

**Blockchain Technology for Business  
Assignment #3**

**1) Truffle Compilation:**

```
C:\Users\Muskan Ahmed>cd CyberLawRegistry-Truffle
C:\Users\Muskan Ahmed\CyberLawRegistry-Truffle>truffle compile
Compiling your contracts...
=====
> Compiling .\contracts\CyberLawRegistry.sol
> Artifacts written to C:\Users\Muskan Ahmed\CyberLawRegistry-Truffle\build\contracts
> Compiled successfully using:
  - solc: 0.8.0+commit.c7dfd78e.Emscripten clang
```

**2) Truffle Migration/Deployment:**

```
C:\Users\Muskan Ahmed\CyberLawRegistry-Truffle>truffle migrate --reset --network development
Compiling your contracts...
=====
> Compiling .\contracts\CyberLawRegistry.sol
> Artifacts written to C:\Users\Muskan Ahmed\CyberLawRegistry-Truffle\build\contracts
> Compiled successfully using:
  - solc: 0.8.0+commit.c7dfd78e.Emscripten clang

Starting migrations...
=====
> Network name:    'development'
> Network id:      5777
> Block gas limit: 6721975 (0x6691b7)

2_deploy_contract.js
=====

Replacing 'CyberLawRegistry'
-----
> transaction hash: 0x7923c31dfa3e8ebfd0e1e8c815c35137b6e70531f75d5246ef025576d32bdbb
> Blocks: 0          Seconds: 0
> contract address: 0xc240d401B070BDf0E402580559B7c36Ec6eBF256
> block number:     2
> block timestamp:  1763819675
> account:          0x32FE85c35b58A3595D704e5215C2D3422bEa63C4
> balance:           99.993847214033318656
> gas used:         922368 (0xe1300)
> gas price:        3.295641183 gwei
> value sent:       0 ETH
> total cost:       0.003039793966681344 ETH

> Saving artifacts
-----
> Total cost:      0.003039793966681344 ETH

Summary
=====
> Total deployments: 1
> Final cost:        0.003039793966681344 ETH
```

## Muskan Ahmed, 23i-4145, FT-B

### 3) Ganache – Accounts Tab:

Ganache					
ACCOUNTS	BLOCKS	TRANSACTIONS	CONTRACTS	EVENTS	LOGS
CURRENT BLOCK 2	GAS PRICE 20000000000	GAS LIMIT 6721975	HARDFORK MERGE	NETWORK ID 5777	RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING	WORLSPACE QUICKSTART	SAVE	SWITCH	⚙️	
MNEMONIC: test word spice license suffer gorilla float shaft endorse citizen alarm response					
ADDRESS 0x32FE85c35b58A3595D704e5215C2D3422bEa63C4	BALANCE 99.99 ETH		TX COUNT 2	INDEX 0	🔗
ADDRESS 0xedc5a63cB695A0C4c4270858f2FD2f58E6A09314	BALANCE 100.00 ETH		TX COUNT 0	INDEX 1	🔗
ADDRESS 0x7a97ed1Af8106696f4b2b501C6a772C99b63707B	BALANCE 100.00 ETH		TX COUNT 0	INDEX 2	🔗
ADDRESS 0x9baA4FC9d1C30dd9BAFB102F6811608CE0063356	BALANCE 100.00 ETH		TX COUNT 0	INDEX 3	🔗
ADDRESS 0x7A3F712117eB23aC3Ec9F353669FCA2e4F9ff62	BALANCE 100.00 ETH		TX COUNT 0	INDEX 4	🔗
ADDRESS 0xF8F0DaF0d614f302493Ed2078A9673a5b7447009	BALANCE 100.00 ETH		TX COUNT 0	INDEX 5	🔗
ADDRESS 0xa19E8DD01C878DFE0e4160d324F6E6762552e9876	BALANCE 100.00 ETH		TX COUNT 0	INDEX 6	🔗
ADDRESS 0x5a23C1CeCfd838f2269CEFFBdEd80446b020F2	BALANCE 100.00 ETH		TX COUNT 0	INDEX 7	🔗
ADDRESS 0x5AA0a3f08ff065a2eC3cf6825929c3cb756512	BALANCE 100.00 ETH		TX COUNT 0	INDEX 8	🔗
ADDRESS 0x4A855Fb4aE0Eb0D54f8c2D89e32E28b43ff8e0C0	BALANCE 100.00 ETH		TX COUNT 0	INDEX 9	🔗

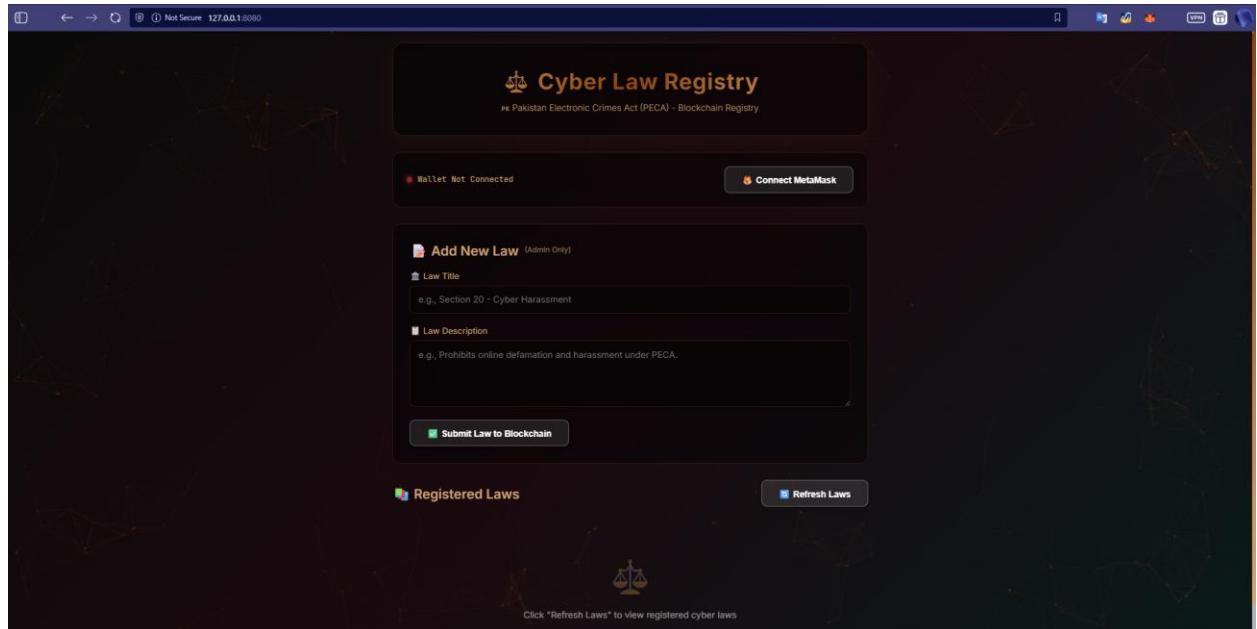
### 4) Ganache – Blocks Tab:

Ganache					
ACCOUNTS	BLOCKS	TRANSACTIONS	CONTRACTS	EVENTS	LOGS
CURRENT BLOCK 2	GAS PRICE 20000000000	GAS LIMIT 6721975	HARDFORK MERGE	NETWORK ID 5777	RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING	WORLSPACE QUICKSTART	SAVE	SWITCH	⚙️	
BLOCK 8	MINED ON 2023-11-22 19:16:04		GAS USED 171167	1 TRANSACTION	
BLOCK 7	MINED ON 2023-11-22 19:15:36		GAS USED 171335	1 TRANSACTION	
BLOCK 6	MINED ON 2023-11-22 19:15:14		GAS USED 171215	1 TRANSACTION	
BLOCK 5	MINED ON 2023-11-22 19:14:49		GAS USED 171167	1 TRANSACTION	
BLOCK 4	MINED ON 2023-11-22 19:13:57		GAS USED 171323	1 TRANSACTION	
BLOCK 3	MINED ON 2023-11-22 19:07:42		GAS USED 227642	1 TRANSACTION	
BLOCK 2	MINED ON 2023-11-22 18:54:35		GAS USED 922368	1 TRANSACTION	
BLOCK 1	MINED ON 2023-11-22 18:34:12		GAS USED 922368	1 TRANSACTION	
BLOCK 0	MINED ON 2023-11-15 12:45:57		GAS USED 0	NO TRANSACTIONS	

### 5) Ganache – Transactions Tab:

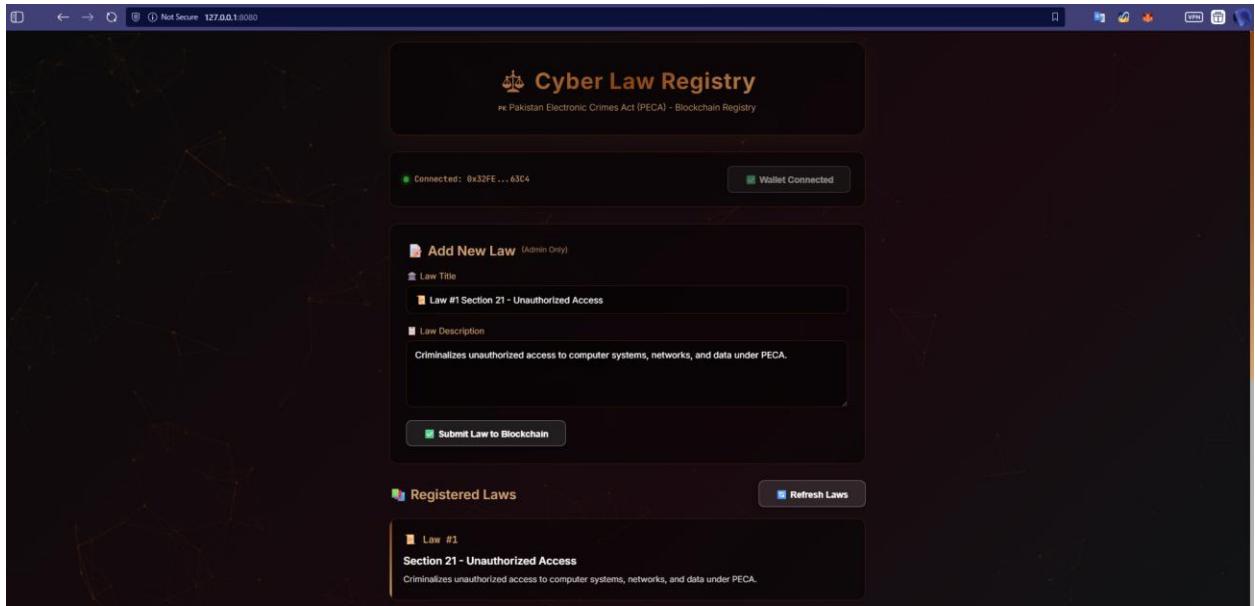
Ganache					
ACCOUNTS	BLOCKS	TRANSACTIONS	CONTRACTS	EVENTS	LOGS
CURRENT BLOCK 2	GAS PRICE 20000000000	GAS LIMIT 6721975	HARDFORK MERGE	NETWORK ID 5777	RPC SERVER HTTP://127.0.0.1:7545
MINING STATUS AUTOMINING	WORLSPACE QUICKSTART	SAVE	SWITCH	⚙️	
TX HASH 0x2ed709b17cf5915cfedef48852d4b0f05ab8c4521a88556e39ebdf13a71346				CONTRACT CALL	
FROM ADDRESS 0x32FE85c35b58A3595D704e5215C2D3422bEa63C4			TO CONTRACT ADDRESS 0x481D61883f980bd06841BcA78000e550020A5E600		GAS USED 171323 VALUE 0
TX HASH 0xbbcab1ceae3a8f95e9546b2391a5c572b6feab90f9435d8e3594ce343a7e35c			TO CONTRACT ADDRESS 0x481D61883f980bd06841BcA78000e550020A5E600		GAS USED 227642 VALUE 0
TX HASH 0x7923c31dfa3e8ebfd0e1e8c815c35137b6e70531f75d5246ef025576d32bdbb				CONTRACT CREATION	
FROM ADDRESS 0x32FE85c35b58A3595D704e5215C2D3422bEa63C4			CREATED CONTRACT ADDRESS 0xc240d40180f080f0e402508559b7c36Ec6eBF250		GAS USED 922368 VALUE 0
TX HASH 0x31925783707f9f58c895aa9f1822f67c0933638321f7bee4a0585294d57d9ada			CREATED CONTRACT ADDRESS 0x481D61883f980bd06841BcA78000e550020A5E600		GAS USED 922368 VALUE 0

**6) Frontend – Without MetaMask Wallet Connection:**



After User clicks “Connect Wallet”:	<u>Bonus:</u> Working on Multiple Contracts/Laws (MetaMask Transaction Confirmation):
A screenshot of the MetaMask extension interface. The title bar says "MetaMask" and the address bar shows "Not Secure chrome-extension://nkbihfbeog...". The main area is titled "127.0.0.1" and says "Connect this website with MetaMask". It shows a table with one row: "Imported Account 1" (status: Imported accounts), balance "\$0.00", and a "Edit accounts" button. At the bottom are "Cancel" and "Connect" buttons.	A screenshot of the MetaMask transaction confirmation dialog. It shows "Imported Account 1" and "Imported accounts". The title is "Transaction request". It details the transaction: "Network: Ganache Local", "Request from: 127.0.0.1:8080", "Interacting with: 0x401D6...5E600". It shows a "Network fee: 0.0046 ETH" with a edit icon. At the bottom are "Cancel" and "Confirm" buttons.

**7) Frontend – Connected & Adding Laws:**



**8) Bonus: After User selects “Refresh Laws”, all Registered Laws are shown:**

