# Testnet Directions

Testnet Directions for docker swarm

Install docker on your test machine

* If a previous factomd docker is running, stop it from running.
  + `docker ps`
  + `docker stop <container ID>
  + If you followed the standard install procedure change to factom/communitytestnet and run `docker-compose down`
* Connect your machine into the docker swarm
  + `docker swarm join --token SWMTKN-1-1wnjsb3jyt573yg9a765rua50ytkgcbkuur55m7y2haoc4ze2q-engcpbkxm53gqfociyiz71naa 54.171.68.124:2377`
    - Note: there will be a different command for the mainnet.
    - If successful, the message will be: `This node joined a swarm as a worker.`
* Check for success. There should be 3 factom related containers running.
  + $ docker ps
  + CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
  + a0d79765c855 factominc/metricbeat:m3 "/usr/local/bin/dock…" 8 seconds ago Up 7 seconds factomd-services\_metricbeat.0ojxlsrossrngt28on4u2owln.3rqbd9cr1cq68ar5cbxrrnyc5
  + 45a104213a52 factominc/filebeat:m3 "/usr/local/bin/dock…" 9 seconds ago Up 8 seconds factomd-services\_filebeat.0ojxlsrossrngt28on4u2owln.kh2n8tcg6255oknuw752kbnpb
  + 648549896ef8 factominc/factom-ssh:m3 "/entrypoint.sh" 33 seconds ago Up 32 seconds 22/tcp, 0.0.0.0:22->2222/tcp factomd-services\_ssh.0ojxlsrossrngt28on4u2owln.v23t8who4giu3v9j3lanrau67
* Pre-populate an existing config file
  + Run `docker volume create factom\_keys`
    - Success looks like `factom\_keys`
  + As a testnet follower, you can use an example file
    - <https://raw.githubusercontent.com/FactomProject/communitytestnet/master/factomd.conf.EXAMPLE>
    - sudo cp -r <wherever the example file is>/factomd.conf.EXAMPLE /var/lib/docker/volumes/factom\_keys/\_data/factomd.conf
  + If you are bringing up a leader, lets brain-swap your existing node into the swarm node. That means starting your node as a follower, but pre-positioning your config file to be ready later.
  + Copy the existing config file to be visible to the docker factomd node
    - `sudo cp -r <wherever the config file is>/factomd.conf /var/lib/docker/volumes/factom\_keys/\_data/factomd.conf`
  + Use your existing leader config file, but comment out with a semicolon the fields IdentityChainID, LocalServerPrivKey, and LocalServerPublicKey. You can add the line `IdentityChainID = FA1E000000000000000000000000000000000000000000000000000000000000` as a placeholder to signify that this node is a follower and that it is properly reading the config file.
* Pre-populate an existing database
  + Run `docker volume create factom\_database`
  + Note, you cannot copy a database while factomd is running using it.
  + Make sure there is no old database in the docker already.
    - `sudo ls /var/lib/docker/volumes/factom\_database/\_data` should be empty
    - `sudo rm -rf /var/lib/docker/volumes/factom\_database/\_data/\*` clears out an old database
  + `sudo cp -r <wherever the custom-database database is>/custom-database /var/lib/docker/volumes/factom\_database/\_data/custom-database`
    - The files in the \_data folder should be the same as are in the ~/.factom/m2 directory hierarchy.
    - The expected folder in \_data is `custom-database`
  + Copy the savestate file too if you don’t want to rescan the file
    - `sudo cp <wherever the custom-database database is>/FastBoot\_CUSTOM\_v8.db /var/lib/docker/volumes/factom\_database/\_data`
* Retrieve your node ID from your local machine.
  + Run `docker info`
    - Swarm: active
    - NodeID: 0ojxlsrossrngt28on4u2owln
  + The NodeID is used to uniquely identify your machine in the system.
* Send this NodeID to the coordinator along with a good human readable name for this machine.

Docker coordinator will run the add\_node.sh script on the coordination node linking the NodeID to the team machine name. The linking process will also connect

Open these incoming ports to the portainer node 54.171.68.124:

* 2222 TCP (ssh)
* 8090 TCP (control panel)
* 8808 TCP (factomd API)

Open these ports to the internet:

* 8110 TCP (P2P Testnet)
  + For mainnet use 8108 TCP (P2P Mainnet)
* To remove your node from the swarm to restart the procedure
  + `docker swarm leave`
    - The expected result would be `Node left the swarm.`
  + `docker ps` should show there is no more factom docker images running.
  + `docker ps -a` will show that they are gone and not just stopped.
* Delete the old database if appropriate
  + `sudo ls /var/lib/docker/volumes/factom\_database/\_data` should be empty
  + `sudo rm -r /var/lib/docker/volumes/factom\_database/\_data/\*` clears out an old database
* Delete the config file if appropriate
  + `sudo ls /var/lib/docker/volumes/factom\_keys/\_data` should be empty
  + `sudo rm -r /var/lib/docker/volumes/factom\_keys/\_data/\*` clears out an old database