

Backend Homework - Tx Parser

Goal

Implement Ethereum blockchain parser that will allow to query transactions for subscribed addresses.

Problem

Users not able to receive push notifications for incoming/outgoing transactions. By Implementing `Parser` interface we would be able to hook this up to notifications service to notify about any incoming/outgoing transactions.

Limitations

- Use Go Language
- Avoid usage of external libraries
- Use Ethereum JSONRPC to interact with Ethereum Blockchain
- Use memory storage for storing any data (should be easily extendable to support any storage in the future)

Expose public interface for external usage either via command line or http api that will include supported list of operations defined in the `Parser` interface

```
type Parser interface {  
    // last parsed block  
    GetCurrentBlock() int  
  
    // add address to observer  
    Subscribe(address string) bool  
  
    // list of inbound or outbound transactions for an address  
    GetTransactions(address string) []Transaction  
}
```

Endpoint

URL: <https://ethereum-rpc.publicnode.com>

Request example

```
// Request
curl -X POST 'https://ethereum-rpc.publicnode.com' --data \
'{
  "jsonrpc": "2.0",
  "method": "eth_blockNumber",
  "params": [],
  "id": 83
}'

// Result
{
  "id": 83,
  "jsonrpc": "2.0",
  "result": "0x4b7" // 1207
}
```

References

- [Ethereum JSON RPC Interface](#)

Note

- keep it simple
- try to finish the task **within 4 hours**. We do not track the time spent, this is just a guidance. We do not ask for a perfect production ready service