MLOps

(Applied Data Science)

Session 2

Topics – Git & Github

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DIGITAL REGENESYS

Agenda

- Git commands
  - log
  - diff
  - rm
  - gitignore
  - branch
  - checkout
  - merge
  - remote
  - push
  - pull

Task 1

- Create new file and apply following git commands
- Create a file
- Check status of a file
- add file to staging area
- Check status of a file
- Modify file content
- Check status of a file
- add file to staged area
- Apply commit

log

- git log displays a history of commits in the repository, including commit messages, authors, and commit IDs.
- Example:

- git log

diff

- git diff shows the differences between the working directory and the last committed version.
- Example:

- git diff

rm

- git rm removes a file from the working directory and stages the removal for the next commit.
- Example:

- git rm filename.txt

.gitignore

- .gitignore is a file where you specify files or directories that should be ignored by Git (e.g., temporary files, logs).
- Example: Create a .gitignore file with contents like:
- bash
- Copy code
- *.log
- temp/

branch

- git branch lists all branches in the repository, showing the current branch with an asterisk.
- Example:

- git branch

checkout

- git checkout switches to a different branch or commit. It's used for branch management and code navigation.
- Example:

- git checkout new-feature-branch

merge

- git merge combines changes from one branch into another. It's used to integrate feature branches into the main branch.
- Example:

- git merge feature-branch

remote

- git remote shows a list of remote repositories connected to your local repository.
- Example:

- git remote add origin https://github.com/nilaykarade/test2.git

push

- git push sends your local commits to a remote repository, typically on a service like GitHub or GitLab.
- Example:

- git push origin main

pull

- The git pull command is used to fetch changes from a remote repository (typically, a repository hosted on a platform like GitHub) and merge them into the current branch in your local Git repository. This command is used to keep your local repository up to date with the latest changes from the remote repository.
- Example:
- git pull origin main

clone

- Cloning is the process of creating a copy of an existing Git repository, including all of its history, branches, and files. When you clone a repository, you create a complete copy of the original repository on your local machine.
- To clone a Git repository, you use the git clone command followed by the URL of the remote repository. For example:
- Example: git clone https://github.com/example/repo.git

Fork

- Forking is a concept mainly associated with online Git repository hosting services like GitHub. It involves creating a personal copy of a public repository owned by someone else. This copy is entirely separate from the original repository but retains a connection to it.
- Forking is typically used when you want to contribute to an open-source project or collaborate on a project hosted on a service like GitHub.
- By forking a repository, you can make changes to your copy and propose those changes (via pull requests) to be merged into the original repository. Forking is a way to contribute to projects without direct write access to the original repository.
- To fork a repository on GitHub, you navigate to the repository's page and click the "Fork" button. This action creates a new copy of the repository under your GitHub account. You can then clone your forked repository to your local machine and work on it just like any other Git repository.

Summary

- Git & Github setup
- Git commands
  - config
  - init
  - status
  - add
  - commit
  - log
  - diff
  - rm
  - gitignore
  - branch
  - checkout
  - merge
  - remote
  - push