

Assignment 3
White-box testing

Assignment Objectives:

- Generating test cases based on white box testing.
- Use JUnit for implementing the test cases.
- Coverage analysis.

Assignment = In-Class assignment + Take-Home assignment

Before Lab3: Docker-Jenkins-Gitea-AllureReport - install on your computer

See [Info_CI_CD.pdf tutorial](#).

- **In-Class assignment**
 - First hour of the laboratory.
 - Maxim 25 XP
 - TO DO:
 1. **[White-Box Testing]** (10 XP)
 - Statement coverage or Condition coverage or Path coverage or other coverage criterion
 - The test cases will be created **addAssignment** feature.
 - Add the project to git (github, public) project.
 2. **[WBT Tests]** (10 XP)
 - Create 2 test cases for the **addAssignment** feature with JUnit.
 - Add the project to git using gitea.
 3. **[Jenkins]** (5 XP)
 - Maven project created in Lab 01. Use the [Info-Maven.pdf tutorial](#).
 - Creating a pipeline job in Jenkins for executing the 2 test cases.
- **Take-Home assignment**
 - At home.
 - Maxim 75 XP
 - TO DO:
 1. All coverage criteria (all statements, decision/condition, paths, loops) for the **addAssignment** feature: excel file with the design of the test cases + Java implementation (50 XP)
 2. Gitea – add the test cases (add the new implemented test cases) (10 XP)
 3. Jenkins pipeline job for all test cases (no modification required, use from IC assignment) (10 XP)
 4. Modification of the source code (errors identified and corrected) (5 XP)

Assignment and Delivery date:

1. Assignment date: laboratory 3
2. Delivery date for **In-Class assignment**: laboratory 3 (max 25 XP)
3. Delivery date (first) for **Take-Home assignment**: laboratory 4 (max 75 XP)
4. Delivery date (last) for **Take-Home assignment**: laboratory 5 (max 25XP)

Turn in:

Delivered and presented in class AND upload on canvas after Delivery in class the following archives (IC for In-Class delivery, TH for Take-Home delivery, 93X change with your group, Name01Name02 the name of the team)

- a. Lab3_IC_93X_Name01Name02.zip
 - i. Lab0_WBT_Form.xls
 - ii. Source code: Implementation of the test cases.
 - iii. Screen capture with the Gitea and Jenkins and Allure report of your tests.
- b. Lab3_TH_93X_Name01Name02.zip
 - i. Lab03_WBT_Form.xls
 1. Lab03_WBT_Form.xls (CFG + CC + Paths using, test cases design for: all statements, decisions/conditions, paths, loops coverage criteria.
 2. Source code: Implementation of the test cases.
 3. Screen capture with the Gitea and Jenkins and Allure report of your tests.

References

- See Lecture 3.
- See documents for Lab03Files.zip