BDD Cucumber JAVA

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Introduction to BDD

Definition:

BDD is a software development approach that emphasizes collaboration between developers, QA, and non-technical or business participants in a software project.

Purpose:

To improve communication, create shared understanding, and ensure the software meets business requirements.

Key Concepts of BDD

User Stories:

Descriptions of features from an end-user perspective.

Scenarios:

Detailed examples of user stories, outlining specific use cases.

Gherkin Syntax:

A business-readable domain-specific language for describing software behavior.

Introduction to Cucumber

Definition:

Cucumber is a tool for running automated tests written in plain language.

Language:

Uses Gherkin syntax to define test cases.

Integration:

Can be integrated with various programming languages like Java, Ruby, and JavaScript.

Gherkin Syntax

Feature: Describes the feature under test.
Scenario: Describes a specific use case.
Steps: Given, When, Then, And, But.

- Background: Common steps for all scenarios.

- Scenario Outline: Parameterized scenarios.

- Examples: Data tables for Scenario Outline.

- Given: Sets up the initial state.

- When: TDescribes an action.

- Then: Describes an expected outcome.

- And: Additional steps.

Example of Gherkin Syntax

```gherkin
1   Feature: Login Functionality
2       Scenario: Valid Login
3           Given User is on the login page
4           When User enters valid username
5           And User enters valid password
6           Then User should be logged in successfully
```

```gherkin
1   Feature: User Login
2       Scenario Outline: Login with multiple credentials
3           Given User is on the login page
4           When User enters "<username>" and "<password>"
5           Then User should see "<result>"
6
7       Examples:
8           | username   | password  | result                  |
9           | user1      | pass123   | Welcome message         |
10          | user2      | wrongpwd  | Error: Invalid password |
11          | invalidusr | pass123   | Error: Invalid username |
```

Benefits of BDD with Cucumber

Improved Communication: Common language understood by all stakeholders.

Clear Requirements: Detailed and executable specifications.

Early Bug Detection: Automated tests catch issues early.

Living Documentation: Tests serve as up-to-date documentation.

Setting Up Cucumber

- **Install Cucumber:** Follow installation steps for your programming language.

- **Write Feature Files:** Use Gherkin syntax to create feature files.

- **Implement Step Definitions:** Code to automate the steps defined in feature files.

- **Run Tests:** Use Cucumber to execute the tests and validate behavior.

Thank you ❤️

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