

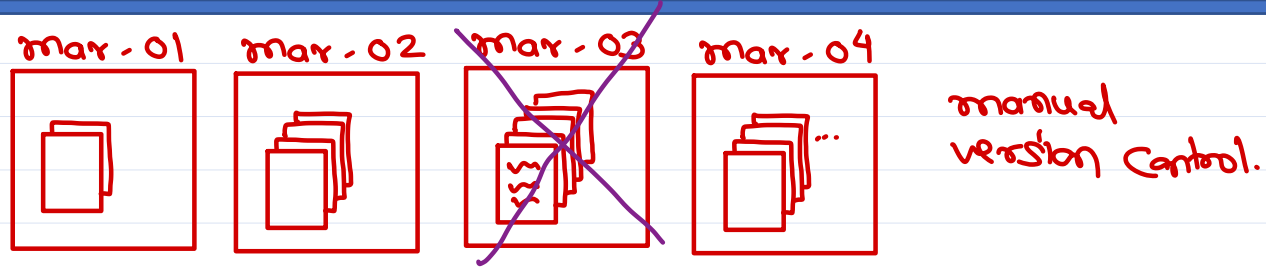


GIT

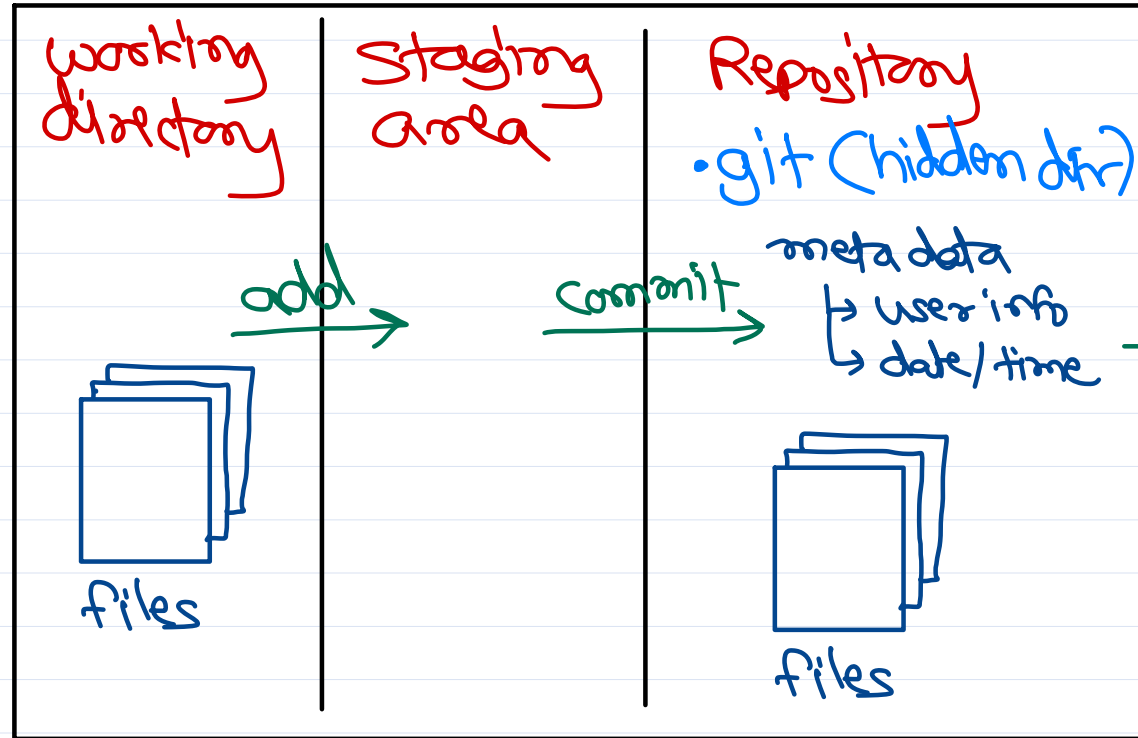
Trainer: Nilesh Ghule



VCS - GIT - Linus Torvalds

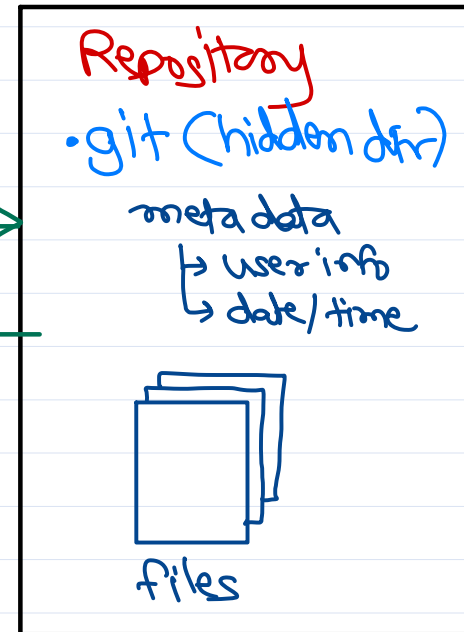


Local repository (my computer)



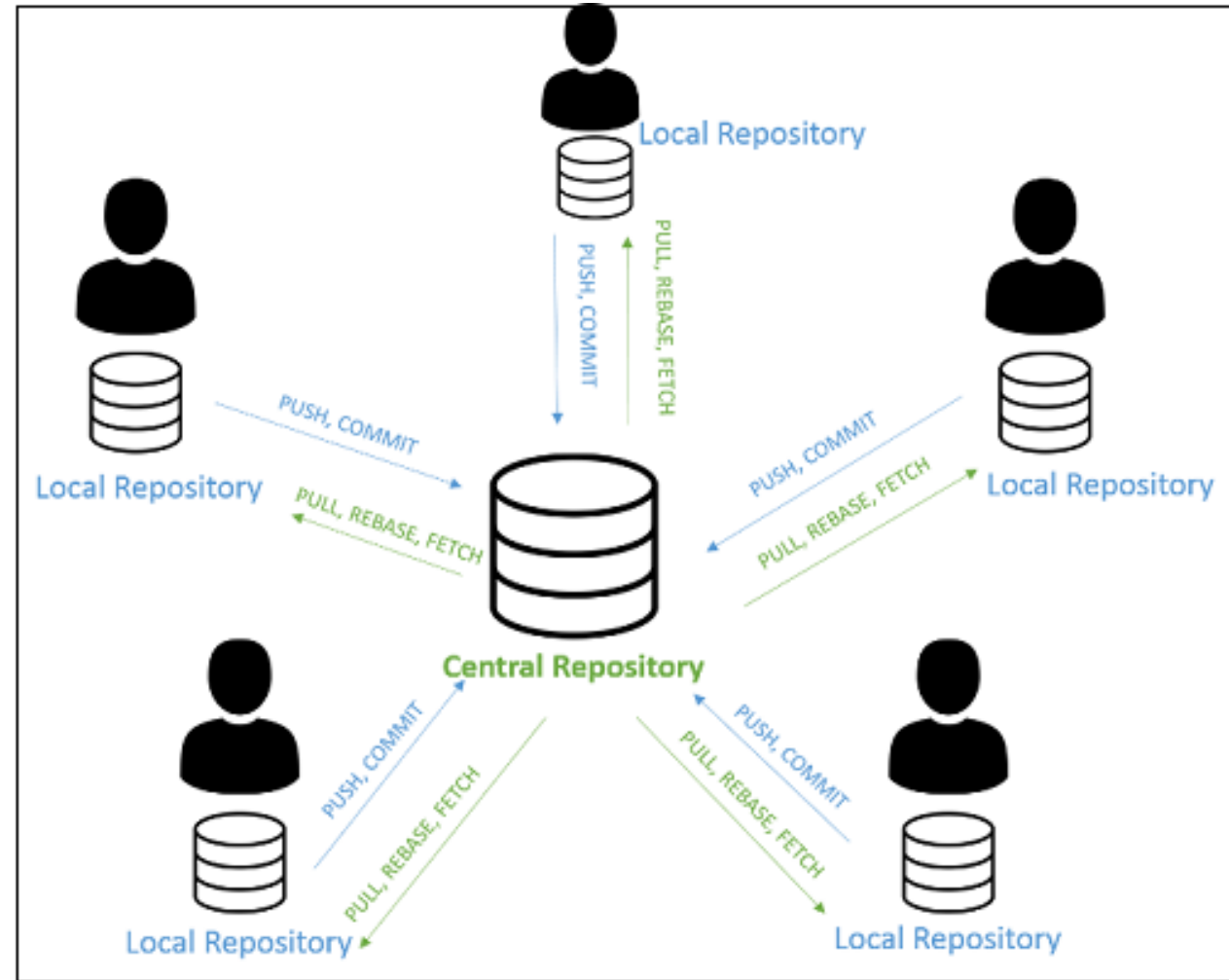
```
> git init
> git add filepath/.
> git commit -m "message"
> git status
> git log
```

Remote repository (github.com)



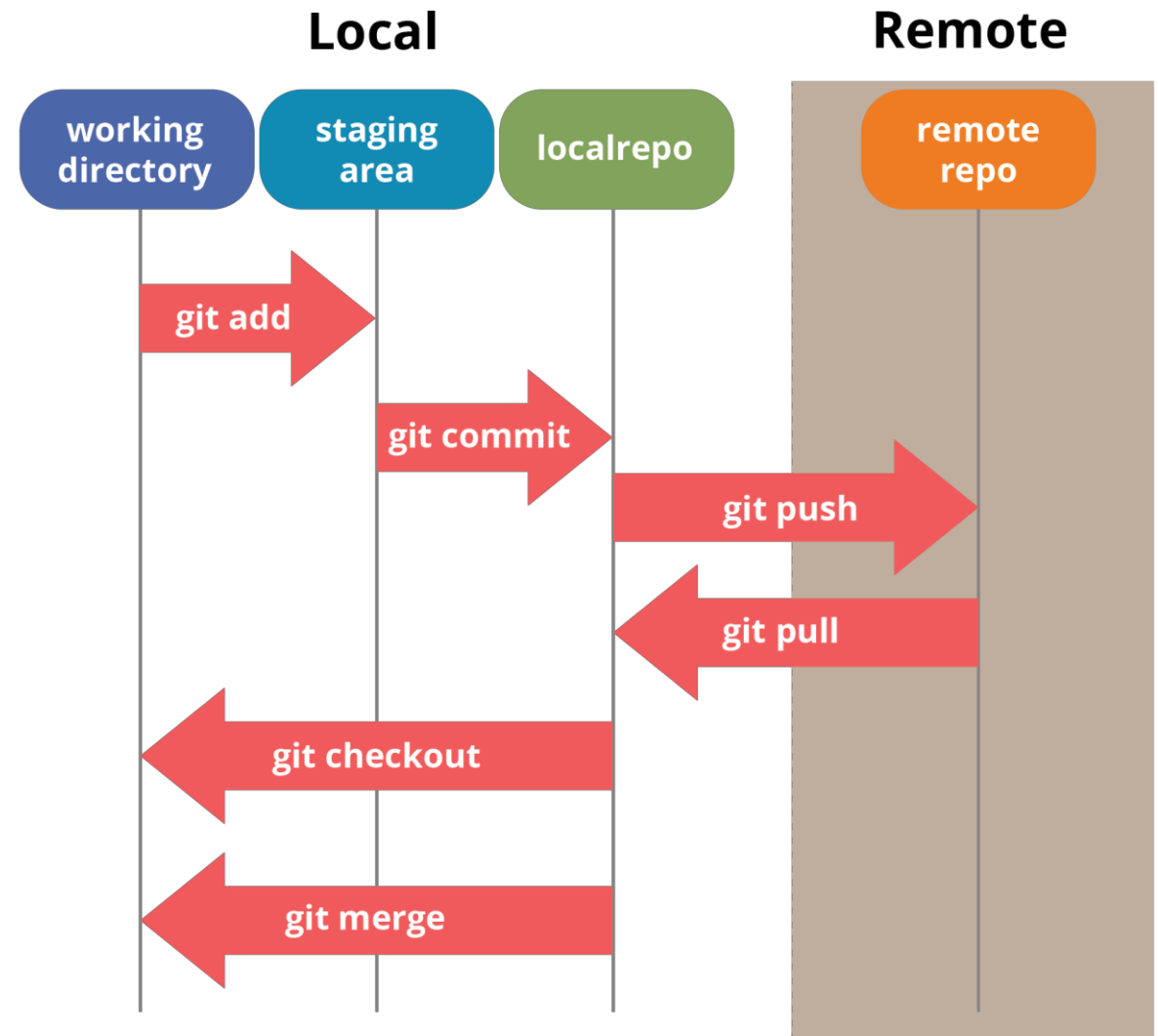
GIT

- Distributed VCS & SCM.
- Designed by developed by Linus Torvalds to manage Linux kernel source code.
- Open source software.
- Free under GPL.
- Development
 - Began on 3-Apr-2005.
 - Announced on 6-Apr.
 - Became self-hosing on 7-Apr.
 - First branch merging on 18-Apr.
 - Achieved performance goals on 29-Apr.
 - Began kernel (2.6.12) management from 16-Jun.



Terminologies

- GIT repository
 - Directory containing code and its metadata (.git).
- GIT working
 - Working area
 - Staging area
 - Repository
- Commits
 - Hold a state of repository.
 - GIT maintains commit history.
- Local vs Remote repository
- Remote repository operations
 - clone, pull, push.



Git installation & setup

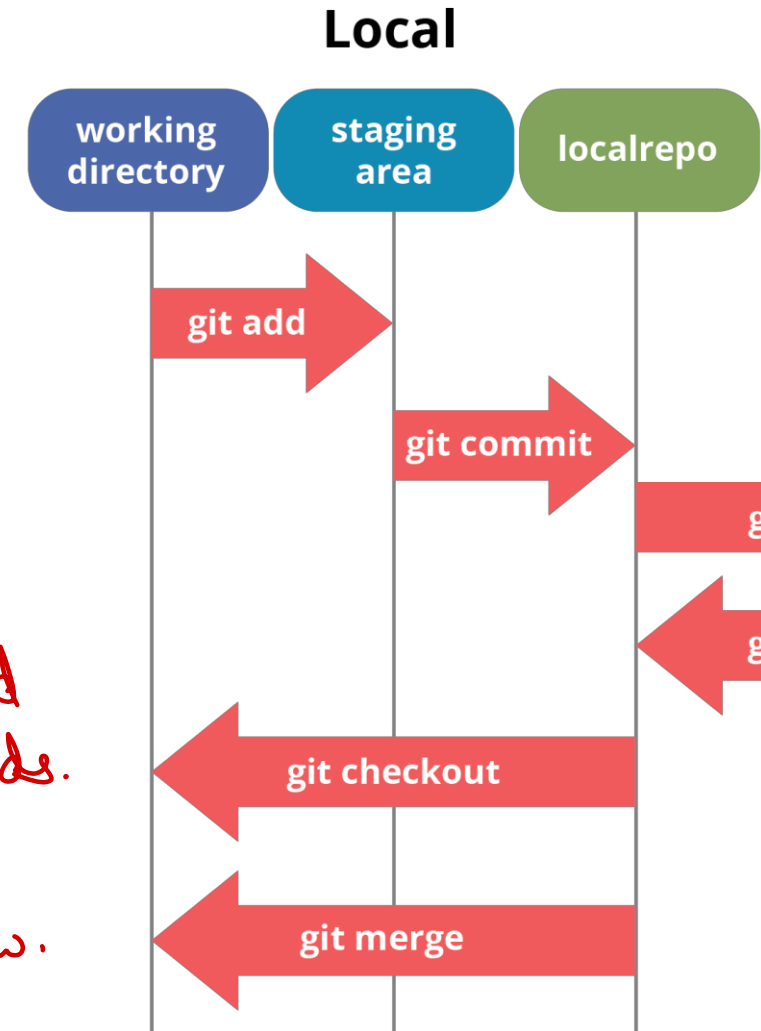
- On Ubuntu
 - `sudo apt-get install git`
 - List global settings
 - `git config --global --list`
 - Set up global properties
 - `git config --global user.name <your name>`
 - `git config --global user.email <your email>`
 - `git config --global core.editor <editor app>`
 - GIT user details are associated with each commit done by the user.
- On Windows
 - Download and install GIT.
 - <https://git-scm.com/downloads>
 - Installed components
 - GIT bash
 - git-gui + gitk
 - GIT Bash
 - git command
 - bash commands
 - vim editor
- In editor/IDE
 - All leading IDEs have GIT support.
 - VS Code, Eclipse, ...



GIT commands

- terminal> git init
 - terminal> git status
 - terminal> git status -s
 - terminal> git add <file-path>
 - terminal> git add <dir-path>
 - terminal> git commit -m "message"
- terminal> git diff (track changes that are not staged)
 - terminal> git checkout <file-path> (discard changes & get last committed version)
 - terminal> git reset (unstage the changes)
 - terminal> git reset --hard (unstage the changes and replace with last committed version)

← advanced
Commands.
ignore
for now.



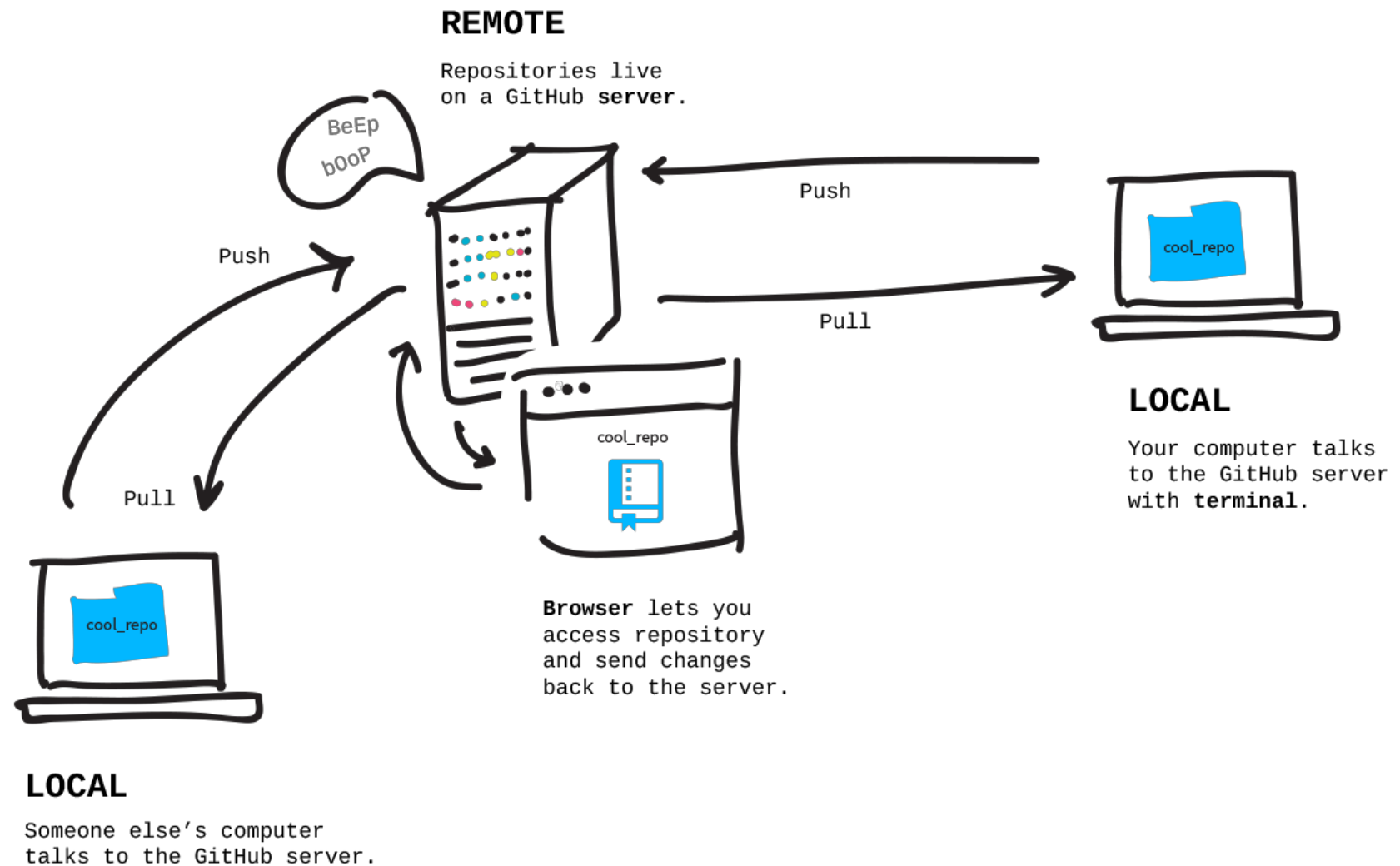
.gitignore

- List directories or files to be ignored for git repository.
- Used to ensure that binaries, IDE metadata files and other undesired files are not maintained in git repository.



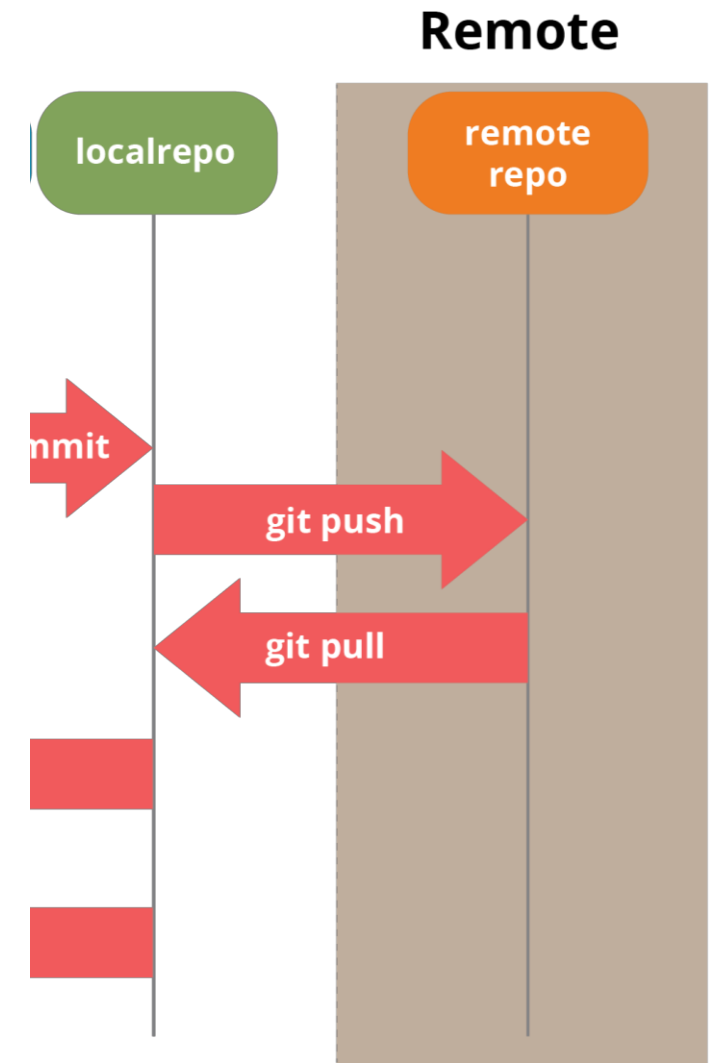
GIT Remote repository

- To maintain code repository at centralized location (for code sharing).
- Can be in intranet or internet.
- Popular vendors
 - github.com
 - gitlab.com
 - bitbucket.org



GIT commands

- `git remote add origin <remote url>`
- `git remote -v`
- `git clone <url>`
- `git push origin <branch>`
- `git push`
- `git pull origin <branch>`
- `git pull`





Thank you!

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