**Cloud 300**

Optum

Student Exercise Manual

# Lab 3.1: Ports

## Overview

So, we have had fun executing linux commands on our container. How do we do networking on our container? Networking is going to be picked up by our host. So, we need to specify what ports we want forwarded to the container

Here's how we do port forwarding.

docker container run -p HOSTPORT:CONTAINERPORT

## Step 1: Run

We run this, and this means port 8002 on the host is pointed to port 8002, which is mapped to port 80 on the container

docker container run -p 8000:80 nginx

docker container run -p 8002:80 nginx  
Unable to find image 'nginx:latest' locally  
latest: Pulling from library/nginx  
f2aa67a397c4: Pull complete  
3c091c23e29d: Pull complete  
4a99993b8636: Pull complete  
Digest: sha256:0fb320e2a1b1620b4905facb3447e3d84ad36da0b2c8aa8fe3a5a81d1187b884  
Status: Downloaded newer image for nginx:latest  
172.17.0.1 - - [24/May/2018:04:25:57 +0000] "GET / HTTP/1.1" 200 612 "-" "Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/65.0.3325.181 Safari/537.36" "-"  
2018/05/24 04:25:57 [error] 6#6: \*1 open() "/usr/share/nginx/html/favicon.ico" failed (2: No such file or directory), client: 172.17.0.1, server: localhost, request: "GET /favicon.ico HTTP/1.1", host: "localhost:8002", referrer: "http://localhost:8002/"  
172.17.0.1 - - [24/May/2018:04:25:57 +0000] "GET /favicon.ico HTTP/1.1" 404 572 "http://localhost:8002/" "Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/65.0.3325.181 Safari/537.36" "-"

## Step 2: Go to Browser

Open up a browser and go to the following url:

http://localhost:8002

If you are running locally. If you are running in the cloud, go to your IP address;

http://YOURIPADDRESS:8002

You should see the following:

Welcome to nginx!  
  
If you see this page...  
  
Thank you for using nginx.

## Step 3: Stop the container

Press Cntrl-C to stop the container.

Now, try going back to the browser and re-loading. Do you see the page?

The page doesn't work while the contianer is stopped!

## Step 4: Run the container in the background

docker container run -p 8002:80 -d nginx

You will see the new container id copied to the screen, as this runs in the background

ffcee5395fc4fc4ca97c48b03b3510ec973c6fa8601e9b299e306a6d36f6ff74

## Step 5: Go back to the page

As in step 2, go back to the page. You should see nginx running again.

## Step 6: Stop the container

docker stop <paste-container-id-here>

It sohould stop your container. If it does not recognize the container id you pasted, say "docker ps" to get the list of container ids.