BLOC-5 - BLOCKCHAIN SOLUTION ARCHITECT

Categoria: **Blockchain**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
3 Giorni	Blockchain	Docente Senior (min. 5 anni)	Analista	PCSNET

OBIETTIVI

Al termine del corso si saranno comprese e approfondite le seguenti tematiche:

-La differenza tra proof of work, proof of stake, e altri sistemi di prova e perché esistono
-Sicurezza e ipotesi di attacco
-Le criptovalute e relativi tipi Blockchain
-La differenza tra Blockchain publici, privati e “permissioned”
-Come sono scritti i blocchi nel Blockchain
-Cosa sono e come funzionano gli smart contract
-Casi d’uso per Blockchain pubblici
-Problemi e considerazioni su Blockchain pubblici
-Casi d’uso per Blockchain privati e “permissioned”
-Come avviare il proprio Blockchain
-Tecnologie di supporto al Blockchain
-I linguaggi di programmazione nei Blockchain più diffusi
-Best Practice per testing e deployment di Blockchain e applicazioni Blockchain

PREREQUISITI

Si consiglia un’esperienza maturata nel contesto IT

CONTENUTI

Module 1 - What is Blockchain

-Blockchain Basic Principles
-Centralized and Decentralized Ledgers
-Mechanics of Blockchain
-What is a Block?
-How are Blocks Chained Together?

Module 2 - How Does Blockchain Work

-Benefits and Drawbacks of Blockchain

-Cryptography
-Public Key Cryptography
-Cryptographic Hashing
-Blockchain Consensus
-Proof of Work Consensus
-Proof of Stake Consensus
-Other Consensus Mechanisms Explained
-Lifecycle of a Public Blockchain Transaction

Module 3 - Types of Blockchains

-Public vs Private Blockchains
-Open vs Closed Blockchains
-Open Source Blockchain Projects
-Blockchain Smart Contracts
-Tokens and Coins
-Using Gas in Ethereum
-“Blockless” Solution Platforms

Module 4 - How is Blockchain Different Than What We Have Today

-Types of Networks
-Centralized Networks
-Distributed Networks
-Decentralized Networks
-Software vs Firmware
-Blockchain vs Database

Module 5 - What Does a Blockchain Application Look Like?

-Blockchain Application Architecture
-Integrated Development Environment (IDE)
-User Interaction Layer
-Middle/Interface Layer
-Smart Contracts/Chaincode

Module 6 - How Do I Design a Blockchain Application?

-Guiding Design Principles
-Personas (User Types)
-User Stories (Application Interaction)
-Application Functional Requirements
-Application Technical Requirements
-Design Tasks
-Fundamental Design Questions

Module 7 - How Do I Develop a Blockchain Application?

-Fundamental Design Concepts
-Calling External Contracts
-Error Handling
-Pull vs Push Payments
-On-Chain Data
-Local Testing Recommendations

-Not Using Agile Development Process
-Technology Design Decisions
-Monolithic vs Modular
-Complexity Models

Module 8 - How Do I test a Blockchain Application?

-Blockchain Testing Approaches
-Unit Testing
-Developer Level Testing
-Configuration & Environment Testing
-Load/Performance Testing
-Volume/Stress Testing
-Regression Testing
-Application Bug Classifications
-User Load Testing
-Key Blockchain Architecture Testing Questions

Module 9 - Use Cases for Blockchain

-Real world implementations of Blockchain

INFO

Esame: CBSA - Certified Blockchain Solution Architect
Materiale didattico: Materiale didattico in formato digitale
Costo materiale didattico: incluso nel prezzo del corso a Calendario
Natura del corso: Teorico Metodologico