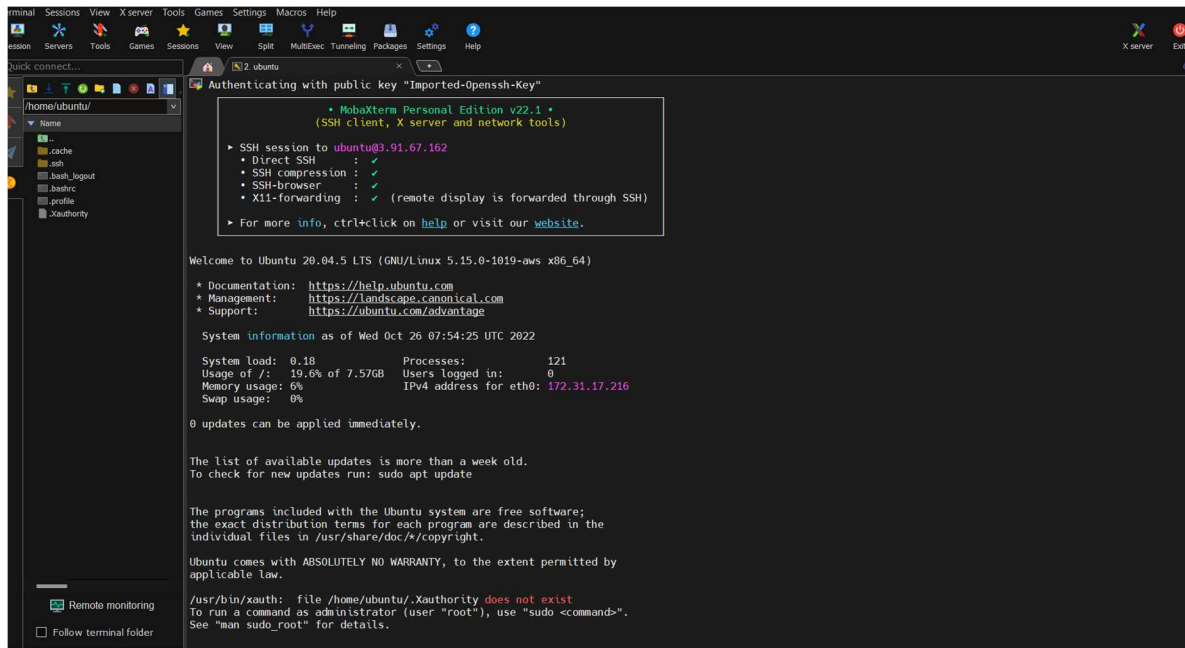
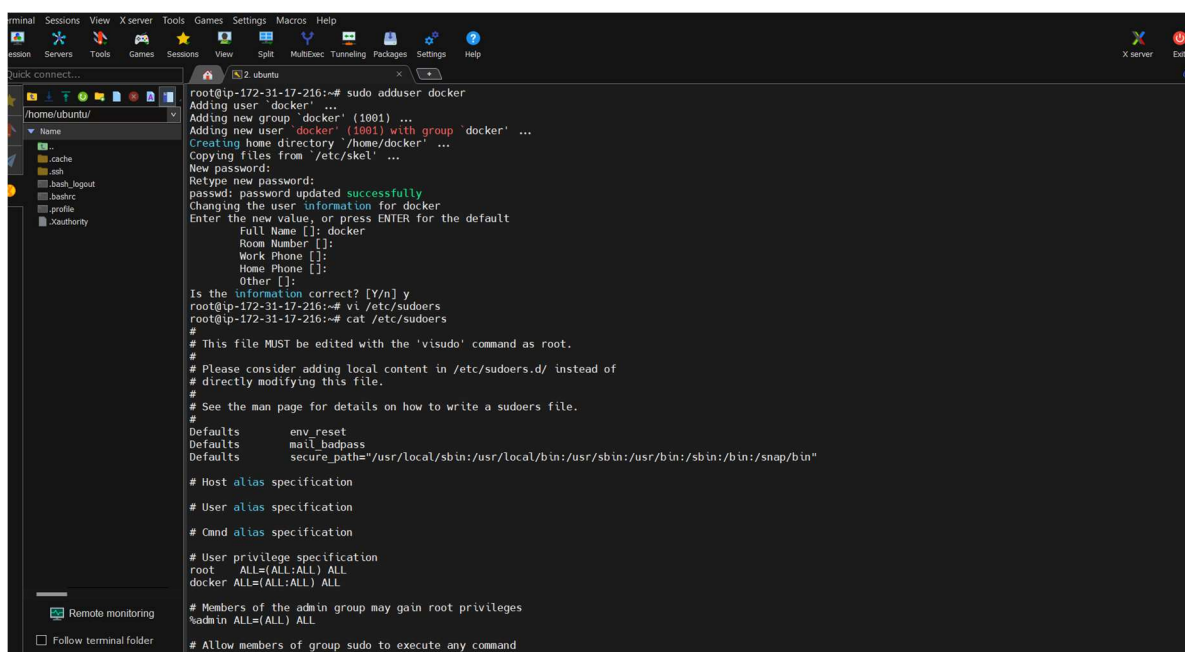


Docker basic commands and Installation through MobaXterm.

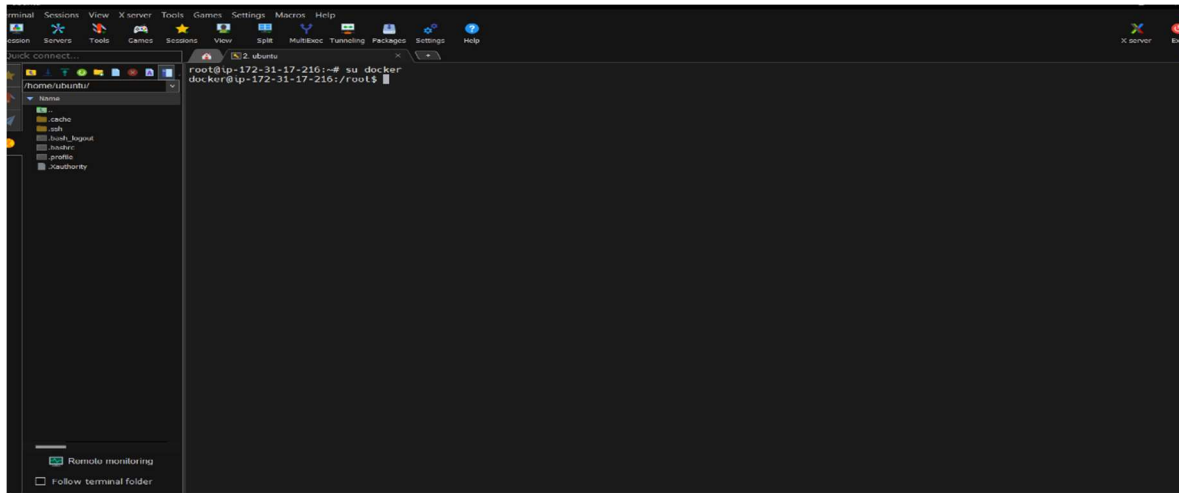
⇒ EC2 session started and configured MobaXterm for SSH connection to Ubuntu EC2 instance.



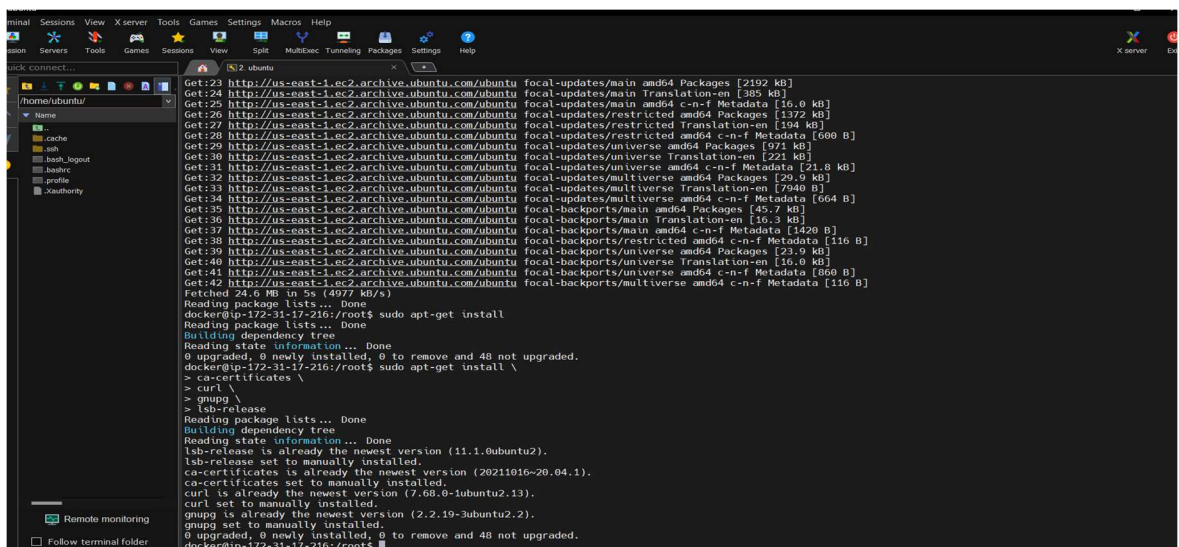
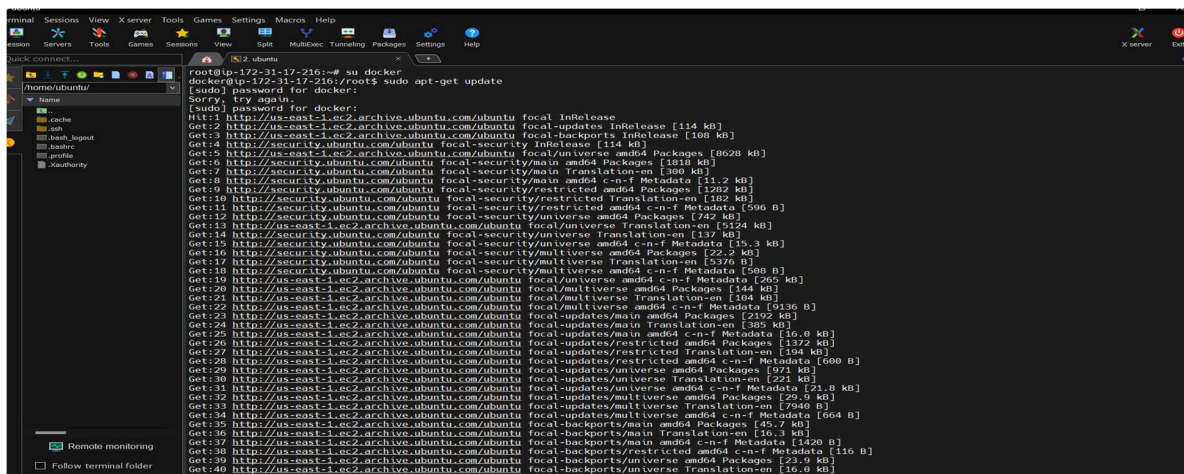
⇒ Created new root user docker and giving all the root permissions to docker user.



⇒ Login as Docker root user.



⇒ Configuring the Ubuntu EC2 for Docker.



```

Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [600 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [974 kB]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [224 kB]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [21.8 kB]
Get:32 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [20.9 kB]
Get:33 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [7940 B]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [664 B]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64 Packages [45.7 kB]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main Translation-en [150.3 kB]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64 c-n-f Metadata [1420 B]
Get:38 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/restricted amd64 c-n-f Metadata [116 B]
Get:39 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [23.9 kB]
Get:40 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe Translation-en [16.0 kB]
Get:41 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [900 B]
Get:42 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [110 B]
Fetched 24.6 MB in 0s (4027 KB/s)
Reading package lists... Done
docker@ip-172-31-17-216:/root$ sudo apt-get install
Reading package lists... Done
Building dependency tree
Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
docker@ip-172-31-17-216:/root$ sudo apt-get install \
> ca-certificates \
> curl \
> gnupg \
> lsb-release
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
ca-certificates is already the newest version (20211016-20.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.13).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.2).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
docker@ip-172-31-17-216:/root$ sudo mkdir -p /etc/apt/keyrings
docker@ip-172-31-17-216:/root$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
docker@ip-172-31-17-216:/root$ sudo \
> "deb [arch=$(dpkg --get-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
> stable amd64" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
docker@ip-172-31-17-216:/root$

```

```

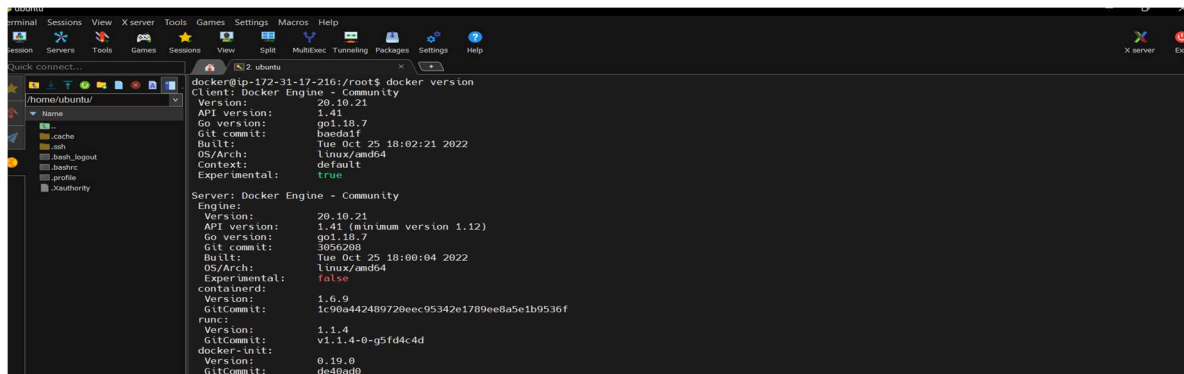
terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split Multitab Tunneling Packages Settings Help
Quick connect...
lsb-release set to manually installed.
cat /etc/os-release is already the newest version (20210106-20.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.13).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.2).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
docker@ip-172-31-17-216:/root$ sudo mkdir -p /etc/apt/keyrings
docker@ip-172-31-17-216:/root$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -- /etc/apt/keyrings/docker.gpg
docker@ip-172-31-17-216:/root$ echo \
> "deb [arch=$(dpkg --get-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
> ${lsb_release -cs} stable" | sudo tee /etc/apt/sources.list.d/docker.list && \
docker@ip-172-31-17-216:/root$ sudo apt-get update
Hit:1 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:4 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Ign:6 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages
Get:7 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [1372 kB]
Get:8 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [971 kB]
Get:9 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [29.9 kB]
Get:6 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2192 kB]
Err:6 http://us-east-1-ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages
File has unexpected size (2191756 != 2191648). Mirror sync in progress? [IP: 3.87.126.146 80]
Hashes of expected files:
 - Filesize:2191648 [weak]
 - SHA256:b58d277243c36bd07ad85289db7ff632c9574344337740380a9d0ee2db5a
 - SHA1:109cd6767029c2163be0ee54295137f2864a271 [weak]
 - MD5Sum:82976d3a0a60a2a2039c0a8f151fbbd [weak]
Release file created at: Wed, 26 Oct 2022 07:25:12 +0000
Get:10 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Fetched 2073 kB in 0s (5441 kB/s)
Reading package lists... Done
E: Failed to fetch http://us-east-1-ec2.archive.ubuntu.com/ubuntu/dists/focal-updates/main/binary-amd64/Packages.xz File has unexpected size (2191756 != 2191648). Mirror sync in progress? [IP: 3.87.126.146 80]
Hashes of expected files:
 - Filesize:2191648 [weak]
 - SHA256:b58d277243c36bd07ad85289db7ff632c9574344337740380a9d0ee2db5a
 - SHA1:109cd6767029c2163be0ee54295137f2864a271 [weak]
 - MD5Sum:82976d3a0a60a2a2039c0a8f151fbbd [weak]
Release file created at: Wed, 26 Oct 2022 07:25:12 +0000
E: Some index files failed to download. They have been ignored, or old ones used instead.
docker@ip-172-31-17-216:/root$

```

Commands for Docker.

⇒ Docker version

To see the version of docker client and server including all other details of kernel and OS.

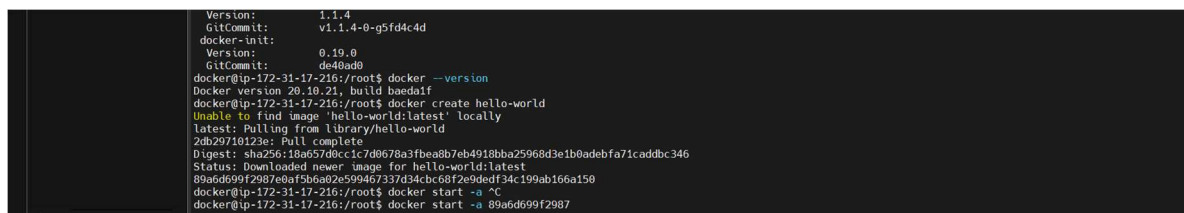


```
docker@ip-172-31-17-216:/root$ docker version
Client: Docker Engine - Community
Version: 20.10.21
API version: 1.41
Go version: go1.18.7
Git commit: baeda1f
Built: Tue Oct 25 18:02:21 2022
OS/Arch: linux/amd64
Context: default
Experimental: true

Server: Docker Engine - Community
Engine:
Version: 20.10.21
API version: 1.41 (minimum version 1.12)
Go version: go1.18.7
Git commit: 3056208
Built: Tue Oct 25 18:00:04 2022
OS/Arch: linux/amd64
Experimental: false
containerd:
Version: 1.6.9
GitCommit: 1c90a42489720e0ec95342e1789ee8a5e1b9536f
runc:
Version: 1.1.4
GitCommit: v1.1.4-0-g5fd4c4d
docker-init:
Version: 0.19.0
GitCommit: de40ad0
```

⇒ Docker --version

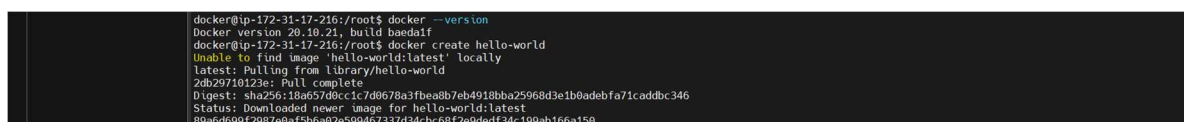
To see just the version of Docker.



```
Version: 1.1.4
GitCommit: v1.1.4-0-g5fd4c4d
docker-init:
Version: 0.19.0
GitCommit: de40ad0
docker@ip-172-31-17-216:/root$ docker --version
Docker version 20.10.21, build baeda1f
docker@ip-172-31-17-216:/root$ docker create hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:18a65708cc1c7d0678a3fbae8b7eb4918bba25968d3e1b0adebfa71caddbc346
Status: Downloaded newer image for hello-world:latest
89a6d699f2987e0af5b6a02e599467337d34cbc68f2e9dedf34c199ab166a150
docker@ip-172-31-17-216:/root$ docker start -a ^C
docker@ip-172-31-17-216:/root$ docker start -a 89a6d699f2987
```

⇒ Docker create <image-name>

To create a container of some specific image.



```
docker@ip-172-31-17-216:/root$ docker --version
Docker version 20.10.21, build baeda1f
docker@ip-172-31-17-216:/root$ docker create hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:18a65708cc1c7d0678a3fbae8b7eb4918bba25968d3e1b0adebfa71caddbc346
Status: Downloaded newer image for hello-world:latest
89a6d699f2987e0af5b6a02e599467337d34cbc68f2e9dedf34c199ab166a150
```

⇒ Docker start -a <container-id>

To start running a container of some specific image and show the attached output of the container.

```
docker@ip-172-31-17-216:/root$ docker start -a 89a6d699f2987
Hello from Docker!
This message shows that your installation appears to be working correctly.
To generate this message, Docker took the following steps:
```

⇒ Docker ps

To see the process and running containers.

⇒ Docker ps -all

To see the all the previous started containers and processes.

```
docker@ip-172-31-17-216:/root$ docker ps -all
CONTAINER ID   IMAGE      COMMAND                  CREATED          STATUS          PORTS          NAMES
89a6d699f298   hello-world "/hello"                38 seconds ago   Exited (0) 11 seconds ago              keen_mayer
```

⇒ Docker images

To see all the images that have been pulled from the Docker Hub.

```
docker@ip-172-31-17-216:/root$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED          SIZE
busybox        latest    bc01a3326866   2 hours ago     1.24MB
hello-world    latest   feb5d9fea6a5   13 months ago   13.3kB
```

⇒ Docker run <image-name>

This command is combination of docker create and docker start, It will create the container from image and start it as well.


```
docker@ip-172-31-17-216:/root$ docker run redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
e999532d091: Pull complete
f2cd78d6f24c: Pull complete
8f3614d34c89: Pull complete
697fd51ec515: Pull complete
a54cf50a327: Pull complete
66f93c92e79c: Pull complete
Digest: sha256:aed51f49a631df0cb2c1039ae3d1d70d882be3f48bde75cd240452a2348e88
Status: Downloaded newer image for redis:latest
1:C 26 Oct 2022 08:12:28.702 # o0000000000000000000 Redis is starting o0000000000000000000
1:C 26 Oct 2022 08:12:28.702 # Redis version=7.0.5, bits=64, commit=00000000, modified=0, pid=1, just started
1:C 26 Oct 2022 08:12:28.702 # Warning: no config file specified, using the default config. In order to specify a config file use redis-server /path/to/redis.conf
1:M 26 Oct 2022 08:12:28.703 * monotonic clock: POSIX clock_gettime
1:M 26 Oct 2022 08:12:28.703 * Running mode=standalone, port=6379.
1:M 26 Oct 2022 08:12:28.703 # Server initialized
1:M 26 Oct 2022 08:12:28.704 # WARNING overcommit_memory is set to 0! Background save may fail under low memory condition. To fix this issue add 'vm.overcommit_memory = 1' to /etc/sysctl.conf and then reboot or run the command 'sysctl vm.overcommit_memory=1' for this to take effect.
1:M 26 Oct 2022 08:12:28.704 # WARNING Your system is configured to use the 'xen' clocksource which might lead to degraded performance. Check the result of the [slow-clocksource] system check: run 'redis-server --check-system' to check if the system's clocksource isn't degrading performance.
1:M 26 Oct 2022 08:12:28.704 * Ready to accept connections
```

⇒ Docker stop <container-id>

To stop a container.

⇒ Docker kill <container-id>

To forcefully stopping the container by killing it same as in task manager.

⇒ Docker rmi <image-name>

To remove an image from local cache.

⇒ Docker rmi -f <image-name>

To forcefully remove an image from local cache on which any container is running.

⇒ Docker logout

To logout of the docker.

```
hello-world latest feb5d9fea6a5 13 months ago 13.3kB
docker@ip-172-31-17-216:/root$ docker logout
Removing login credentials for https://index.docker.io/v1/
docker@ip-172-31-17-216:/root$
```