

Day 23 — CI/CD Basics (GitHub Actions Fundamentals)

What is CI/CD?

CI/CD stands for Continuous Integration and Continuous Delivery. It is a modern development practice where code changes are automatically checked and built after every push to a repository.

Why CI/CD is Important?

- Reduces manual work
- Prevents bugs from reaching production
- Saves time for developers
- Ensures consistent builds

What is Continuous Integration (CI)?

CI means that whenever a developer pushes code to GitHub, the system automatically checks the code. This includes installing dependencies and building the project.

What is Continuous Delivery (CD)?

CD means that after the code is successfully checked and built, it is ready for release or deployment later.

What is GitHub Actions?

GitHub Actions is a built-in automation feature of GitHub that runs tasks automatically when code is pushed or merged.

How Automation Works

1. Code is pushed to GitHub
2. GitHub Actions starts automatically
3. Project dependencies are installed
4. Build process runs
5. Result is shown inside GitHub

React Auto Build Concept

For a React project, GitHub Actions can automatically run the build command. This confirms that the project builds correctly every time.

Is This Auto Deployment?

No. This step only verifies the code and build process. Deployment comes later in advanced stages.

Who Should Use This?

- Solo developers
- Small teams
- Professional software teams

Key Takeaways

- CI/CD automates verification and builds
- GitHub Actions handles automation
- React apps can be auto-built
- This stage does not deploy the app