

## 1.2 Learning Object Metadata (LOM) of the *Capsule BDD Test Automation*

### 1. Metadata Name

- a. BDD Test Automation Metadata

### 2. General Information about the Capsule

- b. **Name:** BDD Test Automation
- b. **Identifier:** ENACTEST\_ID\_11
- c. **Language:** English
- d. **Description:**

This capsule teaches how to use Behavior Driven Development (BDD) as a test-first software development method that concentrates on user requirements and expectations, facilitating collaboration among developers, testers, and product owners, focusing on automating acceptance tests. It is a learning capsule that helps students understand the basics of BDD and how to define acceptance tests that are then generated into automated tests, using the tool Cucumber. The capsule sets out to cover the basics of understanding the concepts of DBB, defining BDD scenarios in gherkin format, using the tool Cucumber to automate tests. After having carried out this teaching material, students will understand the fundamentals of BDD, using Gherkin Syntax for driving development using acceptance tests, and the Cucumber tool.
- di. **Category:** Lesson /Document /Exercise
- f. **Keywords:** Behavior Driven Development, BDD, Cucumber, gherkin, test automation, acceptance testing
- g. **URL:** <https://enactest-project.eu/capsules-repository/capsule-11-bdd-test-automation/>

### 3. Life Cycle

- a. **Version:** 1.0
- b. **Status:** Final
- c. **Date:** January 2024
- d. **Contributors:**
  - I. **Role:** Author
  - II. **Entity:** Graham Moran

### 4. Meta-Metadata

- a. **Metadata Schema:** IEEE LOM-based ARIADNE
- b. **Language:** English

### 5. Technical

- a. **Format:** Presentation
- b. **Location:**
  - ii. Other system (via ENACTEST Capsule repository or dedicated website)
- c. **Requirement:**
  - i. Platform: NA

## 6. Educational

- a. **Interactivity Type:** Mixed (Active/Interactive)
- b. **Learning Resource Type:** Lesson /Document /Exercise
- c. **Interactivity Level:** High
- d. **Intended End-User Role:** Learner (Bachelor's/Master's students)
- e. **Context:** Higher Education
- f. **Typical Age Range:** Adult learners (18+ years)
- g. **Difficulty Level:** Intermediate
- h. **Description of Learning Objectives:**
  - a. Apply a test-first approach for driving software development
  - b. Understand the practice of BDD
  - c. Use the Cucuber tool for automation tests
- i. **Classification of the Learning Objectives According to Bloom's Taxonomy**
  - a. Understand: BDD, Acceptance Testing, Test-first Approach
  - b. Apply: Gherkin syntax language to express acceptance tests
  - c. Analyze: Java test step definitions generated from feature files using Cucumber
  - d. Evaluate: Application of BDD using a real life example

### **Prerequisites:**

- Agile testing concepts
- Java programming knowledge
- IntelliJ IDE
- Maven plugin
- Gherkin syntax plugin
- Cucumber framework plugin

## 7. Rights

- a. **Cost:** Free or Provided as Part of Course Resources
- b. **Copyright and Other Restrictions:** Yes
- c. **Description:** Licensed for educational purposes.

## 8. Relation

- a. **References:** Software Testing course in a Bachelor's or Master's Degree program

## 9. Annotation

- a. **Description:** This material sets out to cover the basics of understanding the concepts of DBB, defining BDD scenarios in gherkin format, using the tool Cucumber to automate tests.

## 10. Classification

- a. **Purpose:** Educational Material for Software Testing Course
- b. **Taxon Path:**
  - i. Discipline: Computer Science > Software Testing > BDD
  - i. Educational Approach: Class

## 11. Supporting Materials

- a. Slides

- b. Setup instructions
- c. Provided sample code for testing (class code).

**12. Learning Sequence**

- i. Introduction to BDD, test-first approaches, acceptance testing
- ii. Activity 1: First BDD scenario, from feature files to test step definitions
- iii. Activity 2: Add functionality to scenario
- iv. Activity 3: Explore additional Cucumber features
- v. Activity 4: Apply BDD concepts to real life scenario

**13. Expected Consequences**

- a. Students will learn how to use Behavior Driven Development (BDD) as a test-first software development method.
- b. Students will understand the basics of BDD and how to define acceptance tests that are then generated into automated tests, using the tool Cucumber.

**14. Methodologies for Performance Assessment**

- a. **Quantitative Metrics:**
  - a. Exercises
- b. **Qualitative Assessment:**
  - a. Student survey to measure perceptions and learning experiences.
- c. **Comparative Evaluation:**
  - a. NA