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TSHOOT
Lab Guide

300-135

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TSHOOT

300-135 Lab Guide

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To perform the labs referenced in this book, please download and install the necessary files (refer to your purchase receipt for the download link), navigate to the appropriate lab in the lab menu in the Boson NetSim, and load the lab; all labs should work in NetSim 11 or later. To learn more about the Boson NetSim or to purchase and download the software, please visit www.boson.com/netsim.

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Module 2

Lab 2.1 – Troubleshooting a Network Topology
Lab 2.2 – Network Troubleshooting
Lab 2.3 – debug and **traceroute** Commands
Lab 2.4 – Network Troubleshooting with the OSI Model

Labs powered by

Lab 2.1 – Troubleshooting a Network Topology

To perform this lab in Boson NetSim, please download the necessary files (refer to your purchase receipt for the download link), navigate to the appropriate lab in the lab menu in NetSim, and load the lab. You can then accomplish the tasks below.

Objective

This lab corresponds to TSHOOTv2 Module 2: Troubleshooting Tools and Techniques, of Boson's CCNP Curriculum. In this lab, you will use Cisco Discovery Protocol (CDP) to build a network map of your current network. To complete this lab, use common **show** commands to determine what types of devices are contained in the network and how they are interconnected. Connect to each device in the topology, and use the appropriate commands from the command summary to determine the network topology configured for this lab.

The commands you will need to perform the tasks in this lab, along with their syntax and descriptions, are shown in the Command Summary table below:

Command Summary

Command	Description
configure terminal	enters global configuration mode from privileged EXEC mode
enable	enters privileged EXEC mode
end	ends and exits configuration mode
exit	exits one level in the menu structure
show cdp neighbors	displays information about directly connected Cisco devices
show cdp neighbors detail	displays directly connected neighbor devices and their device types, interface names, and IP addresses
show interfaces [*type number*]	displays statistics for all interfaces configured on the router
show running-config	displays the active configuration file

Lab Tasks

In the space below, draw the network topology configured for this lab. Include the device types and the interface type and number used to connect the devices.

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Lab Solutions

The **show cdp neighbors** and **show cdp neighbors detail** commands will help you determine what Cisco devices are included in the network topology.

The **show cdp neighbors** command on Router1 shows that a device with the host name **Router2** is connected to it. However, the device name might not always represent the device type. For example, the host name **Router2** could have been configured as **Tampa** and would thus not indicate that the device is a router.

The **show cdp neighbors detail** command lists the `Device ID`, which is the host name configured for the device, `Capabilities`, which is the type of device, and `Port ID`, which is the outgoing port used to connect a directly connected Cisco device. This information will help you determine what Cisco devices are included in the network topology configured for this lab.

The following is sample output from the **show cdp neighbors detail** command:

```
Router1#show cdp neighbors detail
-------------------------
Device ID: Router2
Entry address(es):
  IP address: 198.51.100.2
Platform: Boson 3640 , Capabilities: Router
Interface: Ser0/0, Port ID (outgoing port): Ser 0/0
Holdtime:  151 sec

Version :
Boson Operating System Software
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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Eth0/1, Port ID (outgoing port): Fas 0/1
Holdtime:  151 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Eth0/0, Port ID (outgoing port): Fas 0/1
Holdtime:  151 sec
```

```
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Router2#show cdp neighbors detail
-------------------------
Device ID: Router1
Entry address(es):
  IP address: 198.51.100.1
Platform: Boson 3640 , Capabilities: Router
Interface: Ser0/0, Port ID (outgoing port): Ser 0/0
Holdtime:  161 sec

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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Eth0/1, Port ID (outgoing port): Fas 0/2
Holdtime:  161 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Eth0/0, Port ID (outgoing port): Fas 0/2
Holdtime:  161 sec

Version :
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```

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```
DSW1#show cdp neighbors detail
-------------------------
Device ID: Router2
Entry address(es):
  IP address: 198.51.100.13
Platform: Boson 3640 , Capabilities: Router
Interface: Fas0/2, Port ID (outgoing port): Eth 0/0
Holdtime:  141 sec

Version :
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-------------------------
Device ID: Router1
Entry address(es):
  IP address: 198.51.100.5
Platform: Boson 3640 , Capabilities: Router
Interface: Fas0/1, Port ID (outgoing port): Eth 0/0
Holdtime:  141 sec

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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/3, Port ID (outgoing port): Fas 0/3
Holdtime:  141 sec

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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/4, Port ID (outgoing port): Fas 0/4
Holdtime:  141 sec
```

```
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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/5, Port ID (outgoing port): Fas 0/5
Holdtime:  141 sec

Version :
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-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Gig0/2, Port ID (outgoing port): Gig 0/2
Holdtime:  141 sec

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-------------------------
Device ID: ASW2
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Fas0/6, Port ID (outgoing port): Fas 0/8
Holdtime:  142 sec

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```

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```
-------------------------
Device ID: ASW1
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Gig0/1, Port ID (outgoing port): Gig 0/1
Holdtime:  142 sec

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DSW2#show cdp neighbors detail
-------------------------
Device ID: Router2
Entry address(es):
  IP address: 198.51.100.17
Platform: Boson 3640 , Capabilities: Router
Interface: Fas0/2, Port ID (outgoing port): Eth 0/1
Holdtime:  174 sec

Version :
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-------------------------
Device ID: Router1
Entry address(es):
  IP address: 198.51.100.9
Platform: Boson 3640 , Capabilities: Router
Interface: Fas0/1, Port ID (outgoing port): Eth 0/1
Holdtime:  174 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/3, Port ID (outgoing port): Fas 0/3
Holdtime:  174 sec
```

```
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/4, Port ID (outgoing port): Fas 0/4
Holdtime:  174 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/5, Port ID (outgoing port): Fas 0/5
Holdtime:  174 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Gig0/2, Port ID (outgoing port): Gig 0/2
Holdtime:  174 sec

Version :
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```

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```
-------------------------
Device ID: ASW2
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Gig0/1, Port ID (outgoing port): Gig 0/1
Holdtime:  175 sec

Version :
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-------------------------
Device ID: ASW1
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Fas0/6, Port ID (outgoing port): Fas 0/8
Holdtime:  175 sec

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ASW1#show cdp neighbors detail
-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/8, Port ID (outgoing port): Fas 0/6
Holdtime:  154 sec


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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Gig0/1, Port ID (outgoing port): Gig 0/1
Holdtime:  154 sec
```

```
Version :
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-------------------------
Device ID: ASW2
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Fas0/1, Port ID (outgoing port): Fas 0/1
Holdtime:  155 sec

Version :
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ASW2#show cdp neighbors detail
-------------------------
Device ID: DSW2
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Gig0/1, Port ID (outgoing port): Gig 0/1
Holdtime:  140 sec

Version :
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-------------------------
Device ID: DSW1
Entry address(es):
Platform: Boson 3550 , Capabilities: Trans-Bridge Switch
Interface: Fas0/8, Port ID (outgoing port): Fas 0/6
Holdtime:  140 sec

Version :
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```
-------------------------
Device ID: ASW1
Entry address(es):
Platform: Boson 2960-8TC-L , Capabilities: Trans-Bridge Switch
Interface: Fas0/1, Port ID (outgoing port): Fas 0/1
Holdtime:  141 sec

Version :
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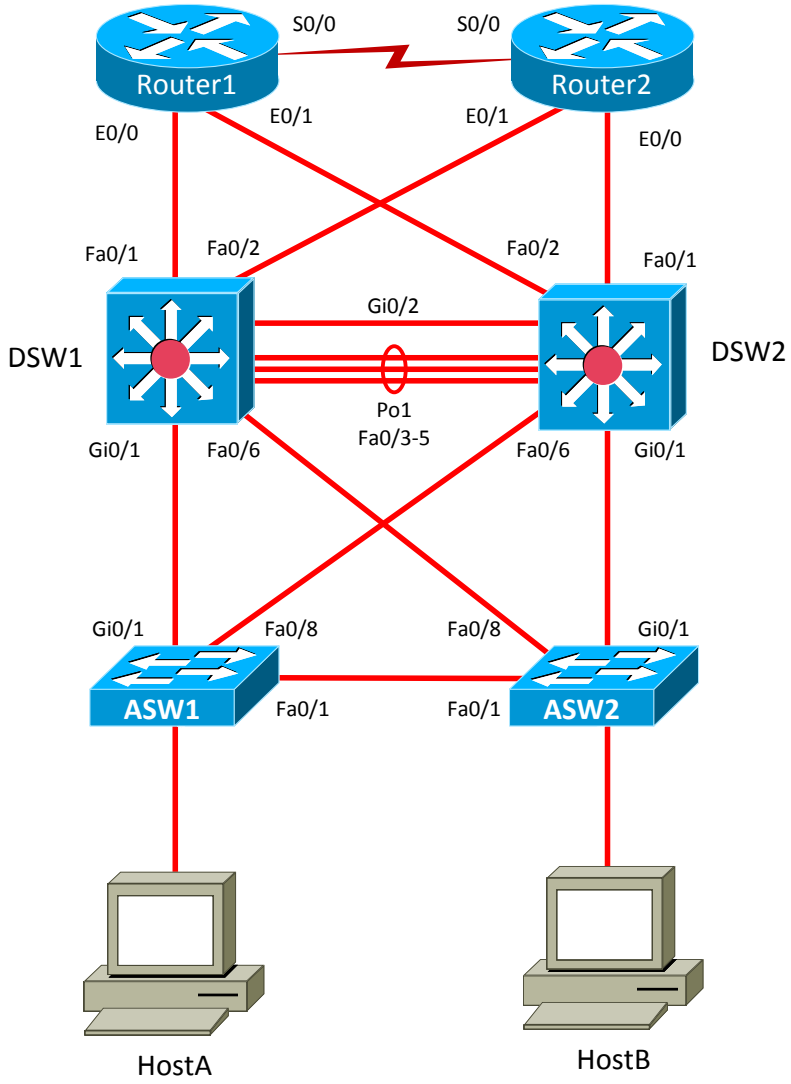
```

Lab Topology

The information obtained by using the **show cdp neighbors detail** command is represented in the following topology:



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