

CONTAINER ORCHESTRATION AND INFRASTRUCTURE

AUTOMATION LAB

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BATCH- 05

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- **Search Apache image, pull appropriate Apache image. Check whether the image is pulled or not. Run Apache and check port. As it is not exposed outside, re-run the Apache with -p option to expose port outside. Now check and browse in any browser, run once again by customizing the port.**

```
Command Prompt - docker e X + v
Microsoft Windows [Version 10.0.22621.2134]
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C:\Users\admin>docker search apache
NAME                DESCRIPTION                STARS     OFFICIAL   AUTOMATED
httpd               The Apache HTTP Server Project  4531      [OK]
tomcat              Apache Tomcat is an open source implementati...  3583      [OK]
maven               Apache Maven is a software project managemen...  1514      [OK]
zookeeper            Apache ZooKeeper is an open-source server wh...  1382      [OK]
cassandra            Apache Cassandra is an open-source distribut...  1487      [OK]
solr                 Apache Solr is the popular, blazing-fast, op...  963       [OK]
flink                Apache Flink® is a powerful open-source dist...  481       [OK]
groovy               Apache Groovy is a multi-faceted language fo...  143       [OK]
tomee                Apache TomEE is an all-Apache Java EE certif...  110       [OK]
storm                Apache Storm is a free and open source distr...  194       [OK]
spark                Apache Spark - A unified analytics engine fo...  10        [OK]
apachepinot/pinot    Pinot is a real-time distributed OLAP datast...  9
bitnami/apache        Bitnami Apache Docker Image  88                [OK]
apachepinot/pinot-presto  This image is a presto image built-in with p...  1
apachepinot/pinot-superset  Apache Superset  230
apache/airflow        Apache Airflow  471
apachepinot/pinot-base-runtime  The base image for Apache Pinot runtime  0
apache/superset        Apache Superset  230
apachepinot/pinot-base-build  The base image for Apache Pinot build  0
apache/tika             Apache Tika Server - the content analysis to...  34
apache/apisix           Apache APISIX: Cloud-Native API Gateway  80
apache/pulsar/pulsar    Apache Pulsar - Distributed pub/sub messagin...  79
apachepinot/thirdeye    Docker Image for Apache Thrdeye  1
apache/pulsar/pulsar-all  Apache Pulsar - Distributed pub/sub messagin...  21
apache/nifi             Unofficial convenience binaries and Docker i...  277                [OK]

C:\Users\admin>docker pull httpd
Using default tag: latest
latest: Pulling from library/httpd
Digest: sha256:0adbefbee65176b93e4135f5c133072e2fb963187b00df565e6c73814894af5c
```

-p flag: This flag allows us to map ports from host machine to ports within the container, enabling network communication between the host and the containerized application.

```
Command Prompt - docker e X + v
latest: Pulling from library/httpd
Digest: sha256:0adbefbee65176b93e4135f5c133072e2fb963187b00df5656c73814894af5c
Status: Image is up to date for httpd:latest
docker.io/library/httpd:latest

What's Next?
View summary of image vulnerabilities and recommendations → docker scout quickview httpd

C:\Users\admin>docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
shubhid/newrepo      latest      d732f1af5df1  41 minutes ago 693MB
mynewimage           latest      39c45d02e19d  About an hour ago 693MB
shubhid/newimage     latest      0b36d9912ec8  10 hours ago  693MB
mytest               latest      da5f7c0a1542  10 hours ago  693MB
httpd                latest      7860e7628717  6 days ago    168MB
httpd                <none>      76e5ad98b58e  4 weeks ago   168MB
ubuntu               latest      c6b84b685f35  4 weeks ago   77.8MB
ubuntu               <none>      01f29b872827  5 weeks ago   77.8MB
asia.gcr.io/unique-well-384709/test 1.0         ae4c55bd52f3  2 months ago  1.62GB
test                 1.0         ae4c55bd52f3  2 months ago  1.62GB

C:\Users\admin>docker run -d --name=mywebserver httpd
5c3903554adcfc22851a35e0a3d756d88a85d2cad9a1b69ce8500d25da588e6e2

C:\Users\admin>curl localhost:8080
curl: (7) Failed to connect to localhost port 8080 after 2244 ms: Couldn't connect to server

C:\Users\admin>docker stop mywebserver
mywebserver

C:\Users\admin>docker rm mywebserver
mywebserver

C:\Users\admin>docker run -d --name=mywebserver -p 8080:80 httpd
25e5e8eafec7b64ecfc3916ad2792c9138be6f78c949479059e387329aa153ad
```

Use of curl- It is like a magic command that helps us do things with the internet from our computer's command line

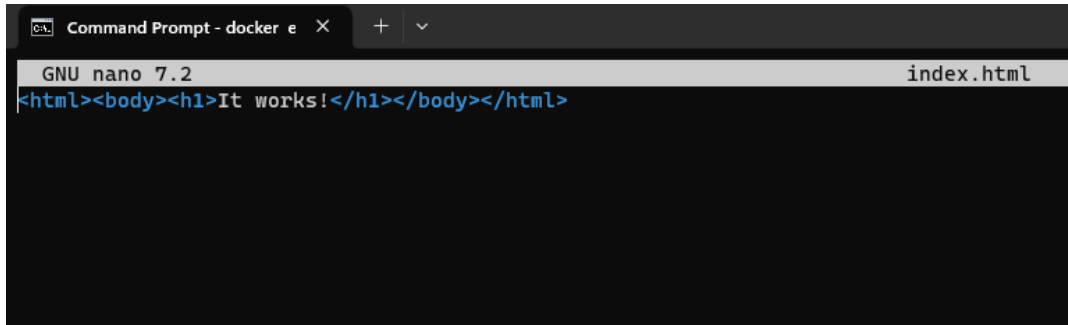
```
Command Prompt - docker e X + v

C:\Users\admin>curl localhost:8080
<html><body><h1>It works!</h1></body></html>
```

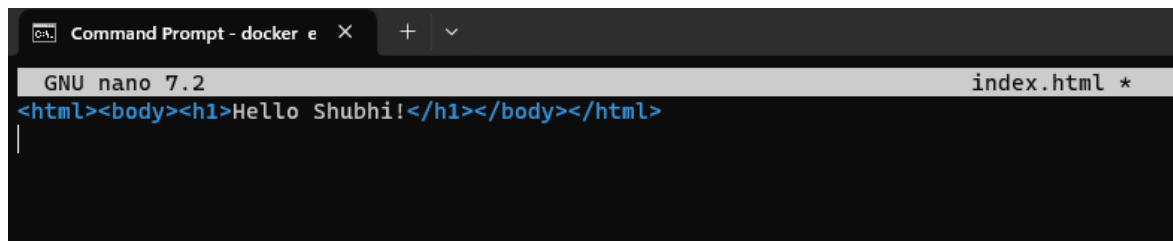
To change the output generated by an Apache container, we can do that by accessing the container's shell and make the necessary changes.

```
C:\Users\admin>docker exec -it mywebserver bash
root@25e5e8eafec7:/usr/local/apache2# apt-get update
Get:1 http://deb.debian.org/debian bookworm InRelease [151 kB]
Get:2 http://deb.debian.org/debian bookworm-updates InRelease [52.1 kB]
Get:3 http://deb.debian.org/debian-security bookworm-security InRelease [48.0 kB]
Get:4 http://deb.debian.org/debian bookworm/main amd64 Packages [8906 kB]
Get:5 http://deb.debian.org/debian bookworm-updates/main amd64 Packages [4952 B]
Get:6 http://deb.debian.org/debian-security bookworm-security/main amd64 Packages [61.6 kB]
Fetched 9224 kB in 15s (616 kB/s)
Reading package lists... Done
root@25e5e8eafec7:/usr/local/apache2# apt-get install -y nano
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libgpm2 libncursesw6
Suggested packages:
  gpm hunspell
The following NEW packages will be installed:
  libgpm2 libncursesw6 nano
0 upgraded, 3 newly installed, 0 to remove and 1 not upgraded.
Need to get 837 kB of archives.
After this operation, 3339 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bookworm/main amd64 libncursesw6 amd64 6.4-4 [134 kB]
Get:2 http://deb.debian.org/debian bookworm/main amd64 nano amd64 7.2-1 [689 kB]
Get:3 http://deb.debian.org/debian bookworm/main amd64 libgpm2 amd64 1.20.7-10+b1 [14.2 kB]
Fetched 837 kB in 3s (273 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libncursesw6:amd64.
(Reading database ... 8502 files and directories currently installed.)
Preparing to unpack .../libncursesw6_6.4-4_amd64.deb ...
```

```
0 upgraded, 3 newly installed, 0 to remove and 1 not upgraded.
Need to get 837 kB of archives.
After this operation, 3339 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bookworm/main amd64 libncursesw6 amd64 6.4-4 [134 kB]
Get:2 http://deb.debian.org/debian bookworm/main amd64 nano amd64 7.2-1 [689 kB]
Get:3 http://deb.debian.org/debian bookworm/main amd64 libgpm2 amd64 1.20.7-10+b1 [14.2 kB]
Fetched 837 kB in 3s (273 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libncursesw6:amd64.
(Reading database ... 8502 files and directories currently installed.)
Preparing to unpack .../libncursesw6_6.4-4_amd64.deb ...
Unpacking libncursesw6:amd64 (6.4-4) ...
Selecting previously unselected package nano.
Preparing to unpack .../archives/nano_7.2-1_amd64.deb ...
Unpacking nano (7.2-1) ...
Selecting previously unselected package libgpm2:amd64.
Preparing to unpack .../libgpm2_1.20.7-10+b1_amd64.deb ...
Unpacking libgpm2:amd64 (1.20.7-10+b1) ...
Setting up libgpm2:amd64 (1.20.7-10+b1) ...
Setting up libncursesw6:amd64 (6.4-4) ...
Setting up nano (7.2-1) ...
update-alternatives: using /bin/nano to provide /usr/bin/editor (editor) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/editor.1.gz because associated file /usr/share/man/man1/nano.1.gz (of link group editor) doesn't exist
update-alternatives: using /bin/nano to provide /usr/bin/pico (pico) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/pico.1.gz because associated file /usr/share/man/man1/nano.1.gz (of link group pico) doesn't exist
Processing triggers for libc-bin (2.36-9+deb12u1) ...
root@25e5e8eafec7:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@25e5e8eafec7:/usr/local/apache2# cd htdocs
root@25e5e8eafec7:/usr/local/apache2/htdocs# ls
index.html
root@25e5e8eafec7:/usr/local/apache2/htdocs# nano index.html
root@25e5e8eafec7:/usr/local/apache2/htdocs#
```

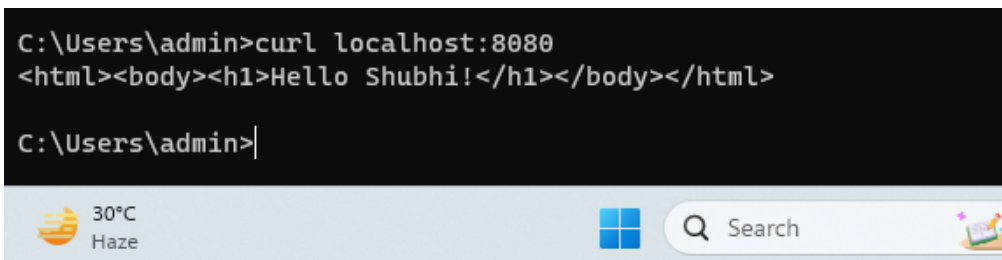


```
Command Prompt - docker e X + v
GNU nano 7.2 index.html
<html><body><h1>It works!</h1></body></html>
```



```
Command Prompt - docker e X + v
GNU nano 7.2 index.html *
<html><body><h1>Hello Shubhi!</h1></body></html>
```

Using the curl command again, we can check that the result has been altered or not.



```
C:\Users\admin>curl localhost:8080
<html><body><h1>Hello Shubhi!</h1></body></html>

C:\Users\admin>
```

30°C Haze Search