

Assignment 1
Software Quality Engineering
Due Date: 7 November
Instructor: Mirza Ahsan Ullah

Assignment Title: Learning Version Control Systems (GitHub, GitLab, Bitbucket)

Objective:

To help students understand and practice version control through real collaboration using multiple platforms. Each student will perform tasks as both a team leader and a collaborator, gaining complete hands-on experience with version control workflows.

Tools to be Used:

Each group will work with the following three version control systems:

1. GitHub — <https://github.com>
2. GitLab — <https://gitlab.com>
3. Bitbucket — <https://bitbucket.org>

Group Formation:

Each group will consist of 4–5 members. The same group will work across all three platforms. Every student must act as the team leader for at least one tool and as a collaborator for the remaining tools.

Platform	Team Leader	Collaborators
GitHub	Student 1	Student 2, 3, 4, 5
GitLab	Student 2	Student 1, 3, 4, 5
Bitbucket	Student 3	Student 1, 2, 4, 5

Step 1: Repository Setup (by Team Leader)

The team leader for each platform will create a repository named 'VersionControl_GroupX_ToolName' (e.g., VersionControl_Group3_GitHub), add a README file describing purpose and members, and invite all collaborators.

Step 2: Document Creation

The team leader will upload an initial document (e.g., ProjectReport.docx) describing the selected version control platform and its key features.

Step 3: Branching and Updates

Each collaborator will create their own branch from the main branch, make three commits (add introduction, add details, add conclusion), and push updates to their branch.

Step 4: Merging and Conflict Resolution

The team leader will review and merge all branches into the main branch, resolve conflicts, and update the README with final remarks.

Step 5: Repeat the Process

Repeat the process for GitHub (Leader: Student 1), GitLab (Leader: Student 2), and Bitbucket (Leader: Student 3). Each student leads one repository and collaborates in two others.

Step 6: Final Submission

Each student will submit links to all three repositories and a short report (2–3 pages) with screenshots, tool comparison, and learning reflection.

Evaluation Criteria (Total 30 Marks)

Criteria	Marks
Repository setup and collaboration	5
Proper use of branching and commits	5
Merging and conflict resolution	5
Team coordination and participation	5
Individual reflection/report	5
Comparison of tools	5

Expected Learning Outcomes:

After completing this assignment, students will be able to:

- Apply version control concepts (commit, branch, merge, and conflict resolution).
- Use multiple Git-based platforms confidently.
- Collaborate effectively using shared repositories.
- Compare and evaluate version control tools based on practical experience.
- Understand distributed collaboration workflows.