

## Lab 1 Solution

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

1. `git init`

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git init
Reinitialized existing Git repository in C:/Users/Tekletsadik Yigzaw/Desktop/AsycCS445/CS445/Lab1/.git/
```

2. `git status`

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git status
On branch master

No commits yet

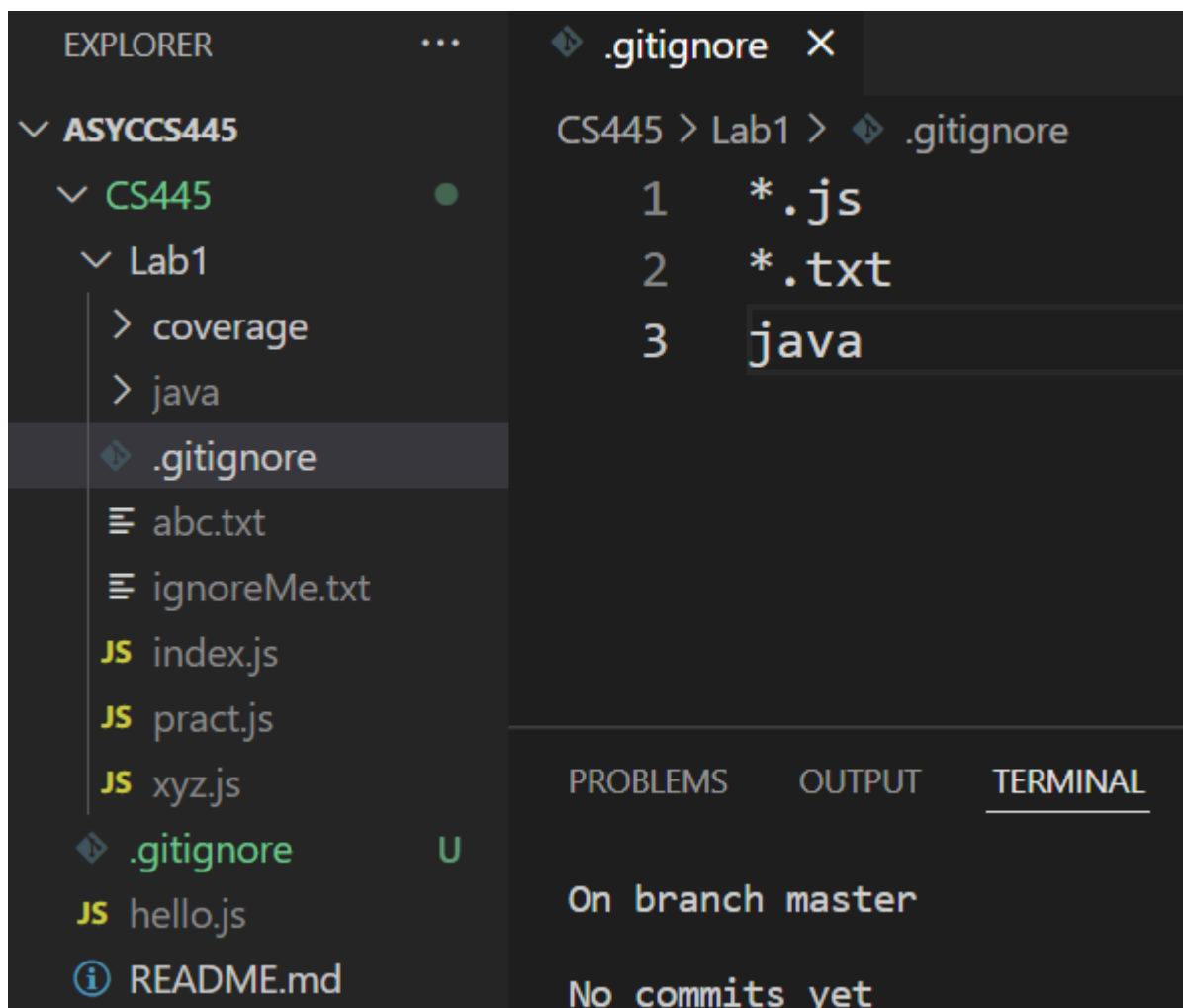
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .gitignore

nothing added to commit but untracked files present (use "git add" to track)
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1>
```

3. `git diff`

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git diff .gitignore
diff --git a/.gitignore b/.gitignore
index fa6b7d6..298070d 100644
--- a/.gitignore
+++ b/.gitignore
@@ -1,3 +1,4 @@
 *.js
 *.txt
 -java
 \ No newline at end of file
+java
+html
 \ No newline at end of file
```

4. Create `.gitignore` file, and notice how it works



5. `git add`

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git add .gitignore
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   .gitignore

```

## 6. git commit

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git commit -m "gitignore file is added"
[master (root-commit) 1122a88] gitignore file is added
1 file changed, 3 insertions(+)
create mode 100644 .gitignore

```

## 7. git commit --amend (updating the last commit)

```

1122a88 (HEAD -> master) gitignore file is added
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git commit --amend -m "Amended gitignore i
n the file"
[master 11fb8a4] Amended gitignore in the file
Date: Tue Apr 26 14:42:46 2022 -0500
1 file changed, 3 insertions(+)
create mode 100644 .gitignore

```

## 8. git log

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log
commit 1122a88342270af5e3b2ef39e99a07c9362c2357 (HEAD -> master)
Author: Tekletsadik Yigzaw <Tyigzaw@miu.edu>
Date: Tue Apr 26 14:42:46 2022 -0500

    gitignore file is added
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log --oneline
1122a88 (HEAD -> master) gitignore file is added

```

## 9. git tag

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git tag -a firstCommit -m "first"091dc32
warning: refname '091dc32' is ambiguous.
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log --oneline
ec9f138 (HEAD, tag: firstCommit, tag: 2e68317, tag: 091dc32, master) hello index.js
f1eb9d8 Hello index.js
091dc32 hello .js files
2e68317 ignore java folder
11fb8a4 Amended gitignore in the file

```

10.git branch

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git branch
* master
  shippingcart
  shoppingcart
  user-managment
```

11.git checkout

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git checkout master
Switched to branch 'master'
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git checkout shoppingcart
Switched to branch 'shoppingcart'
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git status
On branch shoppingcart
nothing to commit, working tree clean
```

12.git merge

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git merge shoppingcart
Updating ec9f138..d4a2471
Fast-forward
 shippingcart.js | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 shoppingcart.js
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git status
On branch master
nothing to commit, working tree clean
```

- i. Create a conflict and solve the conflict

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git checkout master
Switched to branch 'master'
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git merge shoppingcart
Auto-merging shoppingcart.js
CONFLICT (content): Merge conflict in shoppingcart.js
Automatic merge failed; fix conflicts and then commit the result.
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git add .
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git commit -m "merge changes from shoppingcart"
[master c00207e] merge changes from shoppingcart
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git merge shoppingcart
Already up to date.

```

### 13. Undo changes from a certain commit git revert

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git revert 3a3916b
[master 4377cd6] Revert "prepare for revert test changes"
1 file changed, 1 deletion(-)
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log --oneline
4377cd6 (HEAD -> master) Revert "prepare for revert test changes"
3a3916b prepare for revert test
c00207e merge changes from shoppingcart
af0466e (shoppingcart) changes in shoppingcart branch
4341dd2 changes in master
d4a2471 (new-branch) shoppingcart init commit
ec9f138 (tag: firstCommit, tag: 2e68317, tag: 091dc32, user-managment, shippingcart) hello index.js
f1eb9d8 Hello index.js
091dc32 hello .js files
2e68317 ignore java folder
11fb8a4 Amended gitignore in the file

```

### 14. Erase commits with git reset

```

PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log --oneline
4377cd6 (HEAD -> master) Revert "prepare for revert test changes"
3a3916b prepare for revert test
c00207e merge changes from shoppingcart
af0466e (shoppingcart) changes in shoppingcart branch
4341dd2 changes in master
d4a2471 (new-branch) shoppingcart init commit
ec9f138 (tag: firstCommit, tag: 2e68317, tag: 091dc32, user-managment, shippingcart) hello index.js
f1eb9d8 Hello index.js
091dc32 hello .js files
2e68317 ignore java folder
11fb8a4 Amended gitignore in the file
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git reset ec9f138
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1> git log --oneline
ec9f138 (HEAD -> master, tag: firstCommit, tag: 2e68317, tag: 091dc32, user-managment, shippingcart) hello index.js
f1eb9d8 Hello index.js
091dc32 hello .js files
2e68317 ignore java folder
11fb8a4 Amended gitignore in the file
PS C:\Users\Tekletsadik Yigzaw\Desktop\AsycCS445\CS445\Lab1>

```

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

1. Create a remote repository

## Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

### Repository template

Start your repository with a template repository's contents.

No template ▼

Owner \*



Tekleyigzaw21 ▼

Repository name \*

Great repository names are short and memorable. Need inspiration? How about [refactored-guacamole?](#)

Description (optional)



Public

Anyone on the internet can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.

### Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more.](#)

### Add .gitignore

Choose which files not to track from a list of templates. [Learn more.](#)

.gitignore template: None ▼

Tekleyigzaw21 / CS445-lab-solns Public

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main 1 branch 0 tags

Go to file Add file Code

Tekleyigzaw21 Update README.md 3738b92 6 minutes ago 6 commits

README.md	Update README.md	6 minutes ago
hello.js	init commit 2	19 minutes ago

## 2. git clone

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git clone https://github.com/Tekleyigzaw21/CS445-lab-solns.git
Cloning into 'CS445-lab-solns'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (13/13), done.
remote: Total 18 (delta 0), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (18/18), done.
```

## 3. git remote

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git remote
origin
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git add .
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git commit -m "init commit"
[main d34b069] init commit
1 file changed, 1 insertion(+)
create mode 100644 hello.js
(use "git push" to publish your local commits)
```

## 4. git push

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 306 bytes | 102.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Tekleyigzaw21/CS445-lab-solns.git
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns>
```

5. git fetch

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 687 bytes | 68.00 KiB/s, done.
From https://github.com/Tekleyigzaw21/CS445-lab-solns
   25b8123..096581b  main       -> origin/main
```

6. git pull

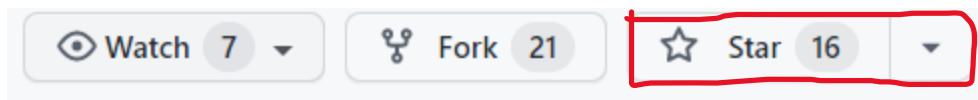
```
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git merge
Updating 8e1cbe4..096581b
Fast-forward
 README.md | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)
PS C:\Users\Tekletsadik Yigzaw\Desktop\CS445-lab-solns> git pull origin main
From https://github.com/Tekleyigzaw21/CS445-lab-solns
   * branch                main       -> FETCH_HEAD
Updating 096581b..3738b92
Fast-forward
 README.md | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)
```

✓ CS445-LAB-SOLNS	① README.md > # CS445 Lab Solutions
> CS445-lab-solns	1  # CS445 Lab Solutions
JS hello.js	2
① README.md	3  1. Lab 1
	4  2. Lab 2
	5  3. Lab 3

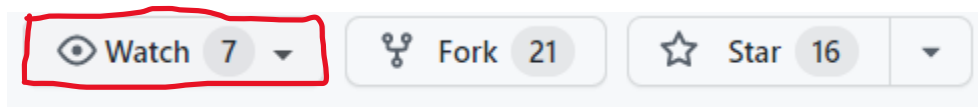


## Practice with all the third party repositories commands from the slides:

Assume we are working with the following upstream: <https://github.com/bellaxing/cs445-labs> Star the repository



1. Watch the repository for any changes



2. Fork the repository



3. Clone your forked repository into your local machine

```
PS C:\Users\Tekletsadik Yigzaw\Desktop> git clone https://github.com/Tekleyigzaw21/cs445-labs-1.git
Cloning into 'cs445-labs-1'...
remote: Enumerating objects: 231, done.
remote: Counting objects: 100% (73/73), done.
remote: Compressing objects: 100% (40/40), done.
remote: Total 231 (delta 40), reused 26 (delta 25), pack-reused 158 eceiving objects: 90% (208/231)
Receiving objects: 100% (231/231), 108.18 KiB | 1.80 MiB/s, done.
Resolving deltas: 100% (84/84), done.
```

4. Create a new topic branch using studentId-studentName format, For example:  
610001-JohnSmith

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git branch 112200-Tekletsadik
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git branch
112200-Tekletsadik
* main
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> █
```

5. Checkout your new branch

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git checkout 112200-Tekletsadik
Switched to branch '112200-Tekletsadik'
```

6. Add a new file with your name, example: hello.js

```
JS tekletsadik.js

JS tekletsadik.js
1 console.log("Hello Tekletsadik....");
2
```

7. Commit the changes

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git add .
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git commit -m "changes in branch tekletsadik"
[112200-Tekletsadik ebed74a] changes in branch tekletsadik
1 file changed, 1 insertion(+)
create mode 100644 tekletsadik.js
```

8. Merge your studentId-studentName branch with the main branch


```
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git merge 112200-Tekletsadik
Updating 1c32ce1..ebed74a
Fast-forward
 tekletsadik.js | 1 +
1 file changed, 1 insertion(+)
create mode 100644 tekletsadik.js
```

9. Push your changes to the remote repo

```
PS C:\Users\Tekletsadik Yigzaw\Desktop\cs445-labs-1> git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 324 bytes | 324.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Tekleyigzaw21/cs445-labs-1.git
1c32ce1..ebed74a main -> main
```

10. Create a new Pull Request to the upstream repo

 15 Open ✓ 7 Closed

Author ▼	Label ▼	Assignee ▼	Sort ▼
 <b>changes in branch tekletsadik</b> #22 by Tekleyigzaw21 was closed 11 minutes ago			