

# Blockchain Technology

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Based on a peer-to-peer (P2P) topology, blockchain is a **distributed ledger technology** (DLT) that allows data to be stored globally on thousands of servers, while letting anyone on the network see everyone else's entries in near real-time.

## Blockchain Technology

- A blockchain is essentially a digital ledger of transactions that is **duplicated and distributed across the entire network of computer systems** on the blockchain.
- Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a **record of that transaction is added to every participant's ledger.**
- The decentralised database managed by multiple participants is known as Distributed Ledger Technology (DLT).
- 3 basic parts of a block:
  - . Blocks store **information about transactions** like the date, time, and the amount of the most recent transaction.
  - . They store **information about who is participating** in transactions.
  - . They store **information that distinguishes them from other blocks.**
  - . Blocks have a **unique code called a hash** that allows us to tell it apart from every other block. Hashes are cryptographic codes created by special algorithms.
- Each computer in the blockchain network has its own copy of the blockchain, which means that there are thousands of copies of the same blockchain.

- Although each copy of the blockchain is identical, **spreading that information across a network of computers makes the information more difficult to manipulate.**

## Applications of Blockchain Technology

- **Smart Contracts**

. Smart contracts are like regular contracts except the rules of the contract are enforced in real-time on a blockchain.

. It eliminates the middleman and adds levels of accountability for all parties involved.

- **Healthcare**

. Blockchain enables patients and doctors to securely transfer sensitive medical information.

. The smart contracts even display details of personalized health plans for each patient.

- **Decentralized Cryptocurrencies**

. Basically, a digital asset, blockchain cryptocurrency is designed to work as a medium of exchange.

. It works on digital channels and are often adhered to strong cryptography to secure financial transactions.

- **Financial services**

. Each party in the process, such as a broker, custodian, or the settlement manager, keeps their own records which create significant inefficiencies and room for error.

. The blockchain ledger reduces error by encrypting the records and cancels the need for intermediaries.