

**LAPORAN PRAKTIKUM
PEMROGRAMAN MOBILE
MODUL 4**



Android Layout

Oleh:

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**PROGRAM STUDI TEKNOLOGI INFORMASI
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LEMBAR PENGESAHAN
LAPORAN PRAKTIKUM PEMROGRAMAN MOBILE
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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DAFTAR GAMBAR

Gambar 1. Screenshot Hasil Jawaban Soal 1 **Error! Bookmark not defined.**

Soal

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 Settings

Source Code

1. MainActivity.kt

```
1 package com.example.modul4mobile
2
3 import android.content.Intent
4 import android.os.Bundle
5 import android.provider.Settings
6 import android.view.Menu
7 import android.view.MenuItem
8 import com.google.android.material.snackbar.Snackbar
9 import
10 com.google.android.material.navigation.NavigationView
11 import androidx.navigation.findNavController
12 import androidx.navigation.ui.AppBarConfiguration
13 import androidx.navigation.ui.navigateUp
14 import
15 androidx.navigation.ui.setupActionBarWithNavController
16 import androidx.navigation.ui.setupWithNavController
17 import androidx.drawerlayout.widget.DrawerLayout
18 import androidx.appcompat.app.AppCompatActivity
19 import
20 com.example.modul4mobile.databinding.ActivityMainBinding
21
22 class MainActivity : AppCompatActivity() {
23
24     private lateinit var appBarConfiguration:
25     AppBarConfiguration
26     private lateinit var binding: ActivityMainBinding
27
28     override fun onCreate(savedInstanceState: Bundle?) {
29         super.onCreate(savedInstanceState)
30
31         binding =
32         ActivityMainBinding.inflate(layoutInflater)
33         setContentView(binding.root)
34
35         setSupportActionBar(binding.appBarMain.toolbar)
36
37         binding.appBarMain.fab.setOnClickListener { view
38         ->
39             Snackbar.make(view, "Replace with your own
40             action", Snackbar.LENGTH_LONG)
41                 .setAction("Action", null).show()
42         }
43         val drawerLayout: DrawerLayout =
44         binding.drawerLayout
```

```

45         val navView: NavigationView = binding.navView
46         val navController =
47 findNavController(R.id.nav_host_fragment_content_main)
48         // Passing each menu ID as a set of Ids because
49 each
50         // menu should be considered as top level
51 destinations.
52         appBarConfiguration = AppBarConfiguration(
53             setOf(
54                 R.id.nav_home, R.id.nav_athlete,
55 R.id.nav_doctor
56             ), drawerLayout
57         )
58         setupActionBarWithNavController(navController,
59 appBarConfiguration)
60         navView.setupWithNavController(navController)
61     }
62
63     override fun onCreateOptionsMenu(menu: Menu): Boolean
64 {
65         // Inflate the menu; this adds items to the action
66 bar if it is present.
67         menuInflater.inflate(R.menu.main, menu)
68         return true
69     }
70
71     override fun onSupportNavigateUp(): Boolean {
72         val navController =
73 findNavController(R.id.nav_host_fragment_content_main)
74         return
75 navController.navigateUp(appBarConfiguration) ||
76 super.onSupportNavigateUp()
77     }
78
79     override fun onOptionsItemSelected(item: MenuItem):
80 Boolean {
81         if (item.itemId == R.id.action_settings){
82
83 startActivity(Intent(Settings.ACTION_LOCALE_SETTINGS))
84         }
85         return super.onOptionsItemSelected(item)
86     }
87 }

```

2. Jobs.kt

```

1 package com.example.modul4mobile

```

```

2
3 import androidx.annotation.DrawableRes
4 import androidx.annotation.StringRes
5
6 data class Jobs(
7     @DrawableRes val imageResourceId: Int,
8     @StringRes val name: Int,
9     @StringRes val desc: Int
10 )

```

3. JobsDetail.kt

```

1 package com.example.modul4mobile
2
3 import android.os.Bundle
4 import androidx.appcompat.app.AppCompatActivity
5 import
6 com.example.modul4mobile.databinding.ActivityJobsDetailBinding
7
8 class JobsDetail : AppCompatActivity() {
9     private var _binding: ActivityJobsDetailBinding? = null
10    private val binding get() = _binding!!
11
12    companion object {
13        const val EXTRA_IMAGE = "image"
14        const val EXTRA_NAME = "name"
15        const val EXTRA_DESCRIPTION = "description"
16    }
17
18    override fun onCreate(savedInstanceState: Bundle?) {
19        super.onCreate(savedInstanceState)
20
21        _binding =
22        ActivityJobsDetailBinding.inflate(layoutInflater)
23        val view = binding.root
24        setContentView(view)
25
26        val img = binding.imgDetail
27        img.setImageResource(intent.getIntExtra(EXTRA_IMAGE,
28        0))
29
30        val name = binding.tvName
31        name.text =
32        intent?.getStringExtra(EXTRA_NAME).toString()
33
34        val desc = binding.tvDesc
35

```



```

36         desc.text=
37         intent?.getStringExtra(EXTRA_DESCRIPTION).toString()
38
39     }
40 }

```

4. JobsViewModel.kt

```

1  package com.example.modul4mobile
2
3  import android.content.Context
4  import androidx.lifecycle.LiveData
5  import androidx.lifecycle.MutableLiveData
6  import androidx.lifecycle.ViewModel
7
8  class JobsViewModel: ViewModel() {
9      private val _name = MutableLiveData<String>()
10     val name: LiveData<String>
11     get() = _name
12
13     private val _desc = MutableLiveData<String>()
14     val desc: LiveData<String>
15     get() = _desc
16
17     private val _img = MutableLiveData<String>()
18     val img: LiveData<String>
19     get() = _img
20
21     fun setJobs(jobs: Jobs, context: Context){
22         _name.value                                     =
23         context.resources.getString(jobs.name)
24         _desc.value                                     =
25         context.resources.getString(jobs.desc)
26         _img.value = jobs.imageResourceId.toString()
27     }
28 }

```

5. Data.kt

```

1  package com.example.modul4mobile
2
3  import androidx.lifecycle.ViewModel
4
5  class Data: ViewModel() {
6      fun loadJobs(): List<Jobs>{
7          return listOf(

```

8	Jobs (
9	R.drawable.doc1,	R.string.doc1,
10	R.string.desc1),	
11	Jobs (
12	R.drawable.doc2,	R.string.doc2,
13	R.string.desc2),	
14	Jobs (
15	R.drawable.doc3,	R.string.doc3,
16	R.string.desc3),	
17	Jobs (
18	R.drawable.doc4,	R.string.doc4,
19	R.string.desc4),	
20	Jobs (
21	R.drawable.doc5,	R.string.doc5,
22	R.string.desc5),	
23	Jobs (
24	R.drawable.atlet1,	R.string.athlete1,
25	R.string.desc6),	
26	Jobs (
27	R.drawable.atlet2,	R.string.athlete2,
28	R.string.desc7),	
29	Jobs (
30	R.drawable.atlet3,	R.string.athlete3,
31	R.string.desc8),	
32	Jobs (
33	R.drawable.atlet4,	R.string.athlete4,
34	R.string.desc9),	
35	Jobs (
36	R.drawable.atlet5,	R.string.athlete5,
37	R.string.desc10)	
38)	
39	}	
40	}	

6. AthleteFragment.kt

1	package com.example.modul4mobile.ui.athlete
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 androidx.recyclerview.widget.LinearLayoutManager
11	import androidx.recyclerview.widget.RecyclerView

```

12 import com.example.modul4mobile.Data
13 import com.example.modul4mobile.R
14 import
15 com.example.modul4mobile.databinding.FragmentJobsBinding
16 import com.example.modul4mobile.ui.doctor.AthleteAdapter
17
18 class AthleteFragment :
19     Fragment(R.layout.fragment_jobs_item) {
20
21         private var _binding: FragmentJobsBinding? = null
22
23         // This property is only valid between onCreateView
24 and
25         // onDestroyView.
26         private val binding get() = _binding!!
27         private lateinit var recyclerView: RecyclerView
28
29         override fun onCreate(savedInstanceState: Bundle?) {
30             super.onCreate(savedInstanceState)
31             setHasOptionsMenu(true)
32         }
33
34         override fun onCreateView(
35             inflater: LayoutInflater,
36             container: ViewGroup?,
37             savedInstanceState: Bundle?
38         ): View {
39             _binding = FragmentJobsBinding.inflate(inflater,
40 container, false)
41             val view = binding.root
42             return view
43         }
44
45         override fun onViewCreated(view: View,
46 savedInstanceState: Bundle?) {
47             recyclerView = binding.recyclerView
48             recyclerView.layoutManager =
49                 LinearLayoutManager(context)
50             recyclerView.adapter =
51                 AthleteAdapter(requireContext(), Data().loadJobs())
52         }
53
54         override fun onDestroyView() {
55             super.onDestroyView()
56             _binding = null
57         }
58     }

```

7. AthleteAdapter.kt

```
1 package com.example.modul4mobile.ui.doctor
2
3 import android.content.Context
4 import android.content.Intent
5 import android.view.LayoutInflater
6 import android.view.View
7 import android.view.ViewGroup
8 import android.widget.ImageView
9 import androidx.recyclerview.widget.RecyclerView
10 import com.example.modul4mobile.Jobs
11 import com.example.modul4mobile.JobsDetail
12 import com.example.modul4mobile.JobsViewModel
13 import com.example.modul4mobile.R
14
15 class AthleteAdapter (
16     private val context: Context,
17     private val dataset: List<Jobs>
18 ): RecyclerView.Adapter<AthleteAdapter.AthleteViewHolder> () {
19
20     private val viewModel = JobsViewModel()
21     class AthleteViewHolder(view: View):
22     RecyclerView.ViewHolder(view) {
23         val athleteImg: ImageView =
24         view.findViewById(R.id.jobs_img)
25     }
26
27     override fun onCreateViewHolder(parent: ViewGroup, viewType:
28     Int): AthleteViewHolder {
29         val layout = LayoutInflater
30             .from(parent.context)
31             .inflate(R.layout.fragment_jobs,parent,false)
32         return AthleteViewHolder(layout)
33     }
34
35     override fun getItemCount() = dataset.size
36
37     override fun onBindViewHolder(holder: AthleteViewHolder,
38     position: Int) {
39         val athleteData = dataset[position]
40         holder.athleteImg.setImageResource(athleteData.imageResourceId)
41
42         holder.itemView.setOnClickListener {
```

45	viewModel.setJobs(athleteData, context)
46	
47	val intent = Intent(context,
	JobsDetail::class.java).apply {
	putExtra("name", viewModel.name.value)
	putExtra("description", viewModel.desc.value)
	putExtra("image", viewModel.img.value)
	}
	context.startActivity(intent)
	}
	}
	}

8. DoctorFragment.kt

1	package com.example.modul4mobile.ui.doctor
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 androidx.recyclerview.widget.LinearLayoutManager
11	import androidx.recyclerview.widget.RecyclerView
12	import com.example.modul4mobile.Data
13	import com.example.modul4mobile.R
14	import
15	com.example.modul4mobile.databinding.FragmentJobsBinding
16	
17	class DoctorFragment :
18	Fragment(R.layout.fragment_jobs_item) {
19	
20	private var _binding: FragmentJobsBinding? = null
21	
22	// This property is only valid between onCreateView
23	and
24	// onDestroyView.
25	private val binding get() = _binding!!
26	private lateinit var recyclerView: RecyclerView
27	
28	override fun onCreate(savedInstanceState: Bundle?) {
29	super.onCreate(savedInstanceState)
30	setHasOptionsMenu(true)
31	}
32	

```

33         override fun onCreateView(
34             inflater: LayoutInflater,
35             container: ViewGroup?,
36             savedInstanceState: Bundle?
37         ): View {
38             _binding = FragmentJobsBinding.inflate(inflater,
39 container, false)
40             val view = binding.root
41             return view
42         }
43
44         override fun onViewCreated(view: View,
45 savedInstanceState: Bundle?) {
46             recyclerView = binding.recyclerview
47             recyclerView.layoutManager =
LinearLayoutManager(context)
             recyclerView.adapter =
DoctorAdapter(requireContext(), Data().loadJobs())
         }
48
49         override fun onDestroyView() {
50             super.onDestroyView()
51             _binding = null
52         }
53     }

```

9. DoctorAdapter.kt

```

1 package com.example.modul4mobile.ui.doctor
2
3 import android.content.Context
4 import android.content.Intent
5 import android.view.LayoutInflater
6 import android.view.View
7 import android.view.ViewGroup
8 import android.widget.ImageView
9 import androidx.recyclerview.widget.RecyclerView
10 import com.example.modul4mobile.Jobs
11 import com.example.modul4mobile.JobsDetail
12 import com.example.modul4mobile.JobsViewModel
13 import com.example.modul4mobile.R
14
15 class DoctorAdapter (
16
17     private val context: Context,
18     private val dataset: List<Jobs>
19

```

```

20     ): RecyclerView.Adapter<DoctorAdapter.DoctorViewHolder>
21     () {
22
23         private val viewModel = JobsViewModel()
24         class DoctorViewHolder(view: View):
25     RecyclerView.ViewHolder(view) {
26             val doctorImg: ImageView =
27     view.findViewById(R.id.jobs_img)
28         }
29
30         override fun onCreateViewHolder(parent: ViewGroup,
31     viewType: Int): DoctorViewHolder {
32             val layout = LayoutInflater
33                 .from(parent.context)
34                 .inflate(R.layout.fragment_jobs,parent,false)
35             return DoctorViewHolder(layout)
36         }
37
38         override fun getItemCount() = dataset.size
39
40         override fun onBindViewHolder(holder: DoctorViewHolder,
41     position: Int) {
42             val doctorData = dataset[position]
43
44             holder.doctorImg.setImageResource(doctorData.imageResourceId)
45
46             holder.itemView.setOnClickListener {
47                 viewModel.setJobs(doctorData, context)
48
49                 val intent = Intent(context,
50     JobsDetail::class.java).apply {
51                     putExtra("name", viewModel.name.value)
52                     putExtra("description", viewModel.desc.value)
53                     putExtra("image", viewModel.img.value)
54                 }
55                 context.startActivity(intent)
56             }
57         }
58     }
59 }

```

10. HomeFragment.kt

```

1 package com.example.modul4mobile.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
11 com.example.modul4mobile.databinding.FragmentHomeBinding
12
13 class HomeFragment : Fragment() {
14
15     private var _binding: FragmentHomeBinding? = null
16
17     // This property is only valid between onCreateView
18 and
19     // onDestroyView.
20     private val binding get() = _binding!!
21
22     override fun onCreateView(
23         inflater: LayoutInflater,
24         container: ViewGroup?,
25         savedInstanceState: Bundle?
26     ): View {
27         val homeViewModel =
28
29 ViewModelProvider(this).get(HomeViewModel::class.java)
30
31         _binding = FragmentHomeBinding.inflate(inflater,
32 container, false)
33         val root: View = binding.root
34
35         val textView: TextView = binding.textHome
36         homeViewModel.text.observe(viewLifecycleOwner) {
37             textView.text = it
38         }
39         return root
40     }
41
42     override fun onDestroyView() {
43         super.onDestroyView()
44         _binding = null
45     }
46 }
47

```

11. HomeViewModel.kt

```

1 package com.example.modul4mobile.ui.home
2

```



```
3 import androidx.lifecycle.LiveData
4 import androidx.lifecycle.MutableLiveData
5 import androidx.lifecycle.ViewModel
6 import com.example.modul4mobile.R
7
8 class HomeViewModel : ViewModel() {
9
10     private val _text = MutableLiveData<String>()
11     val text: LiveData<String> get() = _text
12
13     fun text() {
14         _text.value = R.string.welcome.toString()
15     }
16 }
```

Output Program

Pembahasan