

Cloud Capacity Specialist

OEM: Arcitura • Duration: 3 Days (24 hrs) • Code: C90.CCA

COURSE MODULES & TOPICS

Module 1: Fundamental Cloud Computing

- 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

Module 2: Cloud Technology Concepts

- 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

Module 16: Fundamental Cloud Virtualization

- A Brief History of Virtualization
- Virtualization Concepts and Definitions
- Traditional vs. Contemporary Virtualization
- 10 Virtualization Types
- Data Center, Storage, Application, Desktop, Network, Server, etc.
- 18 Virtualization Mechanisms
- Virtualization Agent, Virtual Server State Manager, Virtual Appliance, Virtual Firewall, etc.
- Virtual Machines, Hypervisor Drill-Down
- vCPU, vRAM, vDisk, Virtual to Virtual Conversion
- Thick and Thin Provisioning, Virtual Switches, NIC Teaming
- Service Virtualization ROI and Strategic Benefits
- Virtualization Considerations for Cloud Providers and Consumers
- Resource Pooling and Management, Virtual Infrastructure and Management
- Monitoring and KPIs
- Capacity Planning and Management Considerations

Module 17: Advanced Cloud Virtualization

- Connectivity and Accessibility Considerations
- Virtual Server and Virtual Switch Isolation
- NAT/Host and External Connectivity
- Performance, Capacity and Scaling Considerations
- Direct I/O and Single Root I/O Virtualization
- LUN Access and NIC Teaming
- Elastic Resources and Resource Workload Management
- Load Balanced Virtual Server and Virtual Switches
- Different Forms of Virtual Server and Host Affinity/Non-Affinity
- Memory Over-Committing and Power Consumption Reduction
- Failover and Recovery and Zero Downtime
- Resource Pooling and Reservation and Auto Crash Recovery
- Hypervisor Clustering and Redundant Physical Connections
- Migration and Relocation Considerations
- Cross-Hypervisor Workload Mobility and Non-Disruptive Service Relocation
- Persistent Virtual Network Configurations and Virtual Server Folder Migration
- Virtual Disk Splitting and Stateless Hypervisors

Module 18: Cloud Virtualization Lab

- Reading Exercise 18.1: Case Study Background DVLP
- Lab Exercise 18.2: Improve Virtual Server Availability & Performance

- Lab Exercise 18.3: Improve Workload Processing
- Lab Exercise 18.4: Design Virtual Server Connectivity Architecture
- Lab Exercise 18.5: Improve Virtual Server Availability
- Reading Exercise 18.6: Case Study Background ARCT
- Lab Exercise 18.7: Enable Correct Service and Virtual Server Access
- Lab Exercise 18.8: Improve Virtual Server Architecture
- Lab Exercise 18.9: Improve Virtual Server Efficiency
- Lab Exercise 18.10: Improve Resource Utilization
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