Continuous Integration Pipeline Steps Documentation

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1. Source Code Commit

- Developers push changes to the `main` or feature branch.
- Version control system detects commit (e.g., GitHub, GitLab).

2. Pipeline Trigger

- Continuous Integration server detects new commit.
- Pipeline initiates automatically.

3. Code Checkout

- Pipeline clones repository at latest commit.
- Checks out the relevant branch.

4. Install Dependencies

- Installs required libraries and dependencies.
- Uses package managers (e.g., `npm install`, `pip install`).

5. Static Code Analysis

- Runs linters or static analysis tools.
- Reports code quality issues or style violations.

6. Build

- Compiles source code if necessary.
- Prepares build artifacts for testing and deployment.

7. Automated Testing

- Executes unit tests, integration tests, and end-to-end tests.
- Collects test results and coverage reports.

8. Artifact Archiving

- Stores built artifacts for future deployment.
- Uploads to artifact repository if configured.

9. Deployment (Optional)

- Deploys application to staging or production environment if tests pass.
- Can be manual or automated step.

10. Notifications

- Sends build and test results to developers or teams.
- Common channels include email or chat integrations.