

# What is Blockchain?

Nignite online meetup



# Traditional Databases

- **Who can read data?**
- **Who can change data?**
- **How many copies of data is “enough”?**
- **Where those copies are stored?**
- **Who is central authority?**
- **Do we trust them?**

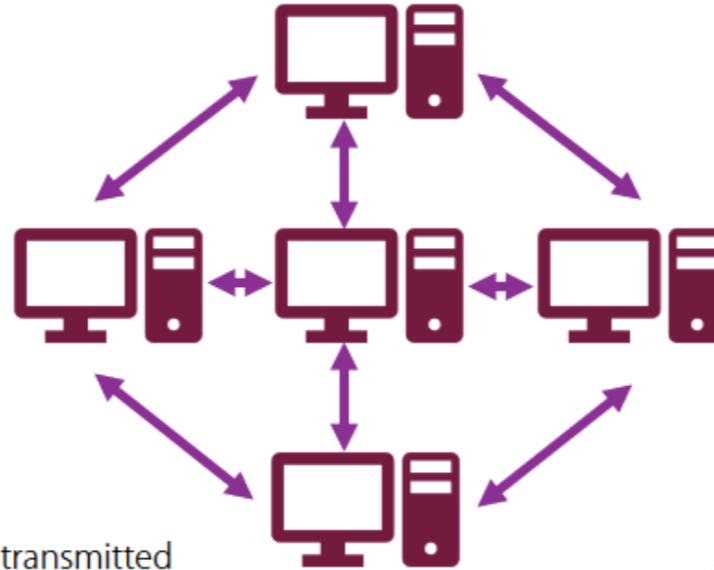
# Blockchain

- **Blockchain is an immutable time-stamped series record of data that is distributed and managed by cluster of computers.**
- **Each computer in network stores copy of data written on blockchain**
- **Once written data on blockchain CAN NOT BE DELETED**
- **Once written data on blockchain CAN NOT BE REWRITTEN**
- **Blockchain is like book from which one can't tear pages!**

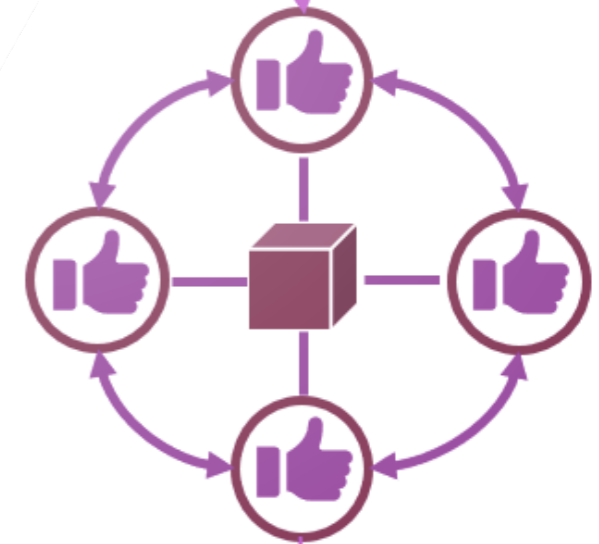
A request is made for a transaction. This could be the exchange of money, or the casting of a vote.



The request is transmitted to a peer-to-peer network of computers (nodes).



The network validates the transaction by consensus.



The validated transaction is combined with other transactions to create a new block of data for the distributed ledger (the blockchain).



The transaction is validated, recorded, and complete.



# Types of Blockchains

- **Public**

-  **Ethereum**

- **Smart contract**

- **Ethereum client**

- **Web3.js / Web3.py**

- **Client app**

- **Private**

-  **FABRIC**

- **Chaincode**

- **Docker Compose**

- **Channels**

- **Client app**

# Ethereum Development

- **Smart contract** is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract.

1) Solidity

2) Vyper



Bytecode

The diagram illustrates the compilation process of smart contracts. It features two programming languages, Solidity and Vyper, listed on the left. Two curved arrows originate from these languages and point towards the word 'Bytecode' on the right, indicating that both languages are compiled into this format.

# Ethereum Development

- **Testnets** are copies of the Ethereum blockchain almost identical in every way to the Mainnet except in the fact that their Ether is worthless
  - 1) Ropsten
  - 2) Kovan
  - 3) Rinkeby

# Ethereum Development

- **Ethereum clients** run the Ethereum Virtual Machine (EVM).
  - 1) Geth
  - 2) Parity
  - 3) Infura API
  - 4) Ganache



# Ethereum Development

- **Web3** is the Ethereum API which connects to the Generic JSON-RPC spec. One need to run a local or remote Ethereum node to use this library.

1) Web3.js

2) Web3.py

3) Web3j

**Sooo...**

**“What is Blockchain?  
In a word: Trust”  
- Edward Snowden**





# Still have questions?

Ping me on Slack or via e-mail



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