**Hyperledger Fabric version 1.2.1 Microservices**

**Ubuntu OS version 16.04.5 LTS (Xenial)**

# **MANUAL INSTALLATION**

## **Prerequisites:**

1. Create user account ‘dlt’ with sudo access
2. Create SSH authentication keys and set up access from ‘dlt’ server to ‘ms’ server
   1. % ssh-keygen
   2. % mv ~/.ssh/id\_rsa.pub ~/.ssh/authorized\_keys
   3. % chmod 600 ~/.ssh/authorized\_keys
   4. % copy ~/.ssh/id\_rsa to the ‘dlt’ server (This will allow user ‘dlt’ on ‘dlt’ server to copy the crypto materials to the ‘ms’ server in the latter section)
3. Clone the ‘us-dlt’ GIT repo
   1. % git clone [https://github.com/daretobebetter/us-dlt.git](https://meet.google.com/linkredirect?authuser=0&dest=https%3A%2F%2Fgithub.com%2Fdaretobebetter%2Fus-dlt.git)
4. Copy ‘dlt’ directory to /opt
   1. % cd us-dlt
   2. % sudo cp -r dlt /opt/microservices
   3. % sudo mkdir /opt/microservices/logs
   4. % sudo chown -R dlt.dlt /opt/microservices
5. Install the prerequisites for DLT-API services
   1. % ./setup.sh
6. Install NVM
   1. % source ~/.bashrc
   2. % nvm ls-remote
   3. % nvm install 10.15

## **Copy Crypto Material to DLT-API Instance from ‘dlt’ server to ‘ms’ server:**

1. On ‘dlt’ server after the Fabric network setup, create directory hfc-key-store in directory /opt/hyperledger/fabric/fabric-net
   1. % sudo mkdir /opt/hyperledger/fabric/fabric-net/hfc-key-store
2. Copy crypto materials created during the setup of the Hyperledger Fabric network
   1. % cd /opt/hyperledger/fabric/fabric-net
   2. % sudo cp data/\*.pem data/tls/\* hfc-key-store
3. Create a tar package for hfc-key-store
   1. % sudo tar cvf /tmp/hfc-key-store.tar ./hfc-key-store
4. Secure copy the tar package to ‘ms’ server (Ensure that the security policy on ‘ms’ server will allow ‘dlt’ server to access inbound on port 22 (SSH))
   1. % scp /tmp/hfc-key-store.tar dlt@<’ms’ server Private IP>:~
5. On ‘ms’ server, unpack the hfc-key-store.tar
   1. % cd /opt/microservices
   2. % sudo tar xvf ~/hfc-key-store.tar

## **Run Microservices**

1. Edit blockchain/environment.js
   1. Change DLT\_IP to ‘dlt’ server’s Private IP
   2. Replace PEER\_ORG and ORDERER\_ORG with the proper organization domain
2. Install dependencies
   1. % npm install
3. Enroll Admin
   1. % node enrollAdmin.js
4. Register User
   1. % node registerUser.js
5. Start the microservices server
   1. % ./ms.sh start