



What is CI (Continuous Integration)?



- CI stands for Continuous Integration
- Developers frequently push code changes to a shared repository
- Every code push automatically triggers build and tests
- Errors are detected early in the development cycle
- Reduces integration issues and last-minute failures





What is CD

(Continuous Delivery / Deployment) ?



- CD stands for Continuous Delivery or Continuous Deployment
- Automatically deploys code after successful build and tests
- Continuous Delivery requires manual approval
- Continuous Deployment deploys automatically without approval
- Ensures faster and reliable releases



What is CI/CD Pipeline?



- A CI/CD pipeline is a step-by-step automated workflow
- Includes build, test, and deployment stages
- Runs automatically when code changes are pushed
- Reduces human errors and manual effort
- Improves software quality and delivery speed





What is YAML



- YAML stands for YAML Ain't Markup Language
- Used to define pipeline configuration as code
- Controls pipeline steps, agents, and triggers
- Readable and easy-to-understand format
- Indentation and spacing are very important



What is a Self-Hosted Agent?



- A self-hosted agent is a machine you own and manage
- Can be a local PC, office server, or cloud VM
- Runs pipeline jobs on your own infrastructure
- Gives full control over tools and environment
- Ideal for enterprise and production workflows



What is a Microsoft-Hosted Agent?



- Provided and managed by Azure DevOps
- No machine setup required
- Comes with predefined tools and environments
- Has time and parallel job limitations
- Free tier often faces parallelism errors



Self-Hosted vs Microsoft-Hosted Agent



- Self-hosted agents offer full control
- Microsoft-hosted agents offer quick setup
- Self-hosted agents have no time limits
- Microsoft-hosted agents have usage restrictions
- Self-hosted agents are better for long-running jobs

