

GIT AND GITHUB

WHAT IS GIT & GIT HUB?

Git

- A popular version control system created by Linus Torvalds in 2005- Manages projects with repositories- Allows for cloning a project to work on a local copy- Controls and tracks changes with staging and committing- Allows for the creation of branches and merging to work on different parts and versions of a project.

GIT HUB

- - A platform that hosts Git repositories- Provides tools to ship better code through command line features, issues, pull requests, code review, or the use of a collection of free and for-purchase apps in the GitHub Marketplace- Allows developers to work together to build the best possible final product- Builds collaboration directly into the development process- Allows work to be organized into repositories where developers can outline requirements or direction and set expectations for team members.

WHY WE USE THIS TOOLS GIT AND GIT HUB?

- - Version control: Git helps us track changes and manage different versions of our code.
- - Collaboration: Git allows multiple developers to work on the same project simultaneously without conflicts.
- - Backup: Git provides a backup of our code, so we can easily recover it if something goes wrong.
- - Flexibility: Git allows us to work on different features or versions of a project simultaneously.
- - Scalability: Git is fast and efficient, even for large projects.

USES OF GIT HUB

- - Centralized repository: GitHub provides a central location for our Git repositories, making it easy to manage and share our code.
- - Collaboration: GitHub makes it easy for teams to collaborate on projects, with features like pull requests, code review, and issues.
- - Open-source community: GitHub is home to a large open-source community, where developers can share and contribute to projects.
- - Portfolio: GitHub provides a platform to showcase our work and projects, making it a great tool for developers to build their portfolio.
- - Integration: GitHub integrates with a wide range of tools and services, making it a versatile platform for software development.

HOW TO USE GIT & GIT HUB?

• GIT

- 1. Install Git on your computer.
- 2. Create a repository (repo) for your project
- .3. Initialize Git in your project directory using git init.
- 4. Add files to the repository using git add <file name> or git add . for all files.
- 5. Commit changes using git commit -m "commit message".
- 6. Create branches using git branch <branch name> to work on different features or versions.
- 7. Switch between branches using git checkout <branch name>.
- 8. Merge branches using git merge <branch name>.

GIT HUB

- 1. Create an account on (link unavailable)
- 2. Create a new repository on GitHub.
- 3. Link your local repository to GitHub using `git remote add origin <repository URL>`.
- 4. Push changes to GitHub using `git push origin <branch name>`.
- 5. Create pull requests to merge changes from one branch to another.
- 6. Review code and comment on pull requests.
- 7. Merge pull requests to combine changes.
- 8. Use GitHub issues to track bugs and tasks.

ADDITIONAL TIPS OF GIT AND GIT HUB

- - Use git status to check the status of your repository.
- - Use git log to view commit history.
- - Use git branch -a to list all branches.
- - Use git remote -v to list remote repositories.

ADVANTAGES OF GIT & GIT HUB

- Advantages of Git:
 - - Version control: Git helps keep track of every change you make.
 - - Collaboration: Git allows multiple developers to work on the same project.
 - - Backup: Git provides a backup of your code.
 - - Flexibility: Git allows you to work on different features or versions of a project.
 - - Scalability: Git is fast and efficient even for large projects.

GITHUB

- Advantages of GITHUB:
 - - Real-time collaboration: GitHub allows teams to work together in developing code, building web pages and updating content.
 - - Centralized repository: GitHub provides a central location for Git repositories
 - .- Open-source community: GitHub is home to a large open-source community.
 - - Portfolio: GitHub provides a platform to showcase work and projects.
 - - Integration: GitHub integrates with a wide range of tools and services.

USES OF GIT & GITHUB

Git and GitHub can be used in various scenarios and industries, including:

1. Software development: Git is ideal for managing source code, tracking changes, and collaborating with team members.
2. Web development: Use Git to version control website code, collaborate on development, and deploy changes.
3. DevOps: Git is used in DevOps practices like continuous integration, continuous deployment, and continuous monitoring.
4. Data science: Manage data science projects, collaborate on data analysis, and version control data sets.
5. Research: Use Git to manage research papers, collaborate with colleagues, and track changes.

-
- 6. Education: Teach Git and GitHub in computer science courses, manage assignments, and collaborate on projects.
 - 7. Open-source projects: Host open-source projects on GitHub, collaborate with contributors, and manage versions.
 - 8. Content creation: Use Git to version control content, collaborate on writing, and track changes.
 - 9. Marketing: Manage marketing materials, collaborate on campaigns, and version control assets.
 - 10. Personal projects: Use Git and GitHub for personal projects, such as building a personal website or managing a blog.

THANK YOU