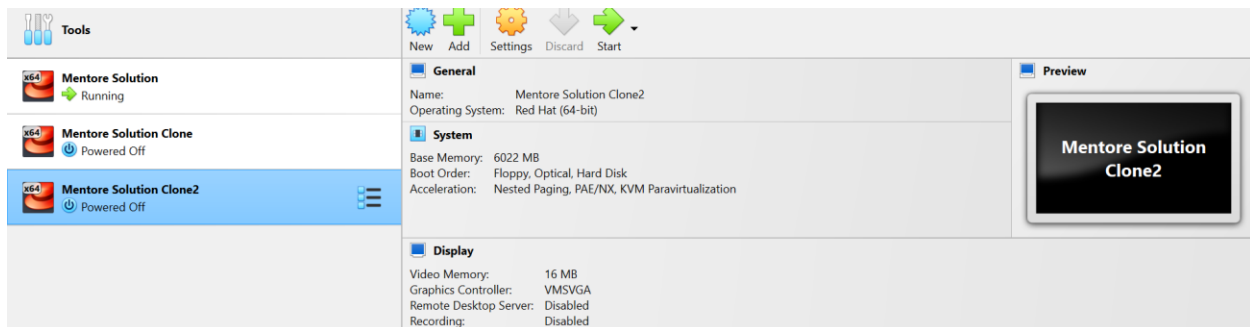


IP Forwarding

For IP forwarding we require 3 Machines



Server Machine:

```
[root@server ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp0s3
  sources:
  services: cockpit dhcpv6-client http ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server ~]# firewall-cmd --add-masquerade --permanent
success
[root@server ~]# firewall-cmd --reload
success
[root@server ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp0s3 enp0s8
  sources:
  services: cockpit dhcpv6-client http ssh
  ports:
  protocols:
  forward: yes
  masquerade: yes
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server ~]#
```

```
[root@server ~]# rich rules:
[root@server ~]# firewall-cmd --add-forward-port=port=80:proto=tcp:toaddr=192.168.0.4 --permanent
success
[root@server ~]# firewall-cmd --reload
success
[root@server ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp0s3
  sources:
  services: cockpit dhcpv6-client http ssh
  ports:
  protocols:
  forward: yes
  masquerade: yes
  forward-ports:
    port=80:proto=tcp:toport=:toaddr=192.168.0.4
  source-ports:
  icmp-blocks:
  rich rules:
[root@server ~]#
```

Client Machine:

```
[root@server ~]# yum install httpd -y
Last metadata expiration check: 5:04:19 ago on Friday 01 August 2025 12:45:21 PM.
Package httpd-2.4.62-5.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@server ~]# vim /var/www/html/index.html

[1]+  Stopped                  vim /var/www/html/index.html
```

```

root@server:~ — vim /var/www/html/index.html
<h1> Hello, This is Clone client machine
</h1>

: wq !

```

```
[root@server ~]# systemctl start httpd
[root@server ~]# systemctl enable httpd
[root@server ~]# curl localhost
<h1> Hello, This is Clone client machine
</h1>
```

```
[root@server ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp0s3 enp0s8
  sources:
  services: cockpit dhcpv6-client http ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server ~]# firewall-cmd --add-service=http --permanent
Warning: ALREADY_ENABLED: http
success
[root@server ~]# firewall-cmd --add-masquerade --permanent
success
[root@server ~]# firewall-cmd --reload
success
[root@server ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp0s3
  sources:
  services: cockpit dhcpv6-client http ssh
  ports:
  protocols:
  forward: yes
  masquerade: yes
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server ~]#
```

Clone Machine:

```
[root@client ~]# ping 192.168.0.2
PING 192.168.0.2 (192.168.0.2) 56(84) bytes of data.
64 bytes from 192.168.0.2: icmp_seq=1 ttl=64 time=0.088 ms
64 bytes from 192.168.0.2: icmp_seq=2 ttl=64 time=0.168 ms
64 bytes from 192.168.0.2: icmp_seq=3 ttl=64 time=0.151 ms
^C
--- 192.168.0.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2051ms
rtt min/avg/max/mdev = 0.088/0.135/0.168/0.034 ms
[root@client ~]# ping 192.168.0.3
PING 192.168.0.3 (192.168.0.3) 56(84) bytes of data.
64 bytes from 192.168.0.3: icmp_seq=1 ttl=64 time=2.44 ms
64 bytes from 192.168.0.3: icmp_seq=2 ttl=64 time=2.63 ms
64 bytes from 192.168.0.3: icmp_seq=3 ttl=64 time=3.20 ms
^C
--- 192.168.0.3 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2005ms
rtt min/avg/max/mdev = 2.435/2.754/3.198/0.323 ms
[root@client ~]# ping 192.168.0.4
PING 192.168.0.4 (192.168.0.4) 56(84) bytes of data.
64 bytes from 192.168.0.4: icmp_seq=1 ttl=64 time=2.49 ms
64 bytes from 192.168.0.4: icmp_seq=2 ttl=64 time=3.91 ms
64 bytes from 192.168.0.4: icmp_seq=3 ttl=64 time=2.45 ms
^C
--- 192.168.0.4 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2006ms
rtt min/avg/max/mdev = 2.447/2.948/3.905/0.676 ms
[root@client ~]# curl 192.168.0.3
<h1> Hello, This is Clone client machine
</h1>

[root@client ~]#
```