INTRODUCTION TO GIT AND GITHUB

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Report Name: Introduction to Git and Github.

Git: Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Github: GitHub is an online software development platform. It's used for storing, tracking, and collaborating on software projects. It makes it easy for developers to share code files and collaborate with fellow developers on open-source projects.

Git commands are a distributed version control system for tracking changes in any set of files. They were originally designed for coordinating work among programmers who were operating source codes during software development.

Some commands are described below —

Git add

Moves changes from the working directory to the staging area. This gives you the opportunity to prepare a snapshot before committing it to the official history.

Git branch

This command is your general purpose

branch administration tool. It lets you create isolated development environments within a single repository.

Git checkout

In addition to checking out old commits and old file revisions, git checkout is also the means to navigate existing branches. Combined with the basic Git commands, it's a way to work on a particular line of development.

Git clean

Removes untracked files from the working directory. This is the logical counterpart to git reset, which (typically) only operates on tracked files.

Git clone

Creates a copy of an existing Git repository. Cloning is the most common way for developers to obtain a working copy of a central repository.

Git commit

Takes the staged snapshot and commits it to the project history. Combined with git add, this defines the basic workflow for all Git users.

Git commit --amend

passing the --amend flag to git commit lets you amend the most recent commit. This is very useful

when you forget to stage a file or omit important information from the commit message.

git config

A convenient way to set configuration options for your Git installation. You will typically only need to use this immediately after installing Git on a new development machine.

git fetch

Fetching downloads a branch from another repository, along with all of its associated commits and files. But, it doesn't try to integrate

anything into your local repository. This gives you a chance to inspect changes before merging them with your project.

git init

Initializes a new Git repository. If you want to place a project under revision control, this is the first command you need to learn.

git log

Lets you explore the previous revisions of a project. It provides several formatting options for displaying committed snapshots.

git merge

A powerfull way to integrate changes from divergent branches. After forking the project history with git branch, git merge lets you put it back together again.

git pull

Pulling is the automated version of git fetch. It downloads a branch from a remote repository, then immediately merges it into the current branch. This is the git equivalent of svn update.

git push

Pushing is the opposite of fetching (with a few caveats). It lets you move a local branch to another repository, which serves as a convenient way to publish contributions. This is like svn commit, but it sends a series of commits instead of a single changeset.

git rebase

Rebasing lets you move branches around, which helps you avoid unnecessary merge commits. The resulting linear history is often

much easier to understant and explore.

git reflog

Git keeps track of updates to the tip of branches using a mechanism called reflog. This allows you to go back to changesets even though they are not referenced by any branch or tag.

git remote

A convenient tool for administering remote connections. Instead of passing the full URL to the fetch, pull, and push commands. it lets you see more

git meaningful shortcut.

git reset

Undoes changes to files in the working directory. Resetting lets you clean up or completely remove changes that have not been pushed to a public repository.

git status

Displays the state of the working directory and the staged snapshot. You will want to run this in conjunction with git add and git commit to see exactly what's being included in the next snapshot.

Discussion:- From this lab, we learned various commands to use git. We got to know how to initialize git from this lab. We created github account that different people and teams use it for different projects. While we got our start as a version control platform, Github is now used to manage teams, share resumes, find new projects, track work, and host discussions. We faced some problem due to our mistakes. but we overcome it

after many successful and unsuccessful tries. This lab was helpful to understand git and github properly.