

GitHub Interview — 50 High-Yield Q&A; (with quick answers & examples)

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

Q1. What is GitHub?

Quick answer: A cloud platform for hosting Git repositories with collaboration tools.

Example: Example: Push code to GitHub remote.

Q2. Difference between Git and GitHub?

Quick answer: Git is a version control system; GitHub is a hosting platform for Git repos.

Example: git push origin main

Q3. How do you create a repository on GitHub?

Quick answer: Click 'New Repository' on GitHub and initialize with README or push existing repo.

Example: git remote add origin https://github.com/user/repo.git

Q4. What are GitHub Actions?

Quick answer: CI/CD automation workflows defined in YAML.

Example: .github/workflows/ci.yml

Q5. What is a pull request (PR)?

Quick answer: Proposal to merge changes from one branch to another.

Example: Open PR on GitHub UI.

Q6. Difference between fork and clone?

Quick answer: Fork: copy repo on GitHub account. Clone: copy repo to local machine.

Example: git clone <url>

Q7. What are GitHub Issues?

Quick answer: Built-in bug tracking and feature request system.

Example: Example: Open an issue with labels.

Q8. What are GitHub Projects?

Quick answer: Kanban-style boards for project management.

Example: Used to track tasks across repos.

Q9. What is GitHub Gist?

Quick answer: Service for sharing code snippets quickly.

Example: gist.github.com

Q10. What are GitHub Pages?

Quick answer: Static site hosting from a GitHub repository.

Example: Enable via Settings > Pages.

Q11. How do you add collaborators to a repo?

Quick answer: Go to repo settings > Collaborators and Teams.

Example: Invite via GitHub UI.

Q12. What are organizations in GitHub?

Quick answer: Shared accounts to collaborate across multiple projects.

Example: org.github.com

Q13. What is difference between public and private repo?

Quick answer: Public: visible to all. Private: restricted access.

Example: Choose visibility when creating repo.

Q14. What is GitHub Enterprise?

Quick answer: Self-hosted/cloud enterprise edition with advanced features.

Example: Used in large companies.

Q15. What are protected branches?

Quick answer: Branches with restrictions (no direct push, require PR review).

Example: Enable via repo settings.

Q16. How do you enable branch protection rules?

Quick answer: Repo > Settings > Branches > Add rule.

Example: Require PR reviews, status checks.

Q17. What is CODEOWNERS file?

Quick answer: Defines responsible reviewers for code paths.

Example: <.github/CODEOWNERS>

Q18. What are GitHub webhooks?

Quick answer: HTTP callbacks triggered by repo events.

Example: Webhook sends POST on push event.

Q19. What are GitHub APIs?

Quick answer: REST and GraphQL APIs to interact with GitHub programmatically.

Example: GET <https://api.github.com/users/octocat>

Q20. How do you generate a personal access token?

Quick answer: Settings > Developer Settings > Tokens.

Example: Used for HTTPS authentication.

Q21. What is difference between HTTPS and SSH cloning?

Quick answer: HTTPS requires username/password or token; SSH uses keys.

Example: git clone git@github.com:user/repo.git

Q22. How do you setup SSH keys in GitHub?

Quick answer: Generate key with ssh-keygen, add to GitHub account.

Example: ssh -T git@github.com

Q23. What is GitHub Copilot?

Quick answer: AI-powered coding assistant integrated into editors.

Example: Suggests code completions.

Q24. What is GitHub CLI?

Quick answer: Command-line tool to interact with GitHub.

Example: gh repo clone user/repo

Q25. How do you squash commits in PR?

Quick answer: Enable squash merge option when merging PR.

Example: GitHub UI option.

Q26. What is difference between merge commit, squash, and rebase in GitHub?

Quick answer: Merge commit keeps history, squash combines commits, rebase rewrites history.

Example: Choose merge strategy in PR.

Q27. What are GitHub Discussions?

Quick answer: Forum-like space in repo for Q&A and ideas.

Example: Enable via repo settings.

Q28. What are GitHub Actions secrets?

Quick answer: Encrypted variables used in workflows.

Example: Stored in repo > Settings > Secrets.

Q29. What are GitHub Packages?

Quick answer: Package hosting service for npm, Docker, Maven etc.

Example: docker pull ghcr.io/user/image

Q30. What are Dependabot alerts?

Quick answer: Security alerts for vulnerable dependencies.

Example: Automatic PRs to update packages.

Q31. What is difference between GitHub Flow and Git Flow?

Quick answer: GitHub Flow: simple, lightweight. Git Flow: structured with dev, release, hotfix.

Example: GitHub Flow uses main + feature branches.

Q32. What is default branch in GitHub?

Quick answer: Branch used as base for new PRs, usually main/master.

Example: Set in repo settings.

Q33. How do you resolve merge conflicts in PR?

Quick answer: Pull changes locally, fix conflicts, push updated branch.

Example: git merge main, resolve, push.

Q34. What is GitHub Marketplace?

Quick answer: Store for Actions, apps, tools.

Example: marketplace.github.com

Q35. How do you enable 2FA in GitHub?

Quick answer: Settings > Security > Enable 2FA.

Example: Used for secure login.

Q36. What is GitHub Sponsors?

Quick answer: Program to financially support developers.

Example: sponsors.github.com

Q37. What are GitHub Milestones?

Quick answer: Way to group issues/PRs for tracking progress.

Example: Used in project planning.

Q38. What are draft pull requests?

Quick answer: PRs marked as draft, not ready for review.

Example: Convert to ready when done.

Q39. How do you close an issue automatically via PR?

Quick answer: Use keywords like Fixes #ID in commit/PR.

Example: git commit -m 'Fixes #12'

Q40. What is difference between watch, star, and fork?

Quick answer: Watch: notifications. Star: bookmark. Fork: copy repo.

Example: On GitHub UI.

Q41. What is GitHub REST API vs GraphQL API?

Quick answer: REST: endpoints per resource. GraphQL: flexible queries.

Example: POST /graphql { repo { issues { title } } }

Q42. How do you search in GitHub?

Quick answer: Use advanced search operators.

Example: repo:user/repo language:JavaScript stars:>100

Q43. What is GitHub Codespaces?

Quick answer: Cloud-hosted dev environments with VS Code.

Example: Enable in repo with .devcontainer

Q44. What are GitHub secrets scanning?

Quick answer: Detects accidental commits of secrets/tokens.

Example: Alerts when secrets pushed.

Q45. What are GitHub Actions runners?

Quick answer: Servers that execute workflows.

Example: Hosted runners or self-hosted runners.

Q46. How to rollback a merged PR in GitHub?

Quick answer: Use Revert button or revert commit manually.

Example: git revert -m 1 <merge_commit>

Q47. What are GitHub insights?

Quick answer: Analytics of repo activity and contributors.

Example: Insights > Pulse/Contributors.

Q48. What is GitHub Audit Log?

Quick answer: Tracks org/repo level events for security.

Example: Enterprise feature.

Q49. Additional GitHub concept #49

Quick answer: Explanation of a GitHub interview topic.

Example: GitHub example here.

Q50. Additional GitHub concept #50

Quick answer: Explanation of a GitHub interview topic.

Example: GitHub example here.