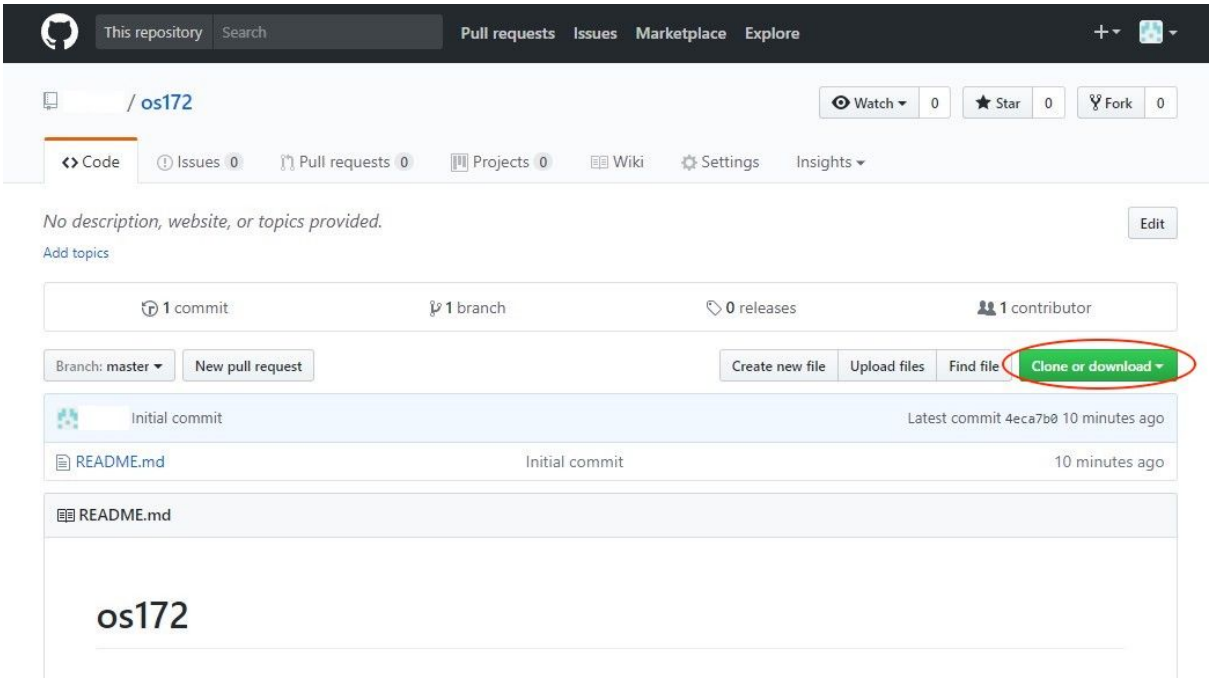
Version 20:45 Sat 2nd September 2017

Week 01

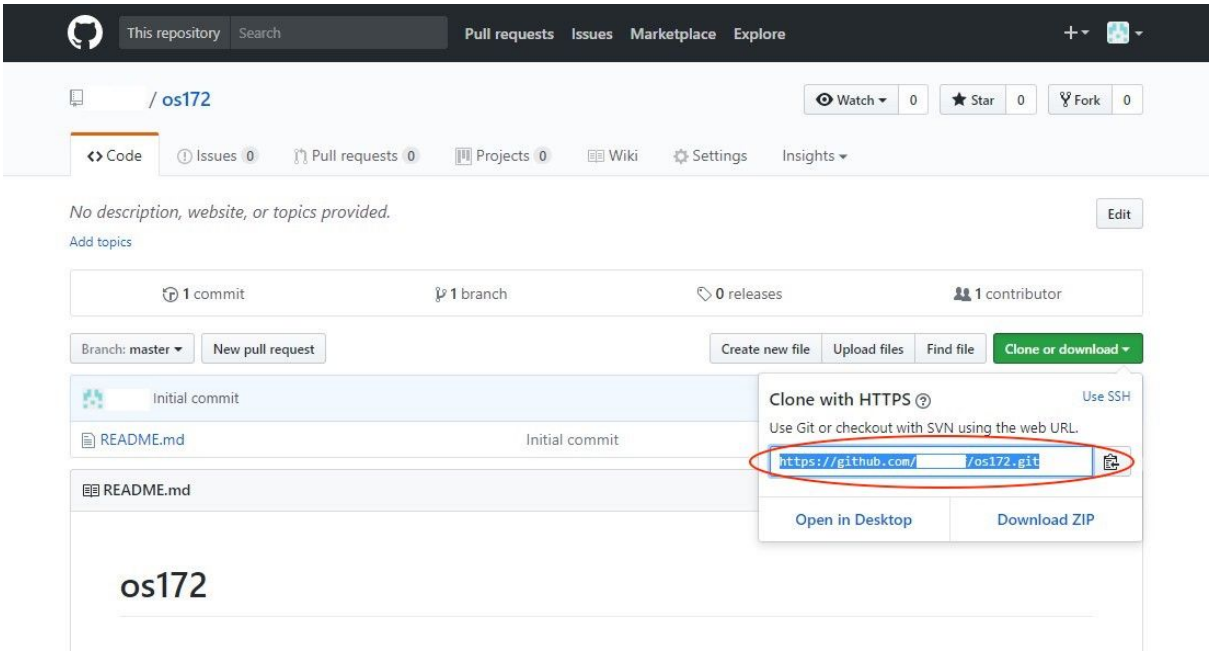
Deadline: Saturday, 9th September 2017 at 15:00

Clone Git Repository

1. Open your github repository in browser, then click on **Clone or Download** button.



2. Copy your repository link that appeared.



3. Then you can clone your repository by using command *"git clone your_repository_link"* on your terminal.

```
rifka.nur@badak:~$ git clone https://github.com/       /os172.git
Cloning into 'os172'...
remote: Counting objects: 3, done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
```

4. Congratulation, your repository has been successfully cloned. Check the cloned repository by using command *"ls -al"*, make sure your cloned repository is on the list.

```
rifka.nur@badak:~$ ls -al
total 24
drwxr-xr-x  3 rifka.nur StafCS 4096 Sep  1 01:02 .
drwxr-xr-x 39 root      root   4096 Aug 31 23:08 ..
-rw-r--r--  1 rifka.nur StafCS  220 Aug 31 23:08 .bash_logout
-rw-r--r--  1 rifka.nur StafCS 3526 Aug 31 23:08 .bashrc
drwxr-xr-x  3 rifka.nur StafCS 4096 Sep  1 01:02 os172
```

Intro to Git

Git is a version control system that is used for software development and other version control tasks. As a distributed revision control system it is aimed at speed, data integrity, and support for distributed, non-linear workflows (Wikipedia).

For more information about how Git works, take a look on <https://git-scm.com/book/en/v1>

5. Change your change directory to `os172` using command "`cd <path>`"

```
$ cd os172
```

6. Create 11 new folders named "`weekXX`" where XX is number from `00-10`, 4 folders named "`log`", "`key`", "`xtra`", "`sandbox`". To create new folder, use command "`mkdir ... <folder_name1> <folder_name2> ...`".

```
$ mkdir week00 week01 week02 week03 week04 week05 week06 week07
week08 week09 week10 log key xtra sandbox
```

7. Verify the folders created using command "`ls -al`". This command do listing files and folders in current directory.

```
$ ls -al
```

8. Change your current directory to `week00`.

```
$ cd week00
```

9. Create an empty file with the name "dummy". To create a file from nothingness, use command "`touch <filename>`".

```
$ touch dummy
```

10. Go back to your previous directory.

```
$ cd ..
```

11. Do step 8 and 9 on each of this following directory: week01, week02, week03, week04, week05, week06, week07, week08, week09, week10, log, key, xtra.

12. Push all newly created folders to github and then check if it pushed successfully. You can see how to do that in 03_TutorialPushandPullRepository.pdf file.

13. Change your current directory to `sandbox`.

```
$ cd sandbox
```

*linux is case-sensitive. "sandbox" is different with "Sandbox" or "SandBox".
Do you not believe it? Try executing command "ls" and "LS" :)
please make sure your folder/file name is as expected, because you will get **penalty for each wrong name.

14. Create an empty file (the name is up to you).
    Example:

```
$ touch belajarosasyik
```

15. Push that file to github and check if it pushed successfully.

16. Change current directory to week00.

```
$ cd ../week00
```

*".." means "go to parent directory". So in this case, we go from our current directory (sandbox) to it's parent directory (os172) and then go to week00.

17. Remove the "dummy" file that you have made before at this file by using this command "rm -f " like this:

```
$ rm -f dummy
```

18. Write short description of task from week 0 (last week) using your favorite text editor (e.g vi, vim, nano) and named it "report.txt".

- To use vi editor, use command "vi report.txt".

```
$ vi report.txt
```

  - By executing the above command you will enter vi. By default the first time you enter vi you will be in command mode. This mode is used to access commands in vi, not to write, so that when you try to type (try typing letter **g**), it's not printed in the text area because vi translate your typing into commands that can be accessed by typing letter **g**. This command mode can be accessed anytime by pushing **Esc** (Escape) button on the left side of your keyboard. Now go ahead and press **Esc**.
  - To write in text editor, we will have to enter insert mode. There are few ways to get into insert mode. For now let's try typing letter **i**. And you can see on the bottom of vi that you are in insert mode.

- Now everything that you type will be written in the text area. Write your name with format "`#your_name`".
- Your writing will be input as a text. Now get back into command mode (by clicking **Esc** button), then save and quit from your work by typing **:wq** and click **Enter**.

- To use `nano` editor, use command "`nano report.txt`".

```
$ nano report.txt
```

- nano is super-friendly text editor. I bet you can use it at the first glance.
- You just need to know some shortcut.
  - ctrl + o save
  - ctrl + k cut (one line)
  - ctrl + u paste
  - ctrl + x exit

19. Push that file to github and check if it pushed successfully.

Intro to CLI

20. Change current directory to `os172`.

21. Prepare a file to record your work progress named "`lab01.txt`".

```
$ touch lab01.txt
```

22. Record the contents of current directory to lab01.txt using command "`ls -al > lab01.txt`".

    * The "`>`" operator means "redirect the output of command on left (`ls -al`) to the file on the right (`lab01.txt`)". Beside that operator, there is "`>>`" operator too. It is similar to the other one but "used when you want the output appended to the bottom of the file on the right file's content".

23. Move `lab01.txt` to folder named `week01`. Use command "`mv <source> <destination>`" to do that

```
$ mv lab01.txt week01
```

24. Change your current directory to `week01`.

```
$ cd week01
```

25. Verify your current directory using command "`pwd`" and check is there is `lab01.txt`.

```
$ pwd
```

```
/home/XXX/os172/week01
```

```
$ ls -al
```

26. Record your current directory to `lab01.txt` using command "`pwd >> lab01.txt`". Note it's using "`>>`" operator. What the different? The "`>>`" operator means "redirect the output of command in left (`pwd`) and append it to file in right (`lab01.txt`)".

27. Create file "`whyStudyOS.txt`" with content:

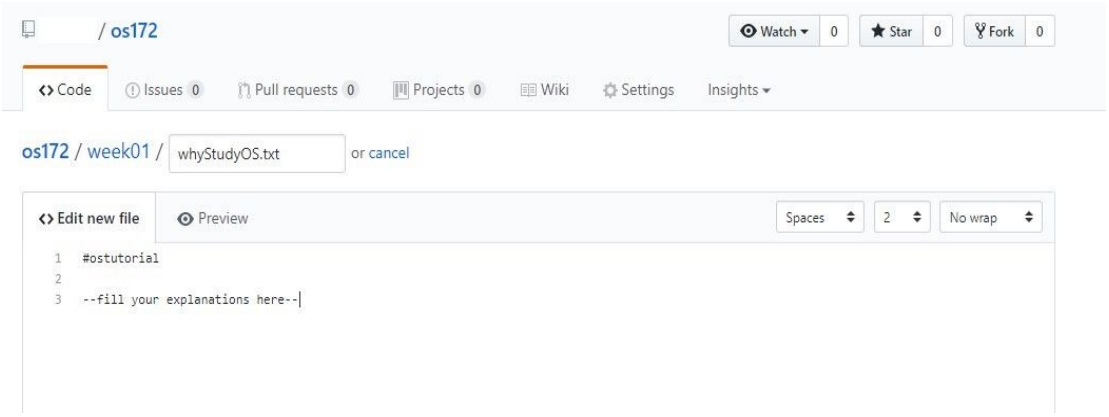
    `#your_github_account`

    Example:

```
$ vi whyStudyOS.txt
```

28. Push that file to github and check if it pushed successfully.

29. Edit `whyStudyOS.txt` from browser. Add the content with your explanation why we have to study operating system.



30. Commit the changes, and don't forget to give meaningful commit message.

31. Update your local repository on `badak server`. To do so, open your badak account terminal again and doing the **pull** repository tutorial on **03_TutorialPushandPullRepository.pdf** file.

32. Change your current directory to `week01`.

33. Remove the "dummy" file that you have made before at this file by using this command "rm -f " like this:

```
$ rm -f dummy
```

34. Write short description of task from week 1 (this week) using your favorite text editor (e.g `vi, vim, nano`) and named it "`report.txt`" (just like for week 0).

35. Push that file to github and check if it pushed successfully.

Intro to scripting

36. Well, it's just a demo to show you how to make a simple script in linux.

37. Change current directory to `week01`.

38. Create an empty file (name is up to you, **WARNING**: do not use symbols like (‘), (“), (`), (;), (>), (<), (&), (|)).

```
$ vi what-time-script.sh
```

in linux, script usually marked by suffix `.sh`

39. Paste the following code and save it.

```
#!/bin/bash
DATE=`date +%d\ %b\ %Y\ at\ %H:%M:%S`
echo "Today is $DATE"
exit 0
```

40. Change the permission so we can execute it.

```
$ chmod +x what-time-script.sh
```

41. Execute it.

```
$ ./what-time-script.sh >> lab01.txt
```

42. You can see the output of the script by using this command:

```
$ cat lab01.txt
```

The output of the script will be at the last line, similar to this (depends on the time set on your computer when you execute the script).

```
Today is 01 Sep 2017 at 00:45:09
```

Beside using command ‘`cat`’ to see what’s inside a file, you can also use command ‘`more`’. Try using those two operations on lab01.txt and find the difference!

43. Now you already tried scripting. Commit and push the changes.

44. Congratulation, you just complete the week 1 task. See you again on week 2 task.

P.S. : Uncle Google is your friend. Just ask him if you have question or ask on this forum link.

Don't forget to check your files/folders. After this lab, your current `os172` folder should looks like:

```
os172
        key
                dummy
        log
                *log.txt
        sandbox
                <some_random_name>
        week00
                report.txt
        week01
                lab01.txt
                report.txt
                whyStudyOS.txt
                what-time-script.sh
        week02
                dummy
        week03
                dummy
        week04
                dummy
        week05
                dummy
        week06
                dummy
        week07
                dummy
        week08
                dummy
        week09
                dummy
        week10
                dummy
        xtra
```

```
dummy
```

PS: *Follow the instruction on 01_LOG-additionaltaskforeveryweek.pdf on https://github.com/UI-FASILKOM-OS/os172/tree/master/Task-os172/week01/01_LOG-additionaltaskforeveryweek.pdf