

4.5 Distribute Your App Across a Swarm Cluster

Edit the `/etc/hosts` file across the two nodes via **gedit** or **vim** and make the following changes:

172.31.17.73 dockermanager

172.31.86.69 dockerworker1

After modifying the host file with the details mentioned above, check the connectivity with **ping** between all the nodes

From Docker Manager Host instance

```
root@ip-172-31-17-73:~# ping dockerworker1
PING dockerworker1 (172.31.86.69) 56(84) bytes of data.
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=1 ttl=64 time=0.637 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=2 ttl=64 time=0.727 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=3 ttl=64 time=0.673 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=4 ttl=64 time=5.00 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=5 ttl=64 time=0.674 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=6 ttl=64 time=0.647 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=7 ttl=64 time=0.751 ms
64 bytes from dockerworker1 (172.31.86.69): icmp_seq=8 ttl=64 time=0.663 ms
^C
--- dockerworker1 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7136ms
rtt min/avg/max/mdev = 0.637/1.222/5.005/1.430 ms
root@ip-172-31-17-73:~#
```

```
root@ip-172-31-86-69:~# ping dockermanager
PING dockermanager (172.31.17.73) 56(84) bytes of data.
64 bytes from dockermanager (172.31.17.73): icmp_seq=1 ttl=64 time=0.669 ms
64 bytes from dockermanager (172.31.17.73): icmp_seq=2 ttl=64 time=0.693 ms
64 bytes from dockermanager (172.31.17.73): icmp_seq=3 ttl=64 time=0.693 ms
64 bytes from dockermanager (172.31.17.73): icmp_seq=4 ttl=64 time=0.713 ms
64 bytes from dockermanager (172.31.17.73): icmp_seq=5 ttl=64 time=0.697 ms
^C
--- dockermanager ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4100ms
rtt min/avg/max/mdev = 0.669/0.693/0.713/0.014 ms
root@ip-172-31-86-69:~#
```

docker swarm init --advertise-addr172.31.17.73

```
root@ip-172-31-17-73:~# docker swarm init --advertise-addr 172.31.17.73
Swarm initialized: current node (ba8j0ti2lols6f9pbxfyqy5l0) is now a manager.

To add a worker to this swarm, run the following command:

    docker swarm join --token SWMTKN-1-2o9yesj2p0jk65wory232wthdrec38yeglr037ryoxe6duuy4n-ant4l03e6kxdociyk9ut5ky4j 172.31.17.73:2377

To add a manager to this swarm, run 'docker swarm join-token manager' and follow the instructions.

root@ip-172-31-17-73:~#
```

Once the swarm cluster is initialized, allow the ports mentioned below in security groups

SSH	TCP	22	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop	✕
All ICMP - IPv	ICMP	0 - 65535	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop	✕
Custom TCP	TCP	2377	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop	✕

```
root@ip-172-31-86-69:~# docker swarm join --token SWMTKN-1-2o9yesj2p0jk65wory232wtdrec38yegl037ryoxe6duuy4n-ant41o3e6kxdociyk9ut5ky4j 172.31.17.73:2377
This node joined a swarm as a worker.
root@ip-172-31-86-69:~#
```

docker node ls

```
root@ip-172-31-17-73:~# docker node ls
```

ID	HOSTNAME	STATUS	AVAILABILITY	MANAGER STATUS	ENGINE VERSION
ba8j0ti2lols6f8pbxfyqy5lc *	ip-172-31-17-73	Ready	Active	Leader	18.09.7
sk9btki9xksgr39jjsj7kdztz	ip-172-31-86-69	Ready	Active		18.09.7

```
root@ip-172-31-17-73:~#
```

docker service create --name webapp --publish 8080:8080 --replicas 2 jocatalin/kubernetes-bootcamp:v1

```
root@ip-172-31-17-73:~# docker service create --name webapp --publish 8080:8080 --replicas 2 docker.io/jocatalin/kubernetes-bootcamp:v1
oh0u8450pritrllhwicjgbqij
overall progress: 2 out of 2 tasks
1/2: running [=====>]
2/2: running [=====>]
verify: Service converged
root@ip-172-31-17-73:~# docker service ls
```

ID	NAME	MODE	REPLICAS	IMAGE	PORTS
oh0u8450pritrllhwicjgbqij	webapp	replicated	2/2	jocatalin/kubernetes-bootcamp:v1	*:8080->8080/tcp

```
root@ip-172-31-17-73:~#
```

curl command to see if the application is up and running.

```
root@ip-172-31-17-73:~# curl localhost:8080
Hello Kubernetes bootcamp! | Running on: dda6e7f30789 | v=1
root@ip-172-31-17-73:~#
```