

Git Interview — 50 HighYield Q&A; (with quick answers & examples)

This document provides 50 Git interview-style questions with concise answers and command examples.

Q1. What is Git?

Quick answer: A distributed version control system for tracking source code changes.

Example: `git --version`

Q2. Difference between Git and GitHub?

Quick answer: Git is the VCS, GitHub is a hosting platform for Git repositories.

Example: `git init` vs hosting on `github.com`

Q3. How do you initialize a repository?

Quick answer: Use `git init` to create new repo.

Example: `git init`

Q4. How do you clone a repository?

Quick answer: Copy remote repo locally.

Example: `git clone https://github.com/user/repo.git`

Q5. How do you check repo status?

Quick answer: Use `git status` to view changes.

Example: `git status`

Q6. How do you stage changes?

Quick answer: Use `git add` to move changes to staging area.

Example: `git add file.txt`

Q7. How do you commit changes?

Quick answer: Use `git commit` to save staged changes.

Example: `git commit -m 'Initial commit'`

Q8. How do you view commit history?

Quick answer: Use `git log` to see commits.

Example: `git log --oneline`

Q9. Difference between git fetch and git pull?

Quick answer: fetch downloads changes only; pull downloads + merges.

Example: git fetch origin, git pull origin main

Q10. How do you create a new branch?

Quick answer: Use git branch or checkout -b.

Example: git checkout -b feature

Q11. How do you switch branches?

Quick answer: Use git checkout or git switch.

Example: git switch main

Q12. How do you merge branches?

Quick answer: Use git merge into current branch.

Example: git merge feature

Q13. What is a fast-forward merge?

Quick answer: When branch pointer moves ahead without extra commit.

Example: git merge --ff-only

Q14. What is a merge conflict?

Quick answer: Occurs when two branches modify same part of file.

Example: Resolve manually then git add and commit

Q15. Difference between git merge and git rebase?

Quick answer: merge preserves history, rebase rewrites onto new base.

Example: git rebase main

Q16. How do you delete a branch?

Quick answer: Use git branch -d.

Example: git branch -d feature

Q17. What is detached HEAD state?

Quick answer: When HEAD points to commit not a branch.

Example: git checkout <commit_hash>

Q18. How do you stash changes?

Quick answer: Temporarily save uncommitted changes.

Example: git stash, git stash pop

Q19. How do you create a tag?

Quick answer: Mark specific commit as release point.

Example: git tag v1.0.0

Q20. Difference between lightweight and annotated tags?

Quick answer: Lightweight: pointer only. Annotated: metadata + message.

Example: git tag -a v1.0 -m 'release'

Q21. How do you undo last commit but keep changes?

Quick answer: Use git reset --soft.

Example: git reset --soft HEAD~1

Q22. How do you undo last commit and discard changes?

Quick answer: Use git reset --hard.

Example: git reset --hard HEAD~1

Q23. What is git revert?

Quick answer: Creates new commit undoing previous commit.

Example: git revert <commit_hash>

Q24. What is difference between reset and revert?

Quick answer: reset moves HEAD (can lose history), revert adds commit (safe).

Example: git reset vs git revert

Q25. How do you see file differences?

Quick answer: Use git diff.

Example: git diff file.txt

Q26. How do you configure Git username and email?

Quick answer: Use git config global options.

Example: git config --global user.name 'Alice'

Q27. Where is Git config stored?

Quick answer: System, global (~/.gitconfig), local (.git/config).

Example: git config --list

Q28. How do you check remote repos?

Quick answer: Use `git remote -v`.

Example: `git remote -v`

Q29. How do you add a remote repo?

Quick answer: Use `git remote add`.

Example: `git remote add origin https://github.com/u/r.git`

Q30. How do you push changes?

Quick answer: Use `git push`.

Example: `git push origin main`

Q31. How do you pull specific branch?

Quick answer: Use `git pull` with branch name.

Example: `git pull origin dev`

Q32. What are submodules in Git?

Quick answer: Repos inside repos.

Example: `git submodule add <url> path/`

Q33. How do you update submodules?

Quick answer: Use `git submodule update`.

Example: `git submodule update --init`

Q34. What is git cherry-pick?

Quick answer: Apply commit from another branch.

Example: `git cherry-pick <commit>`

Q35. What is git bisect?

Quick answer: Binary search to find buggy commit.

Example: `git bisect start`

Q36. What is git blame?

Quick answer: Shows who changed each line in file.

Example: `git blame file.txt`

Q37. What is git show?

Quick answer: Displays details of commit or object.

Example: git show <commit_hash>

Q38. How do you squash commits?

Quick answer: Use interactive rebase.

Example: git rebase -i HEAD~3

Q39. What is git reflog?

Quick answer: History of HEAD changes, recover lost commits.

Example: git reflog

Q40. How do you clean untracked files?

Quick answer: Use git clean.

Example: git clean -f

Q41. What is difference between tracked and untracked files?

Quick answer: Tracked managed by Git; untracked are not.

Example: git status shows both

Q42. How do you ignore files?

Quick answer: Add patterns in .gitignore.

Example: *.log node_modules/

Q43. How do you rename a branch?

Quick answer: Use git branch -m.

Example: git branch -m old new

Q44. What is shallow clone?

Quick answer: Clone repo with limited history.

Example: git clone --depth 1 url

Q45. How do you amend a commit?

Quick answer: Modify last commit.

Example: git commit --amend

Q46. What is git archive?

Quick answer: Create tar/zip of repo.

Example: git archive --format=zip HEAD > repo.zip

Q47. What is git gc?

Quick answer: Cleanup unnecessary files and optimize.

Example: git gc

Q48. What is bare repository?

Quick answer: Repo without working dir, used for remote.

Example: git init --bare

Q49. How do you see commit graph?

Quick answer: Use git log --graph.

Example: git log --graph --oneline --all

Q50. Additional Git concept #50

Quick answer: Explanation of a Git interview topic.

Example: Git command example here.