








LEARNING OBJECTIVES

1.  Understand The Essentials of Blockchain Technology
2.  Understand Ethereum, how it works, related concepts
3.  Learn the Foundation of Solidity
4.  Familiarize with the development tools and techniques
5.  Practice: #BUIDL 
6.  Explore the Web3 space
7.  Look into the history (significant point in time), where Ethereum is going, and the future of Web3.

SYLLABUS

- 1 What is Blockchain Technology?
- 2 Ethereum: Accounts - Crypto Wallets & Smart contract
- 3 More into Ethereum. Programming Process & Tech Stack.
- 4 Start: #BUIDL an NFT marketplace w/ Hardhat, IPFS, JS.
- 5 Blockchains Pt1 - EVMs
- 6 Blockchains Pt2 - Others & L2s
- 7 Defi, NFTs, and Gaming in Web3.
- 8 Introducing Scaffold. Coding Practice ...
- 9 More coding & Surprises 🤪🤔
- 10 Ethereum: Recent Updates - The Merge & the Future. The current Web3 Space & The Convergence of Blockchain, AI, and IoT

NOTES

1. Today we go wide and to accommodate requests from students
 - a. -> intro more protocols, DApps, and services
 - b. Dev good practice -> read Eth doc
2.  Any QUESTIONS - Note down -> ask or research 
3. End of day, you tired, but never stupid question (ex: what is ETH)
4. Create a graph (CONNECTION ) <- from quick note above
5.  CONNECTION  - Random memory how  works
6. => Create a GRAPH :)
7. suggestion: Obsidian, Logseq, Roam Research (not free)

From Last Class

[Blockchain 101
- A Visual Demo -](#)

[But How Does Bitcoin Actually
Works?](#)

[The Blockchain Trilema](#)

[Bitcoin whitepaper](#)

[Consensus Algorithm - Thuật Toán
Đồng Thuận Blockchain Là Gì?](#)

[Ethereum Learn Hub](#)

From Last Class

[What is a POAP?](#)

[ETH.BUILD](#)

[Decentralized Applications](#) (DApps)

[Ethereum EVM Illustrated](#)
(Accounts: 16-31, EVM: 45)

[Video] [Explaining how the EVM works](#)

[Ethereum Virtual Machine EVMs](#)

slido



What is the Consensus Algorithm of Ethereum?

① Click **Present with Slido** or install our [Chrome extension](#) to activate this poll while presenting.

Blockchain - Key Terminologies

GLOSSARY

1. Blockchain

2. Transaction

3. Blocks

a.

b.

c.

4. Nodes

5. Synchronize

6. Centralization

7. Decentralization

8. Consensus Algorithm

a. PoW

b. PoS

9. Cryptography

10. Encryption

11. Symmetric cryptography

12. Asymmetric cryptography

13. Cryptocurrency

a. Coin

b. Token

14. Wallet

ETHEREUM

15. Smart contracts

16. Protocol

17. DApp

LESSON 3:

Ethereum cont.

01

Token standards

02

Transaction, Gas, MetaMask & EVM brief, Client, Nodes

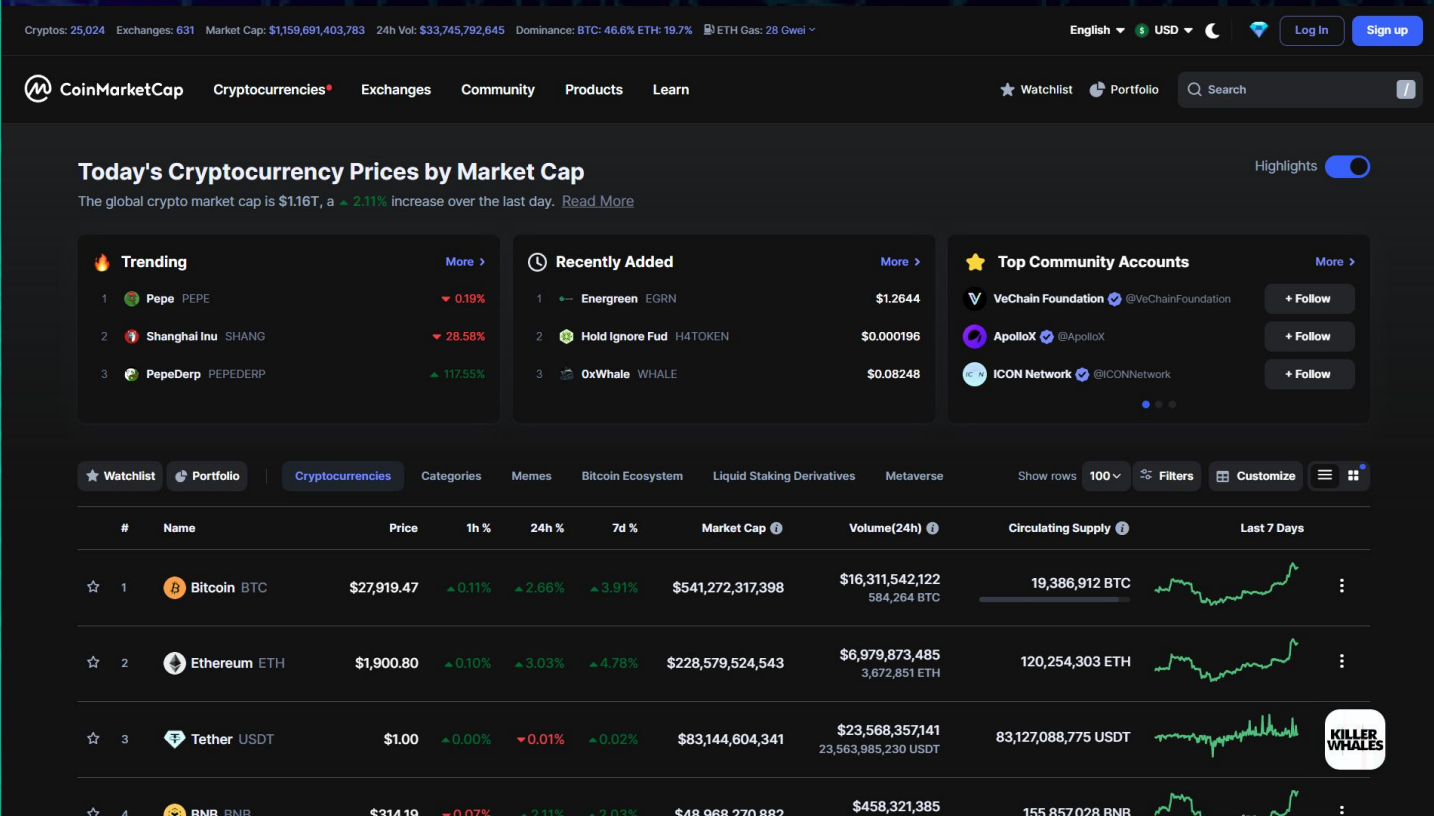
03

Programming Process & Tech Stack: IDEs, Faucets, Decentralized Storage,...

Build our first DApp (this or next sesh)

Cryptocurrency

Cryptocurrency vs Crypto Token



1		Lido	5 chains	Liquid Staking
2		MakerDAO	1 chain	CDP
3		AAVE	8 chains	
4		Curve Finance	12 chains	
5		Uniswap	6 chains	
6		JustLend	1 chain	Lending
7		Convex Finance	3 chains	Yield

ETHEREUM



以太坊

Welcome to Ethereum

Ethereum is the community-run technology powering the cryptocurrency ether (ETH) and thousands of decentralized applications.

[Explore Ethereum](#)

ETHER

=> ERC20

WHAT IS ETHER (ETH)?

Currency for our digital future

ETH is digital, global money.

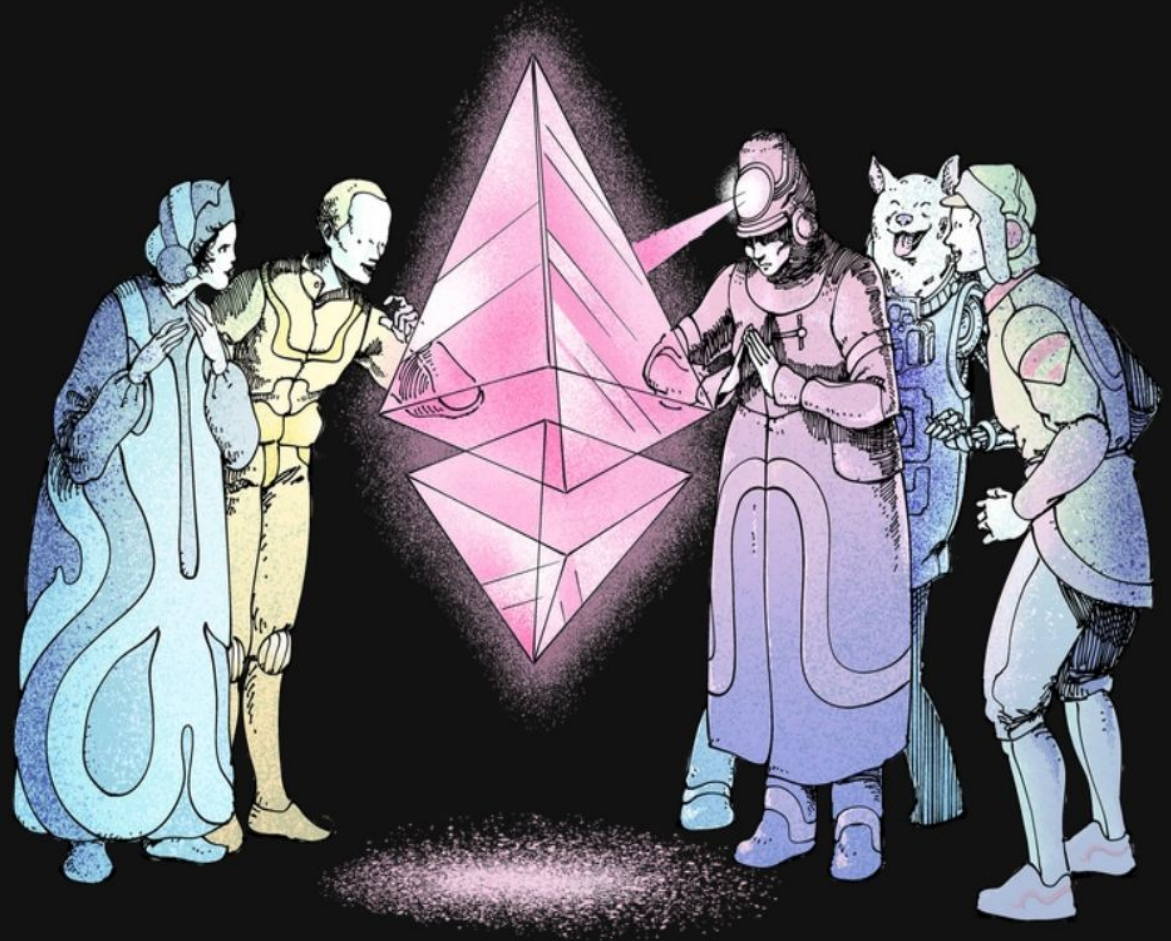
It's the currency of Ethereum apps.

CURRENT ETH PRICE (USD) ⓘ

\$1815.84

1.77% ↗ (LAST 24 HOURS)


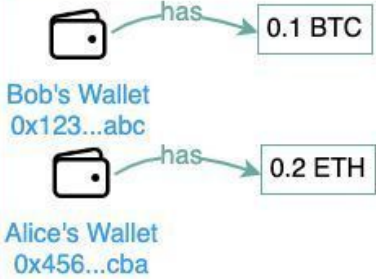



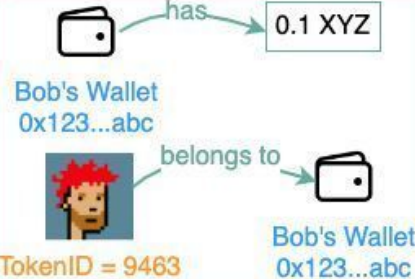
Get ETH

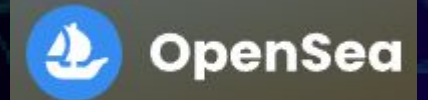


Ethereum Token Standards

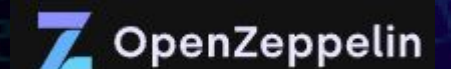
Ethereum Protocols - A Technical View

Source: Blockworks

	Traits	Usage	Smart Contract Data Structure
ERC-20 Fungible Token	Tradable Dividable	Crypto tokens on Ethereum 	
ERC-721 Non-Fungible Token (NFT)	Tradable Non-dividable	♦ Arts ♦ Game props ♦ Profile pictures ♦ Community pass 	
ERC-1155 Multi-Token (hold both fungible and non-fungible tokens)	Tradable - Dividable for fungible tokens - Non-dividable for non-fungible tokens	Game tokens + props 	
Soulbound Token(SBT) Non-Fungible Token	Non-tradable Non-dividable	♦ Certificates ♦ User profiles ♦ Health records	similar to ERC-721, but transfer function is banned



Ethereum Improvement Proposals



Transaction - Gas - Metamask

Transaction - Gas



Use Ethereum ▾