# Assignment 3 in Lab4 Levels of testing (A3Integration)

# **Assignment Objectives:**



- Generating test cases for different levels of testing, integration testing.
- Use JUnit for implementing the test cases.
- Use Jenkins for Continuous Integration.
- Use Testlink for test case management.

#### Assignment = In-Class assignment + Take-Home assignment

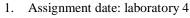
# • In-Class assignment

- o First hour of the laboratory.
- o Maxim 50 XP
- o TO DO:
  - 1. [Big-bang Integration Testing] (20 XP)
    - Creating Maven project. [See Maven tutorial]
    - Create 1 Test Case for **addGrade** feature (Black-box or White-box approach).
    - Big-Bang integration
      - o 1 Test case for **addStudent**
      - o 1 Test case for addAssignment
      - o 1 Test case for addGrade
      - o Integration testing: all addStudent, addAssignment, addGrade
      - o **Remark**: You will create a test class having 4 test methods, one for each point above, 3 test cases calling one functionality and the 4th test case calling all 3 functionalities.
    - Add the project to git (github, public) project.
  - 2. [TestLink] (20 XP)
    - Creating in TestLink the 4 implemented test cases + Requirement specification.
    - [See **TestLink** tutorial]
  - **3.** [Jenkins] (10 XP)
    - Creating a job in Jenkins for executing the 4 test cases. [See Jenkins tutorial]

#### • Take-Home assignment

- o At home.
- o Maxim 150 XP
- o TO DO:
  - 1. Incremental integration (top-down) (50XP)
    - 1 Test case for addStudent
    - 1 integration test for addAssignment (addStudent+addAssignment)
    - 1 integration test for addGrade (addStudent+addAssignment+addGrade)
  - 2. Testlink test cases (add the new implemented test cases ) (50 XP)
  - 3. Jenkins job for all test cases (no modification required, use from IC assignment) (30 XP)
  - **4.** Modification of the source code (errors identified and corrected) (20 XP)

# Assignment and Delivery date:



- 2. Delivery date for **In-Class assignment:** laboratory 4 (max 50 XP)
- 3. Delivery date (first) **for Take-Home assignment**: laboratory 6 (max 150 XP)

### 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. Lab4\_IC\_93X\_Name01Name02.zip
  - i. Source code:Implementation of the test cases.
- b. Lab4\_TH\_93X\_Name01Name02.zip
  - i. Source code:Implementation of the test cases.
- c. Remark: Lab4 (A3Integration) and Lab5 (A3UIWeb) TakeHome must be delivered in the same archive.

**References** - See Lecture 4.

