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Mastering Agile Collaboration and Automation with BDD and Cucumber

Unlock the power of Behavior-Driven Development (BDD) and Cucumber automation in our comprehensive three-day course. In today's dynamic software development landscape, effective collaboration between Product Owners, Developers, and Testers is crucial for project success. This course takes you on a transformative journey, equipping you with the tools and knowledge to bridge the communication gap, discover hidden requirements, and implement them efficiently using the Cucumber framework.

Through hands-on exercises and examples, and an engaging scenario-based approach, you'll learn to craft expressive Gherkin scenarios, map them to user stories, and automate them using Cucumber's step definitions. Dive into advanced techniques like data-driven testing, context management, and seamless CI integration. Our expert instructors will guide you through best practices, pitfalls to avoid, and innovative ways to extend BDD beyond Cucumber. Whether you're a Product Owner, Developer, Tester, or Agile enthusiast, this course empowers you to champion collaboration, elevate software quality, and embrace the future of agile automation. Join us and master the art of BDD and Cucumber to revolutionize your development process.

Objectives:

- ✓ Understand the purpose of BDD and how it enhances team collaboration, flow, and agility.
- ✓ Learn the Gherkin language and how to write effective test scenarios
- ✓ Explore scenario mapping as the basis of effective team communication and collaboration.
- ✓ Get hands-on experience with the Cucumber framework to build and run your automated acceptance tests.
- ✓ Learn to use data driven testing, background steps, tags, and context to simplify and consolidate your test base.
- ✓ Understand how to integrate BDD into your CI/CD pipeline.

Audience:

This class focuses on using the practice of BDD to integrate all of the roles on an agile team to achieve higher productivity, efficiency, and development flow. It is suitable for every member of an agile team, and is especially effective if taken as a team.

Day 1:

Module 1: Introduction to Behavior-Driven Development (BDD)
Understanding software development challenges
Evolution of development methodologies
Introduction to BDD and its principles
Benefits of BDD in requirement discovery and collaboration
Role of BDD and Agile development workflow

Module 2: Collaboration and Stakeholders
Roles and responsibilities of Product Owners, Developers, and Testers
Challenges in communication and collaboration
Bridging the communication gap with BDD
Real-world examples of collaboration success through BDD

Module 3: User Stories
Overview of user stories as a requirement format
Anatomy of a user story: format and components
Writing user stories that follow the INVEST principle
Three Amigos collaboration: Product Owners, Developers, Testers
Exercise 1: Making our Stories Ready for BDD.

Module 4: Gherkin Language
Introduction to Gherkin as a domain-specific language
Syntax and structure of Gherkin: Feature, Scenario, Given-When-Then, And, But
Writing expressive and readable scenarios using Gherkin keywords
Importance of using a shared vocabulary for communication
Exercise 2: Writing a Feature and Scenarios using Gherkin.

Module 5: BDD Scenarios and Scenario Mapping
Role of scenarios in BDD: capturing behavior
Constructing scenarios for effective communication
Scenario mapping exercise introduction
Collaboratively mapping scenarios from user stories
Exercise 3: Scenario Mapping as a three amigos team.

Day 2:

Module 6: Cucumber Framework Introduction
Overview of the Cucumber framework
Setting up a Cucumber project: dependencies and directory structure
Exercise 4: Adding our mapped scenarios to our project.

Module 7: Step Definitions
Anatomy of a step definition class
Linking Gherkin steps to code with annotations
Writing step definitions for Given, When, Then steps
Parameterization and regular expressions in step definitions
Sharing state between steps for complex scenarios
Exercise 6: Implementing our First Step Definitions.

Module 8: Data-Driven Testing and Contexts
Introducing data-driven testing for scenario variations
Using scenario outlines and examples tables
Creating context and scenario setup for realistic testing
Managing context across steps for data and state management
Exercise 7: Refactoring and Enhancing our Step Definitions

Module 9: Advanced BDD Techniques
Using background steps for common scenario setup
Managing execution order and dependencies with hooks
Sharing context between different scenarios
Incorporating tags for organization and filtering scenarios
Exercise 8: Making our Tests Cleaner with Advanced Features

Day 3:

Module 10: CI Integration
Integrating BDD tests into the CI/CD pipeline
Automating Cucumber tests execution
Running tests in parallel for efficiency
Analyzing test results in the CI environment
Exercise 9: Running Our Scenarios in a CI/CD Pipeline.

Module 11: Best Practices and Pitfalls
Common mistakes in BDD implementation
Writing maintainable and readable scenarios
Strategies for updating scenarios with changing requirements
Refactoring scenarios for clarity and efficiency

Module 13: BDD Beyond Cucumber
Exploring alternative BDD frameworks and tools
Integrating BDD with other testing methodologies
Staying updated with emerging trends in BDD

Module 14: Conclusion and Next Steps
Recap of key takeaways from the course
Encouraging participants to implement BDD practices
Providing additional resources for further learning and exploration