Mark John R. Frias

Laptop Specification	
Manufacturer	Acer
Unit	Aspire 3 - A315-41-R287
OS	Ubuntu 18.04.1 LTS
OS Type	64 bit
CPU	AMD Ryzen 3 2200U
Ram	8 Gb
Kernel	Linux 4.15.0-43-generic (x86_64)

Installation:

First we need to install all of the dependencies for hyperledger.
Open terminal then paste this:

```
curl -o https://hyperledger.github.io/composer/latest/prereqs-ubuntu.sh
chmod u+x prereqs-ubuntu.sh
./prereqs-ubuntu.sh
```

wait for it to finish installation. Then type this:

```
docker –version
npm –version
git –version
python –version
node –version
```

so you can check the version of your development environment.

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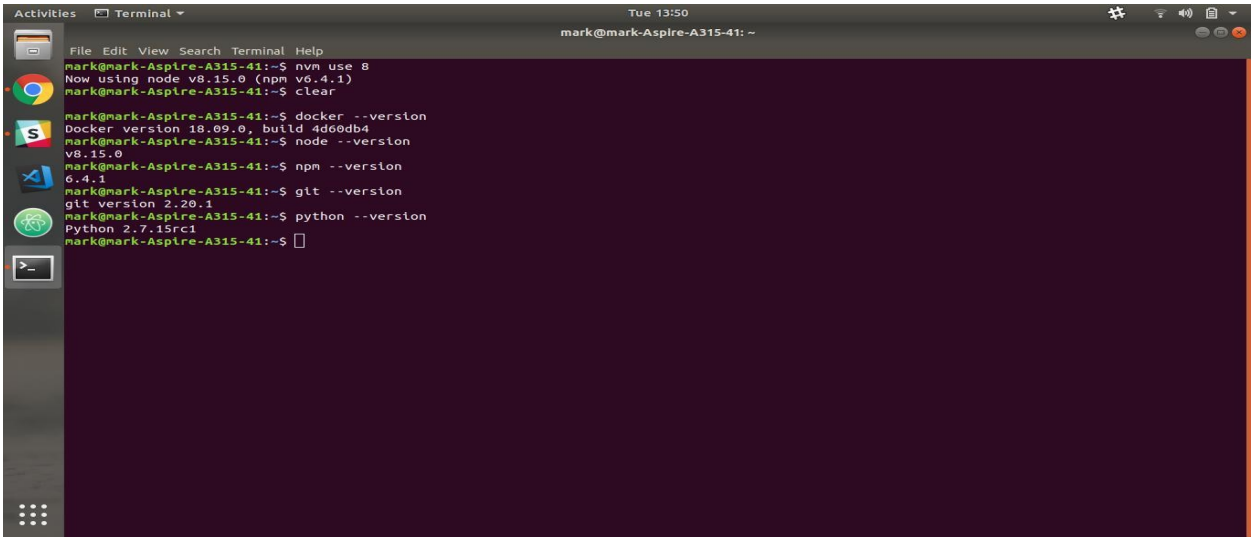
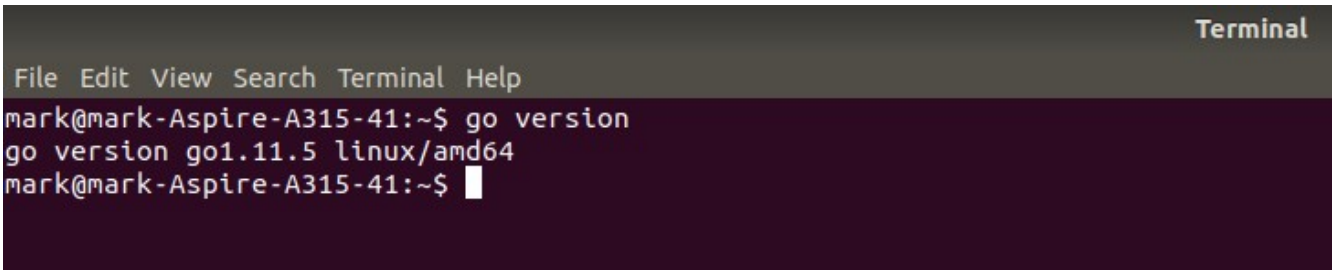


after that, install Go language by pasting this to your terminal:

```
wget https://storage.googleapis.com/golang/go1.9.2.linux-amd64.tar.gz && \
sudo tar -C /usr/local -xzf go1.9.2.linux-amd64.tar.gz && \
rm go1.9.2.linux-amd64.tar.gz && \
echo 'export PATH=$PATH:/usr/local/go/bin' | sudo tee -a /etc/profile && \
echo 'export GOPATH=$HOME/go' | tee -a $HOME/.bashrc && \
echo 'export PATH=$PATH:$GOROOT/bin:$GOPATH/bin' | tee -a $HOME/.bashrc && \
mkdir -p $HOME/go/{src,pkg,bin}
```

wait for it to finish then type go –version.



Then install vscode. Just paste this to your terminal:

```
sudo snap install vscode --classic
```

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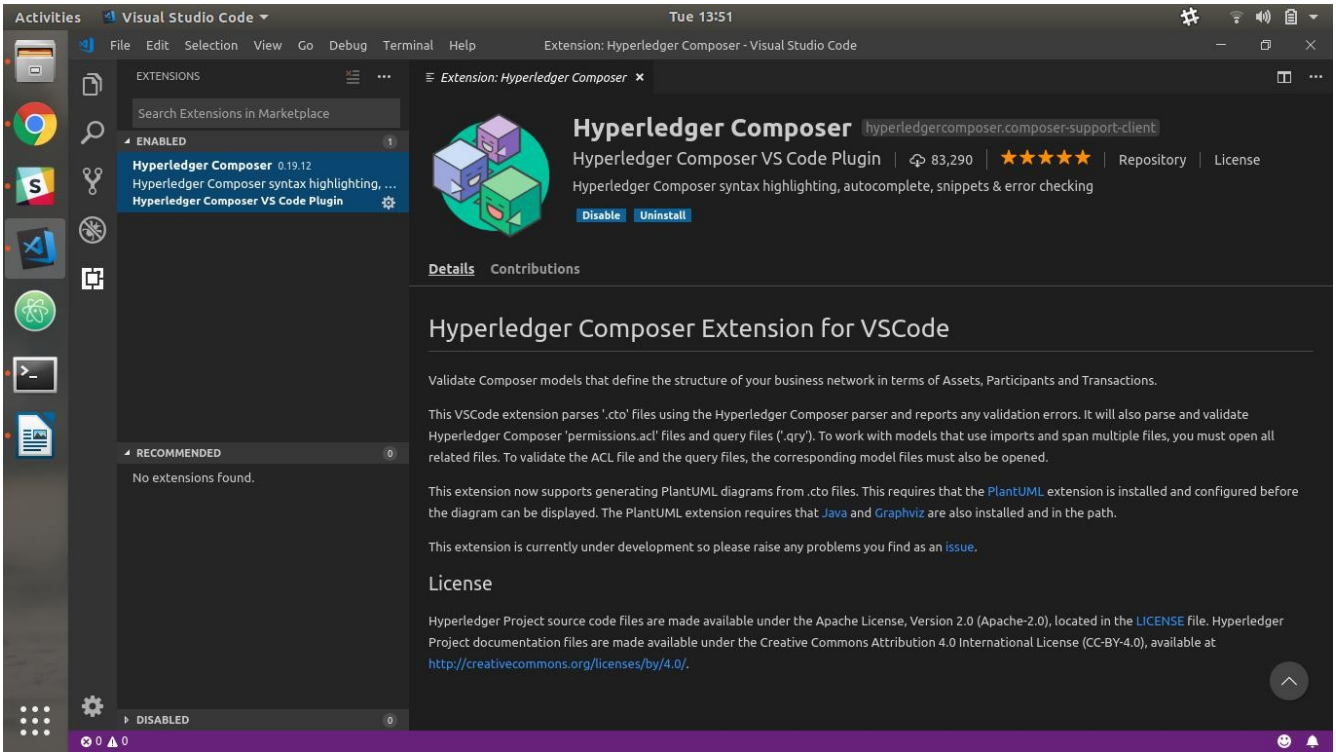
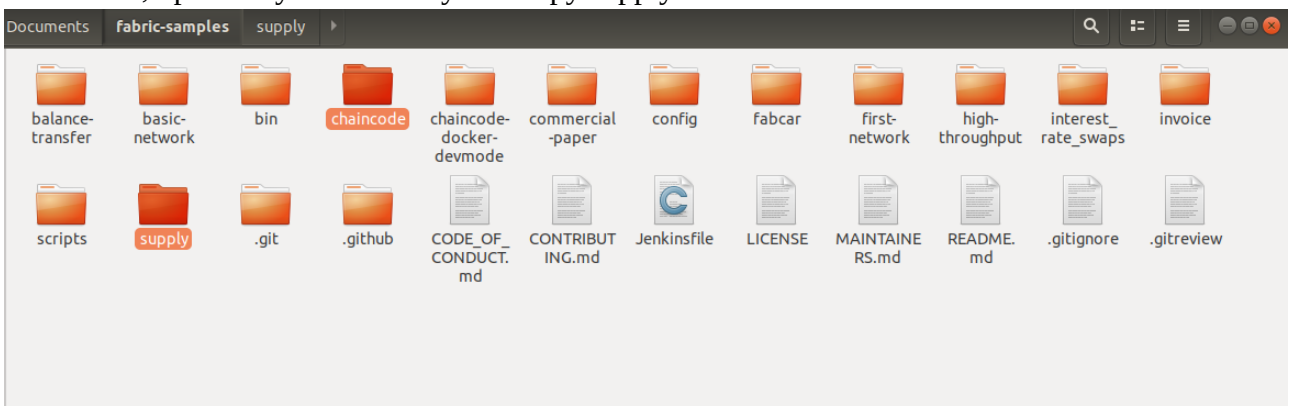
after installing open vscode then go to view => extension => on search bar type hyperledger composer then install it. You should see this:



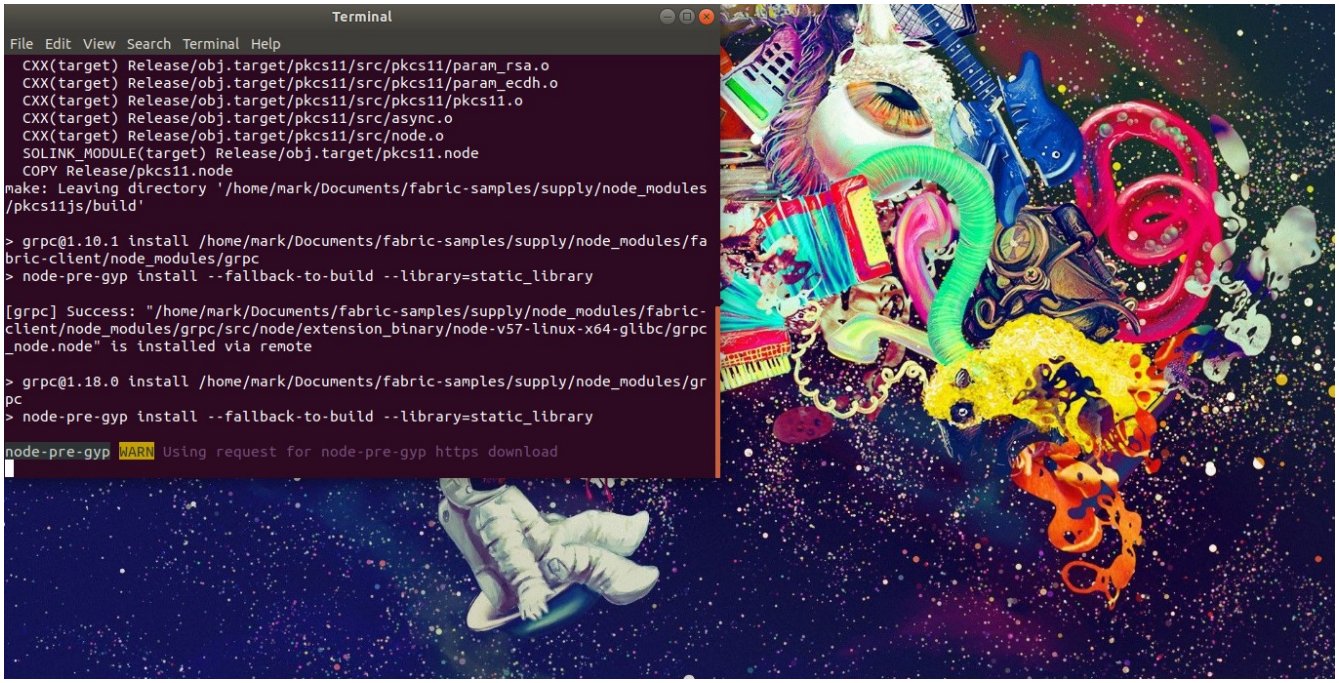
Hyperledger Activity:

Mandatory:

1. First, if you have existing blockchain-training-labs folder in your directory. You should rename it so you wont have any problems when you clone another blockchain-training-labs in git hub.
2. Type in your terminal: git clone https://github.com/khrandm/blockchain-training-labs
3. Then, open the your directory and copy supply and chaincode folder.

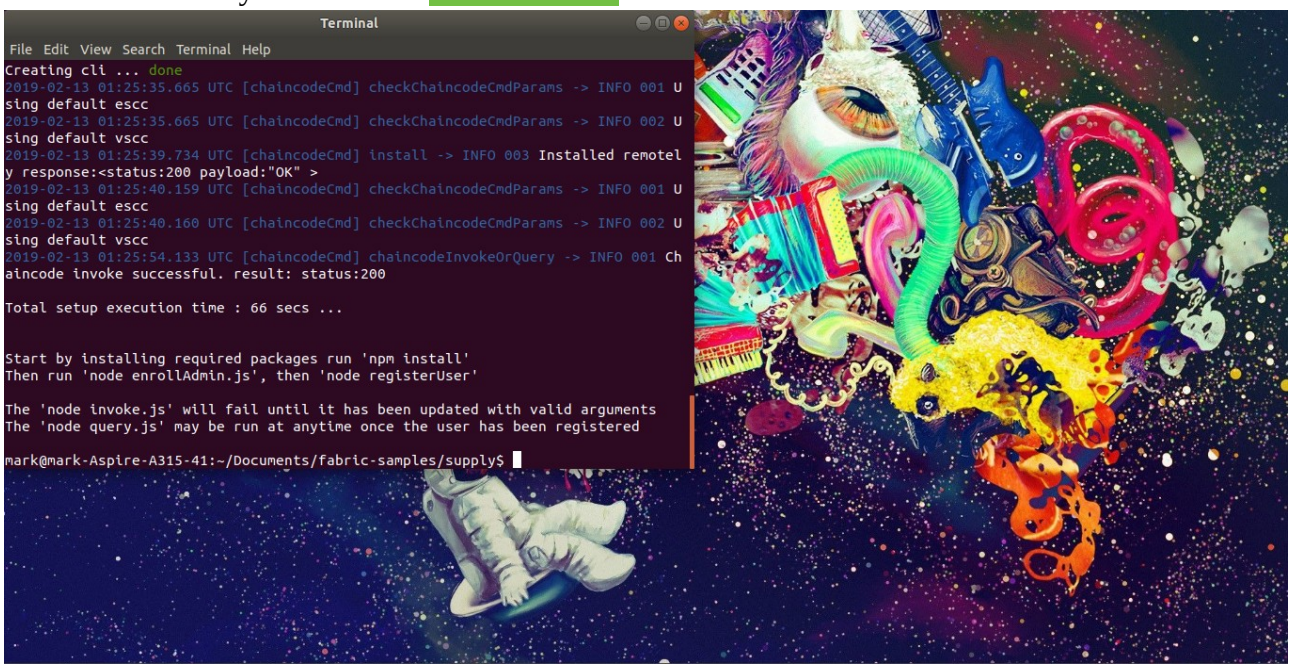


4. Paste it to your fabric samples folder.
5. Open supply folder. Then, right click open terminal and type npm install.



Just ctrl+c if you get stuck here.

6. Paste this to your terminal: ./startFabric.sh



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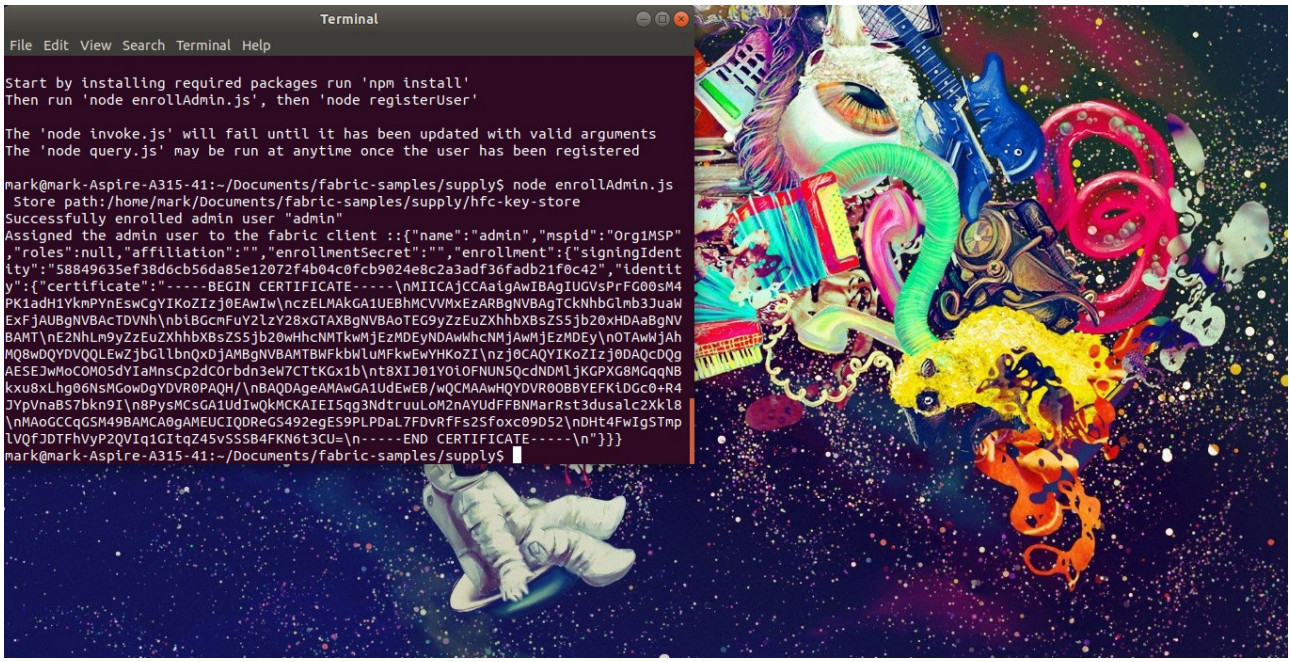
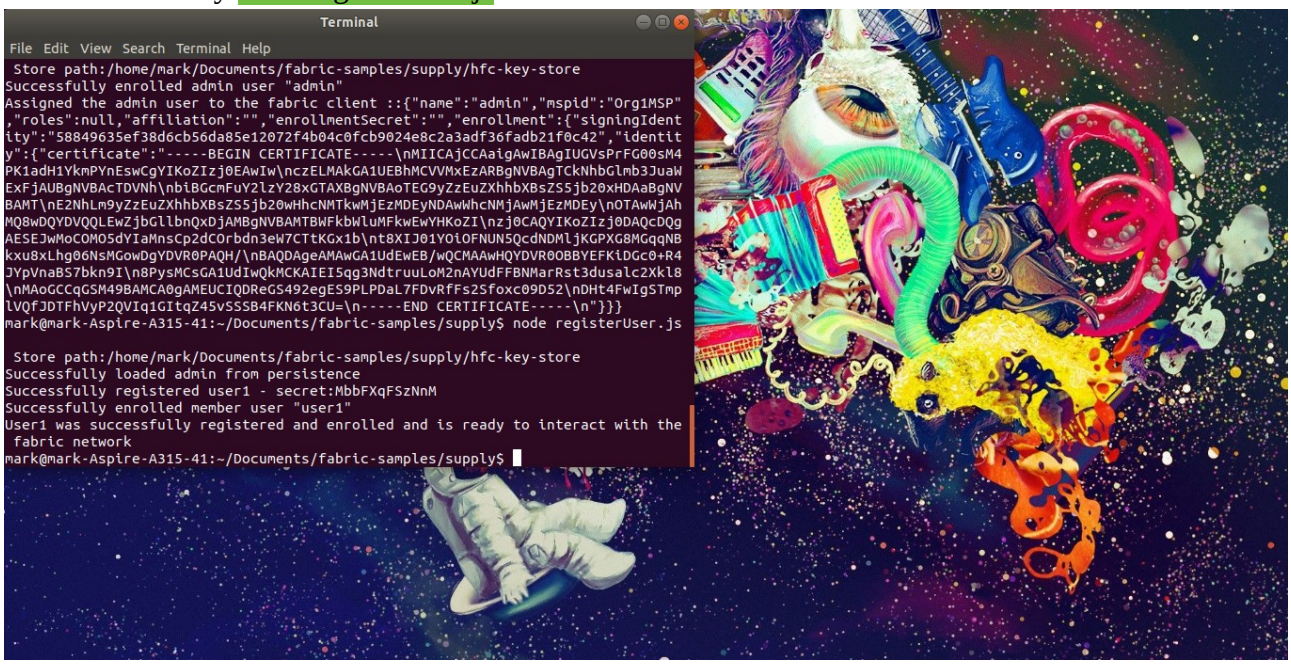
7. then, node enrollUser.js



8. followed by node registerUser.js



9. Last, node app.js

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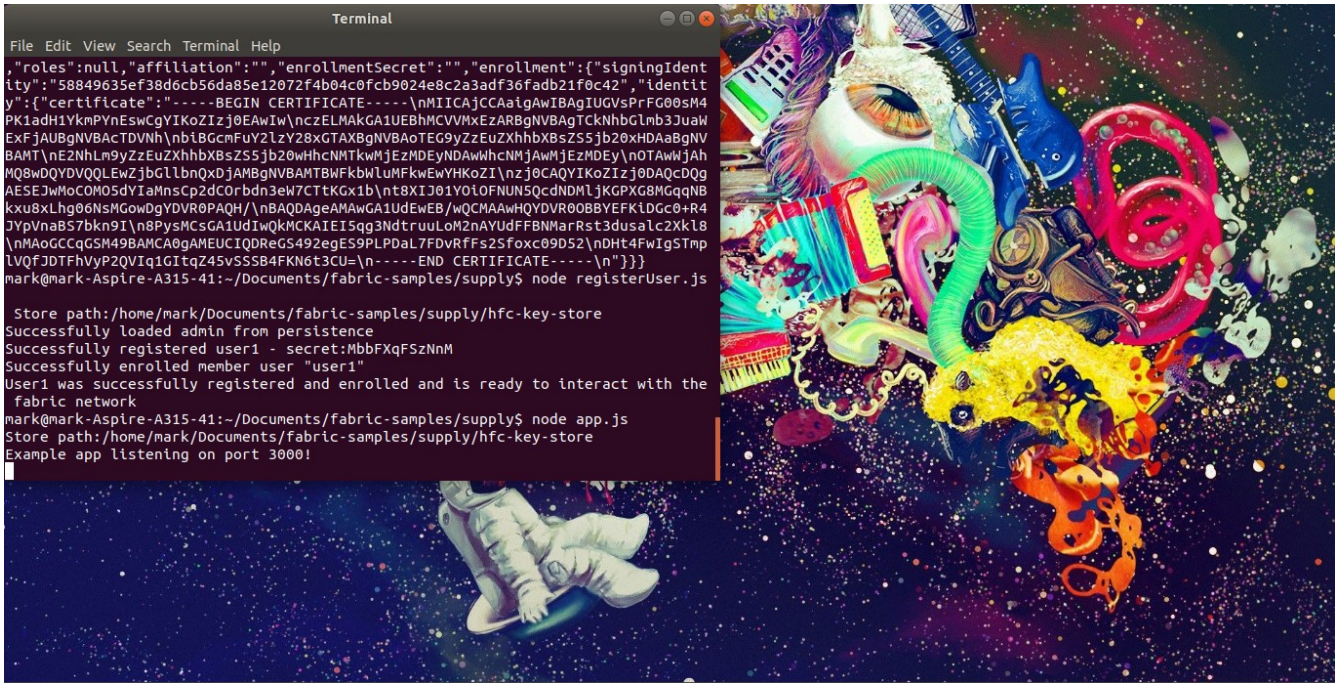
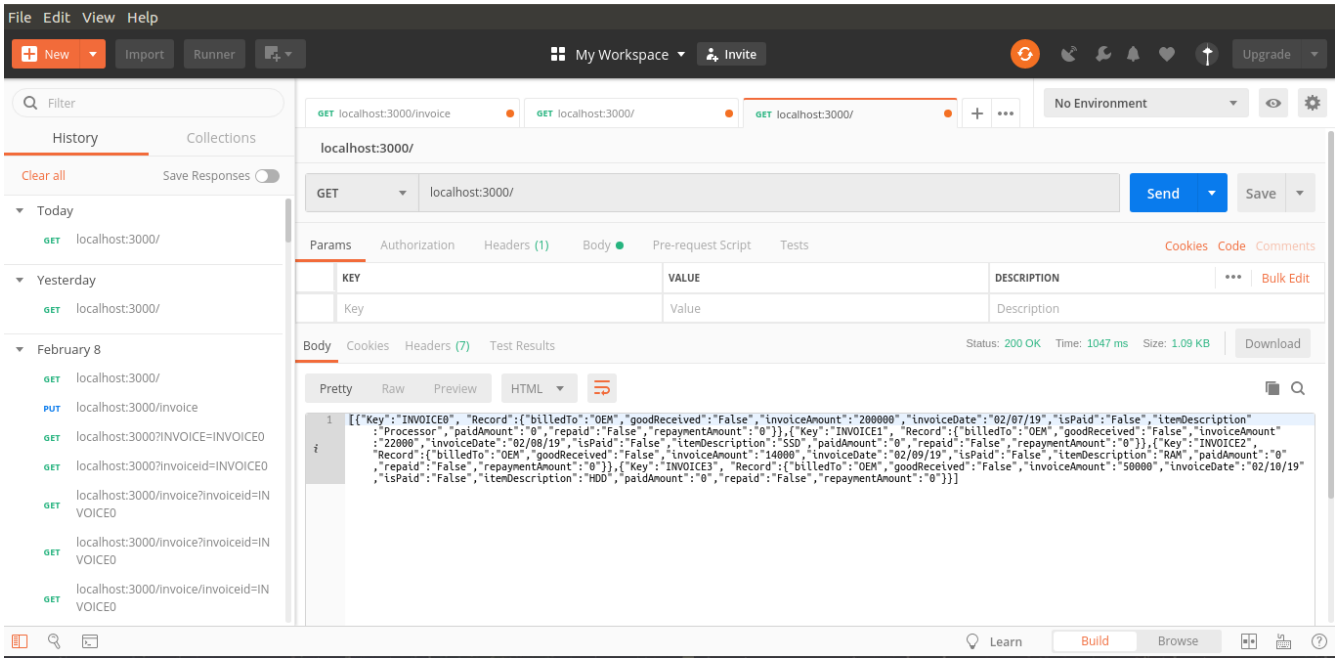


10. Then, open your postman and click send and you should see this:

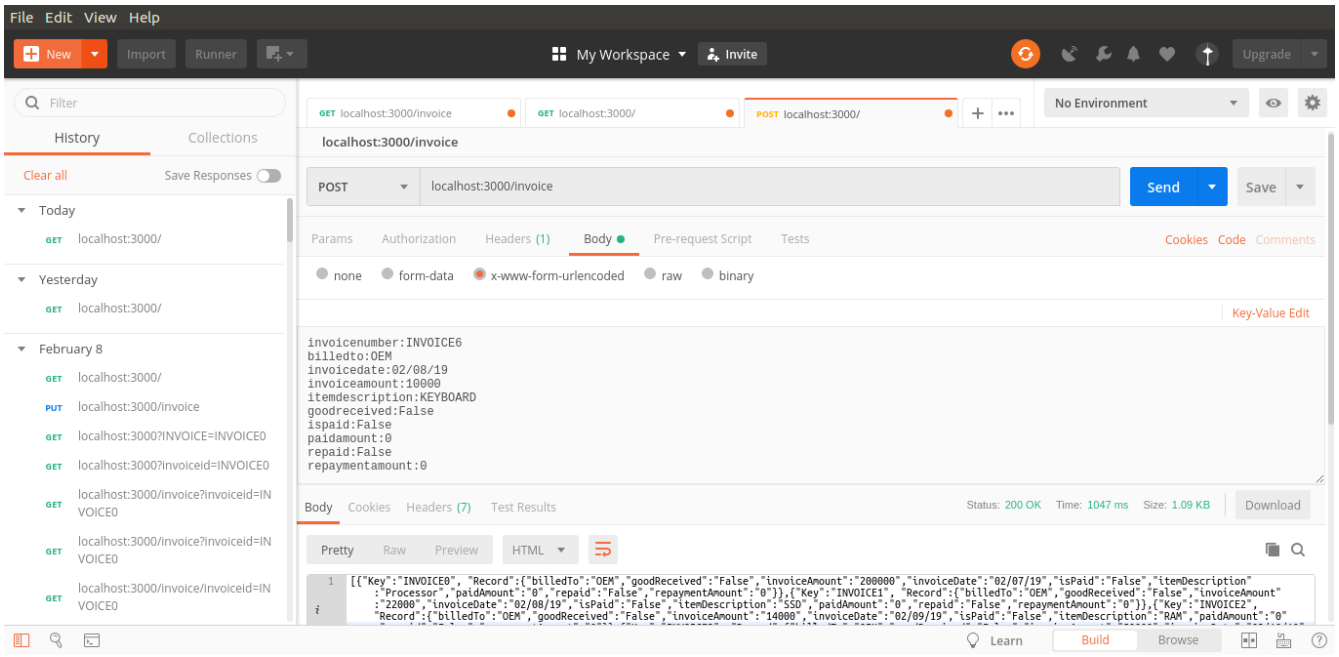


11. Now, we will push data using postman. Change the [1]"GET" to "POST" and then type this in the url bar [2]localhost:3000/invoice.

12. Click on [3]Body and select [4]x-www-form-urlencoded then click [5]Bulk Edit
13. Then, paste this:

    invoicenumber:INVOICE6
    billedto:OEM
    invoicedate:02/08/19
    invoiceamount:10000
    itemdescription:KEYBOARD
    goodreceived:False
    ispaid:False
    paidamount:0
    repaid:False
    repaymentamount:0

it should look like this:



14. Then, click send and it will return success

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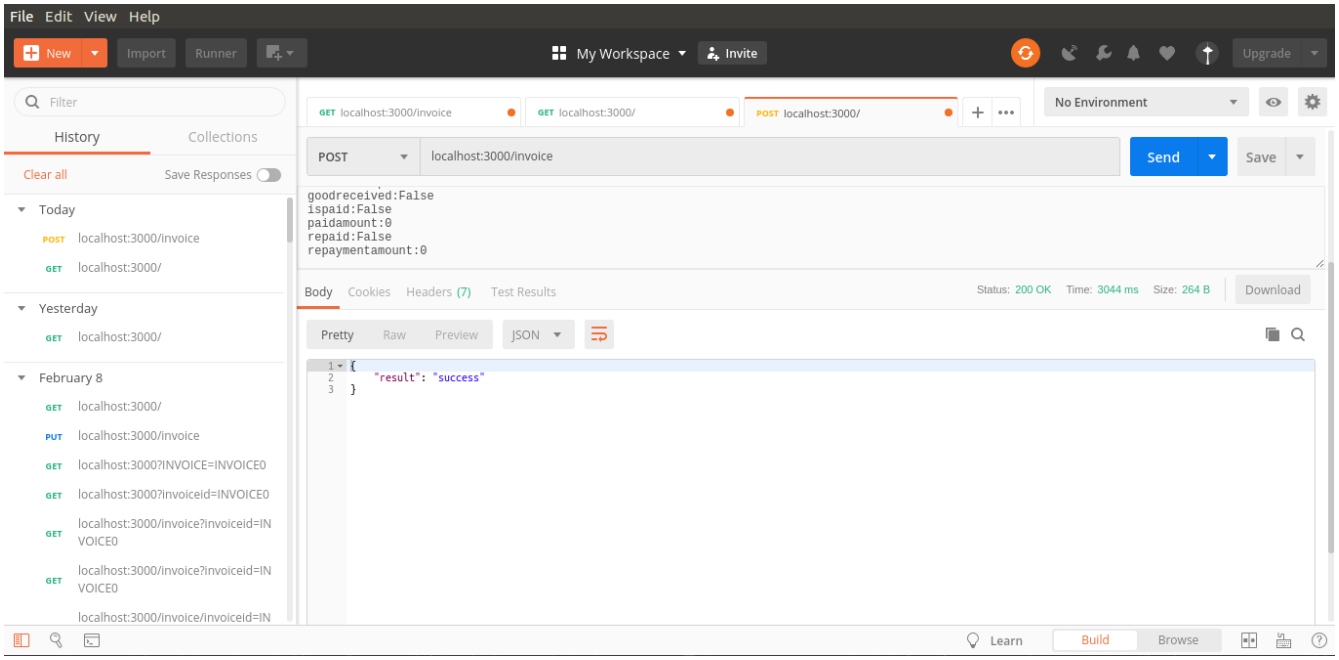
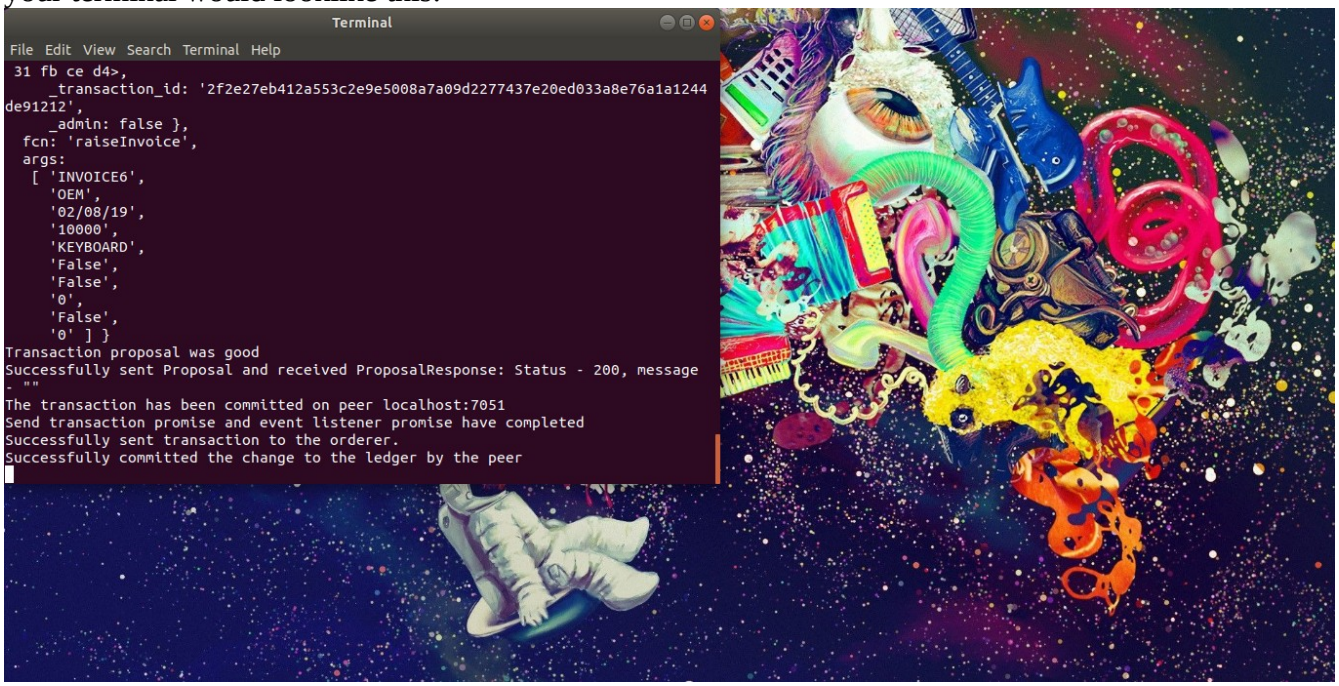


your terminal would looklike this:



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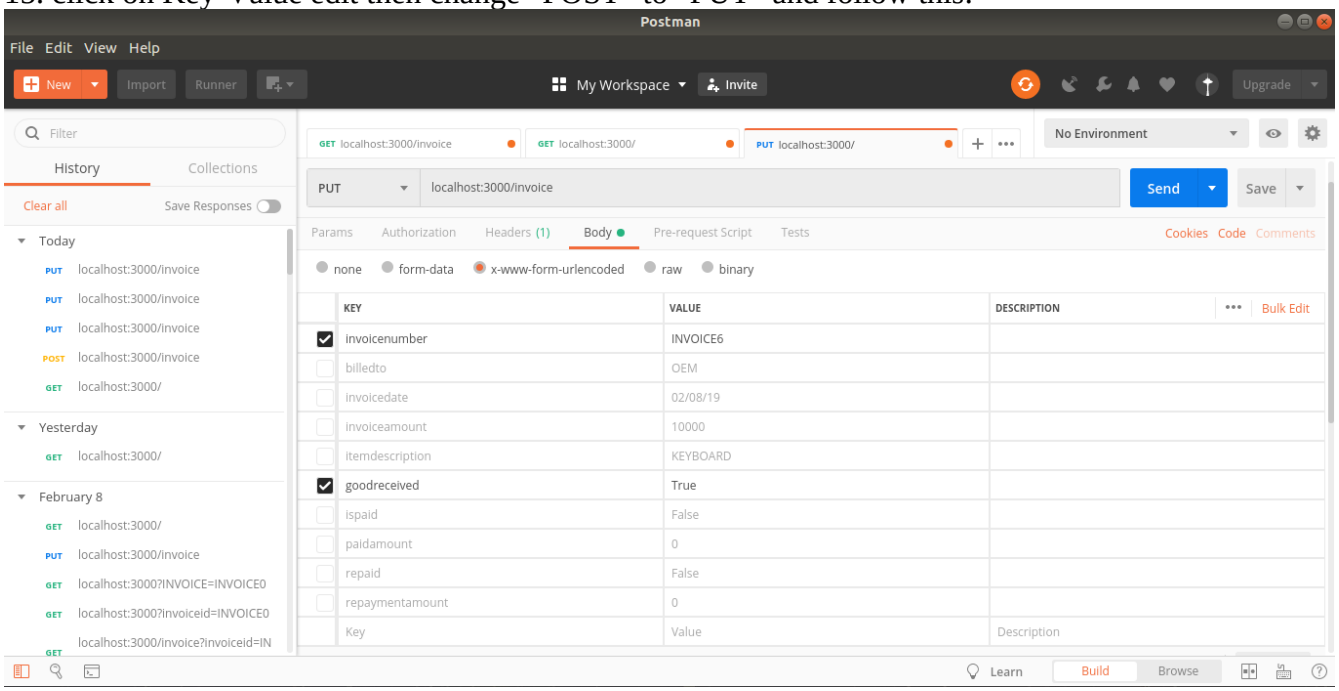
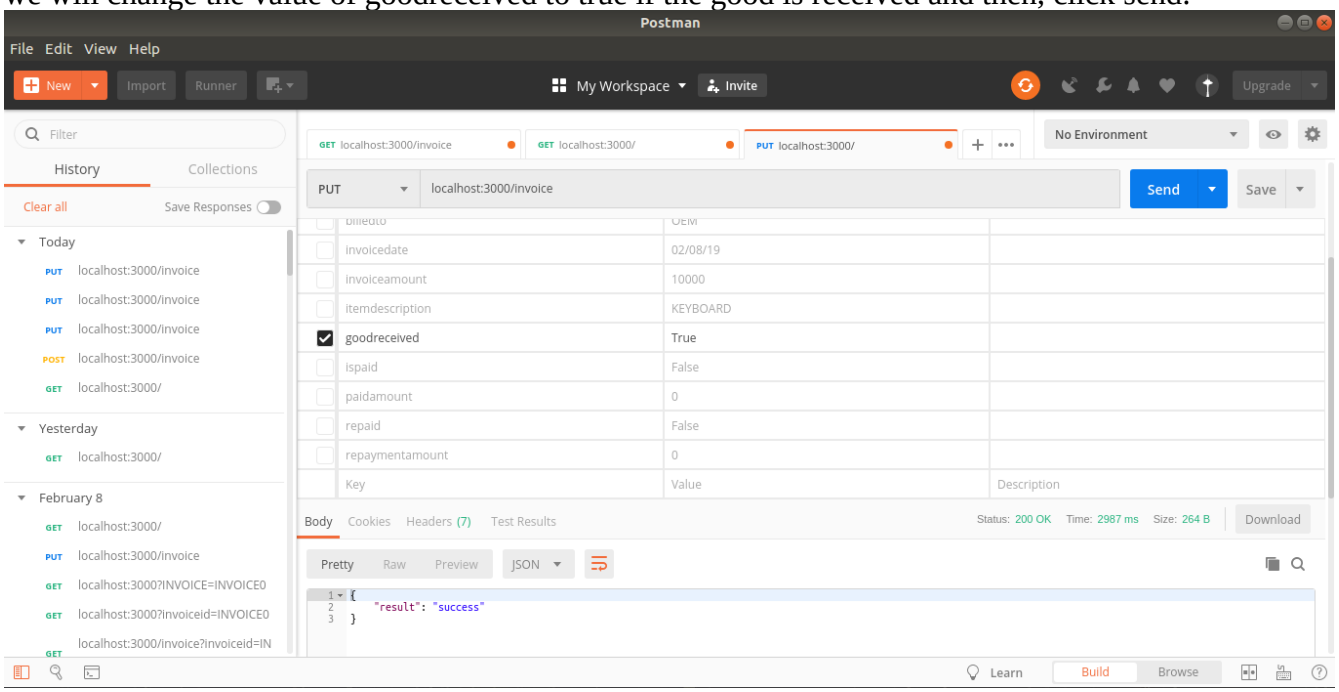
15. click on Key-Value edit then change “POST” to “PUT” and follow this:



we will change the value of goodreceived to true if the good is received and then, click send:



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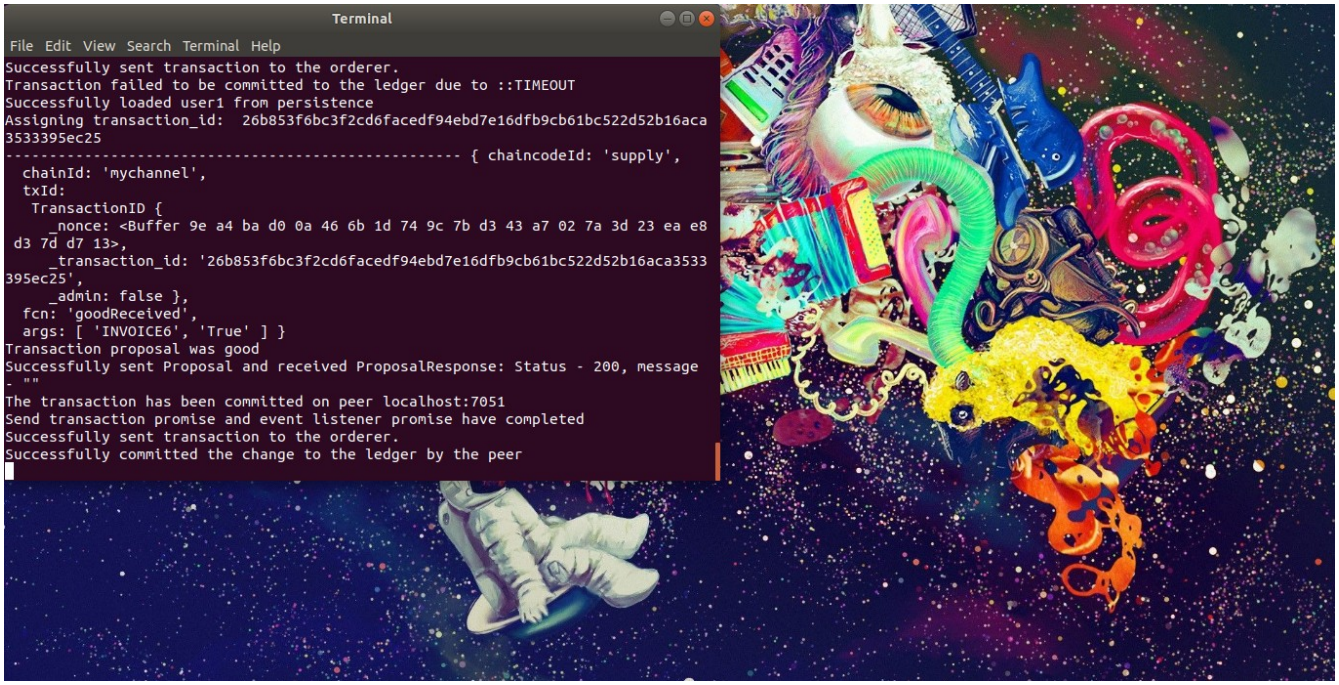
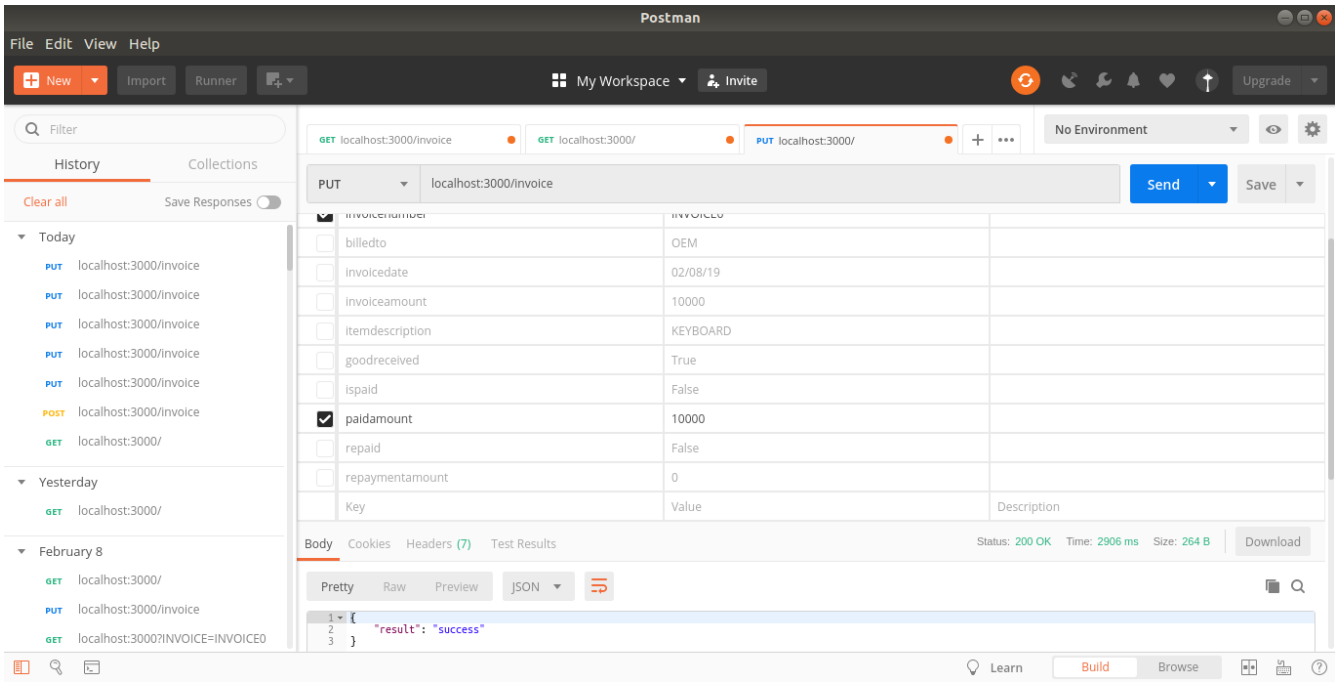


Now, we will paid the good. Uncheck goodreceived and check paidamount and change the value from 0 to 10000 then click send.



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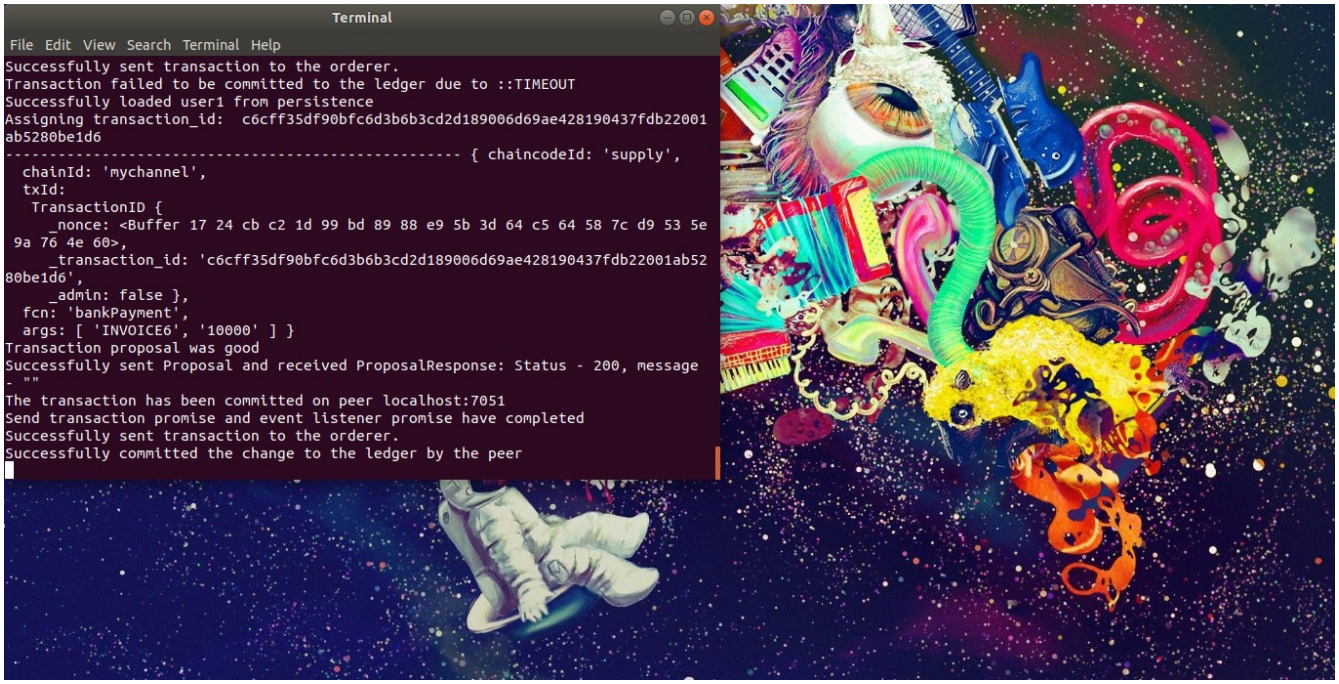
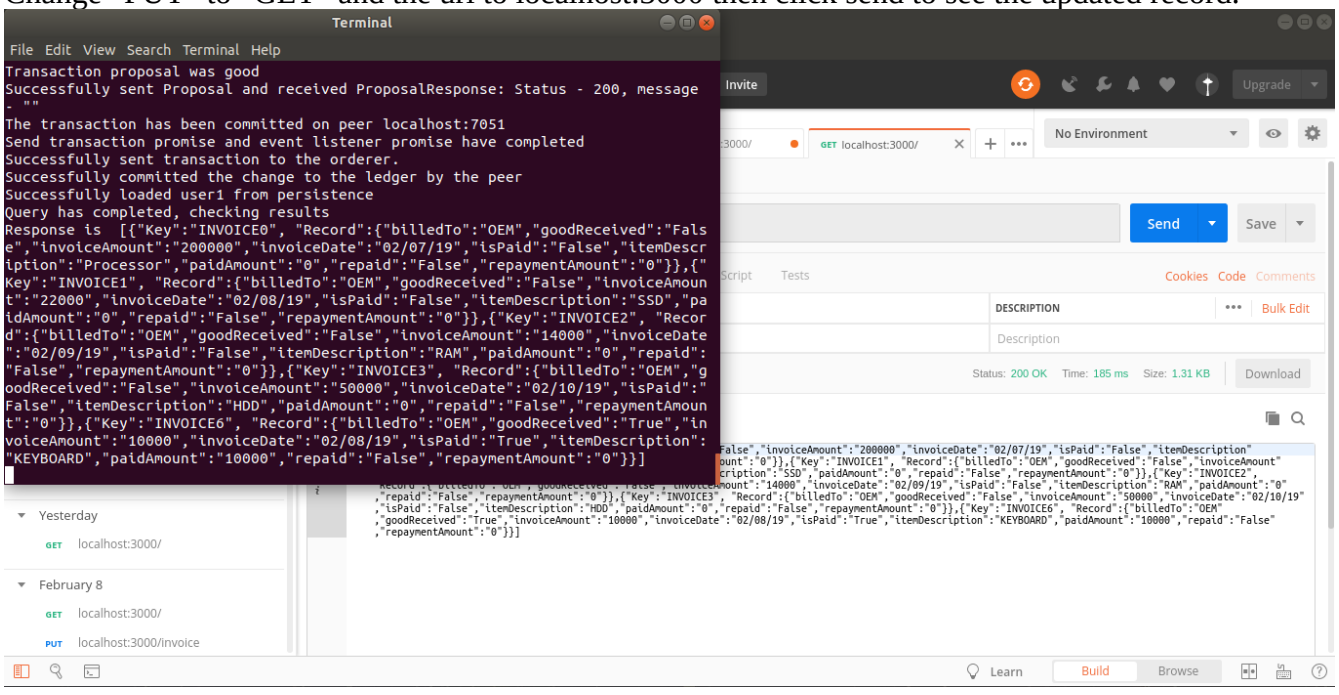


Change “PUT” to “GET” and the url to localhost:3000 then click send to see the updated record.



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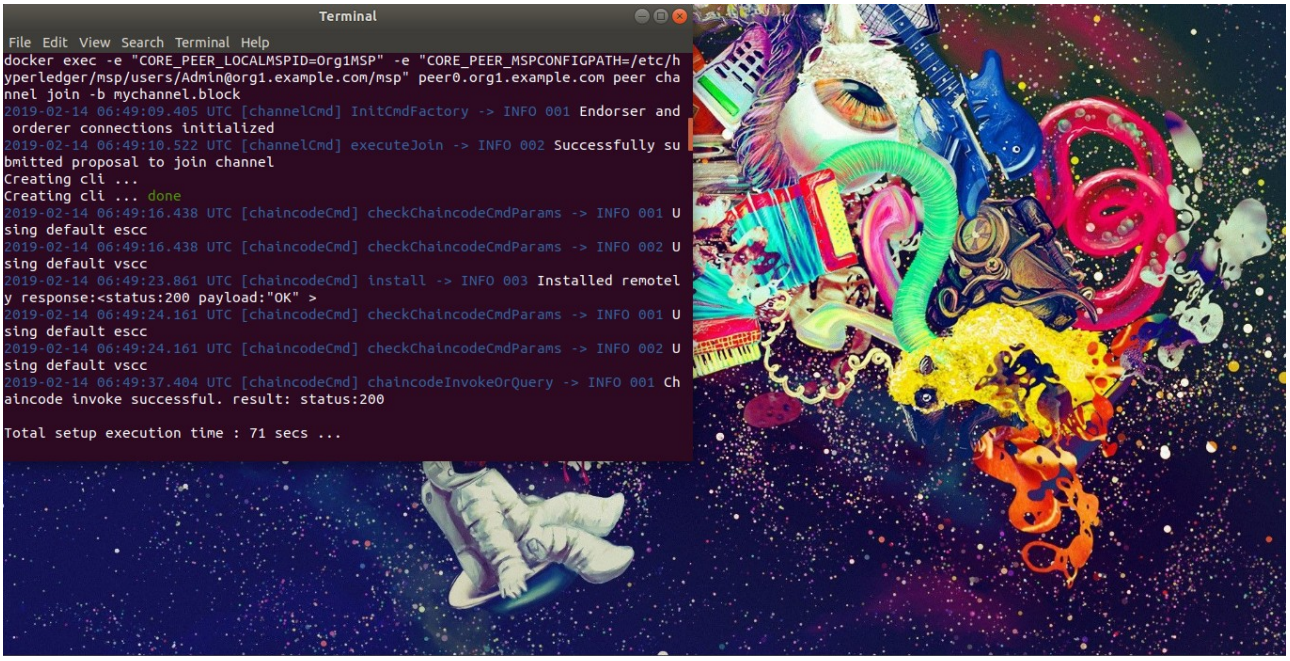
Optional:

1. Open terminal then “git clone https://github.com/khrandm/blockchain-training-labs”
2. Open the folder that you cloned and paste it into your fabric-samples folder.
3. Then download the required library for our chaincode. Type this into your terminal:
   go get github.com/golang/protobuf/proto
   go get github.com/hyperledger/fabric/common/attrmgr
   go get github.com/pkg/errors
   go get github.com/hyperledger/fabric/core/chaincode/lib/cid
4. After downloading the library. Go to home/go/src/github.com/
5. Copy the 3 folder then paste it into your fabric-sample/chaincode.
6. Back to supply folder right click then open terminal and type this:
   ./startFabric.sh
   should look like this:



7. npm install

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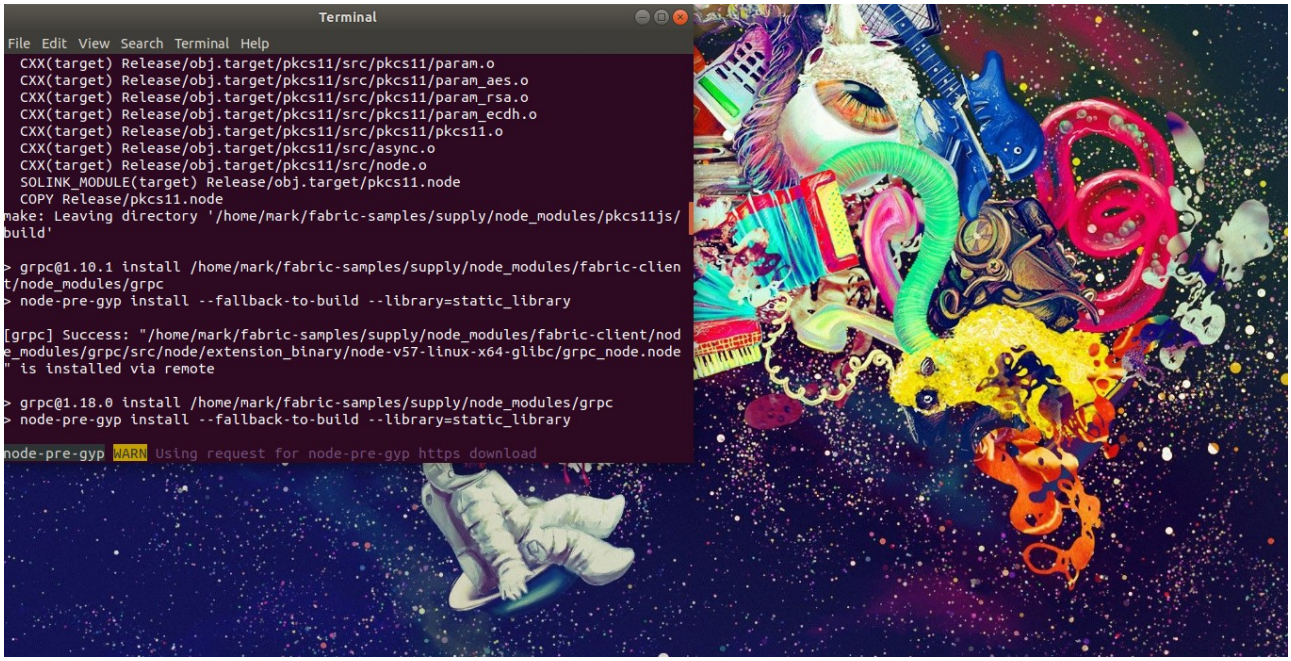

should look like this:
NOTE: if you get stuck just press ctrl+c then you may proceed.

8. Type node enrollAdmin.js

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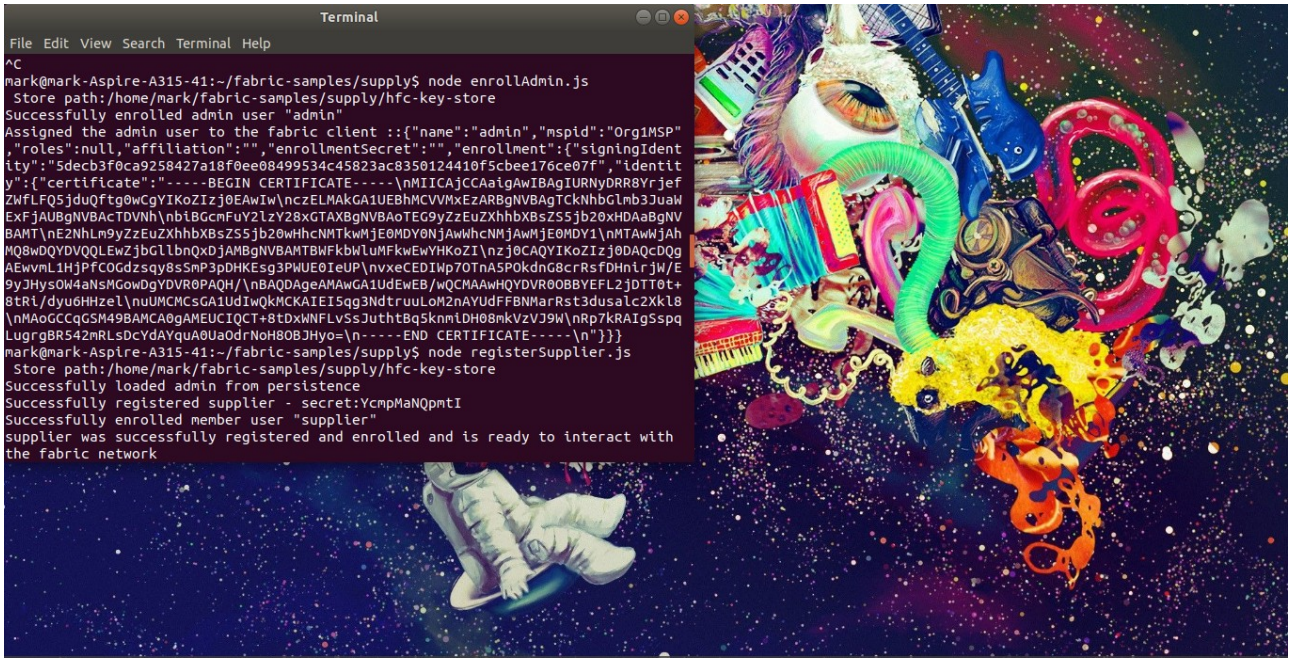
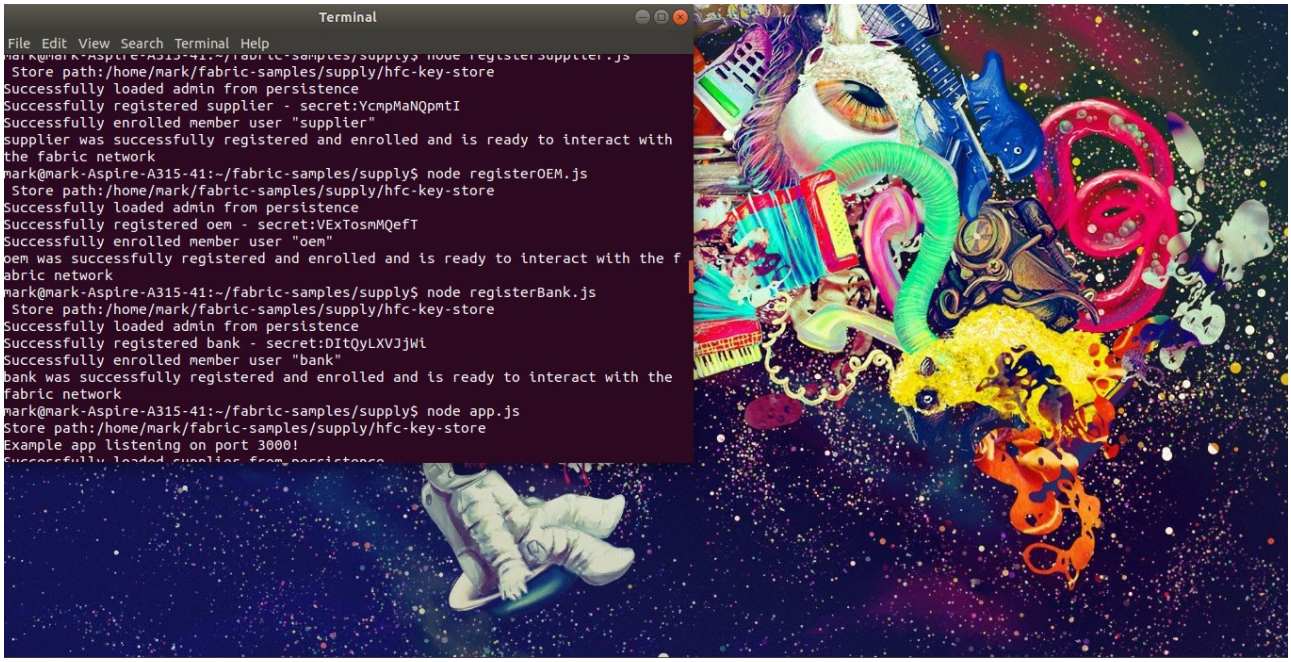


should look like this.

9. node registerSupplier.sh
10. node registerOem.sh
11. node registerBank.sh

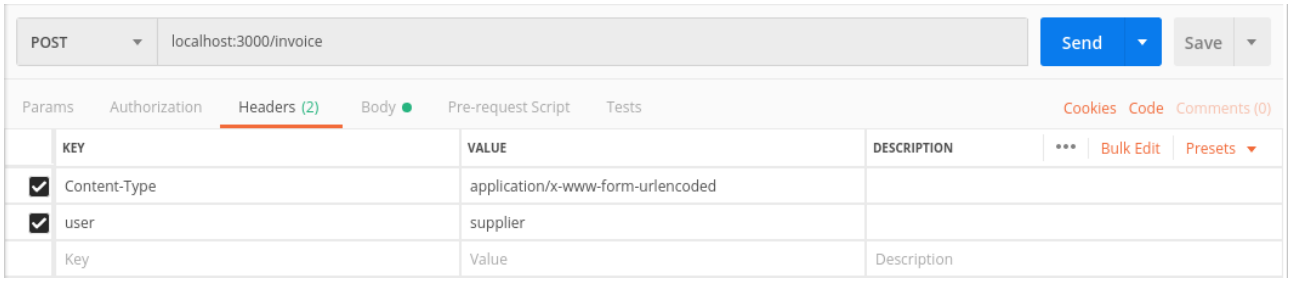


you should see this.

12. node app.js

terminal should ouput this:
Store path:/home/mark/fabric-samples/supply/hfc-key-store
Example app listening on port 3000!

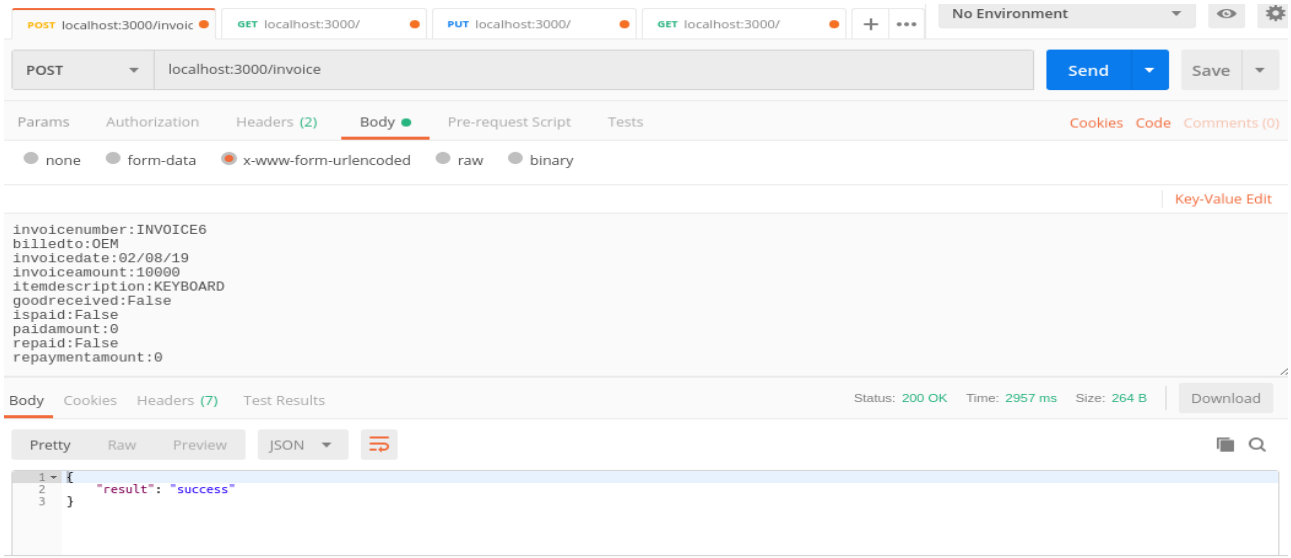
13. we will check if its running. Open postman type in URL bar localhost:3000/invoice click header then add in content-type: user then value is supplier and change “GET” to “POST”



should look like this.

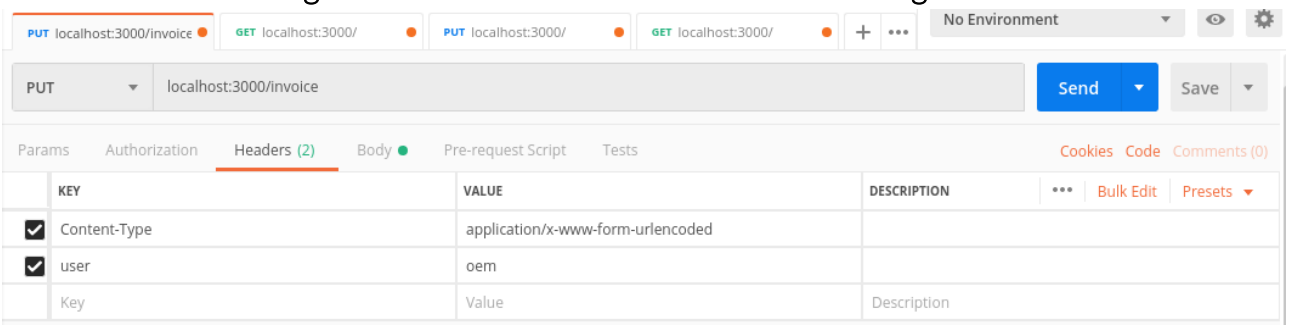
14. Then click on body and click Bulk Edit then paste this:
invoicenumber:INVOICE6
billedto:OEM
invoicedate:02/08/19
invoiceamount:10000
itemdescription:KEYBOARD
goodreceived:False
ispaid:False
paidamount:0
repaid:False
repaymentamount:0

15. click send and wait for the request to finish and it will return success



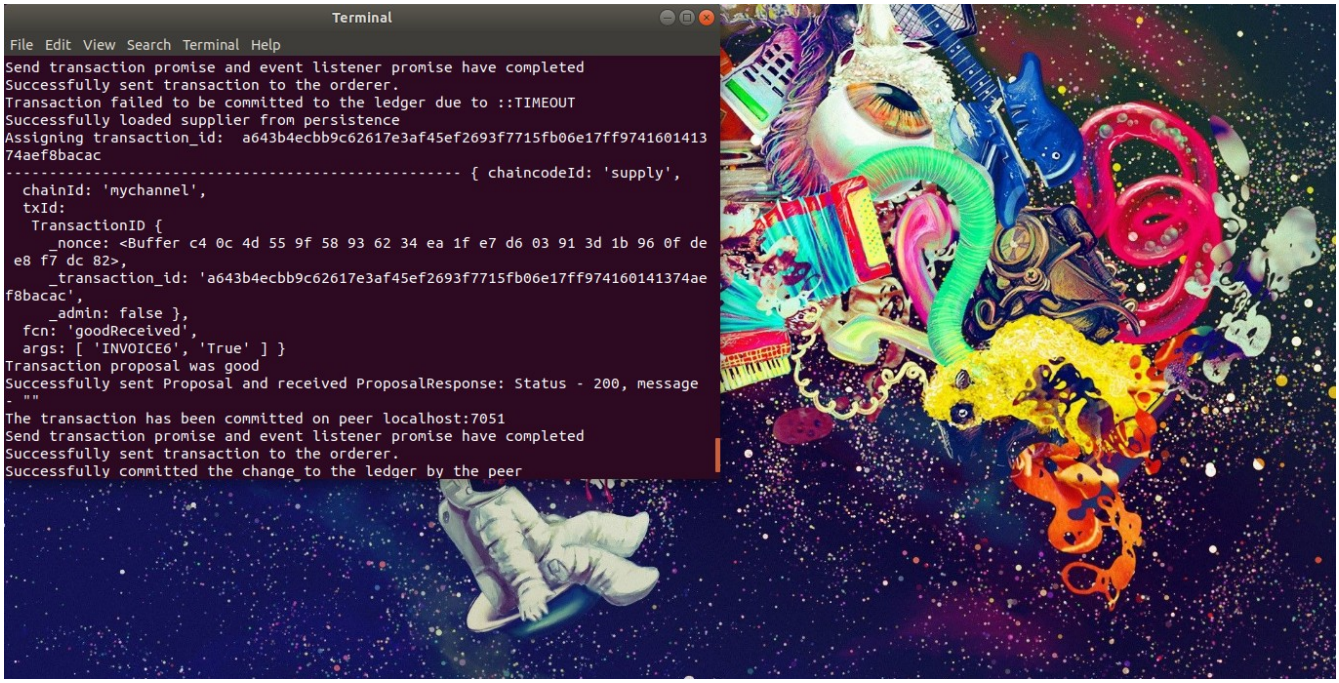
you terminal should look like this:

16. Now we will set goodreceived to true. Click on headers change the value of user to oem



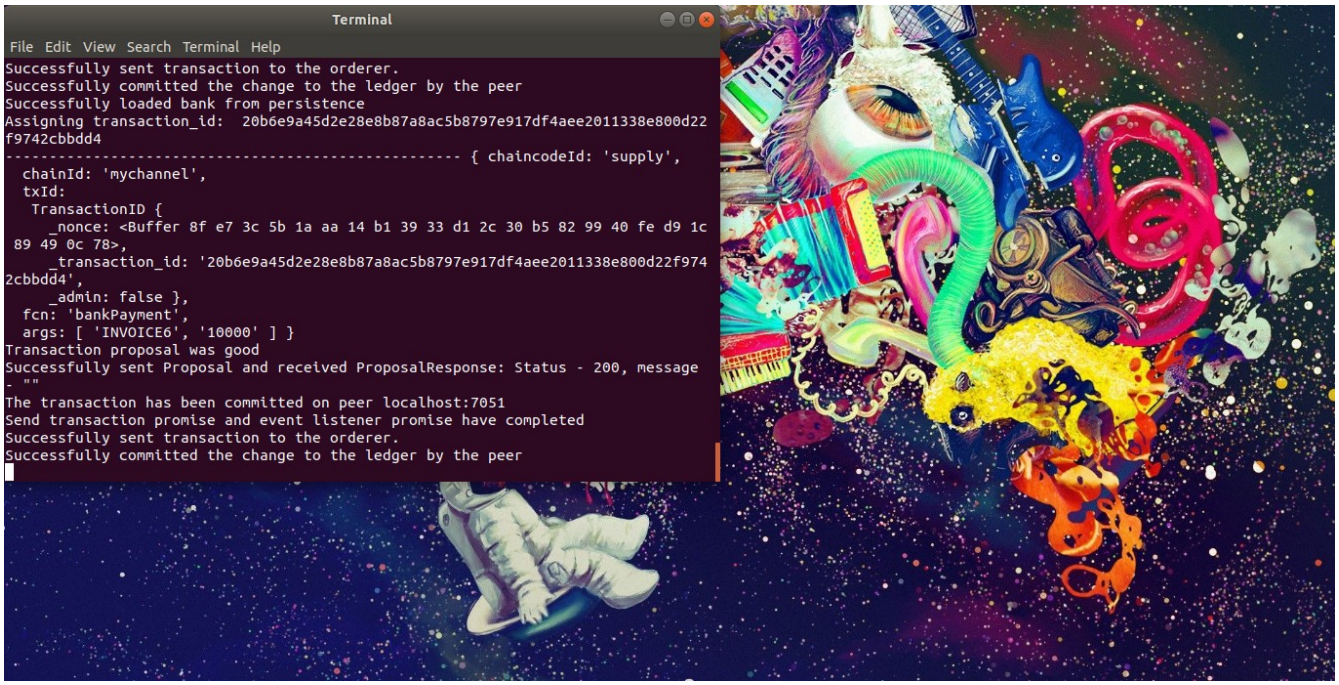
should look like this.

17. Go to body and uncheck all keys except “invoicenumber” and “goodreceived” and change the value of goodreceived to true

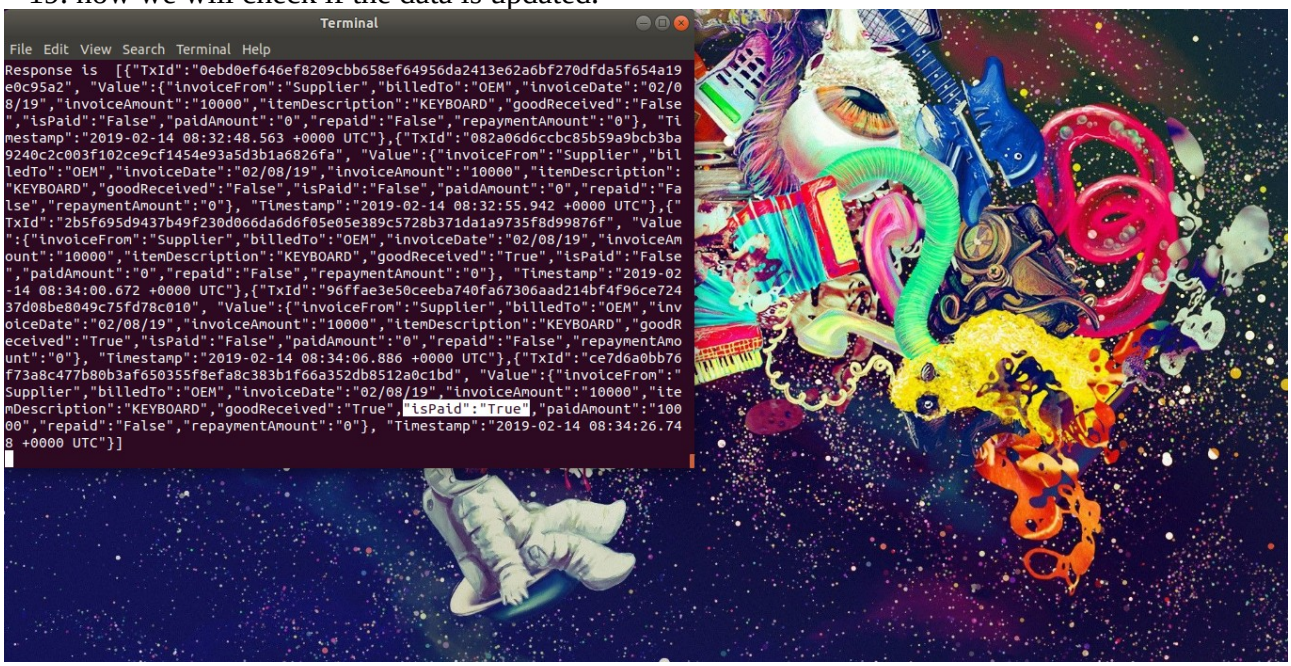


your terminal should look like this

18. now we will pay the supplier. Click on header and change the user value to “bank” and go to body and uncheck all except “invoicenumber” and “paidamount” then change the value of paidamount to “10000” and click send



19. now we will check if the data is updated.



Now you can see the the isPaid key value is updated to “True” when we enter the paidamount.

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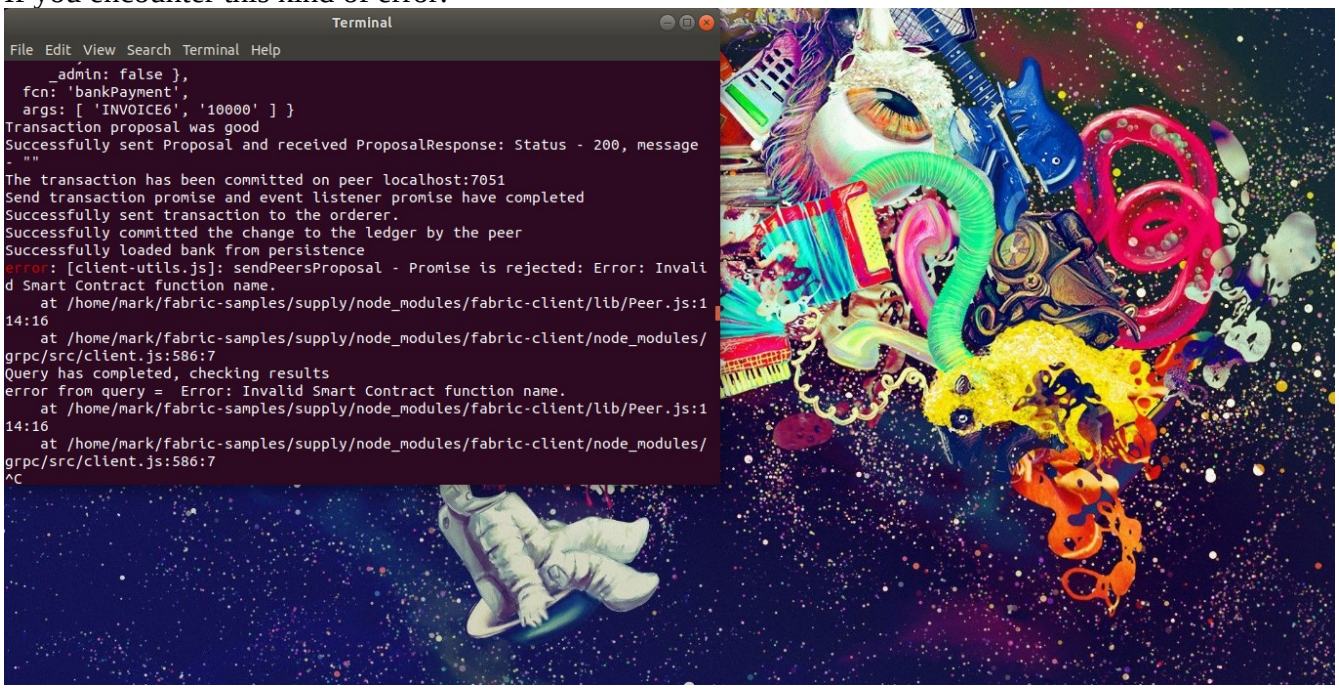
NOTE:
If you encounter this kind of error:



you need to kill your docker by typing this into your terminal.
First right click on your fabric-samples/supply open terminal then type:
docker kill $(docker ps -q)
docker rm $(docker ps -aq)
docker rmi $(docker images dev-* -q)

then repeat from step 6 to 19.

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REFERENCE:

https://hyperledger.github.io/composer/latest/installing/installing-prereqs.html
https://golang.org/
https://github.com/khrandm/blockchain-training-labs