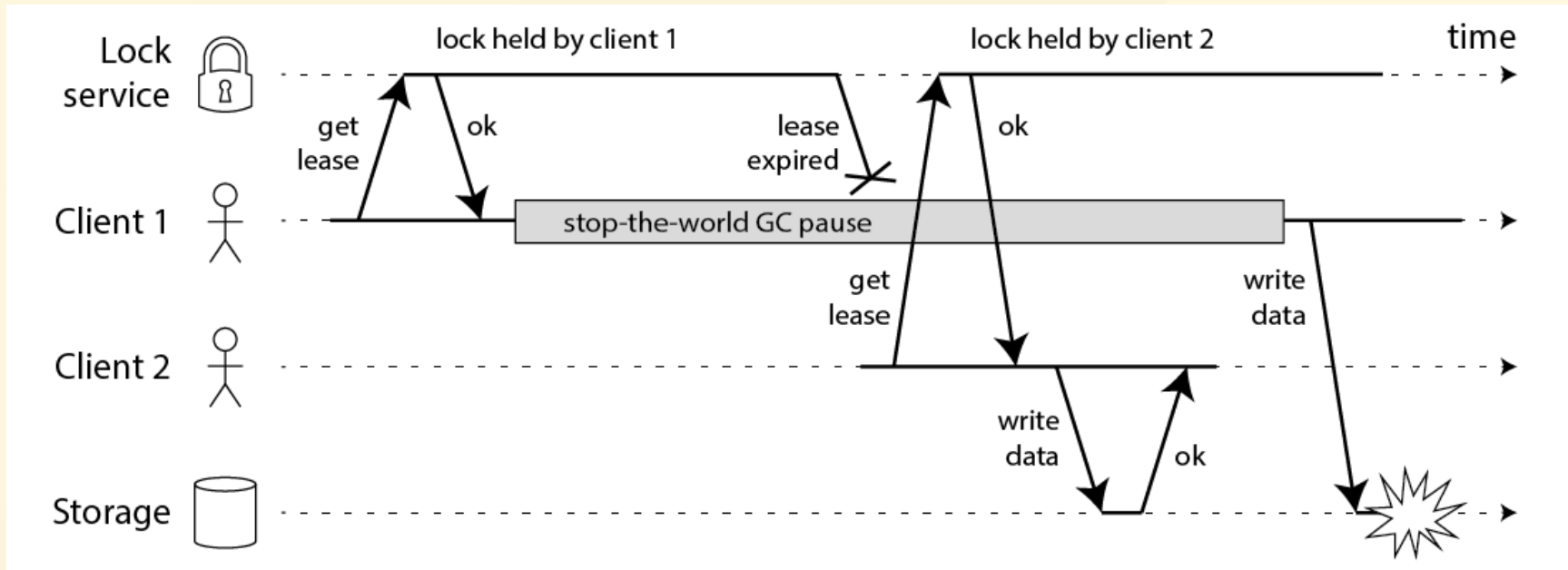


Introduction to **Blockchain** and **Smart Contracts**

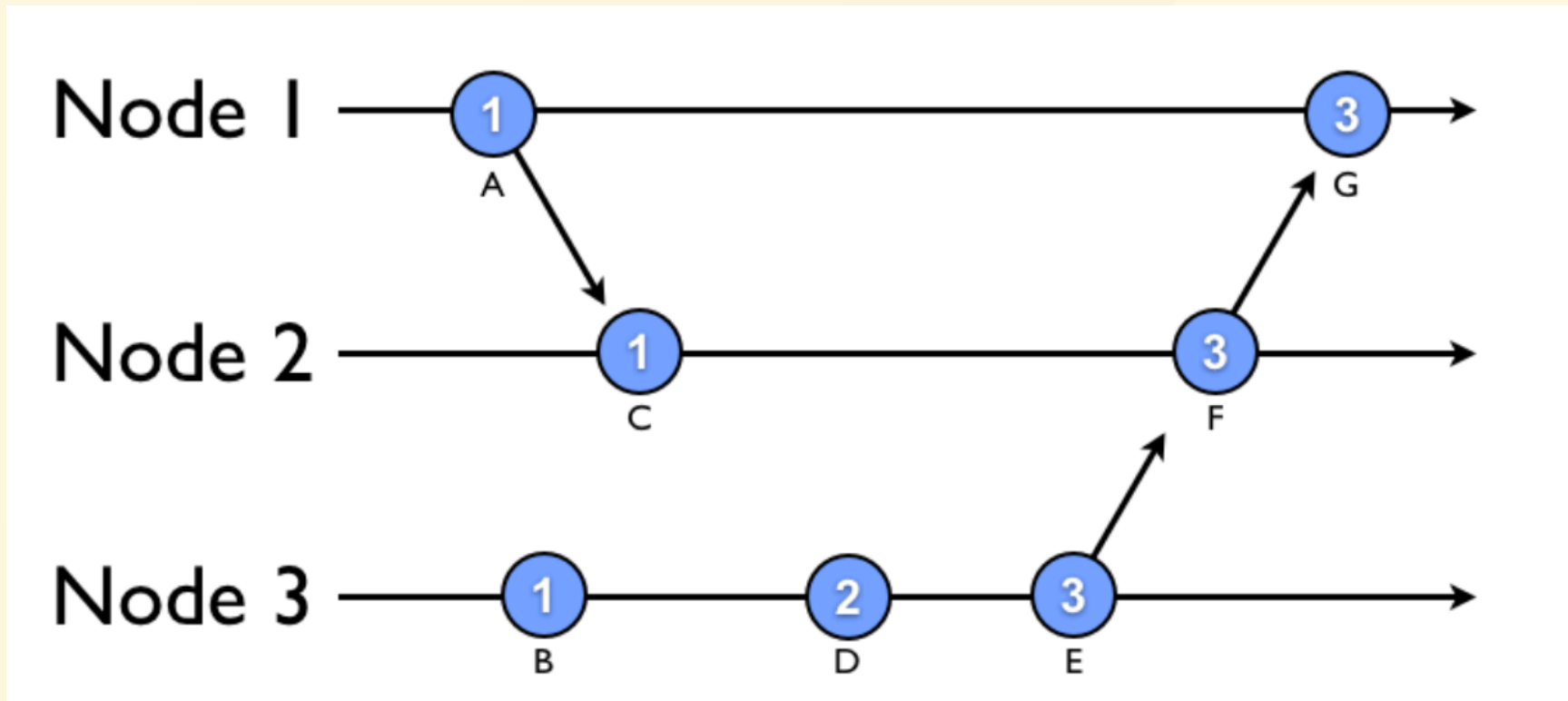
Created by [Girish Ramnani](#)

Distributed Systems are hard

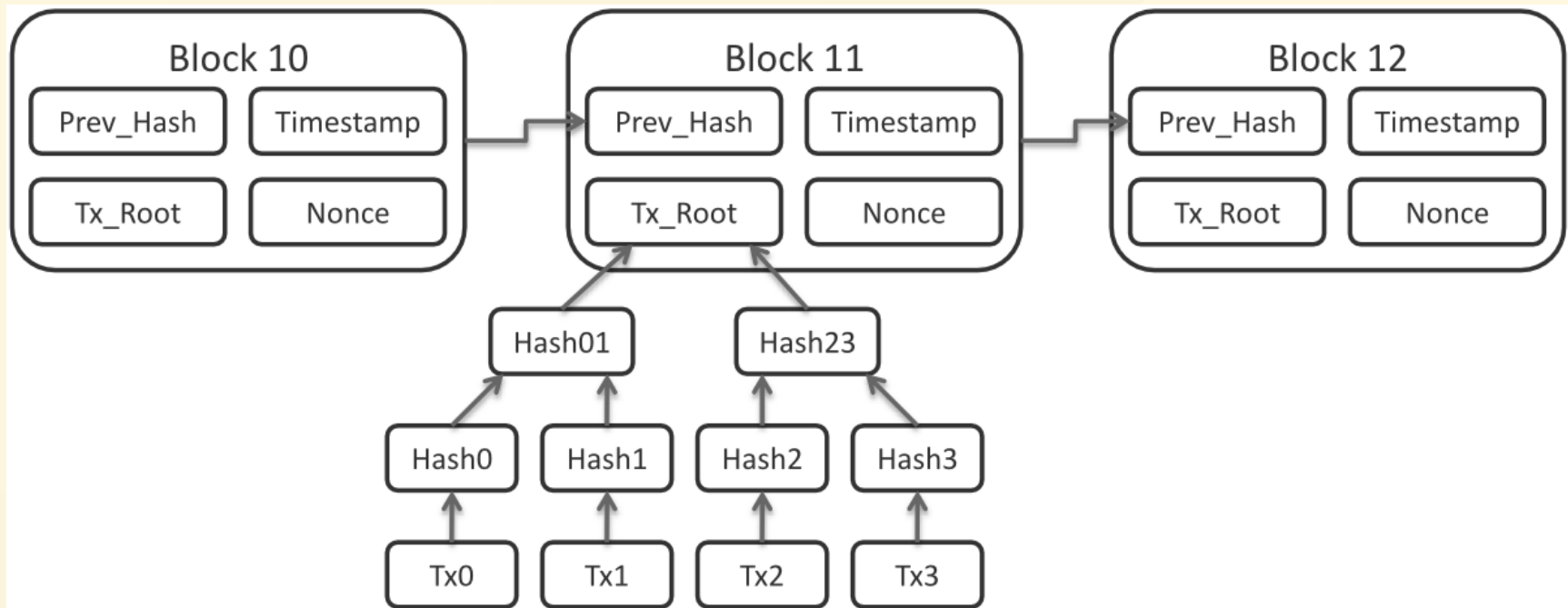
Just a distributed lock



G-Counter



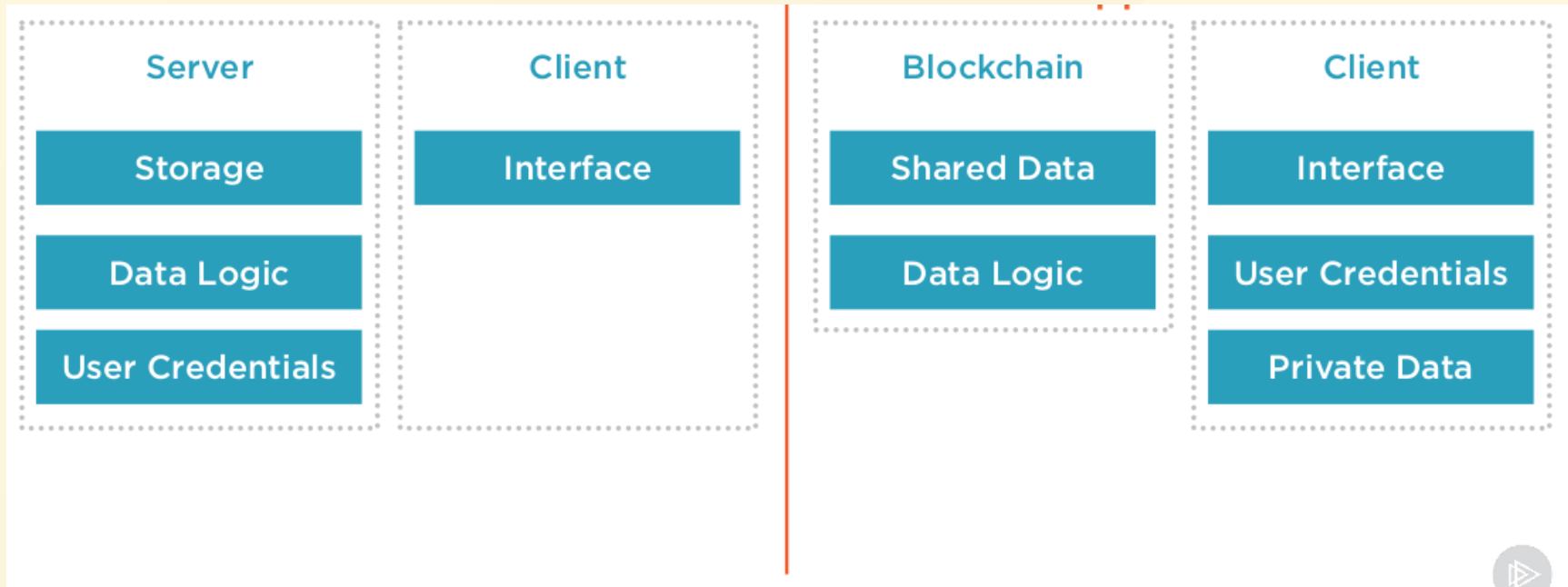
What is blockchain?



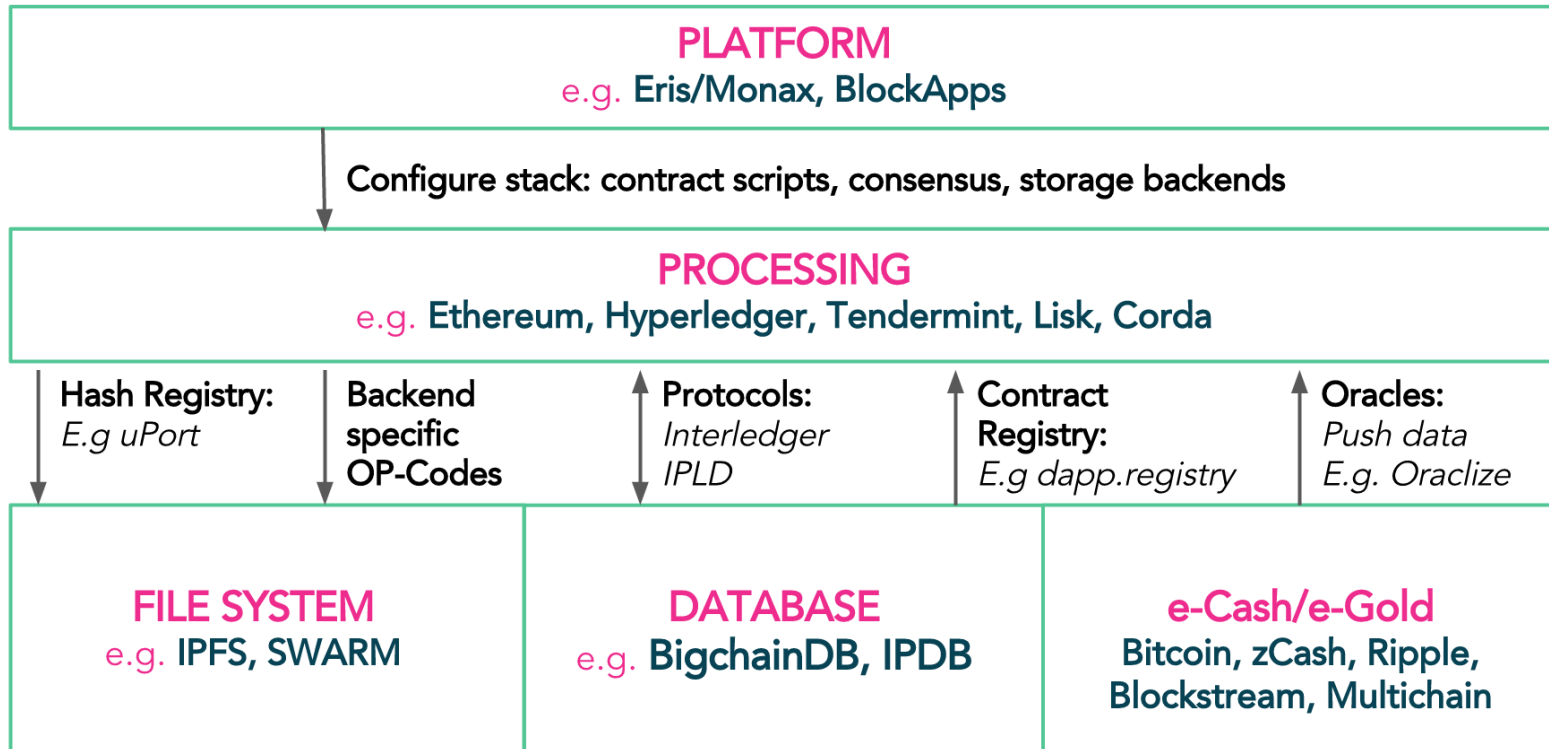
Problems solved by blockchain

- Removes single point of failure.
- Every node has the same authority in the network.
- Solves the *Byzantine Generals' problem*.

What are Decentralized apps?



Decentralized Stack Interoperability



Ethereum



Bitcoin vs Ethereum

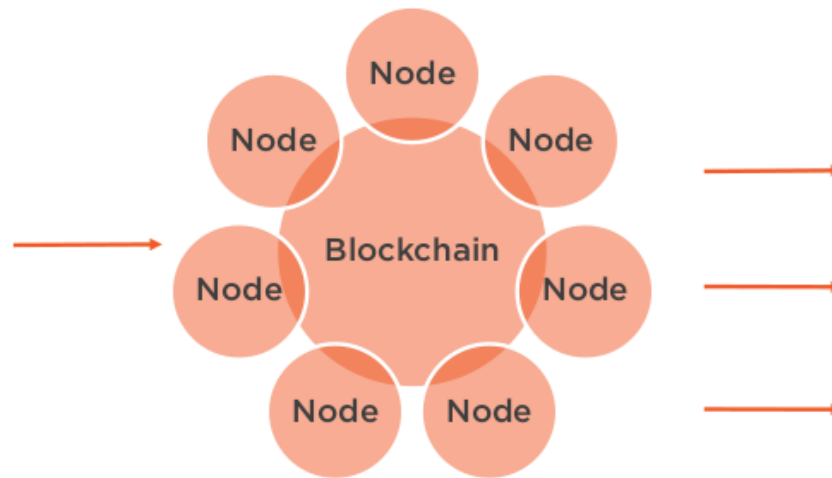


Transaction

Transactions



Pier network of computers

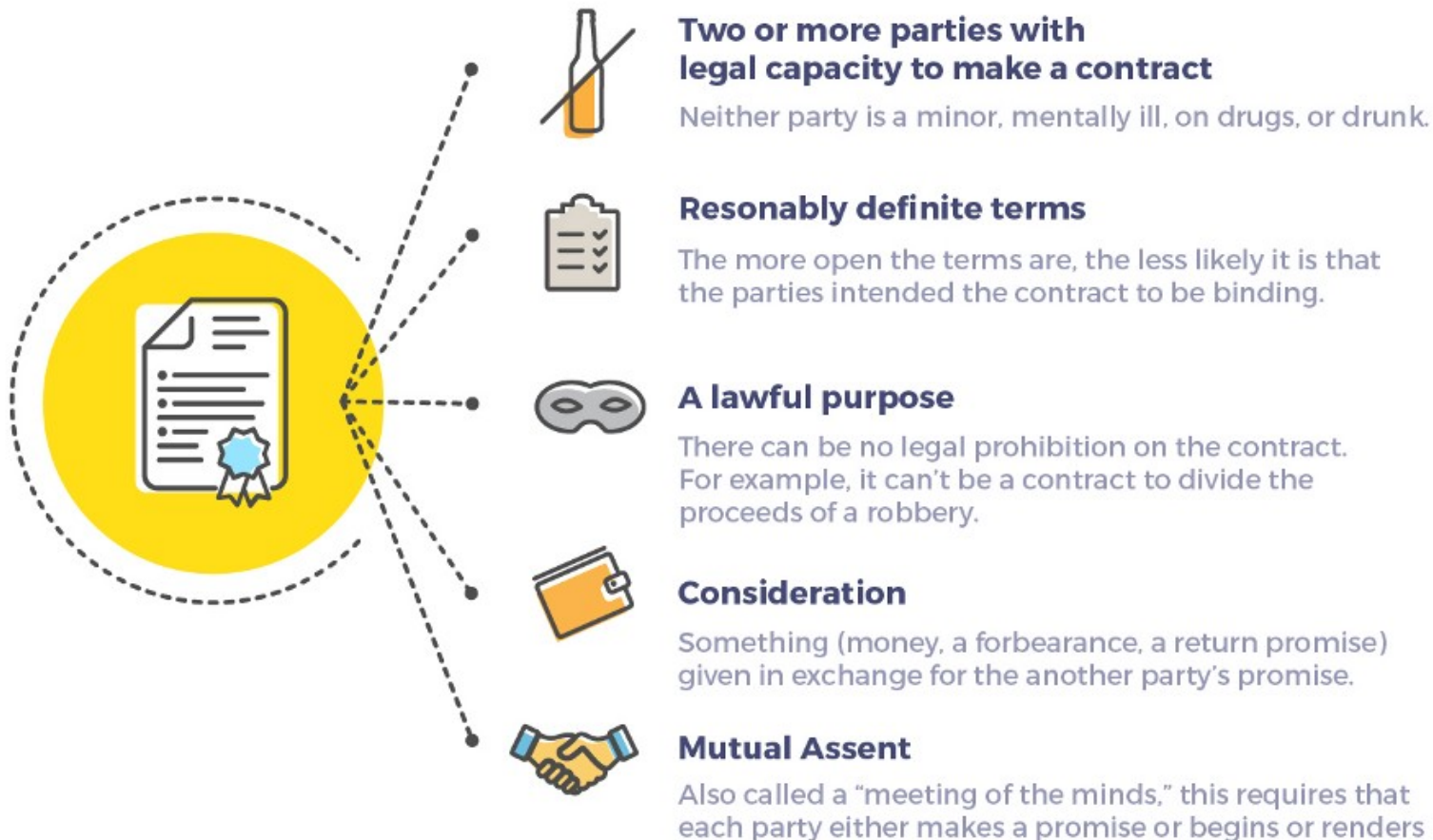


Execution and validation



Contracts

THE FIVE ELEMENTS OF A CONTRACT



Smart Contracts



Solidity

Dev Tools

- MetaMask
- Truffle
- Testrpc
- Mist

Example Contracts

- [Hello World](#)
- [One Value Store](#)
- [key value store](#)
- [Voting](#)

[StringUtils](#)

Exercise

- Change the key value store contract such that each key has a owner and only owner can update the content of the key.

Thank you