Introduction to Git and Github

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Abstract : This report Summarize a Software Engineering and Information System Design lab focused on Git and Github. Git, a distributed version control System, enables collaborative code development, while Github Serves as a web-based platform for hosting Git repositories. Lab activities covered Git installation, repo Setup, practical exercises. Advance topics includes github account creation, linking local and remote repositories and pushing into github. The report concludes that Git is essential for Systematic code management, team collaboration and project Stability.

(P.T.O)

Introduction: Git is a distributed version control system that enables collaborations among developers by tracking changes is source code during Software development. Github, on the otherhand, is a web-based platform that provides hosting for Git repositories, facilating collbonative work, code review, and project manggeme

Method and Materials: In this lab, the primary tools used were Git and Github.

Activity:

1. Git installation and Configuration:

(i) Installation: Git was installed from https://git-scm.com/downloads. Git bash, a terminal, was automatically installed with git.

(ii) Repository Setup: A local rep was initialized using 'git init'. Default brance name 'main', user info configured.

Quick Help: 'git command -h' and 'git help command' were introduced for assistance.

(2) Creating and Running Scripts:

(i) Creating a Repository: A new directory were created and initialized as repo.

(ii) Creating a Script file: A text file was created where it'll print hello world in the terminal.

(3) Adding, committing, and Tracking changes.

(i) Adding and committing files: 'git add' used to Staging and 'git commit' for committing.

(ii) Viewing changes: the differences between committed and Staged files were viewed using 'git diff'.

④ Pushing to Github:

① Creating account: Create a account at github.com.

② Configure github remote: 'git remote add origin url', this general command used to configure remote.

③ Set target branch main to lab1:
'git branch -b lab1' to create branch and 'git checkout lab1' to switch to 'lab1' branch.

④ Push local changes to Github:
'git push origin lab1' to push.

Discussion: When I was doing commands mistakes I just seek correct solution in different sites of the internet and also discussed with experienced one. I've used 'git help' command as well.

Conclusion: Git is a important tool in software development, providing version control and facilating collaboration. Its usage ensures a systematic approach to managing code changes, enhanches team collaboration. The future benefits Streamlin development workflows, improved code quality, and efficient collaboration in distributed teams, making Git essential skill for software engineers.

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