International Institute of Information Technology Bangalore

upGrad

Summary Doc

This document summarises the various steps that you need to follow to run the entire certification-network project.

If your project is already running, then you need not run the Optional Steps and can directly move to the Mandatory Steps. However, if your Fabric Network is down, then you need to run the Optional Steps to start the network and install and instantiate the chaincode.

Optional Steps

Open the Terminal and type in the following command:

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

Next, run the following command:

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

When prompted with a question, press Enter.

Next, you need to run the following command:

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

When prompted with a question, press Enter.

Mandatory Steps

Now you need to start the server. For this, you need to make sure you are inside the application folder in your terminal window. If you are inside the ‘network’ folder, then you need to enter the following command to go inside the ‘application’ folder:

```
cd ../application
```

Note: Before moving ahead, you need to make sure you comment out the invocation of the main() function in each of the following files:

1_addToWallet.js
2_createStudent.js
3_getStudent.js
4_issueCertificate.js
5_verifyCertificate.js

Now, once you are inside the application folder, you need to enter the following command to start the server:

```
node .
```

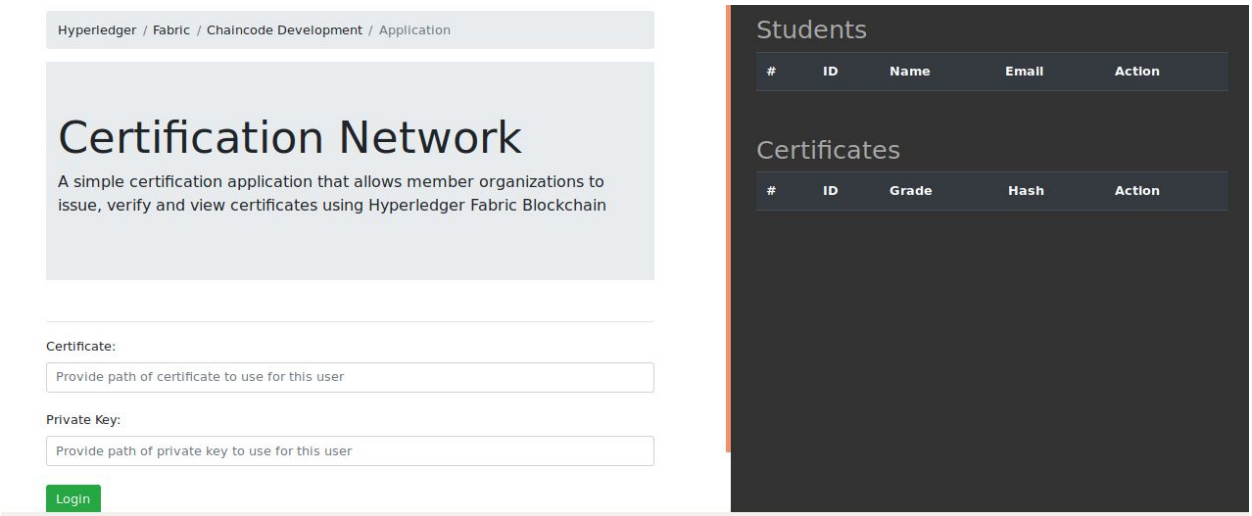
This command will run the index.js file, which is present inside the application directory. You need not provide the name of the file because the entry file for this application has already been mentioned as index.js in the package.json file provided to you. Hence, you can run this file by simply using the ‘node .’ command.

Now, you need to open the front-end interface. For this, you need to go to the following location inside your file explorer:

workspace/certification-network/application/client

Open the *index.html* file present at this location by double-clicking on it.

This is how the front-end interface will look:



Now you need to enter the path for the certificate and the private key in the input field.
The value that needs to be entered in the first input field is:

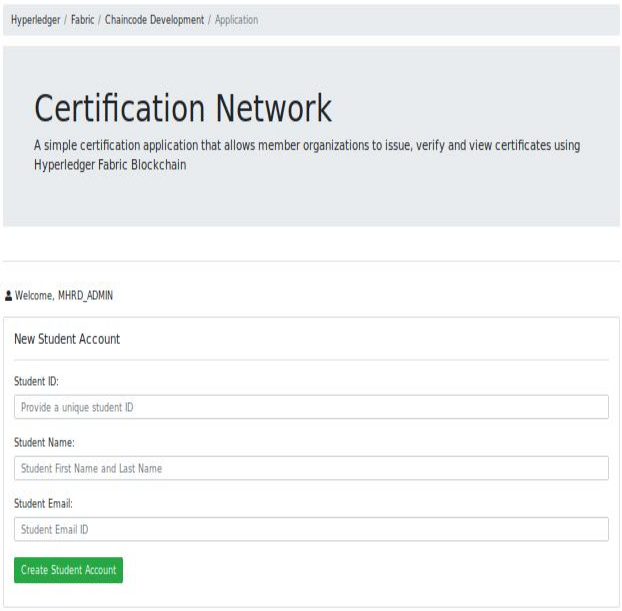
```
/home/upgrad/workspace/certification-network/network/crypto-config/peerOrganizations/mhrd.certification-network.com/users/Admin@mhrd.certification-network.com/msp/signcerts/Admin@mhrd.certification-network.com-cert.pem
```

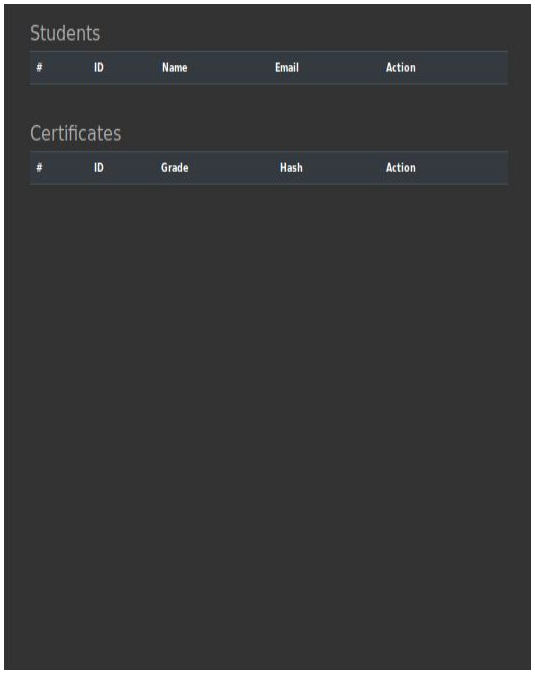
The value that needs to be entered in the second input field is:

```
/home/upgrad/workspace/certification-network/network/crypto-config/peerOrganizations/mhrd.certification-network.com/users/Admin@mhrd.certification-network.com/msp/keystore/<nameOfTheFileAtThisLocation>
```

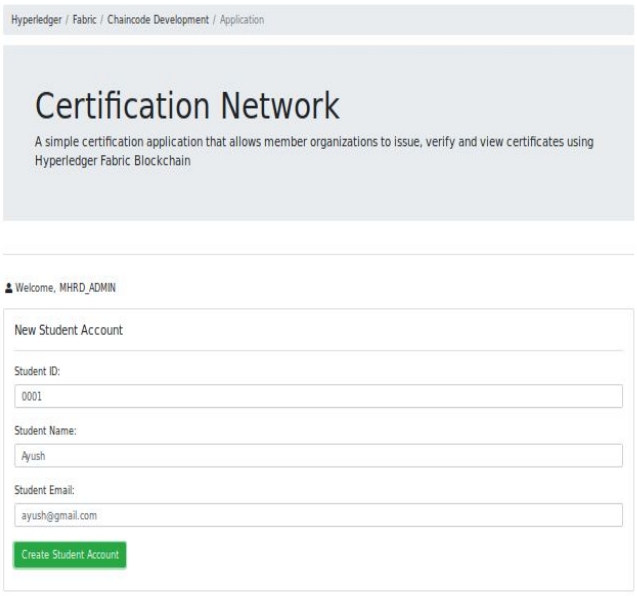
The last parameter, that is, the name of the file will be different each time you start your network, as this is the private key that gets generated each time you start the Fabric network.

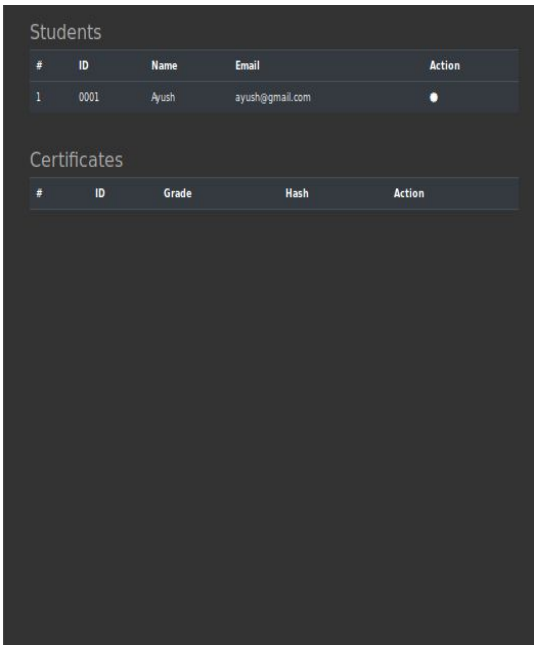
Next, you need to click on the login button. Once you do so, the front-end interface would look something like this:



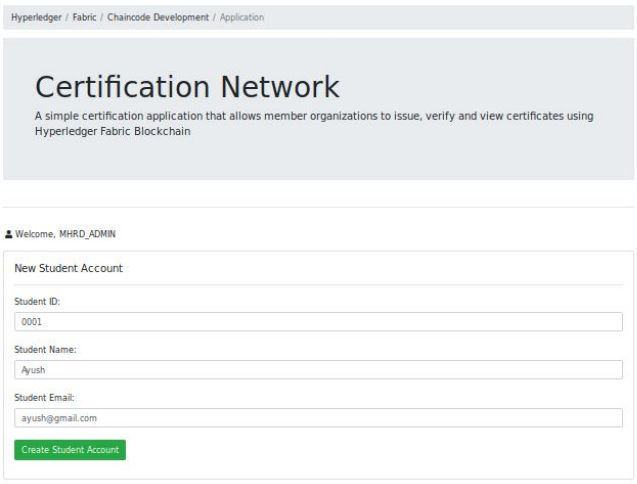


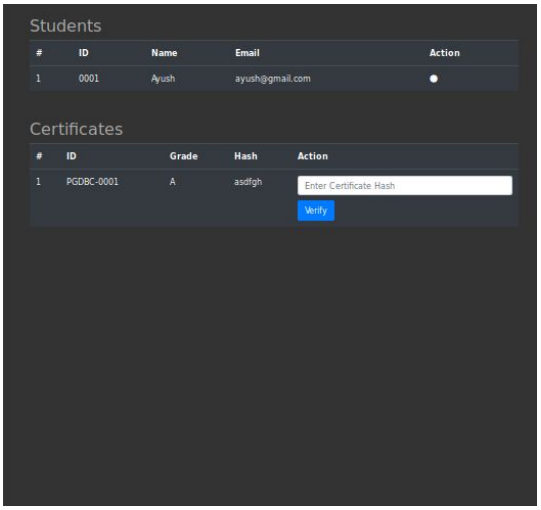
Now you need to provide the details of the student that you want to create. Once you enter the details and click on the Create Student Account button, a new student will be created. You can see it on the right-hand side of the page.





You can issue a certificate to the student by clicking on the icon displayed in the ‘Action’ column. Once you do so, the screen would look something like this:

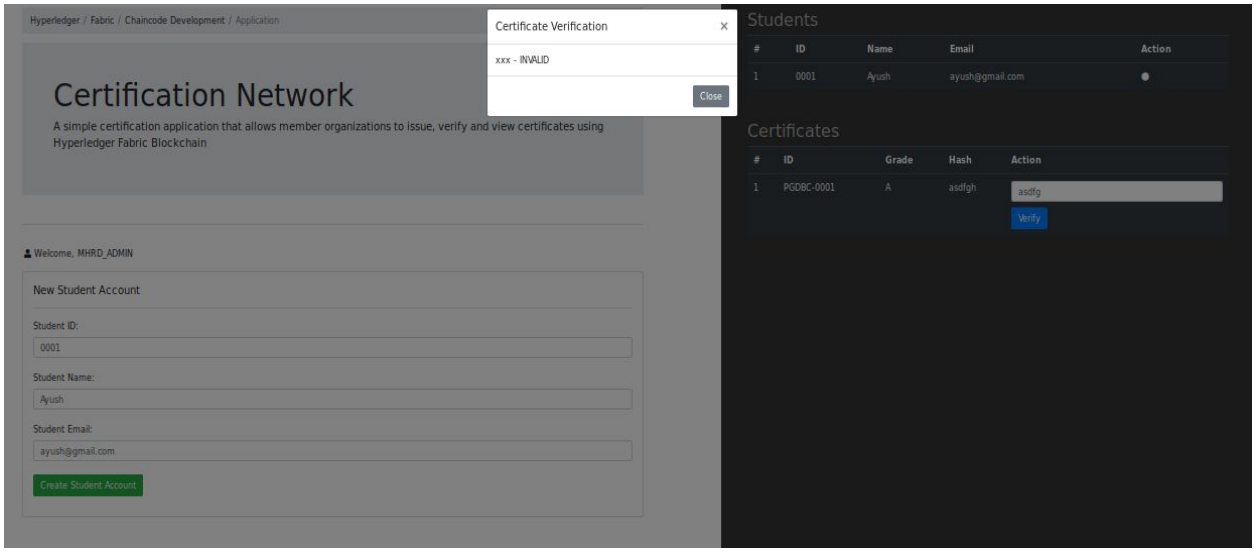




A new certificate has now been issued to the student.

In the input field next to the hash of the certificate, you can enter the hash of the certificate that the student has brought and test whether it matches the hash of the certificate that was issued.

The original hash is ‘asdfgh’. Let’s say the student provides a certificate whose hash is ‘asdfg’. When you enter this hash in the input field and click on Verify, your screen would look something like this:



An alert appears saying that the certificate is invalid, meaning it has been altered.

Now, let’s see what happens when you enter the correct hash, that is, ‘asdfgh’. When you click on the Verify button, your screen would look something like this: