

Docker Installation:

```
Administrator: Command Prompt

C:\WINDOWS\system32>docker --version
Docker version 19.03.13, build 4484c6d9d

C:\WINDOWS\system32>docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
0a03bdc26d7: Pull complete
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

C:\WINDOWS\system32>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
hello-world         latest             bf756fb1ae65       10 months ago      13.3kB

C:\WINDOWS\system32>docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
6a5697face43: Pull complete
ba13d3bc422b: Pull complete
a254829d9e55: Pull complete
Digest: sha256:6ffff1a188e92867721d90c59a75652ea66d29c05294e6e2f898704bdb8cf1
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest

C:\WINDOWS\system32>docker run -it -d ubuntu
c777c41ad68597ff5f967a0c2d5ecaf199e40d45e1263394e9543bf58eb557d

C:\WINDOWS\system32>docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
c777c41ad685       ubuntu             "/bin/bash"        10 seconds ago     Up 6 seconds                       intelligent_hodgkin
5f06e8058580       hello-world        "/hello"           2 minutes ago      Exited (0) 2 minutes ago                       charming_khorana

C:\WINDOWS\system32>
```

```
Administrator: Command Prompt

C:\WINDOWS\system32>docker exec -it c777c41ad685 bash
root@c777c41ad685:/# echo hello
hello
root@c777c41ad685:/# exit
exit

C:\WINDOWS\system32>docker stop c777c41ad685
c777c41ad685

C:\WINDOWS\system32>docker commit c777c41ad685 ubuntu/tazeen
sha256:5694598cc347136ab871dd495e93d43cce965ddeadf4323746361283c854baa3

C:\WINDOWS\system32>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
ubuntu/tazeen       latest             5694598cc347       21 seconds ago     72.9MB
ubuntu              latest             d70eaf7277ea       4 weeks ago        72.9MB
hello-world         latest             bf756fb1ae65       10 months ago      13.3kB

C:\WINDOWS\system32>docker login
Authentication with existing credentials...
Login Succeeded

C:\WINDOWS\system32>docker push ubuntu/tazeen
The push refers to repository [docker.io/ubuntu/tazeen]
ff3a146f0d50: Preparing
cc9d18e90faa: Preparing
0c2689e3f020: Preparing
47dde53750b4: Preparing
denied: requested access to the resource is denied

C:\WINDOWS\system32>docker rm ubuntu/tazeen
Error: No such container: ubuntu/tazeen

C:\WINDOWS\system32>docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
c777c41ad685       ubuntu             "/bin/bash"        5 minutes ago      Exited (0) 3 minutes ago                       intelligent_hodgkin
5f06e8058580       hello-world        "/hello"           7 minutes ago      Exited (0) 7 minutes ago                       charming_khorana

C:\WINDOWS\system32>docker rm c777c41ad685
c777c41ad685

C:\WINDOWS\system32>docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
5f06e8058580       hello-world        "/hello"           8 minutes ago      Exited (0) 8 minutes ago                       charming_khorana

C:\WINDOWS\system32>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
ubuntu/tazeen       latest             5694598cc347       2 minutes ago     72.9MB
ubuntu              latest             d70eaf7277ea       4 weeks ago        72.9MB
hello-world         latest             bf756fb1ae65       10 months ago      13.3kB

C:\WINDOWS\system32>docker rmi 5694598cc347
Untagged: ubuntu/tazeen:latest
Deleted: sha256:5694598cc347136ab871dd495e93d43cce965ddeadf4323746361283c854baa3
Deleted: sha256:7c476c768a11c211735be5746f3c33e6f242ca54f464854d542d0b401e81a9cc

C:\WINDOWS\system32>docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
```

Docker swarm:

Docker swarm can be created after docker installation

After running the docker machine, swarm can be created using the command below:

```
docker swarm init --advertise-addr <MANAGER-IP>
```

Run `docker swarm init` to create a single-node swarm on the current node. It switches the current node into swarm mode, creates a swarm named `default` and designates the current node as a leader manager node for the swarm.

The complete tutorial can be followed:

<https://docs.docker.com/engine/swarm/swarm-tutorial/create-swarm/>