MyContext Blockchain

To run this project, you need to have one of the following OS

- Ubuntu
- MacOS

Prerequisites (Environment for ubuntu)

- Operating Systems: Ubuntu Linux 14.04 / 16.04 LTS (both 64-bit), or Mac OS 10.12
- Docker Engine: Version 17.03 or higher
- Docker-Compose: Version 1.8 or higher
- Node: 8.9 or higher (note version 9 is not supported)
- npm: v5.x
- git: 2.9.x or higher
- Python: 2.7.x
- A code editor of your choice, we recommend VSCode.

install the updates

Use "SUDO" if required

```
1. sudo apt-get update
```

install curl if not available

```
1. sudo apt install curl
```

install prerequisites

```
1. chmod u+x prereqs-ubuntu.sh
```

install required tools

```
1. sudo apt-get install apt-transport-https ca-certificates gnupg-agent
   software-properties-common
```

Setup Docker

```
1. sudo apt install apt-transport-https ca-certificates curl software-
   properties-common
2. curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key
   add -
3. sudo add-apt-repository "deb [arch=amd64]
   https://download.docker.com/linux/ubuntu bionic test"
4. sudo apt update
5. sudo apt install docker-ce
```

Check if docker is installed using below command

```
1. docker --version
```

Install docker compose

```
1. sudo curl -L
   "https://github.com/docker/compose/releases/download/1.23.1/docker-
   compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
2. sudo chmod +x /usr/local/bin/docker-compose
```

Check docker compose is installed or not

```
1. docker-compose --version
```

Download node version manager NVM

```
1. curl https://raw.githubusercontent.com/creationix/nvm/master/install.sh
   | sh
2. source ~/.nvm/nvm.sh
```

install node version 8.9.0

```
1. nvm install 8.9.0
```

Install and setup git if you haven't installed it

```
1. sudo apt install git
2. git config --global user.email smeesala@deakin.edu.au
3. git config --global user.name "Sumanth Kumar Meesala"
```

install python and software properties

```
1. sudo apt install python2.7 python-pip
2. sudo apt-get install -y software-properties-common
```

Setup hyperledger composer

```
1. sudo npm install -g composer-cli
2. sudo npm install -g composer-rest-server
3. sudo npm install -g generator-hyperledger-composer
4. sudo npm install -g yo
5. sudo npm install -g composer-playground
```

Check composer installed correctly using below code

```
composer -v
```

Setup fabric dev servers

```
cd $HOME
curl -O -k https://hyperledger.github.io/composer/latest/prereqs-ubuntu.sh
mkdir ~/fabric-dev-servers && cd ~/fabric-dev-servers
curl -O https://raw.githubusercontent.com/hyperledger/composer-tools/master/packages/fabric-dev-servers/fabric-dev-servers.tar.gz
tar -xvf fabric-dev-servers.tar.gz
cd ~/fabric-dev-servers
export FABRIC_VERSION=hlfv12
sudo ./downloadFabric.sh
sudo ./startFabric.sh
sudo ./createPeerAdminCard.sh
sudo composer-playground
```

Hyperledger composer should be up and running in http://localhost:8080

Staring the project

Clone mycontext-blockchain project and open it in vscode

Open terminal in vscode (ctrl+`) and use below commands to start project

```
sudo composer archive create -t dir -n .
sudo composer network install --card PeerAdmin@hlfv1 --archiveFile mycontext-blockchain@0.0.2.bna
sudo composer network start --networkName mycontext-blockchain --networkVersion 0.0.2 --networkAdmin admin --networkAdminEnrollSecret adminpw --card PeerAdmin@hlfv1 --file networkadmin.card
sudo composer card import --file networkadmin.card
sudo composer network ping --card admin@mycontext-blockchain
sudo composer-rest-server
```

After starting the project some questions are asked to select below options

```
Enter the name of the business network card to use: admin@mycontext-blockchain
Specify if you want namespaces in the generated REST API: always use namespaces
Specify if you want to use an API key to secure the REST API: No
Specify if you want to enable authentication for the REST API using Passport: No
Specify if you want to enable the explorer test interface: Yes
Specify a key if you want to enable dynamic logging:
Specify if you want to enable event publication over WebSockets: No
Specify if you want to enable TLS security for the REST API: No
```

mycontext-blockchain is up and running in http://localhost:3000/explorer/

MyContext API

- Install NodeJS,
- Navigate to mycontext-api folder
- Change mongo credentials in app.js
- Whitelist the URL's if required
- Update blockchain URL in user.controller.js and record.controller.js
- Run npm install
- Run node app.js

Open browser and hit http://localhost:9000/ URL, if everything go well you will see

'Bring it on! MyContext is running.'

MyContext Web

- Navigate to mycontext-web folder
- Change API URL in components folder
- Run npm start

Runs the app in the development mode. Open http://localhost:3000 to view it in the browser.

MyContext Data Parser

- Install Jupiter Notebook and open cancer-parsing.ipynb
- Change the http://localhost:9000/record/addRecord URL if required
- You will get x-access-token(accessToken) when you login into MyContext Web(In session storage) or you can get the access token from API.
- Replace the new x-access-token with old one.
- Run the program
- It will add data to MongoDB through MyContext API.