Disclaimer

The following publication, CCENT Practice Lab Workbook, is designed to assist candidates in the preparation for Cisco Systems’ 640-822 ICND1 Exam. While every effort has been made to ensure that all material is as complete and accurate as possible, the enclosed material is presented on an “as is” basis. Neither the authors nor Internetwork Expert, Inc. assume any liability or responsibility to any person or entity with respect to loss or damages incurred from the information contained in this workbook.

This workbook was developed by Internetwork Expert, Inc. and is an original work of the aforementioned authors. Any similarities between material presented in this workbook and actual exam material is completely coincidental.
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**
Step 1: From your Windows desktop, click **Start** then **Run**.

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

![Run dialog with cmd entered](image)
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).

*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 \texttt{R1} and press \texttt{Enter} to reverse Telnet into the console port of the R1 router.

\texttt{Rack12> R1}

Step 2: Type \texttt{enable} and press \texttt{Enter} to obtain Privileged mode access.

\texttt{R1>enable}
\texttt{R1#}

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

\texttt{R1#show ip interface brief}

<table>
<thead>
<tr>
<th>Interface</th>
<th>IP-Address</th>
<th>OK? Method Status</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>FastEthernet0/0</td>
<td>unassigned</td>
<td>YES unset</td>
<td>administratively down down</td>
</tr>
<tr>
<td>Serial0/0</td>
<td>unassigned</td>
<td>YES unset</td>
<td>administratively down down</td>
</tr>
<tr>
<td>FastEthernet0/1</td>
<td>unassigned</td>
<td>YES unset</td>
<td>administratively down down</td>
</tr>
<tr>
<td>Serial0/1</td>
<td>unassigned</td>
<td>YES unset</td>
<td>administratively down down</td>
</tr>
</tbody>
</table>

\texttt{R1#}

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

\texttt{R1#configure terminal}

Enter configuration commands, one per line. End with CNTL/Z.
\texttt{R1(config)#interface FastEthernet 0/0}
\texttt{R1(config-if)#}

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

\texttt{R1(config-if)#ip address 192.168.1.1 255.255.255.0}
\texttt{R1(config-if)#}

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

\texttt{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
\texttt{R1(config-if)#}

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

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