

## CONTAINER LIFECYCLE - RESTART POLICIES

DEFAULT : run -d container -> ps-> container runs-> stop->start-> ps-> container runs  
->restart-> ps ->container NOT running ----->>> default behaviour

Always : run -d-> ps => container runs-> restart ->stop ->ps-> container NOT running ->  
restart ->ps -> container runs

unless stopped : -> ps -> restart ->ps -> container runs -> stop -> ps -> container NOT  
running -> restart -> ps -> container NOT running ->start -> ps->restart -> ps-> container  
runs

To do this lets pull an httpd image

```
[root@ip-172-31-44-133 Dockerfiles]# docker image pull httpd
```

Using default tag: latest

latest: Pulling from library/httpd

d660b1f15b9b: Already exists

aa1c79a2fa37: Already exists

f5f6514c0aff: Already exists

676d3dd26040: Already exists

4fdddf845a1b: Already exists

520c4b04fe88: Pull complete

5387b1b7893c: Pull complete

Digest:

sha256:8c84e065bdf72b4909bd55a348d5e91fe265e08d6b28ed9104bfdcac9206dcc  
8

Status: Downloaded newer image for httpd:latest

```
[root@ip-172-31-44-133 Dockerfiles]# docker images
```

```
REPOSITORY TAG IMAGE ID CREATED SIZE
```

```
busyboxseason3 V2 14644a4a5d6f 9 hours ago 362MB
```

```
busybox latest e1ddd7948a1c 42 hours ago 1.16MB
```

```
httpd latest 11426a19f1a2 2 days ago 178MB
```

### Scenario 1 : Default (None) mode.

**Expected Behaviour:** Container does NOT run ON RESTART

```
[root@ip-172-31-44-133 Dockerfiles]# docker run -d --name restweb httpd  
d9ef8052ec5b3e53e840e437410da449917a3db2cd08f7a6b2127e73c52d6822
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
d9ef8052ec5b httpd "httpd-foreground" 8 seconds ago Up 7 seconds 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker stop restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker start restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
-----
```



You can see that the container does NOT run, AFTER restart

lets remove this container

```
[root@ip-172-31-44-133 Dockerfiles]# docker rm restweb
restweb
```

## Scenario 2 : ALWAYS mode

**Expected Behaviour:** container RUNS after manually stopped and started and then RESTARTED.

```
[root@ip-172-31-44-133 Dockerfiles]# docker container run -d --name restweb
--restart always httpd
```

```
ef4a29b38c2741c479c002032c3f2d40ee5696b4c205c3bf6040768cf3281c93
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
ef4a29b38c27 httpd "httpd-foreground" 7 seconds ago Up 6 seconds 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
ef4a29b38c27 httpd "httpd-foreground" 2 minutes ago Up 4 seconds 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker stop restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl start docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
```

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
ef4a29b38c27 httpd "httpd-foreground" 5 minutes ago Up 1 second 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker stop restweb
restweb
[root@ip-172-31-44-133 Dockerfiles]# docker rm restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker rm restweb
restweb
```

### Scenario 1 : UNLESS-STOPPED mode

**Expected Behaviour:** Normal restart works, but if the container is MANUALLY STOPPED and RE-STARTED and then it **WONT WORK**. But if restarted WITHOUT MANUAL STOP, **RESTART WILL WORK**

```
[root@ip-172-31-44-133 Dockerfiles]# docker container run -d --name restweb
--restart unless-stopped httpd
b92fa7f2c9aa8bbcf467c7ca945963966ca8cef852190b5950c542ffce114fc2
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
b92fa7f2c9aa httpd "httpd-foreground" 8 seconds ago Up 7 seconds 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
b92fa7f2c9aa httpd "httpd-foreground" 34 seconds ago Up 4 seconds 80/tcp restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker stop restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker start restweb
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
b92fa7f2c9aa httpd "httpd-foreground" About a minute ago Up 3 seconds 80/tcp
restweb
```

```
[root@ip-172-31-44-133 Dockerfiles]# systemctl restart docker
```

```
[root@ip-172-31-44-133 Dockerfiles]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
b92fa7f2c9aa httpd "httpd-foreground" About a minute ago Up 8 seconds 80/tcp
```

restweb