

## CIS 600 Blockchain and Cryptocurrencies, Lab3

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### Implemented blockchain application of logging remote storage file.

#### Design:

- I have defined the bkc\_logging function where the data is encoded by converting it into hexa value.
- I have used function `var str1 = web3.toHex({str});`
- This encoded value is then transferred to Ethereum account by performing send transaction function. Send transaction function is defined as below:
- `web3.eth.sendTransaction({from: defaultAcc, data:str1, to:defaultAcc},function(error, success)`
- This bkc\_logging function is called by user\_login, user\_logout, file\_permission\_set, file\_delegate and file\_Access functions.
- These functions transactions are then logged by send transaction function.

#### Implementation issues:

Running the node js file, after every transaction, Ethereum account gets locked.

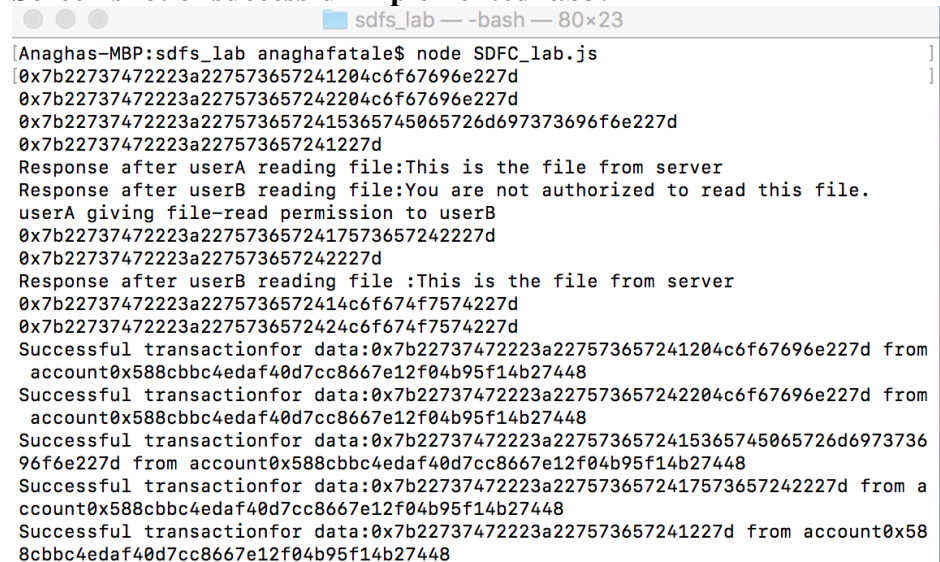
Overcame this issue by executing below unlock account command on another geth terminal.

`personal.unlockAccount(eth.accounts[0])`

Unlock account 0x588cbbc4edaf40d7cc8667e12f04b95f14b27448

Passphrase:

#### Screen shot of successful implemented lab3:



```
sd fs_lab — -bash — 80x23
Anaghas-MBP:sd fs_lab anaghafatale$ node SDFC_lab.js
0x7b22737472223a227573657241204c6f67696e227d
0x7b22737472223a227573657242204c6f67696e227d
0x7b22737472223a2275736572415365745065726d697373696f6e227d
0x7b22737472223a227573657241227d
Response after userA reading file:This is the file from server
Response after userB reading file:You are not authorized to read this file.
userA giving file-read permission to userB
0x7b22737472223a2275736572417573657242227d
0x7b22737472223a227573657242227d
Response after userB reading file :This is the file from server
0x7b22737472223a2275736572414c6f674f7574227d
0x7b22737472223a2275736572424c6f674f7574227d
Successful transactionfor data:0x7b22737472223a227573657241204c6f67696e227d from
account0x588cbbc4edaf40d7cc8667e12f04b95f14b27448
Successful transactionfor data:0x7b22737472223a227573657242204c6f67696e227d from
account0x588cbbc4edaf40d7cc8667e12f04b95f14b27448
Successful transactionfor data:0x7b22737472223a2275736572415365745065726d6973736
96f6e227d from account0x588cbbc4edaf40d7cc8667e12f04b95f14b27448
Successful transactionfor data:0x7b22737472223a2275736572417573657242227d from a
ccount0x588cbbc4edaf40d7cc8667e12f04b95f14b27448
Successful transactionfor data:0x7b22737472223a227573657241227d from account0x58
8cbbc4edaf40d7cc8667e12f04b95f14b27448
```