TechyEdz Solutions

Training | Consulting | Developement | Outsourcing



Blockchain









Blockchain

Course Overview:

Blockchain and Ethereum Certification Training is designed to introduce you to the concepts of Blockchain and its platforms – Bitcoin, Ethereum, Hyperledger and MultiChain. The course provides an overview of the structure and mechanism of Blockchain. You will learn about the Ethereum ecosystem, how smart contracts are developed using Solidity and how to deploy a business network using Hyperledger Compose.

Course Objectives:

This course will take you in to world of Blockchain, Ethereum and Blockchain use cases. This course is aimed at people who are afride of firing with 10+y ex or looking for an extensive and exhaustive course on Blockchain topic and want to become Functional or Technical Blockchain expert. Why this course is different?

- Focus on Practical learning instead of just theory
- Learn to understand real use cases for Blockchain which is going for the Revolution
- Create your own Blockchain network with existing tools and framework
- Understand the Blockchain architecture and framework
- Understand Blockchain tools for blockchain development.

Course Outline:

Introduction to Blockchain

- What is Blockchain?
- ➤ History of Block chain
- Network and protocols
- Fundamentals of Cryptography
- > Structure of a Block
- Block chain transaction process
- ➤ Block chain Application Components

- ➤ Block chain Application Templates
- Why Blockchain is a Distributed P2P network?
- Benefits of using Blockchain Technology
- ➤ What are different Blockchain technologies?
- > Bitcoin & Blockchain: What is the relation?

Blockchain Ecosystem

- > Blockchain Architecture
- > Components of Blockchain Ecosystem
- Blocks, Wallets and Addresses
- Public and Private Key
- Merkle Tree and Hashing
- Cryptography and Blockchain Algorithms
- > Transaction execution & distribution
- > Types of Blockchain

Bit coin

- What is bitcoin?
- Uses of Bitcoin
- ➤ Bitcoin Wallets Assisted Practice: Bitcoin wallet
- ➤ How to buy and sell Bitcoins?
- How to store and spend Bitcoins?
- Bitcoin Scripts
- Bitcoin Network
- Bitcoin Block Mining
- Lesson-end Project
- Generate a Bitcoin wallet
- ➤ Work with BitPay wallet

Blockchain Mining

- What is Blockchain mining?
- Types of mining
- What are Miners?

Ethereum

- What is Ethereum?
- > Ethereum Virtual Machine
- ➤ Ethereum Languages
- Gas and Ether
- Ethereum Accounts
- Externally Owned Accounts
- Smart Contracts
- > State Storage
- > Ethereum Mining
- > Ethereum tools

Deploying Smart contracts on Private Ethereum Network

- > Setting up private block chain using Ethereum
- Stages of contract deployment
- Learn Solidity
- Compiling and deploying contracts
- Smart Contract Design Patterns
- > Assisted Practice: Solidity Smart Contract to deploy property transfer system
- Unassisted Practice: Decentralized Marketplace application

Hyper ledger

- Overview of Hyper ledger
- Credits exchange using Saw tooth Assisted Practice: Set up Iroha network
- Hyper ledger Architecture
- > Introduction to Permissioned Block chain
- Consensus model for permissioned Block chains
- Consensus and its interaction with architectural
- Application Programming Interface
- Network Topology

Hyper ledger Fabric

- Hyper ledger Fabric Model
- Issues in Hyper ledger Fabric
- Set up a development environment using Hyper ledger Composer
- Developing Business Networks
- Testing Business Networks

- > Assisted Practice: Create, deploy, and test a business network
- > Unassisted Practice: Deploy a car auction business network

Security and Privacy

- What are Smart Contracts?
- What is Consensus?
- > Types of Consensus Algorithms

Building your own Blockchain

> Creating your own blockchain solution

Block chain on Multi chain

- > Introduction to Multichain
- Privacy and Permissions in Multichain
- > Features of Assets in Multi chain
- Multi chain Streams
- Mining in Multi chain
- Interactive mode commands
- Round Robin Mining
- > Assisted Practice: Perform Mining in Multi chain
- Unassisted Practice: Stock exchange on the Multi chain platform
- Create Private Multi chain Block chain

Block chain Prospects

- Do you need Block chain?
- Challenges in Block chain
- ➤ Identifying a Block chain use case
- ➤ Block chain in Government organizations
- Block chain in Finance
- Domain Specific Block chain Application
- ➤ Block chain in healthcare and hospitality
- Block chain in the entertainment industry
- ➤ Block chain in Cyber security
- Block chain in the capital market

Use Cases

- > Blockchain in Supply Chain
- > Blockchain in Manufacturing
- > Blockchain in Automobiles
- > Blockchain in Healthcare
- > Blockchain in Cyber security
- > Blockchain in Financial Industry

Prerequisites:

- Fundamentals of Blockchain
- Basic knowledge of Javascript, HTML, CSS and NPM
- Experience developing at least a couple of software applications, either back-end apps, front-end apps
- Who can Attend:
- Students & Graduates from Computer Science or IT background
- Technologists interested in learning Ethereum, Hyper ledger and Block chain
- Technology architects wanting to expand their skills to Block chain technology
- Professionals curious to learn how Block chain technology can change the way we do business
- Entrepreneurs with technology background interested in realizing their business ideas on the Block chain
- Anyone interested in ERC20 tokens and ICOs
- Number of Hours: 50hrs
- Certification: Certified Blockchain Developer Ethereum (CBDE)

Key Features:

- > One to One Training
- Online Training
- > Fastrack & Normal Track
- > Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- > Real Time Projects
- ➤ Virtual Live Experience
- > Preparing for Certification