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Posted on Jun 20, 2022

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How To Install Hyperledger Fabric v2.4 on Ubuntu 20.04

#ubuntu   #web3   #hyperledger   #blockchain

Hyperledger Fabric is one of the leading enterprise grade blockchain platforms. In this article we will cover Prerequisites and Hyperledger Fabric v2.4 installation on Linux Ubuntu 20.04 LTS.

Step 1: Install curl, git

Install the latest version of git and curl if it is not already installed.

```
 sudo apt update
sudo apt-get install git
sudo apt-get install curl
```

Step 2: Install Docker

Install the latest version of Docker if it is not already installed.

```
 sudo apt-get -y install docker-compose
```

Once installed, confirm that the latest versions of both Docker and Docker Compose executables were installed.

```
 docker --version
Docker version 20.10.12, build 20.10.12-0ubuntu2~20.04.1
```

```
 docker-compose --version
docker-compose version 1.25.0, build
```

Make sure the Docker daemon is running.

```
sudo systemctl start docker
```

Optional: If you want the Docker daemon to start when the system starts, use the following:

```
sudo systemctl enable docker
```

Add your user to the Docker group.

```
sudo usermod -a -G docker <username>
```

Step 3: Install Golang

```
curl -O https://dl.google.com/go/go1.18.3.linux-amd64.tar.gz
tar xvf go1.18.3.linux-amd64.tar.gz
export GOPATH=$HOME/go
export PATH=$PATH:$GOPATH/bin
```

Now, you have to open and edit you **bashrc **file. In most cases, the bashrc is a hidden file that lives in your home directory.

```
nano ~/.bashrc
```

Add following two lines, at the end of the file:

```
export GOPATH=$HOME/go
export PATH=$PATH:$GOPATH/bin
```

Create new directory where you will install Hyperledger Fabric

```
mkdir fabric-network
```

Step 4: Install Hyperledger Fabric

To download a specific release, pass a version identifier for Fabric and Fabric CA Docker images. The command below demonstrates how to download the latest production releases - Fabric v2.4.4 and Fabric CA v1.5.3

```
curl -sSL https://bit.ly/2ysbOFE | bash -s -- <fabric_version> <fabric-ca_version>
```

```
curl -sSL https://bit.ly/2ysbOFE | bash -s -- 2.4.4 1.5.3
```

Download the latest release of Fabric samples, docker images, and binaries.

```
curl -sSL https://bit.ly/2ysbOFE | bash -s
```

Congrats, you have installed Hyperledger Fabric with all dependencies.

To test the our installation, we will run test network that comes with fabric-samples

```
cd fabric-samples/test-network
./network.sh up createChannel -ca -c mychannel -s couchdb
```

The above command will create a channel(mychannel) with certificate Authorities and bring up couch-db as state database.

Using following Docker command we can check all running containers

```
docker ps -a
```

You should be able to see the containers up and running.

```
CONTAINER ID    IMAGE                             COMMAND                CREA
TED             STATUS          PORTS
                                                                            N
AMES
afe916cf3ffe    hyperledger/fabric-tools:latest      "/bin/bash"              21 s
econds ago    Up 20 seconds
                                                                            c
li
b79380fc7dd1    hyperledger/fabric-peer:latest       "peer node start"        22 s
econds ago    Up 20 seconds   0.0.0.0:7051->7051/tcp, :::7051->7051/tcp, 0.0.0.0:
9444->9444/tcp, :::9444->9444/tcp                                           p
eer0.org1.example.com
58576f9c4620    hyperledger/fabric-peer:latest       "peer node start"        22 s
econds ago    Up 20 seconds   0.0.0.0:9051->9051/tcp, :::9051->9051/tcp, 7051/tcp
, 0.0.0.0:9445->9445/tcp, :::9445->9445/tcp                                 p
eer0.org2.example.com
0af64e8564fc    hyperledger/fabric-orderer:latest    "orderer"                24 s
econds ago    Up 22 seconds   0.0.0.0:7050->7050/tcp, :::7050->7050/tcp, 0.0.0.0:
7053->7053/tcp, :::7053->7053/tcp, 0.0.0.0:9443->9443/tcp, :::9443->9443/tcp  o
rderer.example.com
e56d52d4c876    couchdb:3.1.1                        "tini -- /docker-ent…"   24 s
econds ago    Up 22 seconds   4369/tcp, 9100/tcp, 0.0.0.0:5984->5984/tcp, :::5984
->5984/tcp                                                                   c
ouchdb0
34146ac5cb87    couchdb:3.1.1                        "tini -- /docker-ent…"   24 s
econds ago    Up 22 seconds   4369/tcp, 9100/tcp, 0.0.0.0:7984->5984/tcp, :::7984
->5984/tcp                                                                   c
ouchdb1
1225bda33de3    hyperledger/fabric-ca:latest         "sh -c 'fabric-ca-se…"   41 s
econds ago    Up 40 seconds   0.0.0.0:7054->7054/tcp, :::7054->7054/tcp, 0.0.0.0:
17054->17054/tcp, :::17054->17054/tcp                                       c
a_org1
96f241fe35c2    hyperledger/fabric-ca:latest         "sh -c 'fabric-ca-se…"   41 s
econds ago    Up 40 seconds   0.0.0.0:9054->9054/tcp, :::9054->9054/tcp, 7054/tcp
, 0.0.0.0:19054->19054/tcp, :::19054->19054/tcp                             c
a_orderer
d11da22a8e95    hyperledger/fabric-ca:latest         "sh -c 'fabric-ca-se…"   41 s
```

Congratulations, you have installed and setup Hyperledger Fabric.

If this tutorial helps you, please hit the Clap button or comment if you have any suggestion or feedback.

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Liam • Nov 29 '23

Thank you for organizing this so well, it has helped me a lot.
I was wondering if I could get some additional help on a few things.

1. please tell me how to safely shut down all started services.
2. tell me the specific way to renew the certificate.

John McLaughlin • Feb 9 '23

Incredibly helpful. Thank you!

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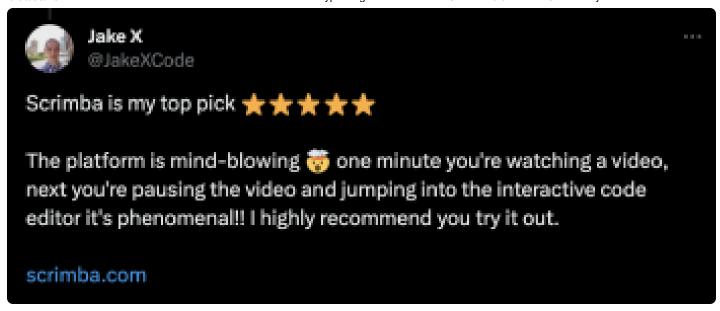How to Install Golang on WSL/WSL2

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