



**IT, Telecommunication &  
Networking**



**SCANDINAVIAN ACADEMY**  
Training and Development



# Course: Agile Test Driven Development Training

| Code | City          | hotel              | Start      | End        | price  | Hours |
|------|---------------|--------------------|------------|------------|--------|-------|
| 592  | Muscat (Oman) | Hotel Meeting Room | 2024-05-12 | 2024-05-16 | 3450 € | 25    |

## About This Course

Technical excellence and customer satisfaction are both key components of the Agile manifesto. To deliver on such promise, the Agile teams must implement strong testing and technical practices. This Agile testing course will demonstrate how to ensure that quality and customer value are delivered in your projects using Agile testing and methodology.

### You Will Learn How To:

- Integrate Agile testing and quality assurance to ensure continuous attention to technical excellence and user satisfaction
- Prove your software delivers value using iterative cycles
- Ensure code quality and non-regression with automated testing
- Improve the design of existing code using refactoring techniques
- Manage changes with a Continuous Integration Framework

## Who Should Attend

Testers, developers, Agile practitioners, business analysts, project/product managers of software development projects and those interested in being proficient in testing in an Agile environment.

### Workshop Activities Include:

- Automating user acceptance through Behavior Testing
- Writing insightful Unit Tests
- Practicing TDD for product integrity
- Refactoring tests for better test coverage
- Designing mock objects for better test automation
- Implementing continuous integration and testing

## Course Content

### Testing in an Agile Environment



## **General testing theory**

- Evaluating the key testing principles
- Differentiating between Agile and traditional practices
- Introducing the theory of Lean Agile testing

## **Transitioning to Agile software development processes**

- Mapping Agile principles and values to testing
- Inspecting Agile testing quadrants
- Benefiting from Test Driven Development (TDD)
- Automating testing for better Agility

## **Confirming Customer Satisfaction**

### **Acquiring a test basis**

- Testing the charter and key features
- Focusing on customer value and user personas
- Writing useful test cases from user stories
- Developing Story Acceptance Criteria

## **Automating through Acceptance Test Driven Development (ATDD)**

- Designing the anatomy of an Agile Test
- Creating a Test Idea Catalog
- Refining a Definition of Done and Ready
- Anticipating validation criteria through Behavior Driven Development (BDD)

## **Preparing for User Acceptance Testing (UAT)**

- Specifying by example and scenarios
- Enabling Usability and Exploratory Testing
- Performing Story-Mapping for better coverage
- Managing UAT processes

## **Implementing Developer and Technology Testing**

### **Creating unit tests**

- Defining the unit candidates for testing
- Testing First and Asserting First Patterns
- Delineating test data
- Setting up and tearing down a test
- Leveraging tools for better management and insightful coverage analysis



### **Building proficiency with TDD**

- Achieving green-light success
- Identifying good tests
- Dealing with large systems

### **Employing mocking and stubbing techniques**

- Programming fake and spy objects
- Simulating data access
- Identifying interfaces and mocking frameworks
- Testing legacy systems

### **Validating for FURPS+**

- Finding non-functional testing patterns
- Simulating interfaces and conducting performance testing through automation
- Evaluating legacy systems

### **Refactoring to Optimize Product Design**

#### **Applying Regression Testing**

- Adopting a catalog of refactoring patterns
- Identifying refactoring motivations

#### **Committing changes through retesting**

- Keeping tests synchronized with code changes
- Adding features and retesting
- Managing and retesting bugs
- Striving for zero-bug tolerance

### **Orchestrating Continuous Integration (CI)**

#### **Delivering software**

- Mapping the deployment pipeline of Agile
- Incorporating key principles of Configuration Management (CM) for frequent releases
- Adapting version control and branching strategies to the Agile requirements

#### **Managing the deployment pipelines**

- Creating a build process and deployment script
- Controlling code commits and protecting product integrity



- Integrating the test automation in the CI process

#### **Creating a CI ecosystem**

- Planning the infrastructure and environments
- Managing components and dependencies
- Setting up continuous delivery



**The Scandinavian Academy employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:**

- **Theoretical Lectures:**
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
  - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
  - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
  - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
  - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
  - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
  - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
  - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
  - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.