```
Last login: Tue Jul  7 13:27:12 on ttys007


=======================================================================
=================
don-IV $ docker-machine -v
zsh: command not found: docker-machine


=======================================================================
=================
don-IV $ base=https://github.com/docker/machine/releases/download/v0.16.0 &&
  curl -L $base/docker-machine-$(uname -s)-$(uname -m) >/usr/local/bin/docker-machine &&
  chmod +x /usr/local/bin/docker-machine
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   639  100   639    0     0    998      0 --:--:-- --:--:-- --:--:--   996
100 32.0M  100 32.0M    0     0  2188k      0  0:00:14  0:00:14 --:--:-- 4334k


=======================================================================
=================
don-IV $ docker-machine version
docker-machine version 0.16.0, build 702c267f


=======================================================================
=================
don-IV $ docker-machine create -driver virtualbox mgr1
Creating CA: /Users/vinodkumar/.docker/machine/certs/ca.pem
Creating client certificate: /Users/vinodkumar/.docker/machine/certs/cert.pem
Running pre-create checks...
(mgr1) Image cache directory does not exist, creating it at
/Users/vinodkumar/.docker/machine/cache...
(mgr1) No default Boot2Docker ISO found locally, downloading the latest release...
(mgr1) Latest release for github.com/boot2docker/boot2docker is v19.03.12
(mgr1) Downloading /Users/vinodkumar/.docker/machine/cache/boot2docker.iso from
https://github.com/boot2docker/boot2docker/releases/download/v19.03.12/boot2docker.iso...
(mgr1) 0%....10%....20%....30%....40%....50%....60%....70%....80%....90%....100%
Creating machine...
(mgr1) Copying /Users/vinodkumar/.docker/machine/cache/boot2docker.iso to
/Users/vinodkumar/.docker/machine/machines/mgr1/boot2docker.iso...
(mgr1) Creating VirtualBox VM...
(mgr1) Creating SSH key...
(mgr1) Starting the VM...
(mgr1) Check network to re-create if needed...
(mgr1) Found a new host-only adapter: "vboxnet0"
(mgr1) Waiting for an IP...
Waiting for machine to be running, this may take a few minutes...
Detecting operating system of created instance...
Waiting for SSH to be available...
Detecting the provisioner...
```

```
Provisioning with boot2docker...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
Checking connection to Docker...
Docker is up and running!
To see how to connect your Docker Client to the Docker Engine running on this virtual machine,
run: docker-machine env mgr1


=======================================================================
=================
don-IV $ docker-machine ls
NAME   ACTIVE   DRIVER      STATE     URL                         SWARM   DOCKER      ERRORS
mgr1   -        virtualbox   Running   tcp://192.168.99.100:2376           v19.03.12


=======================================================================
=================
don-IV $ docker-machine create --driver virtualbox wrkr1
Running pre-create checks...
Creating machine...
(wrkr1) Copying /Users/vinodkumar/.docker/machine/cache/boot2docker.iso to
/Users/vinodkumar/.docker/machine/machines/wrkr1/boot2docker.iso...
(wrkr1) Creating VirtualBox VM...
(wrkr1) Creating SSH key...
(wrkr1) Starting the VM...
(wrkr1) Check network to re-create if needed...
(wrkr1) Waiting for an IP...
Waiting for machine to be running, this may take a few minutes...
Detecting operating system of created instance...
Waiting for SSH to be available...
Detecting the provisioner...
Provisioning with boot2docker...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
Checking connection to Docker...
Docker is up and running!
To see how to connect your Docker Client to the Docker Engine running on this virtual machine,
run: docker-machine env wrkr1


=======================================================================
=================
don-IV $ docker-machine create --driver virtualbox wrkr2
Running pre-create checks...
Creating machine...
(wrkr2) Copying /Users/vinodkumar/.docker/machine/cache/boot2docker.iso to
/Users/vinodkumar/.docker/machine/machines/wrkr2/boot2docker.iso...
(wrkr2) Creating VirtualBox VM...
(wrkr2) Creating SSH key...
```

```
(wrkr2) Starting the VM...
(wrkr2) Check network to re-create if needed...
(wrkr2) Waiting for an IP...
Waiting for machine to be running, this may take a few minutes...
Detecting operating system of created instance...
Waiting for SSH to be available...
Detecting the provisioner...
Provisioning with boot2docker...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
Checking connection to Docker...
Docker is up and running!
To see how to connect your Docker Client to the Docker Engine running on this virtual machine,
run: docker-machine env wrkr2


==============================================================================
=================
don-IV $ docker-machine create --driver virtualbox wrkr3
Running pre-create checks...
Creating machine...
(wrkr3) Copying /Users/vinodkumar/.docker/machine/cache/boot2docker.iso to
/Users/vinodkumar/.docker/machine/machines/wrkr3/boot2docker.iso...
(wrkr3) Creating VirtualBox VM...
(wrkr3) Creating SSH key...
(wrkr3) Starting the VM...
(wrkr3) Check network to re-create if needed...
(wrkr3) Waiting for an IP...
Waiting for machine to be running, this may take a few minutes...
Detecting operating system of created instance...
Waiting for SSH to be available...
Detecting the provisioner...
Provisioning with boot2docker...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
Checking connection to Docker...
Docker is up and running!
To see how to connect your Docker Client to the Docker Engine running on this virtual machine,
run: docker-machine env wrkr3


==============================================================================
=================
don-IV $ docker-machine ip mgr1
192.168.99.100


==============================================================================
=================
don-IV $ docker-machine ssh mgr1
```

```
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@mgr1:~$ docker swarm init --advertise-addr 192.168.99.100
Swarm initialized: current node (nkrzsres16o5aqievz65n7yrr) is now a manager.

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

    docker swarm join --token SWMTKN-1-
33ndanqg6p7r6wd4dpgzq3hbr5y4lvrneinfsgyhzubyoitmib-ecf6l9h8q65385ltvv099x1ur
192.168.99.100:2377

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

docker@mgr1:~$ docker node ls
ID                            HOSTNAME            STATUS              AVAILABILITY        MANAGER
STATUS      ENGINE VERSION
nkrzsres16o5aqievz65n7yrr *   mgr1                Ready               Active              Leader
19.03.12
docker@mgr1:~$ docker swarm join-token
"docker swarm join-token" requires exactly 1 argument.
See 'docker swarm join-token --help'.

Usage:  docker swarm join-token [OPTIONS] (worker|manager)

Manage join tokens

docker@mgr1:~$ docker swarm join-token worker
To add a worker to this swarm, run the following command:

    docker swarm join --token SWMTKN-1-
33ndanqg6p7r6wd4dpgzq3hbr5y4lvrneinfsgyhzubyoitmib-ecf6l9h8q65385ltvv099x1ur
192.168.99.100:2377

docker@mgr1:~$ exit
logout


==================================================================
=================
don-IV $ docker-machine ssh wrkr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@wrkr1:~$ docker swarm join --token SWMTKN-1-
33ndanqg6p7r6wd4dpgzq3hbr5y4lvrneinfsgyhzubyoitmib-ecf6l9h8q65385ltvv099x1ur
192.168.99.100:2377
This node joined a swarm as a worker.
docker@wrkr1:~$ exit
logout
```

```
================================================================================
=================
don-IV $ docker-machine ssh wrkr2
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@wrkr2:~$ docker swarm join --token SWMTKN-1-
33ndanqg6p7r6wd4dpgzq3hbr5y4lvrneinfsgyhzubyoitmib-ecf6l9h8q65385ltvv099x1ur
192.168.99.100:2377
This node joined a swarm as a worker.
docker@wrkr2:~$ exit
logout


================================================================================
=================
don-IV $ docker-machine ssh wrkr3
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@wrkr3:~$ docker swarm join --token SWMTKN-1-
33ndanqg6p7r6wd4dpgzq3hbr5y4lvrneinfsgyhzubyoitmib-ecf6l9h8q65385ltvv099x1ur
192.168.99.100:2377
This node joined a swarm as a worker.
docker@wrkr3:~$
docker@wrkr3:~$ exit                                    ur 192.168.99.100:2377
logout


================================================================================
=================
don-IV $ docker-machine ssh mgr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@mgr1:~$ docker node ls
ID                            HOSTNAME            STATUS              AVAILABILITY        MANAGER
STATUS      ENGINE VERSION
nkrzsres16o5aqievz65n7yrr *   mgr1                Ready               Active              Leader
19.03.12
vqvzlw84cn7jkmpjxmijh5ha9     wrkr1               Ready               Active
19.03.12
zxrecsgm12cu3nhccbvxnvc9p     wrkr2               Ready               Active
19.03.12
i9yvoiwtdcz8uc6rxstnrxung     wrkr3               Ready               Active                                  19.03.12
docker@mgr1:~$ docker info
Client:
 Debug Mode: false

Server:
 Containers: 0
  Running: 0
  Paused: 0
  Stopped: 0
 Images: 0
 Server Version: 19.03.12
 Storage Driver: overlay2
  Backing Filesystem: extfs
  Supports d_type: true
  Native Overlay Diff: true
 Logging Driver: json-file
 Cgroup Driver: cgroupfs
 Plugins:
  Volume: local
  Network: bridge host ipvlan macvlan null overlay
  Log: awslogs fluentd gcplogs gelf journald json-file local logentries splunk syslog
 Swarm: active
  NodeID: nkrzsres16o5aqievz65n7yrr
  Is Manager: true
  ClusterID: qpxgoqfujn4nx9im9dxdlyndy
  Managers: 1
  Nodes: 4
  Default Address Pool: 10.0.0.0/8
  SubnetSize: 24
  Data Path Port: 4789
  Orchestration:
   Task History Retention Limit: 5
  Raft:
   Snapshot Interval: 10000
   Number of Old Snapshots to Retain: 0
   Heartbeat Tick: 1
   Election Tick: 10
  Dispatcher:
   Heartbeat Period: 5 seconds
  CA Configuration:
   Expiry Duration: 3 months
   Force Rotate: 0
  Autolock Managers: false
  Root Rotation In Progress: false
  Node Address: 192.168.99.100
  Manager Addresses:
   192.168.99.100:2377
 Runtimes: runc
 Default Runtime: runc
 Init Binary: docker-init
 containerd version: 7ad184331fa3e55e52b890ea95e65ba581ae3429
 runc version: dc9208a3303feef5b3839f4323d9beb36df0a9dd
 init version: fec3683
 Security Options:
  seccomp
   Profile: default
 Kernel Version: 4.19.130-boot2docker
 Operating System: Boot2Docker 19.03.12 (TCL 10.1)
 OSType: linux
 Architecture: x86_64
 CPUs: 1
 Total Memory: 985.4MiB
 Name: mgr1
 ID: 27Y2:VPKZ:NG46:WN55:X6TC:W32L:MLCX:ZML6:P5ZA:BMNC:IJVJ:XB2J
 Docker Root Dir: /mnt/sda1/var/lib/docker
 Debug Mode: false
 Registry: https://index.docker.io/v1/
 Labels:
  provider=virtualbox
 Experimental: false
 Insecure Registries:
  127.0.0.0/8
 Live Restore Enabled: false
 Product License: Community Engine

docker@mgr1:~$ docker version
Client: Docker Engine - Community
 Version:           19.03.12
 API version:       1.40
 Go version:        go1.13.10
 Git commit:        48a66213fe
 Built:             Mon Jun 22 15:42:53 2020
 OS/Arch:           linux/amd64
 Experimental:      false

Server: Docker Engine - Community
 Engine:
  Version:          19.03.12
  API version:      1.40 (minimum version 1.12)
  Go version:       go1.13.10
  Git commit:       48a66213fe
  Built:            Mon Jun 22 15:49:35 2020
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          v1.2.13
  GitCommit:        7ad184331fa3e55e52b890ea95e65ba581ae3429
 runc:
  Version:          1.0.0-rc10
  GitCommit:        dc9208a3303feef5b3839f4323d9beb36df0a9dd
 docker-init:
  Version:          0.18.0
  GitCommit:        fec3683
docker@mgr1:~$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
PORTS               NAMES
```

```
docker@mgr1:~$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
docker@mgr1:~$ docker swarm

Usage: docker swarm COMMAND

Manage Swarm

Commands:
  ca          Display and rotate the root CA
  init        Initialize a swarm
  join        Join a swarm as a node and/or manager
  join-token  Manage join tokens
  leave       Leave the swarm
  unlock      Unlock swarm
  unlock-key  Manage the unlock key
  update      Update the swarm

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

docker@mgr1:~$ docker service create --replicas 3 -p 80:80 --name nginx nginx
8os7oh3gboo9cr9q7ulov9vbl
overall progress: 3 out of 3 tasks
1/3: running   [==================================================>]
2/3: running   [==================================================>]
3/3: running   [==================================================>]
verify: Service converged
docker@mgr1:~$ docker service ls
ID                  NAME                MODE                REPLICAS            IMAGE               PORTS
8os7oh3gboo9        nginx               replicated          3/3                 nginx:latest        *:80->80/tcp
docker@mgr1:~$ pwd
/home/docker
docker@mgr1:~$ docker service scale nginx=5
nginx scaled to 5
overall progress: 5 out of 5 tasks
1/5: running   [==================================================>]
2/5: running   [==================================================>]
3/5: running   [==================================================>]
4/5: running   [==================================================>]
5/5: running   [==================================================>]
verify: Service converged
docker@mgr1:~$ docker service ls
ID                  NAME                MODE                REPLICAS            IMAGE               PORTS
8os7oh3gboo9        nginx               replicated          5/5                 nginx:latest        *:80->80/tcp

docker@mgr1:~$ docker service ps nginx
ID                  NAME                IMAGE               NODE                DESIRED STATE       CURRENT
STATE           ERROR               PORTS
8sb8syemh0n9        nginx.1             nginx:latest        mgr1                Running             Running 3
minutes ago
niuzcc6s2bek        nginx.2             nginx:latest        wrkr1               Running             Running 3
minutes ago
```

```
kzbxr8f865wt        nginx.3             nginx:latest        wrkr2               Running             Running 3
minutes ago
ysk4m2t5r16e        nginx.4             nginx:latest        wrkr3               Running             Running 40
seconds ago
fligze3ujcw5        nginx.5             nginx:latest        wrkr3               Running             Running 40
seconds ago
docker@mgr1:~$ docker service scale nginx=2
nginx scaled to 2
overall progress: 2 out of 2 tasks
1/2: running   [==================================================>]
2/2: running   [==================================================>]
verify: Service converged
docker@mgr1:~$ docker service ps nginx
ID                  NAME                IMAGE               NODE                DESIRED STATE       CURRENT
STATE           ERROR               PORTS
8sb8syemh0n9        nginx.1             nginx:latest        mgr1                Running             Running 4
minutes ago
niuzcc6s2bek        nginx.2             nginx:latest        wrkr1               Running             Running 4
minutes ago
docker@mgr1:~$ docker inspect mgr1
[
    {
        "ID": "nkrzsres16o5aqievz65n7yrr",
        "Version": {
            "Index": 9
        },
        "CreatedAt": "2020-07-07T16:30:17.334060745Z",
        "UpdatedAt": "2020-07-07T16:30:17.891532796Z",
        "Spec": {
            "Labels": {},
            "Role": "manager",
            "Availability": "active"
        },
        "Description": {
            "Hostname": "mgr1",
            "Platform": {
                "Architecture": "x86_64",
                "OS": "linux"
            },
            "Resources": {
                "NanoCPUs": 1000000000,
                "MemoryBytes": 1033252864
            },
            "Engine": {
                "EngineVersion": "19.03.12",
                "Labels": {
                    "provider": "virtualbox"
                },
                "Plugins": [
                    {
                        "Type": "Log",
                        "Name": "awslogs"
```

```
},
{
  "Type": "Log",
  "Name": "fluentd"
},
{
  "Type": "Log",
  "Name": "gcplogs"
},
{
  "Type": "Log",
  "Name": "gelf"
},
{
  "Type": "Log",
  "Name": "journald"
},
{
  "Type": "Log",
  "Name": "json-file"
},
{
  "Type": "Log",
  "Name": "local"
},
{
  "Type": "Log",
  "Name": "logentries"
},
{
  "Type": "Log",
  "Name": "splunk"
},
{
  "Type": "Log",
  "Name": "syslog"
},
{
  "Type": "Network",
  "Name": "bridge"
},
{
  "Type": "Network",
  "Name": "host"
},
{
  "Type": "Network",
  "Name": "ipvlan"
},
{
  "Type": "Network",
  "Name": "macvlan"
```

```
          },
          {
            "Type": "Network",
            "Name": "null"
          },
          {
            "Type": "Network",
            "Name": "overlay"
          },
          {
            "Type": "Volume",
            "Name": "local"
          }
        ]
      },
      "TLSInfo": {
        "TrustRoot": "-----BEGIN CERTIFICATE-----\
nMIIBaTCCARCgAwIBAgIUCRvXQQzvXz4McZN34G6MiZqnrpgwCgYIKoZIzj0EAwIw\
nEzERMA8GA1UEAxMIc3dhcm0tY2EwHhcNMjAwNzA3MTYyNTAwWhcNNDAwNzAyMTY
y\
nNTAwWjATMREwDwYDVQQDEwhzd2FybS1jYTBZMBMGByqGSM49AgEGCCqGSM49Aw
EH\nA0IABEQt1wbBpyY+UHw08RIehR4PyNAOrkOLo5I7LQPWJeQgwF7DmP56QXd9krqv\
n7rOacAuTX2UiifWm/ZiQbhWpmSCjQjBAMA4GA1UdDwEB/wQEAwIBBjAPBgNVHRMB\
nAf8EBTADAQH/MB0GA1UdDgQWBBQHs4R8F8YRqidUSauSSQC+LdjTFTAKBggqhkjO\
nPQQDAgNHADBEAiB2Qr25tG3jndcBC3ToNJYAiEDa7ZrhbmfawxTS5TzKZAIgZ3dd\
nbCThxS/3MFkHuXFAlbx6cGV23Qn9vyXcLCHx0XQ=\n-----END CERTIFICATE-----\n",
        "CertIssuerSubject": "MBMxETAPBgNVBAMTCHN3YXJtLWNh",
        "CertIssuerPublicKey":
"MFkwEwYHKoZIzj0CAQYIKoZIzj0DAQcDQgAERC3XBsGnJj5QfDTxEh6FHg/I0A6uQ4ujkjs
tA9Yl5CDAXsOY/npBd32Suq/us5pwC5NfZSKJ9ab9mJBuFamZIA=="
      }
    },
    "Status": {
      "State": "ready",
      "Addr": "192.168.99.100"
    },
    "ManagerStatus": {
      "Leader": true,
      "Reachability": "reachable",
      "Addr": "192.168.99.100:2377"
    }
  }
]
docker@mgr1:~$ docker inspect wrkr1
[
  {
    "ID": "vqvzlw84cn7jkmpjxmijh5ha9",
    "Version": {
      "Index": 15
    },
    "CreatedAt": "2020-07-07T16:32:21.946311132Z",
    "UpdatedAt": "2020-07-07T16:32:22.035929124Z",
"Spec": {
    "Labels": {},
    "Role": "worker",
    "Availability": "active"
},
"Description": {
    "Hostname": "wrkr1",
    "Platform": {
        "Architecture": "x86_64",
        "OS": "linux"
    },
    "Resources": {
        "NanoCPUs": 1000000000,
        "MemoryBytes": 1033252864
    },
    "Engine": {
        "EngineVersion": "19.03.12",
        "Labels": {
            "provider": "virtualbox"
        },
        "Plugins": [
            {
                "Type": "Log",
                "Name": "awslogs"
            },
            {
                "Type": "Log",
                "Name": "fluentd"
            },
            {
                "Type": "Log",
                "Name": "gcplogs"
            },
            {
                "Type": "Log",
                "Name": "gelf"
            },
            {
                "Type": "Log",
                "Name": "journald"
            },
            {
                "Type": "Log",
                "Name": "json-file"
            },
            {
                "Type": "Log",
                "Name": "local"
            },
            {
                "Type": "Log",
                "Name": "logentries"
```

```
                    },
                    {
                        "Type": "Log",
                        "Name": "splunk"
                    },
                    {
                        "Type": "Log",
                        "Name": "syslog"
                    },
                    {
                        "Type": "Network",
                        "Name": "bridge"
                    },
                    {
                        "Type": "Network",
                        "Name": "host"
                    },
                    {
                        "Type": "Network",
                        "Name": "ipvlan"
                    },
                    {
                        "Type": "Network",
                        "Name": "macvlan"
                    },
                    {
                        "Type": "Network",
                        "Name": "null"
                    },
                    {
                        "Type": "Network",
                        "Name": "overlay"
                    },
                    {
                        "Type": "Volume",
                        "Name": "local"
                    }
                ]
            },
            "TLSInfo": {
                "TrustRoot": "-----BEGIN CERTIFICATE-----\
nMIIBaTCCARCgAwIBAgIUCRvXQQzvXz4McZN34G6MiZqnrpgwCgYIKoZIzj0EAwIw\
nEzERMA8GA1UEAxMIc3dhcm0tY2EwHhcNMjAwNzA3MTYyNTAwWhcNNDAwNzAyMTY
y\
nNTAwWjATMREwDwYDVQQDEwhzd2FybS1jYTBZMBMGByqGSM49AgEGCCqGSM49Aw
EH\nA0IABEQt1wbBpyY+UHw08RIehR4PyNAOrkOLo5I7LQPWJeQgwF7DmP56QXd9krqv\
n7rOacAuTX2UiifWm/ZiQbhWpmSCjQjBAMA4GA1UdDwEB/wQEAwIBBjAPBgNVHRMB\
nAf8EBTADAQH/MB0GA1UdDgQWBBQHs4R8F8YRqidUSauSSQC+LdjTFTAKBggqhkjO\
nPQQDAgNHADBEAiB2Qr25tG3jndcBC3ToNJYAiEDa7ZrhbmfawxTS5TzKZAIgZ3dd\
nbCThxS/3MFkHuXFAlbx6cGV23Qn9vyXcLCHx0XQ=\n-----END CERTIFICATE-----\n",
                "CertIssuerSubject": "MBMxETAPBgNVBAMTCHN3YXJtLWNh",
            "CertIssuerPublicKey": "MFkwEwYHKoZIzj0CAQYIKoZIzj0DAQcDQgAERC3XBsGnJj5QfDTxEh6FHg/I0A6uQ4ujkjstA9Yl5CDAXsOY/npBd32Suq/us5pwC5NfZSKJ9ab9mJBuFamZIA=="
         }
      },
      "Status": {
         "State": "ready",
         "Addr": "192.168.99.101"
      }
   }
]
docker@mgr1:~$ exit status 255
```

```
==================================================================================
don-IV $ docker-machine ps
docker-machine: 'ps' is not a docker-machine command. See 'docker-machine --help'.
```

```
==================================================================================
don-IV $ docker-machine ls
NAME    ACTIVE   DRIVER       STATE     URL                         SWARM   DOCKER     ERRORS
mgr1    -        virtualbox   Running   tcp://192.168.99.100:2376           v19.03.12
wrkr1   -        virtualbox   Running   tcp://192.168.99.101:2376           v19.03.12
wrkr2   -        virtualbox   Running   tcp://192.168.99.102:2376           v19.03.12
wrkr3   -        virtualbox   Running   tcp://192.168.99.103:2376           v19.03.12
```

```
==================================================================================
don-IV $ docker-machine ssh 192.168.99.101
Docker machine "192.168.99.101" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
```

```
==================================================================================
don-IV $ docker-machine ssh 192.168.99.100
Docker machine "192.168.99.100" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
```

```
==================================================================================
don-IV $ docker-machine ls
NAME    ACTIVE   DRIVER       STATE     URL                         SWARM   DOCKER     ERRORS
mgr1    -        virtualbox   Running   tcp://192.168.99.100:2376           v19.03.12
wrkr1   -        virtualbox   Running   tcp://192.168.99.101:2376           v19.03.12
wrkr2   -        virtualbox   Running   tcp://192.168.99.102:2376           v19.03.12
wrkr3   -        virtualbox   Running   tcp://192.168.99.103:2376           v19.03.12
```

```
==============================================================================
==================
don-IV $ docker-machine ssh wrkr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@wrkr1:~$ docker swarm leave
Node left the swarm.

docker@wrkr1:~$ exit
logout
exit status 127


==============================================================================
==================
don-IV $ docker-machine ls
NAME    ACTIVE   DRIVER       STATE     URL                          SWARM   DOCKER      ERRORS
mgr1    -        virtualbox   Running   tcp://192.168.99.100:2376            v19.03.12
wrkr1   -        virtualbox   Running   tcp://192.168.99.101:2376            v19.03.12
wrkr2   -        virtualbox   Running   tcp://192.168.99.102:2376            v19.03.12
wrkr3   -        virtualbox   Running   tcp://192.168.99.103:2376            v19.03.12


==============================================================================
==================
don-IV $ docker-machine ssh mgr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@mgr1:~$ docker service ls
ID                  NAME                MODE                REPLICAS            IMAGE               PORTS
8os7oh3gboo9        nginx               replicated          2/2                 nginx:latest        *:80->80/tcp
docker@mgr1:~$ docker service stop nginx

Usage:  docker service COMMAND

Manage services

Commands:
  create      Create a new service
  inspect     Display detailed information on one or more services
  logs        Fetch the logs of a service or task
  ls          List services
  ps          List the tasks of one or more services
  rm          Remove one or more services
  rollback    Revert changes to a service's configuration
  scale       Scale one or multiple replicated services
  update      Update a service

Run 'docker service COMMAND --help' for more information on a command.
docker@mgr1:~$ docker service scale nginx=0
nginx scaled to 0
overall progress: 0 out of 0 tasks
verify: Service converged
docker@mgr1:~$ docker swarm ls

Usage: docker swarm COMMAND

Manage Swarm

Commands:
  ca          Display and rotate the root CA
  init        Initialize a swarm
  join        Join a swarm as a node and/or manager
  join-token  Manage join tokens
  leave       Leave the swarm
  unlock      Unlock swarm
  unlock-key  Manage the unlock key
  update      Update the swarm

Run 'docker swarm COMMAND --help' for more information on a command.
docker@mgr1:~$ docker node ls
ID                            HOSTNAME            STATUS              AVAILABILITY        MANAGER
STATUS      ENGINE VERSION
nkrzsres16o5aqievz65n7yrr *   mgr1                Ready               Active              Leader
19.03.12
vqvzlw84cn7jkmpjxmijh5ha9     wrkr1               Down                Active
19.03.12
zxrecsgm12cu3nhccbvxnvc9p     wrkr2               Ready               Active
19.03.12
i9yvoiwtdcz8uc6rxstnrxung     wrkr3               Ready               Active                                  19.03.12
docker@mgr1:~$ docker node wrk2

Usage: docker node COMMAND

Manage Swarm nodes

Commands:
  demote      Demote one or more nodes from manager in the swarm
  inspect     Display detailed information on one or more nodes
  ls          List nodes in the swarm
  promote     Promote one or more nodes to manager in the swarm
  ps          List tasks running on one or more nodes, defaults to current node
  rm          Remove one or more nodes from the swarm
  update      Update a node

Run 'docker node COMMAND --help' for more information on a command.
docker@mgr1:~$ docker node rm wrk2
Error: No such node: wrk2
```

```
docker@mgr1:~$ docker node rm wrkr2
Error response from daemon: rpc error: code = FailedPrecondition desc = node
zxrecsgm12cu3nhccbvxnvc9p is not down and can't be removed
docker@mgr1:~$ exit
logout
exit status 1


=======================================================================
=================
don-IV $ docker-machine ssh wrkr2
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@wrkr2:~$ docker swarm leave
Node left the swarm.
docker@wrkr2:~$ exot
-bash: exot: command not found
docker@wrkr2:~$ exit
logout
exit status 127


=======================================================================
=================
don-IV $ docker-machine ssh mgr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@mgr1:~$ docker node ls
ID                            HOSTNAME            STATUS              AVAILABILITY        MANAGER
STATUS        ENGINE VERSION
nkrzsres16o5aqievz65n7yrr *   mgr1                Ready               Active              Leader
19.03.12
vqvzlw84cn7jkmpjxmijh5ha9     wrkr1               Down                Active
19.03.12
zxrecsgm12cu3nhccbvxnvc9p     wrkr2               Down                Active
19.03.12
i9yvoiwtdcz8uc6rxstnrxung     wrkr3               Ready               Active                                  19.03.12
docker@mgr1:~$ exit
logout


=======================================================================
=================
don-IV $ docker-machine ssh wrkr3
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net
```

```
docker@wrkr3:~$ docker swarm leave                        ur 192.168.99.100:2377
Node left the swarm.
docker@wrkr3:~$ exit
logout


========================================================================
=================
don-IV $ docker-machine ssh mgr1
   ( '>')
  /) TC (\   Core is distributed with ABSOLUTELY NO WARRANTY.
 (/-_--_-\)           www.tinycorelinux.net

docker@mgr1:~$ docker swarm leave
Error response from daemon: You are attempting to leave the swarm on a node that is participating
as a manager. Removing the last manager erases all current state of the swarm. Use `--force` to
ignore this message.
docker@mgr1:~$ docker swarm leave --force
Node left the swarm.
docker@mgr1:~$ docker node ls
Error response from daemon: This node is not a swarm manager. Use "docker swarm init" or
"docker swarm join" to connect this node to swarm and try again.
docker@mgr1:~$ exit
logout
exit status 1


========================================================================
=================
don-IV $ docker-machine ls
NAME    ACTIVE   DRIVER     STATE    URL                         SWARM   DOCKER     ERRORS
mgr1    -        virtualbox   Running   tcp://192.168.99.100:2376           v19.03.12
wrkr1   -        virtualbox   Running   tcp://192.168.99.101:2376           v19.03.12
wrkr2   -        virtualbox   Running   tcp://192.168.99.102:2376           v19.03.12
wrkr3   -        virtualbox   Running   tcp://192.168.99.103:2376           v19.03.12


========================================================================
=================
don-IV $ docker-machine rm mgr1
About to remove mgr1
WARNING: This action will delete both local reference and remote instance.
Are you sure? (y/n): y
Successfully removed mgr1


========================================================================
=================
don-IV $ docker-machine rm wrkr1
About to remove wrkr1
WARNING: This action will delete both local reference and remote instance.
Are you sure? (y/n): y
```

```
Successfully removed wrkr1


=======================================================================
=================
don-IV $ docker-machine rm wrkr2
About to remove wrkr2
WARNING: This action will delete both local reference and remote instance.
Are you sure? (y/n): y
Successfully removed wrkr2


=======================================================================
=================
don-IV $ docker-machine rm wrkr3
About to remove wrkr3
WARNING: This action will delete both local reference and remote instance.
Are you sure? (y/n): y
Successfully removed wrkr3


=======================================================================
=================
don-IV $ docker-machine ls
NAME   ACTIVE   DRIVER   STATE   URL   SWARM   DOCKER   ERRORS


=======================================================================
=================
don-IV $
```