

GIT

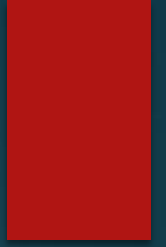


- Distributed version control system (DVCS)
- Project code is maintained on remote and locally on each computer to track change
- Most Git's operation is local & internet is required only when pulling or pushing code

Installation

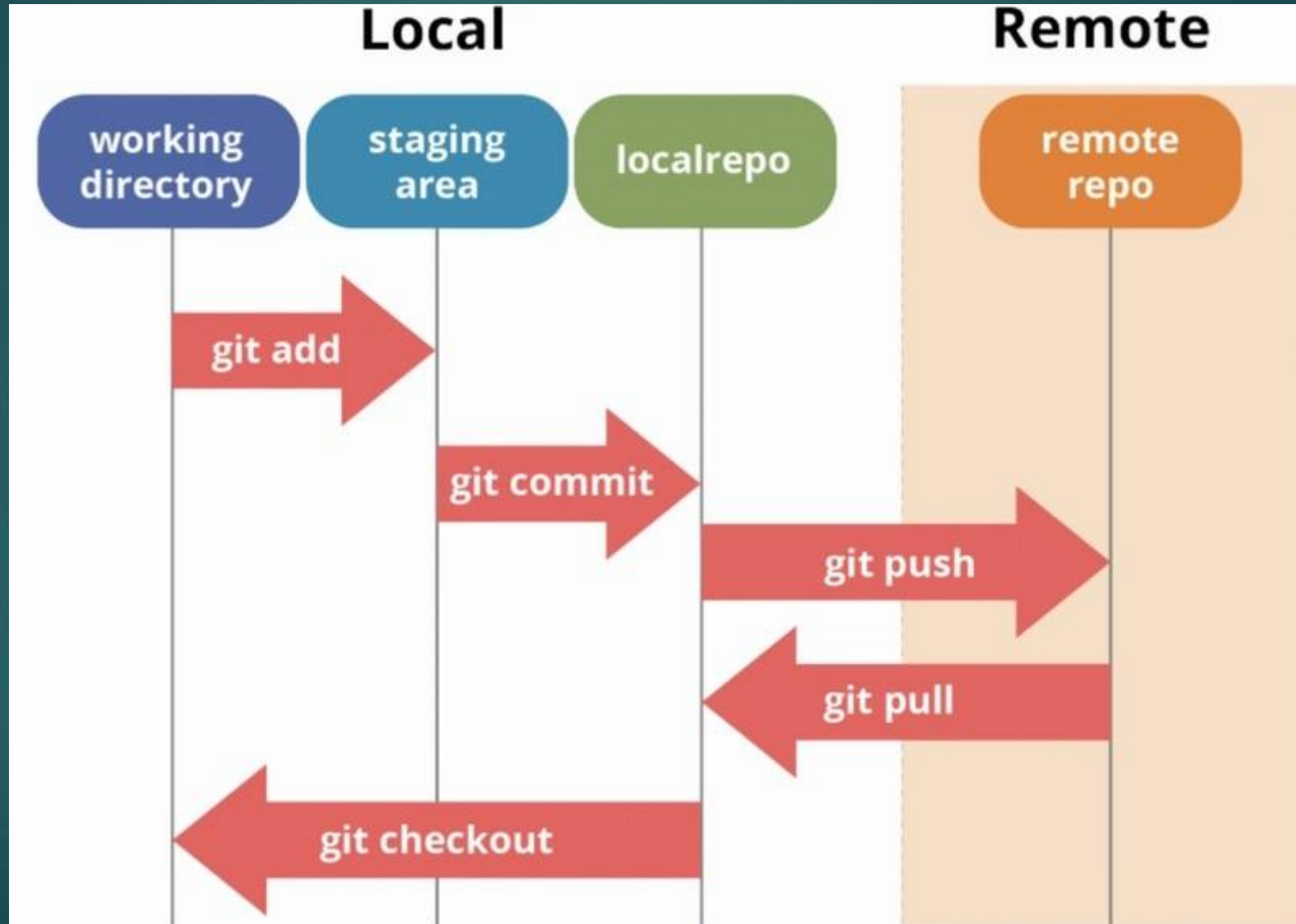
- Debian Linux: `sudo apt-get install git git-extras`
- Fedora / Centos: `sudo yum install git`
- Windows: <https://git-scm.com/download/win>
- Mac: `brew install git` or from link above for mac

GIT Terminologies



- branches → Timeline with commits
- commit → Save changes to git repository
- remote → Related repository in web (Github, bitbucket)

Workflow



Configuring git

- `git config --global -list`
- `git config --global user.name "Rabindra Sapkota"`
- `git config --global user.email "abc@gmail.com"`

Initialize Project

- Create a new project in GitHub, GitLab, Bitbucket, ...
- Go to parent location of project and run:
 - `git init`
 - `git add .`
 - `git commit -m "Message"`
 - `git branch -M master`
 - `git remote add origin {copying_from_github}`
 - `git push -u origin master`

Existing Project

- `git clone {git_link}`
- `git branch`
- `git checkout another_branch` [-b for new branch]
- Make code changes
- `git status`
- `git add file_name`
- `git commit -m "Commit Message"`
- `git log`
- `git push origin {branch_name}`

Git Ignore

- Specifies what files are to be excluded in git version
- Often virtual environment, log files are ignored
- We need to add file to ignore in .gitignore

Configuring SSH

- `cd ~`
- `mkdir .ssh`
- `cd .ssh/`
- `ssh-keygen -t rsa -C "OurEmailID"`
- Copy content of `id_rsa.pub` file
- Goto github → Setting → SSH & GPG keys
- Click on New SSH.
- Give title, paste key and click on add.

Git from GUI

- Explore VS-Code GUI option for git
- Learn to pull, add, commit and push

PR request

- There will be main branch for a project
- For feature, there will be feature branch
- Merge of feature branch to main is required
- Merge is done via PR
- PR is summary of change
- What, Why and how has to be added in PR
- Generating PR from co-pilot in assistive mode



Exercise