

Nama : John Isaac Witness

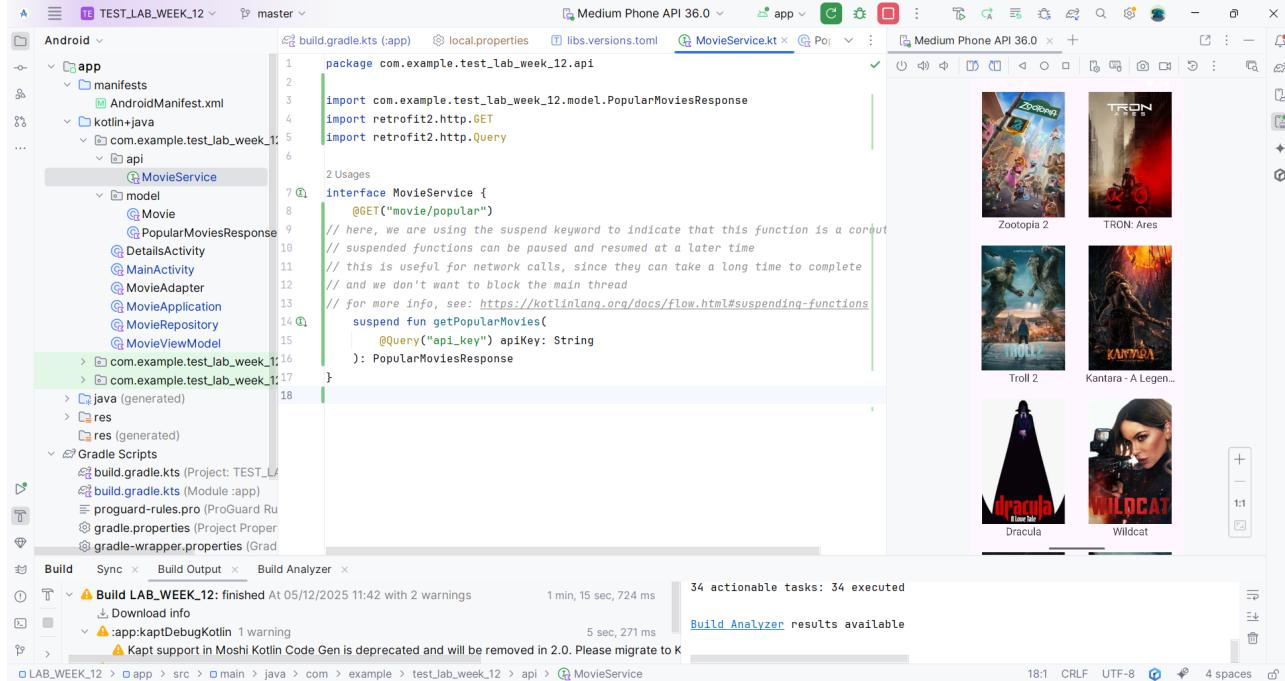
NIM : 00000088626

Mobile App Programming Week 12

LINK GITHUB: [https://github.com/akunjone/LAB\\_WEEK\\_12](https://github.com/akunjone/LAB_WEEK_12)

## Part 1 - Building App with Coroutines

Output Commit 2 (coroutine):



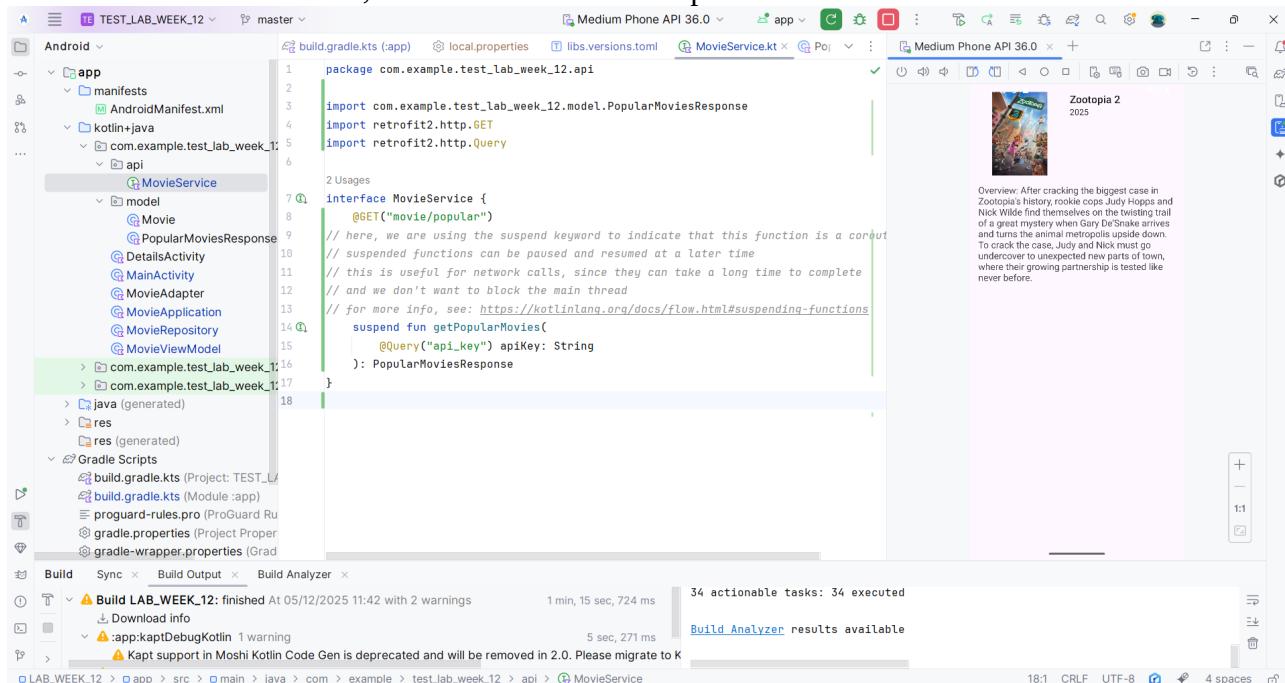
The screenshot shows the Android Studio interface with the project structure and code editor. The code editor displays the `MovieService.kt` file, which contains a suspend function `getPopularMovies` that uses the `@Query("api_key")` annotation. To the right of the code editor, there is a grid of movie thumbnails for "Zootopia 2", "TRON: Ares", "Troll 2", "Kantara - A Legen...", "Dracula", and "Wildcat". The bottom right corner of the screen shows a small preview of the "Dracula" movie poster.

```
package com.example.test_lab_week_12.api

import com.example.test_lab_week_12.model.PopularMoviesResponse
import retrofit2.http.GET
import retrofit2.http.Query

interface MovieService {
    @GET("movie/popular")
    suspend fun getPopularMovies(
        @Query("api_key") apiKey: String
    ): PopularMoviesResponse
}
```

Jika salah satu movie diklik, maka akan muncul satu-persatu detail dari movie tersebut:



The screenshot shows the same Android Studio environment, but now the "Zootopia 2" movie thumbnail is selected. A detailed overview of the movie is displayed in the bottom right corner, including the title "Zootopia 2" and the year "2025". The overview text describes the plot: "Overview: After cracking the biggest case in Zootopia's history, rookie cops Judy Hopps and Nick Wilde find themselves on the twisting trail of a new mystery when Gary De Vilake arrives and turns the city upside down. To crack the case, Judy and Nick must go undercover to unexpected new parts of town, where their growing partnership is tested like never before."

```
package com.example.test_lab_week_12.api

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```

## Part 2 - Upgrading your App with Flow

Output commit 2 (Flow):

Sama saja, tetapi sekarang menggunakan Flow (lebih baik)

The screenshot shows the Android Studio interface with the code editor open to MainActivity.kt. The code implements a coroutine-based fetch mechanism for movies. On the right side of the screen, there is a grid of movie thumbnails, including Zootopia 2, TRON: Ares, Troll 2, Kantara - A Legend, THE SHADOW'S EDGE, and HIGH FORCES.

```

    class MainActivity : AppCompatActivity() {
        override fun onCreate(savedInstanceState: Bundle?) {
            //hapus yg buat observing popularmovies dan error, ganti dengan:
            // fetch movies from the API
            lifecycleScope.launch {
                // repeatOnLifecycle is a lifecycle-aware coroutine builder
                // Lifecycle.State.STARTED means that the coroutine will run
                // when the activity is started
                repeatOnLifecycle(Lifecycle.State.STARTED) {
                    launch {
                        // collect the list of movies from the StateFlow
                        movieViewModel.popularMovies.collect {
                            // add the list of movies to the adapter
                            movies ->
                                movieAdapter.addMovies(movies)
                        }
                    }
                    launch {
                        // collect the error message from the StateFlow
                        movieViewModel.error.collect { error ->
                            // if an error occurs, show a Snackbar with the error message
                            if (error.isNotEmpty()) Snackbar
                                .make(
                                    recyclerView, error, Snackbar.LENGTH_LONG
                                ).show()
                        }
                    }
                }
            }
        }
    }

```

Ketika diklik salah satu movienya, maka akan muncul detail dari movie tersebut. Seperti yang terlihat pada Coroutines:

This screenshot shows the same Android Studio setup as above, but with a specific movie thumbnail selected. The details for 'Zootopia 2' are displayed on the right, including its overview: 'Overview: After cracking the biggest case in Zootopia's history, rookie cops Judy Hopps and Nick Wilde find themselves on the hunting trail of a great mystery when Gary DeSnake arrives and turns the animal metropolis upside down. To crack the case, Judy and Nick must go undercover to unexpected new parts of town, where their growing partnership is tested like never before.'

## ASSIGNMENT:

Saat implementasikan Flow ke aplikasi, LiveData dan StateFlow diubah. Tapi dalam prosesnya, Data Filtering juga dibuang. Ini saatnya untuk implementasi data filter (desc by popularity) ke StateFlow, maka ditambahkan dengan code seperti ditandai dengan warna biru, dan hasil outputnya seperti di kanan:

The screenshot shows the Android Studio interface with the file `MainActivity.kt` open. The code is part of a coroutine launch block. A tooltip is displayed over the line `.sortedByDescending { it.popularity }`, showing the intention to "Extract Surround" with a `for` loop. To the right of the editor, there is a preview area displaying several movie posters: Zootopia 2, TRON: Ares, Troll 2, Kantara - A Legend, Dracula, and High Forces.

```

17 class MainActivity : AppCompatActivity() {
18     override fun onCreate(savedInstanceState: Bundle?) {
19         lifecycleScope.launch {
20             repeatOnLifecycle(Lifecycle.State.STARTED) {
21                 launch {
22                     movieViewModel.popularMovies.collect {
23                         movies ->
24                             movieAdapter.addMovies(
25                                 // ASSIGNMENT:
26                                 // implement dengan filter by popularity desc
27                                 movies
28                                     .filter { movie ->
29                                         movie.popularity != null
30                                     }
31                                     .sortedByDescending { it.popularity }
32                             )
33                     }
34                 }
35             }
36         }
37     }
38 }
39 
```

Dan ketika diklik akan menghasilkan hasil yang sama:

The screenshot shows the same `MainActivity.kt` file in Android Studio. The tooltip for the `.sortedByDescending { it.popularity }` line has been removed, but the code structure remains identical. On the right, a detailed overview for the movie "Zootopia 2" is shown, including the year 2025 and a brief plot summary: "Overview: After cracking the biggest case in Zootopia's history, rookie cops Judy Hopps and Nick Wilde find themselves on the twisting trail of a mysterious new villain who has driven off and turns the animal metropolis upside down. To crack the case, Judy and Nick must go undercover to unexpected new parts of town, where their growing partnership is tested like never before."

```

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Terima kasih.