1.What are Microservices?

Definition:

- Microservices architecture is a design pattern that structures an application as a collection of small, autonomous services, each responsible for a specific business function.

Example:

- In the example of an e-commerce platform (e.g., Amazon), each service like Users, Sellers, Catalog, Payment, Shipping, etc., is an independent microservice.

Key Points:

1. **Monolithic Architecture Drawbacks:**
    - Team dependencies.
    - Scalability issues (difficult to scale individual components).
    - Locked to one technology stack.
    - If one part fails, the entire application might crash.

2. **Advantages of Microservices:**
    - **Independence**: Each service can be developed, deployed, and scaled independently.
    - **Technology Diversity**: Teams can choose the technology best suited for each service.
    - **Failure Isolation**: A failure in one service doesn't affect the entire application.
3. **Communication:**
    - Microservices typically communicate over **HTTP protocol** using APIs.
    - Example architecture with an **API Gateway** acting as a point of entry to various services.