Continuous Integration (CI) Pipeline Workflow

Developer	GitHub Actions (Automated CI Server)

Write new code or fix a bug on local machine

Commit changes with Git

Push commits to a protected branch (e.g., `main` or `develop`) on GitHub

Trigger: The `on: push` event in the workflow file.

Workflow is automatically triggered by the push

Provision a new, clean server environment (a "runner")

Step 1: **Checkout Code**
(Download the latest version of the repository)

Step 2: **Set up Python Environment**
(Install the correct Python version)

Step 3: **Install Dependencies**
(Run `pip install -r requirements.txt`)

Step 4: **Run Automated Tests**
(Execute the entire `pytest` suite)

Did all tests pass?

yes #   n o #

Report **Success**

A green checkmark appears on the commit in GitHub. The code is verified and safe to merge.

A red 'X' appears on the commit in GitHub. The workflow stops.

This is the quality gate.
The developer is notified that their code broke the tests and must be fixed.

Report **Failure**