INTRODUCTION TO GIT

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Outline of the presentation

Introduction

Version controller consists of maintaining all versions of one or more files. Mainly used in the field of software creation, it mainly concerns the management of source codes.

Objectives of this session:

- Mastering github concepts;
- Handling a few git commands.
- Difference between git and its remote tools
- Using git with github

Git

Git

Git type of version control system (VCS).
It is also defined as a tool (program) that allows us to create local repositories and manage the versions of our files.

Version Controller

A Version Controller is a program that allows developers to keep a history of changes and versions of all files.

Role of a version controller

During a collective project, i.e. we all work on the same file (a code, a LaTex file and others), a version controller allows to follow the modifications of this file, to know:

- Who changed?
- When did this change take place? And why was it done?

Repository

Is a directory or storage space where your projects can live.

- git Repository (Depot):
  Is a virtual warehouse of a project. It allows to save the versions of a file and to access it when needed.
- Local Repository:
  Is a history of your project hosted on your computer.
- Distant Repository:
  Is a history of your project hosted on the internet.

Basics command of Git

installation of git on linux

You go to the terminal and you do:
sudo apt-get install git
And you check the version:
git –version git
For windows system click this link: **download here**

Basics command of Git

basics commands of git

- git init: Initialize a new Git repository. By doing:
  git init
- git config: you can set up your deposit. By doing:
  git config –global user.name "your name"
  git config –global user.email "your mail"
- git status: allows you to see the status of your depot. By doing:
  git status
- git add: allows you to make a file shareable. By doing:
  git add "nom_du_fichier.extension_du_fichier"
- git commit: Allows you to save your changes in a git repository. By doing:
  git commit -m "Your reason for change". -m means, send this message.

Basics command of Git

basics commands of git

- git branch: allows you to see if you are in which branch (collaborator). By doing:
  git branch
  To create a branch named student, we do git branch etudiant
- git checkout name of branch: Allows access to any branch.
- git merge : When you have finished working on a branch, you can merge your changes to the master branch. (reassure yourself that you're on your turf.).By doing:
  git merge master

Basics command of Git

basics commands of git

- git remote: allows you to connect to a remote server. By doing:
  git remote add aims URL of remote server.
  aims is the name that I give to my connection
- git remote -v: allows to list all remote depots in our local depot.
- git push: It allows you to send our commits to a remote directory..
  By doing:
  git push aims master
- git pull: allows you to retrieve locally the project in a remote directory by modifying your version. By doing:
  git pull
- git fetch: it does the same stain as a sweater, but it keeps your latest version;
- git clone: allows you to download a remote directory and put it locally. git clone URL

Steps of realizing a with git

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- Step 0: Install git
- Step 1: Create a directory in your computer
- Step 2: Create a local git repository in the Step1 directory
- Step 3: Add new files in the directory created in Step1
- Step 4: Add a file to the staging environment
- Step 5: Commits staged files
- Step 6: View the status of your repertoire.

git remote tools

The remote tools are just server tools where we will host our online repositories.

- Github
- Gitlab
- Bitbucket

Git with Github

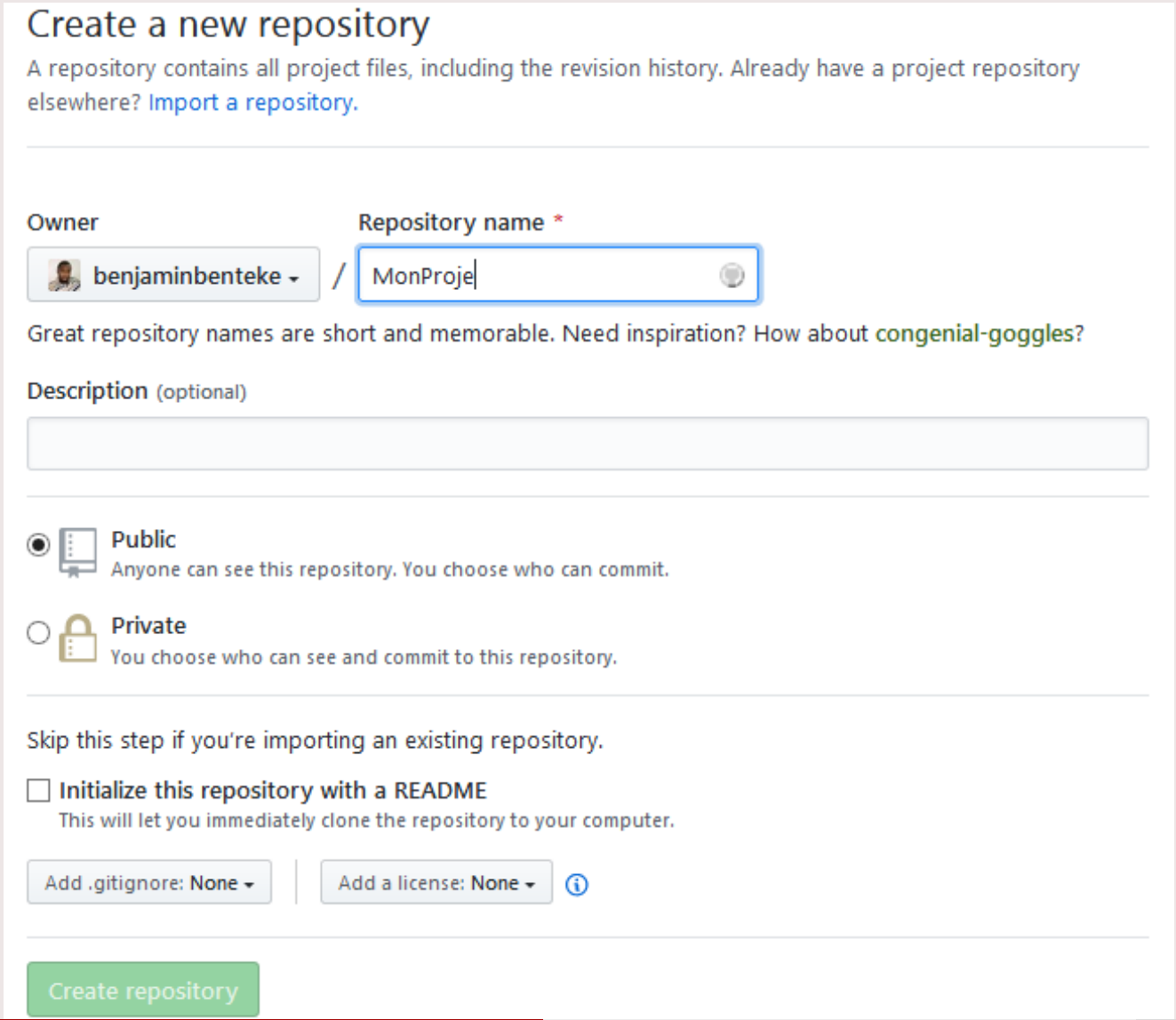
Github is an online server that allows us to host our repository online.

Start a Project with github

- Step 1: Create an account (github.com)
- Creation of a repository (remote)

git remote tools

Start a Project with github



git remote tools

Git with github

After you create your online repository, we'll complete it:

- Step 7: We connect with this remote depot;
- Step 7': Or we clone an existing repository it in local
- Step 8: We send our projects to this remote depot.
- Step 9: we're checking to see if it's doing any good.

Conclusion

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In this session, we will explore the fundamental concepts and use of git. We also took a look at the hosting of our online git repositories, using one of the remote git tools called github.
In this small operation, we just operate git and github as part of a project member and not a project manager, that will be the focus of our next work.

LET'S PRATICE NOW!