Docker container: Backup and Recovery

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This config will describe a procedure of how to back up a Docker container as well as it will also show how to recover a Docker container from backup.

To understand the Docker container backup and recovery process we first need to understand the difference between docker image and docker container. A docker image contains an operating system with possibly one or more prefigured applications. Whereas, a docker container is a running instance created from an image.

Docker container backup

When we need make a backup of a docker container we `commit` its current state and save it as a docker image.

```
# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED
78727078a04b        debian:8            "/bin/bash"         13 seconds ago
```

From the above output we see a running docker container named `container1` with an ID `78727078a04b`. We now use `commit` command to take a snapshot of its current running state:

```
# docker commit -p  78727078a04b  container1
e09f9ac65c8b3095927c14ca0594868f73831bde0800ce66415afeb91aea93cf
```

With do above command we have first paused a running container with `-p` option, made a commit to save the entire snapshot as a docker image with a name `container1`:

```
# docker images
REPOSITORY                      TAG                 IMAGE ID            CREAT
container1                      latest              e09f9ac65c8b        39 se
```

Now we have a container backup saved as an image waiting to be redeployed

again. If we wish to redeploy our `container1` image on another docker host system we may `push` the image to some private docker repository:

```
# docker login
# docker push container1
```

or we can save it as a tar file and move it freely to any desired docker host system for a deployment:

```
# docker save -o ~/container1.tar container1
[root@localhost lubos]# ls -l ~/container1.tar
-rw-r--r--. 1 root root 131017216 Jun 14 20:31 /root/container1.tar
```

Docker container recovery

The above paragraphs explained how to backup a docker container. In this section we will discuss how recover from a docker backup.

In case that we have pushed our backed up docker container image to a private repository we can simply use docker `run` command to start a new instance from the `container1` image. If we have transferred our `container1.tar` backup file to another docker host system we first need to `load` backed up tar file into a docker's local image repository:

```
# docker load -i /root/container1.tar
```

Confirm that the image was loaded with:

```
# docker images
```

Now we can use docker `run` command to start a new instance from the above loaded `container1` image.