

PW SKILLS GIT AND GIT HUB ASSIGNMENT

1. What is Git?

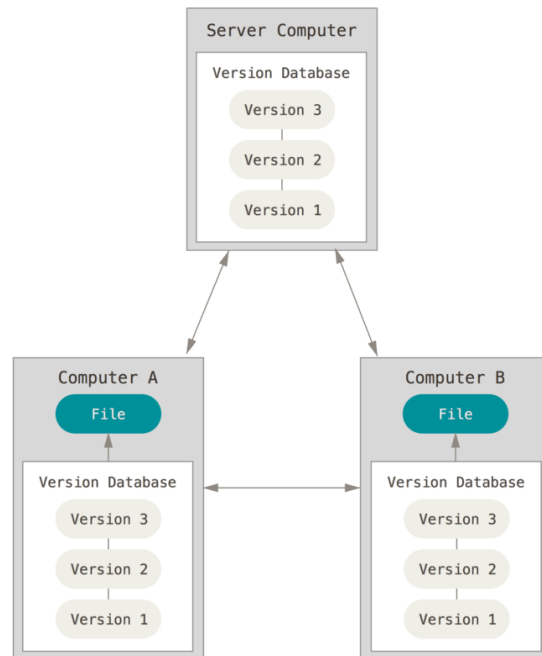
Ans: Git is a DevOps tool used for source code management. It is a free and open-source version control system that handles small to huge projects efficiently. Git is used to tracking changes in the source code, enabling multiple developers to work together on non-linear development. Git is a popular version control system(VCS), It was created by Linus Torvalds in 2005 and has been maintained by Junio Hamano.

Git is used for

- a. Tracking code changes
 - b. Tracking who made changes like the history of the files
 - c. Coding Collaborations
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2. What do you understand by the term 'Version Control System'?

Ans: It is a system that records changes to a file or set of files over time so that we can recall specific versions later, i.e., for every source code change in a file a new version will be created.



3. What is GitHub?

Ans: GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere. This tutorial teaches you GitHub essentials like repositories, branches, commits, and pull requests.

GitHub essentials are:

- Repositories
 - Branches
 - Commits
 - Pull Requests
 - Git (the version control software GitHub is built on)
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4. Mention some popular Git hosting services.

Ans: Some popular Git hosting services are as follows-

- Bitbucket.
 - GitLab.
 - Perforce.
 - Beanstalk.
 - Amazon AWS CodeCommit.
 - Codebase.
 - Microsoft Azure DevOps.
 - SourceForge.
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5. Different types Of version control systems?

Ans: There are three types of version control systems

- Local version control system (LVCS)
 - Centralized version control system (CVCS)
 - Distributed version control system (DVCS)
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6. What benefits come with using GIT?

Ans:

- Everyone knows to a certain degree what everyone else on the project is doing.
 - Administrators have full control over who can do what and are easier to manage.
 - Revert the code files back to their previous state
 - Recall and revert the entire project back to its previous state
 - Compare code changes over specific durations of time
 - Find who last modified a piece of code that might be causing an issue or a problem
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7. What is a Git repository?

Ans: Repositories in GIT contain a collection of files of various different versions of a Project. These files are imported from the repository into the local server of the user for further updations and modifications in the content of the file. A VCS or the Version Control System is used to create these versions and store them in a specific place termed a repository.

8. How can you initialize a repository in Git?

Ans: You can initialize a new repository in git by using “git init”.

```
git init [-q | --quiet] [--bare] [--template=<template-directory>]
        [--separate-git-dir <git-dir>] [--object-format=<format>]
        [-b <branch-name> | --initial-branch=<branch-name>]
        [--shared[=<permissions>]] [<directory>]
```

There are 3 types in git architecture:-

- working area
- stage area
- local repository

Running git init in an existing repository is safe. It will not overwrite things that are already there. The primary reason for rerunning git init is to pick up newly added templates (or to move the repository to another place if --separate-git-dir is given).

- Developers will develop the code in the working area
- If any files want to move to a remote server then it should be from a local repository only.
- if any files want to move to the local repository then it should be from the stage area only, we can send the files directly from the working area to the local repository
- developers should develop the code from the working area, then send the code to the stage area, then from the stage area to local.
- repository and from local repository to remote repository.

