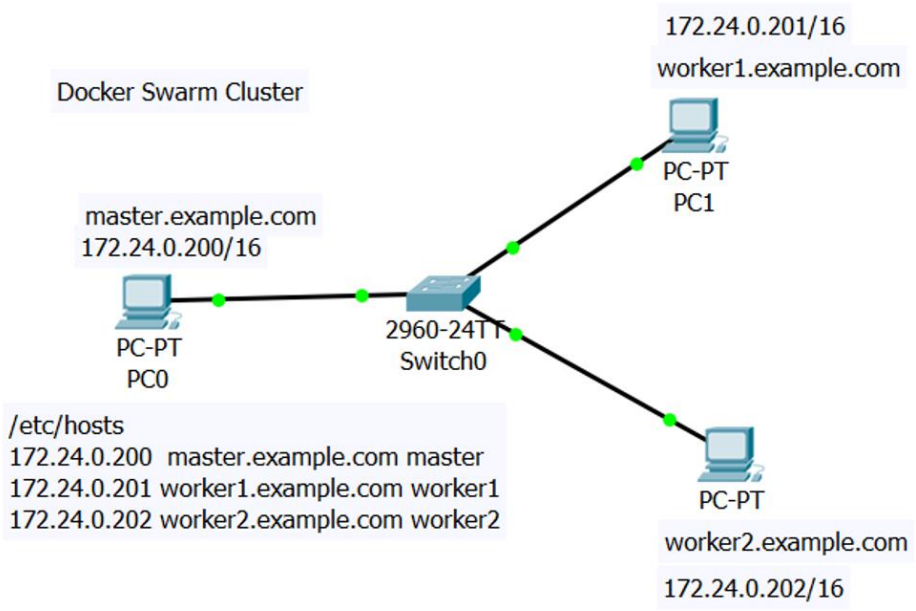

Docker Swarm Cluster

(Configure Settings on Manager Node)

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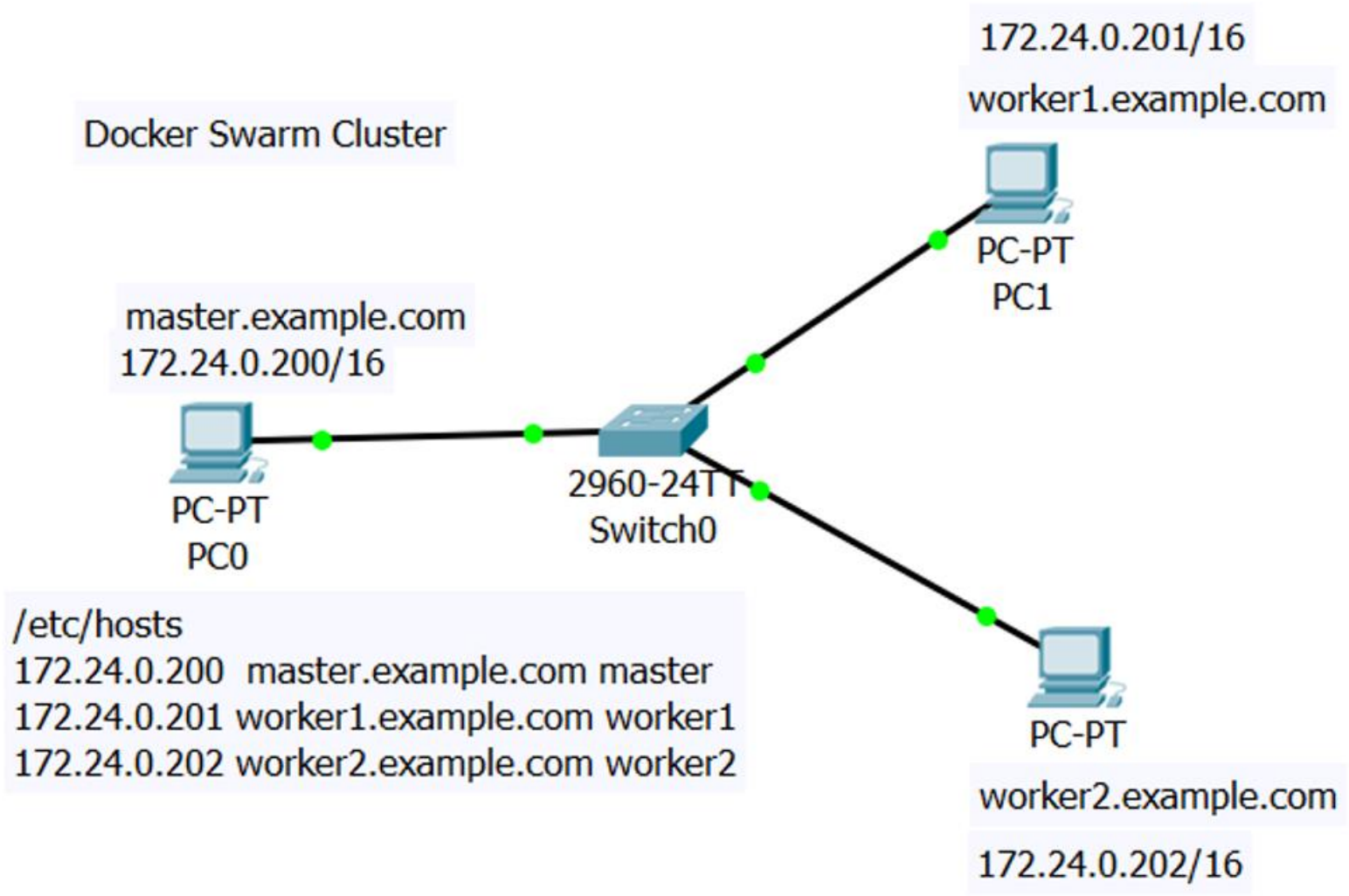
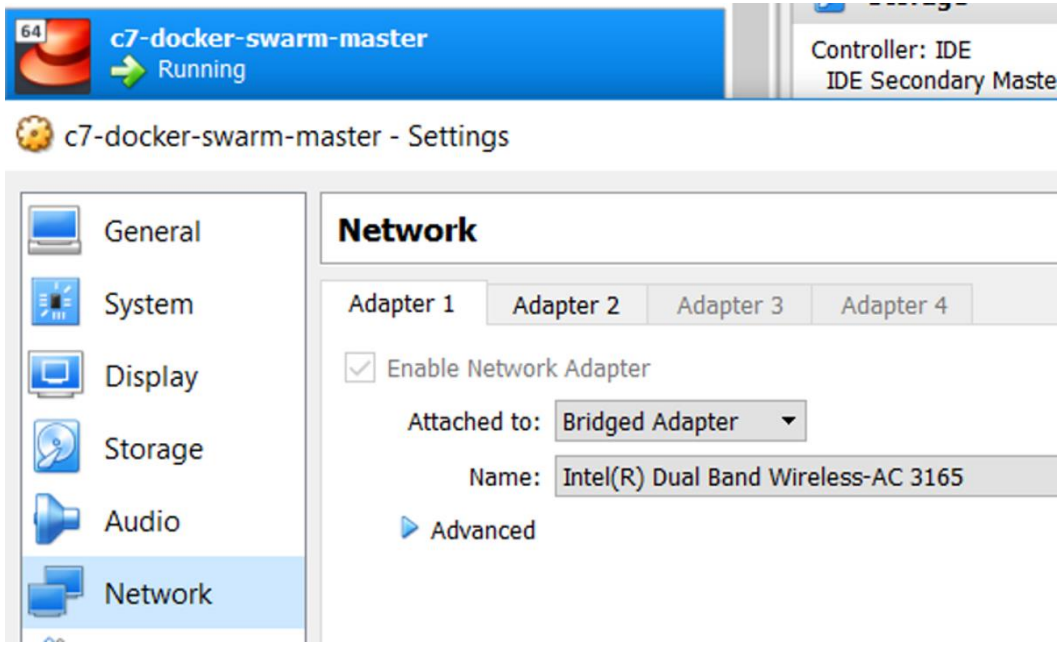
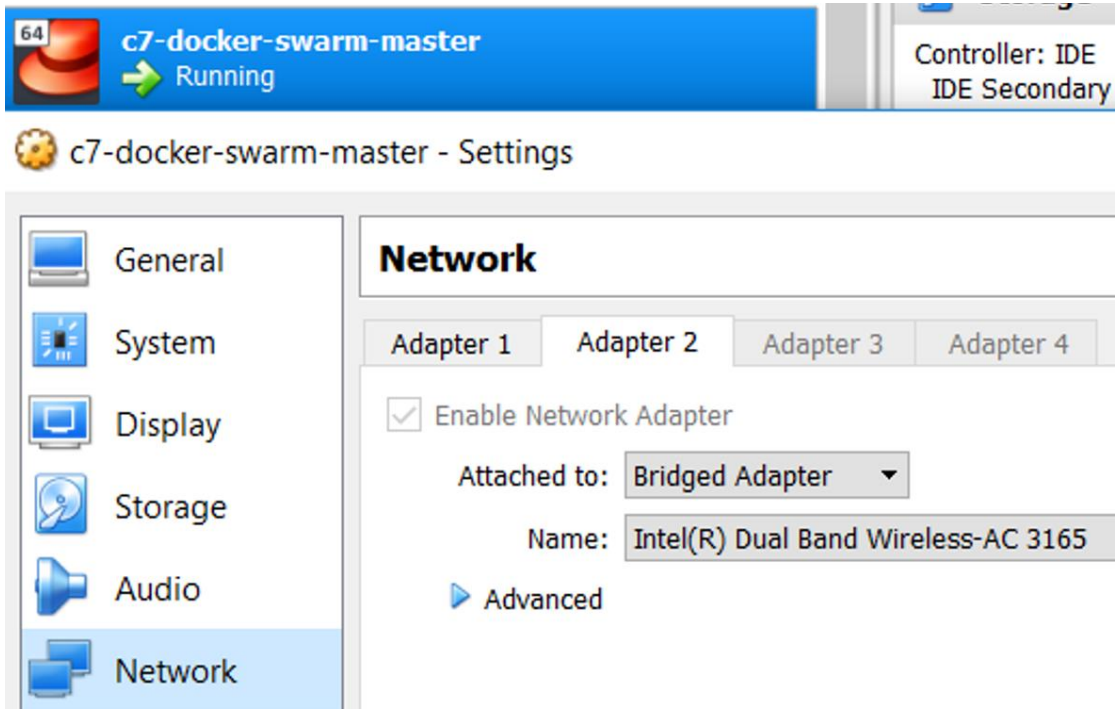
Docker Swarm Lab Setup



CentOS 7 Manager Node Adapter Settings





One adapter will be for internet access
& other for LAN communications.

Check Current Firewall Settings & Change

```
[root@localhost ~]# yum install -y -q iptables-services
[root@localhost ~]#
[root@localhost ~]# systemctl disable firewalld
Removed symlink /etc/systemd/system/multi-user.target.wants/firewalld.service.
Removed symlink /etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service.
[root@localhost ~]#
[root@localhost ~]# systemctl stop firewalld
[root@localhost ~]#
[root@localhost ~]# iptables -F
[root@localhost ~]#
[root@localhost ~]# service iptables save
iptables: Saving firewall rules to /etc/sysconfig/iptables:[  OK  ]
[root@localhost ~]#
```

In CentOS 7/RHEL 7, there are 2 ways to manage firewall. First one is “firewalld” & other one is “iptables”. Here we want to use the recommended method of “iptables”

First install the “iptables-services” package by using “yum”. Then permanently disable the “firewalld” by using “systemctl disable firewalld” & temporarily by using “systemctl stop firewalld”.

Then flush the current firewall rules by using “iptables -F” & save the current status of rules by using “service iptables save”.

Check Current SELINUX Status

```
[root@localhost ~]# cat /etc/sysconfig/selinux |grep -v ^#

SELINUX=enforcing
SELINUXTYPE=targeted


[root@localhost ~]# sestatus
SELinux status:                 enabled
SELinuxfs mount:                /sys/fs/selinux
SELinux root directory:         /etc/selinux
Loaded policy name:             targeted
Current mode:                   enforcing
Mode from config file:          enforcing
Policy MLS status:              enabled
Policy deny_unknown status:     allowed
Max kernel policy version:      31
[root@localhost ~]#
```

Check the selinux status either by viewing the “/etc/sysconfig/selinux” file or by running the command “sestatus”.

As can be seen, selinux is in enforcing mode. We want to disable this.

Change SELINUX Status

```
[root@localhost ~]# cat /etc/sysconfig/selinux |grep -v ^#

SELINUX=disabled
SELINUXTYPE=targeted


[root@localhost ~]# reboot



[root@localhost ~]# sestatus
SELinux status:                 disabled
```

Change the setting to “SELINUX=disabled” from “SELINUX=enforcing” in “/etc/sysconfig/selinux” file & reboot the system.

After rebooting, again check the selinux status. As can be seen, now it is disabled.

Check Current Network Settings

```
[root@localhost ~]# ip a s
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue sta
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdi
group default qlen 1000
    link/ether 08:00:27:ae:9c:dd brd ff:ff:ff:ff:ff:ff
    inet 192.168.43.70/24 brd 192.168.43.255 scope global
enp0s3
       valid_lft 3596sec preferred_lft 3596sec
    inet6 fe80::d1ee:5c9f:2ee4:f4e6/64 scope link nopref
       valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdi
group default qlen 1000
    link/ether 08:00:27:53:81:12 brd ff:ff:ff:ff:ff:ff
    inet 192.168.43.16/24 brd 192.168.43.255 scope global
enp0s8
```

Check hostname, domain name & ip address as shown.

It is showing hostname as “localhost.localdomain”, domain name is not shown on running the command “dnsdomainname”.

Change Network Settings

```
[root@localhost network-scripts]# hostname
localhost.localdomain
[root@localhost network-scripts]# dnsdomainname
[root@localhost network-scripts]#
[root@localhost network-scripts]# cat /etc/hosts
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
[root@localhost network-scripts]#
```

```
[root@localhost ~]# hostnamectl set-hostname master.example.com
[root@localhost ~]#
[root@localhost ~]# hostname
master.example.com
[root@localhost ~]# dnsdomainname
example.com
```

```
[root@localhost ~]# cd /etc/sysconfig/network-scripts/
[root@localhost network-scripts]#
[root@localhost network-scripts]# ls
ifcfg-enp0s3  ifdown-ppp       ifup-eth     ifup-sit
ifcfg-lo      ifdown-routes    ifup-ippp    ifup-Team
ifdown        ifdown-sit       ifup-ipv6    ifup-TeamPort
ifdown-bnep   ifdown-Team      ifup-isdn    ifup-tunnel
ifdown-eth    ifdown-TeamPort  ifup-plip    ifup-wireless
ifdown-ippp   ifdown-tunnel    ifup-plusb   init.ipv6-global
ifdown-ipv6   ifup             ifup-post    network-functions
ifdown-isdn   ifup-aliases     ifup-ppp     network-functions-ipv6
ifdown-post   ifup-bnep        ifup-routes
[root@localhost network-scripts]#
```

Change hostname, domain name by using “hostnamectl” command as shown.

Also make proper entry in “/etc/hosts” file.

Change Network Settings

```
[root@localhost network-scripts]# cat ifcfg-enp0s3
TYPE="Ethernet"
PROXY_METHOD="none"
BROWSER_ONLY="no"
BOOTPROTO="dhcp"
DEFROUTE="yes"
IPV4_FAILURE_FATAL="no"
IPV6INIT="yes"
IPV6_AUTOCONF="yes"
IPV6_DEFROUTE="yes"
IPV6_FAILURE_FATAL="no"
IPV6_ADDR_GEN_MODE="stable-privacy"
NAME="enp0s3"
UUID="fe0e6bec-a81a-4d4d-924b-3a9accf284a9"
DEVICE="enp0s3"
ONBOOT="yes"
[root@localhost network-scripts]#
[root@localhost network-scripts]#
[root@localhost network-scripts]# cp ifcfg-enp0s3 ifcfg-enp0s8
```

Copy “ifcfg-enp0s3” as “ifcfg-enp0s8”.

Change Network Settings

```
[root@master ~]# cat /etc/hosts
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
172.24.0.200 master.example.com master
172.24.0.201 worker1.example.com worker1
172.24.0.202 worker2.example.com worker2
[root@master ~]#
[root@master ~]# cat /etc/sysconfig/network-scripts/ifcfg-enp0s8
TYPE="Ethernet"
BOOTPROTO="static"
DEFROUTE="yes"
PEERDNS="yes"
PEERROUTES="yes"
IPV4_FAILURE_FATAL="no"
IPV6INIT="yes"
IPV6_AUTOCONF="yes"
IPV6_DEFROUTE="yes"
IPV6_PEERDNS="yes"
IPV6_PEERROUTES="yes"
IPV6_FAILURE_FATAL="no"
IPV6_ADDR_GEN_MODE="stable-privacy"
NAME="enp0s8"
DEVICE="enp0s8"
ONBOOT="yes"
IPADDR=172.24.0.200
NETMASK=255.255.0.0
```

Make changes in “ifcfg-enp0s8” as shown.