



# Types of Blockchain

# Public Blockchain



A public blockchain is permissionless. In a public blockchain, anybody can access the network and read, write or participate without an explicit authorization and permission.

A public blockchain is decentralized and has no single network-controlled entity.

Data on a public blockchain is protected because data cannot be changed or manipulated until it has been checked on the blockchain.

Public blockchain has more complex rules and consensus algorithm for better security. It is computationally expensive to mine and add a Block. Here, the computational power is also distributed globally.

Well-known examples of a public blockchain are **Bitcoin** and **Ethereum**.

# Private Blockchain

A private blockchain is a permissioned blockchain. Private blockchains function based on access restrictions that limit individuals who may interact in the network. In these blockchains, there are one or more network management organizations, and this contributes to creating dependence on transfers from third parties.

Only the individuals involved in a contract will have information of it in a private blockchain, while the others will not be able to access it.

Only authorized nodes can read and write the transaction data into a blockchain. One authorized node can be the arbitrator for any dispute.

Security can be implemented in a straightforward way. It's easy or computationally less expensive to add a block in a private blockchain.

A fine representation of a private blockchain is the Linux Foundation's **Hyperledger Fabric**.

# Federated/Consortium Blockchain

A Consortium or Federated Blockchain is a private, permissioned blockchain - as opposed to public blockchain - where entities can only become members of the network by prior approval or voting.

This kind of blockchain is group-owned system where sole autonomy is removed. Permissions are vested in a group of companies or individuals.

Here, more than one central node is in-charge, that provide access to pre-selected nodes to read, write, and audit the blockchain. Only consortium members can make, validate, and review transactions.

This sort of blockchain is suitable for use between companies that often have dealings with each other. While these are more secure, they come at the cost of decentralization. However, this suits enterprise use cases and business processes.

Example: **R3's Corda Blockchain**

# Public Vs Private Vs Federated/Consortium

	Public Blockchain	Private Blockchain	Federated/Consortium
Access	Anyone	Single Organization	Multiple Selected Organizations
Participants	Permissionless and Anonymous	Permissioned and Known Identities	Permissioned and Known Identities
Security	<ul style="list-style-type: none"> <li>• Consensus mechanism</li> <li>• Proof-of-Work</li> <li>• Proof-of-Stake</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-approved Participants</li> <li>• Voting-based Consensus</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-approved Participants</li> <li>• Voting-based Consensus</li> </ul>
Transaction Speed	Slow	Lighter and faster	Lighter and faster



# THANK YOU!

Any questions?

Visit

[community.blockchain-council.org](https://community.blockchain-council.org)

You can also mail us at

[hello@blockchain-council.org](mailto:hello@blockchain-council.org)