Module-1: The Docker Engine

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DEMO-2: Port Binding

Note: All commands are executed as root.
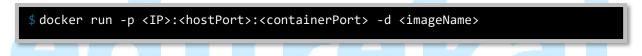
1. To start a container with its port exposed to one of host ports:

```
$ docker run -p <hostPort>:<containerPort> -d <imageName>
# check the container id and the port it is exposed on
$ docker ps
```

```
root@docker-1:/# docker run -p 8001:80 -d nginx
0bc115e63ae902ad1f47d9df1003aa92a2b491d999ca467227f223329a563448
root@docker-1:/# docker ps
CONTAINER ID       IMAGE          COMMAND             CREATED         STATUS        PORTS                    N
AMES
0bc115e63ae9       nginx          "/docker-entrypoint.…"  2 seconds ago   Up 1 second   0.0.0.0:8001->80/tcp     s
weet_wing
```

2. To start a container with its port exposed to a specific IP

```
$ docker run -p <IP>:<hostPort>:<containerPort> -d <imageName>
```

Note: To assign a particular Host IP to a container the Host network driver is required. This will be taught in a later module. For this example we will expose the container on the localhost i.e. 127.0.0.1

```
root@docker-1:/# docker run -p 127.0.0.1:8003:80 -d nginx
f7bce5dad766a0842ca4560ad6d9caa478314de9c4f85b1edebb91cc046622bb
root@docker-1:/# docker ps
CONTAINER ID       IMAGE          COMMAND             CREATED         STATUS         PORTS
  NAMES
f7bce5dad766       nginx          "/docker-entrypoint.…"  3 seconds ago   Up 2 seconds   127.0.0.1:8003->80/tcp
  eloquent_hawking
```

3. To verify if the container has been deployed on the said port we can curl the exposed port:

```
$ curl <IP>:<hostPort>
```

```
root@docker-1:/# curl 127.0.0.1:8003
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
```