

INTRODUCTION TO BLOCK CHAIN AND SMART CONTRACTS

COURSE CODE: MOCCAP-A02

DURATION: 05 Hrs.

Course Prerequisites:

Basic Programming fundamentals

What you will learn?

1. Block chain Fundamentals
2. Programming Basics
3. Solidity
4. Smart Contracts
5. Writing Smart Contracts

Course Description:

This course gives an introduction to Blockchain development. Learn about Solidity, the language used on Ethereum Blockchain. After the completion of the course the learner will be able to write smart contracts which are the building blocks of the blockchain development. In short this course will get you interested into developing blockchain applications and build your own dream project.

COURSE DETAILS

Module 1: Introduction to Solidity and Smart Contracts

Topic 1: Introduction

Lecture 1.1: Introduction to the course

Topic 2: Smart Contracts

Lecture 1.1: What are Smart Contracts?

Lecture 1.2: What is Pragma keyword and Deploying our first smart contract?

Lecture 1.3: Creating a new Smart Contract.

Module 2: Programming Fundamentals

Topic 1: Back to Fundamentals

Lecture 1.1: Integers and Different kinds of variables in solidity

Topic 2: Functions

Lecture 1.1: What are Functions

Lecture 1.2: Writing Functions in Solidity

Lecture 1.3: Writing a new Smart Contract

Module 3: Visibility

Topic 1: Conditionals

Lecture 1.1: What is If/else

Lecture 1.2: Writing If/Else in Solidity

Topic 2: Types of Visibility Specifier

Lecture 1.1: Different keywords for specifying visibility.

Module 4: Operators

Topic 1: Different Operators in Solidity

Lecture 1.1 Introduction to solidity operators.

Topic 2: Arithmetic Operator

Lecture 1.1 Different Types of Arithmetic Operators.

Topic 3: Comparison operator

Lecture 1.1 Different Types of Comparison Operators.

Topic 4: Logical Operator

Lecture 1.1 Different Types of Logical Operators.

Topic 5: Exercise

Lecture 1.1 Adding new functions to our Calculator contract.

Module 5: Loops

Topic 1 For Loop in Solidity

Lecture 1.1 A basic introduction to the for loop and its syntax.

Topic 2: While Loop in Solidity

Lecture 1.1 A basic introduction to the for while loop and its usage.

Topic 3: do-while Loop in Solidity

Lecture 1.1 Using do-while loop and understanding its usage.

Topic 4: Exercise

Lecture 1.1 Adding a function to calculate the sum of N natural numbers and a few more features.

Module 6: Keywords

Topic 1 Different Structures in Solidity

Lecture 1.1 Discussion on different types of structures in Solidity.

Topic 2 Maps in solidity

Lecture 1.1 What are maps?

Lecture 1.2 How to use Mapping in solidity.

Topic 3: Arrays in Solidity

Lecture 1.1 Introduction to Arrays.

Lecture 1.2 Using Arrays and its methods.

Topic 4: Enums in Solidity

Lecture 1.1 Introduction to Enums.

Topic 5: Nested Mapping

Lecture 1.1 Where and How to use Nested mapping

Topic 6: Exercise

Lecture 1.1 Adding new features to our Calculator contract.