

Docker 2

06 November 2025 10:33

19. Run four HTTPD Docker containers with distinct, meaningful names, and apply restart policies (NO, On-Failure, Always, and Unless-Stopped) to each of the four containers, respectively. Demonstrate that the restart policies function as expected.

Run Four Containers with Different Restart Policies

```
root@DESKTOP-K4UBP7Q:~# docker run -d --name httpd_no --restart=no httpd
13050d79cc31dd65f2589178e1678a0db11c96f43f2b98f8b9fd238908e50cdb
root@DESKTOP-K4UBP7Q:~# docker run -d --name httpd_onfailure --restart=on-failure httpd
cd6735b0ed34935713cc3703d5ec1e313c2fcbed6a22462197a0556bec88e801
root@DESKTOP-K4UBP7Q:~# docker run -d --name httpd_always --restart=always httpd
424bfdb270f56f5419f060f6a321efcaa1421d81eea6d693fce31c857f836445
root@DESKTOP-K4UBP7Q:~# docker run -d --name httpd_unless --restart=unless-stopped httpd
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
0c148712c20a	httpd	"httpd-foreground"	12 seconds ago	Up 10 seconds	80/tcp	httpd_unless
424bfdb270f5	httpd	"httpd-foreground"	About a minute ago	Up About a minute	80/tcp	httpd_always
cd6735b0ed34	httpd	"httpd-foreground"	2 minutes ago	Up 2 minutes	80/tcp	httpd_onfailure
13050d79cc31	httpd	"httpd-foreground"	2 minutes ago	Up 2 minutes	80/tcp	httpd_no
65e1a6af9082	hello-world	"/hello"	5 weeks ago	Exited (0) 5 weeks ago		busy_dubinsky

Restart policies

no= Never restart.

on-failure = Restart only if container exits with non-zero status.

always= Always restart, even after daemon restart.

unless-stopped= Restart unless manually stopped.

Demonstrate the Difference

```
root@DESKTOP-K4UBP7Q:~# docker stop httpd_no httpd_onfailure httpd_always httpd_unless
httpd_no
httpd_onfailure
httpd_always
httpd_unless
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
0c148712c20a	httpd	"httpd-foreground"	52 seconds ago	Exited (0) 14 seconds ago		httpd_unless
424bfdb270f5	httpd	"httpd-foreground"	About a minute ago	Exited (0) 14 seconds ago		httpd_always
cd6735b0ed34	httpd	"httpd-foreground"	2 minutes ago	Exited (0) 14 seconds ago		httpd_onfailure
13050d79cc31	httpd	"httpd-foreground"	3 minutes ago	Exited (0) 14 seconds ago		httpd_no
65e1a6af9082	hello-world	"/hello"	5 weeks ago	Exited (0) 5 weeks ago		busy_dubinsky

Simulate a failure (exit code ≠ 0)

```
root@DESKTOP-K4UBP7Q:~# docker run --name test_fail --restart=on-failure busybox sh -c "exit 1"
Unable to find image 'busybox:latest' locally
latest: Pulling from library/busybox
e59838ecfec5: Pull complete
Digest: sha256:e3652a00a2fabd16ce889f0aa32c38eec347b997e73bd09e69c962ec7f8732ee
Status: Downloaded newer image for busybox:latest
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
8b4a060e3229	busybox	"sh -c 'exit 1'"	48 seconds ago	Restarting (1) 20 seconds ago		test_fail
0c148712c20a	httpd	"httpd-foreground"	2 minutes ago	Exited (0) About a minute ago		httpd_unless
424bfdb270f5	httpd	"httpd-foreground"	3 minutes ago	Exited (0) About a minute ago		httpd_always
cd6735b0ed34	httpd	"httpd-foreground"	4 minutes ago	Exited (0) About a minute ago		httpd_onfailure
13050d79cc31	httpd	"httpd-foreground"	4 minutes ago	Exited (0) About a minute ago		httpd_no
65e1a6af9082	hello-world	"/hello"	5 weeks ago	Exited (0) 5 weeks ago		busy_dubinsky

Restart Docker Daemon

```
root@DESKTOP-K4UBP7Q:~# sudo systemctl restart docker
root@DESKTOP-K4UBP7Q:~# docker ps -a


| CONTAINER ID | IMAGE       | COMMAND            | CREATED            | STATUS                       | PORTS  | NAMES           |
|--------------|-------------|--------------------|--------------------|------------------------------|--------|-----------------|
| 8b4a060e3229 | busybox     | "sh -c 'exit 1'"   | About a minute ago | Restarting (1) 2 seconds ago |        | test_fail       |
| 0c148712c20a | httpd       | "httpd-foreground" | 3 minutes ago      | Exited (0) 2 minutes ago     |        | httpd_unless    |
| 424bfdb270f5 | httpd       | "httpd-foreground" | 4 minutes ago      | Up 7 seconds                 | 80/tcp | httpd_always    |
| cd6735b0ed34 | httpd       | "httpd-foreground" | 5 minutes ago      | Exited (0) 2 minutes ago     |        | httpd_onfailure |
| 13050d79cc31 | httpd       | "httpd-foreground" | 5 minutes ago      | Exited (0) 2 minutes ago     |        | httpd_no        |
| 65e1a6af9082 | hello-world | "/hello"           | 5 weeks ago        | Exited (0) 5 weeks ago       |        | busy_dubinsky   |


```

Verify Restart Count

```
root@DESKTOP-K4UBP7Q:~# docker inspect -f '{{ .Name }} - RestartCount: {{ .RestartCount }}' $(docker ps -aq)
/test_fail - RestartCount: 11
/httpd_unless - RestartCount: 0
/httpd_always - RestartCount: 0
/httpd_onfailure - RestartCount: 0
/httpd_no - RestartCount: 0
/busy_dubinsky - RestartCount: 0
root@DESKTOP-K4UBP7Q:~# |
```

20. Change the restart policy of a above running container from the default to a custom policy using the docker update command.

e.g. docker update --help

Use docker update Command = docker update --restart=<policy> <container_name>

Change to on-failure

```
root@DESKTOP-K4UBP7Q:~# docker update --restart=on-failure httpd_unless
httpd_unless
```

Change to no

```
root@DESKTOP-K4UBP7Q:~# docker update --restart=no httpd_always
httpd_always
```

Change to unless-stopped

```
root@DESKTOP-K4UBP7Q:~# docker update --restart=unless-stopped httpd_onfailure
httpd_onfailure
```

Change to always

```
root@DESKTOP-K4UBP7Q:~# docker update --restart=always httpd_no
httpd_no
```

Verify the Change

```
root@DESKTOP-K4UBP7Q:~# docker inspect -f '{{ .Name }} - RestartPolicy: {{ .HostConfig.RestartPolicy.Name }}' $(docker ps -aq)
/test_fail - RestartPolicy: on-failure
/httpd_unless - RestartPolicy: on-failure
/httpd_always - RestartPolicy: no
/httpd_onfailure - RestartPolicy: unless-stopped
/httpd_no - RestartPolicy: always
/busy_dubinsky - RestartPolicy: no
root@DESKTOP-K4UBP7Q:~# |
```

Launch an NGINX container with a meaningful name and expose it on the host's port 80. Create an "index.html" file containing the text "Hello there, Let's be the Team CloudEthiX," and copy the file to the container's "/usr/share/nginx/html/" location. Access the container in a browser to verify that the webpage displays correctly.

```
root@DESKTOP-K4UBP7Q:~# docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
d7ecded7702a: Already exists
266626526d42: Pull complete
320b0949be89: Pull complete
d921c57c6a81: Pull complete
9def903993e4: Pull complete
52bc359bcfd7: Pull complete
e2f8e296d9df: Pull complete
Digest: sha256:1beed3ca46acebe9d3fb62e9067f03d05d5bfa97a00f30938a0a3580563272ad
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
```

```
root@DESKTOP-K4UBP7Q:~# docker run -d --name cloudeithix_web -p 80:80 nginx
a4386552babf3e3f0031376a6e2eca6ac7bbaccf650334a8ecaedc048ce50d51
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
a4386552babf	nginx	"/docker-entrypoint..."	14 seconds ago	Up 13 seconds	0.0.0.0:80->80/tcp, [::]:80->80/tcp

```
root@DESKTOP-K4UBP7Q:~# echo "Hello there, Let's be the Team CloudEthiX" > index.html
root@DESKTOP-K4UBP7Q:~# cat index.html
Hello there, Let's be the Team CloudEthiX
```

```
root@DESKTOP-K4UBP7Q:~# docker cp index.html cloudeithix_web:/usr/share/nginx/html/index.html
Successfully copied 2.05kB to cloudeithix_web:/usr/share/nginx/html/index.html
```



Hello there, Let's be the Team CloudEthiX

3. Run a docker container with CPU and Memory limit.

```
docker run -d --name <container_name> --cpus=<cpu_limit> --memory=<memory_limit> <image_name> (for both at one time)
```

We can also specify the priority of CPU allocation. The default is 1024, and higher numbers are higher priority:

For cpu = docker run -dit -c container_name -cpus="1.0" nginx

```
root@DESKTOP-K4UBP7Q:~# docker run -dit --name cont_cpu --cpus="1.0" nginx
495e6a7818bd42894178dd94ad6d26fe861c05839ae34fa4168b2d5fdb338961
root@DESKTOP-K4UBP7Q:~# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
NAMES
495e6a7818bd nginx "/docker-entrypoint..." 4 seconds ago Up 3 seconds 80/tcp
cont_cpu
```

```
root@DESKTOP-K4UBP7Q:~# docker inspect cont_cpu | grep NanoCpus
"NanoCpus": 1000000000,
```

For memory = sudo docker run -dit --memory="[memory-limit]" [docker-image]
docker run -dit --name cont_memory --memory="512m" nginx (giving 512 mb)

```
root@DESKTOP-K4UBP7Q:~# docker run -dit --name cont_memory --memory="512m" nginx
a63a32cde179ffeb8b937685afdf632edf98471c418428eb400f47ba13edfa171c
root@DESKTOP-K4UBP7Q:~# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
NAMES
a63a32cde179 nginx "/docker-entrypoint..." 6 seconds ago Up 5 seconds 80/tcp
cont_memory
```

docker stats

CONTAINER ID	NAME	CPU %	MEM USAGE / LIMIT	MEM %	NET I/O	BLOCK I/O	PIDS
a63a32cde179	cont_memory	0.00%	10.28MiB / 512MiB	2.01%	880B / 126B	0B / 12.3kB	13

```
root@DESKTOP-K4UBP7Q:~# docker inspect cont_memory | grep -i Memory
"Name": "/cont_memory",
"Memory": 536870912,
```

4. Update CPU and Memory of docker container using docker update.

docker update --cpus="1.5" cont_cpu

```
root@DESKTOP-K4UBP7Q:~# docker update --cpus="1.5" cont_cpu
cont_cpu
root@DESKTOP-K4UBP7Q:~# docker inspect cont_cpu | grep NanoCpus
"NanoCpus": 1500000000,
root@DESKTOP-K4UBP7Q:~# |
```

For memory

docker update --memory="1g" cont_memory

```
root@DESKTOP-K4UBP7Q:~# docker inspect cont_memory | grep -i Memory
"Name": "/cont_memory",
"Memory": 536870912,
```

```
root@DESKTOP-K4UBP7Q:~# docker inspect cont_memory | grep -i Memory
"Name": "/cont_memory",
"Memory": 1073741824,
```

```
root@DESKTOP-K4UBP7Q:~# docker update --cpus="1.5" cont_cpu
cont_cpu
root@DESKTOP-K4UBP7Q:~# docker inspect cont_cpu | grep NanoCpus
"NanoCpus": 1500000000,
root@DESKTOP-K4UBP7Q:~# |
```

24. Pull the Busy-box image to your local system, tag it, and push it to the Docker Hub repository "yourname_cloodethix_busybox."

```
root@DESKTOP-K4UBP7Q:~# docker pull busybox
Using default tag: latest
latest: Pulling from library/busybox
Digest: sha256:e3652a00a2fabd16ce889f0aa32c38eec347b997e73bd09e69c962ec7f8732ee
Status: Image is up to date for busybox:latest
docker.io/library/busybox:latest
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
httpd	latest	6a4fe18d08d2	2 days ago	117MB
nginx	latest	d261fd19cb63	2 days ago	152MB
hello-world	latest	1b44b5a3e06a	2 months ago	10.1kB
busybox	latest	08ef35a1c3f0	13 months ago	4.43MB

```
root@DESKTOP-K4UBP7Q:~# docker tag busybox vinayakdeokar/cloudeithix_busybox
root@DESKTOP-K4UBP7Q:~# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
httpd              latest   6a4fe18d08d2  2 days ago   117MB
nginx              latest   d261fd19cb63  2 days ago   152MB
hello-world        latest   1b44b5a3e06a  2 months ago  10.1kB
busybox            latest   08ef35a1c3f0  13 months ago  4.43MB
vinayakdeokar/cloudeithix_busybox  latest   08ef35a1c3f0  13 months ago  4.43MB
```

Than login to docker from wsl

```
root@DESKTOP-K4UBP7Q:~# docker login
USING WEB-BASED LOGIN

Info → To sign in with credentials on the command line, use 'docker login -u <username>'

Your one-time device confirmation code is: LDWT-HVGM
Press ENTER to open your browser or submit your device code here: https://login.docker.com/activate

Waiting for authentication in the browser...

WARNING! Your credentials are stored unencrypted in '/root/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
```

```
root@DESKTOP-K4UBP7Q:~# docker push vinayakdeokar/cloudeithix_busybox
Using default tag: latest
The push refers to repository [docker.io/vinayakdeokar/cloudeithix_busybox]
e14542cc0629: Mounted from library/busybox
latest: digest: sha256:755d9ce09782b2f60fd3321878e611f871817aa8a726e8c605f2f67ae6ffa9e2 size: 527
root@DESKTOP-K4UBP7Q:~# |
```

The screenshot shows the Docker Hub 'My Hub' interface. On the left, there's a sidebar with options like 'Repositories', 'Hardened Images', 'Collaborations', 'Settings', 'Default privacy', and 'Notifications'. The main area is titled 'Repositories' and shows a message: 'All repositories within the vinayakdeokar namespace.' Below this, there's a search bar and a 'Create a repository' button. A table lists the repository details:

Name	Last Pushed	Contains	Visibility	Scout
vinayakdeokar/cloudeithix_busybox	less than a minute ago		Public	Inactive

25. In your project directory, create a Dockerfile (named Dockerfile) with the following content.
 FROM nginx:latest
 COPY custom-index.html /usr/share/nginx/html/index.html
 Ensure you also have a file named custom-index.html in the same directory. Build the Docker image using the Dockerfile you created and push it to your repository. Delete the local image. Start a new container using the custom Nginx image that you just pushed. Map port 8080 on your host to port 80 in the container. Check the container page in browser.

```
root@DESKTOP-K4UBP7Q:~# mkdir nginx_custom
```

Created = custom-index.html

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# vi custom-index.html
```

```

<!DOCTYPE html>
<html>
  <head>
    <title>CloudEthiX</title>
  </head>
  <body>
    <h1>Hello there, Let's be the Team CloudEthiX 🚀</h1>
  </body>
</html>

```

Created Dockerfile.

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# vi Dockerfile
```

```

FROM nginx:latest
COPY custom-index.html /usr/share/nginx/html/index.html

```

Docker image build.

```

root@DESKTOP-K4UBP7Q:~/nginx_custom# docker build -t vinayakdeokar/custom_nginx .
[+] Building 0.5s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 112B
=> [internal] load metadata for docker.io/library/nginx:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 206B
=> [1/2] FROM docker.io/library/nginx:latest
=> [2/2] COPY custom-index.html /usr/share/nginx/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:cbedead07c595ff72c1b0c01f75847dea4df4a8aa9be42c4e40b18aca277fae
=> => naming to docker.io/vinayakdeokar/custom_nginx

```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
vinayakdeokar/custom_nginx	latest	cbedead07c59	2 minutes ago	152MB
httpd	latest	6a4fe18d08d2	2 days ago	117MB
nginx	latest	d261fd19cb63	2 days ago	152MB
hello-world	latest	1b44b5a3e06a	2 months ago	10.1kB
busybox	latest	08ef35a1c3f0	13 months ago	4.43MB
vinayakdeokar/cloudeithix_busybox	latest	08ef35a1c3f0	13 months ago	4.43MB

Docker image push

```

root@DESKTOP-K4UBP7Q:~/nginx_custom# docker push vinayakdeokar/custom_nginx
Using default tag: latest
The push refers to repository [docker.io/vinayakdeokar/custom_nginx]
bd955a0753d5: Pushed

```

Delete Local image

```

root@DESKTOP-K4UBP7Q:~/nginx_custom# docker rmi vinayakdeokar/custom_nginx
Untagged: vinayakdeokar/custom_nginx:latest
Untagged: vinayakdeokar/custom_nginx@sha256:3bf0aa835c518222cbb97d7150717ffd4a1ffa86a7b7ea8ce729389343a5efd2
Deleted: sha256:cbedead07c595ff72c1b0c01f75847dea4df4a8aa9be42c4e40b18aca277fae

```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker images
REPOSITORY          TAG      IMAGE ID      CREATED     SIZE
httpd              latest   6a4fe18d08d2  2 days ago  117MB
nginx              latest   d261fd19cb63  2 days ago  152MB
hello-world        latest   1b44b5a3e06a  2 months ago 10.1kB
busybox             latest   08ef35a1c3f0  13 months ago 4.43MB
vinayakdeokar/cloudeithix_busybox  latest   08ef35a1c3f0  13 months ago 4.43MB
```

Create new container with name custom_nginx_new

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker run -dit --name custom_nginx_new -p 8080:80 vinayakdeokar/custom_nginx
Unable to find image 'vinayakdeokar/custom_nginx:latest' locally
latest: Pulling from vinayakdeokar/custom_nginx
d7ecded7702a: Already exists
266626526d42: Already exists
320b0949be89: Already exists
d921c57c6a81: Already exists
9def903993e4: Already exists
52bc359bcd7: Already exists
e2f8e296d9df: Already exists
c66315147d21: Already exists
Digest: sha256:3bf0aa835c518222ccb97d7150717ffd4a1ffa86a7b7ea8ce729389343a5efd2
Status: Downloaded newer image for vinayakdeokar/custom_nginx:latest
1b84ccb24c3c4aea091b011702465319a7004b5d3d2e173cfcd80545f023ad0b
```

Verify in Browser



Hello there, Let's be the Team CloudEthiX 😊

Push the Redis images tagged as version 1 and 3 to your Docker Hub repository, named "yourname_cloudeithix_redis."

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker pull redis
Using default tag: latest
latest: Pulling from library/redis
1adabbd6b0d6b: Pull complete
22506777a096: Pull complete
5dec27664782: Pull complete
2e60b18d70d8: Pull complete
729797e636a7: Pull complete
4f4fb700ef54: Pull complete
6c981fc7c621: Pull complete
Digest: sha256:5c7c0445ed86918cb9efb96d95a6bfc03ed2059fe2c5f02b4d74f477ffe47915
Status: Downloaded newer image for redis:latest
docker.io/library/redis:latest
```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker images
REPOSITORY          TAG      IMAGE ID      CREATED     SIZE
vinayakdeokar/custom_nginx    latest   cbbedead07c59  19 minutes ago  152MB
httpd              latest   6a4fe18d08d2  2 days ago  117MB
nginx              latest   d261fd19cb63  2 days ago  152MB
redis              latest   017b1c12abf9  2 days ago  137MB
hello-world        latest   1b44b5a3e06a  2 months ago 10.1kB
busybox             latest   08ef35a1c3f0  13 months ago 4.43MB
vinayakdeokar/cloudeithix_busybox  latest   08ef35a1c3f0  13 months ago 4.43MB
```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker tag redis vinayakdeokar/cloudeithix_redis:1
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker tag redis vinayakdeokar/cloudeithix_redis:3
```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker images
REPOSITORY          TAG      IMAGE ID      CREATED     SIZE
vinayakdeokar/custom_nginx    latest   cbbedead07c59  20 minutes ago  152MB
httpd              latest   6a4fe18d08d2  2 days ago  117MB
nginx              latest   d261fd19cb63  2 days ago  152MB
redis              latest   017b1c12abf9  2 days ago  137MB
vinayakdeokar/cloudeithix_redis  1     017b1c12abf9  2 days ago  137MB
vinayakdeokar/cloudeithix_redis  3     017b1c12abf9  2 days ago  137MB
```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker push vinayakdeokar/cloudeithix_redis:1
The push refers to repository [docker.io/vinayakdeokar/cloudeithix_redis]
4c9d174d85be: Mounted from library/redis
5f70bf18a086: Mounted from library/redis
4a34755ecccc: Mounted from library/redis
a4f8354a4eb1: Mounted from library/redis
fd0bc835e87b: Mounted from library/redis
e7fe7688c8dc: Mounted from library/redis
b512279032aa: Mounted from library/redis
1: digest: sha256:b3f78d38d1ba4758461d84a19af14b8d13c4a44c145b70efb0749418566b6f55 size: 1776
```

```
root@DESKTOP-K4UBP7Q:~/nginx_custom# docker push vinayakdeokar/cloudeithix_redis:3
The push refers to repository [docker.io/vinayakdeokar/cloudeithix_redis]
4c9d174d85be: Layer already exists
5f70bf18a086: Layer already exists
4a34755ecccc: Layer already exists
a4f8354a4eb1: Layer already exists
fd0bc835e87b: Layer already exists
e7fe7688c8dc: Layer already exists
b512279032aa: Layer already exists
3: digest: sha256:b3f78d38d1ba4758461d84a19af14b8d13c4a44c145b70efb0749418566b6f55 size: 1776
```

Repositories
All repositories within the **vinayakdeokar** namespace.

Name	Last Pushed	Contains	Visibility	Scout
vinayakdeokar/cloudeithix_redis	5 minutes ago	IMAGE	Public	Inactive
vinayakdeokar/custom_nginx	23 minutes ago	IMAGE	Public	Inactive
vinayakdeokar/cloudeithix_busybox	40 minutes ago	IMAGE	Public	Inactive
vinayakdeokar/ubuntu-nginx	about 20 hours ago		Public	Inactive
vinayakdeokar/repo1	3 months ago	IMAGE	Public	Inactive

Repositories / cloudeithix / General

vinayakdeokar/cloudeithix_redis

Last pushed 4 minutes ago • ⭐0 • ⏺0

Add a description

Add a category

General Tags Image Management BETA Collaborators Webhooks

Tags DOCKER SCOUT INACTIVE [Activate](#)

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
3		Image	less than 1 day	4 minutes
1		Image	less than 1 day	5 minutes

[See all](#)

Create a remote Git repository and add the Dockerfile and index.html files. Clone the repository locally and create a release branch. Build the Docker image from the release branch with a meaningful tag, then run a container from the image and expose it on host port 8383. Check the webpage in a browser, and upon success, push the image to your Docker Hub repository named "yourname_cloudeithix_nginx." Finally, push the release branch to the remote Git repository and merge it by creating a pull request.

Created New Repository - Docker_cloudeithix

```
root@DESKTOP-K4UBP7Q:~# mkdir cloudeithix_nginx
root@DESKTOP-K4UBP7Q:~# cd cloudeithix_nginx/
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# vi Dockerfile
```

```
FROM nginx:latest
COPY index.html /usr/share/nginx/html/index.html
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# vi index.html
```

```
<html>
<head><title>Cloudethix Nginx Custom Page</title></head>
<body>
    <h1>Welcome to Vinayak's Cloudethix Nginx!</h1>
</body>
</html>
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /root/cloudethix_nginx/.git/
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git add .
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git commit -m "added Dockerfile and HTML"
[master (root-commit) 0bfa2c9] added Dockerfile and HTML
Committer: root <root@DESKTOP-K4UBP7Q.localdomain>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

git config --global --edit

After doing this, you may fix the identity used for this commit with:

git commit --amend --reset-author

2 files changed, 10 insertions(+)
create mode 100644 Dockerfile
create mode 100644 index.html
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git branch -M main
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git remote add origin https://github.com/vinayakdeokar/Docker_cloudethix.git
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git push -u origin main
Username for 'https://github.com': vinayakdeokar
Password for 'https://vinayakdeokar@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 452 bytes | 452.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/vinayakdeokar/Docker_cloudethix.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_nginx# git checkout -b release
Switched to a new branch 'release'
```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# docker build -t vinayakdeokar/cloudeithix_nginx:release-v1 .
[+] Building 0.4s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 105B
=> [internal] load metadata for docker.io/library/nginx:latest
=> [internal] load .dockignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 187B
=> CACHED [1/2] FROM docker.io/library/nginx:latest
=> [2/2] COPY index.html /usr/share/nginx/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:0abf40695716ba93158cb33ab4721649c0a803c14321bf8fd93da9ca9e826a4f
=> => naming to docker.io/vinayakdeokar/cloudeithix_nginx:release-v1
root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# docker run -d -p 8383:80 --name cloudeithix_nginx_cont1 vinayakdeokar/cloudeithix_nginx:releas
e-v1
09bbae5d91ee0db20fb61f8324b64742ee69f80ba59fb2a73bb80fde569ce098

```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# docker run -d -p 8383:80 --name cloudeithix_nginx_cont1 vinayakdeokar/cloudeithix_nginx:releas
e-v1
09bbae5d91ee0db20fb61f8324b64742ee69f80ba59fb2a73bb80fde569ce098

```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# docker push vinayakdeokar/cloudeithix_nginx:release-v1
The push refers to repository [docker.io/vinayakdeokar/cloudeithix_nginx]
22169b86fb1a: Pushed
d7217c60dca4: Mounted from vinayakdeokar/custom_nginx
d81df94f8d07: Mounted from vinayakdeokar/custom_nginx
99cd1b1b6a43: Mounted from vinayakdeokar/custom_nginx
2ced4cd78a7b: Mounted from vinayakdeokar/custom_nginx
8feb164cd673: Mounted from vinayakdeokar/custom_nginx
6e19587ac541: Mounted from vinayakdeokar/custom_nginx
36d06fe0cbc6: Mounted from vinayakdeokar/custom_nginx
release-v1: digest: sha256:58958b5d8bd5fda47516192472cae9de9d60dfec36f445f80100ed3da6149090 size: 1985

```

Name	Last Pushed	Contains	Visibility	Scout
vinayakdeokar/cloudeithix_nginx	less than a minute ago	IMAGE	Public	Inactive
vinayakdeokar/cloudeithix_redis	27 minutes ago	IMAGE	Public	Inactive
vinayakdeokar/custom_nginx	about 1 hour ago	IMAGE	Public	Inactive
vinayakdeokar/cloudeithix_busybox	about 1 hour ago	IMAGE	Public	Inactive
vinayakdeokar/ubuntu-nginx	about 20 hours ago	IMAGE	Public	Inactive
vinayakdeokar/repo1	3 months ago	IMAGE	Public	Inactive

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# echo "test release branch" > release.txt

```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# git add release.txt
root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# git commit -m "Added release.txt"
[release 78da3f9] Added release.txt

```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_nginx# git push -u origin release
Username for 'https://github.com': vinayakdeokar
Password for 'https://vinayakdeokar@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 353 bytes | 353.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/vinayakdeokar/Docker_cloudeithix.git
  0bfa2c9..78da3f9  release -> release
Branch 'release' set up to track remote branch 'release' from 'origin'.

```

Added release.txt #1

[Open](#) vinayakdeokar wants to merge 1 commit into [main](#) from [release](#)

Conversation 0 Commits 1 Checks 0 Files changed 1

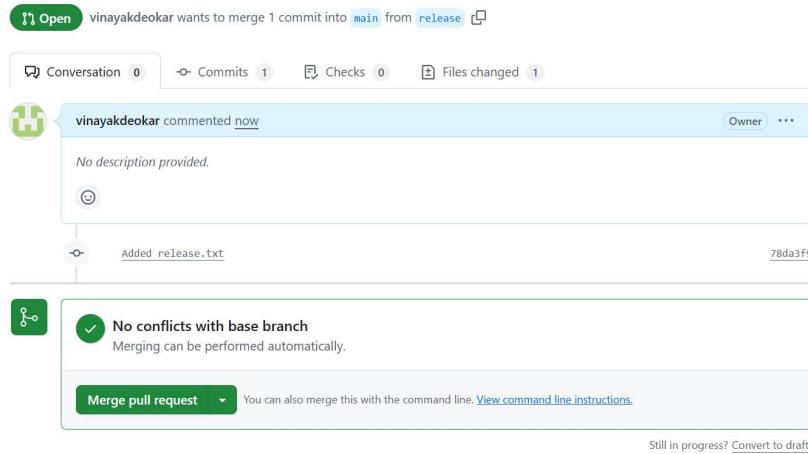
vinayakdeokar commented now
No description provided.

Added release.txt 78da3f9

No conflicts with base branch
Merging can be performed automatically.

Merge pull request You can also merge this with the command line. [View command line instructions](#)

Still in progress? Convert to draft



vinayakdeokar / Docker_cloudethix

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Docker_cloudethix Public

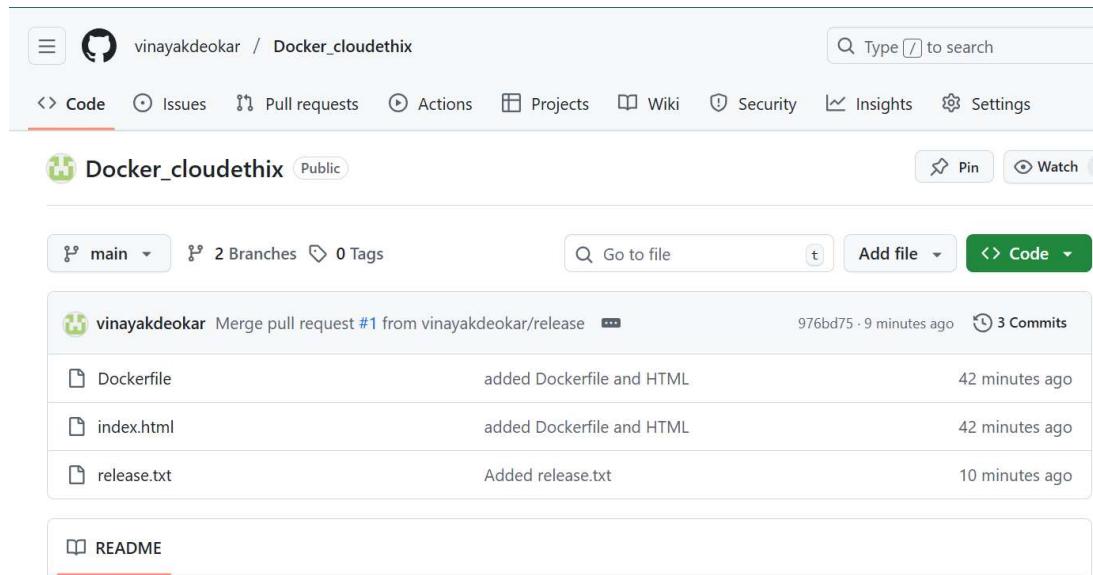
Pin Watch

main 2 Branches 0 Tags Go to file Add file Code

vinayakdeokar Merge pull request #1 from vinayakdeokar/release 976bd75 · 9 minutes ago 3 Commits

Dockerfile	added Dockerfile and HTML	42 minutes ago
index.html	added Dockerfile and HTML	42 minutes ago
release.txt	Added release.txt	10 minutes ago

README



28. Save all local Redis images as a .tar file in the master branch of your local repository. Delete all Redis images from your local system and push the master branch to the remote repository. Load the Redis images from the tar file to your local system, and verify that all images have been loaded correctly.

```
root@DESKTOP-K4UBP7Q:~# mkdir cloudethix_redis
root@DESKTOP-K4UBP7Q:~# cd cloudethix_redis/
root@DESKTOP-K4UBP7Q:~/cloudethix_redis# ll
total 8
drwxr-xr-x 2 root root 4096 Nov  6 15:22 .
drwx----- 8 root root 4096 Nov  6 15:22 ..
```

```
root@DESKTOP-K4UBP7Q:~/cloudethix_redis# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
vinayakdeokar/cloudethix_nginx    release-v1   0abf40695716  2 hours ago  152MB
vinayakdeokar/custom_nginx        latest     cbedead07c59   3 hours ago  152MB
httpd                latest     6a4fe18d08d2   2 days ago   117MB
nginx                latest     d261fd19cb63   2 days ago   152MB
redis                latest     017b1c12abf9   2 days ago   137MB
vinayakdeokar/cloudethix_redis    1          017b1c12abf9   2 days ago   137MB
vinayakdeokar/cloudethix_redis    3          017b1c12abf9   2 days ago   137MB
```

```
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# docker save -o redis_images.tar redis:latest vinayakdeokar/cloudehix_redis:1 vinayakdeokar/
cloudehix_redis:3
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# ll
total 137124
drwxr-xr-x 2 root root    4096 Nov  6 15:27 .
drwxr-xr-x 8 root root    4096 Nov  6 15:22 ..
-rw-r--r-- 1 root root 140403200 Nov  6 15:27 redis_images.tar
```

```
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# git init
git remote add origin https://github.com/vinayakdeokar/cloudehix_redis.git
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /root/cloudehix_redis/.git/
```

```
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# git add redis_images.tar
git commit -m "Add Redis images tar file"
[master (root-commit) 608558d] Add Redis images tar file
  Committer: root <root@DESKTOP-K4UBP7Q.localdomain>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

  git config --global user.name "Your Name"
  git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

1 file changed, 0 insertions(+), 0 deletions(-)
```

```
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# gzip redis_images.tar
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# ll
total 50812
drwxr-xr-x 3 root root    4096 Nov  6 15:28 .
drwxr-xr-x 8 root root    4096 Nov  6 15:22 ..
drwxr-xr-x 8 root root    4096 Nov  6 15:27 .git/
-rw-r--r-- 1 root root 52017049 Nov  6 15:27 redis_images.tar.gz
```

```
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# git add redis_images.tar.gz
git commit -m "Add compressed Redis images tar.gz"
[master e8e9b07] Add compressed Redis images tar.gz
  Committer: root <root@DESKTOP-K4UBP7Q.localdomain>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

  git config --global user.name "Your Name"
  git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 redis_images.tar.gz
root@DESKTOP-K4UBP7Q:~/cloudehix_redis# git push -u origin main
error: src refspec main does not match any
```

When we push the .tar file... than we getting error file size is greater than 100 mb but we already reducing the size by gzip
So we install git-filter-repo (apt install filter-repo)

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git push -u origin master
Username for 'https://github.com': vinayakdeokar
Password for 'https://vinayakdeokar@github.com':
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 98.70 MiB | 4.96 MiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
remote: error: Trace: b77c634a868c75f1c0eaf67180e4907fc585639ad94b594d3e74d8739d86b8e3
remote: error: See https://gh.io/lfs for more information.
remote: error: File redis_images.tar is 133.90 MB; this exceeds GitHub's file size limit of 100.00 MB
remote: error: GH001: Large files detected. You may want to try Git Large File Storage - https://git-lfs.github.com.
To https://github.com/vinayakdeokar/cloudeithix_redis.git
 ! [remote rejected] master --> master (pre-receive hook declined)
error: failed to push some refs to 'https://github.com/vinayakdeokar/cloudeithix_redis.git'
```

Install git-filter-repo

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# apt install git-filter-repo
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  git-filter-repo
```

It will remove the file redis_images.tar completely from the repository's history.
after running it, redis_images.tar and all its historical versions are gone, reducing repo size and preventing GitHub large file errors.

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git filter-repo --path redis_images.tar --invert-paths
Aborting: Refusing to destructively overwrite repo history since
this does not look like a fresh clone.
  (expected at most one entry in the reflog for HEAD)
Please operate on a fresh clone instead. If you want to proceed
anyway, use --force.
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git filter-repo --path redis_images.tar --invert-paths --force
Parsed 4 commits
New history written in 0.03 seconds; now repacking/cleaning...
Repacking your repo and cleaning out old unneeded objects
HEAD is now at c66cdf9 Add compressed Redis images tar.gz
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
Completely finished after 2.31 seconds.
```

Than we push

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git add redis_images.tar.gz
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git commit -m "Add compressed Redis images tar.gz"
[main b067818] Add compressed Redis images tar.gz
  Committer: root <root@DESKTOP-K4UBP7Q.localdomain>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:
```

```

git config --global user.name "Your Name"
git config --global user.email you@example.com
```

After doing this, you may fix the identity used for this commit with:

```
git commit --amend --reset-author
```

```

1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 redis_images.tar.gz
```

Its successfully pushed

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# git push -u origin main
Username for 'https://github.com': vinayakdeokar
Password for 'https://vinayakdeokar@github.com':
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 49.15 MiB | 6.16 MiB/s, done.
Total 6 (delta 1), reused 5 (delta 1), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/vinayakdeokar/cloudeithix_redis.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
```

Remove images from locally

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker rmi -f redis:latest vinayakdeokar/cloudeithix_redis:1 vinayakdeokar/cloudeithix_redis:3
Untagged: redis:latest
Untagged: redis@sha256:5c0445ed86918cb9efb96d95a6bfc03ed2059fe2c5f02b4d74f477ffe47915
Untagged: vinayakdeokar/cloudeithix_redis:1
Untagged: vinayakdeokar/cloudeithix_redis:3
Untagged: vinayakdeokar/cloudeithix_redis@sha256:b3f78d38d1ba4758461d84a19af14b8d13c4a44c145b70efb0749418566b6f55
Deleted: sha256:017b1c12abf9d52fe40dd80a195107ea2c566a0035b59ffcc67af8b4c32c736
Deleted: sha256:d6c88f219d7bbdf30869f5edaf7d417bf581aa30a980ec405d6641244e2b9983
Deleted: sha256:0afb91539a5fe0cb099de8ae030948c498b7a8a75eaaff17e51e57bd55ae757
Deleted: sha256:46d3d7e3a243b7c7d1a333bfc801ece8a2791717711bbf4659c2750e824f531c
Deleted: sha256:d29a6c8a9cdc1334dff777dd93674d34445251dda30bbbecfb03c787f305b678
Deleted: sha256:ccbae6851cb3c2678e7423eeff520376c1087f86a1b14bdfc5a7f6136bc3a1ebe
Deleted: sha256:998362e5a9b1bb8eb0842b793ff6837c0ee71f26b64695d075c218b139281949
Deleted: sha256:b512279032aa717092385dda875ffffcd96e4a4ad384225152522ac7bd5340a8
```

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
vinayakdeokar/cloudeithix_nginx    release-v1   0abf40695716  3 hours ago   152MB
vinayakdeokar/custom_nginx         latest     cbdead07c59   4 hours ago   152MB
httpd                 latest     6a4fe18d08d2  2 days ago    117MB
nginx                 latest     d261fd19cb63  2 days ago    152MB
hello-world           latest     1b44b5a3e06a  2 months ago   10.1kB
busybox               latest     08ef35a1c3f0  13 months ago  4.43MB
vinayakdeokar/cloudeithix_busybox  latest     08ef35a1c3f0  13 months ago  4.43MB
```

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker load -i redis_images.tar.gz
b512279032aa: Loading layer [=====] 77.89MB/77.89MB
e7fe7688c8dc: Loading layer [=====] 10.75kB/10.75kB
fd0bc835e87b: Loading layer [=====] 10.75kB/10.75kB
a4f8354a4eb1: Loading layer [=====] 62.46MB/62.46MB
4a34755ecccc: Loading layer [=====] 1.536kB/1.536kB
5f70bf18a086: Loading layer [=====] 1.024kB/1.024kB
4c9d174d85be: Loading layer [=====] 8.192kB/8.192kB
Loaded image: redis:latest
Loaded image: vinayakdeokar/cloudeithix_redis:1
Loaded image: vinayakdeokar/cloudeithix_redis:3
```

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
vinayakdeokar/cloudeithix_nginx    release-v1   0abf40695716  3 hours ago   152MB
vinayakdeokar/custom_nginx         latest     cbdead07c59   4 hours ago   152MB
httpd                 latest     6a4fe18d08d2  2 days ago    117MB
nginx                 latest     d261fd19cb63  2 days ago    152MB
redis                 latest     017b1c12abf9   2 days ago    137MB
vinayakdeokar/cloudeithix_redis  1          017b1c12abf9   2 days ago    137MB
vinayakdeokar/cloudeithix_redis  3          017b1c12abf9   2 days ago    137MB
hello-world           latest     1b44b5a3e06a  2 months ago   10.1kB
busybox               latest     08ef35a1c3f0  13 months ago  4.43MB
vinayakdeokar/cloudeithix_busybox  latest     08ef35a1c3f0  13 months ago  4.43MB
```

29. Pull the Busy-box image to your local system, tag it, and push it to the Docker Hub repository "yourname_cloudeithix_busybox." Export the Docker image from the NGINX container, create a .tar file, and import the tar file to create a Docker image with a meaningful name. After importing the image, tag it and push it to the "yourname_cloudeithix_busybox" Docker Hub repository.

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker pull busybox:latest
latest: Pulling from library/busybox
Digest: sha256:e3652a00a2fabd16ce889f0aa32c38eec347b997e73bd09e69c962ec7f8732ee
Status: Image is up to date for busybox:latest
docker.io/library/busybox:latest
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
09bbae5d91ee	vinayakdeokar/cloudeithix_nginx:release-v1	"/docker-entrypoint..."	3 hours ago	Up 3 hours	0.0
.0:0:8383->80/tcp, [:]:8383->80/tcp	cloudeithix_nginx_cont1				
1b84ccb24c3c	vinayakdeokar/custom_nginx	"/docker-entrypoint..."	4 hours ago	Up 4 hours	0.0

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker export -o cloudeithix_nginx_cont1.tar cloudeithix_nginx_cont1
```

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker import cloudeithix_nginx_cont1.tar cloudeithix_nginx:custom
sha256:0e87f71bdf1d7a40b9a9518ce72968a8157e5cfa804b76c9c0bc3272a08c41fc
```

```
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
cloudeithix_nginx  custom   0e87f71bdf1d  10 seconds ago  150MB
```

```

root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker tag cloudeithix_nginx:custom vinayakdeokar/cloudeithix_nginx:custom
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis# docker push vinayakdeokar/cloudeithix_nginx:custom
The push refers to repository [docker.io/vinayakdeokar/cloudeithix_nginx]
f6ef26a45ff8: Pushed
custom: digest: sha256:8784235ac9043e839e463509b60955a4eb1420f39ead3ff2d5e2af0012135b47 size: 528
root@DESKTOP-K4UBP7Q:~/cloudeithix_redis#

```

30. Dockerfile creation: Create a simple Dockerfile to build a custom image with the following specifications:

Base image: Ubuntu

Install packages: curl, vim, and git

Set an environment variable: MY_NAME=Your_Name

Build the custom image using docker build and list all available images using docker images.

Created test_ubuntu_images

```

drwxr-xr-x 2 root root 4096 Nov  6 16:19 test_ubuntu_image/
root@DESKTOP-K4UBP7Q:~/test_ubuntu_image/

```

```

root@DESKTOP-K4UBP7Q:~/test_ubuntu_image# vi Dockerfile

```

```

FROM ubuntu:latest
RUN apt-get update && apt-get install -y curl vim git && apt-get clean
ENV MY_NAME="Vinayak"
CMD [ "bash" ]

```

```

root@DESKTOP-K4UBP7Q:~/test_ubuntu_image# docker build -t test_ubuntu:1.0 .
[+] Building 33.1s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 278B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> [internal] load .dockerrcignore
=> => transferring context: 2B
=> [1/2] FROM docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
=> => resolve docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
=> => sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252 6.69kB / 6.69kB
=> => sha256:d22e4fb389065efafa4a61bb36416768698ef6d955fe8a7e0cdb3cd6de80fa7eec 424B / 424B
=> => sha256:97bed23a34971024aa8d254abbe67b7168772340d1f494034773bc464e8dd5b6 2.30kB / 2.30kB
=> => sha256:4b3ffd8ccb5201a0fc03585952effb4ed2d1ea5e704d2e7330212fb8b16c86a3 29.72MB / 29.72MB
=> => extracting sha256:4b3ffd8ccb5201a0fc03585952effb4ed2d1ea5e704d2e7330212fb8b16c86a3
=> [2/2] RUN apt-get update && apt-get install -y curl vim git && apt-get clean
=> exporting to image
=> exporting layers
=> => writing image sha256:b7d550dce105f0453ee665490d49613657bce5db720159a9011327ca686f323b
=> => naming to docker.io/library/test_ubuntu:1.0

```

```

root@DESKTOP-K4UBP7Q:~/test_ubuntu_image# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
test_ubuntu          1.0      b7d550dce105  22 seconds ago  289MB
cloudeithix_nginx   custom   0e87f71bdf1d  10 minutes ago  150MB

```

31. Create Directories: Establish two directories named "DHUB" and "AWSECR."

```
root@DESKTOP-K4UBP7Q:~# mkdir DHUB AWSECR
root@DESKTOP-K4UBP7Q:~# ls -l
total 28
drwxr-xr-x 2 root root 4096 Nov  6 16:26 AWSECR
drwxr-xr-x 2 root root 4096 Nov  6 16:26 DHUB
```

32. Dockerfile Creation: Develop two Dockerfiles to construct custom images with the following specifications:

Base image: Ubuntu

Install packages: httpd

Add "I am from Docker Hub" to the index.html file for DHUB directory and "I am from ECR" for AWSECR directory.

Set environment variable ENV_NAME=DHUB for the DHUB directory and ENV_NAME=AWSECR for the AWSECR directory.

Start http service using ENTRYPPOINT

Start http service
Expose port 80.

```
root@DESKTOP-K4UBP7Q:~# cd DHUB/
root@DESKTOP-K4UBP7Q:~/DHUB# vi Dockerfile
```

```
# Use Ubuntu as base image
FROM ubuntu:latest

# Install Apache HTTP server
RUN apt-get update && apt-get install -y apache2 && apt-get clean

# Add custom index.html
RUN echo "I am from Docker Hub" > /var/www/html/index.html

# Set environment variable
ENV ENV_NAME=DHUB

# Expose HTTP port
EXPOSE 80

# Start Apache in foreground using ENTRYPOINT
ENTRYPOINT ["apache2ctl", "-D", "FOREGROUND"]
```

```
root@DESKTOP-K4UBP7Q:~/DHUB# docker build -t vinayakdeokar/dhub_custom .
[+] Building 28.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 435B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> [internal] load .dockerrcignore
=> => transferring context: 2B
=> CACHED [1/3] FROM docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252 0.0s
=> [2/3] RUN apt-get update && apt-get install -y apache2 && apt-get clean 25.3s
=> [3/3] RUN echo "I am from Docker Hub" > /var/www/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:796308bba448590a299f72c55a89620cb58f97e7189b029b57959257747322 0.0s
=> => naming to docker.io/vinayakdeokar/dhub_custom 0.0s
```

For AWSECR

```
root@DESKTOP-K4UBP7Q:~/# cd AWSECR/
root@DESKTOP-K4UBP7Q:~/AWSECR# vi Dockerfile
```

```
# Use Ubuntu as base image
FROM ubuntu:latest

# Install Apache HTTP server
RUN apt-get update && apt-get install -y apache2 && apt-get clean

# Add custom index.html
RUN echo "I am from ECR" > /var/www/html/index.html

# Set environment variable
ENV ENV_NAME=AWSEC

# Expose HTTP port
EXPOSE 80

# Start Apache in foreground using ENTRYPOINT
ENTRYPOINT ["apache2ctl", "-D", "FOREGROUND"]
| ~
```

```

root@DESKTOP-K4UBP7Q:~/AWSECR# docker build -t vinayakdeokar/ecr_custom .
[+] Building 1.6s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 430B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [internal] load .dockerrcignore
=> => transferring context: 2B
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
=> CACHED [2/3] RUN apt-get update && apt-get install -y apache2 && apt-get clean
=> [3/3] RUN echo "I am from ECR" > /var/www/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:5cc65480b008f9352c97d29eee291alacc04719066d3f211c9e7f729c1d18f40
=> => naming to docker.io/vinayakdeokar/ecr_custom

```

33. Build Custom Images: Utilize the docker build command to build the custom images. List all available images using docker images.

```

root@DESKTOP-K4UBP7Q:~/DHUB# docker build -t dhub_image:latest .
[+] Building 2.8s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 438B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> [internal] load .dockerrcignore
=> => transferring context: 2B
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
=> CACHED [2/3] RUN apt-get update && apt-get install -y apache2 && apt-get clean
=> CACHED [3/3] RUN echo "I am from Docker Hub" > /var/www/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:f6cbc5329ff2b83b87d04b83e17fcfd0db2638c4187a211c8bc7b916944bce2
=> => naming to docker.io/library/dhub_image:latest

root@DESKTOP-K4UBP7Q:~/DHUB# cd .. ~/AWSECR/
root@DESKTOP-K4UBP7Q:~/AWSECR# docker build -t awsecr_image:latest .
[+] Building 1.6s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 430B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [internal] load .dockerrcignore
=> => transferring context: 2B
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
=> CACHED [2/3] RUN apt-get update && apt-get install -y apache2 && apt-get clean
=> CACHED [3/3] RUN echo "I am from ECR" > /var/www/html/index.html
=> exporting to image
=> => exporting layers
=> => writing image sha256:611d7c78e63b87ddaebe0ae744b2745f1eb4420ca47bed33d403f7f63ba432f7
=> => naming to docker.io/library/awsecr_image:latest

root@DESKTOP-K4UBP7Q:~/AWSECR# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
vinayakdeokar/ecr_custom    latest   5cc65480b008  13 minutes ago  241MB
awsecr_image        latest   611d7c78e63b  13 minutes ago  241MB
vinayakdeokar/dhub_custom  latest   796308b8ba44  13 minutes ago  241MB

```

Push Images to Repositories: Push the Docker image to Docker Hub. Push the Docker image to AWS ECR.

```

root@DESKTOP-K4UBP7Q:~/DHUB# docker tag dhub_image:latest vinayakdeokar/dhub_image:latest
root@DESKTOP-K4UBP7Q:~/DHUB# docker push vinayakdeokar/dhub_image:latest
The push refers to repository [docker.io/vinayakdeokar/dhub_image]
d7cb468dbd11: Pushed
5c59095e6f51: Pushed
073ec47a8c22: Mounted from library/ubuntu
latest: digest: sha256:9a00878ea5acfad3368fd6f0a858ef3875bf78f54b01b56ddb18b40072b59ef5 size: 948
root@DESKTOP-K4UBP7Q:~/DHUB#

```

Authenticate Docker to your AWS ECR

```

root@DESKTOP-K4UBP7Q:~/AWSECR# aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin public.ecr.aws/b0r7d3x2
WARNING! Your credentials are stored unencrypted in '/root/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/
Login Succeeded
root@DESKTOP-K4UBP7Q:~/AWSECR# docker images
REPOSITORY          TAG      IMAGE ID      CREATED       SIZE
awsecr_image        latest   611d7c78e63b  2 hours ago  241MB
root@DESKTOP-K4UBP7Q:~/AWSECR# docker tag awsecr_image:latest public.ecr.aws/b0r7d3x2/kaivalyabachkar/apache2_ecr:vinayak
root@DESKTOP-K4UBP7Q:~/AWSECR# docker push public.ecr.aws/b0r7d3x2/kaivalyabachkar/apache2_ecr:vinayak
The push refers to repository [public.ecr.aws/b0r7d3x2/kaivalyabachkar/apache2_ecr]
298c94569alf: Pushed
5c59095e6f51: Pushed
073ec47a8c22: Pushed
vinayak: digest: sha256:fc2cb5e888922c8a2b197a06d032970fbe1c835134b31de0a9d01e8de7217ec1 size: 948

```

35. Run Containers:

```
docker run -d -p 8081:80 --name I_AM_FROM_DHUB your_docker_ub_image
```

```
root@DESKTOP-K4UBP7Q:~/DHUB# docker run -d -p 8081:80 --name I_AM_FROM_DHUB vinayakdeokar/dhub_image:latest
b544da29270251bb7516a3e0724b9419026f9c9f65076fd4f6bcc89bbc87879
docker: Error response from daemon: failed to set up container networking: driver failed programming external connectivity on endpoint I_AM_FROM_DHUB (34e9af6575a453b76a95a14712794e984cd1e18c055893643677419a04ad1b67): Bind for 0.0.0.0:8081 failed: port is already allocated

Run 'docker run --help' for more information
root@DESKTOP-K4UBP7Q:~/DHUB# |
```

```
docker run -d -p 8082:80 --name I_AM_FROM_ECR your_aws_ecr_image
```

```
root@DESKTOP-K4UBP7Q:~/AWSECR# docker run -d -p 9090:80 --name I_AM_FROM_ECR awsecr_image
bf957932c9bd056f15c38fc377c83d67ead2f9e755181daea0ca511e7df5d04e
```

```
root@DESKTOP-K4UBP7Q:~/AWSECR# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS
ORTS NAMES
bf957932c9bd awsecr_image "apache2ctl -D FORE..." 4 seconds ago Up 3 seconds
.0.0.0:9090->80/tcp, [::]:9090->80/tcp I_AM_FROM_ECR
53ab13651ffd vinayakdeokar/ecr_custom "apache2ctl -D FORE..." 2 hours ago Up 2 hours
```

36. Access Pages from Browser:

Open a web browser and access the pages:

For Docker Hub: <http://localhost:8081>



