National University of Computer and Emerging Sciences

School of Computing   **Spring 2018**   **Islamabad Campus**

CS497: Software Testing (Spring 2018)

Assignment 02

(Deadline: 30ᵗʰ March, 2018, 11:59 PM)

Continuous Integration/Delivery/Testing

You are required to configure Jenkins on Tomcat Server, Git, and any build automation tool (other than Maven) and do the following detailed steps:

Jenkins Configurations (5)

- Configure the Jenkins' Git plugin to your Git so that it could use the git.exe to fetch commits from your online GitHub/BitBucket Repository. You may also need to generate SSH key for authentication of the Git client to GitHub/BitBucket.
- Configure any build automation tool (other than Maven) and find and install its plugin on Jenkins.
  Hint: You can use Ant, Gradle.

Project on Source Code Management (5)

- Create the project you have done in Assignment 1 as a local git repository and link it with the remote GitHub/BitBucket repository. If you are unable to find build tool for that specific code, you can use any Java program with LOC >200.
- Push your project to the remote repository
- Create an Integration Suite which have test cases for 100% statement coverage of your code.
- Push the test suite to git repository.

Jenkins Job Chains (20)

- Create a Jenkins Job Chain such that; after every minute it fetches new commits from your repository, build the changes using a build tool, run your test suite and finally if the tests are passed the project should be released.

Notes for Submission

You are require to create and submit a PDF report of the work you have done named as "YOUR_ROLL_NO, SECTION.pdf". The report should include link to the public GitHub/BitBucket repository named as "YOUR_ROLL_NO". The report should be comprehensive enough to show the job chain being trigger by a commit and should also show a pass release case and a fail release case with help of screen shots (Hint: Fail some test cases in a new commit to fake the fail release). The job created in Jenkins should follow this naming conversion "YOUR_ROLL_NO JOB_NAME".