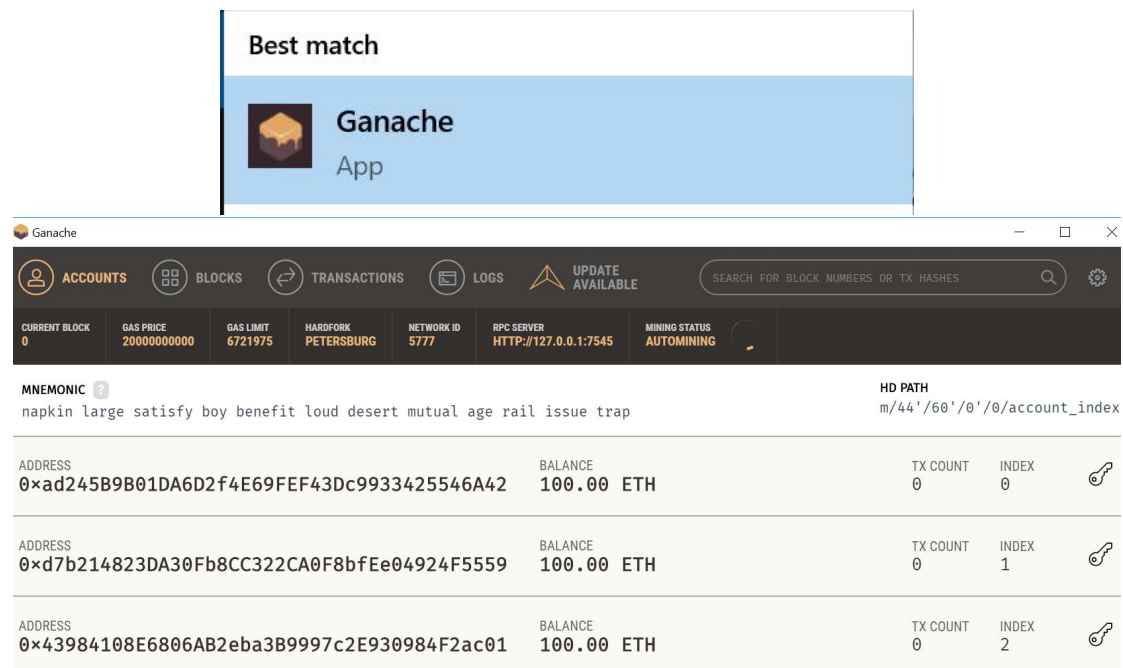


# System Operation Instruction

This report guides users on how to use the system. These steps are as follows:

1. Start Ganache (one of both versions) in this computer.

The graphical version is launched directly by clicking on the shortcut of the software.



The command-line version is started by the following order:

- Typing the command 'ganache-cli' in the command prompt of the Node.js.
- Record the following content: 10 Externally owned account (including their relevant private keys) and Mnemonic words (12 words).
- Input 'ctrl+c' to shut down this version.

added 61 packages from 16 contributors in 0.209s

```
C:\Users\weishidong>ganache-cli
Ganache CLI v6.4.3 (ganache-core: 2.5.5)
```

#### Available Accounts

```
=====
(0) 0xfab1a2b7fea888c61cb84d6a132025721fa585d0 (~100 ETH)
(1) 0x60c8bee738a4102e73d1e220bb47dbac5231f2dc (~100 ETH)
(2) 0xe925a92f0e82acfc02784e617a59753c3aa8a0539 (~100 ETH)
(3) 0x81e469f8116bfff112bd26ba97734c0c7a74dce65 (~100 ETH)
(4) 0x97ecb4bc570196683da853f230d13ec5c6dc9055 (~100 ETH)
(5) 0x1347add73a40d365669c37f00e7edd2450afc3c4 (~100 ETH)
(6) 0x42848a1e071c7da1750d24bab1bffa9b46497ce (~100 ETH)
(7) 0x30bb5fbb8eb62a3a080bcd447acac2f658f46a618 (~100 ETH)
(8) 0x5648a64f47a7c8b7a6ff297c92ee35e2cd0ad779 (~100 ETH)
(9) 0x6885debbbfde4225062f79bcd2527b2332c171d (~100 ETH)
```

#### Private Keys

```
=====
(0) 0x698495c16d6f7b3a3233dd61cd3816207f3f2212162783972daa22f35905368c
(1) 0x9492f8b9dd191b962b652398c386ea798cace2181f0a372f3d8b47c8e371a83b
(2) 0x0511e0cf6ea3fb868463dcc266b43b319d7d8dc8d360f85c1da2cde9572e3368
(3) 0xa2f162d0fd5db6a659f6607b9d9738c0c3453619550a5a27be0fbec83c90bd0
(4) 0x9c4c87c3fcc221fa62451a4e16a682dc9e32634b2c5228762310da27b199d712
(5) 0xe4fe26c341bfbaaadd1be3c48d7f0da828c714fc23d9bc6894d48b094d19d045
(6) 0xf50766b724b1a13551a033d4c51be0bc40555af92658eb298242e565abc59cd2
(7) 0x41890ad893d95ac2513f230fe7dbfb653f076e44fb513ff2ec3f907e38fbb480
(8) 0x5fbladebb325e9c3951536dbbc6872067686b63cc21bc52c59dfceae20c29c2
(9) 0xe806cf3123dc0127b7dc429905f4a0269e33f6806b42e9982af652b8bbcd21f
```

#### HD Wallet

```
=====
Mnemonic:      someone actual market panel egg sketch install cinnamon kiwi border manage nurse
Base HD Path:  m/44'/60'/0'/0/{account_index}
```

- Create a self-named folder on the computer and record its path.

This PC > Work (D:) >				
Name	Date modified	Type	Size	
chaindata	18/08/2019 11:42	File folder		

- Restart Ganache-cli on the node.js command prompt with a specific command. In this way, the version can synchronize the blockchain data in memory to the local hard disk (the above self-created folder). This command is shown as follows:

```
ganache-cli -p 8545 --mnemonic "someone actual market panel egg sketch install cinnamon kiwi border manage nurse" --networkId 100 --db "d:\chaindata"
```

That is:

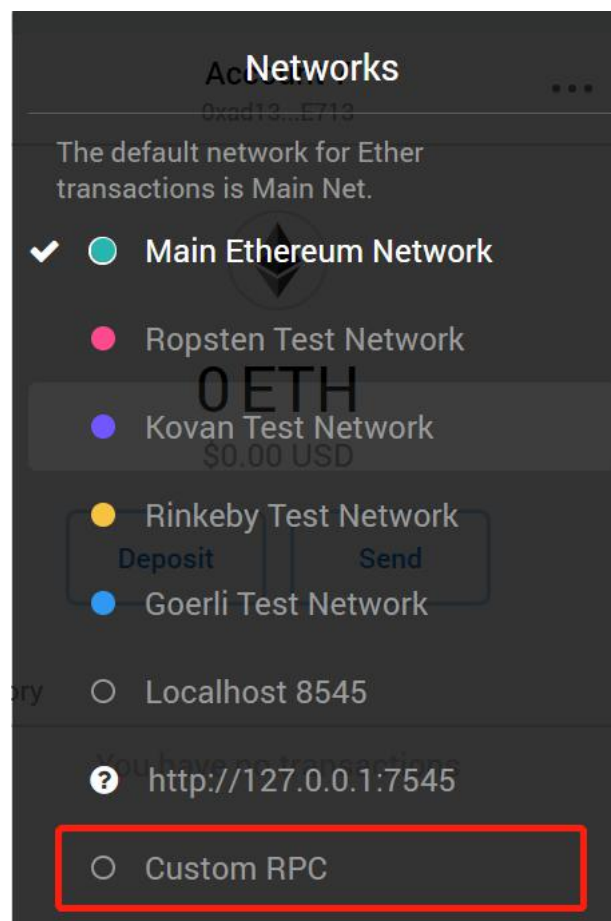
Ganache-cli + -p +(port number)+ --mnemonic + (12 mnemonic words)+--networkId +(A self-picked number)+--db+(folder path).

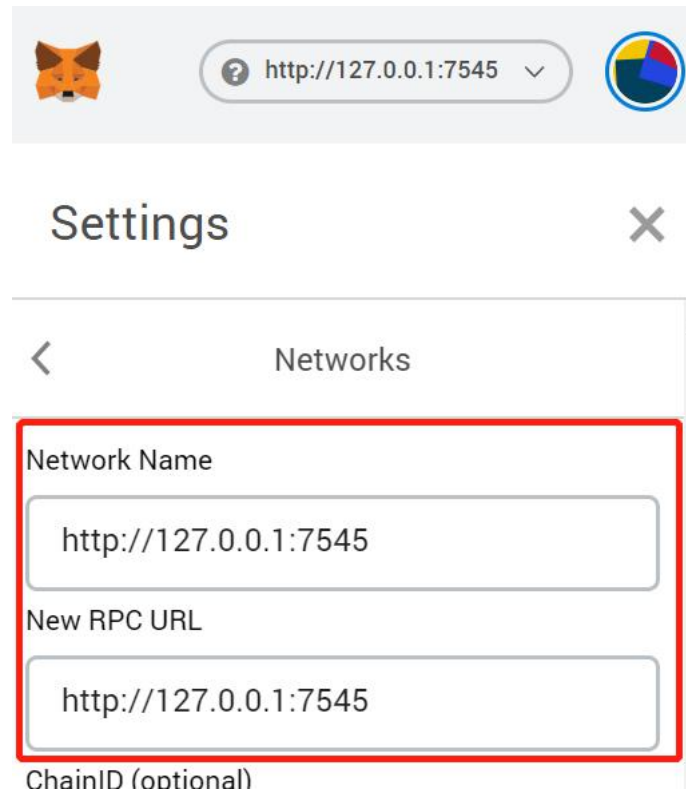
```
C:\Users\WEI SHIDONG>ganache-cli -p 8545 --mnemonic "someone actual market panel egg sketch install cinnamon kiwi border
manage nurse" --networkId 100 --db "d:\chaindata"
Ganache CLI v6.4.3 (ganache-core: 2.5.5)

Available Accounts
=====
(0) 0xb6a5b16274f66a68ce0591503011632eb5684afa (~100 ETH)
(1) 0x83998e423f3723131179e76cc4002f87e61b42ef (~100 ETH)
(2) 0x85b76f5d8b28dc566b401f6b62b0529802bf2f31 (~100 ETH)
(3) 0x0879ea342574ac99e8998ae1a47085c9838ad65c (~100 ETH)
(4) 0x7ae252b7a12610ae315cfbfadf35fe9801f78c09 (~100 ETH)
(5) 0xd35339416fdc27fd51844bad1ecb82ca49ec6162 (~100 ETH)
(6) 0x3220ea791ca8d835993ac205a89f374951a557fe (~100 ETH)
(7) 0x3dbc7ad4d21cb8fb7aa7bada7d9ba825d006320f (~100 ETH)
(8) 0xde732648c329942706d9a387396fed7c89490035 (~100 ETH)
(9) 0x930178740244261795e917f95316204a97a9e4b9 (~100 ETH)
```

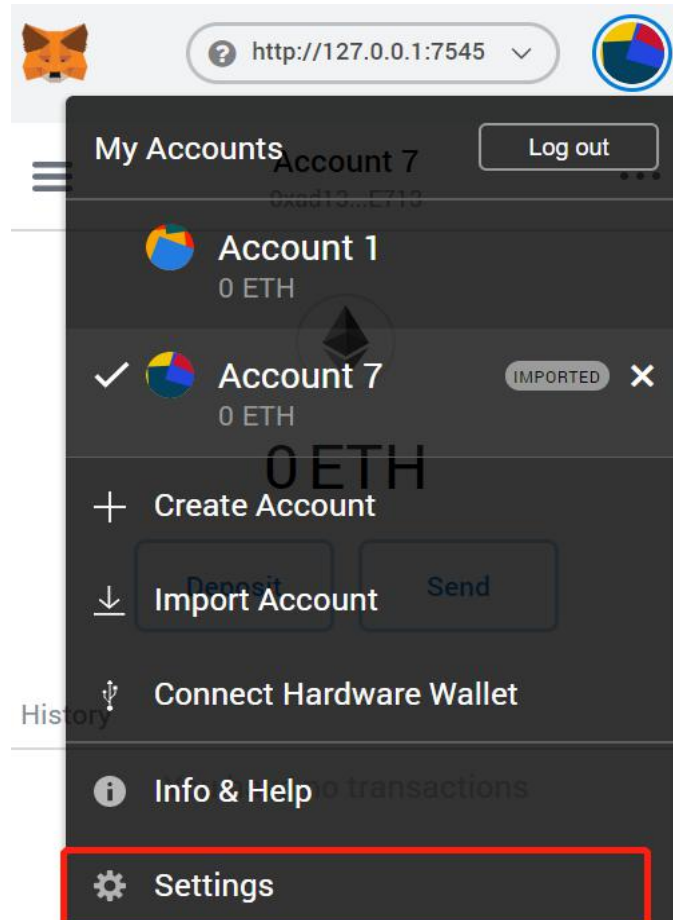
People can later restore the previous data of the blockchain stored on the hard disk to memory directly by entering this command to reopen the Ganache-cli.

2. Open the browser and use Metamask to introduce the Ethereum blockchain network provided by Ganache.





Turn off the privacy mode in Metamask's security settings.





## Settings



testnets and custom RPC.

### Contact List

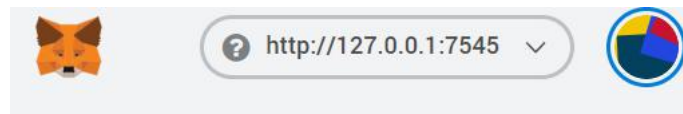


Add, edit, remove, and manage your contacts

### Security & Privacy



Privacy settings and wallet seed phrase



## < Security & Privacy

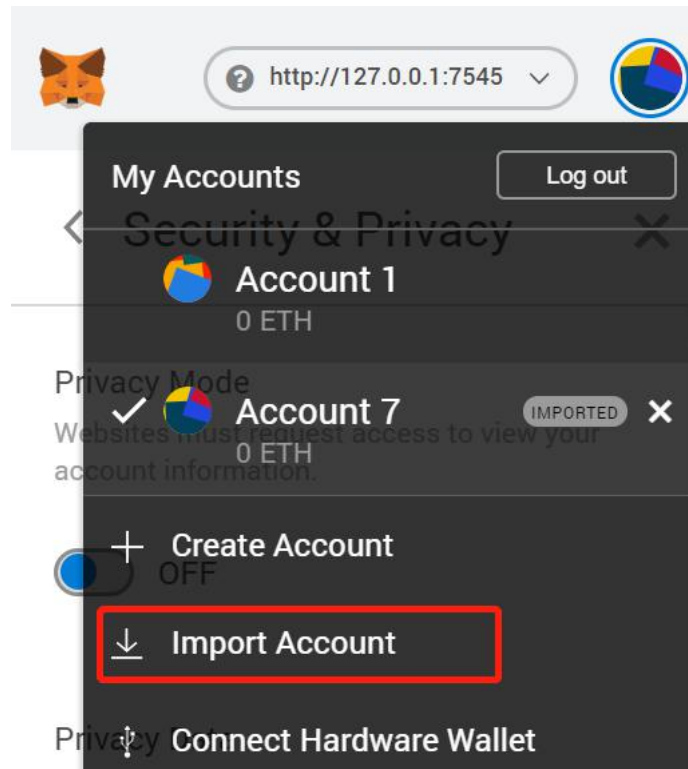


### Privacy Mode

Websites must request access to view your account information.

☐ OFF

Input one or more Ethereum externally owned accounts provided by Ganache to Metamask.



## New Account

Create **Import** Connect

Imported accounts will not be associated with your originally created MetaMask account seedphrase. Learn more about imported accounts [here](#)

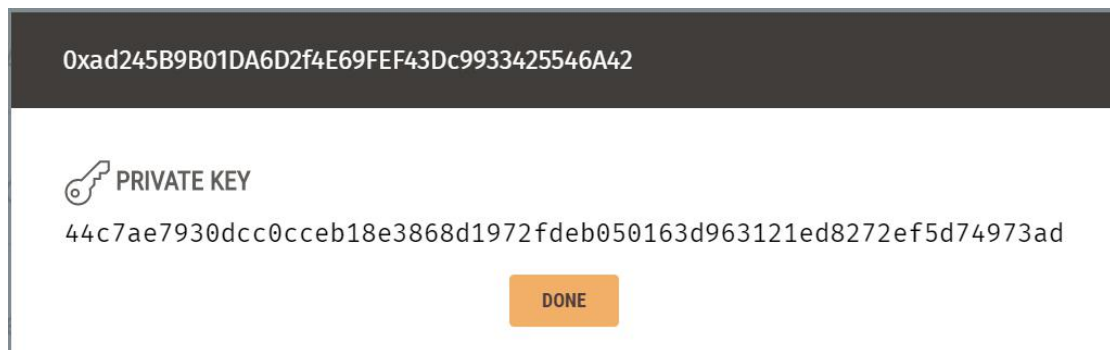
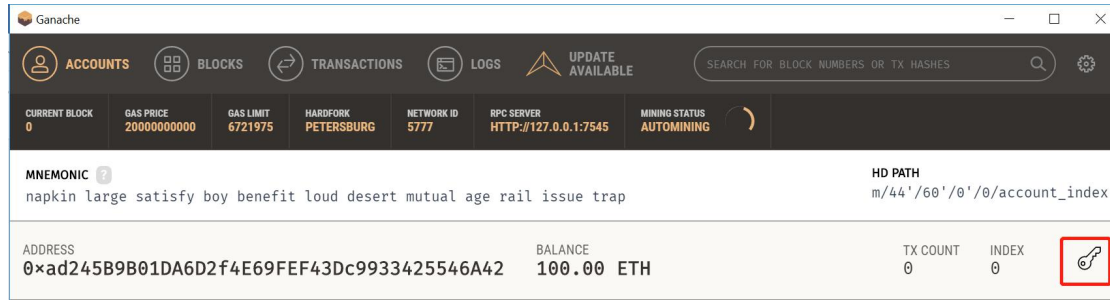
Select Type

Private Key

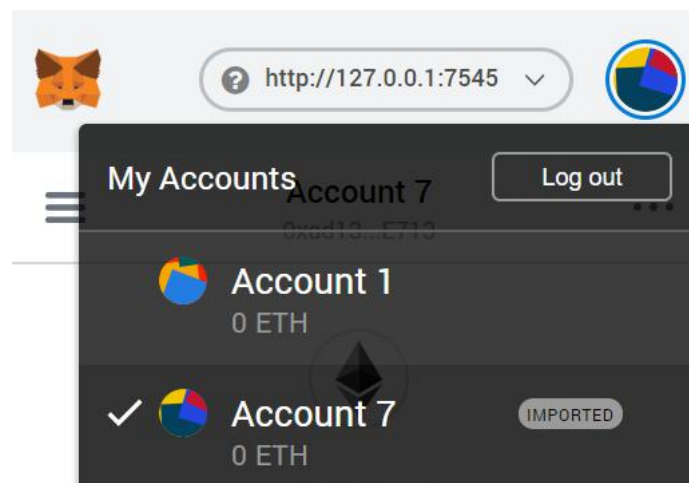
Paste your private key string here:

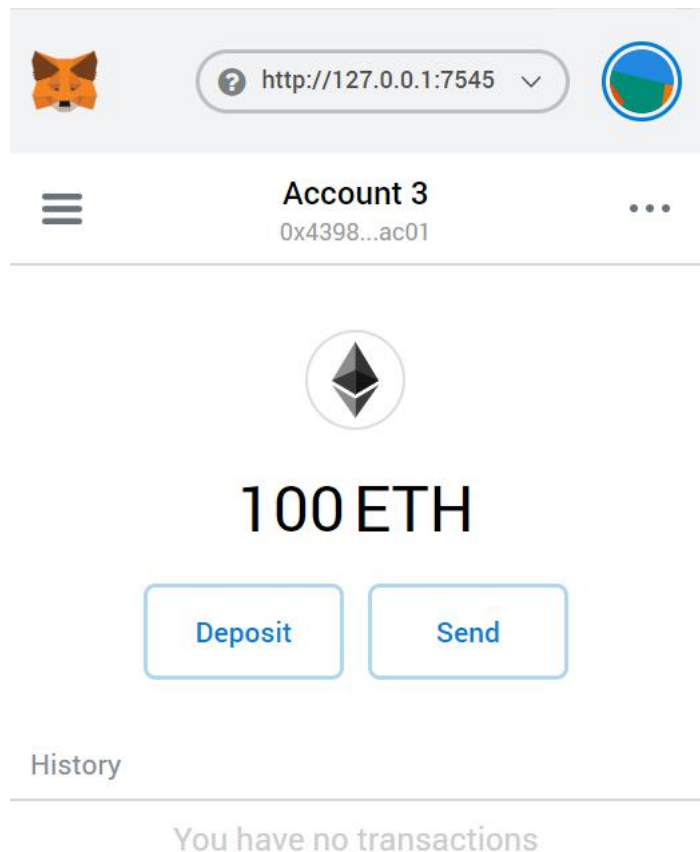
These private keys are available through Ganache.





The introduced account can be switched and viewed through Metamask.





3. Determine the port to deploy for the project contract in the 'truffle-config.js' file of the project folder (.\truffle-config.js).

```
1  const path = require("path");
2
3  module.exports = {
4    // See <http://truffleframework.com/docs/advanced/configuration>
5    // to customize the Truffle configuration!
6    contracts_build_directory: path.join(__dirname, "client/src/contracts"),
7    networks: {
8      development: {
9        host: "127.0.0.1",
10       //Select the blockchain to deploy based on different ports.
11       port: 8545,
12       // port:7545,
13       network_id: "*" // Match any network id
14     }
15   }
16 };
```

4. Deploy the contract files to the blockchain provided by Ganache via the truffle suite. Input the following command from the node.js command prompt



(under the project folder):

```
D:\std-credential-store>truffle migrate --reset
Compiling your contracts...
=====
> Everything is up to date, there is nothing to compile.

Starting migrations...
=====
> Saving migration to chain.
> Saving artifacts
-----
> Total cost:                0.08653374 ETH

Summary
=====
> Total deployments:       3
> Final cost:              0.09223062 ETH
```

Attention, for Ganache-cli, people only enter this command when initializing a blockchain. If a specific command is used to restore the same blockchain, this command is not needed to be re-inputted.

5. Open the Go-IPFS client.

```
Command Prompt - ipfs daemon
C:\>cd go-ipfs
C:\go-ipfs>
C:\go-ipfs>ipfs daemon
Initializing daemon...
go-ipfs version: 0.4.20-
Repo version: 7
System version: amd64/windows
Golang version: go1.12.4
Swarm listening on /ip4/10.186.199.241/tcp/4001
Swarm listening on /ip4/127.0.0.1/tcp/4001
Swarm listening on /ip4/169.254.154.91/tcp/4001
Swarm listening on /ip4/169.254.235.236/tcp/4001
Swarm listening on /ip4/169.254.4.58/tcp/4001
Swarm listening on /ip4/169.254.74.218/tcp/4001
Swarm listening on /ip6:::1/tcp/4001
Swarm listening on /p2p-circuit
Swarm announcing /ip4/10.186.199.241/tcp/4001
Swarm announcing /ip4/127.0.0.1/tcp/4001
Swarm announcing /ip4/169.254.154.91/tcp/4001
Swarm announcing /ip4/169.254.235.236/tcp/4001
Swarm announcing /ip4/169.254.4.58/tcp/4001
Swarm announcing /ip4/169.254.74.218/tcp/4001
Swarm announcing /ip6:::1/tcp/4001
API server listening on /ip4/127.0.0.1/tcp/5001
WebUI: http://127.0.0.1:5001/webui
Gateway (readonly) server listening on /ip4/127.0.0.1/tcp/8080
Daemon is ready
```

## 6. Run the system's intermediate server

```
D:\std-credential-store\app>
D:\std-credential-store\app>npm run dev

> app@1.0.0 dev D:\std-credential-store\app
> webpack-dev-server

i [wds]: Project is running at http://localhost:8081/
i [wds]: webpack output is served from /
i [wds]: Content not from webpack is served from D:\std-credential-store\app\dist
i [wdm]: Hash: de99531a2189a05b212c
Version: webpack 4.28.1
Time: 10782ms
Built at: 08/25/2019 4:31:26 PM
    Asset      Size  Chunks             Chunk Names
  add-student.html  6.66 KiB          0  [emitted]
adminregister.html  2.84 KiB          0  [emitted]
```

7. Users can open the system interface and use it by clicking on the programme shortcut under this folder or directly visiting the following link.

migrations	18/08/2019 12:10	File folder	
test	18/08/2019 12:10	File folder	
README.md	10/08/2019 10:31	MD File	1 KB
Student Credential Store	13/08/2019 12:02	Shortcut	3 KB
truffle-config.js	18/08/2019 10:57	JavaScript File	1 KB

Credential Store login page

Credential Store login page


localhost:8081

应用 书签栏 bgm 学习工具及学校网站 DGB Health informatics 毕设技术 后续工作 教程 ebay develop 毕设论文资料 作者 招

## Student Credential Store

Attention: Please log an Ethereum externally owned account provided by the Ganache into the Metamask wallet before using the system. If you update the account in Metamask, please refresh this page to

Current Account(Metamask):0xad134846c2113af6d659f43fbd5527f4e6ee713



### Account Login

Please Input Username

Please Input Password

Account Type: ☒ User(Students or Companies) ☐ Administrator(School Admin)

Then users can start to use the software normally.