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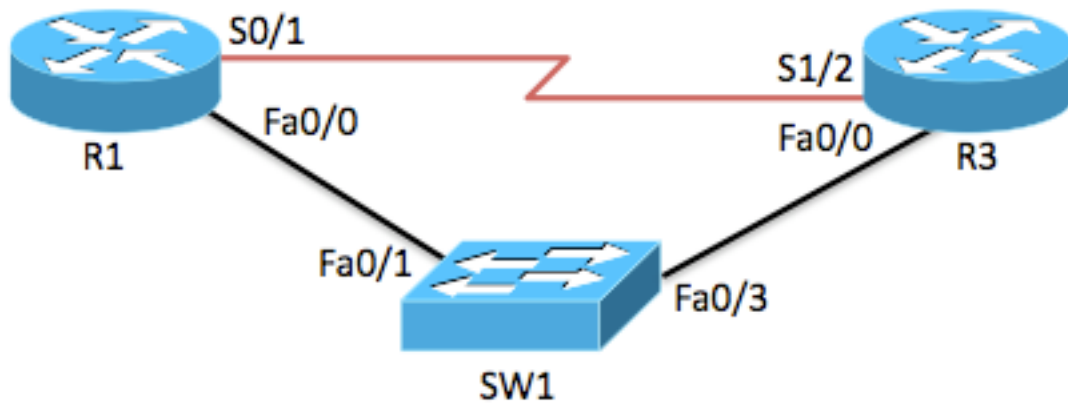
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Table of Contents

Hands On Lab Topology	1
Inspecting Detailed TCP/IP Information.....	2
Initial Configuration of a Router's Interface.....	5
Initial Configuration of a Switch	8

Hands On Lab Topology



Inspecting Detailed TCP/IP Information

Objective

Inspect the detailed TCP/IP configuration of a Windows workstation.

Step-by-Step Instructions

Step 1: From your Windows desktop, click **Start** then **Run**.

Step 2: In the Run dialog, type `cmd` and click **OK**.

Step 3: In the Command Prompt window, use the `ipconfig /all` command to view details of the TCP/IP configuration information.

Step 4: Record the MAC address of your workstation's Network Interface Card (NIC).

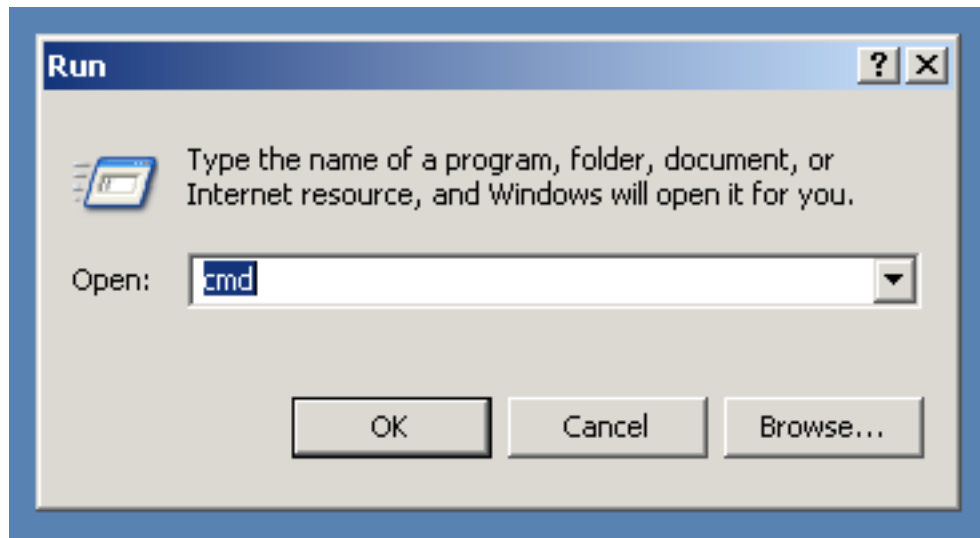
Step 5: Record the IP address of your DHCP server.

Step 6: Record the IP address of your DNS server.

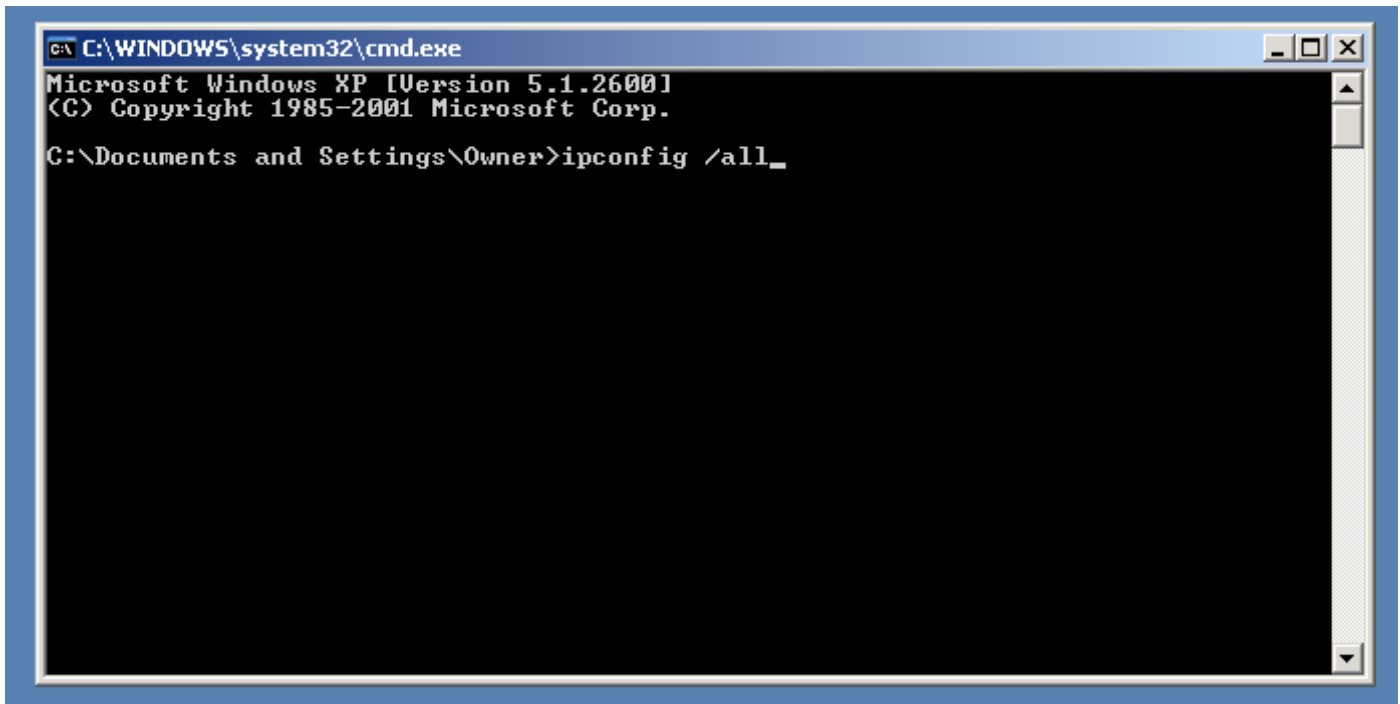
Solution

Step1: From your Windows desktop, click **Start** then **Run**.

Step 2: In the Run dialog, type `cmd` and click **OK**.

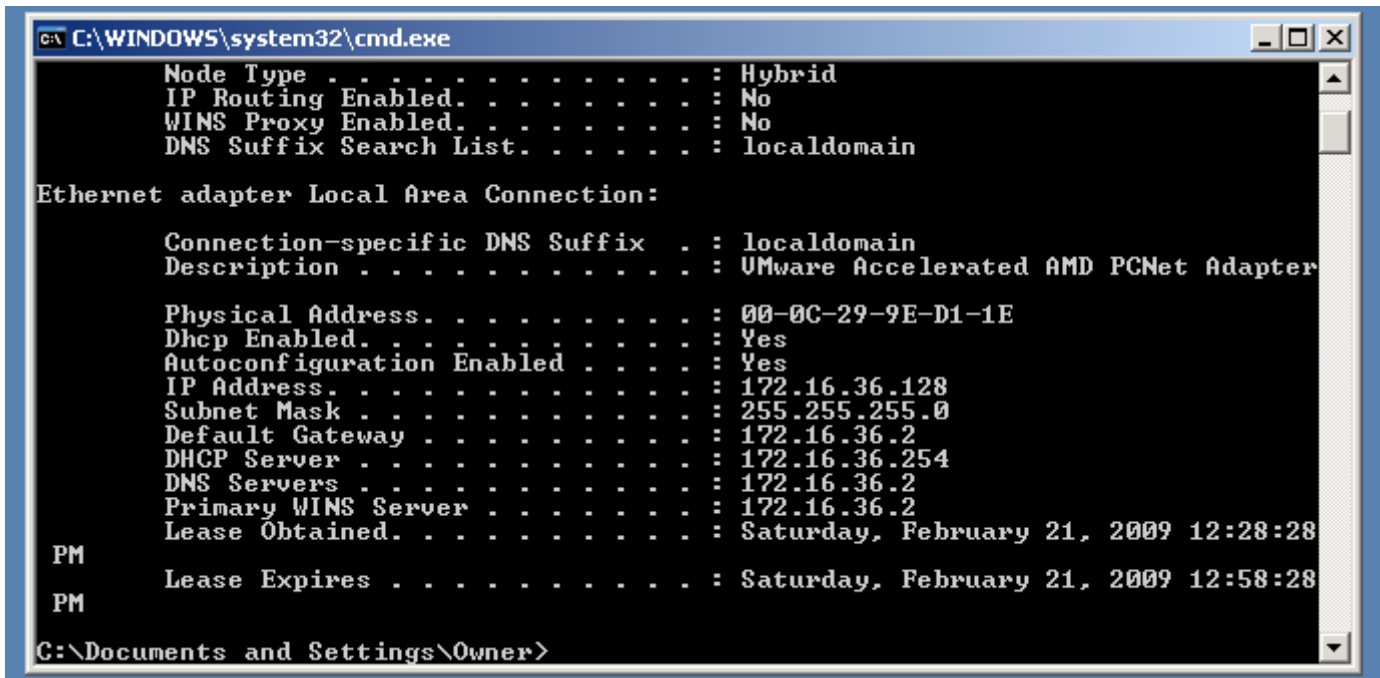


Step 3: In the Command Prompt window, use the `ipconfig /all` command to view details of the TCP/IP configuration information.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Owner>ipconfig /all_
```



```
C:\WINDOWS\system32\cmd.exe
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : localdomain

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . : localdomain
    Description . . . . . : VMware Accelerated AMD PCNet Adapter

    Physical Address. . . . . : 00-0C-29-9E-D1-1E
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . . : Yes
    IP Address. . . . . : 172.16.36.128
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.16.36.2
    DHCP Server . . . . . : 172.16.36.254
    DNS Servers . . . . . : 172.16.36.2
    Primary WINS Server . . . . . : 172.16.36.2
    Lease Obtained. . . . . : Saturday, February 21, 2009 12:28:28
    PM
    Lease Expires . . . . . : Saturday, February 21, 2009 12:58:28
    PM

C:\Documents and Settings\Owner>
```

Step 4: Record the MAC address of your workstation's Network Interface Card (NIC).

MAC Address: 00-0C-29-9E-D1-1E

Step 5: Record the IP address of your DHCP server.

DHCP Server IP Address: 172.16.36.254

Step 6: Record the IP address of your DNS server.

DNS Server IP Address: 172.16.36.2

Initial Configuration of a Router's Interface

Objective

Configure the FastEthernet interface of the R1 router for the production network.

Step-by-Step Instructions

Step 1: From the terminal server User mode prompt, type **R1** and press **Enter** to reverse Telnet into the console port of the R1 router.

Step 2: Type **enable** and press **Enter** to obtain Privileged mode access.

Step 3: View a summary of the interfaces on the router and their IP addresses and status.

Step 4: Enter interface configuration mode for the FastEthernet port on R1.

Step 5: Configure an IP address on the interface of 192.168.1.1 with a 24-bit subnet mask.

Step 6: Ensure the interface is enabled with the correct command.

Step 7: Return to Privileged mode with a single command.

Step 8: View a summary of the interfaces on the router and their IP addresses and status.

Step 9: Save your configuration.

Solution

Step 1: From the terminal server User mode prompt, type **R1** and press **Enter** to reverse Telnet into the console port of the R1 router.

```
Rack12> R1
```

Step 2: Type **enable** and press **Enter** to obtain Privileged mode access.

```
R1>enable
R1#
```

Step 3: View a summary of the interfaces on the R1 and their IP addresses and status.

```
R1#show ip interface brief
Interface                IP-Address      OK? Method Status                Protocol
FastEthernet0/0          unassigned      YES unset  administratively down  down
Serial0/0                 unassigned      YES unset  administratively down  down
FastEthernet0/1          unassigned      YES unset  administratively down  down
Serial0/1                 unassigned      YES unset  administratively down  down
R1#
```

Step 4: Enter interface configuration mode for the FastEthernet port on R1.

```
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface FastEthernet 0/0
R1(config-if)#
```

Step 5: Configure an IP address on the interface of 192.168.1.1 with a 24-bit subnet mask.

```
R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#
```

Step 6: Ensure the interface is enabled with the correct command.

```
R1(config-if)#no shutdown
*Mar 1 00:30:40.395: %LINK-3-UPDOWN: Interface FastEthernet0/0,
changed state to up
*Mar 1 00:30:41.395: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/0, changed state to up
R1(config-if)#
```

Step 7: Return to Privileged mode with a single command.

```
R1(config-if)#end
*Mar 1 00:31:04.791: %SYS-5-CONFIG_I: Configured from console by
console
R1#
```

Step 8: View a summary of the interfaces on the R1 and their IP addresses and status.

```
R1#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.1.1	YES	manual	up	up
Serial0/0	unassigned	YES	unset	administratively down	down
FastEthernet0/1	unassigned	YES	unset	administratively down	down
Serial0/1	unassigned	YES	unset	administratively down	down

```
R1#
```

Step 9: Save your configuration.

```
R1#copy running-config startup-config
```

```
Destination filename [startup-config]?
```

```
Building configuration...
```

```
[OK]
```

```
R1#
```

Initial Configuration of a Switch

Objective

Configure the SW1 switch for the production network.

Step-by-Step Instructions

Step 1: From the terminal server User mode prompt, type **sw1** and press **Enter** to reverse Telnet into the console port of the SW1 switch.

Step 2: Type **no** and press **Enter** then **Enter** again to access User mode on the device.

Step 3: Type **enable** and press **Enter** to obtain Privileged mode access.

Step 4: Type **configure terminal** and press **Enter** to access Global Configuration mode.

Step 5: Change the name of the switch to SW1.

Step 6: Enter Line configuration mode for the console 0 port.

Step 7: Configure the console port so that console messages do not interrupt your typing at the command line.

Step 8: Configure the console port so that it does not time out connections.

Step 9: Return to Privileged mode with a single command.

Step 10: Save the configuration.

Step 11: Exit the router.

Solution

Step 1: From the terminal server User mode prompt, type **sw1** and press **Enter** to reverse Telnet into the console port of the SW1 switch.

```
Rack12> R1
```

Step 2: Type **no** and press **Enter** then **Enter** again to access User mode on the device.

```
Switch con0 is now available
Press RETURN to get started.
Switch>
```

Step 3: Type **enable** and press **Enter** to obtain Privileged mode access.

```
Switch>enable
Switch#
```

Step 4: Type **configure terminal** and press **Enter** to access Global Configuration mode.

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
```

Step 5: Change the name of the switch to SW1.

```
Switch(config)#hostname SW1
SW1(config)#
```

Step 6: Enter Line configuration mode for the console 0 port.

```
SW1(config)#line console 0
SW1(config-line)#
```

Step 7: Configure the console port so that console messages do not interrupt your typing at the command line.

```
SW1(config-line)#logging synchronous
SW1(config-line)#
```

Step 8: Configure the console port so that it does not time out connections.

```
SW1(config-line)#exec-timeout 0 0
SW1(config-line)#
```

Step 9: Return to Privileged mode with a single command.

```
SW1(config-line)#end
SW1#
00:22:14: %SYS-5-CONFIG_I: Configured from console by console
SW1#
```

Step 10: Save the configuration.

```
SW1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
SW1#
```

Step 11: Exit the switch.

```
SW1#exit
```