

Problem 1:

1-Running the container hello-world

```

Password:
[root@www vomato]# docker container run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:1b7a37f2a0e26e55ba2916e0c53bfb60d9bd43e390e31aacd25cb3581ed74e6
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

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```

2-by listing all containers will view the exited and stopped containers

```

[root@www vomato]# docker container ls -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS              PORTS          NAMES
047bebe786a5   hello-world  "/hello"                6 minutes ago  Exited (0) 6 minutes ago           hopeful_mccarthy
[root@www vomato]#
```

3- starting it by using its container id and docker container start

```

[root@www vomato]# docker container ls -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS              PORTS          NAMES
047bebe786a5   hello-world  "/hello"                6 minutes ago  Exited (0) 6 minutes ago           hopeful_mccarthy
[root@www vomato]# docker container start 047bebe786a5
047bebe786a5
[root@www vomato]# docker container ls -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS              PORTS          NAMES
047bebe786a5   hello-world  "/hello"                7 minutes ago  Exited (0) 8 seconds ago           hopeful_mccarthy
[root@www vomato]#
```

4- since its stopped it can be removed right away

```

[root@www vomato]# docker container ls -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS              PORTS          NAMES
047bebe786a5   hello-world  "/hello"                9 minutes ago  Exited (0) 2 minutes ago           hopeful_mccarthy
[root@www vomato]# docker container rm 047be
047be
[root@www vomato]# docker container ls -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS              PORTS          NAMES
[root@www vomato]#
```

5- removing the hello-world image from my host

```

[root@www vomato]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
hello-world   latest    d2c94e258dcb  20 months ago  13.3kB
[root@www vomato]# docker image rm hello-world:latest
Untagged: hello-world:latest
Untagged: hello-world@sha256:1b7a37f2a0e26e55ba2916e0c53bfb60d9bd43e390e31aacd25cb3581ed74e6
Deleted: sha256:d2c94e258dcb3c5ac2798d32e1249e42ef01cba4841c2234249495f87264ac5a
Deleted: sha256:ac2880ec8bb38d5c35b49d45a6ac4777544941199075dff8c4eb63e093aa81e
[root@www vomato]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
[root@www vomato]#
```

1-running ubuntu in interactive mode

```

root@www.vomato]# docker container run -it ubuntu:latest
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
de442656597a: Pull complete
Digest: sha256:8dd3c3b9c96cecb9f1667e9290b3bc61b78c2678c2cbdae5f0fea92cc6734ab
Status: Downloaded newer image for ubuntu:latest
root@28674c156b9d:/# echo docker
docker
root@28674c156b9d:/#

```

2-running echo docker inside the interactive shell

```
status: Downloaded newer image for ubuntu:latest
root@28674c156b9d:/# echo docker
docker
root@28674c156b9d:/#
```

3-running another bash shell using `/bin/bash` would be ran as a subshell and touching a file called `hello-docker`

```
root@28674c156b9d:/# /bin/bash
root@28674c156b9d:/# touch hello-docker
root@28674c156b9d:/# ls
bin  boot  dev  etc  hello-docker  home  lib  lib64  media  mnt  opt  proc  root  run /sbin
```

4-removing all the exited containers using process output substitution in bash alongside the docker container rm and docker container ls -q which only shows the container ids will remove all docker containers with status of exited

```
#docker container rm $(docker container ls -a -f status=exited -q)
```

```
28674c156b9d ubuntu:latest /bin/bash 13 Minutes ago Exited (0) 3 Minutes ago
[root@www vomato]# docker container rm $(docker container ls -a -f status=exited)
modest_euler
Error response from daemon: No such container: CONTAINER
Error response from daemon: No such container: ID
Error response from daemon: No such container: IMAGE
Error response from daemon: No such container: COMMAND
Error response from daemon: No such container: CREATED
Error response from daemon: No such container: STATUS
Error response from daemon: No such container: PORTS
Error response from daemon: No such container: NAMES
Error response from daemon: removal of container 28674c156b9d is already in progress
Error response from daemon: No such container: ubuntu:latest
```

Problem 3:

```
[root@www vomato]# docker container run -d -e MYSQL_ROOT_PASSWORD="P4$Sw0rd0!" mysql:latest
b7ecd2c9ae7ded9660facf94f01149b666cd7b2b2611a0aa82ae302b2b929a1a
[root@www vomato]# docker container b7ecd exec env
Error response from daemon: no such container: b7ecd
[root@www vomato]# docker container ls
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
b7ecd2c9ae7d       mysql:latest       "docker-entrypoint.s..." About a minute ago   Up About a minute   3306/tcp, 33060/tcp trusting_gauss
[root@www vomato]# docker container exec b7ec env
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
HOSTNAME=b7ecd2c9ae7d
MYSQL_ROOT_PASSWORD=P4$Sw0rd0!
GOSU_VERSION=1.17
MYSQL_MAJOR=innovation
MYSQL_VERSION=9.1.0-1.el9
MYSQL_SHELL_VERSION=9.1.0-1.el9
HOME=/root
[root@www vomato]#
```

Problem 4:

```
[root@www vomato]# docker container run -d -p 4000:80 nginx
47399f2be7b797d1b29305822b70c08d3e27fb34714e9a4bf2631f9398c957b7
[root@www vomato]# curl localhost:4000
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
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>
```

```
tomato@Tomato: ~$ curl 192.168.159.130:4000
<html>
<head><title>403 Forbidden</title></head>
<body>
<center><h1>403 Forbidden</h1></center>
<hr><center>nginx/1.27.3</center>
</body>
</html>
tomato@Tomato: ~$ curl 192.168.159.130:4000
<html>
<head><title>403 Forbidden</title></head>
<body>
<center><h1>403 Forbidden</h1></center>
<hr><center>nginx/1.27.3</center>
</body>
</html>
tomato@Tomato: ~$
```

```
nginx
Google Drive Metwally Labs Interesting nixCraft - Linux / Unix ... [52 Act 3 Spoilers] Jin... Directive Index - Apac... Other Bookmarks
Docs Get support Contact sales
Pricing Support Blog Company
Sign In Get started
vوماتو@www/home/vوماتو/static
/docker-entrypoint.d/ is not empty, will attempt to perform configuration
Looking for shell scripts in /docker-entrypoint.d/
Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2025/01/18 12:50:16 [notice] 1#1: using the "epoll" event method
2025/01/18 12:50:16 [notice] 1#1: nginx/1.27.3
2025/01/18 12:50:16 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2025/01/18 12:50:16 [notice] 1#1: OS: Linux 5.14.0-134.el9.x86_64
2025/01/18 12:50:16 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1073741816:1073741816
2025/01/18 12:50:16 [notice] 1#1: start worker processes
2025/01/18 12:50:16 [notice] 1#1: start worker process 29
2025/01/18 12:50:16 [notice] 1#1: start worker process 30
2025/01/18 12:50:24 [error] 29#29: *1 directory index of "/usr/share/nginx/html/" is forbidden, client: 192.168.159.1, server: localhost, request: "GET / HTTP/1.1", host: "192.168.159.130:4000"
192.168.159.1 - - [18/Jun/2025:12:50:24 +0000] "GET / HTTP/1.1" 403 153 "-" "curl/7.81.0" "-"
2025/01/18 12:50:33 [error] 30#30: *2 directory index of "/usr/share/nginx/html/" is forbidden, client: 192.168.159.1, server: localhost, request: "GET / HTTP/1.1", host: "192.168.159.130:4000"
192.168.159.1 - - [18/Jun/2025:12:50:33 +0000] "GET / HTTP/1.1" 403 153 "-" "curl/7.81.0" "-"
```