

Homework 1 Answers

Answers

1. Why is client diversity important for Ethereum?

- Increases network resilience to attacks and bugs.
- Shared responsibility for development.
- Reduced single points of failure.

See: <https://ethereum.org/en/developers/docs/nodes-and-clients/client-diversity/>

2. What information is held for an Ethereum account?

The nonce, balance, storageRoot & codeHash.

See: <https://ethereum.org/en/developers/docs/accounts/>

3. Where is the full Ethereum state held?

The node clients will decide themselves how to represent the state, for example in a leveldb database. State can be recreated from transactions.

4. What is a replay attack? which 2 pieces of information can prevent it?

1. If Account A signed the transaction and broadcasted it on Ropsten, anyone could take it, broadcast it on mainnet, and it would appear valid. By adding chain ID into the payload, this is no longer possible.

2. The chain ID and the account nonce

5. In a contract how do we know who called a view function?

We can't be sure so be carefully using msg.sender in view functions. If called in transaction, it cannot be faked: you must have the private key associated with the given account. But in a call, you are free to set the sender to any value you like.