

# CS445 - Collaborative Git

## 1. git init

```
PS C:\Abel\Maharishi Class\Modern asynchronous programming\Reading\Practice\Lesson 1 GIT> git init
Initialized empty Git repository in C:/Abel/Maharishi Class/Modern asynchronous programming/Reading/Practice/Lesson 1 GIT/.git/
```

## 2. git status

```
PS C:\Abel\Maharishi Class\Modern asynchronous programming\Reading\Practice\Lesson 1 GIT> git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    index.html

nothing added to commit but untracked files present (use "git add" to track)
```

## 3. git diff

```
PS C:\Users\abelk\Desktop\Practice> git diff
diff --git a/index.js b/index.js
index cc57522..40646d7 100644
--- a/index.js
+++ b/index.js
@@ -1,5 +1,5 @@
  function greretings() {
-   console.log("hi");
+   console.log("Hello");
  }

  greretings;
```

## 4. git ignore

```
PS C:\Users\abelk\Desktop\Practice> git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   .gitignore
    modified:   index.js
    new file:   test3.js

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   .gitignore

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    test2.js
```

5. git add

```
PS C:\Abel\Maharishi Class\Modern asynchronous programming\Reading\Practice\Lesson 1 GIT> git add index.html
```

6. git commit

```
PS C:\Users\abelk\Desktop\Practice> git commit -m "second one"
[master 84320bd] second one
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 test5.js
```

7. git commit -m amend

```
first one

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# Date:      Tue Nov 1 13:41:04 2022 -0500
#
# On branch master
#
# Initial commit
#
# Changes to be committed:
#   new file:   .gitignore
#   new file:   index.js
#   new file:   test2.js
#   new file:   test3.js
#   new file:   test4.js
#
~
~
~
~
~
~
C:/Users/abelk/Desktop/Practice/.git/COMMIT_EDITMSG [unix] (13:54 01/11/2022)
"C:/Users/abelk/Desktop/Practice/.git/COMMIT_EDITMSG" [unix] 18L, 379B
```

#### 8. Git log

```
PS C:\Users\abelk\Desktop\Practice> git log
commit e6f9318aa80ad6bcf7d3f4e6d0282f217d3290c2 (HEAD -> master)
Author: zadigg <abelkibebe5@gmail.com>
Date: Tue Nov 1 13:41:04 2022 -0500
```

#### 9. Git tag

```
PS C:\Users\abelk\Desktop\Practice> git tag v1.0
PS C:\Users\abelk\Desktop\Practice> git show v1.0
commit e6f9318aa80ad6bcf7d3f4e6d0282f217d3290c2 (HEAD -> master, tag: v1.0)
Author: zadigg <abelkibebe5@gmail.com>
Date: Tue Nov 1 13:41:04 2022 -0500

    first one

diff --git a/.gitignore b/.gitignore
new file mode 100644
index 0000000..356b73f
--- /dev/null
+++ b/.gitignore
@@ -0,0 +1 @@
+test3.js
\ No newline at end of file
diff --git a/index.js b/index.js
new file mode 100644
index 0000000..40646d7
--- /dev/null
```

#### 10. Git branch

```
PS C:\Users\abelk\Desktop\Practice> git branch
* master
```

#### 11. Git checkout

```
PS C:\Users\abelk\Desktop\Practice> git checkout -b "abel"
Switched to a new branch 'abel'
```

```
PS C:\Users\abelk\Desktop\Practice> git checkout master
Switched to branch 'master'
```

## 12. Git merge

```
PS C:\Users\abelk\Desktop\Practice> git commit -m "from master"
[master cfbca61] from master
1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\abelk\Desktop\Practice> git merge newBrach
Auto-merging index.js
CONFLICT (content): Merge conflict in index.js
Automatic merge failed; fix conflicts and then commit the result.
PS C:\Users\abelk\Desktop\Practice>
```

```
PS C:\Users\abelk\Desktop\Practice> git commit -m "save"
[master b9d8d35] save
PS C:\Users\abelk\Desktop\Practice> git merge newBrach
Already up to date.
PS C:\Users\abelk\Desktop\Practice>
```

## 13. Git revert

```
PS C:\Users\abelk\Desktop\Practice> git revert HEAD
[master 744e5ca] Revert "hi"
1 file changed, 1 insertion(+), 1 deletion(-)
```

## 14. Git reset

```
PS C:\Users\abelk\Desktop\Practice> git reset --hard HEAD
HEAD is now at 6dc4221 hi
```

## Practice with all the remote repository commands from the slides:

1. Create a remote repository

```
git remote add origin https://github.com/zadigg/MAsync-Lab-Solution.git
git branch -M main
git push -u origin main
```

2. Git clone

```
PS C:\Users\abelk\Desktop\Practice> git clone https://github.com/zadigg/MAsync-Lab-Solution.git
Cloning into 'MAsync-Lab-Solution'...
warning: You appear to have cloned an empty repository.
```

3. Git remote

```
PS C:\Users\abelk\Desktop\Practice> git init
Initialized empty Git repository in C:/Users/abelk/Desktop/Practice/.git/
PS C:\Users\abelk\Desktop\Practice> git remote add origin https://github.com/zadigg/MAsync-Lab-Solution.git
PS C:\Users\abelk\Desktop\Practice>
```

4. Git push

```
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution> git add .
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution> git commit -m "Lab1 solution"
[main (root-commit) 812c584] Lab1 solution
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 Lab1/index.html
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution> git push -u origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Writing objects: 100% (4/4), 253 bytes | 253.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/zadigg/MAsync-Lab-Solution.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution>
```

5. Git fetch

```
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution> git fetch
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), 686 bytes | 34.00 KiB/s, done.
From https://github.com/zadigg/MAsync-Lab-Solution
 812c584..4f3e34b  main      -> origin/main
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution>
```

6. Git pull

```
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution> git pull
Updating 812c584..4f3e34b
Fast-forward
 Lab1/index.html | 1 +
 1 file changed, 1 insertion(+)
PS C:\Users\abelk\Desktop\Practice\MAsync-Lab-Solution>
```

Practice with all the third party repositories commands from the slides:

1. Star the repositories

bellaxing / cs445-labs Public Watch 9 Fork 28 Starred 21

2. Watch repositories

Unwatch 10 Fork 28 Starred 21

3. Fork the repositories

Fork 29

4. Clone in local machine

cs445-labs Public  
Forked from bellaxing/cs445-labs  
29 Updated on Apr 28

5. Create new branch

```
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs> git checkout -b "615182-AbelNegash"  
Switched to a new branch '615182-AbelNegash'
```

6. Checkout to the new branch

```
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs> git checkout 615182-AbelNegash  
Already on '615182-AbelNegash'
```

7. Add new file

AbelNegash.js 11/1/2022 5:50 PM JavaScript Source ... 0 KB

8. Commit the changes

```
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs> git commit -m "Answer"  
On branch 615182-AbelNegash
```

9. Merge

```
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs> git merge 615182-AbelNegash  
Updating 1c32ce1..e17244a  
Fast-forward  
 AbelNegash.js | 0  
 1 file changed, 0 insertions(+), 0 deletions(-)  
 create mode 100644 AbelNegash.js  
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs>
```

#### 10. Push to remote repo

```
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs> git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 274 bytes | 274.00 KiB/s, done.
Total 3 (delta 1), reused 1 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/zadigg/cs445-labs.git
    1c32ce1..e17244a  main -> main
PS C:\Users\abelk\Desktop\lab solution clone\cs445-labs>
```

#### 11. Create pull request

**615182 abel negash #26**

**Open** zadigg wants to merge 2 commits into `bellaxing:main` from `zadigg:615182-AbelNegash`

Conversation **0** Commits **2** Checks **0** Files changed **0**

**zadigg** commented 1 minute ago

*No description provided.*

**zadigg** added 2 commits 7 minutes ago

- Question 8 answer 6aa29f8
- Edit 8693a40

Add more commits by pushing to the `615182-AbelNegash` branch on `zadigg/cs445-labs`.

**This branch has no conflicts with the base branch**  
Only those with [write access](#) to this repository can merge pull requests.