Hyperledger Training: Developing on Hyperledger Fabric v1.1

Duration: 3 Days   Course Code: U67927G

Overview:

Learn the need for Blockchain applications, where Blockchain is used, and about Hyperledger Fabric; the open source framework for developing Blockchain applications and solutions with a modular architecture. This course will introduce you to the Hyperledger Composer tool that helps you create Hyperledger Fabric applications through comprehensive hands-on labs, giving you real world experience.
This course has been meticulously put together and is taught by world-class subject matter experts. These experts will walk you through both overview topics and deep dive topics, such as steps to integrate/develop an application with Hyperledger Fabric v1.1. There are use cases, proof of concepts, as well as interactive hands-on labs.

Target Audience:

This course is designed for developers and administrators who want a comprehensive deep dive on Hyperledger Fabric v1.1 and Hyperledger Composer.

Objectives:

- What you will learn:

- Why Blockchain is needed and where

- The major components of Blockchain

- Hyperledger Fabric v1.1 and the structure of the Hyperledger architecture

- The features of the Fabric model including chaincode, SDKs, ledger, security, and membership services

- Writing chaincode

- Bootstrapping the network

- Benefits, components, and architecture of Hyperledger Composer

- Hyperledger Explorer and Hyperledger Composer Playground

- How to integrate/develop an application with Hyperledger Fabric v1.1 running a smart contract

- How to build applications on Hyperledger Fabric v1.1

Prerequisites:

This course is highly technical and requires students to be comfortable with coding. To prepare for the class you must:

- Provide your own computer (Mac/PC/Linux) (labs are hosted in a virtual environment)
- Have an understanding of Golang, Java, or Javascript
- Have an understanding of PKI and Docker

Content:

Introduction to Blockchain

- Introduction to Blockchain
- What is Blockchain?
- Types of networks
- Public networks
- Permissioned network
- Private network
- Need for Blockchain components of Blockchain
- Consensus
- Provenance
- Immutability
- Finality
- Where can Blockchain be used
- Blockchain example

How Blockchain Works

- How Blockchain works
- Structure of Blockchain
- Block
- Hash
- Blockchain
- Distributed
- Lifecycle of Blockchain
- Smart Contract
- Consensus Algorithm
- Proof of work
- Proof of stake
- Practical Byzantine
- Fault tolerance
- Actors of Blockchain
- Blockchain developer
- Blockchain operator
- Blockchain regulator
- Blockchain user
- Membership service provider
- Building a small Blockchain application

Introduction to Hyperledger Fabric v1.1

- Introduction to Hyperledger
- What is Hyperledger
- Why Hyperledger
- Where can Hyperledger be used
- Hyperledger architecture
- Membership
- Blockchain
- Transaction
- Chaincode
- Hyperledger Fabric
- Features of Hyperledger
- Fabric installation of prerequisite

Getting Started with Fabric Model

- The Fabric model
- Features of Fabric model
- Chaincode
- SDK's
- Ledger
- Privacy through channels
- Security and membership services

Chaincode

- Chaincode
- Chaincode API
- How to write a Chaincode
- Lab

Architecture of Hyperledger Fabric v1.1

- Architecture of Hyperledger Fabric
- Transaction
- Ledger
- Nodes
- Peer
- Endorser
- Ordering nodes
- Channels
- Certificate authority
- Transaction flow
- Lab

Bootstrapping

- Bootstrapping the network
- Introduction
- Lab
- Generate the crypto material for the various participants
- Generate the genesis block for the orderer node and start ordering services (solo node)
- Generate the configuration transaction block to create a new channel
- Sign the configuration block and create a new channel
- Make peers of all the organizations join the channel

Introduction to Hyperledger Explorer

- Introduction to Hyperledger Explorer
- Block details peer list
- Chaincode list
- Transaction details
- Installation of Hyperledger Explorer
- Starting the Explorer app

Introduction to Hyperledger Composer

- Introduction
- Components of Hyperledger Composer
- Benefits of Hyperledger Composer
- Key concepts
- Hyperledger Composer solution
- Installation

Hyperledger Composer Playground

- Hyperledger Composer Playground
- Introduction
- Lab: Playground overview

- Assets
- Consensus
- Components of Fabric model
- Peer
- Orderer
- Certificate authority
- Building your network

Further Information:

For More information, or to book your course, please call us on 00 966 92000 9278

training@globalknowledge.com.sa

www.globalknowledge.com/en-sa/

Global Knowledge - KSA, 393 Al-Uroubah Road, Al Worood, Riyadh 3140, Saudi Arabia