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Introduction to Deployment Pipelines

Streamline software delivery with effective deployment pipelines.

DEFINITION

> Deployment pipelines are automated processes that help developers build, test, and release software efficiently. They ensure consistent and reliable software delivery by integrating various stages of development.

KEY CONCEPTS

Continuous Integration

A practice where code changes are automatically tested and merged into a shared repository.

Continuous Delivery

An extension of continuous integration that ensures code is always in a deployable state.

Automated Testing

Using scripts to automatically run tests on code to catch bugs early in the process.

Version Control

A system that tracks changes to code, allowing multiple developers to collaborate effectively.

Deployment Automation

The use of tools to automatically deploy code to production environments without manual intervention.

EXAMPLES

→ Using Jenkins to automate the build and test process.

→ Implementing Git for version control in a team project.

→ Deploying a web application to AWS with a single command.

MEMORY TIPS

★ Remember 'CI/CD' as Continuous Integration and Continuous Delivery.

★ Think of 'Automated Testing' as a safety net for your code.

★ Visualize a pipeline as a conveyor belt moving code from development to production.

COMMON MISTAKES

✗ Neglecting to write automated tests before deployment.

✗ Failing to update documentation alongside code changes.

✗ Overlooking the importance of version control in team projects.

QUICK RECAP

Deployment pipelines automate the software delivery process, enhancing efficiency and reliability. Key components include continuous integration, automated testing, and deployment automation. Understanding these concepts is crucial for successful full stack development.