- Filename: eccouncil-ceh31250-v11-19-1-1-cloud-computing-basics.md
- Show Name: CEHv11 (312-50)
- Topic Name: Cloud Computing - Cloud Computing
- Episode Name: Cloud Computing Basics
==

Cloud Computing Basics

Objectives:

- Types of Cloud Services

    - IaaS
    - PaaS
    - SaaS
    - IDaaS

        - ID as a Service
        - Identity and Account Management Services

            - SSO
            - MFA

    - SECaaS

        - Security as a Service

            - Pentests
            - AV/EDR
            - Incident Response

    - CaaS

        - Container as a Service

            - Container/app/cluster management

    - FaaS

        - Function as a Service

            - Microservices
            - App Functions

                - AWS Lambda

- Responisibility Areas

    - On Prem

        - ALL Subscriber

    - IaaS

        - Subscriber

            - Applications
            - Data
            - Runtime
            - Middleware
            - OS

        - Service Provider

- Virtualization environment
- Metal servers
- Storage
- Network

- PaaS

  - Subscriber

    - Applications
    - Data

  - Service Provider

    - Runtime
    - Middleware
    - OS
    - Virtualization environment
    - Metal servers
    - Storage
    - Network

- SaaS

  - ALL Serice Provider

- Deployment Models

  - Public
  - Private

    - Single org use

  - Community

    - Multiple org use

      - Common industry and security concerns

        - Healthcare
        - Transportation
        - Hotel

  - Hybrid

    - Some mixing of the cloud Deployment Models

  - Multi-Cloud

    - Environment that spans across Multiple cloud providers

      - Single management interface

- NIST Cloud Deployment Reference Architecture

  - Cloud Consumer
  - Cloud Provider
  - Cloud Carrier

    - The org that provides network connectivity between consumers and providers

  - Cloud Auditor

    - 3rd-party examiners

      - Regulation and compliance
      - Security and services

- Cloud Broker
  - Intermediary that specializes in cloud management
    - Categories
      - Service aggregation
        - The cloud broker combines and integrates multiple existing services into new service, carrying responsibility of data integration between cloud consumer and cloud providers.
      - Service intermediation
        - A cloud broker provides value-added service, enhancing an existing service by improving some of its capabilities.
      - Service arbitrage
        - This is similar to service aggregation but with flexible dynamic choice of service providers based on the broker's internal evaluations.
- Cloud Storage Architecture
  - Front-End
    - Where the end user interacts with the data through an API
  - Middleware
    - Data De-duplication and Replication
  - Back-End
    - Metal hardware