

Setoran:

File Laporan Pengamatan: **PAM_LaporanPraktikum8_{NIM}.pdf**

Source Code: **PAM_SourceCode8_{NIM}.zip**







Persiapan Praktikum:

1. Praktikum

Buatlah proyek Android baru, sebagai berikut:

Empty Views Activity

Creates a new empty activity

Name	<input type="text" value="PAM Praktikum 8"/>
Package name	<input type="text" value="com.ifs18005.pampraktikum8"/>
Save location	<input type="text" value="D:\android\PAMPraktikum8"/> 
Language	<input type="text" value="Kotlin"/> 
Minimum SDK	<input 7.0)"="" android="" nougat";="" type="text" value="API 24 ("/> 
<p> Your app will run on approximately 96.3% of devices. Help me choose</p>	
Build configuration language 	<input type="text" value="Kotlin DSL (build.gradle.kts) [Recommended]"/> 

2. Asset Praktikum

[Download Assets](#)

Latihan Praktikum:

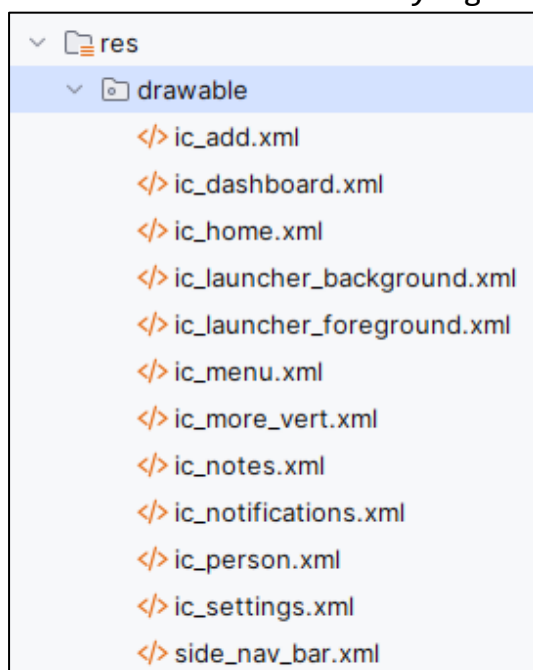
Praktikan, amati, pahami, dan jawab semua pertanyaan yang ada serta laporkan hasilnya pada laporan praktikum.

A. Android Dasar

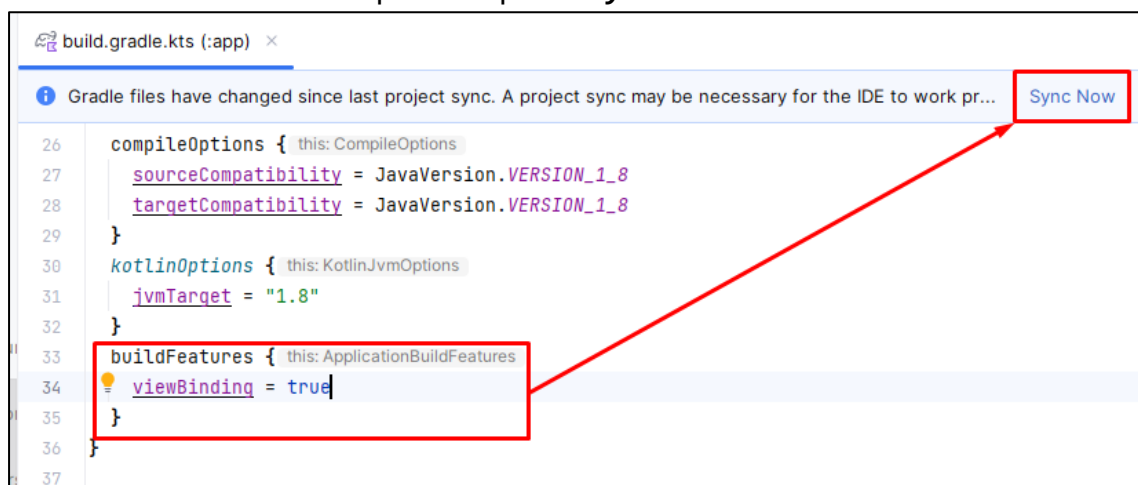
1. Navigation

Navigation adalah komponen antarmuka yang digunakan untuk menampilkan daftar menu agar memudahkan pengguna berpindah tampilan di Android.

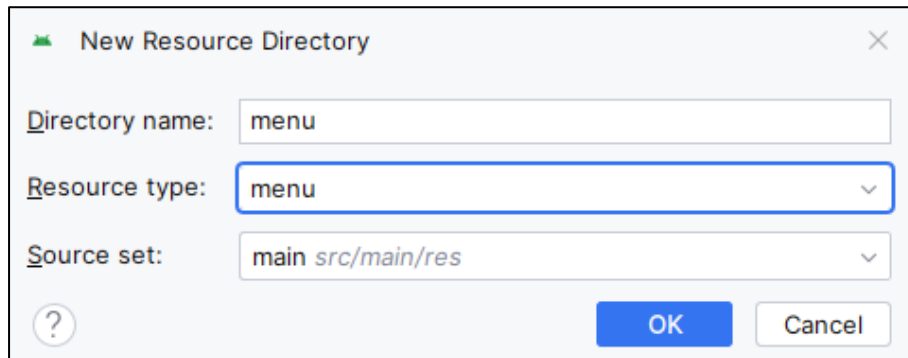
Tambahkan semua assets yang diperlukan ke folder "res/drawable".



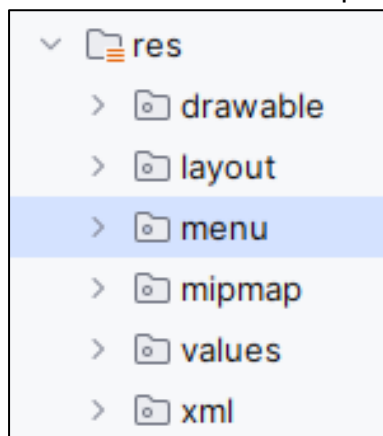
Pada "build.gradle.kts (:app)" silahkan menambahkan konfigurasi berikut. Setelah itu pilih opsi "Sync Now".



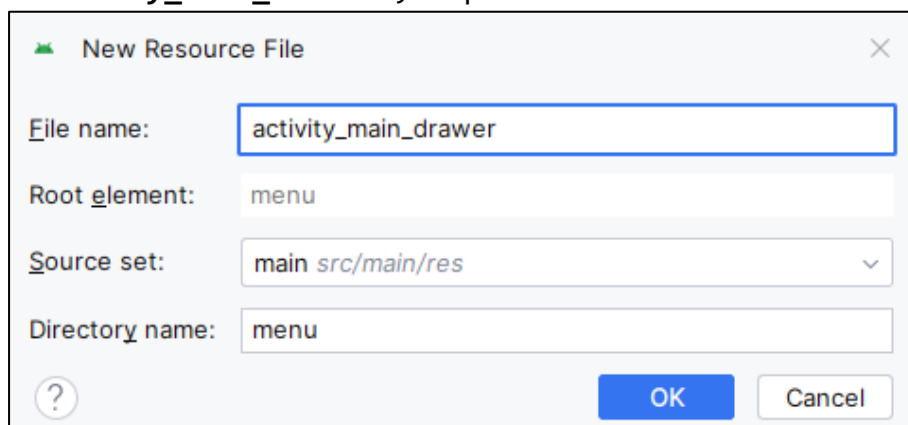
Silahkan membuat resource directory baru dengan nama “menu”, seperti berikut:



Jika berhasil maka pada folder “res” akan terdapat folder “menu”.



Buat resource file baru di folder “menu”, dengan nama “activity_main_drawer”, seperti berikut:



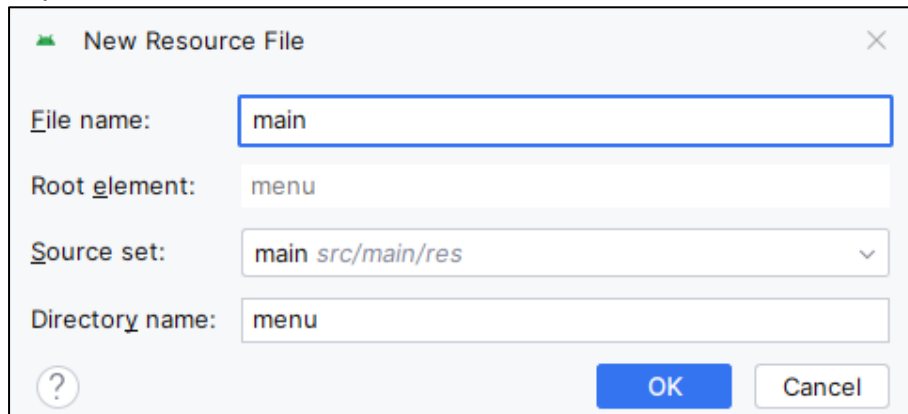
Modifikasi isi file “res/menu/activity_main_drawer.xml”, seperti berikut:

```
activity_main_drawer.xml
1 <?xml version="1.0" encoding="utf-8"?>
2 <menu
3   xmlns:android="http://schemas.android.com/apk/res/android"
```

activity_main_drawer.xml

```
4   xmlns:tools="http://schemas.android.com/tools"
5   tools:showIn="navigation_view">
6
7   <group android:checkableBehavior="single">
8       <item
9           android:id="@+id/nav_home"
10          android:icon="@drawable/ic_home"
11          android:title="Home" />
12       <item
13           android:id="@+id/nav_profile"
14           android:icon="@drawable/ic_person"
15           android:title="Profile" />
16       <item
17           android:id="@+id/nav_notes"
18           android:icon="@drawable/ic_notes"
19           android:title="Notes" />
20   </group>
21 </menu>
```

Buat resource file baru di folder “menu”, dengan nama “main”, seperti berikut:



Modifikasi isi file “res/menu/main.xml”, seperti berikut:

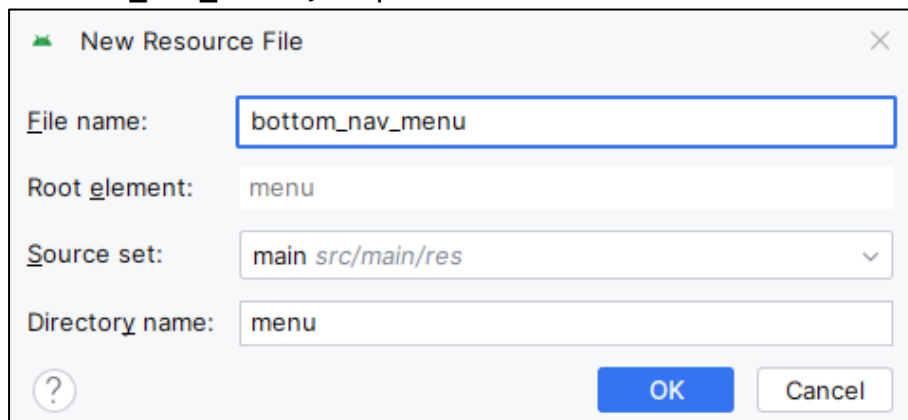
main.xml

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <menu xmlns:android="http://schemas.android.com/apk/res/android"
3        xmlns:app="http://schemas.android.com/apk/res-auto">
4      <item
5          android:id="@+id/action_add"
6          android:orderInCategory="100"
7          android:icon="@drawable/ic_add"
8          android:title="Add"
9          app:showAsAction="ifRoom" />
10
11     <item
12         android:id="@+id/action_settings"
13         android:orderInCategory="100"
```

main.xml

```
14     android:title="Settings"
15     app:showAsAction="never" />
16
17     <item
18         android:id="@+id/action_logout"
19         android:orderInCategory="100"
20         android:title="Logout"
21         app:showAsAction="never" />
22 </menu>
```

Buat resource file baru di folder “menu”, dengan nama “bottom_nav_menu”, seperti berikut:

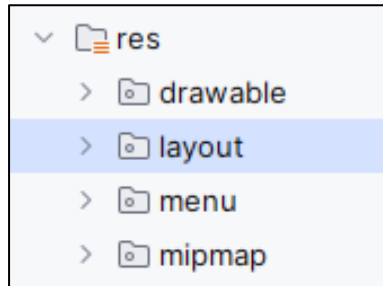


Modifikasi isi file “res/menu/bottom_nav_menu.xml”, seperti berikut:

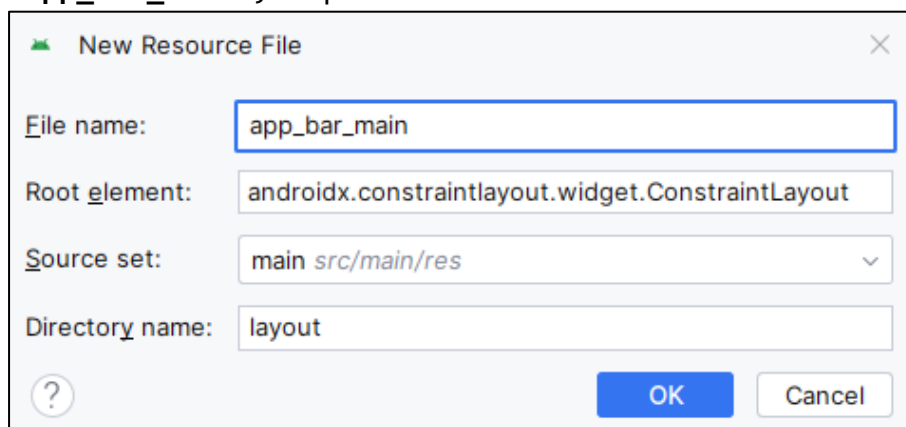
bottom_nav_menu.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <menu xmlns:android="http://schemas.android.com/apk/res/android">
3
4     <item
5         android:id="@+id/navigation_home"
6         android:icon="@drawable/ic_home"
7         android:title="Home" />
8
9     <item
10        android:id="@+id/navigation_dashboard"
11        android:icon="@drawable/ic_dashboard"
12        android:title="Dashboard" />
13
14    <item
15        android:id="@+id/navigation_notifications"
16        android:icon="@drawable/ic_notifications"
17        android:title="Notifications" />
18
19 </menu>
```

Selanjutnya kita akan membuat resource file baru pada folder “layout”.



Buat resource file baru di folder “layout”, dengan nama “app_bar_main”, seperti berikut:



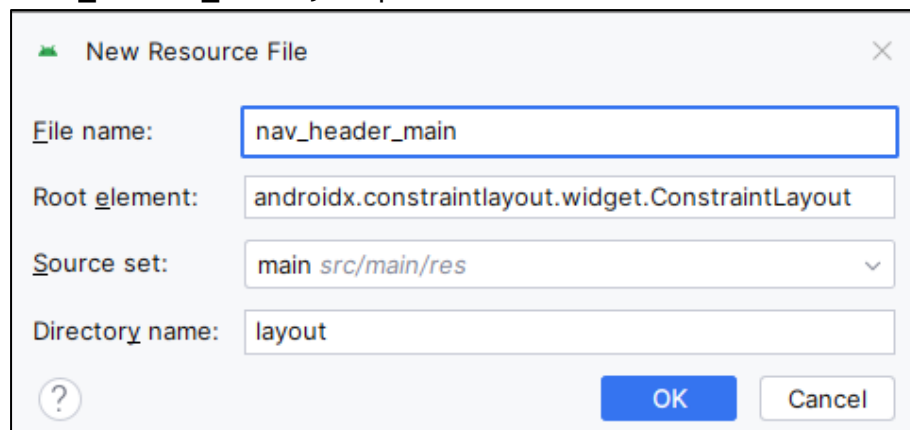
Modifikasi isi file “res/layout/app_bar_main.xml”, seperti berikut:

```
app_bar_main.xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <LinearLayout
3      xmlns:android="http://schemas.android.com/apk/res/android"
4      xmlns:app="http://schemas.android.com/apk/res-auto"
5      xmlns:tools="http://schemas.android.com/tools"
6      android:layout_width="match_parent"
7      android:layout_height="match_parent"
8      android:orientation="vertical"
9      tools:context=".MainActivity">
10
11      <com.google.android.material.appbar.AppBarLayout
12          android:id="@+id/appBarLayout"
13          android:layout_width="match_parent"
14          android:layout_height="wrap_content">
15
16          <androidx.appcompat.widget.Toolbar
17              android:id="@+id/toolbar"
18              android:layout_width="match_parent"
19              android:layout_height="?attr/actionBarSize"
20              android:background="@drawable/side_nav_bar"
21              app:titleTextColor="@color/white">
```

app_bar_main.xml

```
22         app:menu="@menu/main"
23         app:title="PAM Praktikum 8"
24         app:navigationIcon="@drawable/ic_menu"/>
25
26     </com.google.android.material.appbar.AppBarLayout>
27
28     <include
29         android:layout_width="match_parent"
30         android:layout_height="0dp"
31         android:layout_weight="1"
32         android:id="@+id/inContentMain"
33         layout="@layout/content_main" />
34
35     <com.google.android.material.bottomnavigation.BottomNavigationView
36         android:id="@+id/bottom_nav_view"
37         android:layout_width="match_parent"
38         android:layout_height="wrap_content"
39         android:background="@color/white"
40         app:itemPaddingTop="16dp"
41         app:itemPaddingBottom="16dp"
42         app:menu="@menu/bottom_nav_menu" />
43
44 </LinearLayout>
```

Buat resource file baru di folder “layout”, dengan nama “nav_header_main”, seperti berikut:



Modifikasi isi file “res/layout/nav_header_main.xml”, seperti berikut:

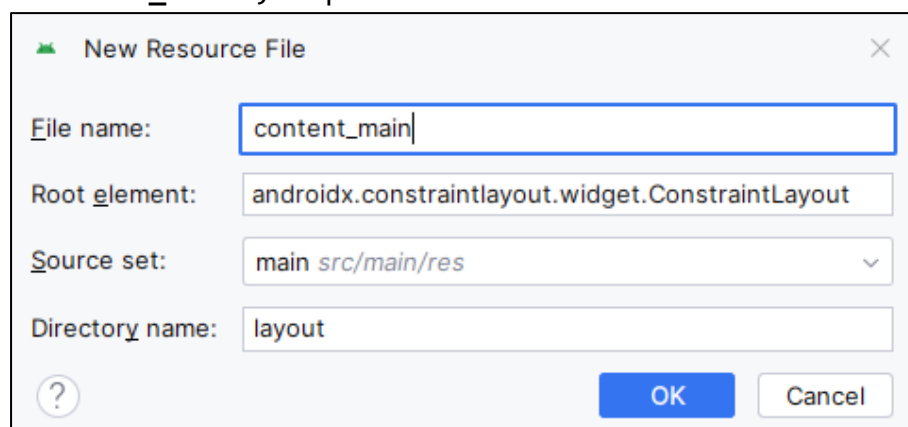
nav_header_main.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     xmlns:app="http://schemas.android.com/apk/res-auto"
5     android:layout_width="match_parent"
6     android:layout_height="176dp"
```

nav_header_main.xml

```
7   android:background="@drawable/side_nav_bar"
8   android:gravity="bottom"
9   android:orientation="vertical"
10  android:paddingLeft="16dp"
11  android:paddingTop="16dp"
12  android:paddingRight="16dp"
13  android:paddingBottom="16dp"
14  android:theme="@style/ThemeOverlay.AppCompat.Dark">
15
16  <ImageView
17      android:id="@+id/imageView"
18      android:layout_width="wrap_content"
19      android:layout_height="wrap_content"
20      android:contentDescription="Logo"
21      android:paddingTop="8dp"
22      app:srcCompat="@mipmap/ic_launcher_round" />
23
24  <TextView
25      android:layout_width="match_parent"
26      android:layout_height="wrap_content"
27      android:paddingTop="8dp"
28      android:text="PAM Praktikum 8"
29      android:textAppearance="@style/TextAppearance.AppCompat.Body1" />
30
31  <TextView
32      android:id="@+id/textView"
33      android:layout_width="wrap_content"
34      android:layout_height="wrap_content"
35      android:text="Navigation & Fragment" />
36
37  </LinearLayout>
```

Buat resource file baru di folder “layout”, dengan nama “content_main”, seperti berikut:



Modifikasi isi file “res/layout/content_main.xml”, seperti berikut:

```
content_main.xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.constraintlayout.widget.ConstraintLayout
3      xmlns:android="http://schemas.android.com/apk/res/android"
4      xmlns:app="http://schemas.android.com/apk/res-auto"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      android:orientation="vertical">
8
9      <TextView
10         android:id="@+id/tvMain"
11         android:layout_width="wrap_content"
12         android:layout_height="wrap_content"
13         android:layout_marginTop="32dp"
14         android:text="Home"
15         android:textSize="24sp"
16         app:layout_constraintEnd_toEndOf="parent"
17         app:layout_constraintStart_toStartOf="parent"
18         app:layout_constraintTop_toTopOf="parent" />
19
20 </androidx.constraintlayout.widget.ConstraintLayout>
```

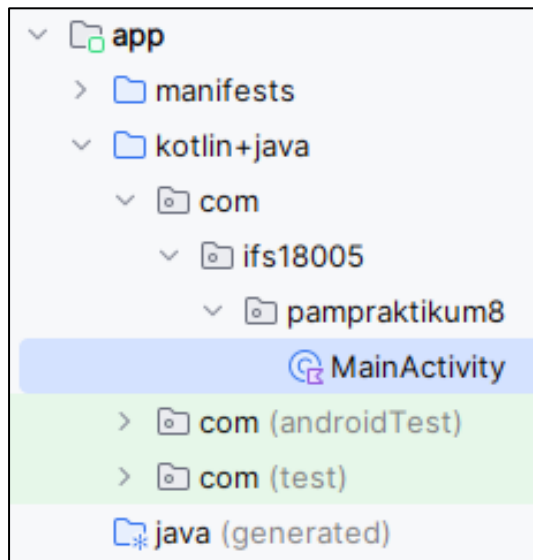
Modifikasi isi file “res/layout/activity_main.xml”, seperti berikut:

```
activity_main.xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.drawerlayout.widget.DrawerLayout
3      xmlns:android="http://schemas.android.com/apk/res/android"
4      xmlns:app="http://schemas.android.com/apk/res-auto"
5      xmlns:tools="http://schemas.android.com/tools"
6      android:id="@+id/drawer_layout"
7      android:layout_width="match_parent"
8      android:layout_height="match_parent"
9      android:fitsSystemWindows="true"
10     tools:openDrawer="start">
11
12     <include
13         android:id="@+id/in_app_bar"
14         layout="@layout/app_bar_main"
15         android:layout_width="match_parent"
16         android:layout_height="match_parent" />
17
18     <com.google.android.material.navigation.NavigationView
19         android:id="@+id/nav_view"
20         android:layout_width="wrap_content"
21         android:layout_height="match_parent"
22         android:layout_gravity="start"
23         android:fitsSystemWindows="true"
```

activity_main.xml

```
24     app:headerLayout="@layout/nav_header_main"
25     app:menu="@menu/activity_main_drawer" />
26
27 </androidx.drawerlayout.widget.DrawerLayout>
```

Silahkan membuka file “MainActivity.kt”, seperti berikut:



Modifikasi isi file “MainActivity.kt”, seperti berikut:

MainActivity.kt

```
1 import android.os.Bundle
2 import androidx.appcompat.app.AppCompatActivity
3 import androidx.core.content.ContextCompat
4 import androidx.core.view.GravityCompat
5
6 class MainActivity : AppCompatActivity() {
7     private lateinit var binding: ActivityMainBinding
8
9     override fun onCreate(savedInstanceState: Bundle?) {
10         super.onCreate(savedInstanceState)
11         binding = ActivityMainBinding.inflate(layoutInflater)
12         setContentView(binding.root)
13
14         setupAction()
15     }
16
17     private fun setupAction() {
18         binding.navView.setCheckedItem(R.id.nav_home)
19
20         binding.inAppBar.toolbar.overflowIcon =
21             ContextCompat.getDrawable(this, R.drawable.ic_more_vert)
22
23         binding.inAppBar.toolbar.setNavigationOnClickListener {
24             binding.drawerLayout.openDrawer(GravityCompat.START)
```

MainActivity.kt

```
25     }
26
27     binding.inAppBar.toolbar.setOnMenuItemClickListener { menuItem ->
28         when (menuItem.itemId) {
29             R.id.action_add -> {
30                 binding.inAppBar.inContentMain.tvMain.text = "Add"
31                 true
32             }
33
34             R.id.action_settings -> {
35                 binding.inAppBar.inContentMain.tvMain.text = "Settings"
36                 true
37             }
38
39             R.id.action_logout -> {
40                 binding.inAppBar.inContentMain.tvMain.text = "Logout"
41                 true
42             }
43
44             else -> true
45         }
46     }
47
48     binding.navView.setNavigationItemSelectedListener {
49         when (it.itemId) {
50             R.id.nav_home -> {
51                 binding.inAppBar.inContentMain.tvMain.text = "Home"
52                 binding.drawerLayout.closeDrawer(GravityCompat.START)
53                 true
54             }
55
56             R.id.nav_profile -> {
57                 binding.inAppBar.inContentMain.tvMain.text = "Profile"
58                 binding.drawerLayout.closeDrawer(GravityCompat.START)
59                 true
60             }
61
62             R.id.nav_notes -> {
63                 binding.inAppBar.inContentMain.tvMain.text = "Notes"
64                 binding.drawerLayout.closeDrawer(GravityCompat.START)
65                 true
66             }
67
68             else -> true
69         }
70     }
71
72     binding.inAppBar.bottomNavigationView.setOnItemSelectedListener {
73         when (it.itemId) {
74             R.id.navigation_home -> {
75                 binding.inAppBar.inContentMain.tvMain.text = "Home"
```

MainActivity.kt

```
76         true
77     }
78
79     R.id.navigation_dashboard -> {
80         binding.inAppBar.inContentMain.tvMain.text = "Dashboard"
81         true
82     }
83
84     R.id.navigation_notifications -> {
85         binding.inAppBar.inContentMain.tvMain.text = "Notifications"
86         true
87     }
88
89     else -> true
90 }
91 }
92 }
93 }
```

Berikut adalah tampilan saat aplikasi dijalankan, silahkan melakukan eksplorasi mandiri terkait fitur-fitur pada aplikasi.



2. Fragment

Fragment merupakan bagian dari antarmuka pengguna dalam aplikasi Android yang memungkinkan untuk menampilkan konten atau fungsi tertentu dalam satu layar yang dapat digunakan berulang kali di berbagai bagian aplikasi.

Modifikasi isi file “res/layout/content_main.xml”, seperti berikut:

content_main.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <FrameLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     android:id="@+id/frame_container"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent" />
```

Modifikasi isi file “MainActivity.kt”, seperti berikut:

MainActivity.kt

```
1 import android.os.Bundle
2 import androidx.appcompat.app.AppCompatActivity
3 import androidx.core.content.ContextCompat
4 import androidx.core.view.GravityCompat
5
6 class MainActivity : AppCompatActivity() {
7     private lateinit var binding: ActivityMainBinding
8
9     override fun onCreate(savedInstanceState: Bundle?) {
10         super.onCreate(savedInstanceState)
11         binding = ActivityMainBinding.inflate(layoutInflater)
12         setContentView(binding.root)
13
14         setupView()
15         setupAction()
16     }
17
18     private fun setupView() {
19         binding.navView.setCheckedItem(R.id.nav_home)
20
21         binding.inAppBar.toolbar.overflowIcon =
22             ContextCompat.getDrawable(this, R.drawable.ic_more_vert)
23
24         loadFragment(FLAG_FRAGMENT_HOME)
25     }
26
27     private fun setupAction() {
28         binding.inAppBar.toolbar.setNavigationOnClickListener {
29             binding.drawerLayout.openDrawer(GravityCompat.START)
30         }
31     }
```

MainActivity.kt

```
32     binding.inAppBar.toolbar.setOnMenuItemClickListener { menuItem ->
33         when (menuItem.itemId) {
34             R.id.action_add -> {
35                 loadFragment(FLAG_FRAGMENT_HOME, "Memilih menu Add!")
36                 true
37             }
38
39             R.id.action_settings -> {
40                 loadFragment(FLAG_FRAGMENT_HOME, "Memilih menu Settings!")
41                 true
42             }
43
44             R.id.action_logout -> {
45                 loadFragment(FLAG_FRAGMENT_HOME, "Memilih menu Logout!")
46                 true
47             }
48
49             else -> true
50         }
51     }
52
53     binding.navView.setNavigationItemSelectedListener {
54         when (it.itemId) {
55             R.id.nav_home -> {
56                 loadFragment(FLAG_FRAGMENT_HOME)
57                 binding.drawerLayout.closeDrawer(GravityCompat.START)
58                 true
59             }
60
61             R.id.nav_profile -> {
62                 loadFragment(FLAG_FRAGMENT_HOME, "Memilih menu Profile!")
63                 binding.drawerLayout.closeDrawer(GravityCompat.START)
64                 true
65             }
66
67             R.id.nav_notes -> {
68                 loadFragment(FLAG_FRAGMENT_HOME, "Memilih menu Notes!")
69                 binding.drawerLayout.closeDrawer(GravityCompat.START)
70                 true
71             }
72
73             else -> true
74         }
75     }
76
77     binding.inAppBar.bottomNavigationView.setOnItemSelectedListener {
78         when (it.itemId) {
79             R.id.navigation_home -> {
80                 loadFragment(FLAG_FRAGMENT_HOME)
81                 true
82             }
```

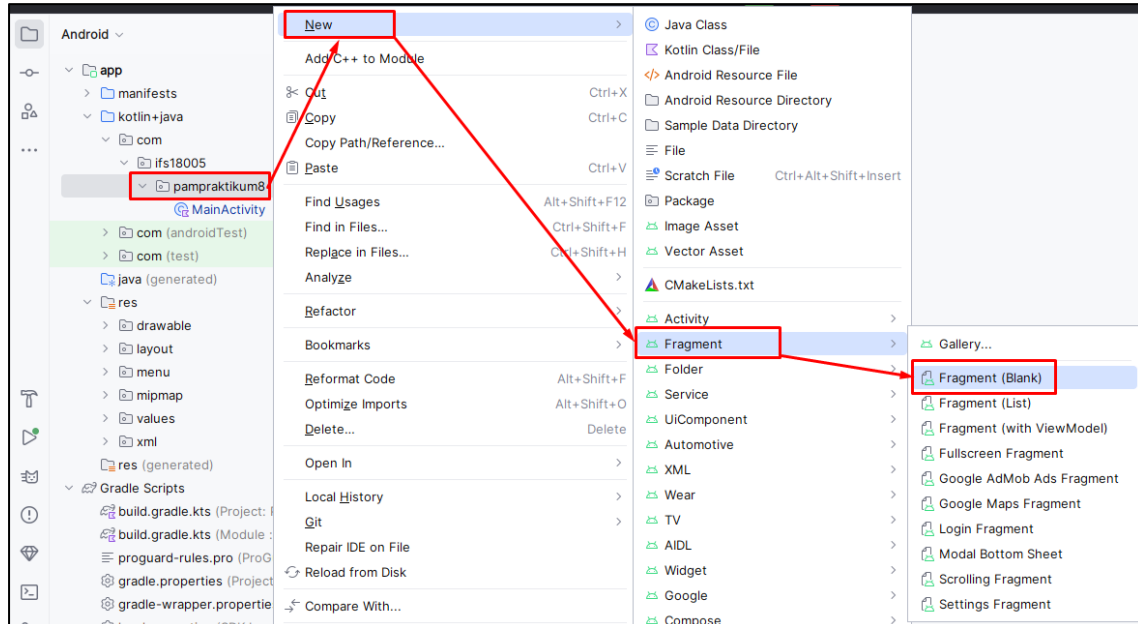
MainActivity.kt

```
83
84     R.id.navigation_dashboard -> {
85         loadFragment(FLAG_FRAGMENT_DASHBOARD)
86         true
87     }
88
89     R.id.navigation_notifications -> {
90         loadFragment(FLAG_FRAGMENT_NOTIFICATION)
91         true
92     }
93
94     else -> true
95 }
96 }
97 }
98
99 private fun loadFragment(flag: String, message: String? = null) {
100     val fragmentManager = supportFragmentManager
101     val fragmentContainerId =
102         binding.inAppBar.inContentMain.frameContainer.id
103
104     when (flag) {
105         FLAG_FRAGMENT_HOME -> {
106             binding.inAppBar.bottomNavigationView
107                 .menu
108                 .findItem(R.id.navigation_home)
109                 .setChecked(true)
110
111             val homeFragment = HomeFragment()
112
113             val bundle = Bundle().apply {
114                 this.putString(
115                     HomeFragment.EXTRA_MESSAGE,
116                     message ?: "Belum ada menu yang dipilih!"
117                 )
118             }
119             homeFragment.arguments = bundle
120
121             fragmentManager
122                 .beginTransaction()
123                 .replace(
124                     fragmentContainerId,
125                     homeFragment,
126                     HomeFragment::class.java.simpleName
127                 )
128                 .commit()
129         }
130
131         FLAG_FRAGMENT_DASHBOARD -> {
132             val dashboardFragment = DashboardFragment()
133             val fragment = fragmentManager
```

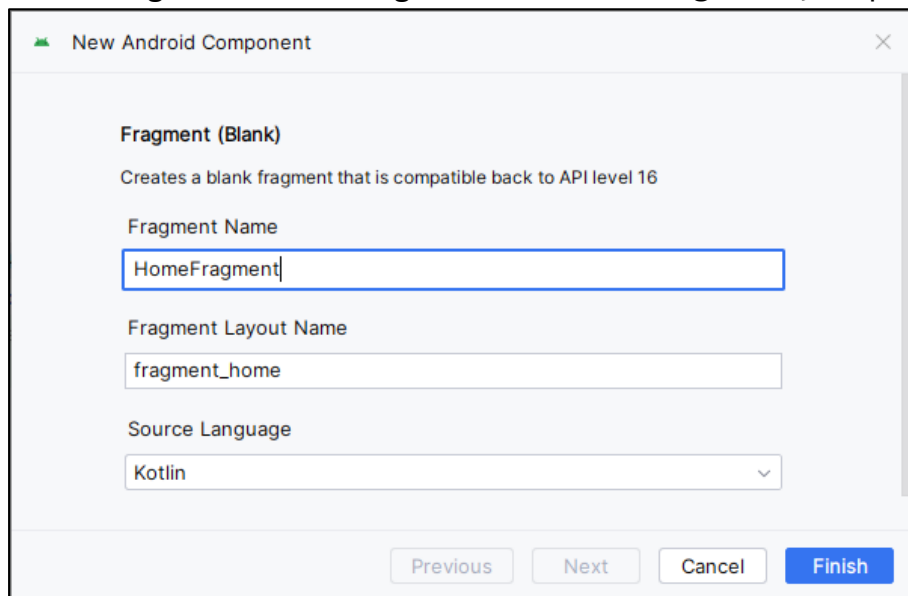
MainActivity.kt

```
134         .findFragmentByTag(DashboardFragment::class.java.simpleName)
135
136         if (fragment !is DashboardFragment) {
137             fragmentManager
138                 .beginTransaction()
139                 .replace(
140                     fragmentContainerId,
141                     dashboardFragment,
142                     DashboardFragment::class.java.simpleName
143                 )
144                 .commit()
145         }
146     }
147
148     FLAG_FRAGMENT_NOTIFICATION -> {
149         val notificationFragment = NotificationFragment()
150         val fragment = fragmentManager
151             .findFragmentByTag(NotificationFragment::class.java.simpleName)
152
153         if (fragment !is NotificationFragment) {
154             fragmentManager
155                 .beginTransaction()
156                 .replace(
157                     fragmentContainerId,
158                     notificationFragment,
159                     NotificationFragment::class.java.simpleName
160                 )
161                 .commit()
162         }
163     }
164 }
165
166 companion object {
167     const val FLAG_FRAGMENT_HOME = "fragment_home"
168     const val FLAG_FRAGMENT_DASHBOARD = "fragment_dashboard"
169     const val FLAG_FRAGMENT_NOTIFICATION = "fragment_notification"
170 }
171
172
173 }
```


Selanjutnya kita akan mempraktikkan pembuatan Fragment. Hal ini dapat dilakukan dengan klik kanan pada package proyek Android maka akan tampil context menu, selanjutnya pilih **New -> Fragment -> Fragment (Blank)**.



Buat Fragment baru dengan nama **"HomeFragment"**, seperti berikut:



Modifikasi isi file **"res/layout/fragment_home.xml"**, seperti berikut:

```
fragment_home.xml
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     xmlns:app="http://schemas.android.com/apk/res-auto"
```

fragment_home.xml

```
5   xmlns:tools="http://schemas.android.com/tools"
6   android:layout_width="match_parent"
7   android:layout_height="match_parent"
8   tools:context=".HomeFragment">
9
10  <TextView
11      android:id="@+id/tvFragmentHomeTitle"
12      android:layout_width="wrap_content"
13      android:layout_height="wrap_content"
14      android:layout_marginTop="16dp"
15      android:text="Fragment Home"
16      android:textSize="24sp"
17      app:layout_constraintEnd_toEndOf="parent"
18      app:layout_constraintStart_toStartOf="parent"
19      app:layout_constraintTop_toTopOf="parent" />
20
21  <TextView
22      android:id="@+id/tvFragmentHomeMessage"
23      android:layout_width="0dp"
24      android:layout_height="wrap_content"
25      android:layout_marginStart="16dp"
26      android:layout_marginTop="16dp"
27      android:layout_marginEnd="16dp"
28      android:gravity="center_horizontal"
29      android:text="{placeholder-message}"
30      app:layout_constraintEnd_toEndOf="parent"
31      app:layout_constraintStart_toStartOf="parent"
32      app:layout_constraintTop_toBottomOf="@+id/tvFragmentHomeTitle" />
33
34  </androidx.constraintlayout.widget.ConstraintLayout>
```

Modifikasi isi file “HomeFragment.kt”, seperti berikut:

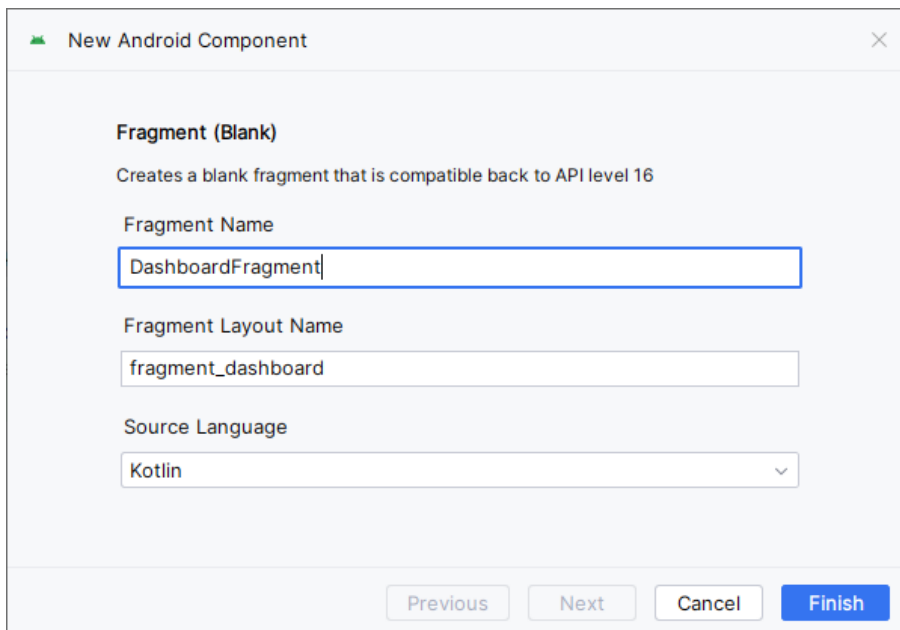
HomeFragment.kt

```
1   import android.os.Bundle
2   import android.view.LayoutInflater
3   import android.view.View
4   import android.view.ViewGroup
5   import androidx.fragment.app.Fragment
6
7   class HomeFragment : Fragment() {
8       private lateinit var binding: FragmentHomeBinding
9
10      override fun onCreateView(
11          inflater: LayoutInflater, container: ViewGroup?,
12          savedInstanceState: Bundle?
13      ): View? {
14          binding = FragmentHomeBinding
15              .inflate(inflater, container, false)
16          return binding.root
17      }
```

HomeFragment.kt

```
17     }
18
19     override fun onCreateView(view: View, savedInstanceState: Bundle?) {
20         super.onCreateView(view, savedInstanceState)
21
22         arguments?.let {
23             val message = it.getString(EXTRA_MESSAGE)
24             binding.tvFragmentHomeMessage.text = message
25         }
26     }
27
28     companion object {
29         const val EXTRA_MESSAGE = "extra_message"
30     }
31
32 }
```

Buat Fragment baru dengan nama "DashboardFragment", seperti berikut:



Modifikasi isi file "res/layout/fragment_dashboard.xml", seperti berikut:

fragment_dashboard.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     xmlns:app="http://schemas.android.com/apk/res-auto"
5     xmlns:tools="http://schemas.android.com/tools"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent"
8     tools:context=".DashboardFragment">
```

fragment_dashboard.xml

```
9
10 <TextView
11     android:id="@+id/tvFragmentDashboardTitle"
12     android:layout_width="wrap_content"
13     android:layout_height="wrap_content"
14     android:layout_marginTop="16dp"
15     android:text="Fragment Dashboard"
16     android:textSize="24sp"
17     app:layout_constraintEnd_toEndOf="parent"
18     app:layout_constraintStart_toStartOf="parent"
19     app:layout_constraintTop_toTopOf="parent" />
20
21 <com.google.android.material.search.SearchBar
22     android:id="@+id/sbFragmentDashboard"
23     android:layout_width="0dp"
24     android:layout_height="wrap_content"
25     android:layout_marginHorizontal="16dp"
26     android:hint="Saya ingin mencari..."
27     app:layout_constraintEnd_toEndOf="parent"
28     app:layout_constraintStart_toStartOf="parent"
29     app:layout_constraintTop_toBottomOf
30     ="@+id/tvFragmentDashboardTitle" />
31
32 <com.google.android.material.search.SearchView
33     android:id="@+id/svFragmentDashboard"
34     android:layout_width="0dp"
35     android:layout_height="0dp"
36     android:hint="Saya ingin mencari..."
37     app:layout_anchor="@id/sbFragmentDashboard"
38     app:layout_constraintBottom_toBottomOf="parent"
39     app:layout_constraintEnd_toEndOf="parent"
40     app:layout_constraintStart_toStartOf="parent"
41     app:layout_constraintTop_toTopOf="parent" />
42 </androidx.constraintlayout.widget.ConstraintLayout>
```

Modifikasi isi file “DashboardFragment.kt”, seperti berikut:

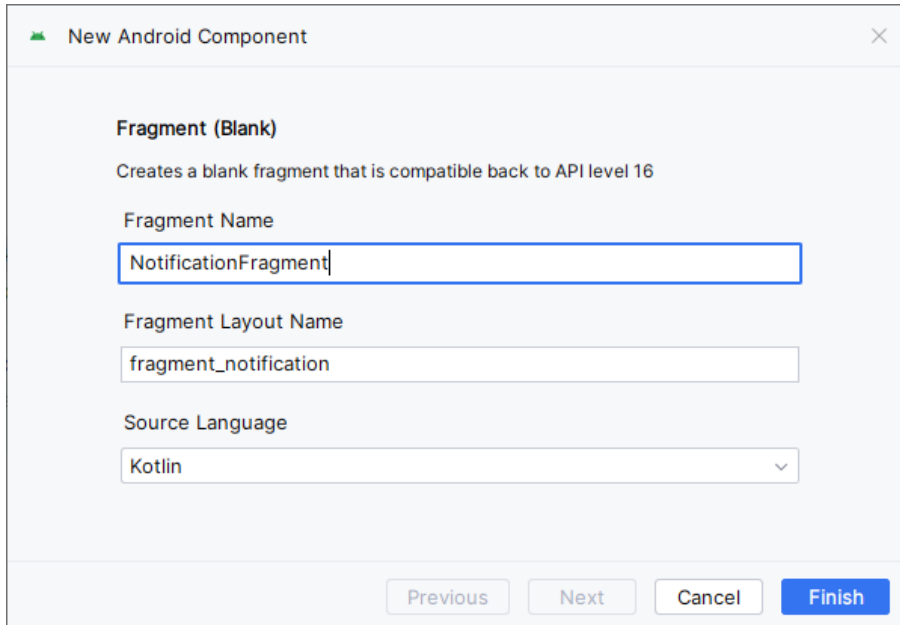
DashboardFragment.kt

```
1 import android.os.Bundle
2 import android.view.LayoutInflater
3 import android.view.View
4 import android.view.ViewGroup
5 import android.widget.Toast
6 import androidx.fragment.app.Fragment
7
8 class DashboardFragment : Fragment() {
9     private lateinit var binding: FragmentDashboardBinding
10    override fun onCreateView(
11        inflater: LayoutInflater, container: ViewGroup?,
```

DashboardFragment.kt

```
12     savedInstanceState: Bundle?
13 ): View? {
14     binding = FragmentDashboardBinding
15         .inflate(inflater, container, false)
16     return binding.root
17 }
18
19 override fun onCreateView(view: View, savedInstanceState: Bundle?) {
20     super.onCreateView(view, savedInstanceState)
21
22     binding.apply {
23         svFragmentDashboard.setupWithSearchBar(sbFragmentDashboard)
24         svFragmentDashboard
25             .editText
26             .setOnEditorActionListener { textView, actionId, event ->
27                 sbFragmentDashboard.setText(svFragmentDashboard.text)
28                 svFragmentDashboard.hide()
29
30                 val message =
31                     "Kamu mencari dengan keywords:\n${svFragmentDashboard.text}"
32
33                 Toast.makeText(
34                     requireContext(),
35                     message,
36                     Toast.LENGTH_LONG
37                 ).show()
38                 false
39             }
40     }
41
42 }
43 }
```

Buat Fragment baru dengan nama "NotificationFragment", seperti berikut:



Modifikasi isi file "res/layout/fragment_notification.xml", seperti berikut:

```
fragment_notification.xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.constraintlayout.widget.ConstraintLayout
3      xmlns:android="http://schemas.android.com/apk/res/android"
4      xmlns:app="http://schemas.android.com/apk/res-auto"
5      xmlns:tools="http://schemas.android.com/tools"
6      android:layout_width="match_parent"
7      android:layout_height="match_parent"
8      tools:context=".NotificationFragment">
9
10     <TextView
11         android:id="@+id/tvFragmentNotificationTitle"
12         android:layout_width="wrap_content"
13         android:layout_height="wrap_content"
14         android:layout_marginTop="16dp"
15         android:text="Fragment Notification"
16         android:textSize="24sp"
17         app:layout_constraintEnd_toEndOf="parent"
18         app:layout_constraintStart_toStartOf="parent"
19         app:layout_constraintTop_toTopOf="parent" />
20
21     <com.google.android.material.tabs.TabLayout
22         android:id="@+id/tabFragmentNotification"
23         android:layout_width="0dp"
24         android:layout_height="wrap_content"
25         android:layout_marginTop="16dp"
26         android:background="?attr/colorPrimary"
27         android:contentDescription="Tab Notifikasi"
```

fragment_notification.xml

```
28     app:layout_constraintEnd_toEndOf="parent"
29     app:layout_constraintStart_toStartOf="parent"
30     app:layout_constraintTop_toBottomOf
    ="@+id/tvFragmentNotificationTitle"
31     app:tabIndicatorAnimationMode="linear"
32     app:tabIndicatorColor="@color/white"
33     app:tabIndicatorFullWidth="true"
34     app:tabIndicatorHeight="3dp"
35     app:tabTextColor="@android:color/white" />
36
37     <androidx.viewpager2.widget.ViewPager2
38         android:id="@+id/vpFragmentNotification"
39         android:layout_width="match_parent"
40         android:layout_height="0dp"
41         app:layout_constraintBottom_toBottomOf="parent"
42         app:layout_constraintEnd_toEndOf="parent"
43         app:layout_constraintHorizontal_bias="0.0"
44         app:layout_constraintStart_toStartOf="parent"
45         app:layout_constraintTop_toBottomOf
    ="@+id/tabFragmentNotification" />
46
47 </androidx.constraintlayout.widget.ConstraintLayout>
```

Modifikasi isi file “NotificationFragment.kt”, seperti berikut:

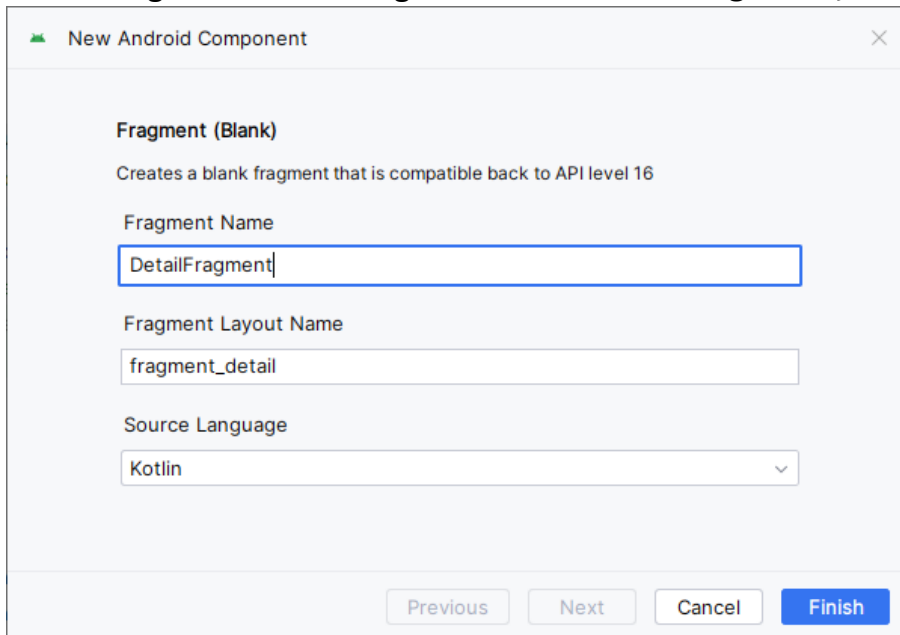
NotificationFragment.kt

```
1  import android.os.Bundle
2  import android.view.LayoutInflater
3  import android.view.View
4  import android.view.ViewGroup
5  import androidx.fragment.app.Fragment
6  import com.google.android.material.tabs.TabLayoutMediator
7
8  class NotificationFragment : Fragment() {
9      private lateinit var binding: FragmentNotificationBinding
10     override fun onCreateView(
11         inflater: LayoutInflater, container: ViewGroup?,
12         savedInstanceState: Bundle?
13     ): View? {
14         binding = FragmentNotificationBinding
15             .inflate(inflater, container, false)
16         return binding.root
17     }
18
19     override fun onViewCreated(view: View, savedInstanceState: Bundle?) {
20         super.onViewCreated(view, savedInstanceState)
21
22         val viewPager = binding.vpFragmentNotification
23         val pagerAdapter = NotificationPagerAdapter(requireActivity())
24         viewPager.adapter = pagerAdapter
```

NotificationFragment.kt

```
25     pagerAdapter.info1 = "Notifikasi Belum Dibaca"
26     pagerAdapter.info2 = "Notifikasi Sudah Dibaca"
27
28     val tabs = binding.tabFragmentNotification
29     TabLayoutMediator(tabs, viewPager) { tab, position ->
30         tab.text = TAB_TITLES[position]
31     }.attach()
32 }
33
34 companion object {
35     private val TAB_TITLES = arrayOf(
36         "Belum Dibaca",
37         "Sudah Dibaca",
38     )
39 }
40
41 }
```

Buat Fragment baru dengan nama **"DetailFragment"**, seperti berikut:



Modifikasi isi file **"res/layout/fragment_detail.xml"**, seperti berikut:

fragment_detail.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     xmlns:app="http://schemas.android.com/apk/res-auto"
5     xmlns:tools="http://schemas.android.com/tools"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent"
8     tools:context=".DetailFragment">
```


fragment_detail.xml

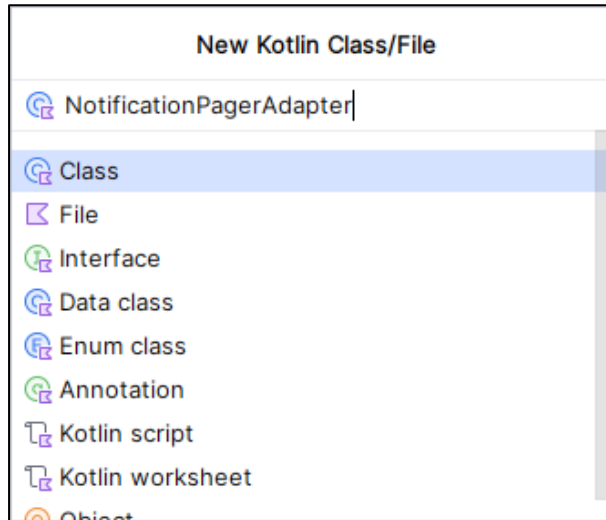
```
9
10 <TextView
11     android:id="@+id/tvFragmentDetail"
12     android:layout_width="wrap_content"
13     android:layout_height="wrap_content"
14     android:layout_marginTop="16dp"
15     android:text="{placeholder-info}"
16     android:textSize="16sp"
17     app:layout_constraintEnd_toEndOf="parent"
18     app:layout_constraintStart_toStartOf="parent"
19     app:layout_constraintTop_toTopOf="parent" />
20
21 </androidx.constraintlayout.widget.ConstraintLayout>
```

Modifikasi isi file “DetailFragment.kt”, seperti berikut:

DetailFragment.kt

```
1 import android.os.Bundle
2 import android.view.LayoutInflater
3 import android.view.View
4 import android.view.ViewGroup
5 import androidx.fragment.app.Fragment
6
7 class DetailFragment : Fragment() {
8     private lateinit var binding: FragmentDetailBinding
9
10    override fun onCreateView(
11        inflater: LayoutInflater, container: ViewGroup?,
12        savedInstanceState: Bundle?
13    ): View? {
14        binding = FragmentDetailBinding
15            .inflate(inflater, container, false)
16        return binding.root
17    }
18
19    override fun onViewCreated(view: View, savedInstanceState: Bundle?) {
20        super.onViewCreated(view, savedInstanceState)
21
22        arguments?.let {
23            val info = it.getString(EXTRA_INFO)
24            binding.tvFragmentDetail.text = info
25        }
26    }
27
28    companion object {
29        const val EXTRA_INFO = "extra_info"
30    }
31 }
```

Buat kelas kotlin baru dengan nama "NotificationPagerAdapter", seperti berikut:



Modifikasi isi file "NotificationPagerAdapter.kt", seperti berikut:

```
NotificationPagerAdapter.kt
1  import android.os.Bundle
2  import androidx.fragment.app.Fragment
3  import androidx.fragment.app.FragmentActivity
4  import androidx.viewpager2.adapter.FragmentStateAdapter
5
6  class NotificationPagerAdapter(activity: FragmentActivity) :
7      FragmentStateAdapter(activity) {
8
9      var info1 = ""
10     var info2 = ""
11
12     override fun createFragment(position: Int): Fragment {
13         val fragment = DetailFragment()
14         fragment.arguments = Bundle().apply {
15             when (position) {
16                 0 -> putString(DetailFragment.EXTRA_INFO, info1)
17                 1 -> putString(DetailFragment.EXTRA_INFO, info2)
18             }
19         }
20         return fragment
21     }
22
23     override fun getItemCount(): Int {
24         return 2
25     }
26 }
```

Silahkan jalankan aplikasi dan eksplorasi secara mandiri terkait fitur-fitur yang terdapat pada aplikasi.

Tantangan Praktikum:

Tantangan praktikum berisikan studi kasus yang perlu untuk diselesaikan permasalahannya agar melatih pemahaman yang telah diperoleh dari latihan praktikum.

1. Duplikat Aplikasi

Silahkan memilih aplikasi sesuai keinginan kamu kemudian duplikasi tampilannya untuk menambah wawasan kamu terkait penggunaan Navigation & Fragment. Aplikasi yang diduplikasi tampilannya harus mampu menerapkan minimal dua Navigation dan Fragment yang telah dipelajari.

Rekomendasi Aplikasi:

a) Whatsapp

Komponen: App Bar, Tabs, Fragment, Recycle View, Scrool View, Floating Button, dll.

b) Instagram

Komponen: App Bar, Bottom Navigation, Fragment, Recycle View, Scrool View, dll.

c) Gmail

Komponen: Search Bar, Bottom Navigation, Navigation Drawer, Fragment, Recycle View, Floating Button, dll.

d) LinkedIn

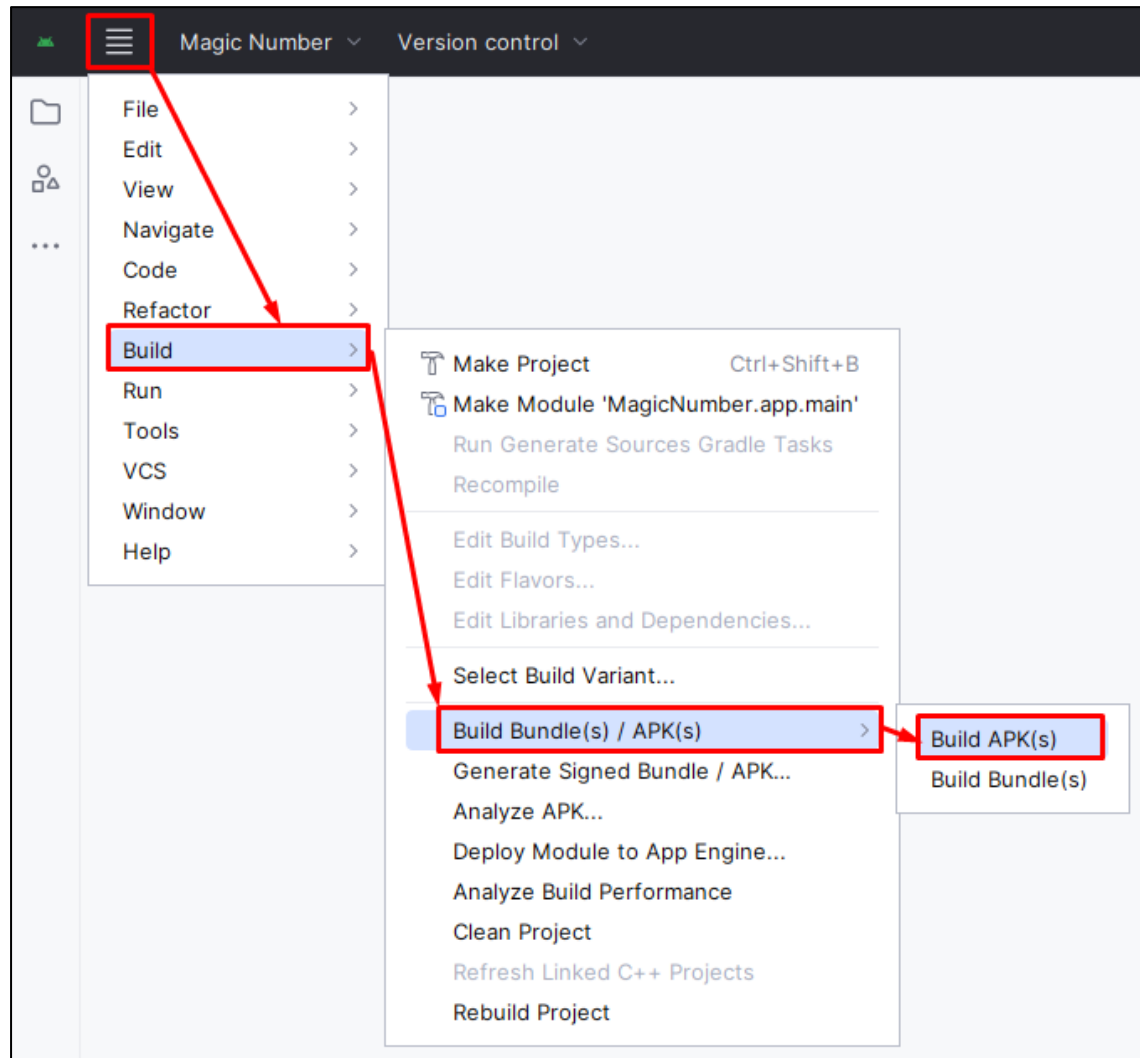
Komponen: Search Bar, Bottom Navigation, Navigation Darawer, Fragment, Recycle View, Tabs, Floating Button, dll.

e) Play Store

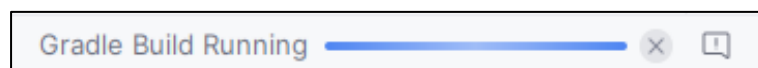
Komponen: Search Bar, Tabs, Bottom Navigation, Recycle View, Fragment, Scrool View, dll.

Artefak Proyek:

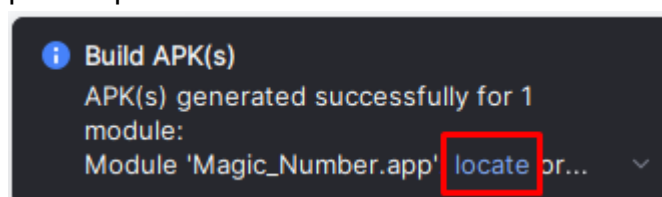
Setelah proyek selesai dibuat silahkan build aplikasi dengan memilih ikon Menu, selanjutnya pilih menu **`Build > Build Bundle(s) / APK(s) > Build APK(s)`**.



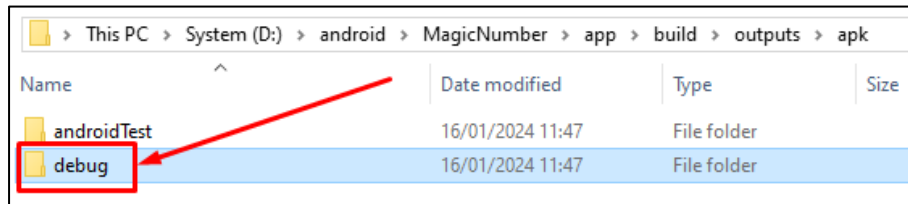
Kamu dapat melihat indikator build aplikasi Android di sudut kanan bawah.



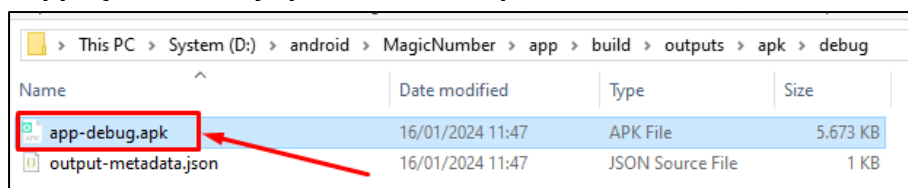
Setelah proses build selesai akan tampil Toast Message. Silahkan pilih pada menu **`locate`**.



Akan tampil Windows Explorer. Selanjutnya pilih pada folder `debug`.



Didalam folder `debug` akan terdapat file `.apk`. Silahkan upload file tersebut ke Google Drive, kemudian kumpulkan share linknya ke submission Delcom. Jangan lupa mengubah nama aplikasi menjadi `app-{username}-praktikum6.apk`.



Untuk file zip yang dikumpulkan di ecourse, silahkan export melalui Android Studio. Caranya silahkan pilih ikon menu pada Android Studio, selanjutnya pilih menu `File > Export > Export to Zip File...`. Hal ini perlu dilakukan untuk membuat ukuran arsip proyek menjadi lebih kecil.

