**GIT / GITHUB BASICS**

Git and GitHub Basics

Setting up Git

Setting up the Config

- git config --global user.name "Your Name" sets the name.

- git config --global user.email "yourname@example.com" sets the email.

- git config --global color.ui auto enables colorful output.

- git config --get <user.name or user.email> shows the user name and email in the config.

- git --version shows the version of git installed.

- git config --global init.defaultBranch sets the default branch.

Create an SSH Key

- If ls ~/.ssh/id\_rsa.pub returns "No such file or directory," then the following command will generate an SSH key:

- ssh-keygen -C <youremail>

- Press Enter when prompted for a location.

- Enter a password if wanted.

Connecting to GitHub

- In Settings, click on SSH and GPG keys, and hit the New SSH Key button.

- Give the key a descriptive name.

- Copy the output of the following command to get the SSH Key from the command line:

- cat ~/.ssh/id\_rsa.pub

- Paste the key into the key field on GitHub and click Add SSH Key.

Verify SSH Connection

- Enter ssh -T git@github

- Verify that the warning fingerprint is one of the following:

- SHA256:nThbg6kXUpJWGl7E1IGOCspRomTxdCARLviKw6E5SY8 (RSA)

- SHA256:p2QAMXNIC1TJYWeIOttrVc98/R1BUFWu3/LiyKgUfQM (ECDSA)

- SHA256:+DiY3wvvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU (Ed25519)

- Type yes, and a successfully authenticated message will appear.

From GitHub to Git

- After creating a respository on GitHub, click on the Code button, select the SSH option and copy the link, which should follow this format:

- git@github.com:USER-NAME/REPOSITORY-NAME.git

- In the terminal, use the following command to clone the repository:

- git clone git@github.com:USER-NAME/REPOSITORY-NAME.git

Checking the Status

- When working on files in the repository, there are several stages which they can be in, which can be checked with git status:

- Red means that the file is not staged.

- Green means that the file has been staged and is ready to be committed.

Staging a File

- To stage all files, use git add . or, for a more specific file, git add <file>.

- A staged file is ready to be committed.

Committing a File

- Assuming a commit template is created, the following command will commit all files and opens a text editor for an appropriate commit message:

- git commit

Logs

- To see the various versions of a file, there are a few commands that can be used:

- git log shows indepth details of all commits.

- git shortlog shows commit subjects for by user.

- git log --oneline displays only the subject line of each commit.

Pushing a File to the Remote Repository

- After committing, git push origin main can be used to push the committed files to the main remote branch for updating.