



Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai)
(Religious Jain Minority)

Department of Information Technology

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Subject: DevOps Lab

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Experiment No. 9

Aim: To learn Docker file instructions, build an image for a sample web application using Docker file

```
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit# mkdir Soham
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit# cd Soham
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# touch EXP9.txt
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# gedit EXP9.txt
```

```
GNU nano 6.2
FROM nginx
COPY EXP9.txt /usr/share/nginx/html
```

```
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# touch Dockerfile
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# nano Dockerfile
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# nano Dockerfile
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# nano Dockerfile
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker info
Client: Docker Engine - Community
Version: 24.0.5
Context: default
Debug Mode: false
Plugins:
  buildx: Docker Buildx (Docker Inc.)
    Version: v0.11.2
    Path: /usr/libexec/docker/cli-plugins/docker-buildx
  compose: Docker Compose (Docker Inc.)
    Version: v2.20.2
    Path: /usr/libexec/docker/cli-plugins/docker-compose

Server:
Containers: 2
  Running: 0
  Paused: 0
  Stopped: 2
Images: 2
Server Version: 24.0.5
Storage Driver: overlay2
  Backing Filesystem: extfs
  Supports d_type: true
  Using metacopy: false
  Native Overlay Diff: true
  userxattr: false
Logging Driver: json-file
Cgroup Driver: systemd
Cgroup Version: 2
Plugins:
  Volume: local
  Network: bridge host ipvlan macvlan null overlay
  Log: awslogs fluentd gcplogs gelf journald json-file local logentries splunk syslog
Swarm: inactive
Runtimes: io.containerd.runc.v2 runc
Default Runtime: runc
Init Binary: docker-init
```

```

root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit# cd Soham
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker build -t soham .
[+] Building 6.6s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 84B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/nginx:latest
=> [internal] load build context
=> => transferring context: 48B
=> [1/2] FROM docker.io/library/nginx@sha256:104c7c5c54f2685f0f46f3be607ce60da7085da3eaa5ad22d3d9f01594295e9c
=> => resolve docker.io/library/nginx@sha256:104c7c5c54f2685f0f46f3be607ce60da7085da3eaa5ad22d3d9f01594295e9c
=> => sha256:48a84a0728cab8ac558f48796f901f6d31d287101bc8b317683678125e0d2d35 1.78kB / 1.78kB
=> => sha256:eea7b3dcba7ee47c0d16a60cc85d2b977d166be3960541991f3e6294d795ed24 8.15kB / 8.15kB
=> => sha256:104c7c5c54f2685f0f46f3be607ce60da7085da3eaa5ad22d3d9f01594295e9c 1.86kB / 1.86kB
=> => sha256:52d2b7f179e32b4cbd579ee3c4958027988f9a8274850ab0c7c24661e3adaac5 29.12MB / 29.12MB
=> => sha256:fd9f026c631046113bd492f69761c3ba6042c791c35a60e7c7f3b8f254592daa 41.34MB / 41.34MB
=> => sha256:055fa98b43638b67d10c58d41094d99c8696cc34b7a960c7a0cc5d9d152d12b3 628B / 628B
=> => sha256:96576293dd2954ff84251aa0455687c8643358ba1b190ea1818f56b41884bdbc 958B / 958B
=> => sha256:a7c4092be9044bd4ee7f8f27c95785ef3a9f345d01fd4512bc94d4aaefc359f4 371B / 371B
=> => sha256:e3b6889c89547ec9ba653ab44ed32a99370940d51df956968c0d578dd61ab665 1.21kB / 1.21kB
=> => sha256:da761d9a302b21dc50767b67d46f737f5072fb4490c525b4a7ae6f18e1dbbf75 1.41kB / 1.41kB
=> => extracting sha256:52d2b7f179e32b4cbd579ee3c4958027988f9a8274850ab0c7c24661e3adaac5
=> => extracting sha256:fd9f026c631046113bd492f69761c3ba6042c791c35a60e7c7f3b8f254592daa
=> => extracting sha256:055fa98b43638b67d10c58d41094d99c8696cc34b7a960c7a0cc5d9d152d12b3
=> => extracting sha256:96576293dd2954ff84251aa0455687c8643358ba1b190ea1818f56b41884bdbc
=> => extracting sha256:a7c4092be9044bd4ee7f8f27c95785ef3a9f345d01fd4512bc94d4aaefc359f4
=> => extracting sha256:e3b6889c89547ec9ba653ab44ed32a99370940d51df956968c0d578dd61ab665
=> => extracting sha256:da761d9a302b21dc50767b67d46f737f5072fb4490c525b4a7ae6f18e1dbbf75
=> [2/2] COPY EXP9.txt /usr/share/nginx/html
=> exporting to image
=> => exporting layers
=> => writing image sha256:d04a7c947d9887f9b11d8e9736565d57442940331d8f75c5fcd1b1e70ab7cd86
=> => naming to docker.io/library/soham
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker images
REPOSITORY    TAG        IMAGE ID      CREATED        SIZE
soham          latest    d04a7c947d98  About a minute ago  187MB
mysql          latest    99afc808f15b  3 weeks ago    577MB
ubuntu         latest    01f29b872827  4 weeks ago    77.8MB
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham#

```

```

root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker run -p 9090:80 soham
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2023/09/04 09:22:34 [notice] 1#1: using the "epoll" event method
2023/09/04 09:22:34 [notice] 1#1: nginx/1.25.2
2023/09/04 09:22:34 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2023/09/04 09:22:34 [notice] 1#1: OS: Linux 6.2.0-31-generic
2023/09/04 09:22:34 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2023/09/04 09:22:34 [notice] 1#1: start worker processes
2023/09/04 09:22:34 [notice] 1#1: start worker process 29
2023/09/04 09:22:34 [notice] 1#1: start worker process 30
2023/09/04 09:22:34 [notice] 1#1: start worker process 31
2023/09/04 09:22:34 [notice] 1#1: start worker process 32
2023/09/04 09:22:34 [notice] 1#1: start worker process 33
2023/09/04 09:22:34 [notice] 1#1: start worker process 34
2023/09/04 09:22:34 [notice] 1#1: start worker process 35
2023/09/04 09:22:34 [notice] 1#1: start worker process 36
2023/09/04 09:22:34 [notice] 1#1: start worker process 37
2023/09/04 09:22:34 [notice] 1#1: start worker process 38
2023/09/04 09:22:34 [notice] 1#1: start worker process 39
2023/09/04 09:22:34 [notice] 1#1: start worker process 40

```

```

root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker run -d -p 9090:80 soham
9624c68b979bd4df93520c88001f1ba00ad2216c1644fcb98ade7915d8cecaee
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker ps -a

```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
9624c68b979b	soham	"/docker-entrypoint..."	32 seconds ago	Up 31 seconds	0.0.0.0:9090->80/tcp, :::9090->80/tcp	zen_mendel
386f50de89d7	soham	"/docker-entrypoint..."	About a minute ago	Exited (0) About a minute ago		wonderful_agnesi
50e7613a5428	mysql	"docker-entrypoint.s..."	4 days ago	Exited (1) 4 days ago		soham
9cd74566b937	ubuntu	"/bin/bash"	4 days ago	Exited (137) 3 days ago		pensive_keldysh

```

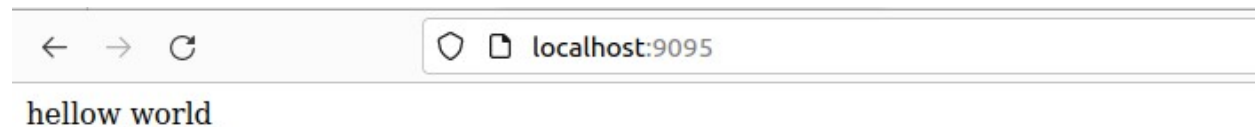
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham#

```

```

root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham# docker run -d -p 9095:80 soham
92db072f173c7a60928f2cf1e03d7dc96adc7dc48883f3366792129660b6b076
root@apsit-HP-Pro-Tower-280-G9-PCI-Desktop-PC:/home/apsit/Soham#

```



Conclusion: Hence we learnt Docker file instructions, build an image for a sample web application using Docker file