



IT263: Technical Solution Design & Architecture Basics

Training Description:

This comprehensive training course provides participants with a solid foundation in technical solution design and IT architecture principles. It equips professionals with the knowledge and practical techniques required to design scalable, secure, reliable and cost-effective technology solutions that align with business objectives.

Participants will explore the fundamentals of enterprise architecture, solution architecture, systems integration, cloud computing concepts, software architecture patterns, security-by-design, infrastructure planning and architectural documentation. Through practical case studies, architecture diagrams, design workshops and collaborative exercises, attendees will learn how to translate business requirements into effective technical solutions while balancing performance, scalability, maintainability and risk.

The training course also introduces industry best practices, architectural frameworks and modern design approaches used across digital transformation initiatives, cloud environments, enterprise applications and hybrid infrastructures.

Training Objectives:

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

- ✓ Understand the fundamentals of technical solution design and architecture
- ✓ Differentiate between enterprise, solution, software, infrastructure and application architecture.
- ✓ Translate business requirements into technical architecture solutions
- ✓ Apply architectural design principles and best practices
- ✓ Develop scalable, secure, and resilient solution architectures
- ✓ Understand cloud architecture fundamentals and hybrid environments
- ✓ Evaluate technology options and architectural trade-offs
- ✓ Create architecture diagrams and solution documentation
- ✓ Apply security, performance, and compliance considerations during solution design
- ✓ Participate effectively in architecture reviews and technical discussions

Training Designed for:

This training course is intended for Solution Architects, Systems Analysts, Software Engineers, Application Developers, Infrastructure Engineers, Network Engineers, Cloud Engineers, IT Consultants, Technical Project Managers, Business Analysts, Enterprise Architects, DevOps Engineers, Technical Leads , IT Managers, Digital Transformation Teams and Professionals transitioning into architecture roles.

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:

INTRODUCTION TO TECHNICAL SOLUTION DESIGN & ARCHITECTURE

- ❖ **Module 1: Fundamentals of IT Architecture**
 - What is Technical Architecture?
 - Role of Solution Architecture
 - Enterprise Architecture overview
 - Architecture domains
 - Business vs Technical Architecture
- ❖ **Module 2: Architecture Roles & Responsibilities**
 - Solution Architect responsibilities
 - Technical leadership
 - Stakeholder collaboration
 - Architecture governance
- ❖ **Module 3: Architecture Principles**
 - Modularity
 - Reusability
 - Scalability
 - Flexibility
 - Simplicity
 - High availability
 - Fault tolerance
- ❖ **Module 4: Understanding Business Requirements**
 - Functional requirements
 - Non-functional requirements
 - Gathering stakeholder needs
 - Requirement prioritization
 - Business capability mapping
- ❖ **Practical Exercises:**
 - Analyze a business case
 - Identify technical requirements
 - Map business objectives to IT solutions

DAY TWO:

DESIGNING TECHNICAL SOLUTIONS

- ❖ **Module 1: Solution Design Methodology**
 - Solution lifecycle
 - Architecture process
 - Design thinking for IT
 - Technology selection
- ❖ **Module 2: Application Architecture**
 - Monolithic applications
 - Layered architecture
 - Microservices basics

- Service-Oriented Architecture (SOA)
- Event-driven architecture
- APIs and integration
- ❖ **Module 3: Infrastructure Design**
 - Servers
 - Storage
 - Virtualization
 - Network architecture
 - High availability
 - Disaster recovery fundamentals
- ❖ **Module 4: Integration Design**
 - Enterprise integration
 - Middleware concepts
 - Message queues
 - REST APIs
 - Data integration
- ❖ **Practical Exercises:**
 - Create a high-level solution architecture
 - Identify infrastructure components
 - Develop an application interaction diagram

DAY THREE:

CLOUD & MODERN ARCHITECTURE FUNDAMENTALS

- ❖ **Module 1: Cloud Computing Basics**
 - Public cloud
 - Private cloud
 - Hybrid cloud
 - Multi-cloud concepts
- ❖ **Module 2: Cloud Architecture**
 - Compute services
 - Storage services
 - Networking
 - Identity Management
 - Cloud-native architecture
- ❖ **Module 3: Modern Architectural Patterns**
 - Containers
 - Kubernetes overview
 - Serverless computing
 - Edge computing
 - API Gateway
 - Event-driven systems
- ❖ **Module 4: Scalability & Performance**
 - Load balancing
 - Auto-scaling
 - Caching
 - CDN basics

- Performance optimization
- ❖ **Practical Exercises:**
 - Design a cloud-based solution
 - Compare on-premises vs cloud architecture
 - Identify scalability improvements

DAY FOUR:

SECURITY, GOVERNANCE & DOCUMENTATION

- ❖ **Module 1: Security by Design**
 - Security principles
 - Zero Trust basics
 - Identity and Access Management (IAM)
 - Encryption fundamentals
 - Secure architecture
- ❖ **Module 2: Risk & Compliance**
 - Risk assessment
 - Compliance considerations
 - Data privacy
 - Business continuity
 - Disaster recovery planning
- ❖ **Module 3: Architecture Documentation**
 - Architecture diagrams
 - Solution blueprints
 - UML basics
 - C4 Model overview
 - Documentation standards
- ❖ **Module 4: Architecture Governance**
 - Design reviews
 - Architecture boards
 - Change management
 - Standards and policies
- ❖ **Practical Exercises:**
 - Develop architecture documentation
 - Perform an architecture review
 - Evaluate design risks

DAY FIVE:

END-TO-END SOLUTION ARCHITECTURE & BEST PRACTICES

- ❖ **Module 1: End-to-End Solution Design**
 - End-user experience
 - System integration
 - Infrastructure planning
 - Security integration
 - Operations considerations
- ❖ **Module 2: Architecture Decision Making**
 - Trade-off analysis
 - Cost optimization

- Technology evaluation
- Build vs Buy decisions
- ❖ **Module 3: Emerging Technologies**
 - Artificial Intelligence in architecture
 - Internet of Things (IoT)
 - Blockchain fundamentals
 - Digital platforms
 - Future technology trends
- ❖ **Module 4: Capstone Solution Design Project**
Participants will work in teams to:
 - Analyze a business scenario
 - Gather business and technical requirements
 - Design a complete solution architecture
 - Create architecture diagrams
 - Present the proposed solution
 - Defend architectural decisions
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

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