

Environment Set Up

This document contains steps that you need to follow for setting up and running your node application for certification-network.

Step 1: Starting the Fabric Network

After you have downloaded and transferred the 'application' directory inside the 'certification-network' directory on your Virtual Machine, you need to open the terminal.

1.1 Once you are inside the terminal, you need to enter the following command:

```
cd workspace/certification-network/network
```

1.2 Now you need to run the following command to start the Fabric network:

```
./fabricNetwork.sh up
```

It will ask you a question. Type 'Y' and press Enter, or you can simply press Enter. This will start your entire Fabric network.

1.3 The next step is to install and instantiate chaincode on the network. For this, you need to run the following command:

```
./fabricNetwork.sh install
```

This command will install and instantiate the chaincode on the Fabric network.

Step 2: Installing NPM

The Virtual Box image provided to you does not have 'npm' installed on it. Therefore, in order to run the 'certification-network' application on your VM, you need to install npm followed by the node modules required for running the application.

2.1 Go inside the application folder on your terminal window. For this, you need to enter the

following command:

```
cd ../application
```

2.2 Inside this folder, you need to run the following command:

```
sudo dpkg --configure -a
```

2.3 After this, you need to run the following command:

```
sudo apt install npm
```

It will ask you a question. Press 'Y'. This will install npm on your virtual machine.

Note: The two commands above need to be run only once to install npm on your virtual machine.

Step 3: Installing Dependencies

3.1 Next, you need to run the following command to install the various dependencies that are listed in the *package.json* file.

The command to install the same is shown below:

```
npm install
```

With this, you have successfully installed all the dependencies that are required as part of this project.

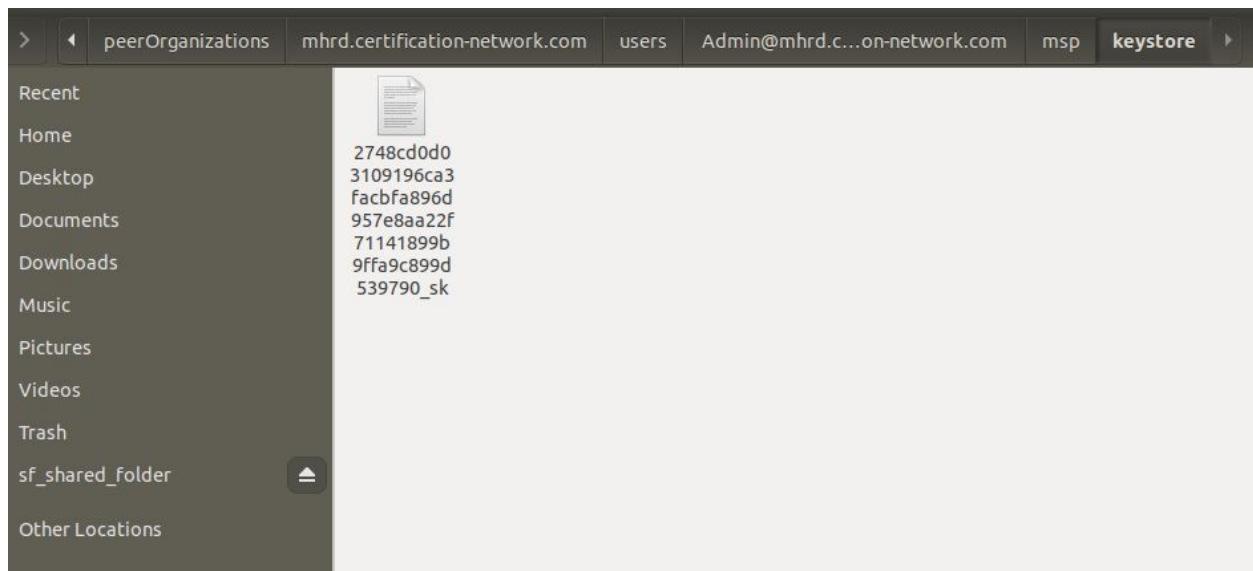
Step 4: Setting the Correct Private Key

Now you need to go inside the following directory in your file explorer and copy the name of the file that is present in that directory:

```
/home/upgrad/workspace/certification-network/network/crypto-config/peerOrganization
```

```
s/mhrd.certification-network.com/users/Admin@mhrd.certification-network.com/msp/key
store
```

In this directory, you will find a file that is the private key associated with the admin of the mhrd organisation.



Now you need to go inside '1_addToWallet.js' and scroll down to the bottom of the file where the main function is being invoked. The second parameter that needs to be passed as part of this function call is as follows:

```
/home/upgrad/workspace/certification-network/network/crypto-config/peerOrga
nizations/mhrd.certification-network.com/users/Admin@mhrd.certification-net
work.com/msp/keystore/<privateKey>
```

You need to paste the private key that you copied earlier in place of **<privateKey>**. After that, you need to save that file and go inside the terminal. The part that needs to be changed is the highlighted part in the snapshot attached below:

```
main('/home/upgrad/workspace/certification-network/network/crypto-config/peerOrganizations/mhrd.certification-network.com/users/  
Admin@mhrd.certification-network.com/msp/signcerts/Admin@mhrd.certification-network.com-cert.pem', '/home/upgrad/workspace/certification-  
network/network/crypto-config/peerOrganizations/mhrd.certification-network.com/users/Admin@mhrd.certification-network.com/msp/keystore/  
a852e4400de73fea639241a6f17913468f6f963b339a367309cd9b4563b081ef_sk').then(() => {  
  console.log('User identity added to wallet.');
```

Now, inside the terminal, you need to run the following command:

```
node 1_addToWallet.js
```

With this, now you can access the other node modules to invoke transactions.