

# Project Handout

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Course: Software Configuration Management (SWE 442)

Project Title: Version Control and Release Management for a Java Utility Tool

Total marks: 10 Points

Deadline: November 28, 2025

This project can be completed in a **group of two students**.

CLO 2.3 (S4), CLO 3.1 (V1)

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## Objective

This project helps you practice essential configuration management skills using Git and GitHub. You'll apply version control, create and merge branches, simulate software releases, and document your work.

## Project Overview

You will develop and manage a simple Java utility tool using Git and GitHub. Your work should simulate real software development tasks, such as branching for new features, resolving conflicts, tagging releases, and maintaining changelogs.

## Tasks Breakdown

<u>Task</u>	<u>Description</u>	<u>Points</u>
1. Project Setup	Upload a basic Java program to your GitHub repository and include a properly written README file.	1 point

2. Feature Branching	Create at least two separate branches, each adding a new feature or improvement to your tool (the uploaded code).	2 points
3. Merging and Conflicts	Merge both branches into the main branch using pull requests or Git CLI. Intentionally create and resolve one merge conflict (screenshot required).	2 points
4. Version Tagging	Create at least two tagged releases (e.g., v1.0 and v1.1). Write a short changelog for each release in a file named RELEASE_NOTES.md	2 points
5. Final Report	Submit a 1–2 page report (PDF) answering the questions below and present your project.	3 points

## Final Report Questions

- What does your tool do?
- What features were added?
- How were branches and merging handled?
- Evidence of tags/releases
- What is the purpose of tagging a release in version control?
- Compare GitHub with another SCM tool like GitLab or Bitbucket.
- What part of the SCM process did you find most useful or interesting, and why?