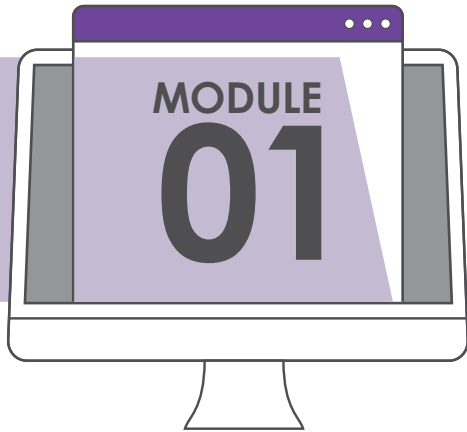


Fundamental Cloud Computing

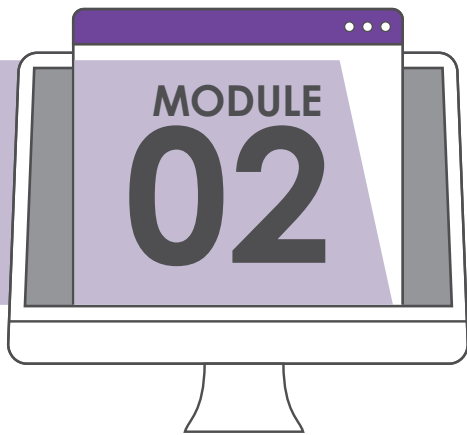


This foundational course module provides end-to-end coverage of fundamental cloud computing topics as they pertain to both technology and business considerations. The module content is divided into a series of modular sections, each of which is accompanied by one or more hands-on exercises.

The following primary topics are covered:

- Fundamental Cloud Computing Terminology and Concepts
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Cloud Resource Administrator and Cloud Service Owner Roles
- Cloud Service and Cloud Service Consumer Roles
- Understanding the Software as a Service (SaaS) Cloud Delivery Model
- Understanding the Platform as a Service (PaaS) Cloud Delivery Model
- Understanding the Infrastructure as a Service (IaaS) Cloud Delivery Model
- Combining Cloud Delivery Models
- Public Cloud, Private Cloud, Hybrid Cloud and Community Cloud Deployment Models
- Business Cost Metrics and Formulas for Comparing and Calculating Cloud and On-Premise Solution Costs
- Formulas for Calculating and Rating SLA Quality of Service Characteristics

Cloud Technology Concepts



This course module explores a range of the most important and relevant technology-related topics that pertain to contemporary cloud computing platforms. The module content does not get into implementation or programming details, but instead keeps coverage at a conceptual level, focusing on topics that address cloud service architecture, cloud security threats and technologies, virtualization and containerization.

Proven technologies are defined and classified as concrete architectural building blocks called “mechanisms”. The purpose of this manner that is accessible to a wide range of IT professionals, as well as to empower participants with an understanding of the fundamental mechanics of a cloud platform, how the different “moving parts” can be combined, and how to address common threats and pitfalls.

The following primary topics are covered:

- Cloud Computing Mechanisms that Establish Architectural Building Blocks
- Virtual Servers, Containers, Ready-Made Environments, Failover Systems and Pay-Per-Use Monitors
- Automated Scaling Listeners, Multi-Device Brokers and Resource Replication
- Understanding How Individual Cloud Computing Mechanisms Support Cloud Characteristics
- An Introduction to Containerization, Container Hosting and Logical Pod Containers
- A Comparison of Containerization and Virtualization
- Cloud Balancing and Cloud Bursting Architectures
- Common Risks, Threats and Vulnerabilities of Cloud-based Services and Cloud-hosted Solutions
- Cloud Security Mechanisms used to Counter Threats and Attacks
- Understanding Cloud-Based Security Groups and Hardened Virtual Server Images
- Cloud Service Implementation Mediums (including Web Services and REST Services)
- Cloud Storage Benefits and Challenges, Cloud Storage Services, Technologies and Approaches
- Non-Relational (NoSQL) Storage Compared to Relational Storage
- Cloud Service Testing Considerations and Testing Types
- Service Grids and Autonomic Computing
- Cloud Computing Industry Standards Organizations