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# PM258:
# Blockchain Masterclass

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## Training Description:

The Blockchain Masterclass is a five-day practical training course designed to provide participants with a deep and practical understanding of blockchain technology, its architecture, applications, and implications for business and society. Blockchain is transforming industries by enabling decentralized, transparent and secure systems for finance, supply chain, healthcare, government and more.

This intensive training course covers blockchain fundamentals, distributed ledger technologies, consensus mechanisms, smart contracts, cryptocurrencies, security, regulatory considerations, and enterprise blockchain applications. Participants will gain both theoretical knowledge and hands-on experience through interactive exercises, coding labs, case studies, and real-world project scenarios.

By the end of the training course, participants will be able to understand blockchain principles, design blockchain solutions, deploy smart contracts, evaluate security and scalability challenges and apply blockchain to practical business and technical problems. The training course enhances technical competence, critical thinking, and strategic insight into blockchain implementation.

## Training Objectives:

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

- ✓ Understand the foundational principles of blockchain technology
- ✓ Explain the architecture of distributed ledger systems
- ✓ Explore different consensus mechanisms and their applications
- ✓ Develop and deploy smart contracts on blockchain platforms
- ✓ Understand cryptocurrencies, tokens and digital assets
- ✓ Assess blockchain security risks and mitigation strategies
- ✓ Evaluate enterprise blockchain solutions and industry use cases
- ✓ Explore blockchain interoperability, scalability and performance optimization
- ✓ Understand legal, regulatory and compliance aspects of blockchain
- ✓ Apply blockchain knowledge to real-world business and technical challenges

## Training Designed for:

This training course is designed for IT professionals, software developers, blockchain enthusiasts, business strategists, project managers, financial analysts, consultants, and executives seeking deep technical and strategic knowledge of blockchain technology. It is also suitable for professionals exploring blockchain implementation for business transformation.

## Training Requirement:

"Hands 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.

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## Training Program:

*DAY ONE:*

BLOCKCHAIN FUNDAMENTALS AND ARCHITECTURE

- ❖ Building the Foundation
  - Overview of Blockchain Masterclass
  - History and evolution of blockchain technology
  - Key concepts: decentralization, immutability, transparency
  - Components of a blockchain: blocks, chains, nodes, ledgers
  - Public vs private vs consortium blockchains
  - **Consensus mechanisms:** proof of work, proof of stake, and alternatives
  - **Practical exercise:** Exploring a blockchain network and inspecting block structures

*DAY TWO:*

CRYPTOCURRENCIES AND TOKEN ECONOMICS

- ❖ Digital Assets and Finance
  - Introduction to cryptocurrencies and digital assets
  - Bitcoin, Ethereum, and major altcoins
  - Token types: utility, security and governance tokens
  - Cryptocurrency wallets, exchanges and transaction processes
  - Tokenomics and incentives in blockchain ecosystems
  - Risks, volatility and regulatory considerations
  - **Workshop:** Simulating cryptocurrency transactions and wallet management

*DAY THREE:*

SMART CONTRACTS AND DECENTRALIZED APPLICATIONS

- ❖ Automation on the Blockchain
  - Introduction to smart contracts and their use cases
  - Ethereum Virtual Machine and smart contract platforms
  - Solidity programming basics and development best practices
  - Writing, deploying, and testing smart contracts
  - Decentralized applications (DApps) and ecosystem examples
  - Security considerations in smart contract development

*DAY FOUR:*

ENTERPRISE BLOCKCHAIN AND INDUSTRY APPLICATIONS

- ❖ Transforming Business with Blockchain
  - Blockchain in supply chain, healthcare, finance and government
  - Enterprise blockchain platforms: Hyperledger, Corda, Quorum
  - Interoperability, scalability and performance optimization
  - Security, privacy and regulatory compliance in enterprise solutions
  - Blockchain project lifecycle and implementation strategy
  - **Case study:** Designing a blockchain solution for a real-world business problem
  - **Workshop:** Mapping business processes to blockchain solutions

*DAY FIVE:*

BLOCKCHAIN SECURITY, FUTURE TRENDS, AND STRATEGIC PLANNING

- ❖ Ensuring Safety and Driving Innovation
  - Blockchain security threats and mitigation strategies
  - Cryptography, key management, and secure transactions
  - Governance models and consensus risks
  - Emerging trends: DeFi, NFTs, Web3 and CBDCs
  - Future of blockchain in business, finance, and society
  - **Final exercise:** Designing a comprehensive blockchain solution
- ❖ 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:

**TBA as per the course location -** 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:**
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