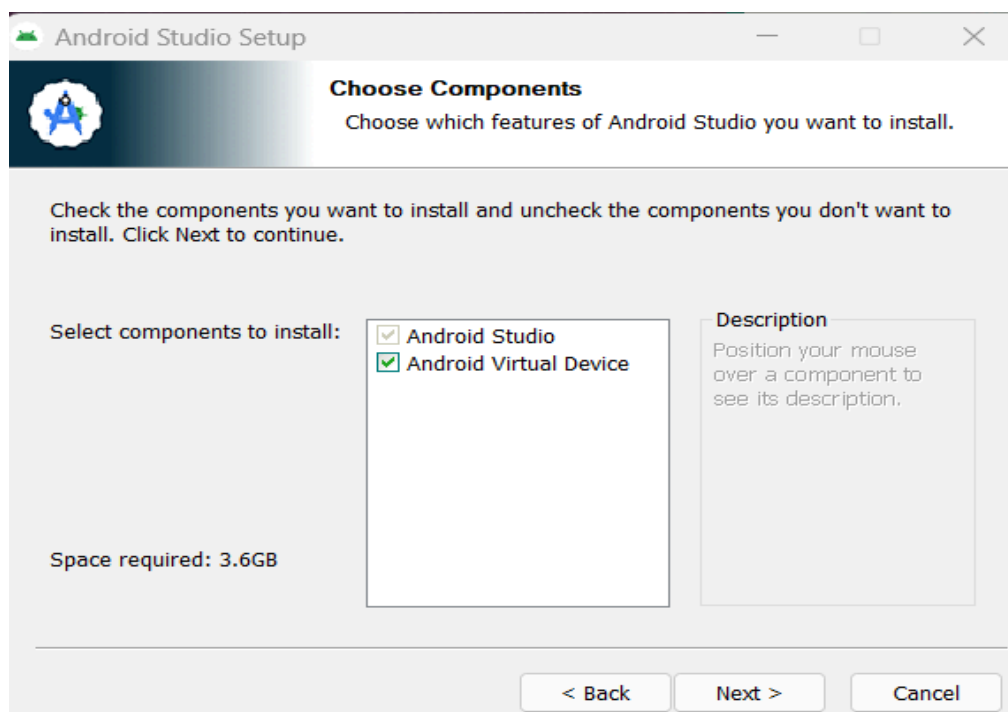
☐ I have read and agree with the above terms and conditions

Download Android Studio Jellyfish | 2023.3.1 Patch 1 for Windows

android-studio-2023.3.1.19-windows.exe

Install Android Studio

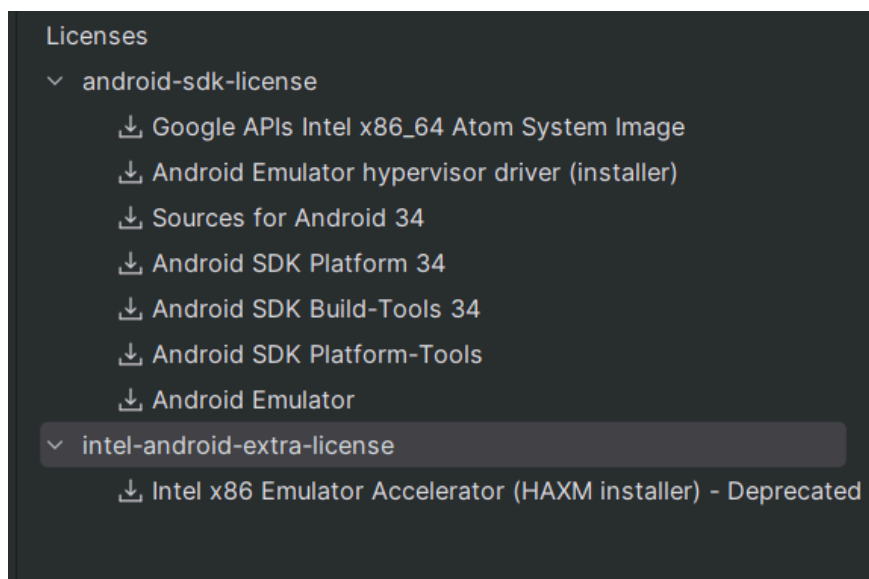
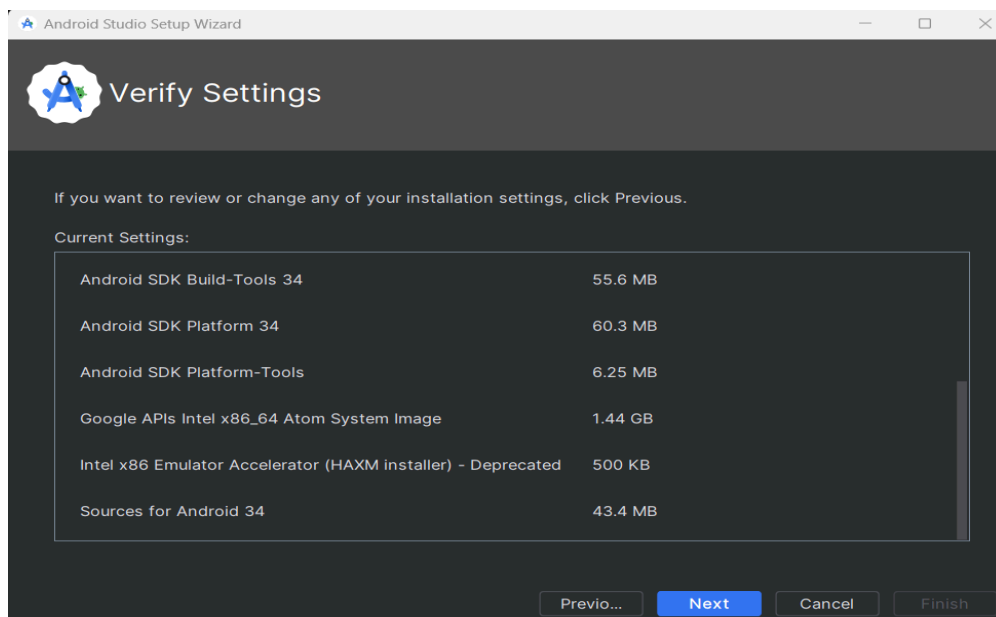
1. Locate the setup file and double-click to launch the installer.
2. Follow the setup wizard: Click "Next" to continue through each step of the installation process and to agree to the terms and conditions.
3. Choose the installation location (keep the default location).
4. Select components to install: By default, the Android Virtual Device (AVD) is selected, which you should keep.
5. Complete the installation by clicking "Install" and then "Finish" once the installation is done.

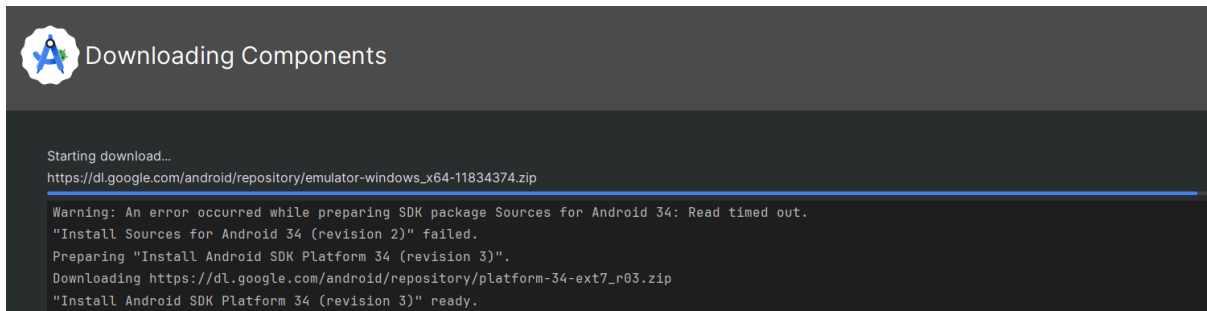


After this, verify the installation settings, and then click next.

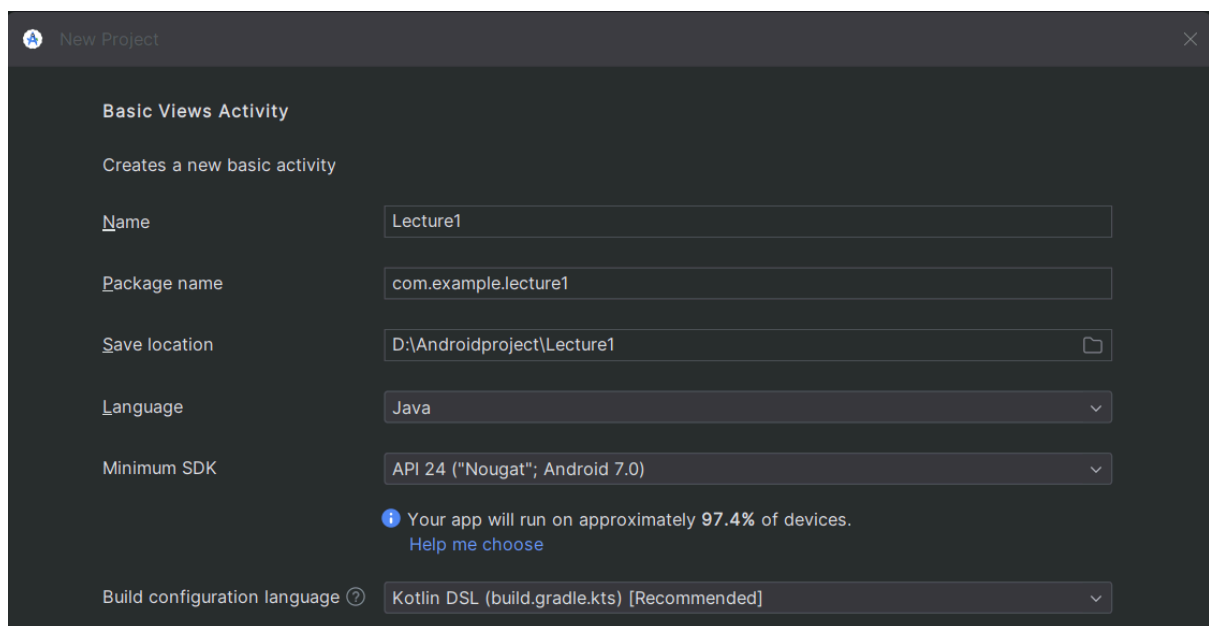
This will lead to the license agreement section where we must accept all of the license agreements.

Then the respective components will get downloaded.

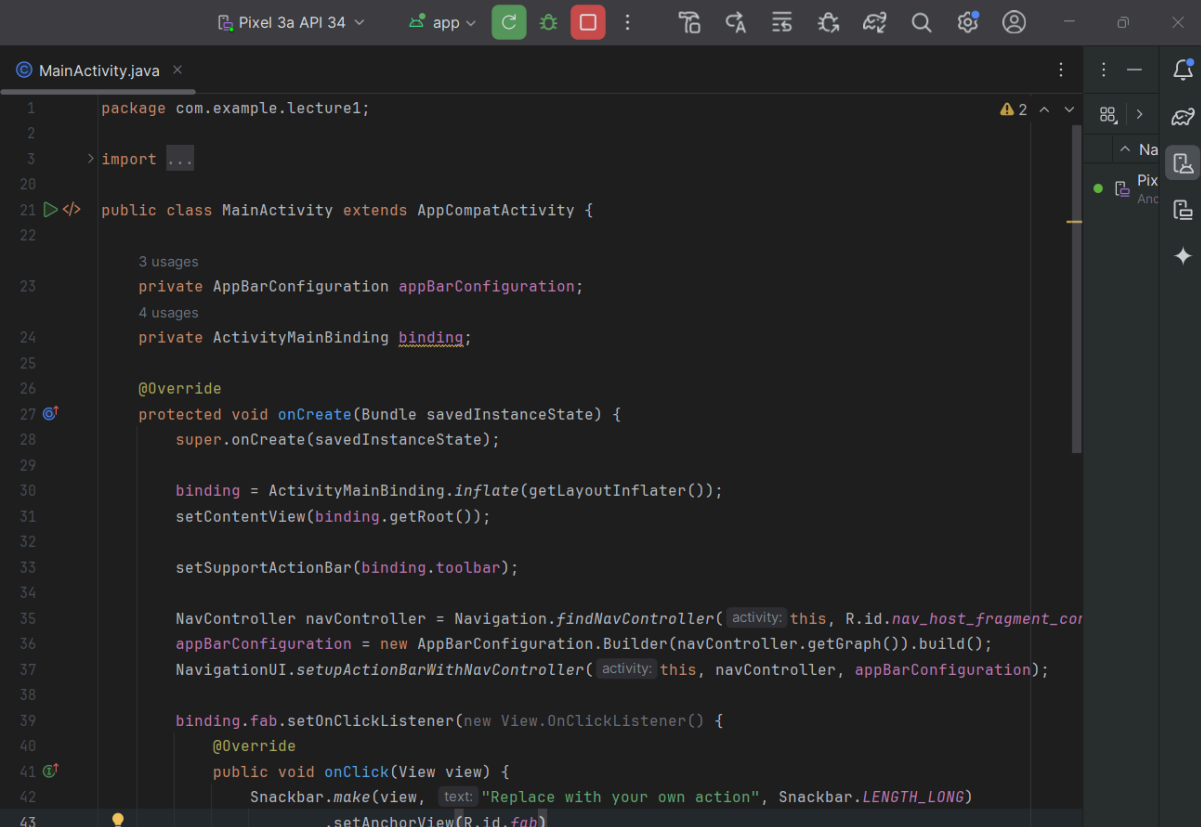




Enter the project details and click finish.



After clicking finish we get to see the below interface along with the respective java code.

A screenshot of the Android Studio IDE. The top toolbar shows various icons for running, debugging, and other development tasks. The main editor window displays the code for MainActivity.java. The code includes package declarations, imports, and the implementation of the MainActivity class, which extends AppCompatActivity. It features private variables for AppBarConfiguration and ActivityMainBinding, an @Override onCreate method, and a FloatingActionButton listener. The right sidebar shows the 'Na' (Navigation) and 'Pix' (Pixel) tabs. The bottom status bar shows a yellow warning icon.

```
1 package com.example.lecture1;
2
3 > import ...
20
21 <> public class MainActivity extends AppCompatActivity {
22
23     3 usages
24     private AppBarConfiguration appBarConfiguration;
25     4 usages
26     private ActivityMainBinding binding;
27
28     @Override
29     protected void onCreate(Bundle savedInstanceState) {
30         super.onCreate(savedInstanceState);
31
32         binding = ActivityMainBinding.inflate(getLayoutInflater());
33         setContentView(binding.getRoot());
34
35         setSupportActionBar(binding.toolbar);
36
37         NavController navController = Navigation.findNavController( activity: this, R.id.nav_host_fragment_cor
38         appBarConfiguration = new AppBarConfiguration.Builder(navController.getGraph()).build();
39         NavigationUI.setupActionBarWithNavController( activity: this, navController, appBarConfiguration);
40
41         binding.fab.setOnClickListener(new View.OnClickListener() {
42             @Override
43             public void onClick(View view) {
44                 Snackbar.make(view, text: "Replace with your own action", Snackbar.LENGTH_LONG)
45                 .setAnchorView(R.id.fab)
```

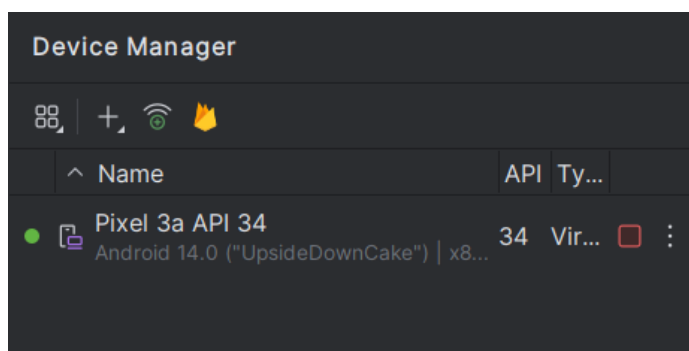
Then we must add the environment variables in the format variable name and variable value.


```

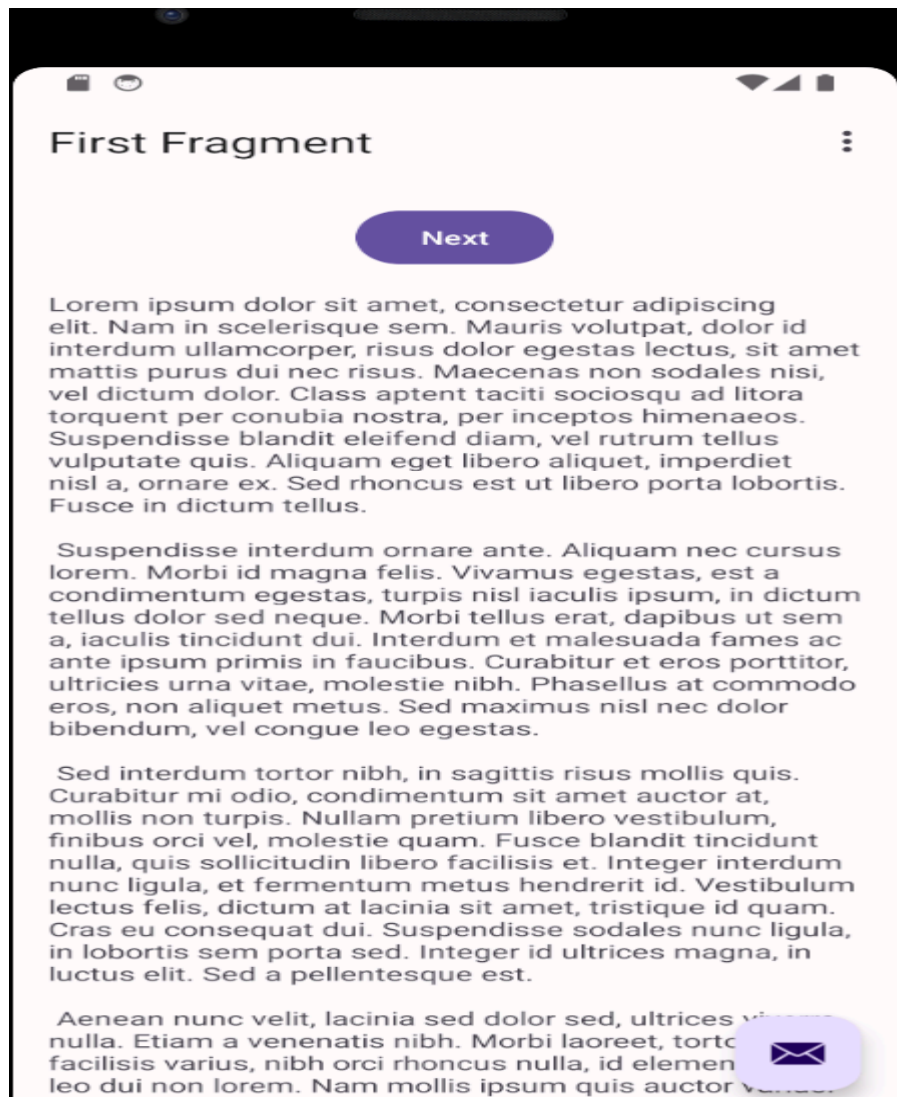
C:\WINDOWS\system32\cmd.exe - emulator -avd Pixel_3a_API_34
WARNING | Emulator does not support more than 6 cores. Number of cores set to 6
INFO | Critical:
INFO | Warning:
library_mode host gpu mode host
INFO | Warning: (6x)
INFO | Initializing hardware OpenGL ES emulation support
android_startOpenglesRenderer: gpu infoGPU #1
  Make: 10de
  Model: NVIDIA GeForce RTX 3060 Laptop GPU
  Device ID: 2520
I0522 21:16:00.791040 31740 HealthMonitor.cpp:279] HealthMonitor disabled.
added library vulkan-1.dll
createGlobalVkEmulation:995 Selecting Vulkan device: NVIDIA GeForce RTX 3060 Laptop GPU
initialize: Supports id properties, got a vulkan device UUID
I0522 21:16:01.187366 31740 VkCommonOperations.cpp:1276] Initializing VkEmulation features:
I0522 21:16:01.187593 31740 VkCommonOperations.cpp:1277]   glInteropSupported: true
I0522 21:16:01.188049 31740 VkCommonOperations.cpp:1278]   useDeferredCommands: true
I0522 21:16:01.189057 31740 VkCommonOperations.cpp:1280]   createResourceWithRequirements: true
I0522 21:16:01.189279 31740 VkCommonOperations.cpp:1281]   useVulkanComposition: false
I0522 21:16:01.189627 31740 VkCommonOperations.cpp:1282]   useVulkanNativeSwapchain: false
I0522 21:16:01.189916 31740 VkCommonOperations.cpp:1283]   enable guestRenderDoc: false
I0522 21:16:01.190576 31740 VkCommonOperations.cpp:1284]   ASTC LDR emulation mode: 2
I0522 21:16:01.190850 31740 VkCommonOperations.cpp:1285]   enable ETC2 emulation: true
I0522 21:16:01.191106 31740 VkCommonOperations.cpp:1286]   enable Ycbcr emulation: false
I0522 21:16:01.191396 31740 VkCommonOperations.cpp:1287]   guestUsesAngle: false
I0522 21:16:01.191723 31740 VkCommonOperations.cpp:1288]   useDedicatedAllocations: false
I0522 21:16:01.193570 31740 FrameBuffer.cpp:506] Graphics Adapter Vendor Google (NVIDIA Corporation)
I0522 21:16:01.193642 31740 FrameBuffer.cpp:507] Graphics Adapter Android Emulator OpenGL ES Translator (NVIDIA GeForce RTX 3060 Laptop GPU/PCIe/SSE2)
I0522 21:16:01.193969 31740 FrameBuffer.cpp:508] Graphics API Version OpenGL ES 3.0 (4.5.0 NVIDIA 555.85)

```

After entering the command click 'play' to start the device.

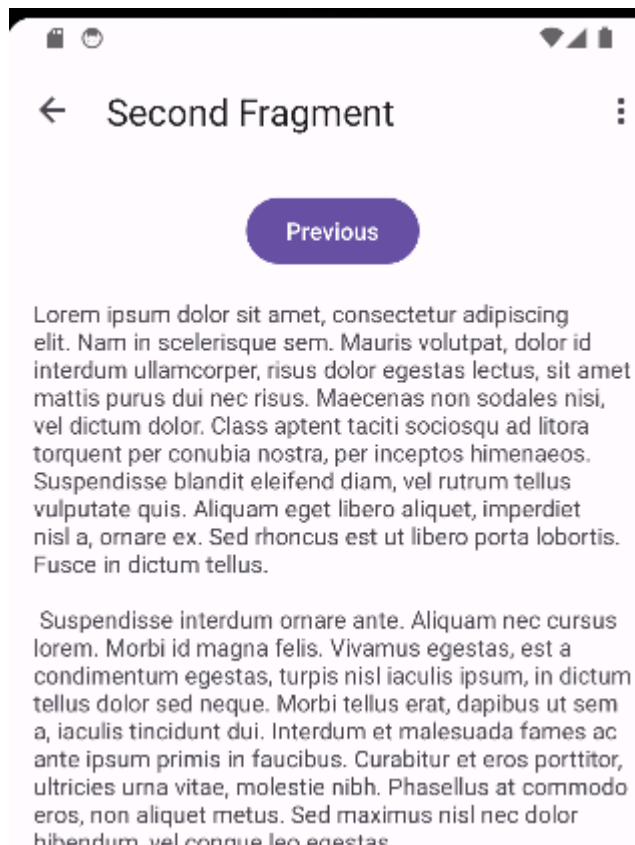


We get to see the below figure.

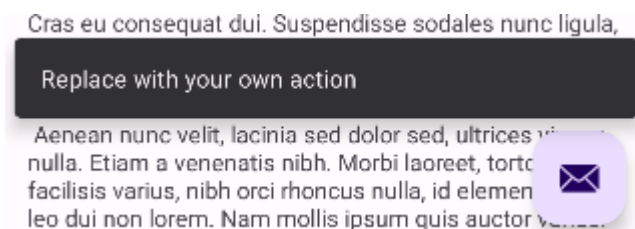


Now let us explore the device by clicking the buttons.

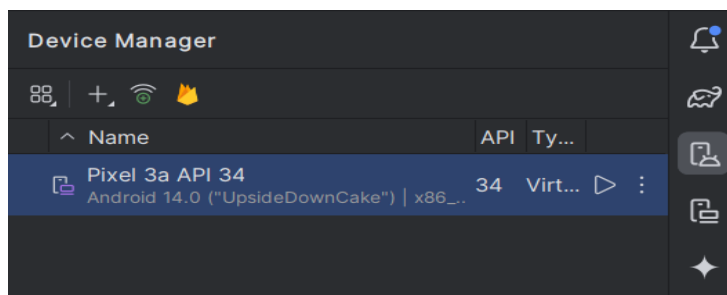
On clicking 'next' button in the main activity the content moves to the second fragment.



On clicking the mail button the following message is displayed.




In order to add a new device and test its functionality, then click > device manager > + > add virtual device.



Then choose the appropriate hardware settings and configurations as displayed below.



Then select a system image.

System Image

Select a system image

Recommendedx86 ImagesOther Images

Release Name	API Level	ABI	Target
VanillalceCream	VanillalceCream	x86_64	Android API VanillalceCream (Google Play)
UpsideDownCakePrivacySandbox	UpsideDownCake	x86_64	Android API UpsideDownCakePrivacySandbox (Google Play)
TiramisuPrivacySandbox	TiramisuPrivacySandbox	x86_64	Android 14.0 (Google Play)
UpsideDownCake	34	x86_64	Android 14.0 (Google Play)
Tiramisu	33	x86_64	Android 13.0 (Google Play)
Sv2	32	x86_64	Android 12L (Google Play)
S	31	x86_64	Android 12.0 (Google Play)
R	30	x86	Android 11.0 (Google Play)
Q	29	x86	Android 10.0 (Google Play)

R

API Level

30

Type

Google Play

Android

11.0

Google Inc.

System Image

x86

We recommend these Google Play images because your device is compatible with Google Play.

⚠ A system image must be selected to continue.

?

PreviousNextCancel