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Introduction to GitHub Actions

Automate your workflows with GitHub Actions!

DEFINITION

> GitHub Actions is a CI/CD tool that automates tasks within your GitHub repository. It allows you to create workflows that run on specific events, like code pushes or pull requests.

KEY CONCEPTS

Workflows

A workflow is a configurable automated process that runs one or more jobs.

Triggers

Triggers are events that start workflows, such as push, pull request, or schedule.

Jobs

Jobs are a set of steps that run in the same environment, defined within a workflow.

Steps

Steps are individual tasks within a job, which can run commands or use actions.

Actions

Actions are reusable pieces of code that can be combined to create workflows.

EXAMPLES

→ Run tests on every push to the main branch.

→ Deploy code to production after a successful pull request merge.

→ Send notifications on failed builds.

MEMORY TIPS

★ Remember 'W' for Workflows, 'T' for Triggers - like a flowchart!

★ Think of Jobs as 'Jigsaw pieces' that fit into Workflows.

★ Actions are like 'Apps' that perform specific tasks in your workflow.

COMMON MISTAKES

✗ Forgetting to specify the correct trigger for the workflow.

✗ Neglecting to define job dependencies, leading to failed runs.

✗ Not using versioned actions, which can lead to unexpected behavior.

QUICK RECAP

GitHub Actions automates workflows in your repositories based on events. Key components include workflows, triggers, jobs, steps, and actions. Understanding these elements helps streamline development processes.