

# Topic 109: (14) Networking Fundamentals

---

<b>Topic 109: (14) Networking Fundamentals</b>	<b>1</b>
109.1 (4) Fundamentals of internet protocols	2
109.2 (4) Persistent network configuration	6
109.3 (4) Basic network troubleshooting	9
109.4 (2) Configure client side DNS	14

---

Topic 109: (14) Networking Fundamentals  
109.1 (4) Fundamentals of internet protocols  
109.2 (4) Persistent network configuration  
109.3 (4) Basic network troubleshooting  
109.4 (2) Configure client side DNS

---

## 109.1 (4) Fundamentals of internet protocols

---

### Question: 120

With IPv6, how many bits have been used for the interface identifier of an unicast address? (Specify the number using digits only.)

**Answer: 64**

### Question: 124

Which of the following is true about IPv6?

- A. With IPv6, the TCP port numbers of most services have changed.
- B. IPv6 no longer supports broadcast addresses.
- C. IPv4 addresses can be used without any change with IPv6.
- D. IPv6 no longer supports multicast addresses.
- E. For IPv6, UDP and TCP have been replaced by the Rapid Transmission Protocol RTP.

**Answer: B**

### Question: 131

What is true regarding TCP port 23?

- A. Port 23 is the well known port for the telnet service which is a plain text protocol that should no longer be used .
- B. Port 23 is the well known port for the SSH service which provides secure logins.
- C. Port 23 is the well known port for the rlogin service which is SSL secured by default.
- D. Port 23 is the well known port for the system login services which are encrypted when the user runs the starttls command in his login shell.

**Answer: A**

**Question: 132**

How many IP-addresses can be used for unique hosts inside the IPv4 subnet 192.168.2.128/28? (Specify the number only without any additional information.)

**Answer: 14**

**Question: 133**

What is the lowest numbered unprivileged TCP port? (Specify the number in digits only.)

**Answer: 1024**

**Question: 136**

Which port is the default server port for the HTTPS protocol? (Specify the port number using digits.)

**Answer: 443**

**Question: 137**

Which of the following IPv4 networks are reserved by IANA for private address assignment and private routing? (Choose THREE correct answers.)

- A. 127.0.0.0/8
- B. 10.0.0.0/8
- C. 169.255.0.0/16
- D. 172.16.0.0/12
- E. 192.168.0.0/16

**Answer: B, D, E**

**Question: 142**

Which of the following is a valid IPv6 address?

- A. 2001:db8:3241::1

- B. 2001::db8:4581::1
- C. 2001:db8:0g41::1
- D. 2001%db8%9990%%1
- E. 2001.db8.819f..1

**Answer: A**

### Question: 146

In an xinetd configuration file, which attribute specifies the network address that will be used to provide the service?

**Answer:** bind, interface

### Question: 165

What is true about the Hop Limit field in the IPv6 header?

- A. The field is not changed during the transport of a package.
- B. The field is transmitted within a hop-by-hop extension header.
- C. Each router forwarding the packet increases the field's value.
- D. Each router forwarding the packet decreases the field's value.
- E. For multicast packages, the field's value is always 1.

**Answer: D**

### Question: 168

How many IP addresses can be used for unique hosts inside the IPv4 subnet 192.168.2.128/26?

- A. 6
- B. 14
- C. 30
- D. 62
- E. 126

**Answer: D**

---

## 109.2 (4) Persistent network configuration

---

### Question: 119

What is the purpose of the nsswitch.conf file?

- A. It is used to configure where the C library looks for system information such as host names and user passwords.
- B. It is used to configure network protocol port numbers such as for HTTP or SMTP. C. It is used to configure LDAP authentication services for the local system.
- D. It is used to configure which network services will be turned on during the next system boot.

**Answer: A**

### Question: 125

Which command is used to set the hostname of the local system? (Specify ONLY the command without any path or parameters.)

**Answer: hostname**

### Question: 126

Which parameter must be passed to ifconfig to activate a previously inactive network interface?

(Specify the parameter only without any command, path or additional options)

**Answer: up**

### Question: 128

Which of the following lines are valid in the file /etc/hosts? (Choose TWO correct answers.)

- A. 2001:db8::15 [www.example.com](http://www.example.com) www
- B. [www.example.com](http://www.example.com) www 203.0.13.15
- C. 203.0.113.15 [www.example.com](http://www.example.com) www
- D. [www.example.com](http://www.example.com),[www](http://www) 203.0.13.15,2001:db8::15

E. 2003.0.113.15,2001:db8::15 [www.example.com](http://www.example.com) www

**Answer: A, C**

### **Question: 129**

Which of the following keywords can be used in the file `/etc/nsswitch.conf` to specify a source for host name lookups? (Choose TWO correct answers.)

A. resolv

B . dns

C. remote

D. files

E. hosts

**Answer: B, D**

### **Question: 134**

Which of the following statements is valid in the file `/etc/nsswitch.conf`?

A. multi on

B. 192.168.168.4 dns-server

C. hosts: files dns

D. include `/etc/nsswitch.d/`

**Answer: C**

### **Question: 145**

Which keyword must be listed in the hosts option of the Name Service Switch configuration file in order to make host lookups consult the `/etc/hosts` file?

**Answer: files**

### **Question: 164**

Which command included in NetworkManager is a curses application which provides easy access to the NetworkManager on the command line? (Specify only the command without any path or parameters.)

**Answer: nmtui**

**Question: 166**

Which of the following nmcli subcommands exist? (Choose two.)

- A. nmcli ethernet
- B. nmcli device
- C. nmcli wifi
- D. nmcli address
- E. nmcli connection

**Answer: B,E**

**Question: 169**

Which of the following commands configure network interfaces based on the system's existing distribution-specific configuration files? (Choose two.)

- A. ifconf
- B. ifdown
- C . ifpause
- D. ifstart
- E . ifup

**Answer: B,E**



---

## 109.3 (4) Basic network troubleshooting

---

### Question: 118

What is the command to delete the default gateway from the system IP routing table? (Choose TWO correct answers.)

- A. route del default
- B. ifconfig unset default
- C. netstat -r default
- D. ip route del default
- E. sysctl ipv4.default\_gw=0

**Answer: A, D**

### Question: 121

Which of the following commands will help identify a broken router between the local and the remote machine?

- A. ps
- B. netstat
- C. nslookup
- D. ifconfig
- E. traceroute

**Answer: E**

### Question: 122

Which of the following details is NOT provided in any output from the netstat utility?

- A. broadcast services
- B. interface statistics

- C. masquerading connections
- D. network connections
- E. routing tables

**Answer: A**

### **Question: 123**

Which of the following commands can be used to display the local routing table? (Choose TWO correct answers.)

- A. ifconfig
- B . dig
- C. netstat
- D. route
- E. trackroute

**Answer: C, D**

### **Question: 125**

Which command is used to set the hostname of the local system? (Specify ONLY the command without any path or parameters.)

**Answer: hostname**

### **Question: 127**

What is true regarding a default route?

- A. The default route is always used first. When the default route is not available more specific routes are tried.
- B. When a default route is set, all other routes are disabled until the default route is deleted.
- C. The default route is only used if there is not a more specific route to a destination host or network.
- D. Without a default route, no network communication even in directly attached networks is possible .

**Answer: C**

### **Question: 130**

Which of the following may occur as a consequence of using the command `ifconfig`? (Choose THREE correct answers.)

- A. New name servers may be added to the resolver configuration.
- B. Network interfaces may become active or inactive.
- C. The routing table may change.
- D. IP addresses may change.
- E. The system's host name may change.

**Answer: B, C, D**

### Question: 135

Which command, depending on its options, can display the open network connections, the routing tables, as well as network interface statistics. (Specify ONLY the command without any path or parameters.)

**Answer: netstat, /bin/netstat, ss, /usr/bin/ss**

### Question: 139

What of the following can be done by the command `ifconfig`? (Choose TWO correct answers.)

- A. Set a network interface active or inactive.
- B. Specify the kernel module to be used with a network interface.
- C. Allow regular users to change the network configuration of a network interface.
- D. Change the netmask used on a network interface.
- E. Specify which network services are available on a network interface.

**Answer: A, D**

### Question: 140

Which of the following programs can be used to determine the routing path to a given destination?

- A . dig
- B. netstat
- C . ping

- D. route
- E. traceroute

**Answer: E**

### Question: 141

Given the following routing table:

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
0.0.0.0	192.168.178.1	0.0.0.0	UG	0	0	0	wlan0
192.168.1.0	0.0.0.0	255.255.255.0	U	0	0	0	eth0
192.168.2.0	192.168.1.1	255.255.255.0	U	0	0	0	eth0
192.168.178.0	0.0.0.0	255.255.255.0	U	9	0	0	wlan0

How would an outgoing packet to the destination 192.168.2.150 be handled?

- A. It would be passed to the default router 192.168.178.1 on wlan0.
- B. It would be directly transmitted on the device eth0.
- C. It would be passed to the default router 255.255.255.0 on eth0.
- D. It would be directly transmitted on the device wlan0.
- E. It would be passed to the router 192.168.1.1 on eth0.

**Answer: E**

### Question: 144

On a regular users workstation the route command takes a long time before printing out the routing table. Which of the following errors does that indicate?

- A. The local routing information may be corrupted and must be re-validated using a routing protocol.
- B. One of the routers in the routing table is not available which causes the automatic router failure detection mechanism (ARF-D) to wait for a timeout.
- C. There may accidentally be more than one default router in which case a default router election has to be done on the network in order to choose one router as the default.
- D. DNS resolution may not be working as route by default tries to resolve names of routers and destinations and may run into a timeout.

**Answer: D**

**Question: 146**

In an xinetd configuration file, which attribute specifies the network address that will be used to provide the service?

**Answer:** bind, interface

**Question: 167**

Which of the following changes may occur as a consequence of using the command ip? (Choose three.)

- A. Network interfaces may become active or inactive.
- B. New name servers may be added to the resolver configuration.
- C. The system's host name may change. D. IP addresses may change.
- E. The routing table may change.

**Answer: A,D,E**

---

## 109.4 (2) Configure client side DNS

---

### Question: 119

What is the purpose of the nsswitch.conf file?

- A. It is used to configure where the C library looks for system information such as host names and user passwords.
- B. It is used to configure network protocol port numbers such as for HTTP or SMTP. C. It is used to configure LDAP authentication services for the local system.
- D. It is used to configure which network services will be turned on during the next system boot.

**Answer: A**

### Question: 129

Which of the following keywords can be used in the file /etc/nsswitch.conf to specify a source for host name lookups? (Choose TWO correct answers.)

- A. resolv
- B . dns
- C. remote
- D. files
- E. hosts

**Answer: B, D**

### Question: 134

Which of the following statements is valid in the file /etc/nsswitch.conf?

- A. multi on
- B. 192.168.168.4 dns-server
- C. hosts: files dns

D. include /etc/nsswitch.d/

**Answer: C**

### **Question: 138**

Which of the following tools used for DNS debugging, reports not only the response from the name server but also details about the query?

A . dnsq

B . dig

C. hostname

D. dnslookup

E. zoneinfo

**Answer: B**

### **Question: 143**

Which of the following keywords can be used in the file /etc/resolv.conf? (Choose TWO correct answers.)

A. substitute

B . nameserver

C. search

D. lookup

E. method

**Answer: B, C**

### **Question: 145**

Which keyword must be listed in the hosts option of the Name Service Switch configuration file in order to make host lookups consult the /etc/hosts file?

**Answer: files**