

**LAPORAN PRAKTIKUM  
PEMROGRAMAN MOBILE  
MODUL 4**



**ANDROID LAYOUT**

**Oleh:**

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**LEMBAR PENGESAHAN**  
**LAPORAN PRAKTIKUM PEMROGRAMAN I**  
**MODUL 4**

Laporan Praktikum Pemrograman Mobile Modul 4: Android Layout ini disusun sebagai syarat lulus mata kuliah Praktikum Pemrograman Mobile. Laporan Praktikum ini dikerjakan oleh:

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## SOAL 1

**Buatlah sebuah aplikasi Android sederhana dengan spesifikasi sebagai berikut:**

1. Tema aplikasi disesuaikan dengan NIM mahasiswa masing-masing:
  - NIM dengan akhiran 0/1: Class dan Object dengan Tema **Pekerjaan**
  - NIM dengan akhiran 2/3: Class dan Object dengan Tema **Otomotif**
  - NIM dengan akhiran 4/5: Class dan Object dengan Tema **Olahraga**
  - NIM dengan akhiran 6/7: Class dan Object dengan Tema **Hewan**
  - NIM dengan akhiran 8/9: Class dan Object dengan Tema **Teknologi**
2. Aplikasi tersebut memiliki elemen berikut:
  - Activity
  - Fragment
  - Intent
  - Navigation Drawer
  - Options Menu
  - RecyclerView
3. Tampilan awal aplikasi menampilkan TextView dan ImageView dengan ucapan selamat datang (format bebas)
4. Menu Navigasi memiliki minimal 3 buah menu yang masing-masing menu dapat menampilkan Fragment yang berisi RecyclerView yang berbeda-beda sesuai dengan tema yang telah ditentukan

5. Data yang digunakan untuk masing-masing RecyclerView dapat menggunakan data statis berupa List.
6. Item pada RecyclerView dapat diklik untuk menampilkan data yang telah dipilih oleh user
7. Aplikasi juga memiliki Options Menu yang dapat membuka halaman Settings untuk mengubah bahasa yang digunakan (*locale*) menjadi Bahasa Inggris atau Bahasa Indonesia
8. Perubahan bahasa dapat diperlihatkan pada tampilan halaman selamat datang dan menu yang berubah sesuai Bahasa yang dipilih oleh user pada menu Setting

## A. Source Code

### Mainactivity.kt

```
1 package com.example.praktikum4
2
3 import android.content.Intent
4 import android.os.Bundle
5 import android.view.Menu
6 import android.view.MenuItem
7 import com.google.android.material.snackbar.Snackbar
8 import com.google.android.material.navigation.NavigationView
9 import androidx.navigation.findNavController
10 import androidx.navigation.ui.AppBarConfiguration
11 import androidx.navigation.ui.navigateUp
12 import androidx.navigation.ui.setupActionBarWithNavController
13 import androidx.navigation.ui.setupWithNavController
14 import androidx.drawerlayout.widget.DrawerLayout
15 import androidx.appcompat.app.AppCompatActivity
16 import com.example.praktikum4.databinding.ActivityMainBinding
17
18 class MainActivity : AppCompatActivity() {
19
20     private lateinit var appBarConfiguration: AppBarConfiguration
21     private lateinit var binding: ActivityMainBinding
22
23     override fun onCreate(savedInstanceState: Bundle?) {
24         super.onCreate(savedInstanceState)
25         binding = ActivityMainBinding.inflate(layoutInflater)
26         setContentView(binding.root)
27         setSupportActionBar(binding.appBarMain.toolbar)
28         binding.appBarMain.fab.setOnClickListener { view ->
29             Snackbar.make(view, "", Snackbar.LENGTH_LONG)
30                 .setAction("Action", null).show()
31         }
32         val drawerLayout: DrawerLayout = binding.drawerLayout
33         val navView: NavigationView = binding.navView
34         val navController =
35             findNavController(R.id.nav_host_fragment_content_main)
36             appBarConfiguration = AppBarConfiguration(
37                 listOf(
38                     R.id.nav_home, R.id.nav_gallery, R.id.nav_keong
39                 ), drawerLayout
40             )
41             setupActionBarWithNavController(navController,
42             appBarConfiguration)
43             navView.setupWithNavController(navController)
44     }
45     override fun onCreateOptionsMenu(menu: Menu): Boolean {
46         menuInflater.inflate(R.menu.main, menu)
47         return true
48     }
49 }
```

```

49
50     override fun onOptionsItemSelected(item: MenuItem): Boolean {
51         when(item.itemId) {
52             R.id.action_settings -> {
53                 val setting =
54 Intent(this,MainactivityHewan::class.java)
55                 startActivity(setting)
56             }
57         }
58         return super.onOptionsItemSelected(item)
59     }
60 }
61
62     override fun onSupportNavigateUp(): Boolean {
63         val navController =
64 findNavController(R.id.nav_host_fragment_content_main)
65         return navController.navigateUp(appBarConfiguration) ||
66 super.onSupportNavigateUp()
67     }
68 }

```

#### MainactivityHewan.kt

```

1 package com.example.praktikum4
2
3 import android.content.Intent
4 import androidx.appcompat.app.AppCompatActivity
5 import android.os.Bundle
6 import android.widget.Button
7 import com.example.praktikum4.databinding.ActivityMainhewanBinding
8 import java.util.*
9
10 class MainactivityHewan : AppCompatActivity() {
11     private lateinit var binding: ActivityMainhewanBinding
12     private lateinit var locale:Locale
13     private var currenlang:String? = null
14     override fun onCreate(savedInstanceState: Bundle?) {
15         super.onCreate(savedInstanceState)
16         binding = ActivityMainhewanBinding.inflate(layoutInflater)
17         setContentView(binding.root)
18
19         val bahasaindo:Button = binding.indo
20         val bahasainggris:Button = binding.english
21
22         bahasaindo.setOnClickListener{
23             pilihanbahasa("id")
24         }
25         bahasainggris.setOnClickListener{
26             pilihanbahasa("en")
27         }
28     }
29     private fun pilihanbahasa(bahasa :String){
30         locale = Locale(bahasa)
31         val res = resources
32

```



```

33         val dm = res.displayMetrics
34         val config = res.configuration
35         config.locale = locale
36         res.updateConfiguration(config, dm)
37         val baru = Intent(this, MainActivity::class.java)
38         baru.putExtra(currenlang, bahasa)
39         startActivity(baru)
40     }
41 }

```

#### HewankeongAdapter.kt

```

1 package com.example.praktikum4.adapter
2
3 import android.content.Context
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup
7 import android.widget.ImageView
8 import android.widget.TextView
9 import android.widget.Toast
10 import androidx.recyclerview.widget.RecyclerView
11 import com.example.praktikum4.R
12 import com.example.praktikum4.model.HewanKeong
13
14 class HewankeongAdapter(
15     private val context: Context,
16     private val keongArrayList: ArrayList<HewanKeong>
17 ) : RecyclerView.Adapter<HewankeongAdapter.ItemViewHolder>() {
18     class ItemViewHolder(val view:
19 View): RecyclerView.ViewHolder(view) {
20         val namaHewanKeongtextView: TextView =
21 view.findViewById(R.id.namahewankeong)
22         val gambarhewanKeong: ImageView =
23 view.findViewById(R.id.gambarkeong)
24     }
25
26     override fun onCreateViewHolder(parent: ViewGroup, viewType: Int):
27 ItemViewHolder {
28         val hewankeongAdapterlayout =
29 LayoutInflater.from(parent.context)
30             .inflate(R.layout.list_keong, parent, false)
31         return ItemViewHolder(hewankeongAdapterlayout)
32     }
33
34     override fun onBindViewHolder(holder: ItemViewHolder, position:
35 Int) {
36         val item = keongArrayList[position]
37         holder.namaHewanKeongtextView.text =
38 context?.resources.getString(item.namakeong)
39         holder.gambarhewanKeong.setImageResource(item.gambarkeong)
40         holder.view.setOnClickListener {
41

```

```

42         Toast.makeText(context, "Data dipilih",
43         Toast.LENGTH_SHORT).show()
44     }
45 }
46
47     override fun getItemCount(): Int {
48         return keongArrayList.size
49     }
50
51 }

```

#### HewanKeong.kt

```

1 package com.example.praktikum4.model
2
3 import androidx.annotation.DrawableRes
4 import androidx.annotation.StringRes
5
6 data class HewanKeong (
7     @StringRes val namakeong : Int,
8     @DrawableRes val gambarkeong : Int,
9 )

```

#### KeongFragment.kt

```

1 package com.example.praktikum4.ui.aquascape
2
3 import android.os.Bundle
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup
7 import androidx.fragment.app.Fragment
8 import androidx.lifecycle.Observer
9 import androidx.lifecycle.ViewModelProvider
10 import androidx.recyclerview.widget.LinearLayoutManager
11 import androidx.recyclerview.widget.RecyclerView
12 import com.example.praktikum4.R
13 import com.example.praktikum4.adapter.HewankeongAdapter
14 import com.example.praktikum4.model.HewanKeong
15 import com.example.praktikum4.databinding.FragmentHewankeongBinding
16
17 class KeongFragment : Fragment(R.layout.fragment_hewankeong) {
18     private lateinit var recyclerView: RecyclerView
19     private var _binding: FragmentHewankeongBinding? = null
20     private val binding get() = _binding!!
21     var recyclerViewkeongAdapter: HewankeongAdapter? = null
22
23     override fun onCreateView(
24         inflater: LayoutInflater,
25         container: ViewGroup?,
26         savedInstanceState: Bundle?
27     ): View? {
28         val keongViewModel =

```

```

28         ViewModelProvider(this).get(KeongViewModel::class.java)
29
30     keongViewModel?.keongMutableLiveData.observe(viewLifecycleOwner, keongL
31 istUpdateObserver)
32     _binding = FragmentHewankeongBinding.inflate(inflater,
33 container, false)
34     val root: View = binding.root
35     recyclerView = _binding!!.recyclerViewKeong
36     return root
37
38 }
39
40 override fun onDestroyView() {
41     super.onDestroyView()
42     _binding = null
43 }
44 var keongListUpdateObserver : Observer<ArrayList<HewanKeong>?> =
45     Observer<ArrayList<HewanKeong>?>{ keongArrayList ->
46         recyclerViewkeongAdapter =
47     HewankeongAdapter(requireContext(), keongArrayList)
48         recyclerView!!.layoutManager =
49     LinearLayoutManager(context)
50         recyclerView!!.adapter = recyclerViewkeongAdapter
51     }
52 }

```

### KeongViewModel.kt

```

1 package com.example.praktikum4.ui.aquascape
2
3 import androidx.lifecycle.MutableLiveData
4 import androidx.lifecycle.ViewModel
5 import com.example.praktikum4.R
6 import com.example.praktikum4.model.HewanKeong
7
8 class KeongViewModel : ViewModel() {
9     var keongMutableLiveData: MutableLiveData<ArrayList<HewanKeong>?>
10 = MutableLiveData()
11     var keongArrayList: ArrayList<HewanKeong>? = null
12
13     fun init(){
14         keonglist()
15         keongMutableLiveData.value = keongArrayList
16     }
17
18     fun keonglist(){
19         var hkeong = HewanKeong(R.string.keong1,R.drawable.keongapel)
20         keongArrayList = ArrayList()
21         keongArrayList!!.add(hkeong)
22         hkeong = HewanKeong(R.string.keong2,R.drawable.keongassassin)
23         keongArrayList!!.add(hkeong)
24         hkeong = HewanKeong(R.string.keong3,R.drawable.keongbawang)

```

```

25         keongArrayList!!.add(hkeong)
26         hkeong = HewanKeong(R.string.keong4,R.drawable.keongramshorn)
27         keongArrayList!!.add(hkeong)
28         hkeong = HewanKeong(R.string.keong5,R.drawable.keongsulawesi)
29         keongArrayList!!.add(hkeong)
30     }
31     init {
32         init()
33     }
34
35     }

```

### SiputairtawarAdapter.kt

```

1  package com.example.praktikum4.adapter
2
3  import android.content.Context
4  import android.view.LayoutInflater
5  import android.view.View
6  import android.view.ViewGroup
7  import android.widget.ImageView
8  import android.widget.TextView
9  import android.widget.Toast
10 import androidx.recyclerview.widget.RecyclerView
11 import com.example.praktikum4.R
12 import com.example.praktikum4.model.SiputAirTawar
13
14 class SiputairtawarAdapter(
15     private val context: Context,
16     private val siputairtawarArrayList: ArrayList<SiputAirTawar>
17 ) : RecyclerView.Adapter<SiputairtawarAdapter.ItemViewHolder>() {
18     class ItemViewHolder(val view:
19 View): RecyclerView.ViewHolder(view) {
20         val namaHewanSiputAirTawartextView: TextView =
21 view.findViewById(R.id.namasiputairtawar)
22         val gambarSiputAirTawar: ImageView =
23 view.findViewById(R.id.gambarsiputairtawar)
24     }
25
26     override fun onCreateViewHolder(parent: ViewGroup, viewType: Int):
27 ItemViewHolder {
28         val SiputairtawarAdapterlayout =
29 LayoutInflater.from(parent.context)
30         .inflate(R.layout.list_siputairlaut,parent,false)
31         return ItemViewHolder(SiputairtawarAdapterlayout)
32     }
33
34     override fun onBindViewHolder(holder: ItemViewHolder, position:
35 Int) {
36         val item = siputairtawarArrayList[position]
37         holder.namaHewanSiputAirTawartextView.text =

```

```

38 context?.resources.getString(item.namasiputairtawar)
39
40 holder.gambarSiputAirTawar.setImageResource(item.gambarsiputairtawar)
41 holder.view.setOnClickListener {
42     Toast.makeText(context, "Data dipilih",
43 Toast.LENGTH_SHORT).show()
44 }
45 }
46
47 override fun getItemCount(): Int {
48     return siputairtawarArrayList.size
49 }
51
52 }

```

### SiputlautAdapter.kt

```

1 package com.example.praktikum4.adapter
2
3 import android.content.Context
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup
7 import android.widget.ImageView
8 import android.widget.TextView
9 import android.widget.Toast
10 import androidx.recyclerview.widget.RecyclerView
11 import com.example.praktikum4.R
12 import com.example.praktikum4.model.SiputLaut
13
14 class SiputlautAdapter(
15     private val context: Context,
16     private val siputlautArrayList: ArrayList<SiputLaut>
17 ) : RecyclerView.Adapter<SiputlautAdapter.ItemViewHolder>() {
18     class ItemViewHolder(val view:
19 View): RecyclerView.ViewHolder(view) {
20         val namaHewanSiputLauttextView: TextView =
21 view.findViewById(R.id.namasiputlaut)
22         val gambarSiputLaut: ImageView =
23 view.findViewById(R.id.gambarsiputlaut)
24     }
25
26     override fun onCreateViewHolder(parent: ViewGroup, viewType: Int):
27 ItemViewHolder {
28         val SiputlautAdapterlayout =
29 LayoutInflater.from(parent.context)
30         .inflate(R.layout.list_siputlaut, parent, false)
31         return ItemViewHolder(SiputlautAdapterlayout)
32     }
33
34     override fun onBindViewHolder(holder: ItemViewHolder, position:
35 Int) {

```

```

36         val item = siputlautArrayList[position]
37         holder.namaHewanSiputLauttextView.text =
38 context?.resources.getString(item.namasiputlaut)
39         holder.gambarSiputLaut.setImageResource(item.gambarsiputlaut)
40         holder.view.setOnClickListener {
41             Toast.makeText(context, "Data dipilih",
42 Toast.LENGTH_SHORT).show()
43         }
44     }
45
46     override fun getItemCount(): Int {
47         return siputlautArrayList.size
48     }
49
50     }

```

#### Siputairtawar.kt

```

1 package com.example.praktikum4.model
2
3 import androidx.annotation.DrawableRes
4 import androidx.annotation.StringRes
5
6 data class SiputAirTawar (
7     @StringRes val namasiputairtawar : Int,
8     @DrawableRes val gambarsiputairtawar : Int,
9 )

```

#### Siputlaut.kt

```

1 package com.example.praktikum4.model
2
3 import androidx.annotation.DrawableRes
4 import androidx.annotation.StringRes
5
6 data class SiputLaut (
7     @StringRes val namasiputlaut : Int,
8     @DrawableRes val gambarsiputlaut : Int,
9 )

```

#### HomeFragment.kt

```

1 package com.example.praktikum4.ui.home
2
3 import android.os.Bundle
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup
7 import android.widget.TextView
8 import androidx.fragment.app.Fragment
9 import androidx.lifecycle.ViewModelProvider
10 import com.example.praktikum4.databinding.FragmentHomeBinding
11

```

```

13 class HomeFragment : Fragment() {
13
14     private var _binding: FragmentHomeBinding? = null
15     private val binding get() = _binding!!
16
17     override fun onCreateView(
18         inflater: LayoutInflater,
19         container: ViewGroup?,
20         savedInstanceState: Bundle?
21     ): View {
22         val homeViewModel =
23             ViewModelProvider(this).get(HomeViewModel::class.java)
24
25         _binding = FragmentHomeBinding.inflate(inflater, container,
26 false)
27         val root: View = binding.root
28
29         val textView: TextView = binding.textHome
30         homeViewModel.text.observe(viewLifecycleOwner) {
31             textView.text = it
32         }
33         return root
34     }
35
36     override fun onDestroyView() {
37         super.onDestroyView()
38         _binding = null
39     }
39 }

```

#### HomeViewModel.kt

```

1 package com.example.praktikum4.ui.home
2
3 import androidx.lifecycle.LiveData
4 import androidx.lifecycle.MutableLiveData
5 import androidx.lifecycle.ViewModel
6
7 class HomeViewModel : ViewModel() {
8
9     private val _text = MutableLiveData<String>().apply {
10     }
11     val text: LiveData<String> = _text
12
13 }

```

#### SiputAirTawarFragment.kt

```

1 package com.example.praktikum4.ui.siputairtawar
2
3 import android.os.Bundle
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup

```

```

7 import androidx.fragment.app.Fragment
8 import androidx.lifecycle.Observer
9 import androidx.lifecycle.ViewModelProvider
10 import androidx.recyclerview.widget.LinearLayoutManager
11 import androidx.recyclerview.widget.RecyclerView
12 import com.example.praktikum4.R
13 import com.example.praktikum4.adapter.SiputairtawarAdapter
14 import com.example.praktikum4.databinding.FragmentSiputairtawarBinding
15 import com.example.praktikum4.model.SiputAirTawar
16
17 class SiputAirTawarFragment :
18     Fragment(R.layout.fragment_siputairtawar) {
19     private lateinit var recyclerView: RecyclerView
20     private var _binding: FragmentSiputairtawarBinding? = null
21     private val binding get() = _binding!!
22     var recyclerViewSiputairtawarAdapter: SiputairtawarAdapter? = null
23
24     override fun onCreateView(
25         inflater: LayoutInflater,
26         container: ViewGroup?,
27         savedInstanceState: Bundle?
28     ): View? {
29         val SiputAirTawarViewModel =
30             ViewModelProvider(this).get(SiputAirTawarViewModel::class.java)
31
32         SiputAirTawarViewModel?.siputairtawarMutableLiveData.observe(viewLifecycleOwner, siputairtawarListUpdateObserver)
33         _binding = FragmentSiputairtawarBinding.inflate(inflater, container, false)
34         val root: View = binding.root
35         recyclerView = _binding!!.recyclerViewSiputairtawar
36         return root
37     }
38
39     override fun onDestroyView() {
40         super.onDestroyView()
41         _binding = null
42     }
43
44     var siputairtawarListUpdateObserver :
45     Observer<ArrayList<SiputAirTawar>?> =
46         Observer<ArrayList<SiputAirTawar>?>{ siputairtawarArrayList ->
47             recyclerViewSiputairtawarAdapter =
48             SiputairtawarAdapter(requireContext(), siputairtawarArrayList)
49             recyclerView!!.layoutManager =
50             LinearLayoutManager(context)
51             recyclerView!!.adapter = recyclerViewSiputairtawarAdapter
52         }
53     }
54 }
55

```

SiputAirTawarViewModel.kt



```

1 package com.example.praktikum4.ui.siputairtawar
2
3 import androidx.lifecycle.MutableLiveData
4 import androidx.lifecycle.ViewModel
5 import com.example.praktikum4.R
6 import com.example.praktikum4.model.SiputAirTawar
7
8 class SiputAirTawarViewModel : ViewModel() {
9     var siputairtawarMutableLiveData:
10 MutableLiveData<ArrayList<SiputAirTawar>?> = MutableLiveData()
11     var siputairtawarArrayList: ArrayList<SiputAirTawar>? = null
12
13     fun init(){
14         siputairtawarlist()
15         siputairtawarMutableLiveData.value = siputairtawarArrayList
16     }
17
18     fun siputairtawarlist(){
19         var siputairtawar =
20 SiputAirTawar(R.string.siputairtawar1,R.drawable.siputlumpurselandia)
21         siputairtawarArrayList = ArrayList()
22         siputairtawarArrayList!!.add(siputairtawar)
23         siputairtawar =
24 SiputAirTawar(R.string.siputairtawar2,R.drawable.keongmurbai)
25         siputairtawarArrayList!!.add(siputairtawar)
26     }
27     init {
28         init()
29     }
30
31 }

```

### SiputLautFragment.kt

```

1 package com.example.praktikum4.ui.siputlaut
2
3 import android.os.Bundle
4 import android.view.LayoutInflater
5 import android.view.View
6 import android.view.ViewGroup
7 import androidx.fragment.app.Fragment
8 import androidx.lifecycle.Observer
9 import androidx.lifecycle.ViewModelProvider
10 import androidx.recyclerview.widget.LinearLayoutManager
11 import androidx.recyclerview.widget.RecyclerView
12
13 import com.example.praktikum4.R
13 import com.example.praktikum4.adapter.SiputlautAdapter
14 import com.example.praktikum4.databinding.FragmentSiputlautBinding
15 import com.example.praktikum4.model.SiputLaut
16
17 class SiputLautFragment : Fragment(R.layout.fragment_siputlaut) {
18     private lateinit var recyclerView: RecyclerView

```

```

19     private var _binding: FragmentSiputlautBinding? = null
20     private val binding get() = _binding!!
21     var recyclerViewSiputlautAdapter: SiputlautAdapter? = null
22
23     override fun onCreateView(
24         inflater: LayoutInflater,
25         container: ViewGroup?,
26         savedInstanceState: Bundle?
27     ): View? {
28         val SiputLautViewModel =
29
30     ViewModelProvider(this).get(SiputLautViewModel::class.java)
31
32     SiputLautViewModel?.siputlautMutableLiveData.observe(viewLifecycleOwner, siputlautListUpdateObserver)
33     _binding = FragmentSiputlautBinding.inflate(inflater, container, false)
34     val root: View = binding.root
35     recyclerView = _binding!!.recyclerViewSiputlaut
36     return root
37
38     }
39
40     override fun onDestroyView() {
41         super.onDestroyView()
42         _binding = null
43     }
44
45     var siputlautListUpdateObserver : Observer<ArrayList<SiputLaut>?>
46 =
47     Observer<ArrayList<SiputLaut>?>{ siputlautArrayList ->
48         recyclerViewSiputlautAdapter =
49     SiputlautAdapter(requireContext(),siputlautArrayList)
50         recyclerView!!.layoutManager =
51     LinearLayoutManager(context)
52         recyclerView!!.adapter = recyclerViewSiputlautAdapter
53     }
54 }
55

```

#### SiputLautViewModel.kt

```

1 package com.example.praktikum4.ui.siputlaut
2
3 import androidx.lifecycle.MutableLiveData
4 import androidx.lifecycle.ViewModel
5 import com.example.praktikum4.R
6 import com.example.praktikum4.model.SiputLaut
7
8 class SiputLautViewModel : ViewModel() {
9     var siputlautMutableLiveData:
10     MutableLiveData<ArrayList<SiputLaut>?> = MutableLiveData()
11     var siputlautArrayList: ArrayList<SiputLaut>? = null
12
13

```

```

13     fun init(){
14         siputlautlist()
15         siputlautMutableLiveData.value = siputlautArrayList
16     }
17
18     fun siputlautlist(){
19         var siputlaut =
20 SiputLaut(R.string.siputlaut1,R.drawable.conusmagus)
21         siputlautArrayList = ArrayList()
22         siputlautArrayList!!.add(siputlaut)
23         siputlaut = SiputLaut(R.string.siputlaut2,R.drawable.limpet)
24         siputlautArrayList!!.add(siputlaut)
25         siputlaut = SiputLaut(R.string.siputlaut3,R.drawable.whelk)
26         siputlautArrayList!!.add(siputlaut)
27     }
28     init {
29         init()
30     }
31
32     }

```

## 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     <include
12         android:id="@+id/app_bar_main"
13         layout="@layout/app_bar_main"
14         android:layout_width="match_parent"
15         android:layout_height="match_parent" />
16
17     <com.google.android.material.navigation.NavigationView
18         android:id="@+id/nav_view"
19         android:layout_width="wrap_content"
20         android:layout_height="match_parent"
21         android:layout_gravity="start"
22         android:fitsSystemWindows="true"
23         app:headerLayout="@layout/nav_header_main"
24         app:menu="@menu/activity_main_drawer" />
25 </androidx.drawerlayout.widget.DrawerLayout>

```

## activity\_mainhewan.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=".MainactivityHewan">
9
10     <TextView
11         android:id="@+id/bahasa"
12         android:layout_width="wrap_content"
13         android:layout_height="wrap_content"
14         android:gravity="center"
15         android:text="@string/gantibahasa"
16         android:textAppearance="?attr/textAppearanceHeadline3"
17         android:textColor="@color/black"
18         tools:layout_editor_absoluteX="127dp"
19         tools:layout_editor_absoluteY="29dp" />
20
21     <Button
22         android:id="@+id/indo"
23         android:layout width="match parent"

```

```

24         android:layout_height="wrap_content"
25         android:layout_marginTop="24dp"
26         android:text="Bahasa Indonesia"
27         app:layout_constraintEnd_toEndOf="@+id/bahasa"
28         app:layout_constraintStart_toStartOf="@+id/bahasa"
29         app:layout_constraintTop_toBottomOf="@+id/bahasa" />
30
31     <Button
32         android:id="@+id/english"
33         android:layout_width="match_parent"
34         android:layout_height="wrap_content"
35         android:text="English"
36         app:layout_constraintEnd_toEndOf="@+id/indo"
37         app:layout_constraintStart_toStartOf="@+id/indo"
38         app:layout_constraintTop_toBottomOf="@+id/indo" />
39
40 </androidx.constraintlayout.widget.ConstraintLayout>

```

fragment\_hewankeong.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
9      <androidx.recyclerview.widget.RecyclerView
10         android:id="@+id/recycler_view_keong"
11         android:layout_width="match_parent"
12         android:layout_height="match_parent"
13         android:scrollbars="vertical"
14
15         app:layoutManager="androidx.recyclerview.widget.LinearLayoutManager"/>
16
17 </androidx.constraintlayout.widget.ConstraintLayout>

```

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"
5      xmlns:tools="http://schemas.android.com/tools"
6      android:layout_width="match_parent"
7      android:layout_height="match_parent"
8      tools:context=".ui.home.HomeFragment">
9
10     <ImageView
11         android:layout_width="match_parent"
12         android:layout_height="match_parent"

```

```

13         android:src="@drawable/keong"
14         app:layout_constraintTop_toBottomOf="@+id/text_home"
15         tools:ignore="MissingConstraints"
16         tools:layout_editor_absoluteX="0dp" />
17
18     <TextView
19         android:id="@+id/text_home"
20         android:layout_width="match_parent"
21         android:layout_height="wrap_content"
22         android:text="@string/welcome"
23         android:textAlignment="center"
24         android:textColor="@color/black"
25         android:textSize="30sp"
26         app:layout_constraintBottom_toBottomOf="parent"
27         app:layout_constraintEnd_toEndOf="parent"
28         app:layout_constraintStart_toStartOf="parent"
29         app:layout_constraintTop_toTopOf="parent"
30         app:layout_constraintVertical_bias="0.732" />
31 </androidx.constraintlayout.widget.ConstraintLayout>

```

#### fragment\_siputairtawar.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
9      <androidx.recyclerview.widget.RecyclerView
10         android:id="@+id/recycler_view_siputairtawar"
11         android:layout_width="match_parent"
12         android:layout_height="match_parent"
13         android:scrollbars="vertical"
14
15     app:layoutManager="androidx.recyclerview.widget.LinearLayoutManager"/>
16
17 </androidx.constraintlayout.widget.ConstraintLayout>

```

#### fragment\_siputlout.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
9      <androidx.recyclerview.widget.RecyclerView
10         android:id="@+id/recycler_view_siputlout"
11         android:layout_width="match_parent"
12         android:layout_height="match_parent"
13

```

13	android:scrollbars="vertical"
14	
15	app:layoutManager="androidx.recyclerview.widget.LinearLayoutManager"/>
16	
17	</androidx.constraintlayout.widget.ConstraintLayout>

list\_keong.xml

1	<?xml version="1.0" encoding="utf-8"?>
2	<com.google.android.material.card.MaterialCardView
3	xmlns:android="http://schemas.android.com/apk/res/android"
4	android:layout_width="match_parent"
5	android:layout_height="wrap_content"
6	xmlns:app="http://schemas.android.com/apk/res-auto"
7	android:layout_margin="10dp"
8	android:orientation="horizontal">
9	
10	<LinearLayout
11	android:layout_width="match_parent"
13	android:layout_height="wrap_content"
13	android:orientation="vertical"
14	android:padding="16dp">
15	
16	<ImageView
17	android:id="@+id/gambarkeong"
18	android:layout_gravity="center"
19	android:layout_width="match_parent"
20	android:layout_height="160dp"
21	app:layout_constraintStart_toStartOf="parent"
22	app:layout_constraintTop_toTopOf="parent"
23	android:scaleType="centerCrop" />
24	
25	<TextView
26	android:id="@+id/namahewankeong"
27	android:layout_width="wrap_content"
28	android:layout_height="wrap_content"
29	android:layout_marginStart="5dp"
30	android:layout_marginTop="5dp"
31	android:textStyle="bold"
32	app:layout_constraintStart_toStartOf="parent"
33	app:layout_constraintTop_toBottomOf="@id/gambarkeong" />
34	
35	</LinearLayout>
36	</com.google.android.material.card.MaterialCardView>

list\_siputairlaut.xml

1	<?xml version="1.0" encoding="utf-8"?>
2	<com.google.android.material.card.MaterialCardView
3	xmlns:android="http://schemas.android.com/apk/res/android"
4	android:layout_width="match_parent"
5	android:layout_height="wrap_content"
6	xmlns:app="http://schemas.android.com/apk/res-auto"
7	android:layout_margin="10dp"
8	android:orientation="horizontal">
9	
10	<LinearLayout
11	android:layout_width="match_parent"
13	android:layout_height="wrap_content"
13	android:orientation="vertical"
14	android:padding="16dp">
15	
16	<ImageView
17	android:id="@+id/gambarsiputairtawar"
18	android:layout_gravity="center"
19	android:layout_width="match_parent"
20	android:layout_height="160dp"
21	app:layout_constraintStart_toStartOf="parent"
22	app:layout_constraintTop_toTopOf="parent"
23	android:scaleType="centerCrop" />
24	
25	<TextView
26	android:id="@+id/namasiputairtawar"
27	android:layout_width="wrap_content"
28	android:layout_height="wrap_content"
29	android:layout_marginStart="5dp"
30	android:layout_marginTop="5dp"
31	android:textStyle="bold"
32	app:layout_constraintStart_toStartOf="parent"
33	
34	app:layout_constraintTop_toBottomOf="@id/gambarsiputairtawar" />
35	
36	</LinearLayout>
37	</com.google.android.material.card.MaterialCardView>

list\_siputlout.xml

1	<?xml version="1.0" encoding="utf-8"?>
2	<com.google.android.material.card.MaterialCardView
3	xmlns:android="http://schemas.android.com/apk/res/android"
4	android:layout_width="match_parent"
5	android:layout_height="wrap_content"
6	xmlns:app="http://schemas.android.com/apk/res-auto"
7	android:layout_margin="10dp"
8	android:orientation="horizontal">
9	
10	<LinearLayout
11	android:layout_width="match_parent"
13	android:layout_height="wrap_content"
13	android:orientation="vertical"
14	android:padding="16dp">



```

15         <ImageView
16             android:id="@+id/gambarsiputlaut"
17             android:layout_gravity="center"
18             android:layout_width="match_parent"
19             android:layout_height="160dp"
20             app:layout_constraintStart_toStartOf="parent"
21             app:layout_constraintTop_toTopOf="parent"
22             android:scaleType="centerCrop" />
23
24         <TextView
25             android:id="@+id/namasiputlaut"
26             android:layout_width="wrap_content"
27             android:layout_height="wrap_content"
28             android:layout_marginStart="5dp"
29             android:layout_marginTop="5dp"
30             android:textStyle="bold"
31             app:layout_constraintStart_toStartOf="parent"
32             app:layout_constraintTop_toBottomOf="@id/gambarsiputlaut"
33         />
34     </LinearLayout>
35 </com.google.android.material.card.MaterialCardView>

```

#### 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="@dimen/nav_header_height"
7      android:background="@drawable/side_nav_bar"
8      android:gravity="bottom"
9      android:orientation="vertical"
10     android:paddingLeft="@dimen/activity_horizontal_margin"
11     android:paddingTop="@dimen/activity_vertical_margin"
12     android:paddingRight="@dimen/activity_horizontal_margin"
13     android:paddingBottom="@dimen/activity_vertical_margin"
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="@string/nav_header_desc"
21         android:paddingTop="@dimen/nav_header_vertical_spacing"
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="@dimen/nav_header_vertical_spacing"
28	android:text="@string/nav_header_title"
29	android:textAppearance="@style/TextAppearance.AppCompat.Body1"
30	/>
31	
32	<TextView
33	android:id="@+id/textView"
34	android:layout_width="wrap_content"
35	android:layout_height="wrap_content"
36	android:text="@string/nav_header_subtitle" />
37	</LinearLayout>

#### Activity\_main\_drawer.xml

1	<?xml version="1.0" encoding="utf-8"?>
2	<menu xmlns:android="http://schemas.android.com/apk/res/android"
3	xmlns:tools="http://schemas.android.com/tools"
4	tools:showIn="navigation_view">
5	
6	<group android:checkableBehavior="single">
7	<item
8	android:id="@+id/nav_home"
9	android:icon="@drawable/ic_menu_home"
10	android:title="@string/menu_home" />
11	<item
13	android:id="@+id/nav_gallery"
13	android:icon="@drawable/ic_menu_gallery"
14	android:title="@string/pil_definisi" />
15	<item
16	android:id="@+id/nav_keong"
17	android:icon="@drawable/keong"
18	android:title="@string/pil_listkeong" />
19	</group>
20	</menu>

#### 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_settings"
6	android:orderInCategory="100"
7	android:title="@string/action_settings"
8	app:showAsAction="never" />
9	</menu>

#### Mobile\_navigation.xml

```

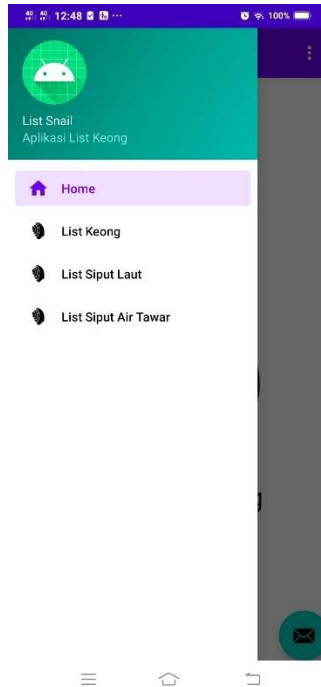
1  <?xml version="1.0" encoding="utf-8"?>
2  <navigation xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:id="@+id/mobile_navigation"
6      app:startDestination="@+id/nav_home">
7
8      <fragment
9          android:id="@+id/nav_home"
10         android:name="com.example.praktikum4.ui.home.HomeFragment"
11         android:label="@string/menu_home"
12         tools:layout="@layout/fragment_home" />
13
14         <fragment
15             android:id="@+id/nav_gallery"
16
17             android:name="com.example.sportslist.ui.gallery.GalleryFragment"
18             android:label="@string/menu_gallery"
19             tools:layout="@layout/fragment_gallery" />
20
21         <fragment
22             android:id="@+id/nav_keong"
23
24             android:name="com.example.praktikum4.ui.aquascape.KeongFragment"
25             android:label="@string/pil_listkeong"
26             tools:layout="@layout/fragment_hewankeong" />
27     </navigation>

```

## B. Output Program



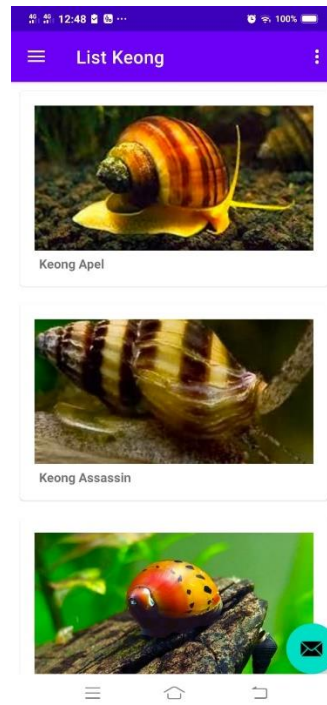
*Gambar 1. Hasil Run Aplikasi*



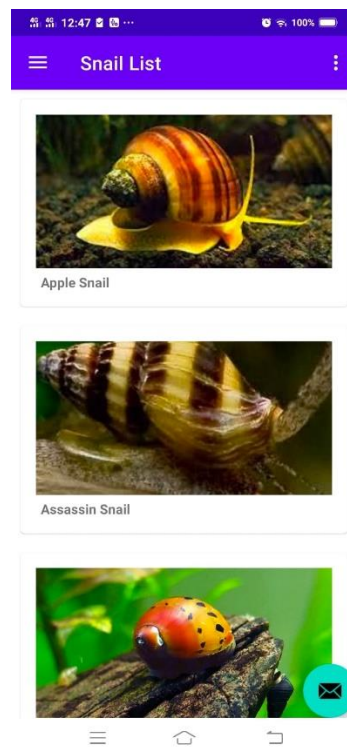
*Gambar 2 List Navigasi*



*Gambar 3 Setting Bahasa*



*Gambar 4 List dari Aplikasi*



*Gambar 5 List dari Aplikasi Berbahasa Inggris*

### **C. Pembahasan**

File Adapter digunakan untuk sebagai perantara yang digunakan untuk saling menghubungkan data dengan tampilan. File model digunakan untuk memanggil nama serta gambar yang ada pada data statis. File fragment merupakan bagian dari ui user yang dapat ditempatkan dalam aktivitas. File ViewHolder digunakan untuk menjelaskan tampilan item dan apa saja data yang ada di dalam recyclerview. Fragment pada xml digunakan sebagai layout. Nav\_header\_main digunakan sebagai navigasi header, seperti apa nama aplikasi, icon, dan subtitle dari nama aplikasi. File activity\_main\_drawer digunakan sebagai layout pada navigasi, seperti apa saja nama menu pada aplikasi. Main.xml pada menu digunakan sebagai layout untuk pilihan setting. Mobile\_navigation digunakan sebagai layout untuk navigasi agar bisa mengarah kepada pilihan menu yang diklik. String digunakan sebagai teks-teks yang digunakan pada aplikasi. Sintaks import digunakan untuk mengawali program, seperti import apa saja dan package apa saja yang dibutuhkan pada aplikasi. Sintaks binding digunakan untuk memudahkan interaksi dengan view yang ada pada XML. Toast digunakan untuk menampilkan bahwa data telah dipilih. onCreate dan onBind digunakan sebagai method utama pada adapter, onCreate digunakan untuk membuat objek ViewHolder dan onBind digunakan untuk menghubungkan datanya.

### **D. Tautan Git**

Berikut adalah tautan untuk source code yang telah dibuat.

<https://github.com/salsabilashofia/praktikummobile2/tree/main/modul4>

