(/)

Curriculum

SE Foundations Average: 108.76%

0x03. Git

Git Code versioning

Github

- By: Guillaume
- Weight: 1
- ₱ Project over took place from Feb 7, 2023 6:00 AM to Feb 8, 2023 6:00 AM
- An auto review will be launched at the deadline

In a nutshell...

• Auto QA review: 26.0/26 mandatory & 11.0/11 optional

• Altogether: 200.0%

Mandatory: 100.0%Optional: 100.0%

Calculation: 100.0% + (100.0% * 100.0%) == 200.0%

Concepts

For this project, we expect you to look at these concepts:

- Authenticating Git (/concepts/100035)
- Struggling with the sandbox? Try this: Using Docker & WSL on your local host (/concepts/100039)
- Source code management (/concepts/22)
- Right-engineering, right-documenting (/concepts/6)
- Git and Github cheat sheet Everything in less than 30 seconds (/concepts/57)

Resources

Read or watch:



Help

- Resources to learn Git (/rltoken/fg9RPIPS5IdYzOWTvwbdFQ)
- (/) About READMEs (/rltoken/R7MeJ8alpK3JoVF8w24wiQ)
 - How to write a Git commit message (/rltoken/FYsjjR-97Hk4NJtgqzWdtQ)

Resources for advanced tasks (Read only after finishing the mandatory tasks):

- Learning branching (/rltoken/tN8ZJ0yWubOP6jdciqtrFw)
- Effective pull requests and other good practices for teams using GitHub (/rltoken/mjpQ9OCU0Dz-DFxZjASEJg)

Learning Objectives

At the end of this project, you are expected to be able to explain to anyone (/rltoken/jj0uPL9hiKF10KCH4u620A), without the help of Google:

General

- What is source code management
- · What is Git
- What is GitHub
- What is the difference between Git and GitHub
- How to create a repository
- What is a README
- How to write good READMEs
- How to commit
- How to write helpful commit messages
- How to push code
- How to pull updates
- How to create a branch
- How to merge branches
- How to work as collaborators on a project
- Which files should and which files should not appear in your repo

Copyright - Plagiarism

- You are tasked to come up with solutions for the tasks below yourself to meet with the above learning objectives.
- You will not be able to meet the objectives of this or any following project by copying and pasting someone else's work.
- You are not allowed to publish any content of this project.
- Any form of plagiarism is strictly forbidden and will result in removal from the program.

Requirements

General



- A README.md file at the root of the alx-zero_day repo, containing a description of the repository
- A README.md file, at the root of the folder of this project (i.e. 0x03-git), describing what this project
 is about

- **Do not use GitHub's web UI**, but the command line to perform the exercise (except for operations that can not possibly be done any other way than through the web UI). You won't be able to perform many of the task requirements on the web UI, and you should start getting used to the command line for simple tasks because many complex tasks can only be done via the command line.
 - Your answer files should only contain the command, and nothing else

More Info

Basic usage

At the end of this project you should be able to reproduce and understand these command lines:

```
$ git clone <repo>
$ touch test
```

\$ git add test

\$ git commit -m "Initial commit"

\$ git push origin main

Quiz questions

Great! You've completed the quiz successfully! Keep going! (Show quiz)

Tasks

O. Create and setup your Git and GitHub account

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

Step 0 - Create an account on GitHub [if you do not have one already]

You will need a GitHub account for all your projects at ALX. If you do not already have a github.com account, you can create an account for free here (/rltoken/1vpH3ScWYjfqZD0J59jusA)

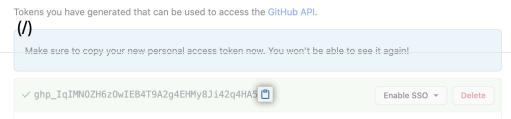
Step 1 - Create a Personal Access Token on Github

To have access to your repositories and authenticate yourself, you need to create a Personal Access Token on Github.

You can follow this tutorial (/rltoken/coQUsDnam4suGaXSVinQxA) to create a token.

Q

Once it's created, you should have a token that looks like this:



Step 2 - Update your profile on the Intranet

Update your Intranet profile by adding your Github username here (/rltoken/9dthiwx9AyxxUzV QPIRWQ)

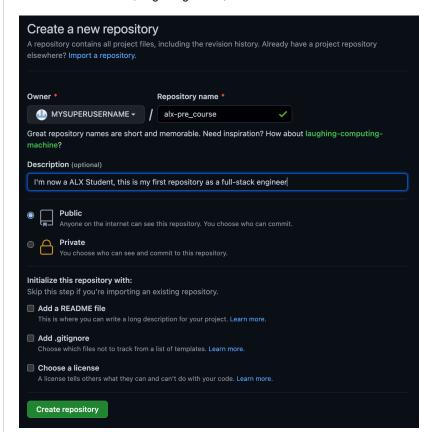
If it's not done the Checker won't be able to correct your work



Step 3 - Create your first repository

Using the graphic interface on the github website (/rltoken/1vpH3ScWYjfgZD0J59jusA), create your first repository.

- Name: alx-zero_day
- Description: I'm now a ALX Student, this is my first repository as a full-stack engineer
- Public repo
- No README, .gitignore, or license



Step 4 - Open the sandbox

On the intranet, just under the task, click on the button >_ Get a sandbox



and run to start the machine.

O η ce the container is started, click on



to open a shell where you can start work from.

Step 5 - Clone your repository

On the webterm of the sandbox, do the following:

Clone your repository

```
root@896cf839cf9a:/# git clone https://{YOUR_PERSONAL_TOKEN}@github.com/{YOUR_USERNA
ME}/alx-zero_day.git
Cloning into 'alx-zero_day'...
warning: You appear to have cloned an empty repository.
```

Replace {YOUR_PERSONAL_TOKEN} with your token from step 1

Replace {YOUR_USERNAME} with your username from step 0 and 1

Pro-Tip: On windows, use CTRL + A + V to paste in the web terminal

Step 6 - Create the README.md and push the modifications

Navigate to this new directory. Tips (/rltoken/qSP5HcBSSIL0U23PdIGKLw)

```
root@896cf839cf9a:/# cd alx-zero_day/
root@896cf839cf9a:/alx-zero_day#
```

 Create the file README.md with the content My first readme. Tips (/rltoken/_SSotigVtvVNThTVLJKZPQ)

```
root@896cf839cf9a:/alx-zero_day# echo 'My first readme' > README.md
root@896cf839cf9a:/alx-zero_day# cat README.md
My first readme
```

Update your git identity

```
root@896cf839cf9a:/alx-pre_course# git config --global user.email "you@example.com"
root@896cf839cf9a:/alx-pre_course# git config --global user.name "Your Name"
```

• Add this new file to git, commit the change with this message "My first commit" and push to the remote server / origin



```
Not@896cf839cf9a:/alx-zero_day# git add .
 Yoot@896cf839cf9a:/alx-zero_day# git commit -m 'My first commit'
 [master (root-commit) 98eef93] My first commit
  1 file changed, 1 insertion(+)
  create mode 100644 README.md
 root@896cf839cf9a:/alx-zero_day# git push
 Enumerating objects: 3, done.
 Counting objects: 100% (3/3), done.
 Writing objects: 100% (3/3), 212 bytes | 212.00 KiB/s, done.
 Total 3 (delta 0), reused 0 (delta 0)
 To https://github.com/{YOUR_USERNAME}/alx-zero_day.git
  * [new branch]
                         master -> master
Good job!
You pushed your first file in your first repository of the first task of your first ALX School project.
You can now check your repository on GitHub to see if everything is good.
Repo:
   • GitHub repository: alx-zero_day
   • File: README.md
 ☑ Done!
                   Check your code
                                    >_ Get a sandbox
                                                     QA Review
           Help
1. Repo-session
                                                                                         mandatory
 Score: 100.0% (Checks completed: 100.0%)
Create a new directory called 0x03-git in your alx-zero_day repo.
Make sure you include a not empty README.md in your directory:

    at the root of your repository alx-zero_day

   • AND in the directory 0x03-git
And important part: Make sure your commit and push your code to Github - otherwise the Checker will
always fail.
Repo:
   • GitHub repository: alx-zero_day
 ☑ Done!
                                                     QA Review
           Help
                  Check your code
                                    >_ Get a sandbox
```

2()Coding fury road

mandatory

Score: 100.0% (Checks completed: 100.0%)

For the moment we have an empty project directory containing only a README.md.lt's time to code!

- Create these directories at the root of your project: bash, c, js
- Create these empty files:
 - o c/c_is_fun.c
 - o js/main.js
 - o js/index.js
- Create a file bash/alx with these two lines inside: #!/bin/bash and echo "ALX"
- Create a file bash/school with these two lines inside: #!/bin/bash and echo "School"
- Add all these new files to git
- Commit your changes (message: "Starting to code today, so cool") and push to the remote server

Repo:

- GitHub repository: alx-zero_day
- Directory: 0x03-git
- File: bash/alx, bash/school, c/c_is_fun.c, js/main.js, js/index.js

☑ Done!

Help

Check your code

>_ Get a sandbox

QA Review

3. Collaboration is the base of a company

mandatory

Score: 100.0% (Checks completed: 100.0%)

A branch is like a copy of your project. It's used mainly for:

- adding a feature in development
- collaborating on the same project with other developers
- not breaking your entire repository
- not upsetting your co-workers

The purpose of a branch is to isolate your work from the main code base of your project and/or from your co-workers' work.

For this project, create a branch update_script and in this branch:



- Update bash/alx by replacing echo "ALX" with echo "ALX School"
- Update bash/school by replacing echo "School" with echo "The school is open!"
- Add and commit these changes (message: "My personal work")

• Push this new branch Tips (/rltoken/tN31xFfDVctixZZ350tDGw)

Perfect! You did an amazing update in your project and it's isolated correctly from the **main** branch.

Ho wait, your manager needs a quick fix in your project and it needs to be deployed now:

- Change branch to main
- Update the file bash/alx by replacing echo "ALX" with echo "ALX School is so cool!"
- Delete the directory js
- Commit your changes (message: "Hot fix") and push to the origin

Ouf, hot fix is done!

Repo:

GitHub repository: alx-zero_day

• Directory: 0x03-git

• File: bash/alx, bash/school, bash/98

☑ Done! Help Check your code ➤ Get a sandbox QA Review

4. Collaboration: be up to date

mandatory

Score: 100.0% (Checks completed: 100.0%)

Of course, you can also work on the same branch as your co-workers and it's best if you keep up to date with their changes.

For this task – **and only for this task** – please update your file README.md in the main branch from GitHub.com. It's the **only time** you are allowed to update and commit from GitHub interface.

After you have done that, in your terminal:

- Get all changes of the main branch locally (i.e. your README.md file will be updated)
- Create a new file up_to_date at the root of your directory and in it, write the git command line used
- Add up_to_date to git, commit (message: "How to be up to date in git"), and push to the origin

Repo:

• GitHub repository: alx-zero_day

• Directory: 0x03-git

• File: README.md, up_to_date

☑ Done! Help Check your code >_ Get a sandbox QA Review

Q

5/HAAA what did you do???

#advanced

Score: 100.0% (Checks completed: 100.0%)

Collaboration is cool, but not really when you update the same file at the same time...

To illustrate that, please merge the branch update_script to main: "Cool, all my changes will be now part of the main branch, ready to be deployed!"

ННННННАААААА

CONFLICT (content): Merge conflict in bash/alx

As you can see, you have conflicts between two branches on the same file.

Your goal now is to resolve conflicts by using the version of the branch update_script , and push the result to the origin.

At the end, you should have all your work from the branch update_script (new file and two updated files) and all latest main commits (new files, delete folder, etc.), without conflicts.

Repo:

• GitHub repository: alx-zero_day

• Directory: 0x03-git

6. Never push too much

#advanced

Score: 100.0% (Checks completed: 100.0%)

Create a .gitignore file and define a rule to never push \sim files (generated by Emacs). Tips (/rltoken/sEKIVnR2IEL0sN4jc26hhA)

Repo:

GitHub repository: alx-zero_day

Directory: 0x03-gitFile: .gitignore

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