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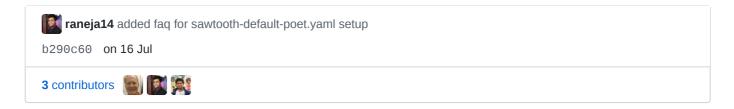
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raneja14 added faq for sawtooth-default-poet.yaml setup

`b290c60`   on 16 Jul

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234 lines (160 sloc)   10.8 KB

Sawtooth FAQ: Using Docker

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Can I run Sawtooth without Docker?

Yes.

How can I run `docker` or `docker-compose` without prefixing it with `sudo` ?

Sometimes, adding your login to group `docker` is recommended, such as with command: `sudo usermod -aG docker $USER` . However, this gives `$USER` root-equivalent permissions. A better alternate is to define an alias for docker and docker-compose and add to your ~/.bashrc file:

```
alias docker='sudo docker'
alias docker-compose='sudo docker-compose'
```

For details, see https://docs.docker.com/install/linux/linux-postinstall/#manage-docker-as-a-non-root-user

I get this error running `docker-compose -f sawtooth-default.yaml up` : Error: files exist, rerun with --force to overwrite existing files

This occurs when docker was not halted cleanly. Run the following first:

```
sudo docker-compose -f sawtooth-default.yaml down
```

Then this:

```
sudo docker-compose -f sawtooth-default.yaml up
```

An alternate solution is to force it to ignore the existing files:

```
docker-compose -f docker/compose/sawtooth-default.yaml up --force
```

I get this error running `docker-compose -f sawtooth-default.yaml up` : ERROR: Couldn't connect to Docker daemon at http+docker://localhost - is it running?

If it's at a non-standard location, specify the URL with the DOCKER_HOST environment variable.

You may not have enough permission to run. Try prefixing with sudo: `sudo docker-compose ...` To determine if sure docker is running and to start Docker, type:

```
service docker status
sudo service docker start
```

I get this error running docker run hello-world : Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get http://%2Fvar%2Frun%2Fdocker.sock/v1.37/containers/json: dial unix /var/run/docker.sock: connect: permission denied

Try running with sudo. For example: sudo docker run hello-world. Here's a few aliases you can add to your `~/.bashrc` file:

```
alias docker='sudo docker'
alias docker-compose='sudo docker-compose'
```

I get this error running docker run hello-world : docker: Error response from daemon: Get https://registry-1.docker.io/v2/: net/http: request canceled while waiting for connection (Client.Timeout exceeded while awaiting headers).

If it worked before, first try restarting docker:

```
sudo service docker start; sudo service docker stop
```

If you are behind a network firewall, it is usually a proxy problem. Proxy configurations are firewall-dependent, but this might serve as a pattern:

```
# /etc/default/docker
export http_proxy="http://proxy.mycompany.com:911/"
export https_proxy="https://proxy.mycompany.com:912/"
export no_proxy=".mycompany.com,10.0.0.0/8,192.168.0.0/16,localhost,127.0.
```

I get this error: `ERROR: repository . . . not found: does not exist or no pull access`

Also a proxy problem--see the answer above.

I get this error: `` ERROR: Service . . . failed to build: Get . . . net/http: request canceled while waiting for connection``

Also a proxy problem--see the answer above.

I get this error running docker-compose: `ERROR: for validator Cannot create container for service validator: Conflict. The container name "/validator" is already in use by container ...`

The container already exists. You need to remove or rename it. To remove:

```
sudo docker ps -a # list container IDs
sudo docker stop <container ID>
sudo docker rm <container ID>
```

How do I display the logs for a Docker container?

Use the `sudo docker logs` command followed by the container name. The container name may be found with the `sudo docker ps` command. For example: `sudo docker logs validator` display the log for the container named `validator`.

I get this error running docker-compose: `ERROR: Version in "./docker-compose.yaml" is unsupported.`

You may be running an old version of Docker, perhaps from your Linux package manager. Instead, install Docker from docker.com. Sawtooth requires Docker Engine 17.03.0-ce or better. For Docker CE for Ubuntu, use https://docs.docker.com/install/linux/docker-ce/ubuntu/ Here's a sample script that installs Docker CE on Ubuntu: https://gist.github.com/askmish/76e348e34d93fc22926d7d9379a0fd08

If I run `docker` or `docker-compose` it hangs and does nothing.

The docker daemons may not be running. To check, run:

```
$ ps -ef | grep dockerd
```

To start, run:

```
$ sudo systemctl restart docker.service
```

How do I manually start and stop docker on Linux?

```
$ sudo service docker start
$ service docker status
$ sudo service docker stop
```

How do I enable and disable automatic start of docker on boot on Linux?

```
$ sudo systemctl enable docker
$ systemctl status docker
$ sudo systemctl disable docker
```

Can I connect a client to the REST API running in a Docker container?

Yes. The `docker-compose.yaml` needs the following lines for the REST container:

```
expose:
  - 8008
```

```
ports:
  - '8008:8008'
```

Then connect your client to processor to port `http://localhost:4040` This might be a command line option for the client (for example, `intkey --url http://localhost:4040`). Otherwise, you need to modify the source if the REST API URL is hard-coded for your client.

Can I connect a transaction processor to the validator running in a Docker container?

Yes. The `docker-compose.yaml` needs the following lines for the validator container (which maps Docker container TCP port 4004 to external port 4040):

```
expose:
  - 4004
ports:
  - '4040:4004'
```

Then connect your transaction processor to port `tcp://localhost:4040` If the port is mapped to 4004 (that is, not mapped to 4040), use `tcp://localhost:4040` The port might be a command line option for the TP. (for example, `intkey-tp-python -v tcp://localhost:4040`). Otherwise, you need to modify the source if the validator port is hard-coded for your TP.

I get `You cannot remove a running container` error removing docker containers

Before running `docker rm $(docker ps -aq)`, first stop the running containers with `sudo docker stop $(docker ps -q)`

How do I run Sawtooth with Kubernetes?

Kubernetes requires VirtualBox or some other virtual machine software. Documentation on using Kubernetes with Minikube for Sawtooth on Linux or Mac hosts is available here:
https://sawtooth.hyperledger.org/docs/core/nightly/master/app_developers_guide/kubernetes.html
https://sawtooth.hyperledger.org/docs/core/nightly/master/app_developers_guide/creating_sawtooth_network.html#kubernetes-start-a-multiple-node-sawtooth-network

Can Docker run inside a virtual machine?

Yes. For example, I run Docker with Sawtooth containers on a VirtualBox virtual machine instance on a Windows 10 host.

How do I persist data on Docker containers?

You add an external volume. You make a directory for your volume and add it using `volumes:` in your Docker .yaml file. For a Sawtooth-specific tutorial, see this blog: http://goshtastic.blogspot.com/2018/04/making-new-transaction-family-on.html Also see the Docker storage documentation at https://docs.docker.com/storage/

If you do not `down` the container or reboot the Docker host, the container will not be destroyed.

For a list of directories used by Sawtooth, see https://github.com/danintel/sawtooth-faq/blob/master/validator.rst#what-files-does-sawtooth-use It is best to set $SAWTOOTH_HOME so all the configuration and data is under one root directory.

I get this error running Docker: `ERROR: manifest for hyperledger/sawtooth-validator:1.2 not found`

You are following instructions for the unreleased Sawtooth `nightly` build. There are no Docker images for the nightly build. Instead use the `latest` build documentation at https://sawtooth.hyperledger.org/docs/core/releases/latest/app_developers_guide.html

Why doesn't sawtooth-default-poet.yaml start the network successfully on subsequent runs ?

The root cause is the stale volume mounted, these are mounted for storing sawtooth keys in order to share between the containers. If you observe the error in subsequent runs that means these mounted volumes are left behind. The command "docker-compose down" does not remove the stale volumes mounted. To solve the problem, you can prune the volume as well and not just down the containers. For example the following removes containers and volumes

```
docker-compose down -v
```

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