PHARMANET

Supply Chain Network for Drugs

Fabric Network Setup

• The below command generates the crypto materials & channel artifacts. It also creates the docker containers, the channel and updates the anchor peers.

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

```
2022-10-20 14:54:52.043 UTC [channelCnd] InticodFactory -> INFO 001 Endorser and orderer connections initialized 2022-10-20 14:54:52.074 UTC [channelCnd] update -> INFO 002 Successfully submitted channel artifacts/manufacturerMSPanchors.tx + resolution of the submitted channel update -> INFO 002 Successfully submitted channel update -> INFO 002
```

• Before proceeding to chaincode installation, make sure that the node modules are installed in the chaincode folder. To do so, follow the below commands

```
"cd ../chaincode"
"npm install"
"cd ../network"
```

• Now use the below commands to install and instantiate the chaincode on the peers "./fabricNetwork.sh install"

```
Installing chaincode on peerb retailer pharma-network.com ...

**Perchaincode install -n pharmanet **1.3 -l node **p / pont/popath/psrc/github.com/hyperledger/fabric/peer/chaincode/
**Perchaincode install -n pharmanet **1.3 -l node **p / pont/popath/psrc/github.com/hyperledger/fabric/peer/chaincode/
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**Perchaincode install -n pharmanet **1.3 -node **p / pont/popath/psrc/github.com/hyper
```

Node Application Setup

Navigate to the Application folder

"cd ../application"

• Start the Node application by the follwing command

"node \cdot "

*If met with an error please check node version.

upgrad@upgrad-VirtualBox:~/Desktop/PharmaNet_Capstone/appli
Distributed Pharma App listening on port 4000!
Distributor identity added to wallet.
Consumer identity added to wallet.
Transporter identity added to wallet.
Manufacturer identity added to wallet.
Retailer identity added to wallet.
Tocide rooms "DISTRAI"

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F1)

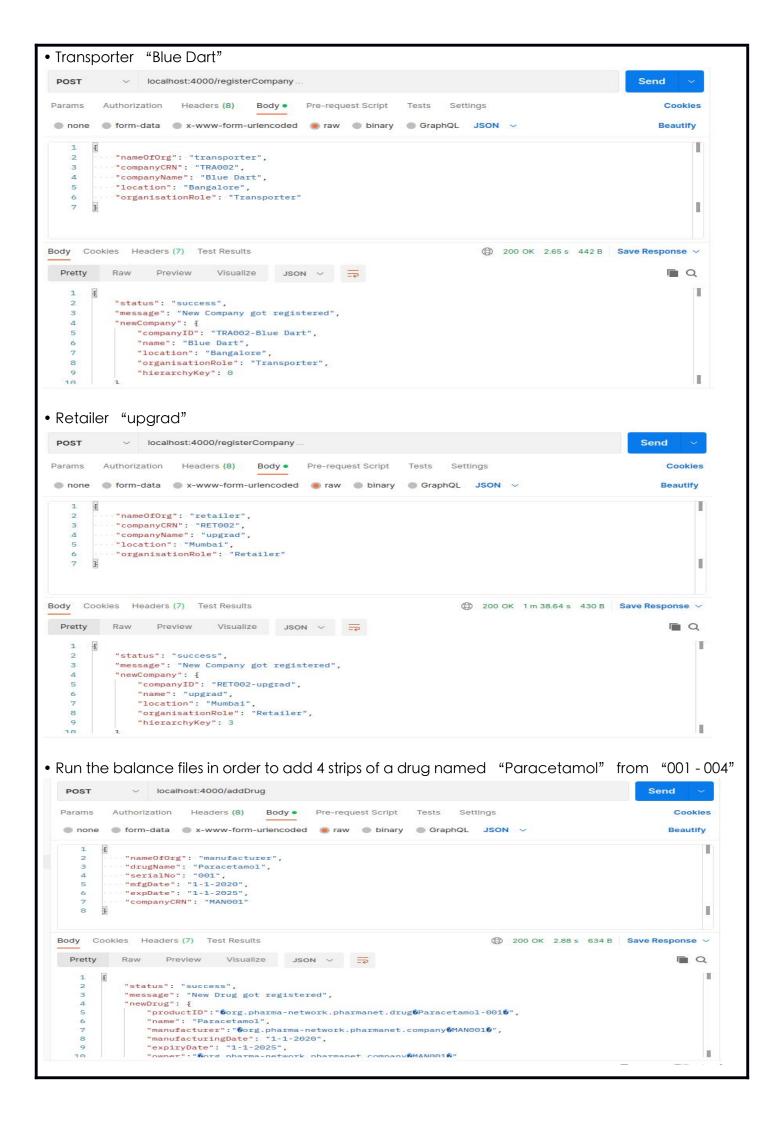
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Postman Setup

- Open the Postman Application
- Click on the + icon to inport collections
- Navigate to the test folder and import the whole folder to the Postman

Testcase 1 - Initiation Run the collection in order to create companies with the given details • Manufacturer Sun Pharma √ localhost:4000/registerCompany Send Params Authorization Headers (8) Body • Pre-request Script Tests Settings Cookies none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify "companyCRN": "MAN001", "companyName": "Sun Pharma", "location": "Chennai", "organisationRole": "Manufacturer" I Body Cookies Headers (7) Test Results (200 OK 3.44 s 443 B Save Response > Pretty Raw Preview Visualize JSON V - Q "status": "success", "message": "New Company got registered", "newCompany": Company": { "companyID": "MAN001-Sun Pharma", "name": "Sun Pharma", "location": "Chennai", "organisationRole": "Manufacturer", "hierarchyKey": 1 Transporter "FedEx" localhost:4000/registerCompany... Send POST Params Authorization Headers (8) Body • Pre-request Script Tests Settings Cookles none ⑤ form-data ⑥ x-www-form-urlencoded ⑥ raw ⑥ binary ⑥ GraphQL JSON ∨ Beautify "nameOfOrg": "transporter", "companyCRN": "TRA001", "companyName": "FedEx", "location": "Delhi", "organisationRole": "Transporter" П Body Cookies Headers (7) Test Results (200 OK 1 m 22.56 s 430 B Save Response ~ Pretty Raw Preview Visualize Json V @ Q Ħ "status": "success", "message": "New Company got registered", "newCompany": { "companyID": "TRA001-FedEx", "name": "FedEx", "location": "Delhi", "organisationRole": "Transporter", "hierarchyKey": 0 Trash Runner • Distribiutor "VG Pharma" POST localhost:4000/registerCompany Send Authorization Headers (8) Body • Pre-request Script none Beautify "nameOfOrg": "distributor", "companyCRN": "DIST001", "companyName": "VG Pharma", "location": "Vizag", "organisationRole": "distributor" Body Cookies Headers (7) Test Results (A) 200 OK 3.73 s 439 B Save Response ~ Pretty Raw Preview Visualize JSON V **Q** I "status": "success", "message": "New Company got registered", "newCompany": { "companyID": "DIST001-VG Pharma", "name": "VG Pharma", "location": "Vizag", "organisationRole": "distributor", "bierarchwid": "hierarchyKey": 2





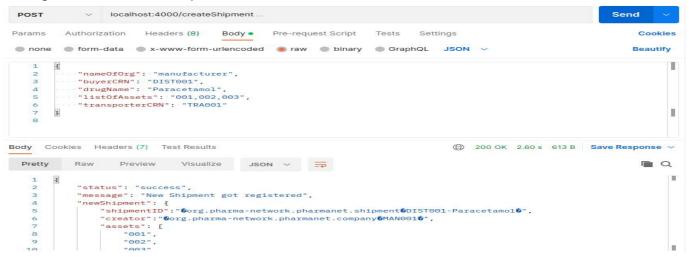
Testcase 2 - Supply Chain

Supply Chain A

- Run the collection supply chain part a to perform the following functions.
- Create a Purchase Order raised by "VG Pharma" to purchase 3 strips of "Paracetamol(001,002,003)" from "Sun Pharma"



• Now a Shipment object is created by "Sun Pharma" for the above generated Purchase Order, through "FedEx" as transporter.



• The shipment is delivered to "VG Pharma" by "FedEx".

```
Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphOL JSON Beautify

"nameOfOrg": "transporter",
"buyerCRN": "DIST001",
"drugName": "Paracetamol",
"transporterCRN": "TRA001"

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON > 

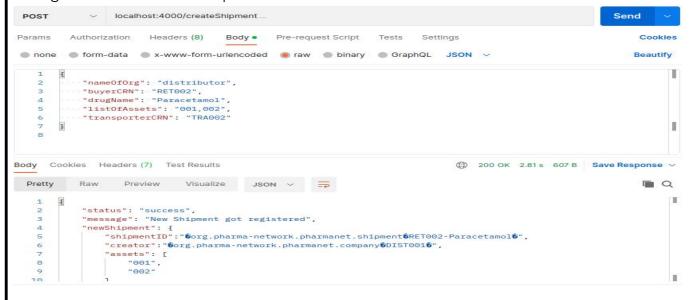
"status": "success",
"message": "New Updated Shipment got registered",
"newUpdatedShipment": forg, pharma-network, pharmanet.shipment@DIST001-Paracetamol@",
"creator": "@org, pharma-network, pharmanet.company@MAN0010",
"assets": [
"002",
"002",
"002",
"002",
"003"
```

Supply Chain B

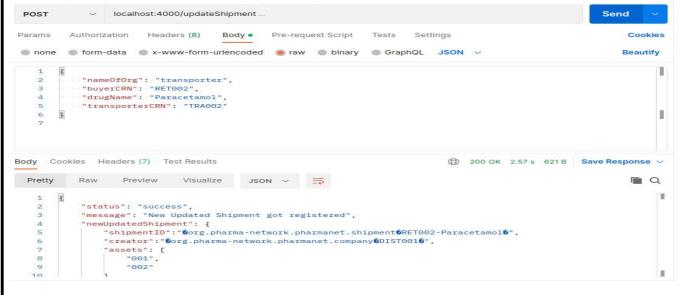
- Run the collection supply chain part a to perform the following functions.
- Create a Purchase Order raised by "upgrad" to purchase 2 strips of "Paracetamol(001,002)" from "VG Pharma"



• Now a Shipment object is created by "VG Pharma" for the above generated Purchase Order, through "Blue Dart" as transporter.



• The shipment is delivered to "upgrad" by "Blue Dart".



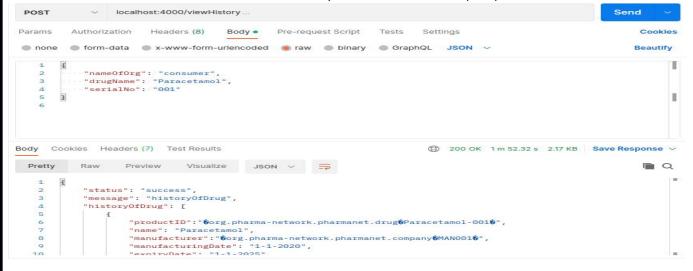
Supply Chain C

- Run the collection supply chain part a to perform the following functions.
- A Customer named "Akash" with Aadhar Number "AAD001" buys a strip of "Paracetamol (001) from "upgrad".



Testcase 3 - History Tracking

- Run the collection in order to view current details & history of a drug.
- Customer "Akash" wants check the history of "Paracetamol(001)"



• Customer "Akash" checks the current state of the drug.

