How to use Git?

Git Workflows and Tutorials

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What is Git?

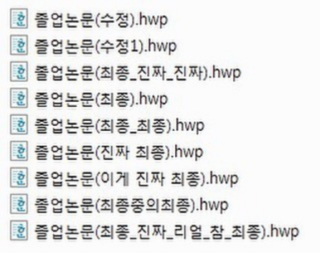
- Git is a free and open source **distributed version control system** developed by *Linus Torvalds* in 2005.
- It is usually used for coordinating work among programmers collaboratively developing source code.

What is Git?

Git is an Open Source Distributed Version Control System.

- **Control System**: It means that Git is a content tracker, so Git can be used to store content.
- **Version Control System**: It helps in handling version control by maintaining a history of what changes have happened.
- **Distributed Version Control System**: It means that the code is not just stored in a central server, but the full copy of the code is present in all the developers' computers.

Why Should We Use Git?



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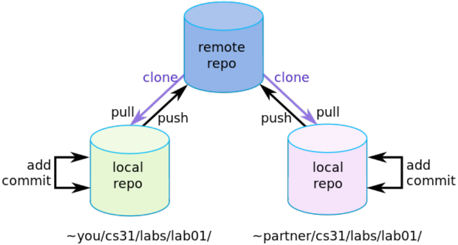
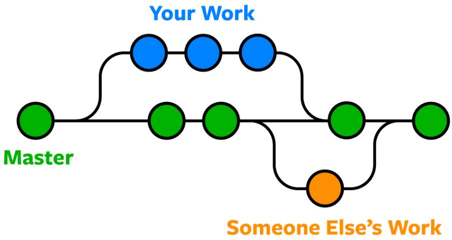


Why Should We Use Git?



- Git tracks the changes you make to files, so you have a record of what has been done, and you can revert to specific versions.
- Git can merge the changes, so people can even work on different parts of the same file.
- Also, they can merge those changes without losing each other's work.

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Basic Concepts

There are some concepts we need to know.

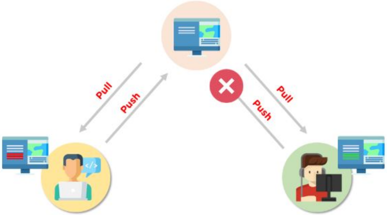
- **Remote/Origin**: Remote is a server where we store our source codes. *Github, Bitbucket, GitLab* provides remote servers. Origin is the name of our remote server.
- **Repository**: Repository (or repo) is a kind of project in a remote server.
- **Branch**: Branch represents an independent line of development.
  - `Master` (or `main`) branch is generated when we initialize Git.
  - A branch inherits the status of a parent branch, and it will be merged to a parent branch.

Git Workflows

1. **Clone** a repository. We can use HTTPS or SSH.
2. **Pull** the updated source codes from a remote server.

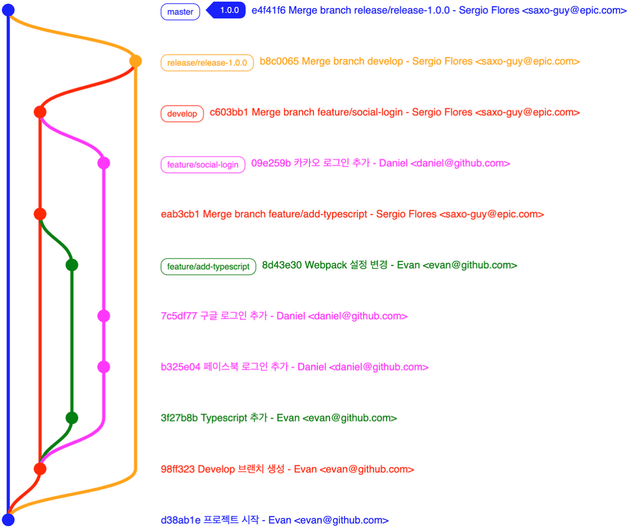
   c.f. pull = fetch + merge
3. Do your works.
4. **Add** and **commit** changes.
5. **Push** to the remote server.

Version Control



- Git aims to help collaborative developments.
- People can simulataneously modify same files, and version conflicts may arise in some cases.
- It is useful to create branches to manage versions.
- One of the most effective strategies to manage a lot of branches is Git flow.

Git flow



master 1.0.0 e4f41f6 Merge branch release/release-1.0.0 - Sergio Flores <saxo-guy@epic.com>

release/release-1.0.0 b8c0065 Merge branch develop - Sergio Flores <saxo-guy@epic.com>

develop c603bb1 Merge branch feature/social-login - Sergio Flores <saxo-guy@epic.com>

feature/social-login 09e259b 카카오 로그인 추가 - Daniel <daniel@github.com>

eab3cb1 Merge branch feature/add-typescript - Sergio Flores <saxo-guy@epic.com>

feature/add-typescript 8d43e30 Webpack 설정 변경 - Evan <evan@github.com>

7c5df77 구글 로그인 추가 - Daniel <daniel@github.com>

b325e04 페이스북 로그인 추가 - Daniel <daniel@github.com>

3f27b8b Typescript 추가 - Evan <evan@github.com>

98ff323 Develop 브랜치 생성 - Evan <evan@github.com>

d38ab1e 프로젝트 시작 - Evan <evan@github.com>

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