Cloud Computing: Design, Topology, Technology, and Strategy

Course Description

The course on Cloud Computing focuses on the design, topology, technology, and strategic aspects of cloud computing. Participants will gain a comprehensive understanding of cloud service delivery, customer service provision, and ROI calculation. The course emphasizes the application of cloud computing in building effective company strategies with minimal focus on operational and maintenance aspects.

Audience

This course is suitable for:

- IT professionals and managers involved in cloud architecture and strategy
- Solution architects and system designers working with cloud technologies
- Business executives and decision-makers responsible for cloud adoption and strategy

Pre-requisite Knowledge/Skills

- Basic understanding of cloud computing concepts and terminology
- Familiarity with IT infrastructure and networking principles
- Proficiency in using computers and basic software applications

Course Objectives

By the end of the course, participants will be able to:

- Understand the design principles and topology considerations for cloud computing.
- Evaluate different cloud technologies and differentiate them from other computing models.
- Learn how to provide efficient cloud services to customers and calculate ROI.
- Explore how cloud computing technology can contribute to building effective company strategies.
- Apply best practices for cloud governance, compliance, and risk management.

Course Outline

The course comprises 24 Hours theory. There are 10 Modules.

Module 1: Introduction to Cloud Computing

- Overview of Cloud Computing
- Key Concepts and Terminology

- Benefits and Challenges of Cloud Computing

Module 2: Cloud Computing Design Considerations

- Design Principles for Cloud Computing
- Scalability and Elasticity in the Cloud
- High Availability and Fault Tolerance
- Security and Compliance in the Cloud

Module 3: Cloud Computing Topology

- Cloud Infrastructure Components
- Virtualization Technologies
- Networking in the Cloud
- Storage and Data Management in the Cloud

Module 4: Cloud Computing Technologies

- Virtual Machines (VMs) and Containers
- Serverless Computing
- Big Data and Analytics in the Cloud
- Artificial Intelligence and Machine Learning in the Cloud

Module 5: Differences from Other Computing Models

- Contrasting Cloud Computing with Traditional IT Infrastructure
- Differentiating Cloud Computing from Edge Computing
- Comparing Cloud Computing with Grid Computing
- Distinctions between Cloud Computing and Cluster Computing

Module 6: Providing Services to Customers

- Service Level Agreements (SLAs)
- Cloud Service Catalog and Offerings
- Provisioning and Resource Management
- Service Orchestration and Automation

Module 7: Calculating Return on Investment (ROI)

- Financial Analysis and Cost Models for Cloud Computing

- Total Cost of Ownership (TCO) Calculation
- Cost Optimization Strategies in the Cloud
- ROI Measurement and Evaluation

Module 8: Cloud Computing and Company Strategy

- Cloud Strategy Alignment with Business Goals
- Cloud Adoption Roadmap and Planning
- Change Management and Organizational Impact
- Cloud Vendor Selection and Partnerships

Module 9: Governance, Compliance, and Risk Management

- Cloud Governance Frameworks and Policies
- Regulatory Compliance in the Cloud
- Cloud Security Best Practices
- Risk Management and Mitigation

Module 10: Future Trends and Innovations in Cloud Computing

- Emerging Technologies and Innovations
- Cloud-native Development and Microservices Architecture
- Edge Computing and Fog Computing
- Industry Case Studies and Real-world Examples