DevOps:

DevOps is a combination of Development and Operations—a set of practices, tools, and cultural philosophies that aims to automate and integrate the processes between software development and IT teams. It emphasizes:

- Continuous Integration (CI)
- Continuous Delivery (CD)
- Automated testing and deployment
- Collaboration between cross-functional teams

The goal is to deliver software faster, more reliably, and with higher quality.

Azure DevOps:

Azure DevOps is a cloud-based suite of development tools by Microsoft that supports the entire software development lifecycle. It provides a set of integrated services such as:

- **Azure Boards** – for tracking epics, features, user stories, tasks, and bugs
- **Azure Repos** – for source code management using Git
- **Azure Pipelines** – for Continuous Integration and Continuous Deployment (CI/CD)
- **Azure Test Plans** – for managing test cases and quality assurance
- **Azure Artifacts** – for hosting and sharing packages

Azure DevOps supports Agile, Scrum, and Kanban methodologies and integrates well with Visual Studio, GitHub, and other tools.

Work Item Hierarchy in Azure DevOps:

Azure DevOps uses a hierarchical structure to manage work and break down large objectives:

- **Epic:** A high-level business goal or major functionality that may span multiple sprints or releases.

  Example: "Implement Complete Customer Support System"

- **Feature:** A functional component that delivers part of the epic. A feature may contain multiple user stories.

  Example: "Return and Refund Module"

- **User Story:** A user-focused requirement describing what the end user needs and why.

  Example: As a customer, I want to initiate a return for an item so that I can get a refund if I receive a defective product.

- **Task:** A technical unit of work needed to complete a user story, typically done by a developer or tester.

  Example:
  - Add 'Return' button on Order Details page
  - Connect return request to backend API
  - Write unit test for return flow

Advantages of Using DevOps and Azure DevOps:

- Benefit
- Faster Delivery
- Improved Collaboration
- Higher Quality
- Real-Time Visibility
- Scalability
- Integration
- Security & Compliance