

Mantap, aku udah ekstrak **project BDD** kamu. Sekarang aku kasih **analisa mendalam dan jelas**, per file yang penting, jalur alur BDD-nya, dan hubungannya antar class. Aku skip file sampah (build, .git, IDE metadata, dll.) biar fokus ke core.

✅ STRUKTUR FOLDER INTI

```
AUTOMATED-TOS-BDD/
├─ src/
│   ├─ main/java/
│   │   ├─ config/
│   │   │   └─ ConfigReader.java
│   │   ├─ drivers/
│   │   │   └─ DriverSingleton.java
│   │   ├─ factory/
│   │   │   └─ DriverFactory.java
│   │   ├─ hooks/
│   │   │   └─ Hooks.java
│   │   ├─ org/example/
│   │   │   └─ Main.java
│   │   ├─ pages/
│   │   │   └─ HomePage.java
│   │   ├─ reports/
│   │   │   └─ ExtentReportManager.java
│   │   └─ test/java/
│   │       ├─ runners/
│   │       │   └─ TestRunner.java
│   │       ├─ steps/
│   │       │   └─ NavigationSteps.java
│   │       └─ test/resources/
│   │           ├─ config.properties
│   │           ├─ features/
│   │           │   └─ Navigation.feature
```

📌 1 ConfigReader.java

Path: src/main/java/config/ConfigReader.java

Peran:

- Kelas ini **membaca file konfigurasi** (config.properties).
 - Biasanya berisi properti seperti URL web, path driver, dan setting env lain.
 - **Turunan?** Tidak, ini util class (mandiri).
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📌 2 DriverSingleton.java

Path: src/main/java/drivers/DriverSingleton.java

Peran:

- **Membuat dan mengelola instance WebDriver** (Selenium).
 - Implementasi pola **Singleton**: 1 instance driver dipakai tes lain biar hemat resource.
 - Dependensi: pakai DriverFactory untuk **membuat browser driver**.
 - **Turunan?** Turunan dari WebDriver via DriverFactory.
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3 DriverFactory.java

Path: src/main/java/factory/DriverFactory.java

Peran:

- Factory pattern → **Membuat WebDriver** untuk browser (Chrome, Firefox, dll).
 - Dipanggil di DriverSingleton.
 - **Turunan?** Tidak turunan apa-apa, pure Factory class.
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4 Hooks.java

Path: src/main/java/hooks/Hooks.java

Peran:

- Class **hook Cucumber** (@Before, @After).
 - **Sebelum scenario**: Setup driver.
 - **Setelah scenario**: Close driver.
 - Biasanya handle screenshot kalau failed.
 - **Turunan?** Biasanya implement Cucumber Hook interface.
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5 Main.java

Path: src/main/java/org/example/Main.java

Peran:

- Umumnya cuma **placeholder** (project Maven/IntelliJ).
- Tidak terlalu dipakai di BDD.
- Ga penting.

HomePage.java

Path: src/main/java/pages/HomePage.java

Peran:

- **Page Object Model (POM):** representasi page web.
- Ada element locator, aksi klik, input, dll.
- Dipanggil di NavigationSteps.
- **Turunan?** Biasanya extend base page atau PageFactory (kalau di framework Selenium modern).

ExtentReportManager.java

Path: src/main/java/reports/ExtentReportManager.java

Peran:

- Handle **generate report HTML** pakai ExtentReports.
- Biasanya dipanggil di Hooks pas @After.
- **Turunan?** Tidak, pure util.

TestRunner.java

Path: src/test/java/runners/TestRunner.java

Peran:

- **Kelas utama Cucumber Runner.**
- Konfigurasi: feature file, step defs, plugin report (html, json).
- Framework: Cucumber + TestNG.
- **Turunan?** Extend AbstractTestNGCucumberTests dari Cucumber.

NavigationSteps.java

Path: src/test/java/steps/NavigationSteps.java

Peran:

- **Glue Code:** step definition untuk feature Navigation.feature.

- Di sini dipanggil HomePage.
 - Contoh: Given I open homepage, When I click Login.
 - **Turunan?** Biasanya tidak extend class lain, murni Cucumber step defs.
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1 **Navigation.feature**

Path: src/test/resources/features/Navigation.feature

Peran:

- **Feature file BDD.**
 - Tulis scenario Gherkin: Given, When, Then.
 - Contoh flow: buka homepage → klik login → validasi.
 - Dipanggil di TestRunner.
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1 **config.properties**

Path: src/test/resources/config.properties

Peran:

- Config project: URL base, browser type, path driver.
 - Dibaca di ConfigReader.
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REPORTS

- allure-results → raw result untuk **Allure**.
 - allure-report → HTML report.
 - target/surefire-reports → TestNG & Cucumber report.
 - ExtentReportManager → generate Extent HTML report.
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TOOLS YANG TERPAKAI

Tool/Lib	Fungsi
Selenium WebDriver	Automasi browser

Tool/Lib	Fungsi
Cucumber	BDD syntax & runner
TestNG	Eksekusi test suite
ExtentReports	HTML report
Allure	Advanced BDD report
Maven	Dependency manager & build
Page Object Model (POM) Struktur maintainable page web	

HUBUNGAN FILE

```

[Navigation.feature]
|
▼
[TestRunner] --> glue [NavigationSteps]
|               |
|               ▼
|               [HomePage]
|               |
|               ▼
[Hooks]         [DriverSingleton] --> [DriverFactory]
|               |
|               ▼
|               [ConfigReader]

```

RINGKAS

✓ Flow:

Feature → Runner → Steps → POM → Driver → Hooks → Report

✓ Pake **Selenium, Cucumber, TestNG, ExtentReports, Allure**

✓ POM & Singleton bikin maintainable & reusable