## **Objectives**

* Explain branching and merging
* Explain about creating a branch request in GitLab
* Explain about creating a merge request in GitLab

In this hands-on lab, you will learn how to:

* Construct a branch, do some changes in the branch, and merge it with master (or trunk)

## **Prerequisites**

The following are the pre-requisites to complete this hands-on lab:

* Setting up Git environment with P4Merge tool for Windows

Notes\*:

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| Please follow the below steps for creating a free account in GitHub.  Do not use cognizant credentials to login to GitHub. |

Estimated time to complete this lab: **30 minutes.**

Please follow the instruction to complete the hands-on. Each instruction expects a command for the Git Bash.

**Branching:**

1. Create a new branch **“GitNewBranch”.**
2. List all the local and remote branches available in the current trunk. Observe the “\*” mark which denote the current pointing branch.
3. Switch to the newly created branch. Add some files to it with some contents.
4. Commit the changes to the branch.
5. Check the status with **“git status”** command.

**Merging:**

1. Switch to the master
2. List out all the differences between trunk and branch. These provide the differences in command line interface.
3. List out all the visual differences between master and branch using **P4Merge tool**.
4. Merge the source branch to the trunk.
5. Observe the logging after merging using **“git log –oneline –graph –decorate”**
6. Delete the branch after merging with the trunk and observe the git status.

**Program:**

git config --global user.name "Kavya19112004"

git config --global user.email "kavyakrishnamurthy905@gmail.com"

git clone https://github.com/Kavya19112004/Git-HOL.git

cd Git-HOL

echo "# Git-HOL" > README.md

git add README.md

git commit -m "Initial commit"

git branch -M main

git push -u origin main

git checkout -b GitNewBranch

echo "This is a test file created on branch GitNewBranch" > README-branch.txt

git add README-branch.txt

git commit -m "Add README-branch.txt on GitNewBranch"

git push -u origin GitNewBranch

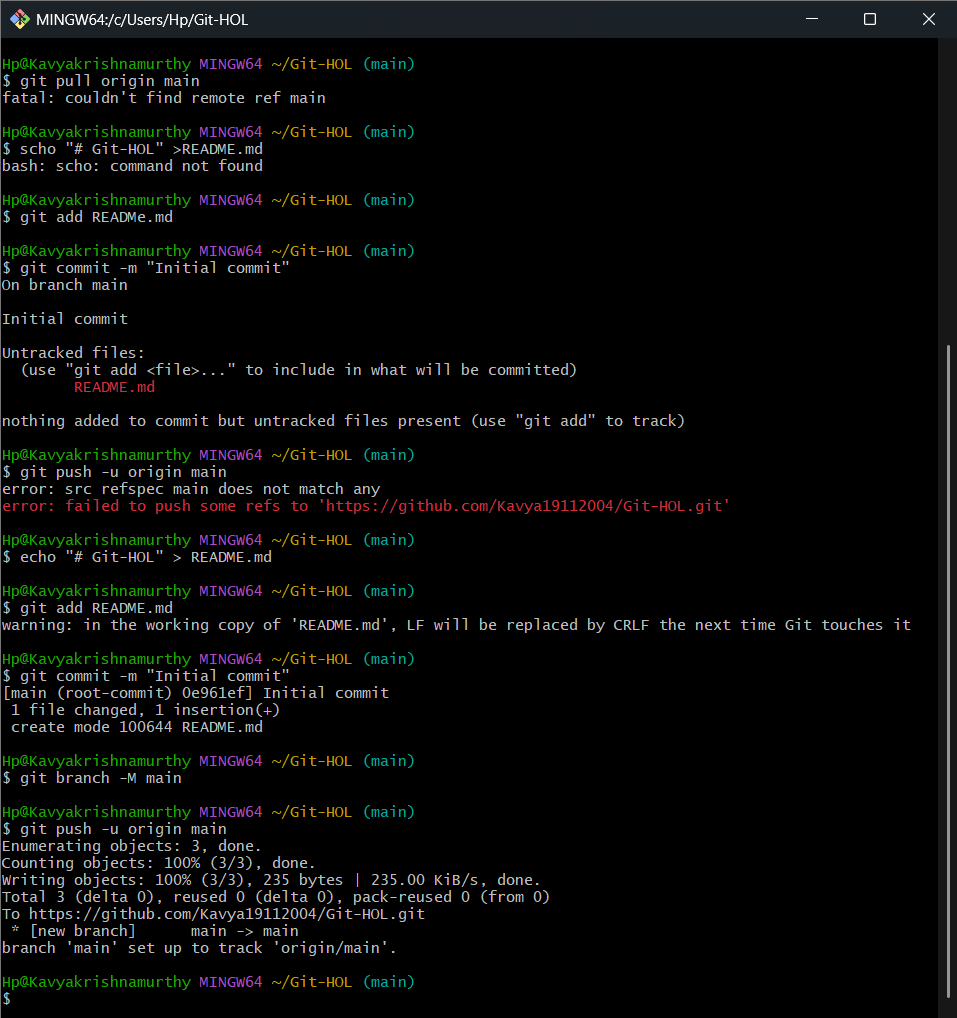
git checkout main

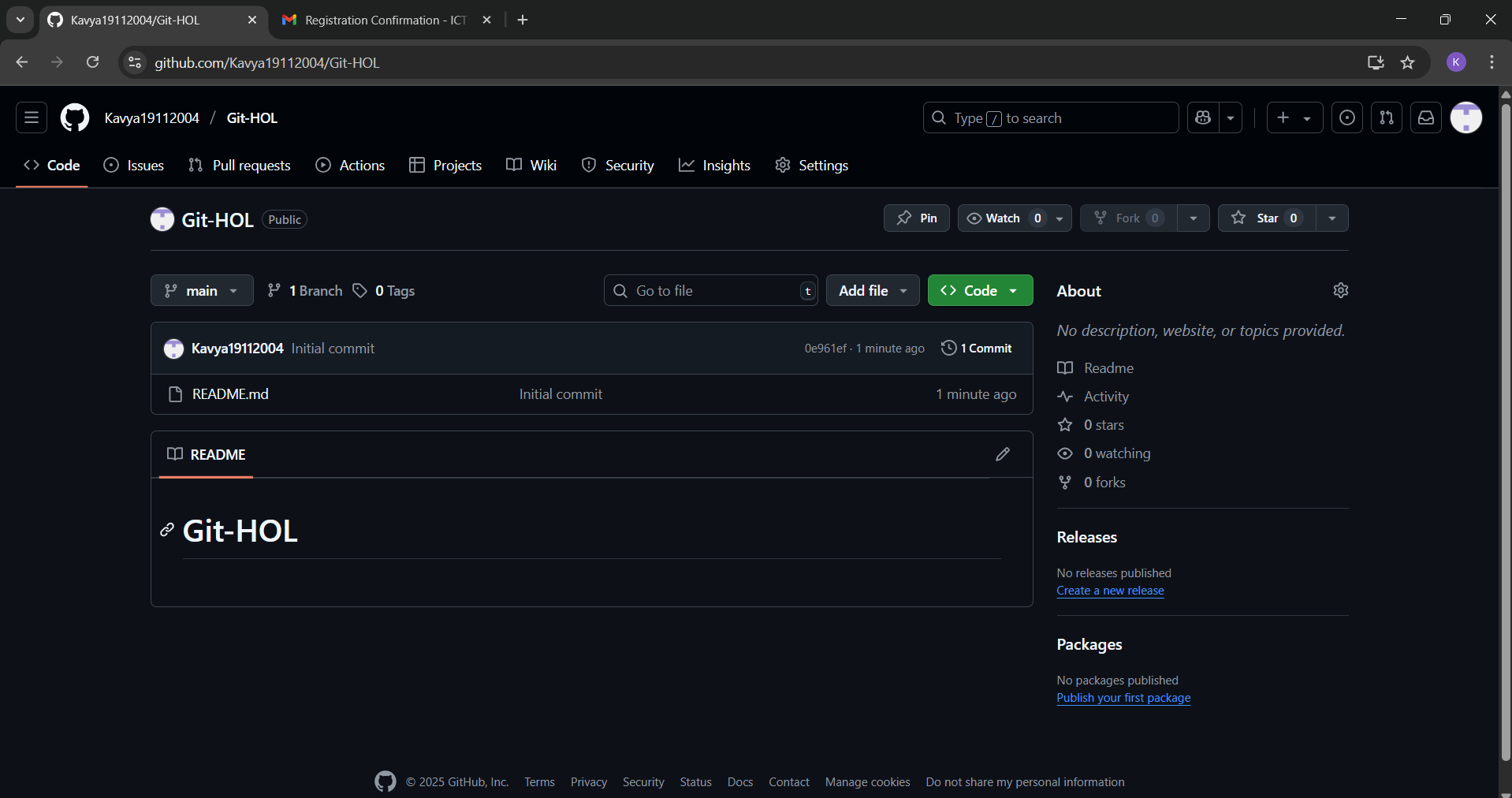
git diff main..GitNewBranch

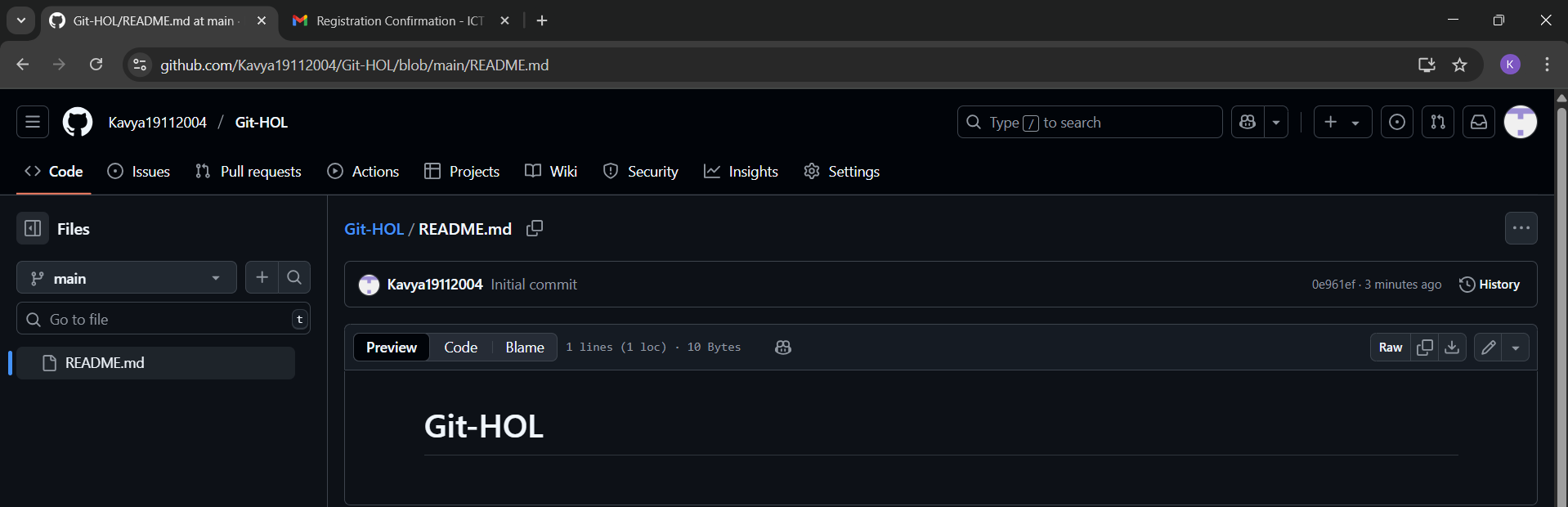
git branch -d GitNewBranch

git push origin --delete GitNewBranch

**Output:**

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