



IT261: Managing Hybrid Infrastructure: Strategies for Modern IT Operations

Training Description:

As organizations continue their digital transformation journey, hybrid infrastructure has become the preferred IT model, combining on-premises data centers with private and public cloud environments. While hybrid infrastructure offers greater flexibility, scalability, resilience and cost optimization, it also introduces new challenges in integration, security, governance, automation, performance management and operational complexity.

This comprehensive training course provides IT professionals with the knowledge and practical skills required to successfully design, deploy, manage, secure, monitor and optimize hybrid infrastructure environments. Participants will explore best practices for integrating traditional infrastructure with cloud platforms, managing hybrid workloads, implementing automation, ensuring business continuity, strengthening cybersecurity and developing governance frameworks that support modern enterprise operations.

Through interactive discussions, real-world case studies, practical exercises and scenario-based workshops, participants will gain a strategic understanding of hybrid infrastructure management while developing technical competencies to improve operational efficiency and business agility.

Training Objectives:

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

- ✓ Understand hybrid infrastructure architecture and deployment models
- ✓ Design scalable and resilient hybrid IT environments
- ✓ Integrate on-premises infrastructure with public and private cloud services
- ✓ Implement identity and access management across hybrid environments
- ✓ Manage virtualization, storage, networking and compute resources
- ✓ Apply automation and Infrastructure as Code (IaC) principles
- ✓ Monitor performance, availability and capacity across hybrid platforms
- ✓ Strengthen cybersecurity and compliance within hybrid infrastructures
- ✓ Develop disaster recovery and business continuity strategies
- ✓ Optimize infrastructure costs, governance and operational excellence

Training Designed for:

This training course is intended for IT Infrastructure Managers, Systems Administrators, Cloud Engineers, Infrastructure Architects, Network Engineers, Data Center Managers, DevOps Engineers, IT Operations Managers, Security Engineers, Solution Architects, Technical Consultants, Digital Transformation Professionals, IT Project Managers, Technology Managers and Senior IT Support Engineers.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

FUNDAMENTALS OF HYBRID INFRASTRUCTURE AND ENTERPRISE ARCHITECTURE

❖ Module 1: Introduction to Hybrid Infrastructure

- Digital transformation and hybrid IT
- Evolution of enterprise infrastructure
- Characteristics of hybrid environments
- Benefits and business drivers
- Common deployment models
- Hybrid vs Multi-cloud

❖ Module 2: Hybrid Infrastructure Components

- Compute resources
- Virtualization platforms
- Storage systems
- Networking architecture
- Cloud computing services
- Edge computing integration

❖ Module 3: Enterprise Architecture Design

- Infrastructure planning
- Capacity planning
- Scalability principles
- High availability architecture
- Fault tolerance
- Infrastructure standardization

❖ Exercises:

- Designing an enterprise hybrid infrastructure architecture for a growing organization

DAY TWO:

CLOUD INTEGRATION, VIRTUALIZATION AND INFRASTRUCTURE MANAGEMENT

❖ Module 1: Cloud Platforms Integration

- Microsoft Azure Hybrid
- Amazon Web Services (AWS)
- Google Cloud Platform (GCP)
- Hybrid cloud connectivity
- VPNs and dedicated connections
- Cloud migration strategies

❖ Module 2: Virtualization Technologies

- VMware
- Hyper-V
- KVM
- Containerization concepts
- Kubernetes overview
- Virtual machine lifecycle management

❖ **Module 3: Hybrid Networking**

- Software-defined networking
- Network segmentation
- Hybrid DNS
- Load balancing
- Traffic optimization
- WAN optimization

❖ **Module 4: Storage Management**

- SAN
- NAS
- Cloud storage
- Object storage
- Storage tiering
- Backup storage

❖ **Exercises:**

- Planning hybrid connectivity and workload placement across on-premises and cloud infrastructure

DAY THREE:

AUTOMATION, MONITORING AND OPERATIONAL EXCELLENCE

❖ **Module 1: Infrastructure Automation**

- Automation fundamentals
- Infrastructure as Code (IaC)
- Configuration management
- Automation workflows
- Orchestration tools
- Policy automation

❖ **Module 2: Monitoring and Observability**

- Infrastructure monitoring
- Application monitoring
- Cloud monitoring
- Centralized logging
- Performance dashboards
- Event correlation

❖ **Module 3: Capacity and Performance Management**

- Resource utilization
- Performance tuning
- Capacity forecasting
- SLA monitoring
- Incident response
- Root cause analysis

❖ **Module 4: IT Service Management Integration**

- ITIL principles
- Change management
- Configuration management database (CMDB)
- Asset management

- Service desk integration
- ❖ **Activities:**
 - Developing an automated monitoring and incident response workflow for hybrid infrastructure

DAY FOUR:

SECURITY, COMPLIANCE AND BUSINESS CONTINUITY

- ❖ **Module 1: Hybrid Infrastructure Security**
 - Security architecture
 - Zero Trust principles
 - Identity management
 - Multi-factor authentication
 - Privileged access management
 - Endpoint security
- ❖ **Module 2: Cloud Security**
 - Shared responsibility model
 - Cloud security controls
 - Encryption
 - Key management
 - Secure API management
 - Security monitoring
- ❖ **Module 3: Compliance and Governance**
 - Governance frameworks
 - Regulatory compliance
 - Risk management
 - Security auditing
 - Policy management
 - Data sovereignty
- ❖ **Module 4: Disaster Recovery and Business Continuity**
 - Business continuity planning
 - Disaster recovery architecture
 - Backup strategies
 - Recovery Point Objective (RPO)
 - Recovery Time Objective (RTO)
 - Disaster recovery testing
- ❖ **Activities:**
 - Designing a secure hybrid infrastructure with disaster recovery and business continuity plans

DAY FIVE:

OPTIMIZATION, GOVERNANCE AND FUTURE HYBRID INFRASTRUCTURE

- ❖ **Module 1: Infrastructure Optimization**
 - Cost optimization
 - Resource optimization
 - Workload balancing
 - Cloud cost management
 - Performance optimization

- Sustainability considerations
- ❖ **Module 2: Governance and Operational Management**
 - Operational governance
 - Hybrid infrastructure policies
 - Service lifecycle management
 - Vendor management
 - Infrastructure documentation
 - Operational maturity models
- ❖ **Module 3: Emerging Technologies**
 - Artificial Intelligence for IT Operations (AIOps)
 - Predictive analytics
 - Edge computing
 - Hybrid AI infrastructure
 - Intelligent automation
 - Future data center trends
- ❖ **Module 4: Building a Hybrid Infrastructure Roadmap**
 - Assessing organizational readiness
 - Developing a migration strategy
 - Risk mitigation planning
 - Investment prioritization
 - Continuous improvement framework
 - Long-term hybrid infrastructure strategy
- ❖ **Final Activities:**
Participants work in teams to develop a comprehensive Hybrid Infrastructure Management Strategy for an enterprise organization, incorporating:
 - Hybrid architecture design
 - Cloud integration strategy
 - Security and governance framework
 - Automation roadmap
 - Monitoring and performance management
 - Disaster recovery plan
 - Cost optimization strategy
 - Operational governance model
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

The exercises concludes with team presentations, instructor feedback and a discussion of industry best practices for sustaining secure, resilient and high-performing hybrid infrastructure environments.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions

- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

USD\$ TBA - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

Aisha Relativo - Training & Career Development Manager

aisha@cmc-me.com / training@cmc-me.com

Tel.: +971 2 665 3945 or +971 2 643 6653 | Mob.: +971 52 2954615