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COURSE NAME:- CLOUD COMPUTING LABORATORY

CA 3 >> PRACTICALS (DATE - April 5, 2023)

Command 1:- docker -c

Uses :- (enables developers to build, deploy, run, update and manage containers)

SCREENSHOT:-

```
Microsoft Windows [Version 10.0.19044.2728]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Dell>docker -c
flag needs an argument: 'c' in -c
See 'docker --help'.

Usage: docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

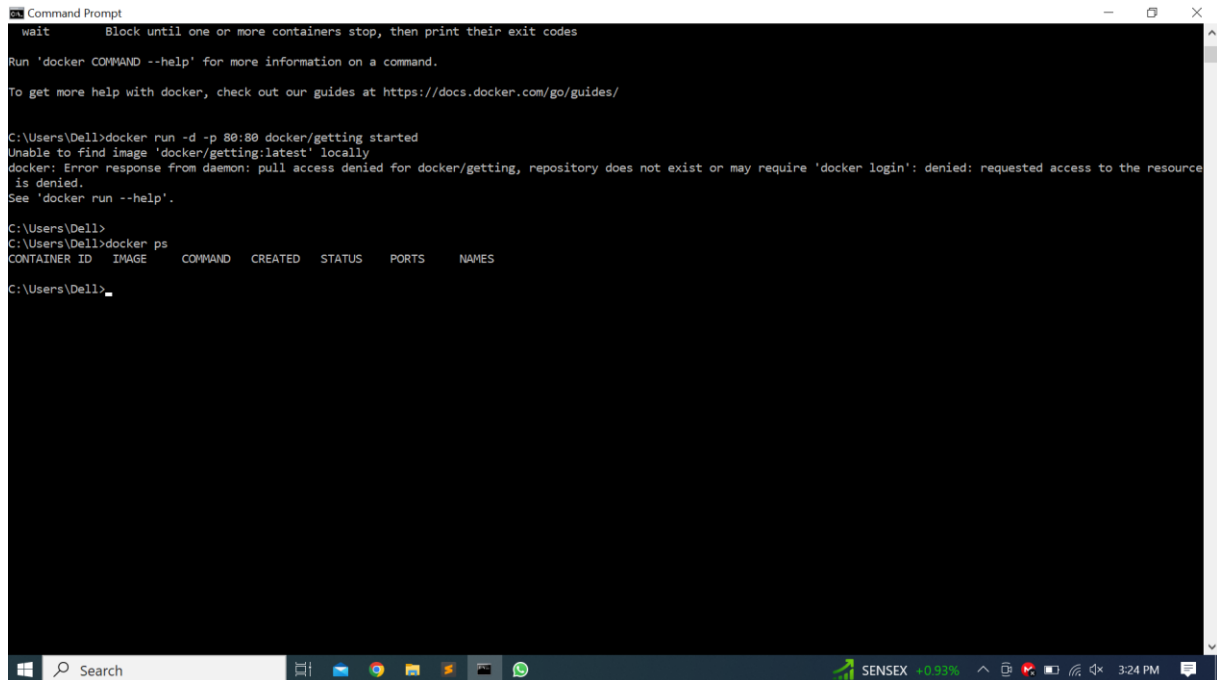
Options:
  --config string      Location of client config files (default
                        "C:\\Users\\Dell\\.docker")
  -c, --context string  Name of the context to use to connect to the
                        daemon (overrides DOCKER_HOST env var and
                        default context set with "docker context use")
  -D, --debug           Enable debug mode
  -H, --host list       Daemon socket(s) to connect to
  -l, --log-level string Set the logging level
                        ("debug"|"info"|"warn"|"error"|"fatal")
                        (default "info")
  --tls                Use TLS; implied by --tlsverify
  --tlscacert string    Trust certs signed only by this CA (default
                        "C:\\Users\\Dell\\.docker\\ca.pem")
  --tlscert string      Path to TLS certificate file (default
                        "C:\\Users\\Dell\\.docker\\cert.pem")
  --tlskey string       Path to TLS key file (default
                        "C:\\Users\\Dell\\.docker\\key.pem")
  --tlsverify           Use TLS and verify the remote
  -v, --version         Print version information and quit

Management Commands:
  builder      Manage builds
  buildx*      Docker Buildx (Docker Inc., v0.10.3)
  compose*     Docker Compose (Docker Inc., v2.15.1)
  config       Manage Docker configs
  container    Manage containers
  context      Manage contexts
  dev*         Docker Dev Environments (Docker Inc., v0.1.0)
  extension*   Manages Docker extensions (Docker Inc., v0.2.18)
```

Command 2:- docker ps

Uses :- (The docker ps command, which is available inside the container, is used to see the status of the process.)

SCREENSHOT:-



```
wait Block until one or more containers stop, then print their exit codes

Run 'docker COMMAND --help' for more information on a command.

To get more help with docker, check out our guides at https://docs.docker.com/go/guides/

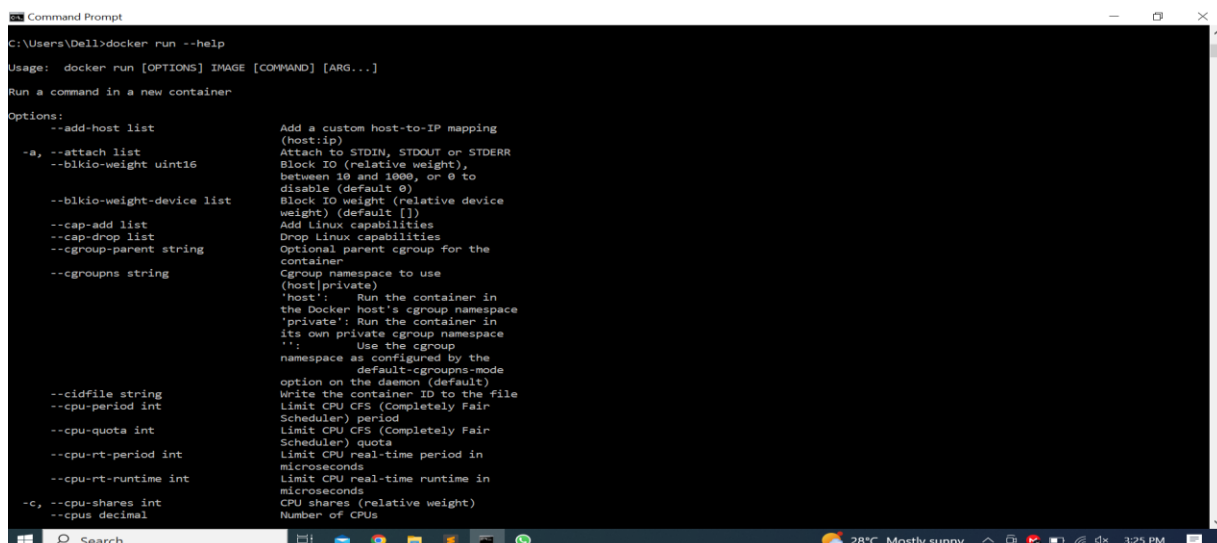
C:\Users\Dell>docker run -d -p 80:80 docker/getting started
Unable to find image 'docker/getting:latest' locally
docker: Error response from daemon: pull access denied for docker/getting, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.

C:\Users\Dell>
C:\Users\Dell>docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
C:\Users\Dell>
```

Command 3:- docker run --help

Uses :- (To list the help on any command just execute the command, followed by the --help option.)

SCREENSHOT:-



```
C:\Users\Dell>docker run --help
Usage: docker run [OPTIONS] IMAGE [COMMAND] [ARG...]

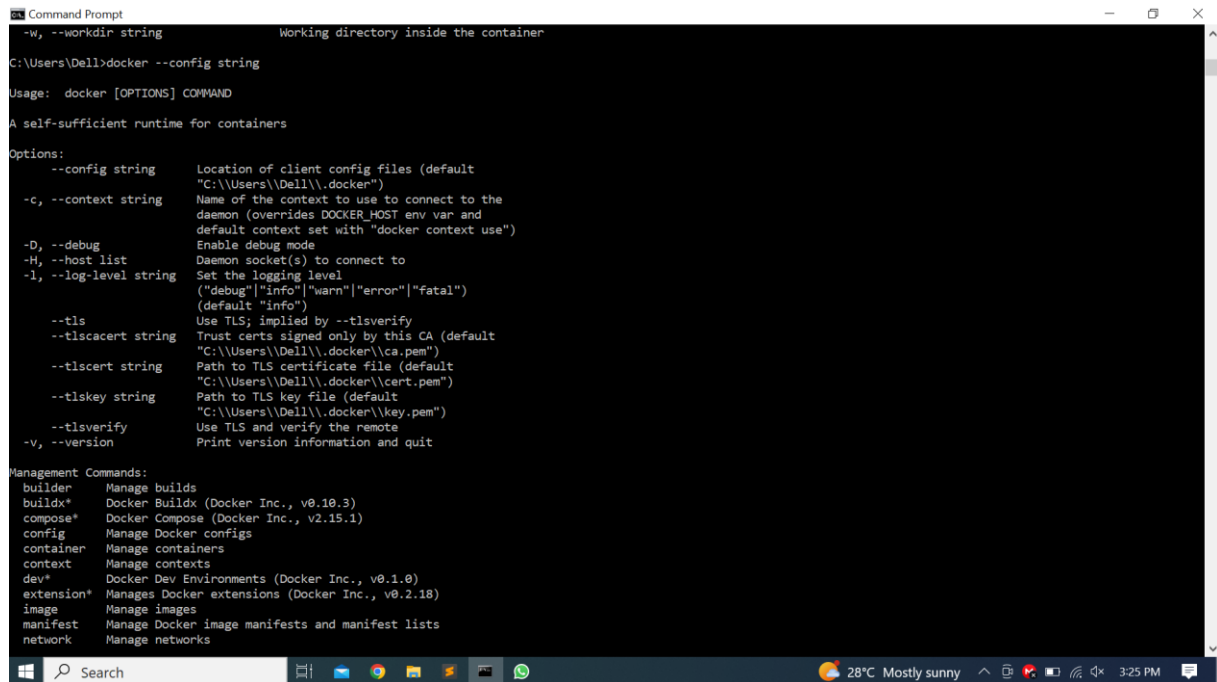
Run a command in a new container

Options:
  --add-host list          Add a custom host-to-IP mapping (host:ip)
  -a, --attach list        Attach to STDIN, STDOUT or STDERR
  --blkio-weight uint16     Block IO (relative weight), between 10 and 1000, or 0 to disable (default 0)
  --blkio-weight-device list Block IO weight (relative device weight) (default [])
  --cap-add list            Add linux capabilities
  --cap-drop list           Drop linux capabilities
  --cgroup-parent string    Optional parent cgroup for the container
  --cgroups string          Cgroup namespace to use (host/private)
  'host': Run the container in the Docker host's cgroup namespace
  'private': Run the container in its own private cgroup namespace
  ':': Use the cgroup namespace as configured by the default-cgroups-mode option on the daemon (default)
  --cidfile string          Write the container ID to the file
  --cpu-period int          Limit CPU CFS (Completely Fair Scheduler) period
  --cpu-quota int           Limit CPU CFS (Completely Fair Scheduler) quota
  --cpu-rt-period int       Limit CPU real-time period in microseconds
  --cpu-rt-runtime int      Limit CPU real-time runtime in microseconds
  -c, --cpu-shares int      CPU shares (relative weight)
  --cpus decimal            Number of CPUs
```

Command 4:- docker --config string

Uses :- (To specify a different directory, use the **DOCKER_CONFIG** environment variable or the **--config** command line option.)

SCREENSHOT:-



```
Command Prompt
Working directory inside the container

C:\Users\Dell\docker>docker --config string

Usage: docker [OPTIONS] COMMAND

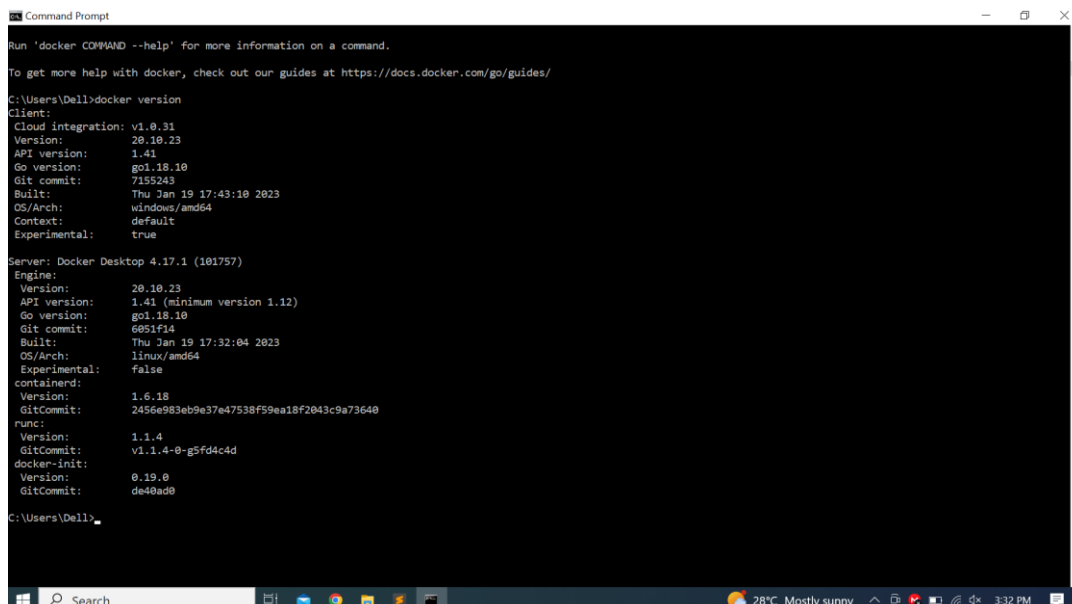
A self-sufficient runtime for containers

Options:
  --config string      Location of client config files (default
                        "C:\\Users\\Dell\\.docker")
  -c, --context string  Name of the context to use to connect to the
                        daemon (overrides DOCKER_HOST env var and
                        default context set with "docker context use")
  -D, --debug           Enable debug mode
  -H, --host list       Daemon socket(s) to connect to
  -l, --log-level string Set the logging level
                        ("debug"|"info"|"warn"|"error"|"fatal")
                        (default "info")
  --tls                Use TLS; implied by --tlsverify
  --tlscacert string    Trust certs signed only by this CA (default
                        "C:\\Users\\Dell\\.docker\\ca.pem")
  --tlscert string      Path to TLS certificate file (default
                        "C:\\Users\\Dell\\.docker\\cert.pem")
  --tlskey string        Path to TLS key file (default
                        "C:\\Users\\Dell\\.docker\\key.pem")
  --tlsverify           Use TLS and verify the remote
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Management Commands:
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  config               Manage Docker configs
  container            Manage containers
  context              Manage contexts
  dev*                 Docker Dev Environments (Docker Inc., v0.1.0)
  extension*           Manages Docker extensions (Docker Inc., v0.2.18)
  image                Manage images
  manifest              Manage Docker image manifests and manifest lists
  network              Manage networks
```

Command 5:- docker version

Uses :- (The version command prints the current version number for all independently versioned Docker components.)



```
Command Prompt

Run 'docker COMMAND --help' for more information on a command.

To get more help with docker, check out our guides at https://docs.docker.com/go/guides/

C:\Users\Dell>docker version

Client:
 Cloud integration: v1.0.31
 Version: 20.10.23
 API version: 1.41
 Go version: go1.18.10
 Git commit: 7155243
 Built: Thu Jan 19 17:43:10 2023
 OS/Arch: windows/amd64
 Context: default
 Experimental: true

Server: Docker Desktop 4.17.1 (101757)
 Engine:
  Version: 20.10.23
  API version: 1.41 (minimum version 1.12)
  Go version: go1.18.10
  Git commit: 6091f24
  Built: Thu Jan 19 17:32:04 2023
  OS/Arch: linux/amd64
  Experimental: false
 containerd:
  Version: 1.6.18
  GitCommit: 2456e983eb9e37e47538f59ea18f2043c9a73640
 runc:
  Version: 1.1.4
  GitCommit: v1.1.4-0-g5f4c4d
 docker-init:
  Version: 0.19.0
  GitCommit: de40ad0

C:\Users\Dell>
```

Command 6:- docker info

Uses :- (This command displays system wide information regarding the Docker installation.)

SCREENSHOT:-

Command 7:- docker images

Uses :- (A Docker image is a file used to execute code in a Docker container. Docker images act as a set of instructions to build a Docker container, like a template.)

SCREENSHOT:-

```
Command Prompt
Swarm: inactive
Runtimes: io.containerd.runc.v2 io.containerd.runtime.v1.linux runc
Default Runtime: runc
Init Binary: docker-init
containerd version: 2456e983eb9e37e47538f59ea18f2043c9a73640
runc version: v1.1.4-0-g5fd4c4d
init version: de40ad0
Security Options:
  seccomp
    Profile: default
Kernel Version: 5.15.90.1-microsoft-standard-WSL2
Operating System: Docker Desktop
OSType: linux
Architecture: x86_64
CPUs: 8
Total Memory: 3.672GiB
Name: docker-desktop
ID: TYPK:J3QE:6R7Q:T5PH:QXC2:G52M:IAMG:3FXW:YIBQ:FMZZ:CTL7:4ZYI
Docker Root Dir: /var/lib/docker
Debug Mode: false
HTTP Proxy: http.docker.internal:3128
HTTPS Proxy: http.docker.internal:3128
No Proxy: hubproxy.docker.internal
Registry: https://index.docker.io/v1/
Labels:
Experimental: false
Insecure Registries:
  hubproxy.docker.internal:5555
  127.0.0.0/8
Live Restore Enabled: false

WARNING: No blkio throttle.read_bps_device support
WARNING: No blkio throttle.write_bps_device support
WARNING: No blkio throttle.read_iops_device support
WARNING: No blkio throttle.write_iops_device support

C:\Users\Dell>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
docker/getting-started latest              3e4394f6b72f        3 months ago       47MB

C:\Users\Dell>docker exec
```

Command 8:- docker login

Uses :- (You can log into any public or private repository for which you have credentials.
When you log in, the command stores credentials in \$HOME)

SCREENSHOT:-

```
Command Prompt
C:\Users\Dell>docker login
Authenticating with existing credentials...
Login Succeeded

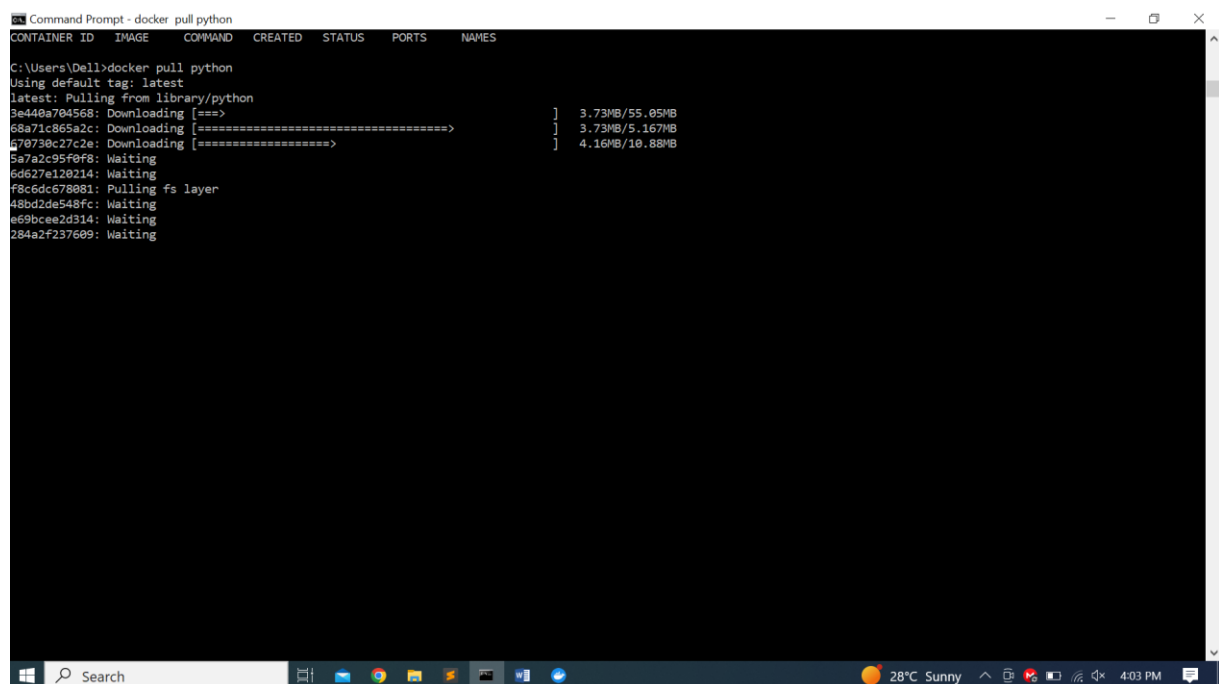
Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

C:\Users\Dell>
```

Command 9:- docker pull python

Uses :- (A Python library for the Docker Engine API. It lets you do anything the docker command does, but from within Python apps – run containers, manage containers)

SCREENSHOT:-



```
Command Prompt - docker pull python
CONTAINER ID   IMAGE      COMMAND      CREATED      STATUS      PORTS      NAMES
C:\Users\Dell>docker pull python
Using default tag: latest
latest: Pulling from library/python
3e440e704568: Downloading [====>]          3.73MB/55.05MB
68a71e865a2c: Downloading [=====>]       3.73MB/5.167MB
670730c27c2e: Downloading [=====>]       4.16MB/10.88MB
5a7a2c95f0f8: Waiting
6d627e120214: Waiting
f8c6dc678081: Pulling fs layer
48bd2de548fc: Waiting
e69bcee2d314: Waiting
284a2f237609: Waiting
```

Command 10:- docker network

Uses :- (Lists all the networks the Engine daemon knows about. This includes the networks that span across multiple hosts in a cluster.)

SCREENSHOT:-

```
Command Prompt
68a71c865a2c: Download complete
670730c27c2e: Download complete
5a7a2c95f0f8: Downloading [=====] 6.97MB/54.58MB
6d627e120214: Downloading [>] 1.604MB/196.8MB
f8c6dc670081: Pulling fs layer
48bd2de540fc: Waiting
ee9bcee2d314: Waiting
284a2f237609: Waiting
^C
C:\Users\Dell>
C:\Users\Dell>
C:\Users\Dell>
C:\Users\Dell>
C:\Users\Dell>
C:\Users\Dell>docker logs my-container
Error: No such container: my-container

C:\Users\Dell>docker -compose
unable to resolve docker endpoint: context "ompose" does not exist

C:\Users\Dell>docker history python
Error response from daemon: No such image: python:latest

C:\Users\Dell>docker network

Usage: docker network COMMAND

Manage networks

Commands:
connect    Connect a container to a network
create     Create a network
disconnect Disconnect a container from a network
inspect    Display detailed information on one or more networks
ls         List networks
prune      Remove all unused networks
rm         Remove one or more networks

Run 'docker network COMMAND --help' for more information on a command.

C:\Users\Dell>
```