



Project A 2020-21

Mid term Report

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Introduction

General Introduction

While India's insurance sector has been growing dynamically in recent years, its share in the global insurance market remains abysmally low. The insurance sector faces various challenges. Majority of them being, proper quoting, fraudulent claims, late claim assessment and slow processing of claims which includes but not limited to payment and closure. The fact taken to the consideration "India does not have an effective insurance fraud law despite the fact that frauds burnt a Rs 45,000-crore hole in the Indian insurance industry's pocket in 2019." Looking deeper into the situation Fraud car claims cost the insurance industry a huge sum every year. About 90 percent of auto insurance fraud is the result of claims padding (which means to add damages, fictitious passengers to insurance claim. The other 10% comes from organised accident staging and forged papers.

Since the magnitude of this challenge is significant, this cannot be resolved by the government alone. This has been a serious issue and an immediate action to improve this has to be taken.

About Hyperledger Fabric

Hyperledger Fabric is a modular blockchain framework that acts as a foundation for developing blockchain-based products, solutions, and applications using plug-and-play components that are aimed for use within private enterprises.

Hyperledger Fabric was initiated by Digital Asset and IBM and has now emerged as a collaborative cross-industry venture, which is currently being hosted by the Linux Foundation. Among the several Hyperledger projects, Fabric was the first one to exit the "incubation" stage and achieve the "active" stage in March 2017.

Traditional blockchain networks can't support private transactions and confidential contracts that are of utmost importance for businesses. Hyperledger Fabric was designed in response to this as a modular, scalable and secure foundation for offering industrial blockchain solutions.

Hyperledger Fabric is the open-source engine for blockchain and takes care of the most important features for evaluating and using blockchain for business use cases.

Within private industrial networks, the verifiable identity of a participant is a primary requirement. Hyperledger Fabric supports memberships based on permission; all network participants must have known identities. Many business sectors, such as healthcare and finance, are bound by data protection regulations that mandate maintaining data about the various participants and their respective access to various data points. Fabric supports such permission-based membership.

Modular Architecture

The modular architecture of Hyperledger Fabric separates the transaction processing workflow into three different stages: smart contracts called chaincode that comprise the distributed logic processing and agreement of the system, transaction ordering, and transaction validation and commitment. This segregation offers multiple benefits:

- A reduced number of trust levels and verification that keeps the network and processing clutter-free
- Improved network scalability
- Better overall performance

Additionally, Hyperledger Fabric's support for plug-and-play of various components allows for easy reuse of existing features and ready-made integration of various modules. For instance, if a function already exists that verifies the participant's identity, an enterprise-level network simply needs to plug and reuse this existing module instead of building the same function from scratch.

The participants on the network have three distinct roles:

- Endorser
- Committer
- Consenter

In a nutshell, the transaction proposal is submitted to the endorser peer according to the predefined endorsement policy about the number of endorsers required. After sufficient endorsements by the endorser(s), a batch or block of transactions is delivered to the committer(s). Committers validate that the endorsement policy was followed and that there are no conflicting transactions. Once both the checks are made, the transactions are committed to the ledger.

Hardware and Software to be Used

HTML, CSS, JavaScript, Python, AWS, Blockchain, Dynamo DB

Software Used:

Visual Studio Code, Visual Studio, AWS CLI, AWS SDK, Blockchain Hyper ledger Fabric, Git, Github, Composer-Playground

Hardware used:

Apple MacBook Air 2019, Mac OS, 8 gb Ram, 512 SSD, I5 10th generation quad core

Asus Vivobook, Windows OS, 8 gb Ram, 512 Gb HDD, i5 10th generation quad core

Objective of this Project

The objective of this project is too design a fabric platform that will connect claimer, insurance company, hospital and police station. The project is distributed into 4 ledgers.

Claimer Insurance ledger- The ledger will allow the claim with required documents.

Hospital Police Ledger- The ledger will allow the Hospital to register an accident.

Insurance Police Ledger- This ledger will allow the Insurance company to verify the claim.

Insurance Claimer Ledger- This ledger will allow the company to make required transaction.

The above four ledgers will work simultaneously to reduce the frauds and increase the output.

Implementation Details

The project is designed with an incremental model approach where the entire software is divided into 3 independent modules.

CIL- Analysis-> Design-> Code-> Test-> Deploy

HPL- Analysis-> Design-> Code-> Test-> Deploy

IPL- Analysis-> Design-> Code-> Test-> Deploy

The CIL module will allow a person to register, buy an insurance, apply for a claim and an insurance company to make required transaction with the customer.

Th HPL module will allow hospital to register or verify an accident with the police station. This will help to avoid fictitious passengers during an insurance claim.

The IPL module will allow the Insurance company to verify the needed with police department for accidental and theft claims.

When these three independent modules will combine the will have a decentralised fabric that can be directly accessed by the Police and Insurance company. This fabric will consist of all the transactions.

Progress Till Date

The config, secure shell files, docker -ce, and required images are completed.

The basic peers and the network architecture has been completed. Smart Contracts among peers are completed.

CouchDb is setup. Ledger that records the transaction and change of peers is under development.

The application's user interface and the composer-playground is under development with web and certain orderer peers have been completed.

```
-Desktop/server1/fabric-scripts/hlfv1 -- -zsh
```

```
ARCH=$ARCH docker-compose -f "$(DIR)"/composer/docker-compose.yml down
Stopping peer0.org1.example.com ... done
Stopping orderer.example.com ... done
Stopping ca.org1.example.com ... done
Stopping couchdb ... done
Removing peer0.org1.example.com ... done
Removing orderer.example.com ... done
Removing ca.org1.example.com ... done
Removing couchdb ... done
Removing network composer_default
ARCH=$ARCH docker-co-ssse -f "$(DIR)"/composer/docker-compose.yml up -d
Creating network "composer_default" with the default driver
Creating orderer.example.com ... done
Creating couchdb ... done
Creating ca.org1.example.com ... done
Creating peer0.org1.example.com ... done

# wait for Hyperledger Fabric to start
# incase of errors when running later commands, issue export FABRIC_START_TIMEOUT=<larger number>
echo ${FABRIC_START_TIMEOUT}

sleep ${FABRIC_START_TIMEOUT}
usage: sleep seconds
lutarshrastogi@Otkarshs-MacBook-Air hlfv1 % ./createPeerAdminCard.sh

v0.20.9 is not supported for this level of fabric. Please use version 0.16
lutarshrastogi@Otkarshs-MacBook-Air hlfv1 % ./createPeerAdminCard.sh

Using composer-cli at v0.16.6
Error: Failed to load connector module "composer-connector-undefined" for connection type "undefined". Cannot find module 'composer-connector-undefined'-Cannot find module 'composer-connector-undefined'
-Cannot find module 'composer-connector-undefined'-Cannot find module 'composer-connector-undefined'-Cannot find module 'composer-connector-undefined'-C
cannot find module 'composer-connector-undefined'-Cannot find module 'composer-connector-undefined'-Cannot find module 'composer-connector-undefined'-Can
not find module 'composer-connector-undefined'
Command failed

Successfully created business network card file to
Output file: /tmp/PeerAdmin@hlfv1.card

Command succeeded

Error: Card already exists: PeerAdmin@hlfv1
Command failed

Hyperledger Composer PeerAdmin card has been imported
The following Business Network Cards are available:

Connection Profile: hlfv1
```

Card Name	UserId	Business Network
PeerAdmin@hlfv1	PeerAdmin	

```
Issue composer card list --name <Card Name> to get details a specific card

Command succeeded

lutarshrastogi@Otkarshs-MacBook-Air hlfv1 % chmod 755 fabricUtil.sh
lutarshrastogi@Otkarshs-MacBook-Air hlfv1 % █

lutarshrastogi@Otkarshs-MacBook-Air ~ % cd Desktop/server1
lutarshrastogi@Otkarshs-MacBook-Air server1 % curl -O https://raw.githubusercontent.com/hyperledger/composer-tools/master/packages/fabric-dev-servers/fabric-dev-servers.zip
% Total    % Received % Xferd   Average Speed   Time    Time     Current
                                 Dload Upload   Total   Spent    Left   Speed
100 207k 100 207k   0     0 311k      0  --:--:--  --:--:--  --:--:-- 310k
lutarshrastogi@Otkarshs-MacBook-Air server1 % unzip fabric-dev-servers.zip
Archive:  fabric-dev-servers.zip
  inflating: package.json
  inflating: _loader.sh
  inflating: createComposerProfile.sh
  inflating: createPeerAdminCard.sh
  inflating: downloadFabric.sh
  inflating: startFabric.sh
  inflating: stopFabric.sh
  inflating: teardownAllDocker.sh
  inflating: teardownFabric.sh
  creating: fabric-scripts/hlfv1/
  creating: fabric-scripts/hlfv1/
  creating: fabric-scripts/hlfv1/composer/
  inflating: fabric-scripts/hlfv1/createComposerProfile.sh
  inflating: fabric-scripts/hlfv1/createPeerAdminCard.sh
  inflating: fabric-scripts/hlfv1/downloadFabric.sh
  inflating: fabric-scripts/hlfv1/startFabric.sh
  inflating: fabric-scripts/hlfv1/stopFabric.sh
  inflating: fabric-scripts/hlfv1/teardownFabric.sh
  creating: fabric-scripts/hlfv1/composer/
  inflating: fabric-scripts/hlfv1/createComposerProfile.sh
  inflating: fabric-scripts/hlfv1/createPeerAdminCard.sh
  inflating: fabric-scripts/hlfv1/downloadFabric.sh
  inflating: fabric-scripts/hlfv1/startFabric.sh
  inflating: fabric-scripts/hlfv1/stopFabric.sh
  inflating: fabric-scripts/hlfv1/teardownFabric.sh
  creating: fabric-scripts/hlfv2/composer/
  inflating: fabric-scripts/hlfv2/createComposerProfile.sh
  inflating: fabric-scripts/hlfv2/createPeerAdminCard.sh
  inflating: fabric-scripts/hlfv2/downloadFabric.sh
  inflating: fabric-scripts/hlfv2/startFabric.sh
  inflating: fabric-scripts/hlfv2/stopFabric.sh
  inflating: fabric-scripts/hlfv2/teardownFabric.sh
  inflating: fabric-scripts/hlfv1/composer/composer-channel.tx
  inflating: fabric-scripts/hlfv1/composer/composer-genesis.block
  inflating: fabric-scripts/hlfv1/composer/configtx.yaml
  creating: fabric-scripts/hlfv1/composer/creds/
  creating: fabric-scripts/hlfv1/composer/crypto-config/
  inflating: fabric-scripts/hlfv1/composer/drocker-config.yaml
  inflating: fabric-scripts/hlfv1/composer/howtobuild.txt
  inflating: fabric-scripts/hlfv1/composer/composer-channel.tx
  inflating: fabric-scripts/hlfv1/composer/composer-genesis.block
  inflating: fabric-scripts/hlfv1/composer/configtx.yaml
  creating: fabric-scripts/hlfv1/composer/crypto-config/
  inflating: fabric-scripts/hlfv1/composer/crypto-config.yaml
  inflating: fabric-scripts/hlfv2/composer/composer-channel.tx
  inflating: fabric-scripts/hlfv2/composer/composer-genesis.block
  inflating: fabric-scripts/hlfv2/composer/configtx.yaml
  creating: fabric-scripts/hlfv2/composer/crypto-config/
  inflating: fabric-scripts/hlfv2/composer/crypto-config.yaml
  inflating: fabric-scripts/hlfv2/composer/drocker-config.yaml
  inflating: fabric-scripts/hlfv2/composer/docker-compose-dev.yaml
  inflating: fabric-scripts/hlfv2/composer/docker-compose.yaml
```

```

Warning: curl 7.75.0 is already installed and up-to-date.
To reinstall 7.75.0, run:
  brew reinstall curl

utkarshrastogi@Utkarshs-MacBook-Air ~ %
utkarshrastogi@Utkarshs-MacBook-Air ~ % cd Desktop
utkarshrastogi@Utkarshs-MacBook-Air Desktop % cd server1
utkarshrastogi@Utkarshs-MacBook-Air server1 % cd ..
utkarshrastogi@Utkarshs-MacBook-Air Desktop % cd
utkarshrastogi@Utkarshs-MacBook-Air ~ % npm install -g composer-playground@0.20
npm WARN deprecated composer-playground@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-wallet-filesystem@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-wallet-inmemory@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-common@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-playground-api@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated axios@0.17.1: Critical security vulnerability fixed in v0.21.1. For more information, see https://github.com/axios/axios/pull/3418
npm WARN deprecated mkdirp@0.5.1: Legacy versions of mkdirp are no longer supported. Please update to mkdirp 1.x. (Note that the API surface has changed to use Promises in 1.x.)
npm WARN deprecated core-js@2.3.0: core-js@3 is no longer maintained and not recommended for usage due to the number of issues. Please, upgrade your dependencies to the actual version of core-js@3.
npm WARN deprecated request@2.81.0: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN deprecated composer-connector-server@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-connector-hlflv1@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-connector-embedded@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-runtime@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated composer-runtime-embedded@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated request-promise-any@0.0.5: request-promise-any has been deprecated because it extends the now deprecated request package, see https://github.com/request/request/issues/3142
npm WARN deprecated har-validator@4.2.1: this library is no longer supported
npm WARN deprecated hawk@3.1.3: This module moved to @hapi/hawk. Please make sure to switch over as this distribution is no longer supported and may contain bugs and critical security issues.
npm WARN notice (SECURITY) hawk has the following vulnerability: 1 moderate. Go here for more details: https://www.npmjs.com/advisories?search=hawk&version=2.16.3 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
npm WARN notice (SECURITY) cryptiles has the following vulnerability: 1 high. Go here for more details: https://www.npmjs.com/advisories?search=cryptiles&version=2.0.5 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
npm WARN deprecated hoek@2.16.3: This version has been deprecated in accordance with the hapi support policy (hapi.im/support). Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrade at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated cryptiles@2.0.5: This version has been deprecated in accordance with the hapi support policy (hapi.im/support). Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrade at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated sntp@1.0.9: This module moved to @hapi/sntp. Please make sure to switch over as this distribution is no longer supported and may contain bugs and critical security issues.
npm WARN deprecated boom@2.10.1: This version has been deprecated in accordance with the hapi support policy (hapi.im/support). Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrade at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated composer-runtime-pouchdb@0.20.9: Hyperledger Composer has been deprecated. Please see the README for more details: https://github.com/hyperledger/composer/blob/master/README.md
npm WARN deprecated core-js@2.6.12: core-js@3 is no longer maintained and not recommended for usage due to the number of issues. Please, upgrade your dependencies to the actual version of core-js@3.
npm WARN deprecated jssha@0.4.2: jssha versions < 3.0.0 will no longer receive feature updates
npm WARN deprecated hoek@4.2.1: This version has been deprecated in accordance with the hapi support policy (hapi.im/support). Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrade at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN deprecated har-validator@5.1.3: this library is no longer supported
npm WARN notice (SECURITY) ws has the following vulnerability: 1 high. Go here for more details: https://www.npmjs.com/advisories?search=ws&version=1.1.2 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
npm WARN deprecated json3@3.2.2: Please use the native JSON object instead of JSON 3
npm WARN notice (SECURITY) fresh has the following vulnerability: 1 high. Go here for more details: https://www.npmjs.com/advisories?search=fresh&version=0.5.0 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
npm WARN notice (SECURITY) mime has the following vulnerability: 1 moderate. Go here for more details: https://www.npmjs.com/advisories?search=mime&version=1.3.4 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
npm WARN notice (SECURITY) ssri has the following vulnerability: 1 moderate. Go here for more details: https://www.npmjs.com/advisories?search=ssri&version=4.1.6 - Run 'npm i npm@latest -g' to upgrade your npm version, and then 'npm audit' to get more info.
/Users/utkarshrastogi/.nvm/versions/node/v8.9.0/bin/composer-playground -> /Users/utkarshrastogi/.nvm/versions/node/v8.9.0/lib/node_modules/composer-playground/cli.js

> dtrace-provider@0.8.8 install /Users/utkarshrastogi/.nvm/versions/node/v8.9.0/lib/node_modules/composer-playground/node_modules/dtrace-provider
> node-gyp rebuild || node suppress-error.js

gyp WARN download NVM_NODEJS_ORG_MIRROR is deprecated and will be removed in node-gyp v4, please use NODEJS_ORG_MIRROR
gyp WARN download NVM_NODEJS_ORG_MIRROR is deprecated and will be removed in node-gyp v4, please use NODEJS_ORG_MIRROR
gyp WARN download NVM_NODEJS_ORG_MIRROR is deprecated and will be removed in node-gyp v4, please use NODEJS_ORG_MIRROR
ACTION binding_gyp_ndtp_target_build_ndtp

```

```

composer generator <subcommand> Composer generator command to convert a Business Network Definition to code
composer identity <subcommand> Composer identity command
composer network <subcommand> Composer network command
composer participant <subcommand> Composer participant command
composer report Command for creating a report of the current Composer environment
composer transaction <subcommand> Composer transaction command

Options:
  -help          Show help [boolean]
  -v, --version  Show version number [boolean]

Examples:
  composer archive create
  composer identity issue
  composer network install
  composer participant add
  composer transaction submit

For more information on Hyperledger Composer: https://hyperledger.github.io/composer/

utkarshrastogi@Utkarshs-MacBook-Air dist % composer archive create --help
composer archive create --updateExternalModels --optionsFile myoptions.json --archiveFile digitalPropertyNetwork.zip --sourceType dir --sourceName ./digitalPropertyNetwork

Options:
  -help          Show help [boolean]
  -v, --version  Show version number [boolean]
  --archiveFile, -a Business network archive file name. Default is based on the Identifier of the BusinessNetwork [string]
  --sourceType, -t The type of the input containing the files used to create the archive [required] [choices: "module", "dir"]
  --sourceName, -n The Location to create the archive from e.g. NPM module directory or Name of the npm module to use [required]
  --updateExternalModels, -u Downloads external model dependencies [boolean] [default: false]
  --optionsFile, -o A file containing options [string]

utkarshrastogi@Utkarshs-MacBook-Air dist % composer archive create -t dir -n ../Creating Business Network Archive

Looking for package.json of Business Network Definition
Input directory: ../

Found:
  Description: this is a test project
  Name: test-bna
  Identifier: test-bna@0.0.1

Written Business Network Definition Archive file to
Output file: test-bna@0.0.1.bna

Command succeeded

utkarshrastogi@Utkarshs-MacBook-Air dist %

```

```

# In case of errors when running later commands, issue export FABRIC_START_TIMEOUT=<larger number>
echo ${FABRIC_START_TIMEOUT}

sleep ${FABRIC_START_TIMEOUT}
usage: sleep seconds
utkarshrastogi@Utkarshs-MacBook-Air hlflv1 % ./createPeerAdminCard.sh

v0.20.9 is not supported for this level of fabric. Please use version 0.16
utkarshrastogi@Utkarshs-MacBook-Air hlflv1 % cd ..
utkarshrastogi@Utkarshs-MacBook-Air fabric-scripts % cd hlflv12
utkarshrastogi@Utkarshs-MacBook-Air hlflv12 % ./startFabric.sh
Stopping peer0.org1.example.com ... done
Stopping orderer.example.com ... done
Stopping ca.org1.example.com ... done
Stopping couchdb ... done
Removing peer0.org1.example.com ... done
Removing orderer.example.com ... done
Removing ca.org1.example.com ... done
Removing couchdb ... done
Removing network composer_default
Creating network "composer_default" with the default driver
Creating ca.org1.example.com ... done
Creating couchdb ... done
Creating orderer.example.com ... done
Creating peer0.org1.example.com ... done
sleeping for 30 seconds to wait for fabric to complete start up
usage: sleep seconds
utkarshrastogi@Utkarshs-MacBook-Air hlflv12 % ./createPeerAdminCard.sh

Using composer-cli at v0.20.9

Successfully created business network card file to
Output file: /tmp/PeerAdmin@hlflv1.card

Command succeeded

Deleted Business Network Card: PeerAdmin@hlflv1

Command succeeded

Successfully imported business network card
Card file: /tmp/PeerAdmin@hlflv1.card
Card name: PeerAdmin@hlflv1

Command succeeded

The following Business Network Cards are available:

Connection Profile: hlflv1



| Card Name        | UserId    | Business Network |
|------------------|-----------|------------------|
| PeerAdmin@hlflv1 | PeerAdmin |                  |



Issue composer card list --card <Card Name> to get details a specific card

Command succeeded

Hyperledger Composer PeerAdmin card has been imported, host of fabric specified as 'localhost'
utkarshrastogi@Utkarshs-MacBook-Air hlflv12 %

```

```

| +-- engine.io-parser@2.1.3
| | +-- after@0.8.2
| | +-- arraybuffer.slice@0.0.7
| | +-- blob@0.0.5
| +-- uws@9.14.0
| +-- ws@3.3.3
| | +-- async-limiter@1.0.1
| | +-- ultron@1.1.1
+-- socket.io-adapter@1.1.2
+-- socket.io-client@2.0.4
| +-- backo2@1.0.2
| +-- base64-arraybuffer@0.1.5
| +-- component-bind@1.0.0
| +-- component-emitter@1.2.1
| +-- engine.io-client@3.1.6
| | +-- component-emitter@1.2.1
| | +-- component-inherit@0.0.3
| +-- debug@3.1.0
| +-- xmlhttprequest-ssl@1.5.5
| | +-- yeast@0.1.2
| +-- has-cors@1.1.0
| +-- indexof@0.0.1
| +-- object-component@0.0.3
| +-- parseqs@0.0.5
| | +-- better-assert@1.0.2
| +-- parseuri@0.0.5
| | +-- to-array@0.1.4
| +-- socket.io-parser@3.1.3
| +-- component-emitter@1.2.1
| +-- debug@3.1.0
| +-- has-binary2@1.0.3
| | +-- isarray@2.0.1
| | +-- isarray@2.0.1
+-- style-loader@0.18.2
+-- url-loader@0.5.9
| +-- mime@1.3.4
| +-- uuid@3.1.0
+-- webpack@3.6.0
| +-- acorn@5.7.4
| +-- acorn-dynamic-import@2.0.2
| | +-- acorn@4.0.13
| +-- ajv-keywords@2.1.1
| +-- async@2.6.3
| +-- enhanced-resolve@3.4.1
| +-- escape@0.0.6
| +-- es6-map@0.1.5
| | +-- d@1.0.1
| | | +-- type@1.2.0
| | +-- es5-ext@0.10.53
| | | +-- next-tick@1.0.0
| | +-- es6-iterator@2.0.3
| +-- es6-set@0.1.5
| | +-- es6-symbol@3.1.1
| +-- es6-symbol@3.1.3
| | +-- ext@1.4.0
| | | +-- type@2.5.0
| | +-- event-emitter@0.3.5
| | +-- es6-weak-map@2.0.3
| +-- interpret@1.4.0
+-- json-loader@0.5.7
+-- loader-runner@2.4.0
+-- memory-fs@0.4.1
| +-- errno@0.1.8

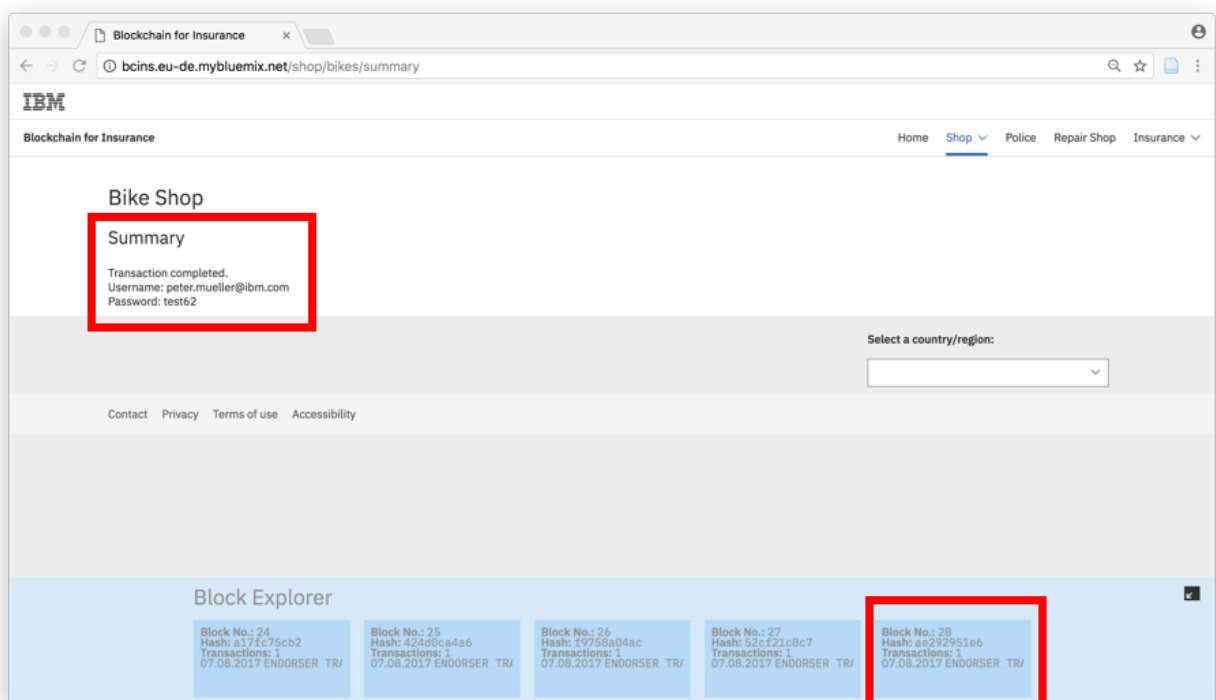
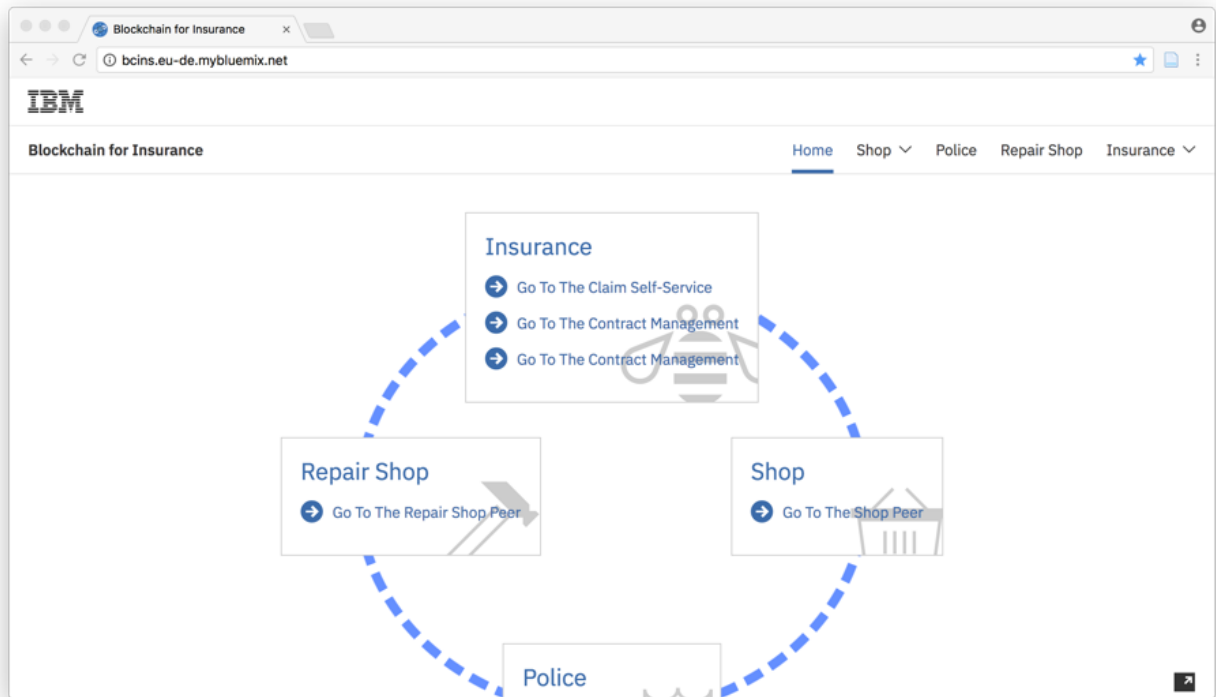
```



```

--> 5b0e70945a40
Step 3/5 : COPY fabric-ca-server-config.yaml /ca
--> 08c2f6a7e87c
Step 4/5 : COPY tls /ca/tls
--> 33d29987cd46
Step 5/5 : COPY ca /ca/ca
--> c3cb85d6fa23
Successfully built c3cb85d6fa23
Successfully tagged insurance-ca:latest
Sending build context to Docker daemon 10.24kB
Step 1/5 : FROM docker.io/hyperledger/fabric-ca:x86_64-1.0.2
--> 7e53be14f804
Step 2/5 : RUN mkdir /ca
--> Using cache
--> 5b0e70945a40
Step 3/5 : COPY fabric-ca-server-config.yaml /ca
--> 2f32b5ab48ff
Step 4/5 : COPY tls /ca/tls
--> 175c0cfc6ae9
Step 5/5 : COPY ca /ca/ca
--> 0b3ab68a01e3
Successfully built 0b3ab68a01e3
Successfully tagged police-ca:latest
Sending build context to Docker daemon 10.24kB
Step 1/5 : FROM docker.io/hyperledger/fabric-ca:x86_64-1.0.2
--> 7e53be14f804
Step 2/5 : RUN mkdir /ca
--> Using cache
--> 5b0e70945a40
Step 3/5 : COPY fabric-ca-server-config.yaml /ca
--> abacde9185e0
Step 4/5 : COPY tls /ca/tls
--> cae309987c02
Step 5/5 : COPY ca /ca/ca
--> cebcdda96da2
Successfully built cebcdda96da2
Successfully tagged shop-ca:latest
Sending build context to Docker daemon 10.24kB
Step 1/5 : FROM docker.io/hyperledger/fabric-ca:x86_64-1.0.2
--> 7e53be14f804
Step 2/5 : RUN mkdir /ca
--> Using cache
--> 5b0e70945a40
Step 3/5 : COPY fabric-ca-server-config.yaml /ca
--> b6ce0e2710d9
Step 4/5 : COPY tls /ca/tls
--> d95a4387471d
Step 5/5 : COPY ca /ca/ca
--> 7b5c37a13e9b
Successfully built 7b5c37a13e9b
Successfully tagged repairshop-ca:latest
Creating network "hyperledger-fabric-insurance-application_default" with the default driver
Creating orderer@0 ... done
Creating police-ca ... done
Creating insurance-ca ... done
Creating shop-ca ... done
Creating repairshop-ca ... done
Creating insurance-peer ... done
Creating shop-peer ... done
Creating repairshop-peer ... done
Creating police-peer ... done
Creating web ... done
utkarshrastogi@Utkarshs-MacBook-Air Hyperledger-Fabric-Insurance-Application %

```



Blockchain for Insurance

bcins.eu-de.mybluemix.net/insurance/claim-processing

IBM

Blockchain for Insurance

Home Shop Police Repair Shop Insurance

Insurance

Unprocessed Claims

Accident

Description: Accident

Creation Date: 8/7/2017

Theft Involved: ☐

Reimbursable:

[Repair](#) [Reimburse](#) [Reject](#)

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Blockchain for Insurance

bcins.eu-de.mybluemix.net/repair-shop

IBM

Blockchain for Insurance

Home Shop Police Repair Shop Insurance

Repair Shop

Repair Order

Brand: Canyon

Model: Spectral AL 6.0

Description:

[Mark Completed](#)

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References

1. Udemy - <https://www.udemy.com/course/hyperledger/>
2. IBM Blockchain Platform White Papers