

9_Fabric_Install_Network

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1 Installing Hyperledger Fabric Docker Images and Binaries

Next, we will download the latest released Docker images for Hyperledger Fabric, and tag them with the latest tag. Execute the command from within the directory into which you will extract the platform-specific binaries:

Check here to get the correct command

<https://hyperledger-fabric.readthedocs.io/en/latest/samples.html#binaries>

```
curl -sSL https://goo.gl/6wtTN5 | bash -s 1.1.0-rc1
```

This command downloads binaries for cryptogen, configtxgen, configtxlator, peer AND downloads the Hyperledger Fabric Docker images. These assets are placed in a bin subdirectory of the current working directory.

Confirm the docker image are downloaded

```
$ docker images
```

hyperledger/fabric-ca	latest	8a6c8c2e2ebf	1
hyperledger/fabric-ca	x86_64-1.1.0-rc1	8a6c8c2e2ebf	1
hyperledger/fabric-ccenv	latest	65c951b9681f	1
hyperledger/fabric-ccenv	x86_64-1.1.0-rc1	65c951b9681f	1
hyperledger/fabric-couchdb	latest	7e73c828fc5b	3
hyperledger/fabric-couchdb	x86_64-0.4.6	7e73c828fc5b	3
hyperledger/fabric-javaenv	latest	ea263125afb1	1
hyperledger/fabric-javaenv	x86_64-1.1.0-rc1	ea263125afb1	1
hyperledger/fabric-kafka	latest	554c591b86a8	3
hyperledger/fabric-kafka	x86_64-0.4.6	554c591b86a8	3
hyperledger/fabric-orderer	latest	10afc128d402	1
hyperledger/fabric-orderer	x86_64-1.1.0-rc1	10afc128d402	1
hyperledger/fabric-peer	latest	6b44b1d021cb	1
hyperledger/fabric-peer	x86_64-1.1.0-rc1	6b44b1d021cb	1
hyperledger/fabric-tools	latest	006c689ec08e	1
hyperledger/fabric-tools	x86_64-1.1.0-rc1	006c689ec08e	1
hyperledger/fabric-zookeeper	latest	92cbb952b6f8	3
hyperledger/fabric-zookeeper	x86_64-0.4.6	92cbb952b6f8	3

2 Adding binaries to the path

```
$ export PATH=$PWD/bin:$PATH
```

3 Download the sample code

To install the Hyperledger Fabric sample code which will be used in the tutorials, do:

```
$ git clone https://github.com/hyperledger/fabric-samples.git
```

```
$ cd fabric-samples/first-network
```

4 Starting a Test Hyperledger Fabric Network

Now that we have successfully installed Hyperledger Fabric, we can walk through setting up a simple network that has two members. To refer back to our demonstrated scenario, the network includes asset management of each tuna verified, transferred, and purchased between Sarah, the fisherman, and Miriam, the restaurateur. We'll create a simple two member network consisting of two organizations (effectively, Sarah and Miriam), each maintaining two peers and an ordering service.

We will use Docker images to bootstrap our first Hyperledger Fabric network. It will also launch a container to run a scripted execution that will join peers to a channel, deploy, and instantiate the chaincode, and execute transactions against the chaincode.

5 Getting Started with Your First Network

Are you ready to get started? Run this command (within the first-network folder):

```
$ ./byfn.sh -m generate
```

A brief description will appear, along with a Y/N command line prompt. Respond with a Y to continue.

This step generates all of the certificates and keys for all our various network entities, including the genesis block used to bootstrap the ordering service and a collection of configuration transactions required to create a channel.

Next, you can start the network with the following command:

```
$ ./byfn.sh -m up
```

Another command line will appear, reply with Y to continue.

Logs will appear in the command line, showing containers being launched, channels being created and joined, chaincode being installed, instantiated, and invoked on all the peers, as well as various transaction logs.

Troubleshooting Note: If you have difficulties with the two previous commands and you suspect that your Docker images may be at fault, you can start back from scratch, which will delete and untag the Docker images.

```
$ docker rmi -f $(docker images -q)
```

Once you run this command, return to the Installing Hyperledger Fabric Docker Images and Binaries page, at the beginning of this section.

6 Finishing Up and Shutting Down the Network

Finally, let's test bringing down this network.

Within the same terminal, do Control+C to exit the current execution.

Then, run the following command:

```
$ ./byfn.sh -m down
```

Another command line will appear, reply with Y to continue.

This command will kill your containers, remove the crypto material and four artifacts, and delete the chaincode images from your Docker Registry.

And that's it for a simple demonstration!

These simple steps show how we can easily spin up and bring down a Hyperledger Fabric network, given the code we have. In the next section, we will learn more about chaincode.