

# Blockchain Ethereum Training: Hands-on Development Bootcamp

## Module 1: Introduction to Ethereum Blockchain

- Overview of Ethereum and Its Use Cases
- Ethereum Blockchain Architecture
- Understanding Ether and Gas in Ethereum

## Module 2: Setting Up the Development Environment

- Installing Node.js, Truffle, and Ganache
- Overview of Ethereum Development Tools
- Introduction to MetaMask and Wallet Integration

## Module 3: Solidity Basics and Smart Contracts

- Introduction to Solidity Programming
- Writing Your First Smart Contract
- Testing and Debugging Smart Contracts

## Module 4: Advanced Solidity Features

- Functions, Modifiers, and Inheritance in Solidity
- Event Logging and Handling
- Smart Contract Security Best Practices

## Module 5: Decentralized Application (dApp) Development

- Understanding dApps and Their Architecture
- Building the Frontend for dApps
- Integrating dApps with Smart Contracts

## Module 6: Ethereum Tokens and Standards

- Introduction to Token Standards (ERC-20, ERC-721)
- Creating and Deploying Your Own Tokens
- Use Cases for Fungible and Non-Fungible Tokens (NFTs)

## Module 7: Testing and Deploying on Ethereum

- Testing Smart Contracts on Ethereum Testnets
- Deploying dApps and Smart Contracts to the Mainnet
- Monitoring and Managing Live Deployments

### **Module 8: Real-World Applications and Projects**

- Case Studies of Ethereum Applications
- Building a Complete dApp as a Capstone Project
- Exploring Ethereum's Role in DeFi and Web3 Ecosystems

### **Module 9: Future Trends in Ethereum**

- Ethereum 2.0 and the Transition to Proof-of-Stake (PoS)
- Layer-2 Solutions and Scaling Ethereum
- Emerging Use Cases and Opportunities in Ethereum Development

### **Key Features of the Ethereum Training Bootcamp**

- **Hands-On Learning:** Gain practical experience with real-world projects.
- **Comprehensive Curriculum:** Covers Ethereum basics, Solidity, and dApp development.
- **Industry-Relevant Skills:** Learn the tools and techniques needed for blockchain development.
- **Capstone Project:** Build and deploy a complete Ethereum-based dApp.
- **Expert Instruction:** Led by professionals with deep expertise in blockchain technology.