Module 1
Fundamental Cloud Computing

- **Terminology & Concepts**
  - IT resource
  - service
  - service agent
  - scaling
    - horizontal
      - scale out
      - scale in
    - vertical
      - scale up
      - scale down
  - virtualization
  - cloud
  - cloud service
- **Delivery Models**
  - Infrastructure-as-a-Service (IaaS)
  - Platform-as-a-Service (PaaS)
  - Software-as-a-Service (SaaS)
- **Deployment Models**
  - public cloud
  - community cloud
  - private cloud
  - hybrid cloud
- **Cloud Characteristics**
  - on-demand usage
  - ubiquitous access
  - multitenancy
  - elasticity
  - measured usage
  - resilient computing
- **Business Cost Metrics**
  - up-front costs
  - on-going costs
  - cost of capital
  - sunk costs
  - integration costs
  - locked-in costs
- **Benefits**
  - reduced investment and proportional costs
  - increased scalability
  - increased availability and reliability
- **Challenges**
  - increased security vulnerabilities
  - reduced operational governance control
  - limited portability between cloud providers
  - multi-regional compliance and legal issues
- **SLA Characteristics**
  - availability
  - reliability
  - performance
- **Roles & Boundaries**
  - software
    - service consumer
    - cloud service consumer
  - organization
    - cloud consumer
    - cloud provider
    - cloud service owner
    - cloud resource administrator
  - boundaries
    - organizational boundary
    - trust boundary

Cloud Certified Professional (CCP) Program
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