CI/CD for QA: Must-Know Questions & Answers

- CI/CD is not just for developers! As QA, your role is critical to ensure continuous quality.
- Here's a quick guide to common CI/CD questions and answers tailored for QA professionals.

What is CI/CD?

- Q: What is CI/CD, and why is it important in QA?
- A: CI (Continuous Integration) automates building and testing code after every commit. CD (Continuous Delivery/Deployment) ensures tested code is automatically released to staging or production. It gives QA faster feedback and more stable releases.

QA's Role in CI/CD

- Q: What is the role of QA in a CI/CD pipeline?
- A: QA integrates automated test cases, monitors builds, reviews reports, validates deployments, and ensures quality gates before release.

Tests in CI/CD

- Q: What types of testing should be included in CI/CD?
- A: Unit (Dev), Smoke, API, UI Automation, Regression, Performance, and Security Testing depending on the phase.

Handling Test Failures

- Q: What do you do if a test fails in Jenkins?
- A: Check Jenkins logs, analyze test report/screenshots, rerun locally, classify the issue, raise a bug if needed.

Flaky Tests

- Q: What is a flaky test and how do you handle it?
- A: A test that fails inconsistently. I use retry logic, improve waits, and isolate flaky tests.

Tools Used

- Q: What tools have you used for CI/CD and automation?
- A: Jenkins, GitHub Actions, Selenium, TestNG, Allure/Extent Reports, Postman.

Smoke Tests in CI/CD

- Q: What is a smoke test and where should it be used?
- A: Quick test of core features post-deployment. Should run early in the pipeline to catch critical issues.

Headless Testing

- Q: What is headless testing?
- A: Running tests without opening a browser. Useful in CI pipelines for speed and resource efficiency.

Best Practices

- Q: QA best practices for CI/CD?
- A: Prioritize automation, keep tests modular & stable, handle environments via configs, integrate reporting, use alerts for failures.

Scenario: Build Trigger

- Q: What happens when a developer commits code?
- A: Jenkins or any CI tool triggers a job that builds the application and immediately runs smoke tests to validate basic functionality. If the build or test fails, QA investigates logs and notifies the team.

Scenario: Test Failure in Pipeline

- Q: A test fails in the CI pipeline. What do you do?
- A: I check the test report and logs in Jenkins, rerun the test locally, and check for environment issues or code bugs. If it's a real bug, I log it with all evidence. If it's flaky, I flag it for review.

Scenario: Automation Integration

- Q: How do you integrate Selenium tests into CI/CD?
- A: I create a TestNG suite, use Maven to build, and configure Jenkins to execute the test suite after code commit. The results are published using Allure or TestNG reports.

Final Tips

- • Understand where your tests fit in the pipeline.
- • Collaborate with Dev and DevOps.
- • Own the quality gates in CI/CD.