

# BLOCKCHAIN: BEYOND BITCOIN

## Exclusive Masterclass



### Introduction to Blockchain

#### What is Blockchain?

1. Definition and key characteristics
2. Brief history and evolution

#### Blockchain Fundamentals

1. Distributed ledger technology (DLT)
2. Immutable data structure
3. Decentralization and trustlessness

#### Use Cases and Applications

1. Beyond cryptocurrency (e.g., supply chain, healthcare, finance)
2. Advantages and potential challenges

**01**

**02**

### Consensus Mechanisms

#### Introduction to Consensus Smart Contract Programming Basics

1. The role of consensus in blockchain
2. Trust and consensus models

#### Proof of Work (PoW)

1. Overview and mechanics
2. Bitcoin as an example

#### Proof of Stake (PoS)

1. Overview and mechanics
2. Ethereum and other examples

#### Other Consensus Mechanisms

1. Delegated Proof of Stake (DPoS)
2. Practical Byzantine Fault Tolerance (PBFT)
3. Proof of Authority (PoA)

#### Pros and cons of different consensus mechanisms

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**Ethereum Fundamentals**

### Introduction to Ethereum

1. Overview and key features
2. Smart contracts and decentralized applications (DApps)

### Ethereum Virtual Machine (EVM)

1. Architecture and execution environment
2. Gas and transaction fees

### Solidity Programming Language

1. Syntax and basic concepts
2. Writing and deploying smart contracts

### Interacting with the Ethereum Network

1. Web3.js and other development tools
2. Setting up a development environment

**03**

**04**

**Smart Contracts**

### Understanding Smart Contracts

1. Definition and characteristics
2. Benefits and potential use cases

### Smart Contract Development

1. Writing smart contracts in Solidity
2. Compiling and deploying smart contracts

### Security Considerations

1. Common vulnerabilities and best practices
2. Auditing and testing smart contracts

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**Becoming a Blockchain Developer**

**Skills and Knowledge Required**

1. Programming languages and frameworks
2. Understanding cryptography and data structures

**Learning Resources and Tools**

1. Online courses and tutorials
2. Developer communities and forums

**Career Opportunities and Future Outlook**

1. Industry demand and growth potential
2. Role of blockchain developers in various sectors

**05**

**06**

**Q&A Session**

- Addressing participant questions and concerns
- Further discussions on specific topics of interest

**IN COLLABORATION WITH**

