



# Blockchain & Web3

Understanding The Fundamentals Of Decentralised Technology

# COURSE CONTENTS

## Sections:

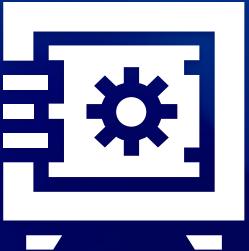
1. What is Blockchain?
2. Cryptocurrency on Ethereum
3. Creating Smart Contracts
4. Decentralised Apps (dApps)
5. Consensus Algorithms
6. Smart Contracts
7. Decentralised Systems
8. Web3 Introduction
9. Hard Forks in Blockchain
10. Ethereum Smart Contracts Language



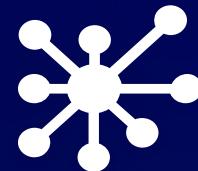
# What is Blockchain?



Blockchain refers to a type of **decentralised database** where data is stored across multiple computers.



It ensures transparency, security, and immutability of data.



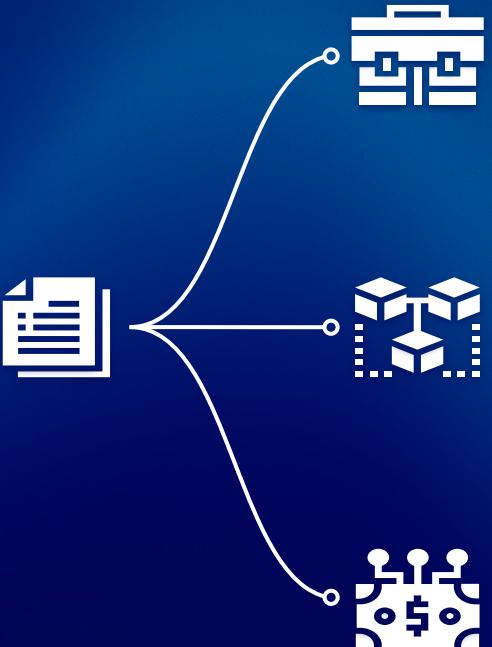
# Cryptocurrency on Ethereum

Ethereum is a decentralised platform that uses **Ether** as its primary cryptocurrency. It enables the creation and execution of smart contracts.

# Creating Smart Contracts on Ethereum

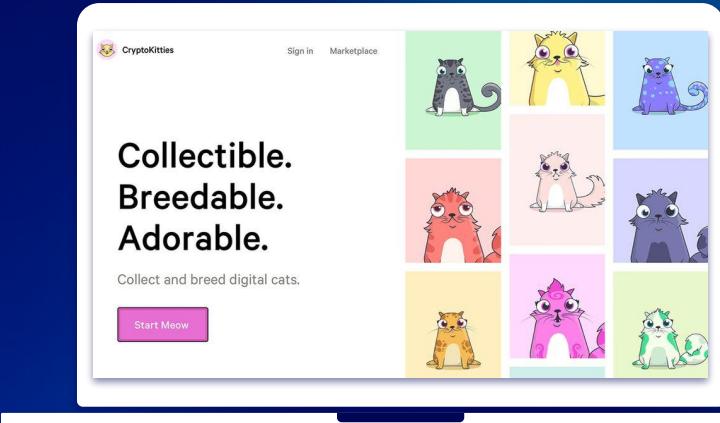


**Solidity** is a programming language specifically designed for creating smart contracts on the Ethereum platform. It follows the syntax similar to JavaScript.



# Decentralised Apps

dApps are applications that run on decentralised networks, such as blockchain. **CryptoKitties** is an example of a dApp where users can trade virtual cats.



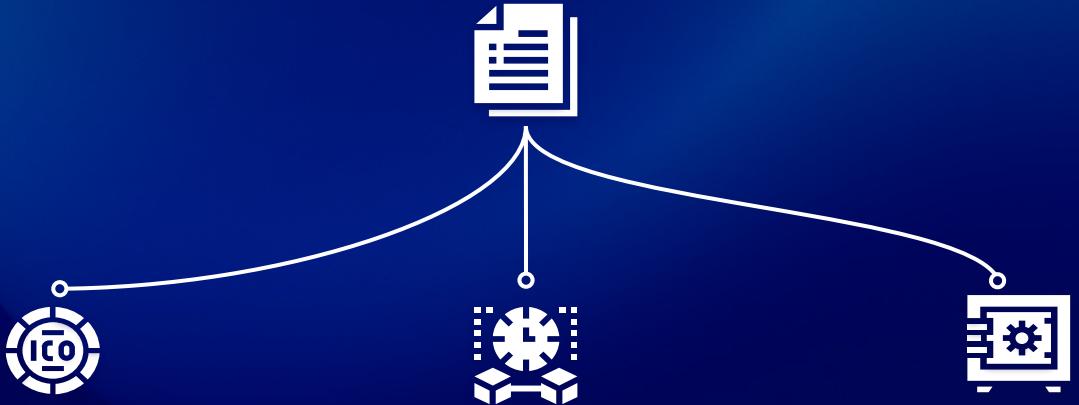
# Consensus Algorithms In Public Blockchains

Public blockchains use consensus algorithms like **Proof of Work (PoW)** to validate transactions and add new blocks to the chain.

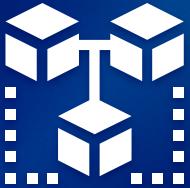


# What are Smart Contracts?

A smart contract is a **self-executing contract with the terms written in code**. It automatically executes actions when predefined conditions are met.



# Advantages of Decentralised Systems



Decentralised systems offer benefits like **censorship resistance**.

They operate without a central authority, ensuring more freedom and control for users.

# What is Web3?

Web3 enables users to interact with decentralised networks and build dApps. It represents the next evolution of the web, focusing on decentralisation.



# Understanding Hard Forks

A hard fork in blockchain refers to **a major update that is not backward compatible**. It can lead to a split in the blockchain if not adopted by all nodes.

# Language for Ethereum Smart Contracts



- **Solidity** is the primary language used to write Ethereum smart contracts.
- It provides a robust framework for creating and deploying contracts.



CRYPTO  
FUTURE  
OF MONEY

Congratulations on completing the Blockchain and Web3 course! You've explored foundational concepts, including blockchain technology, cryptocurrencies, dApps, consensus algorithms, and more.

Head back to the Streamlit application to take the Exam and test your knowledge!