Creating an Invoice using Hyperledger

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**Group 1**

**Instructions**

1. Clone the given repository from GitHub

* Start up your system and open the terminal.
* Type the following in the terminal one after the other: ‘git clone <https://github.com/bchinc/blockchain-training-labs.git>’ ‘git clone <https://github.com/hyperledger/fabric-samples>’
* After cloning, you should see a folder **blockchain-training-labs** and **fabric-samples**.

1. Go to your **blockchain-training-labs** folder then click **node**

* Copy the following files inside the **node** folder:
  + Apps.js
  + enrollAdmin.js
  + package.json
  + registerUser.js
  + startFabric.sh

1. Create a folder **invoice** inside the folder **fabric-samples** and copy the files copied from the **node** folder.
2. Go to the **fabcar** folder inside the **fabric-samples** folder and copy the .js files and return to **fabrics-samples** folder to create a folder named **invoice**. After that, open the file **startFabric.sh**.
3. In the file, search for the keyword **fabcar** and replace it with **invoice** then, change the version of chaincode from **v1.1-1** into **v3.5**.
4. Go to the **go** folder in **blockchain-training-labs** folder and copy **invoice.go** to **go** folder inside **fabric-samples**.
5. After copying the files needed, open a new terminal and change the directory to **fabric-samples/invoice** and type **./startFabric.sh.** Doing this will create the peers needed for the network.
6. After creating the peers for the network, type in the terminal **docker exec –it cli bash** to put the peers in the network.
7. Once the peers are connected in the network, copy and paste the following commands in the terminal:

* peer chaincode install -n invoice -v 3.5 -l "golang" -p "github.com/invoice/go
* peer chaincode upgrade -n invoice -v 3.5 -o orderer.example.com:7050 -C mychannel -l "golang" -p "github.com/invoice/go" -c '{"Args":[""]}' -P "OR ('Org1MSP.member','Org2MSP.member')"

After pasting and executing the commands, exit.

1. type in npm install to install the latest dependencies.
2. After that, type the following commands in order:
   * node enrollAdmin.js
   * node registerUser.js
   * node app.js

#### To see if it is working well, type <http://localhost:3000/> in any web browser.

1. Download **Postman** for Ubuntu.
2. To raise invoice, follow these instructions:

* Select POST as the http request
* Select Form URL encoded
* The parameters are: **Invoiceid, invoicenum, billedto, invoicedate, invoiceamount, itemdescriptiongrispaid, paidamount, repaid, repaymentamount**

gr = N

ispaid = N

paidamount = 0

repaid = N

repaymentamount = 0

1. For goods received, follow these instructions:

* Go to **http://localhost:3000/invoice**
* Use the PUT http request
* Select Form URL Encoded
* The parameters are: **Invoiceid**, **gr**

The value inputted in **gr** will be received in localhost:3000

1. For bank payment to supplier:

* Go to http://localhost:3000/invoice
* Use the PUT http request
* Select Form URL Encoded
* The parameters are: **Invoiceid**, **ispaid**

The value of **ispaid** will be changed from **N** to **Y**. **ispaid** checks the product if it is paid.

1. For OEM Repays to Bank:

* Go to http://localhost:3000/invoice
* Use the PUT http request
* Select Form URL Encoded
* Parameters **Invoiceid, repaid**

The value of **repaid** will be changed from **N** to **Y**. **repaid** checks the product if it is **repaid**.