BIND

Note: centOS 7.

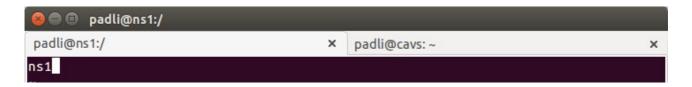
ns1 / 192.168.100.31

ns2 / 192.168.100.32

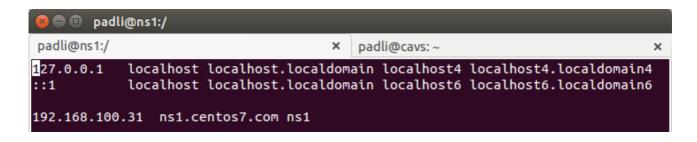
centos7 / 192.168.100.30

NS1

1. set "vi /etc/hostname".



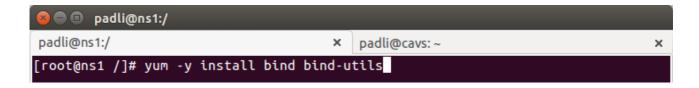
2. set "vi /etc/hosts".



3. set ip like this.

```
padli@ns1:/
padli@ns1:/
                                       padli@cavs: ~
                                                                            ×
[root@ns1 /]# ifconfig
ens18: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
       inet 192.168.100.31 netmask 255.255.255.0 broadcast 192.168.100.255
       inet6 fe80::6c07:17ff:fe61:2896 prefixlen 64 scopeid 0x20<link>
       ether 6e:07:17:61:28:96 txqueuelen 1000 (Ethernet)
       RX packets 346 bytes 41818 (40.8 KiB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 228 bytes 32983 (32.2 KiB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
       inet 127.0.0.1 netmask 255.0.0.0
       inet6 ::1 prefixlen 128 scopeid 0x10<host>
       loop txqueuelen 0 (Local Loopback)
       RX packets 4 bytes 476 (476.0 B)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 4 bytes 476 (476.0 B)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
[root@ns1 /]# reboot
```

4. install bind.



5. set "vi /etc/named.conf" (1).

```
padli@ns1:/
padli@ns1:/
                                     x padli@cavs: ~
  named.conf
// Provided by Red Hat bind package to configure the ISC BIND named(8) DNS
// server as a caching only nameserver (as a localhost DNS resolver only).
  See /usr/share/doc/bind*/sample/ for example named configuration files.
options {
       listen-on port 53 { 127.0.0.1; 192.168.100.31; };
       listen-on-v6 port 53 { ::1; };
       directory
                        "/var/named";
                        "/var/named/data/cache_dump.db";
       dump-file
        statistics-file "/var/named/data/named_stats.txt";
       memstatistics-file "/var/named/data/named_mem_stats.txt";
                       { localhost; 192.168.100.0/24; };
        allow-query
       allow-transfer { localhost; 192.168.100.32; };
        - If you are building an AUTHORITATIVE DNS server, do NOT enable recurs
ion.
"/etc/named.conf" 73L, 1867C
```

6. set "vi /etc/named.conf" (2).

```
padli@ns1:/
 padli@ns1:/
                                          x padli@cavs: ~
zone "." IN {
type hint;
         file "named.ca";
};
zone "centos7.com" IN {
         type master;
         file "forward.centos7";
         allow-update { none; };
};
zone "100.168.192.in-addr.arpa" IN {
         type master;
         file "reverse.centos7";
         allow-update { none; };
};
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
```

7. set "vi /var/named/forward.centos7".

```
🔞 🖨 🗊 padli@ns1:/
padli@ns1:/
                                       x padli@cavs: ~
 BIND data file for local loopback interface
$TTL
        604800
                         ns1.centos7.com. root.centos7.com. (
@
        IN
                SOA
                                         ; Serial
                               2
                                         ; Refresh
                          604800
                           86400
                                         ; Retry
                         2419200
                                         ; Expire
                          604800 )
                                         ; Negative Cache TTL
;name servers
                IN
                        NS
                                 ns1.centos7.com.
centos7.com.
centos7.com.
                IN
                        NS
                                 ns2.centos7.com.
;a records for name servers
ns1
                IN
                         Α
                                 192.168.100.31
ns2
                IN
                         Α
                                 192.168.100.32
;other a records
                IN
                                 192.168.100.30
                         Α
                                 192.168.100.30
WWW
                IN
                         Α
"/var/named/forward.centos7" 23L, 485C
```

8. set "vi /var/named/reverse.centos7".

```
padli@ns1:/
padli@ns1:/
                                          padli@cavs: ~
 BIND reverse data file for local loopback interface
$TTL
        604800
        IN
                SOA
                         centos7.com. root.centos7.com. (
                               1
                                         ; Serial
                          604800
                                         ; Refresh
                           86400
                                         ; Retry
                         2419200
                                         ; Expire
                          604800 )
                                         ; Negative Cache TTL
;name servers
        IN
                NS
                         ns1.centos7.com.
        IN
                NS
                         ns2.centos7.com.
ns1
        IN
                         192.168.100.31
ns2
        IN
                Α
                         192.168.100.32
;ptr records
                PTR
31
        IN
                         ns1.centos7.com.
        IN
32
                PTR
                         ns2.centos7.com.
30
        IN
                PTR
                         www.centos7.com.
"/var/named/reverse.centos7" 23L, 439C
```

9. enable & start bind.

```
padli@ns1:/

padli@ns1:/

padli@cavs:~

[root@ns1 /]# systemctl enable named
[root@ns1 /]# systemctl start named
[root@ns1 /]#
```

10. allow domain port tcp.

```
padli@ns1:/

padli@ns1:/

padli@cavs: ~ x

[root@ns1 /]# firewall-cmd --permanent --add-port=53/tcp
```

11. allow domain port udp.

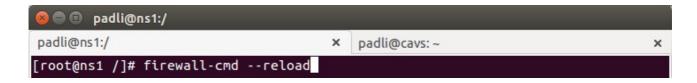
```
padli@ns1:/

padli@ns1:/

x padli@cavs:~

[root@ns1 /]# firewall-cmd --permanent --add-port=53/udp
```

12. reload firewalld.



13. set own:group like this.

```
🔞 🖨 📵 🏻 padli@ns1:/
padli@ns1:/
                                     x padli@cavs: ~
                                                                             ×
[root@ns1 /]# ls -al /etc/named.conf
-rw-r----. 1 root named 1867 Jul 27 13:22 /etc/named.conf
[root@ns1 /]# ls -al /var/named/
total 32
drwxr-x---. 5 root named 4096 Jul 28 08:58 .
drwxr-xr-x. 21 root root 4096 Jul 28 08:50 ..
drwxrwx---. 2 named named
                            22 Jul 27 11:51 data
drwxrwx---. 2 named named
                           58 Jul 28 08:51 dynamic
                          485 Jul 27 13:43 forward.centos7
-rw-r--r--. 1 root named
-rw-r----. 1 root  named 2076 Jan 28 2013 named.ca
                          152 Des 15 2009 named.empty
-rw-r----. 1 root named
                          152 Jun 21 2007 named.localhost
-rw-r----. 1 root named
           1 root named
                          168 Des 15 2009 named.loopback
                          439 Jul 27 13:45 reverse.centos7
rw-r--r--. 1 root named
drwxrwx---. 2_named named 6 Jul 20 23:27 slaves
[root@ns1 /]#
```

14. cek config.

```
padli@ns1:/

padli@ns1:/

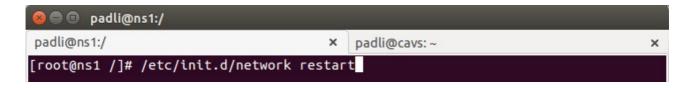
| padli@ns1:/
| x padli@cavs:~ x

| [root@ns1 /]# named-checkconf /etc/named.conf |
| [root@ns1 /]# named-checkzone centos7.com /var/named/forward.centos7 |
| zone centos7.com/IN: loaded serial 2 |
| OK |
| [root@ns1 /]# named-checkzone centos7.com /var/named/reverse.centos7 |
| zone centos7.com/IN: loaded serial 1 |
| OK |
| [root@ns1 /]# |
```

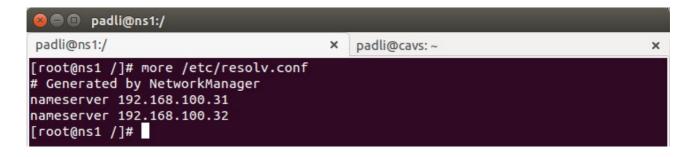
15. set dns1 & dns2.

```
padli@ns1:/
padli@ns1:/
                                          padli@cavs: ~
                                                                                 ×
TYPE=Ethernet
BOOTPROTO=none
DEFROUTE=yes
IPV4 FAILURE FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_FAILURE_FATAL=no
NAME=ens18
UUID=9df3a918-5bec-40ff-93ff-a4b61d40b7c8
DEVICE=ens18
ONBOOT=yes
IPADDR=192.168.100.31
PREFIX=24
GATEWAY=192.168.100.1
DNS1=192.168.100.31
DNS2=192.168.100.32
IPV6_PEERDNS=yes
IPV6 PEERROUTES=ves
"/etc/sysconfig/network-scripts/ifcfg-ens18" 19L, 343C
```

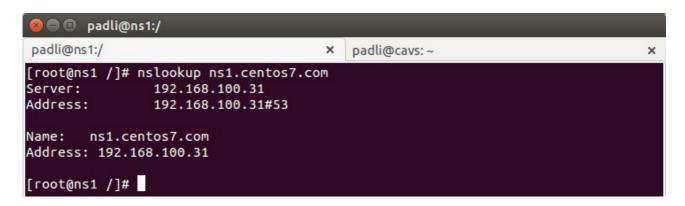
16. restart network.



17. cek ns.



18. cek config ns1.



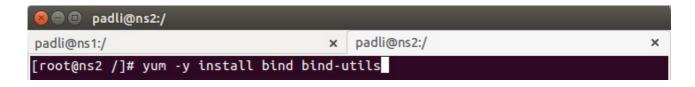
19. cek config ns1.

```
padli@ns1:/
padli@ns1:/
                                      x padli@cavs: ~
[root@ns1 /]# dig ns1.centos7.com
; <<>> DiG 9.9.4-RedHat-9.9.4-18.el7_1.2 <<>> ns1.centos7.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15072
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 2
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;ns1.centos7.com.
                                IN
                                        Α
;; ANSWER SECTION:
                                                192.168.100.31
ns1.centos7.com.
                        604800 IN
                                        Α
;; AUTHORITY SECTION:
centos7.com.
                        604800 IN
                                        NS
                                                ns1.centos7.com.
centos7.com.
                        604800 IN
                                        NS
                                                ns2.centos7.com.
;; ADDITIONAL SECTION:
                                        Α
                                               192.168.100.32
ns2.centos7.com.
                        604800 IN
;; Query time: 0 msec
;; SERVER: 192.168.100.31#53(192.168.100.31)
;; WHEN: Sel Jul 28 09:05:20 WIB 2015
;; MSG SIZE rcvd: 108
[root@ns1 /]#
```

20. set like this.

```
padli@ns2:/
                                    x padli@ns2:/
padli@ns1:/
                                                                            ×
[root@ns2 /]# more /etc/hostname
[root@ns2 /]# more /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
           localhost localhost.localdomain localhost6 localhost6.localdomain6
192.168.100.32 ns2.centos7.com ns2
[root@ns2 /]# ifconfig
ens18: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
       inet 192.168.100.32 netmask 255.255.255.0 broadcast 192.168.100.255
       inet6 fe80::e8b2:81ff:fede:86d6 prefixlen 64 scopeid 0x20<link>
       ether ea:b2:81:de:86:d6 txqueuelen 1000 (Ethernet)
       RX packets 284 bytes 32861 (32.0 KiB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 116 bytes 13696 (13.3 KiB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
       inet 127.0.0.1 netmask 255.0.0.0
       inet6 :: 1 prefixlen 128 scopeid 0x10<host>
       loop txqueuelen 0 (Local Loopback)
       RX packets 14 bytes 1626 (1.5 KiB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 14 bytes 1626 (1.5 KiB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
[root@ns2 /]#
```

21. install bind.



22. set "vi /etc/named.conf" (1).

```
😰 🖨 🗊 🏻 padli@ns2:/
                                      x padli@ns2:/
padli@ns1:/
                                                                               ×
// named.conf
// Provided by Red Hat bind package to configure the ISC BIND named(8) DNS
// server as a caching only nameserver (as a localhost DNS resolver only).
// See /usr/share/doc/bind*/sample/ for example named configuration files.
options {
        listen-on port 53 { 127.0.0.1; 192.168.100.32; };
        listen-on-v6 port 53 { ::1; };
        directory
                        "/var/named";
                        "/var/named/data/cache_dump.db";
        dump-file
        statistics-file "/var/named/data/named_stats.txt";
        memstatistics-file "/var/named/data/named_mem_stats.txt";
        allow-query
                        { localhost; 192.168.100.0/24; };
         - If you are building an AUTHORITATIVE DNS server, do NOT enable recurs
ion.
         - If you are building a RECURSIVE (caching) DNS server, you need to ena
ble
           recursion.
         - If your recursive DNS server has a public IP address, you MUST enable
 access
           control to limit queries to your legitimate users. Failing to do so w
ill
"/etc/named.conf" 72L, 1830C
```

23. set "vi /etc/named.conf" (2).

```
padli@ns2:/
                                       x padli@ns2:/
padli@ns1:/
                                                                                 ×
        channel default_debug {
                file "data/named.run";
                severity dynamic;
        };
};
zone "." IN {
type hint;
        file "named.ca";
};
zone "centos7.com" IN {
        type slave;
        file "slaves/centos7.fwd";
        masters { 192.168.100.31; };
};
zone "100.168.192.in-addr.arpa" IN {
        type slave;
        file "slaves/centos7.rev";
        masters { 192.168.100.31; };
};
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
```

24. enable, start bind.

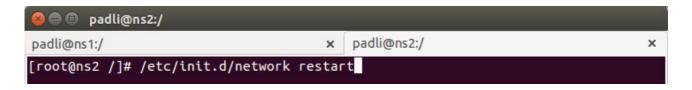
25. cek own, group, rwx.

```
🔞 🖃 📵 padli@ns2:/
                                    x padli@ns2:/
padli@ns1:/
                                                                            ×
[root@ns2 /]# ls -al /etc/named.conf
-rw-r---. 1 root named 1830 Jul 27 13:31 /etc/named.conf
[root@ns2 /]# ls -al /var/named/
total 24
drwxr-x---. 5 root named 4096 Jul 27 13:31 .
drwxr-xr-x. 21 root root 4096 Jul 28 08:51 ..
drwxrwx---. 2 named named
                            22 Jul 27 11:51 data
                           58 Jul 28 08:51 dynamic
drwxrwx---. 2 named named
-rw-r----. 1 root named 2076 Jan 28 2013 named.ca
-rw-r----. 1 root named 152 Des 15 2009 named.empty
-rw-r----. 1 root named 152 Jun 21 2007 named.localhost
-rw-r----. 1 root named 168 Des 15 2009 named.loopback
drwxrwx---. 2 named named 42 Jul 27 13:32 slaves
[root@ns2 /]#
```

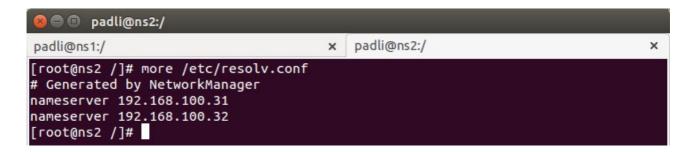
26. set dns1 & dns2.

```
padli@ns2:/
                                      x padli@ns2:/
padli@ns1:/
                                                                                ×
[root@ns2 /]# more /etc/sysconfig/network-scripts/ifcfg-ens18
TYPE=Ethernet
BOOTPROTO=none
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6 AUTOCONF=yes
IPV6 DEFROUTE=yes
IPV6 FAILURE FATAL=no
NAME=ens18
UUID=9df3a918-5bec-40ff-93ff-a4b61d40b7c8
DEVICE=ens18
ONBOOT=yes
IPADDR=192.168.100.32
PREFIX=24
GATEWAY=192.168.100.1
DNS1=192.168.100.31
DNS2=192.168.100.32
IPV6 PEERDNS=yes
IPV6 PEERROUTES=yes
[root@ns2 /]#
```

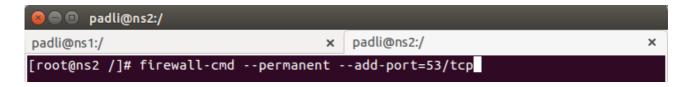
27. restart network.



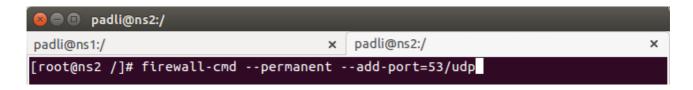
28. cek ns.



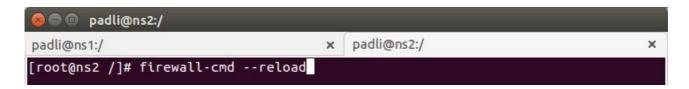
29. allow tcp.



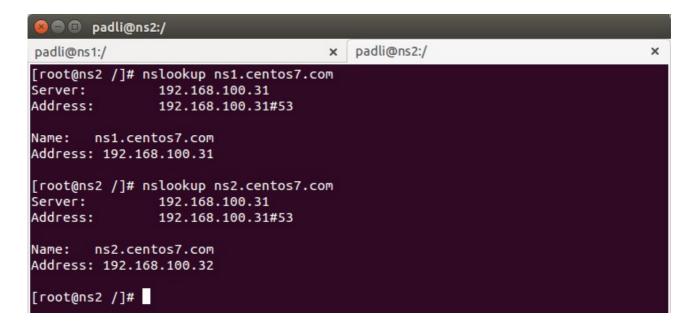
30. allow udp.



31. reload firewalld.



32. cek config ns2.



33. cek config ns2.

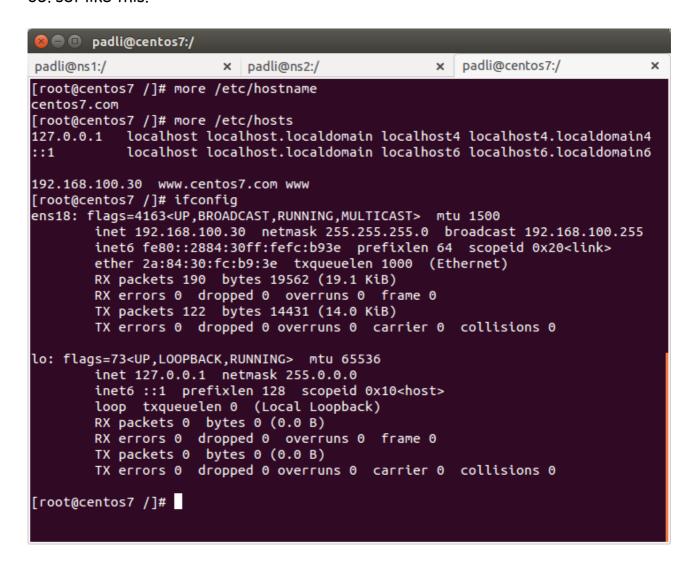
```
padli@ns2:/
                                         padli@ns2:/
padli@ns1:/
                                                                               ×
[root@ns2 /]# dig ns1.centos7.com
; <<>> DiG 9.9.4-RedHat-9.9.4-18.el7_1.2 <<>> ns1.centos7.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 43411
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 2
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;ns1.centos7.com.
                                IN
                                        Α
;; ANSWER SECTION:
ns1.centos7.com.
                        604800
                               IN
                                        Α
                                                192.168.100.31
;; AUTHORITY SECTION:
                                        NS
centos7.com.
                        604800
                                IN
                                                ns2.centos7.com.
centos7.com.
                        604800
                                IN
                                        NS
                                                ns1.centos7.com.
;; ADDITIONAL SECTION:
ns2.centos7.com.
                        604800 IN
                                        Α
                                              192.168.100.32
;; Query time: 0 msec
;; SERVER: 192.168.100.31#53(192.168.100.31)
;; WHEN: Sel Jul 28 09:18:53 WIB 2015
;; MSG SIZE rcvd: 108
[root@ns2 /]#
```

34. cek config ns2.

```
padli@ns2:/
padli@ns1:/
                                     x padli@ns2:/
                                                                              ×
[root@ns2 /]# dig ns2.centos7.com
; <<>> DiG 9.9.4-RedHat-9.9.4-18.el7_1.2 <<>> ns2.centos7.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 62282
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 2
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;ns2.centos7.com.
                                IN
;; ANSWER SECTION:
ns2.centos7.com.
                        604800 IN
                                        Α
                                               192.168.100.32
;; AUTHORITY SECTION:
centos7.com.
                        604800 IN
                                        NS
                                                ns2.centos7.com.
centos7.com.
                        604800 IN
                                        NS
                                                ns1.centos7.com.
;; ADDITIONAL SECTION:
ns1.centos7.com.
                       604800 IN
                                       Α
                                              192.168.100.31
;; Query time: 0 msec
;; SERVER: 192.168.100.31#53(192.168.100.31)
;; WHEN: Sel Jul 28 09:19:05 WIB 2015
;; MSG SIZE rcvd: 108
[root@ns2 /]#
```

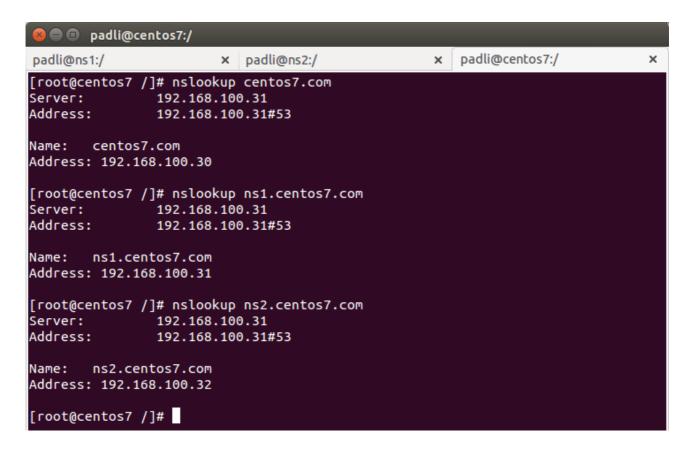
centOS7

35, set like this.



36, set like this.

37, tes centos7.



38, tes centos7.

```
😵 🖃 🗊 padli@centos7:/
                                                   x padli@centos7:/
padli@ns1:/
                        x padli@ns2:/
                                                                               ×
[root@centos7 /]# dig centos7.com
; <<>> DiG 9.9.4-RedHat-9.9.4-18.el7_1.2 <<>> centos7.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63300
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;centos7.com.
                                IN
;; ANSWER SECTION:
centos7.com.
                        604800 IN
                                        Α
                                               192.168.100.30
;; AUTHORITY SECTION:
centos7.com.
                        604800 IN
                                        NS
                                                ns2.centos7.com.
centos7.com.
                        604800 IN
                                        NS
                                                ns1.centos7.com.
;; ADDITIONAL SECTION:
ns1.centos7.com.
                        604800 IN
                                        Α
                                                192.168.100.31
ns2.centos7.com.
                        604800 IN
                                                192.168.100.32
;; Query time: 0 msec
;; SERVER: 192.168.100.31#53(192.168.100.31)
;; WHEN: Sel Jul 28 09:27:27 WIB 2015
;; MSG SIZE rcvd: 124
[root@centos7 /]#
```

```
🔞 🖃 📵 🏻 padli@centos7:/
padli@ns1:/
                                                   x padli@centos7:/
                        x padli@ns2:/
                                                                               ×
[root@centos7 /]# ping centos7.com
PING centos7.com (192.168.100.30) 56(84) bytes of data.
64 bytes from www.centos7.com (192.168.100.30): icmp_seq=1 ttl=64 time=0.025 ms
64 bytes from www.centos7.com (192.168.100.30): icmp seq=2 ttl=64 time=0.029 ms
^С
--- centos7.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1000ms
rtt min/avg/max/mdev = 0.025/0.027/0.029/0.002 ms
[root@centos7 /]# ping ns1.centos7.com
PING ns1.centos7.com (192.168.100.31) 56(84) bytes of data.
64 bytes from ns1.centos7.com (192.168.100.31): icmp_seq=1 ttl=64 time=0.207 ms
64 bytes from ns1.centos7.com (192.168.100.31): icmp_seq=2 ttl=64 time=0.333 ms
^C
--- ns1.centos7.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.207/0.270/0.333/0.063 ms
[root@centos7 /]# ping ns2.centos7.com
PING ns2.centos7.com (192.168.100.32) 56(84) bytes of data.
64 bytes from ns2.centos7.com (192.168.100.32): icmp_seq=1 ttl=64 time=0.422 ms
64 bytes from ns2.centos7.com (192.168.100.32): icmp_seq=2 ttl=64 time=0.311 ms
^C
--- ns2.centos7.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.311/0.366/0.422/0.058 ms
[root@centos7 /]#
```

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