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The Blockchain Certification Training is designed for anyone who wants to decipher the global craze surrounding Blockchain, Bitcoin and cryptocurrencies. Blockchain is a record of economy transactions. These transactions are without data missing, misusage and manipulation. With the help of Blockchain technology, the delegates will be able to host the transactional data by a large number of computers at the same time as well as the delegates can retrieve the data at any time.

The delegates will learn technical mechanisms and the core structure of Ethereum, Bitcoin, Hyperledger and the Multichain Blockchain platforms. The delegates will also learn how to use the latest tools to construct Blockchain applications. The delegates will be able to set up their private Blockchain and deploy smart contracts on Ethereum. Throughout the Blockchain Certification training, the delegates will understand fundamentals of Blockchain and latest concepts of Blockchain and bitcoin from beginner to advanced Level.

The Blockchain Certification training provides a complete understanding of the mechanism and structure of Blockchain. As a beginner, the delegates will get to know the importance of consensus in transactions, how the transactions are sorted and how to use bitcoin and bitcoin history. The delegates will also learn about the Ethereum platform and its programming language. At the end of the Blockchain training, the delegates will be able to set up private Blockchain using the Multichain platform.

Prerequisites

There are no prerequisites for attending the Blockchain Certification Training

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Course Objectives

After the completion of the Blockchain Certification Training at Silicon Beach Training, the delegates will be able to:

- Understand how Blockchain could potentially impact on the business and industry
- Understand the concept and relevance of Blockchain
- Learn about the bitcoin mining
- Get to know how the transactions are performed using the Blockchain
- Understand how to deploy transactions on the Blockchain node
- Understand the languages used in Blockchain contracts
- Learn how to work on the real-world Blockchain project
- Understand about the smart contracts

- **Introduction to Blockchain**
  - Elements of a Blockchain
  - Blockchain Characteristics

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- Applications of Blockchain Technology
- Tiers of Blockchain Technology
- Blockchain Structure
- Permissioned and Permission-Less Blockchain

- **Types of Blockchain**

- **Decentralisation using Blockchain**
  - Methods of Decentralisation
  - Blockchain and Full Ecosystem Decentralisation
  - Decentralised Applications
  - Platform for Decentralisations
- **Introduction to Cryptography**
  - Integrity, Confidentiality, and Authentication
  - Cryptographic Primitives
  - Data Encryption Standard and Advanced Encryption Standard
  - Asymmetric Cryptography
  - RSA
  - Discrete Logarithm Problem
  - Hash Functions
- **Overview of Bitcoin**
  - Public and Private Keys in Bitcoin
  - Bitcoin Transactions
  - Bitcoin Wallets
  - Buying and Selling Bitcoins
  - Bitcoin Installation
  - Bitcoin Improvement Proposals

- **Bitcoin Mining**

- **Basics of Ethereum**
  - Ethereum Stack
  - Ethereum Blockchain
  - Ethereum Virtual Machine
  - Block Header

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- Ether, Messages and Mining
- Clients and Wallets
- Ethereum Network
- Setting an Ethereum Development Environment
- Development Tools and Clients

- **Smart Contracts**

- **Overview of Solidity**

  - Value Types
  - Literals
  - Function and Reference Types
  - Mapping and Global Variables
  - Control Structures

- **Hyperledger**

  - Projects
  - Hyperledger as a Protocol
  - Hyperledger Fabric Architecture
  - Components of the Fabric

- **Create and Deploy your Private Blockchain on MultiChain**

- **Blockchain- Outside of Currencies**

  - Internet of Things
  - Government
  - Health
  - Finance and Media

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