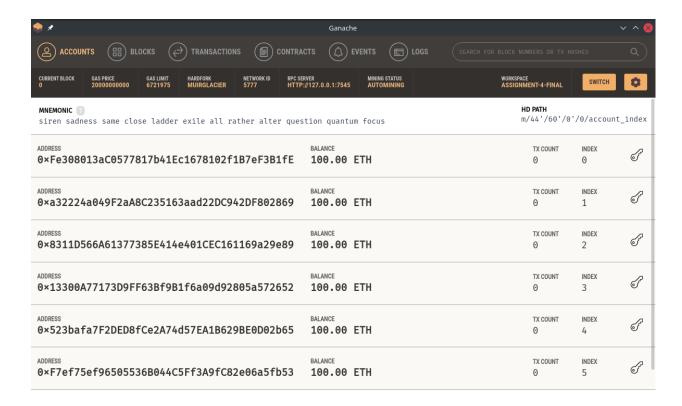


Introduction to Blockchain

Assignment 4

Adan Abbas 18i-0401 (Section A) 14/12/2021

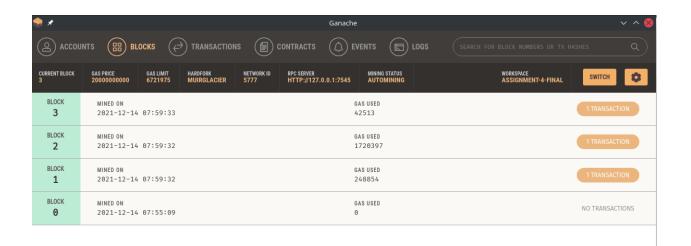
Initializing the blockchain and deploying smart contract



Initial balance of all the accounts

```
Deploying 'EscrowPayments'
 > transaction hash:
                        0x0fa542c6819fb080c3a96b4304d4661467ded252d63316e4d463bc3a86a70a8c
 > Blocks: 0
                        Seconds: 0
                        0xB7a77a0cfe69eD1C9f5b3d25b515f25408E5cAca
 > contract address:
 > block number:
 > block timestamp:
                        1639490372
                        0xFe308013aC0577817b41Ec1678102f1B7eF3B1fE
 > account:
 > balance:
                        99.96061498
                        1720397 (0x1a404d)
 > gas used:
 > gas price:
                        20 gwei
                        0 ETH
 > value sent:
                        0.03440794 ETH
 > Saving migration to chain.
 > Saving artifacts
 > Total cost:
                      0.03938502 ETH
ummary
Total deployments:
                     0.03938502 ETH
  (adan⊗kali)-[~/Desktop/Assignment 4/Assignment 4]
```

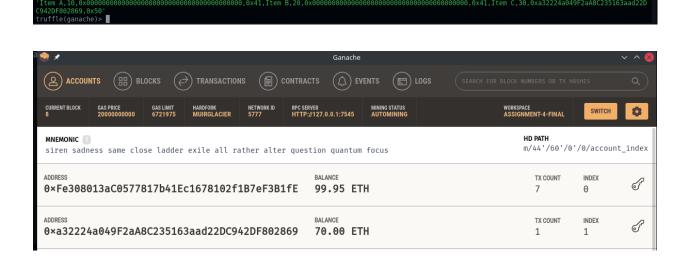
Migrating the contract onto the blockchain



New Contracts added to the blockchain

Workflow 1(Successful Transaction)

After adding some items and a trusted third party to the blockchain.

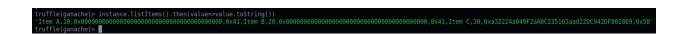


Item C bought by account 1 (Balance now 30, item status Pending)

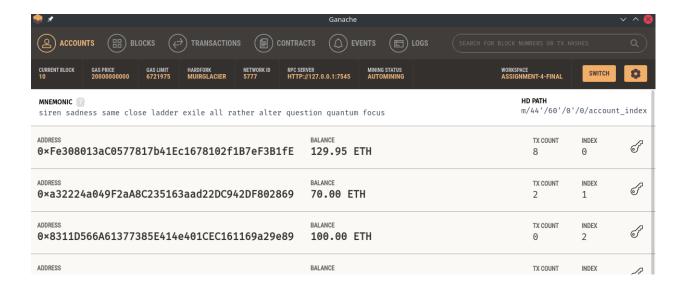
```
x41,Item C,30,0xa32224a049F2aA8C235163aad22DC942DF802869,0x43'

Ln 22, Col 1 (60 selected) Spaces: 4 UTF-8 LF Ducky Script ⊘ Prettier 尽 ↓
```

Account 1 now changed status of purchase as confirmed



Owner now received the payment, item status is now expired



Verifying the new balance of the owner

Workflow 2(Unsuccessful Transaction)

CURRENT BLOCK GAS PRICE 40 20000000000	GAS LIMIT 6721975	HARDFORK Muirglacier	NETWORK ID 5777	RPC SERVER HTTP://127.0.0.1:		MINING STATUS AUTOMINING	WORKSPACE Assignment-	4-FINA	SWITCH	0
MNEMONIC The siren sadness same close ladder exile all rather alter question quantum m/44'/60'/0'/0/account_index focus										
ADDRESS 0×Fe308013aC05 F3B1fE	577817b4	1Ec167810	2f1B7e	BALANCE 139.86 TH	Е		тх с 20	OUNT	INDEX O	F
ADDRESS 0×a32224a049F2 02869	aA8C235	163aad22D	C942DF8	BALANCE 19.99 TH	E		тх с 17	OUNT	INDEX	F
ADDRESS 0×8311D566A613 a29e89	377385E4	14e401CEC	161169	BALANCE 100.00 TH	Е		тх с	OUNT	INDEX 2	F

Initial Balances

```
truffle(ganache)> instance.TTP().then(value=>value.toString())
'0x8311D566A61377385E414e401CEC161169a29e89'
truffle(ganache)>
```

Added a trusted third party to handle disputes.

```
truffle(ganache)> instance.listItems().then(value=>value.toString())
'Item A,10,0xa32224a049F2aA8C235163aad22DC942DF802869,0x50,Item B,20,0
```

Item A now bought by account 1

```
truffle(ganache)> instance.listItems().then(value=>value.toString())
'Item A,10,0xa32224a049F2aA8C235163aad22DC942DF802869,0x44,Item B,20,6
```

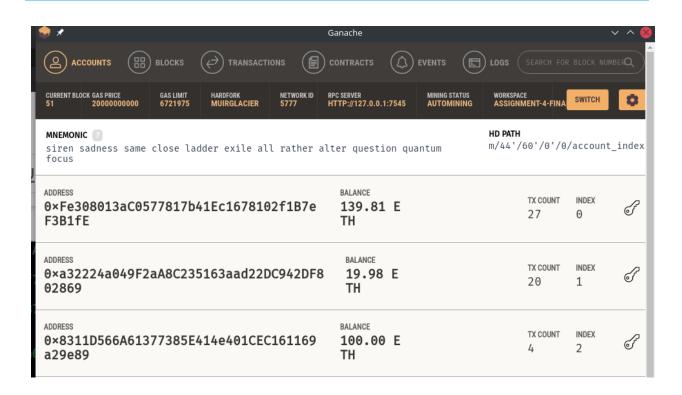
Suppose the buyer got a faulty item, he changes the status to Disputed

```
truffle(ganache)> instance.listItems().then(value=>value.toString())
'Item A,10,0xa32224a049F2aA8C235163aad22DC942DF802869,0x52,Item B,20
```

Disputed item resolved by TTP and buyer can reclaim his ethers.

```
truffle(ganache)> instance.receivePayment('Item A', {from:accounts[1]})
{
    tx: '0xbbf7804d3d1519a3e0f04e98778b4cd3b96faff70790b9e1f524d30ddaeb643d',
    receipt: {
        transactionHash: '0xbbf7804d3d1519a3e0f04e98778b4cd3b96faff70790b9e1f524d30ddaeb6
43d',
        transactionIndex: 0,
        blockHash: '0xe7c72fec18fc326592e161c5b9bd7a0f8c7734ae7e04a639f4c21e4f14df1633',
        blockNumber: 51,
        from: '0xa32224a049f2aa8c235163aad22dc942df802869',
        to: '0x3997dda66b617e948d8a7c3188d2462353e00796',
        gasUsed: 46064,
        cumulativeGasUsed: 46064,
```

Account 1 now calls to receive back his payment.



Balance of account 1 now restored.