

## Lab 1 Solutions

### 1. git init

```
C:\Users\rxing\Desktop\lab1>git init
Initialized empty Git repository in C:/Users/rxing/Desktop/lab1/.git/
```

### 2. git status

```
C:\Users\rxing\Desktop\lab1>git status
On branch master
```

No commits yet

Untracked files:

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

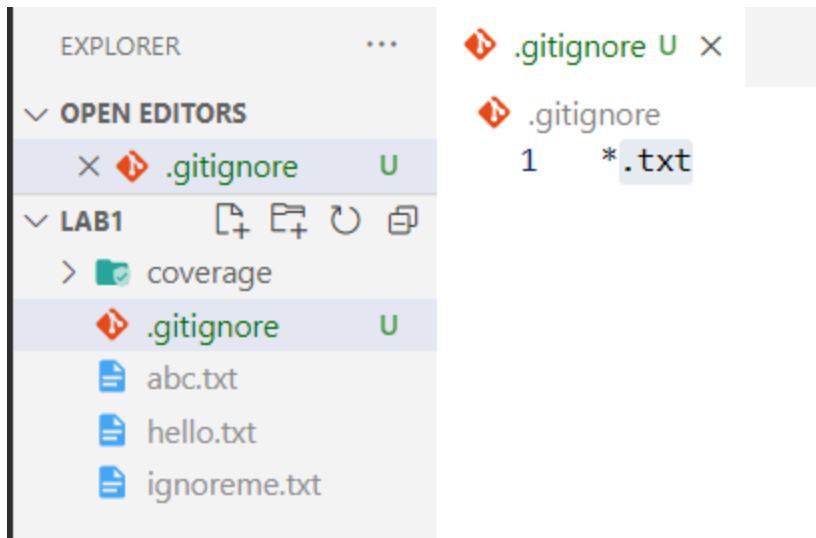
**.gitignore**

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

### 3. git diff

```
C:\Users\rxing\Desktop\lab1>git diff .gitignore
diff --git a/.gitignore b/.gitignore
index 314f02b..b92c542 100644
--- a/.gitignore
+++ b/.gitignore
@@ -1,2 @@
-*.txt
\ No newline at end of file
+*.txt
+java
\ No newline at end of file
```

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



5. `git add`

```
C:\Users\rxing\Desktop\lab1>git add .gitignore
```

```
C:\Users\rxing\Desktop\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`

```
C:\Users\rxing\Desktop\lab1>git commit -m "added gitignore file"
[master (root-commit) 36f6cc9] added gitignore file
1 file changed, 1 insertion(+)
create mode 100644 .gitignore
```

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

```
C:\Users\rxing\Desktop\lab1>git commit --amend -m "amended gitignore init commit"
[master ded82e2] amended gitignore init commit
Date: Sun Oct 10 13:18:24 2021 -0500
1 file changed, 1 insertion(+)
create mode 100644 .gitignore
```

#### 8. git log

```
C:\Users\rxing\Desktop\lab1>git log
commit 36f6cc92b96095a050a8ccafb393a78dfe656dd2 (HEAD -> master)
Author: rxing <rxing@mum.edu>
Date: Sun Oct 10 13:18:24 2021 -0500
```

added gitignore file

```
C:\Users\rxing\Desktop\lab1>git log --oneline
36f6cc9 (HEAD -> master) added gitignore file
```

#### 9. git tag

```
C:\Users\rxing\Desktop\lab1>git tag -a firstcommit -m "first" ed8755b
```

```
C:\Users\rxing\Desktop\lab1>git log --oneline
60e0851 (HEAD -> master) console.log 3
129f91e hello.js init commit
ed8755b (tag: firstcommit) hello.js init commit
193d77c ignore java folder
ded82e2 amended gitignore init commit
```

```
C:\Users\rxing\Desktop\lab1>git checkout firstcommit
Note: switching to 'firstcommit'.
```

#### 10. git branch

```
C:\Users\rxing\Desktop\lab1>git branch
* master
  shoppingcart
  user-management
```

```
C:\Users\rxing\Desktop\lab1>git branch new-branch
```

#### 11. git checkout

```
C:\Users\rxing\Desktop\lab1>git checkout master
Previous HEAD position was ed8755b hello.js init commit
Switched to branch 'master'
```

#### 12. git merge

```
C:\Users\rxing\Desktop\lab1>git merge shoppingcart
Merge made by the 'recursive' strategy.
 shoppingcart.js | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 shoppingcart.js
```

##### 1. Create a conflict and solve the conflict

```
C:\Users\rxing\Desktop\lab1>git checkout master
Switched to branch 'master'
```

```
C:\Users\rxing\Desktop\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.
```

```
C:\Users\rxing\Desktop\lab1>git add .
```

```
C:\Users\rxing\Desktop\lab1>git commit -m "merge changes from shoppingcart"
[master f250f33] merge changes from shoppingcart
```

```
C:\Users\rxing\Desktop\lab1>git merge shoppingcart
Already up to date.
```

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

```
C:\Users\rxing\Desktop\lab1>git log --oneline
cd9cea3 (HEAD -> master) Revert "git revert test again change"
f575a8e git revert test again
9eb77cb Revert "prepare for revert test"
b9a4d0b prepare for revert test
f250f33 merge changes from shoppingcart
ebc09dd (shoppingcart) shopping cart changes
eade88b changes on master
1022d61 (new-branch) Merge branch 'shoppingcart'
a4a7aff shoppingcart init commit
60e0851 (user-management) console.log 3
129f91e hello.js init commit
ed8755b (tag: firstcommit) hello.js init commit
193d77c ignore java folder
ded82e2 amended gitignore init commit
```

```
C:\Users\rxing\Desktop\lab1>git revert HEAD
```

14. Erase commits with `git reset`

```
C:\Users\rxing\Desktop\lab1>git log --oneline
cd9cea3 (HEAD -> master) Revert "git revert test again change"
f575a8e git revert test again
9eb77cb Revert "prepare for revert test"
b9a4d0b prepare for revert test
f250f33 merge changes from shoppingcart
ebc09dd (shoppingcart) shopping cart changes
eade88b changes on master
1022d61 (new-branch) Merge branch 'shoppingcart'
a4a7aff shoppingcart init commit
60e0851 (user-management) console.log 3
129f91e hello.js init commit
ed8755b (tag: firstcommit) hello.js init commit
193d77c ignore java folder
ded82e2 amended gitignore init commit

C:\Users\rxing\Desktop\lab1>git reset f250f33

C:\Users\rxing\Desktop\lab1>git log --oneline
f250f33 (HEAD -> master) merge changes from shoppingcart
ebc09dd (shoppingcart) shopping cart changes
eade88b changes on master
1022d61 (new-branch) Merge branch 'shoppingcart'
a4a7aff shoppingcart init commit
60e0851 (user-management) console.log 3
129f91e hello.js init commit
ed8755b (tag: firstcommit) hello.js init commit
193d77c ignore java folder
ded82e2 amended gitignore init commit
```

## 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.](#)



Owner \*

Repository name \*

 bellaxing ▾ /

Great repository names are short and memorable. Need inspiration? How about [psychic-octo-lamp?](#)

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.](#)
- ☐ **Choose a license**  
A license tells others what they can and can't do with your code. [Learn more.](#)

Create repository

2. `git clone`

```
git clone https://github.com/bellaxing/cs445-lab-solns.git
```

3. `git remote`

```
C:\Users\rxing\Desktop\cs445-lab-solns>git remote  
origin
```

4. `git push`

```
C:\Users\rxing\Desktop\cs445-lab-solns>git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 325 bytes | 325.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/bellaxing/cs445-lab-solns.git
7dc629c..2a50447  main -> main
```

##### 5. git fetch

```
C:\Users\rxing\Desktop\cs445-lab-solns>git fetch
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.38 KiB | 5.00 KiB/s, done.
From https://github.com/bellaxing/cs445-lab-solns
a0bb624..c714c42  main      -> origin/main
```

```
C:\Users\rxing\Desktop\cs445-lab-solns>git status
On branch main
Your branch is behind 'origin/main' by 2 commits, and can be fast-
forwarded.
(use "git pull" to update your local branch)
```

nothing to commit, working tree clean

```
C:\Users\rxing\Desktop\cs445-lab-solns>git merge
Updating a0bb624..c714c42
Fast-forward
 README.md | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)
```

##### 6. git pull



```

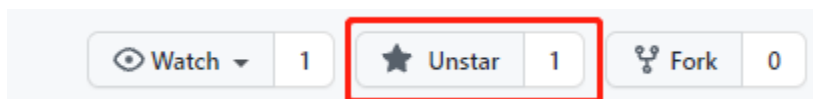
C:\Users\rxing\Desktop\cs445-lab-solns>git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 727 bytes | 5.00 KiB/s, done.
From https://github.com/bellaxing/cs445-lab-solns
 * branch                main          -> FETCH_HEAD
    c714c42..e7ce6ff main      -> origin/main
Updating c714c42..e7ce6ff
Fast-forward
 README.md | 2 ++
1 file changed, 2 insertions(+)

```

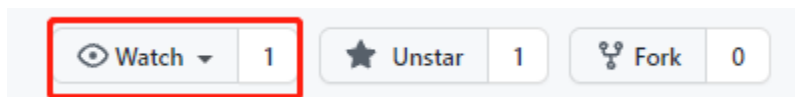
## Practice with all the third party repositories commands from the slides:

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

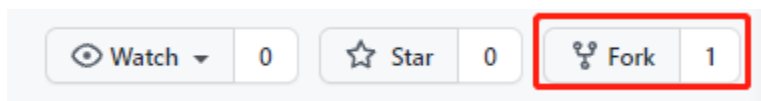
1. Star the repository



2. Watch the repository for any changes



3. Fork the repository



4. Clone your forked repository into your local machine

```
git clone https://github.com/TinaXing2012/cs445-labs.git
```

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

```
C:\Users\rxing\Desktop\cs445-labs>git branch 610001-JohnSmith
```

```
C:\Users\rxing\Desktop\cs445-labs>git branch
610001-JohnSmith
* main
```

6. Checkout your new branch

```
C:\Users\rxing\Desktop\cs445-labs>git checkout 610001-JohnSmith
Switched to branch '610001-JohnSmith'
```

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

8. Commit the changes

```
C:\Users\rxing\Desktop\cs445-labs>git add .

C:\Users\rxing\Desktop\cs445-labs>git commit -m "changes in 610001-JohnS
mith branch"
[610001-JohnSmith 0625a33] changes in 610001-JohnSmith branch
1 file changed, 1 insertion(+)
create mode 100644 hello.js
```

9. Merge your `studentId-studentName` branch with the main branch

```
C:\Users\rxing\Desktop\cs445-labs>git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

```
C:\Users\rxing\Desktop\cs445-labs>git merge 610001-JohnSmith
Updating 9228b9d..0625a33
Fast-forward
 hello.js | 1 +
1 file changed, 1 insertion(+)
create mode 100644 hello.js
```

10. Push your changes to the remote repo

```
C:\Users\rxing\Desktop\cs445-labs>git push
info: please complete authentication in your browser...
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 309 bytes | 103.00 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/TinaXing2012/cs445-labs.git
9228b9d..0625a33  main -> main
```

## 11. Create a new Pull Request to the upstream repo

The screenshot shows the GitHub interface for the repository 'bellaxing/cs445-labs'. The 'Pull requests' tab is selected, showing a list of pull requests. The current view shows 0 Open and 1 Closed pull request. The closed pull request is titled 'changes in 610001-JohnSmith branch' and was closed by TinaXing2012 6 minutes ago. The interface includes a search bar, filters, and a 'New pull request' button.

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Filters is:pr is:closed

Labels 9 Milestones 0 New pull request

Clear current search query, filters, and sorts

0 Open 1 Closed

changes in 610001-JohnSmith branch

#1 by TinaXing2012 was closed 6 minutes ago