

Development Environments & CI/CD – Interview Q&A;

1. Typical Development Environments

Development (Dev/Local):

Runs on the developer machine for rapid coding, debugging, and experimentation.

QA/Testing (SIT/UAT):

Integrated code from all developers is tested here for functionality and stability.

Staging (Pre-Prod):

Replica of Production used for final validation, UAT, and performance testing.

Production (Prod):

Live environment where end users interact with the application.

2. Why Staging Must Mimic Production

Staging prevents configuration drift by matching environment variables, Node versions, and database setups.

Ensures accurate performance testing under production-like load.

Validates deployment steps before pushing to Production.

3. Continuous Integration (CI)

CI reduces integration conflicts by merging code frequently.

Automated tests and linting detect issues early.

Ensures stable develop/master branches and automates repetitive checks.

4. Continuous Delivery (CD)

CD automates deployment steps to Staging and Production.

Enables fast release of critical hotfixes.

Ensures consistent, reliable, and error-free deployments.