**Create Folder Structure**

opencart

└── src/test/java

├── pageObjects

├── testBase

├── testCases

├── utilities

└── src/test/resources

└── JRE System Library

└── logs

└── reports

└── screenshots

└── src

└── target

└── testData

└── pom.xml

└── TestNG.xml

### Development of Hybrid Driven Framework

**1) Test case: Account Registration**

1.1 Create BasePage under pageObjects  
1.2 Create Page Object Classes:

* HomePage
* RegistrationPage  
  (Extend from BasePage)

1.3 Create AccountRegistrationTest under testCases  
1.4 Create BaseClass under testBase  
1.5 Create reusable methods for random data in BaseClass

### 2) Adding logs to test case (log4j2)

2.1 Add log4j2.xml under src/test/resources  
2.2 Update BaseClass  
2.3 Add log statements to AccountRegistrationTest

**3) Run Tests on Desired Browser / Cross Browser / Parallel**

3.1 Create testng.xml and parameterize browser & OS  
3.2 Update BaseClass → setup() method  
3.3 Maintain separate xml for parallel execution

### 4) Read Common values from config.properties

4.1 Add config.properties under src/test/resources  
4.2 Load config file in BaseClass → setup()  
4.3 Replace hardcoded values (url, username, password)

### 5) Login Test Case

5.1 Create Page Objects:

* LoginPage
* MyAccountPage
* Update HomePage

5.2 Create LoginTest  
5.3 Add entry in testng.xml

**6) Data Driven Login Test**

6.1 Prepare test data in Excel → place in testData  
6.2 Create ExcelUtility class  
6.3 Update MyAccountPage (logout link)  
6.4 Create DataProviders class  
6.5 Create LoginDataDrivenTest  
6.6 Add entry in testng.xml

### 7) Grouping Tests

7.1 Add test cases to groups (sanity, regression, master)  
7.2 Add setup() & teardown() to all groups  
7.3 Create grouping.xml

**8) Add Extent Reports**

8.1 Create ExtentReportUtility class  
8.2 Add captureScreen() in BaseClass  
8.3 Add listener entry in testng.xml  
8.4 Make WebDriver static in BaseClass

**9) Run Failed Tests**

test-output → testng-failed.xml

### Selenium Grid Setup

**10) Run Tests on Selenium Grid**

* Download selenium-server-4.15.0.jar
* Run:

java -jar selenium-server-4.15.0.jar standalone

* URL:

http://localhost:4444/

10.1 Add execution\_env=local/remote in config.properties  
10.2 Update BaseClass setup() for grid execution  
10.3 Run tests from testing.xml

### 11) Run Tests using Maven

* pom.xml
* Command Prompt
* run.bat

### 12) Push Code to Git & GitHub