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BA Training

**GitHub Assignment questions**

1. First, Git is an open source distributed version control system. It is designed for speed, simplicity, fully distributed and integrity. The advantage of Git is that it performs very strongly and reliably when compared to other version control systems. Also, high availability, data redundancy and replication, collaboration friendly and any sort of projects can use GIT.
2. The tools that make up the core Git distribution and language written in C and Shell and handful in Perl.
3. “Index” in Git means a holding area for changes that will be committed when you next to [git commit]. To “stage area” a file is simply to prepare it finely for a commit. Git, with its index allows you to commit only certain parts of the changes you've done since the last commit
4. The easiest way to get started is to create an account on GitHub.com and pick username.

Create a directory to contain the project

Go into the new directory

Type git.init.

Write some code

Type git add to add the file

Type git commit

1. A head in Git is simply a reference to a commit object. Each head has a name (branch name or tag name). There is head in every repository called master and a repository can contain any number of heads. By default there is one head known as HEAD in each repository in GIT.
2. A branch can be useful even if you are the only one working on the source code, of if you are many. Git branches are effectively a pointer to a snapshot of your changes.
3. The most common way to create a new branch is following:

$ git checkout –b <branch-name> (new one will create)

Switched to branch ‘new-branch’

$ git branch <branch-name>

1. Conflicts generally arise when two people have changed the same lines in a file, or if one developer deleted a file while another developer was modifying it
2. You can resolve merge conflicts using the command line and a text editor. You must choose which changes to incorporate from the different branches in a new commit.
3. The git config function that is used to set Git configuration values on a global or local project level.
4. A Git Fork is a copy of a repository which allows you to freely experiment with changes without affecting the original project
5. A fork is just a request for GitHub to clone the project and registers in under your username. Forked project is on your online repository.

A clone is where you have proper duplication, and separation between, two versions of a repository. Cloned project is on your local machine

The branch is something different and is included in the fork/repo. All branches on GitHub will be copied in a fork.

1. A pull request is when someone takes the repo, makes their own branch, does some changes, then tries to merge that branch. Pull requests let you tell others about changes you've pushed to a branch in a repository on GitHub.

Each repository has one default branch, and can have multiple other branches. You can merge a branch into another branch using a pull request.

1. “Git fetch” really only downloads new data from a remote repository - but it doesn't integrate any of this new data into your working files. “Git pull”, in contrast, is used with a different goal in mind: to update your current HEAD branch with the latest changes from the remote server.
2. To revert previous commit in Git, you need to “reset” command.
3. The Forking Workflow is fundamentally different than other popular Git workflows. Instead of using a single server-side repository to act as the “central” codebase, it gives every developer their own server-side repository. The main advantage of the forking workflow is to keep the main repo safe and clean.
4. HEAD is a pointer to the branch or commit that you last checked out, and which will be the parent of a new commit if you make it.

The git "index" is where you place files you want commit to the git repository.

The working tree is the dir and sub-dirs within it that contain the source files. It can be anywhere, but normally it is the same dir in which the hidden .git dir is located.

1. You can use the git merge-base command to find the latest common commit between the two branches. If that commit is the same as your branch head, then the branch has been completely merged.
2. Git clone is primarily used to point to an existing repo and make a clone or copy of that repo at in a new directory, at another location.
3. Git stash temporarily shelves changes you've made to your working copy so you can work on something else, and then come back and re-apply them later on.
4. Use git stash when you want to record the current state of the working directory and the index, but want to go back to a clean working directory.
5. Git stash drop means when no longer need a particular stash, you can delete it with $ git stash drop <stash-id>
6. Git stash save is when it will actually create a Git commit object with some name and then save it in your repo.
7. README.MD is used to generate the html summary you see at the bottom of projects.it also text file that introduces and explains a project that contain information that is commonly required to understand what the project is about. It uses it to describe how to run the program or application they have created. MD stands for markdown.
8. To create repository from command prompt, you create new repository on GitHub.
9. The git checkout command lets you navigate between the branches created by git branch.
10. Use a separate branch for each feature or issue you work on. After creating a branch, check it out locally so that any changes you make will be on that branch.
11. The ‘git rm’ command can be used to remove individual files or a collection of files. The primary function of ‘git rm’ is to remove tracked files from the Git index.
12. Function of git stash apply leaves it in the stash list for possible later reuse or you can then git stash drop
13. The Git Log tool allows you to view information about previous commits that have occurred in a project. The simplest version of the log command shows the commits that lead up to the state of the currently checked out branch
14. Git add is the first command in a chain of operations that directs Git to "save" a snapshot of the current project state, into the commit history.
15. Git diff is a multi-use Git commands that when executed runs a diff function on Git data sources.
16. The git status command displays the state of the working directory and the staging area. It lets you see which changes have been staged, which haven't, and which files aren't being tracked by Git.
17. Yes you can create multiple branch with one command
18. If you are sure you want to delete it, run 'git branch -D my-branch’. This is the command to use if you want to permanently throw away all of the commits associated with a particular line of development.
19. When you select the Squash and merge option on a pull request on GitHub, the pull request's commits are squashed into a single commit.
20. # git rm -rf --cached $FILES

Then commit, push, and then pull on any remote repositories.

1. The git rebase command has a reputation for being magical Git voodoo that beginners should stay away from, but it can actually make life much easier for a development team when used with care. Git merge command and identify all of the potential opportunities to incorporate rebasing into the typical Git workflow.
2. A Git repository is the .git/ folder inside a project. This repository tracks all changes made to files in your project, building a history over time. Meaning, if you delete the .git/ folder, then you delete your project’s history.
3. The quickest way to write a git commit is to use the command git commit -m "Git commit message here".
4. The commit object contains the directory tree object hash, parent commit hash, author, committer, date and message.
5. A housekeeper does laundry on a Wednesday

She washes each load.

She dries each load.

She folds certain items.

She irons some items.

She throws away certain items.

1. The main alternatives Git is GitHub, SVN, Bitbucket, perforce, Mercurial, Gitlab, C, Git Flow, Plastic SCM, Java, Phython, XML
2. Gists allow you to create (and possibly share) code snippets and notes on GitHub.
3. You can create two kinds of gists: public and secret. Create a public gist if you're ready to share your ideas with the world or a secret gist if you're not.
4. GitLab and BitBucket