

Creating a Container Image

■ Goals

1. Use users and permissions in Linux
2. Create a custom container image
3. Build the container image
4. Run a container

■ Background

In this exercise, you will be helping to create an image for a container that runs the [Apache HTTP server](#) on [Rocky Linux](#). The final container should run Apache as the `www` user in the `www` group.

Imagine you are working with a junior sysadmin who is designing a container image to serve web pages. The company you work for has a policy that all web servers must be run by a user named `www` within their environment. Your partner is familiar with Redhat so they have decided to use Rocky Linux as the base for their image. They give you a Dockerfile that isn't quite working and a few tips on what they think needs to be done. Your job is to fix the Dockerfile so that it builds a working image that meets the requirements.

■ Analysis

This is what they have so far (you'll find this in the class git repo as well):

```
FROM docker.io/rockylinux:9
RUN yum -y update
RUN yum -y install httpd procps
COPY httpd.conf /etc/httpd/conf/
CMD httpd -DFOREGROUND
```

Try building and running this image by executing the following commands within the `create-image` directory:

```
$ docker build -t my-image . ❶
$ docker run -p 8000:8000 my-image ❷
```

- ❶ Don't forget the `.` here! You're building the Dockerfile *in the current directory*. `-t my-image` tells Docker to tag (name) the image as `my-image`
- ❷ `-p 8000:8000` forwards port 8000 on the localhost to 8000 on the container

Food for thought...

1. Does this work?
2. Is httpd running as `www`?
3. How could you check?

■ Modifications

Change the Dockerfile so that Apache runs as `www` and it still works.

Here's some advice:

1. You will have to create a user named `www` and possibly a `www` group. Add RUN commands to the Dockerfile to use the tools we talked about in class.
2. `/var/run/httpd` and `/var/log/httpd` will need to be owned by this user (possibly recursively).
3. The [USER command](#) can be used right before `CMD` to make Docker use a different `USER`.
4. Using the syntax in the Analysis section, you should be able to see if httpd is running by going to <https://localhost:8000> when your container is running.

■ Submission

Submit the text of your final Dockerfile to receive credit for this exercise.



Feel free to leave me a comment telling my *why* this is not the best way to solve this problem. *Reading the comments in httpd.conf may point you in the right direction.*