



CHAPTER 2

LAN Wizard

The Cisco Router and Security Device Manager (Cisco SDM) [LAN](#) wizard guides you in the configuration of a LAN interface. The screen lists the LAN interfaces on the router. You can select any of the interfaces shown in the window, and click **Configure** to make the interface a LAN interface and configure it.

This window lists the router interfaces that were designated as inside interfaces in Startup configuration, and lists the Ethernet interfaces and switch ports that have not been configured as WAN interfaces. The list includes interfaces that have already been configured.

When you configure an interface as a LAN interface, Cisco SDM inserts the description text \$ETH-LAN\$ in the configuration file so that it recognizes the interface as a LAN interface in the future.

Interface

The name of the interface.

Configure

Click this button to configure an interface you have selected. If the interface has not been configured before, Cisco SDM will take you through the LAN Wizard to help you configure it. If the interface has been given a configuration using Cisco SDM, Cisco SDM displays an Edit window enabling you to change configuration settings.

The Configure button may be disabled if a LAN interface has been given a configuration that Cisco SDM does not support. For a list of such configurations, see [Reasons Why an Ethernet Interface Configuration May Be Read-Only](#).

What Do You Want to Do?

If you want to:	Do this:
Configure or edit a LAN interface or LAN switch port.	Select the LAN interface or switch port in the list, and click Configure . If the interface has not been configured, or if you select a switch port, Cisco SDM will take you through a LAN wizard which you can use to configure the interface. If the interface has already been configured and if it is not a switch port, clicking Configure displays an Edit window in which you can make change to the LAN configuration.
Reconfigure the IP address, mask, or DHCP properties of an interface that has already been configured.	Select an interface with an IP address, and click Configure .
Perform specific LAN-related configurations for items such as DHCP servers or maximum transmission unit (MTU) settings.	Click Interfaces and Connections in the Cisco SDM category bar, click the Edit Interfaces and Connections tab and perform the configuration changes.
Find out how to perform related configuration tasks.	See one of the following procedures: • How Do I Configure a Static Route? • How Do I View Activity on My LAN Interface? • How Do I Enable or Disable an Interface? • How Do I View the IOS Commands I Am Sending to the Router? • How Do I Launch the Wireless Application from Cisco SDM?

You can return to this screen as often as necessary to configure additional LAN interfaces.

Ethernet Configuration

The wizard guides you through the configuration of an Ethernet interface on the LAN. You must provide the following information:

- An IP address and subnet mask for the Ethernet interface
- A DHCP address pool if you decide to use DHCP on this interface
- The addresses of DNS and WINS servers on the WAN
- A domain name

LAN Wizard: Select an Interface

Select the interface on which you want to configure a LAN connection in this window. This window lists interfaces that can support Ethernet LAN configurations.

LAN Wizard: IP Address and Subnet Mask

This window lets you configure an IP address and subnet mask for the Ethernet interface that you chose in the first window.

IP Address

Enter the [IP address](#) for the interface in dotted decimal format. Your network administrator should determine the IP addresses of LAN interfaces. For more information, see [IP Addresses and Subnet Masks](#).

Subnet Mask

Enter the [subnet mask](#). Obtain this value from your network administrator. The subnet mask enables the router to determine how much of the IP address is used to define the network and host portions of the address.

Alternatively, select the number of [network bits](#). This value is used to calculate the subnet mask. Your network administrator can tell you the number of network bits to enter.

LAN Wizard: Enable DHCP Server

This screen lets you enable a [DHCP](#) server on your router. A DHCP server automatically assigns reusable IP addresses to the devices on the LAN. When a device becomes active on the network, the DHCP server grants it an [IP address](#). When the device leaves the network, the IP address is returned to the pool for use by another device.

To enable a DHCP server on the router:

Click **Yes**.

LAN Wizard: DHCP Address Pool

This screen lets you configure the DHCP IP address pool. The IP addresses that the [DHCP](#) server assigns are drawn from a common pool that you configure by specifying the starting IP address in the range, and the ending address in the range.

For more information, see [DHCP Address Pools](#).

**Note**

If there are discontinuous address pools configured on the router, then the Starting IP and Ending IP address fields will be read-only.

Starting IP

Enter the beginning of the range of IP addresses for the DHCP server to use in assigning addresses to devices on the LAN. This is the lowest-numbered IP address in the range.

Ending IP

Enter the highest-numbered [IP address](#) in the range of IP addresses.

DNS Server and WINS Server Fields

If this window displays DNS Server and WINS Server fields, you can click [DHCP Options](#) for information on them.

DHCP Options

Use this window to configure DHCP options that will be sent to hosts on the LAN that are requesting IP addresses from the router. These are not options for the router that you are configuring; these are parameters that will be sent to the requesting hosts on the LAN. To set these properties for the router, click **Additional Tasks** on the Cisco SDM category bar, click **DHCP**, and configure these settings in the DHCP Pools window.

DNS Server 1

The DNS server is typically a server that maps a known device name with its IP address. If you have DNS server configured for your network, enter the IP address for that device here.

DNS Server 2

If there is an additional DNS server on the network, you can enter the IP address for that server in this field.

Domain Name

The DHCP server that you are configuring on this router will provide services to other devices within this domain. Enter the name of the domain.

WINS Server 1

Some clients may require Windows Internet Naming Service ([WINS](#)) to connect to devices on the Internet. If there is a WINS server on the network, enter the IP address for the server in this field.

WINS Server 2

If there is an additional WINS server on the network, enter the IP address for the server in this field.

LAN Wizard: VLAN Mode

This screen lets you determine the type of VLAN information that will be carried over the switch port. Switch ports can be designated either to be in access mode, in which case they will forward only data that is destined for the VLAN to which they are assigned, or they can be designated to be in trunking mode, in which case they will forward data destined for all VLANs including the VLAN to which they are assigned.

If this switch port will be connected to a single device, such as a single PC or IP phone, or if this device will be connected to a port on a networking device, such as another switch, that is an access mode port, then select **Single Device**.

If this switch port will be connected to a port on a network device, such as another switch, that is a trunking mode, select **Network Device**.

LAN Wizard: Switch Port

This screen lets you assign an existing VLAN number to the switch port or to create a new VLAN interface to be assigned to the VLAN switch port.

Existing VLAN

If you want to assign the switch port to a VLAN that has already been defined, such as the default VLAN (VLAN 1), enter the VLAN ID number in the Network (VLAN) Identifier field.

New VLAN

If you want to create a new VLAN interface to which the switch port will be assigned, enter the new VLAN ID number in the New VLAN field, and then enter the IP address and subnet mask of the new VLAN logical interface in the IP Address and Subnet Mask fields.

Include this VLAN in an IRB bridge that will form a bridge with your wireless network. (Use Wireless Application to complete.)

If you check this box, the switch port will form part of a bridge with your wireless network. The other part of the bridge must be configured using the Wireless Application. The IP address and Subnet mask fields under New VLAN are disabled when this box is checked.

After completing this LAN configuration, do the following to launch the Wireless Application and complete the bridging configuration.

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- Step 1** Select **Wireless Application** from the Cisco SDM Tools menu. The Wireless Application opens in a separate browser window.
- Step 2** In the Wireless Application, click **Wireless Express Security**, and then click **Bridging** to provide the information to complete the bridging configuration.
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IRB Bridge

If you are configuring a VLAN to be part of an IRB bridge, the bridge must be a member of a bridge group.

To create a new bridge group that this interface will be part of, click **Create a new bridge group** and enter a value in the range 1 through 255.

To have this VLAN be a member of an existing bridge group, click **Join an existing bridge group**, and select a bridge group.



Note

When you complete the bridge configuration in the Wireless Application, you must use the same bridge group number entered in this screen.

BVI Configuration

Assign an IP address and subnet mask to the BVI interface. If you selected an existing bridge group in the previous screen, the IP address and subnet mask will appear in this screen. You can change it, or leave the values unchanged.

IP Address

Enter the [IP address](#) for the interface in dotted decimal format. Your network administrator should determine the IP addresses of LAN interfaces. For more information, see [IP Addresses and Subnet Masks](#).

Net Mask

Enter the [subnet mask](#). Obtain this value from your network administrator. The subnet mask enables the router to determine how much of the IP address is used to define the network and host portions of the address.

Net Bits

Alternatively, select the number of [network bits](#). This value is used to calculate the subnet mask. Your network administrator can tell you the number of network bits to enter.

DHCP Pool for BVI

When you configure the router as a DHCP server, you can create a pool of IP addresses that clients on the network can use. When a client logs off the network, the address it was using is returned to the pool for use by another host.

DHCP Server Configuration

Click this box if you want to have the router function as a DHCP server. Then, specify the starting and ending IP addresses in the pool. Be sure to specify IP addresses in the same subnet as the IP address you gave the interface. For example, If you gave the interface an IP address of 10.10.22.1, with a subnet mask of 255.255.255.0, you have over 250 addresses available for the pool, and you might specify a **Start IP Address** of 10.10.22.2, and an **End IP Address** of 10.10.22.253.

IRB for Ethernet

If your router has a wireless interface, you can use Integrated Routing and Bridging to have this interface form part of a bridge to the wireless LAN, and enable traffic destined for the wireless network to be routed through this interface. Click **Yes** if you want to configure this Layer 3 interface for Integrated Routing and Bridging.

If you do not want this interface to be used in bridge to the wireless interface, click **No**. You will still be able to configure it as a regular routing interface.

Layer 3 Ethernet Configuration

Cisco SDM supports Layer 3 Ethernet configuration on routers with installed 3750 switch modules. You can create VLAN configurations and designate router Ethernet interfaces as DHCP servers.

802.1Q Configuration

You can configure a VLAN that does not use the 802.1Q encapsulation protocol used for trunking connections. Provide a VLAN ID number, and check **Native VLAN** if you do not want the VLAN to use 802.1Q tagging.

If you want to use the 802.1Q tagging, leave the Native VLAN box unchecked.

Trunking or Routing Configuration

You can configure Layer 3 Ethernet interfaces for 802.1Q trunking or for basic routing. If you configure the interface for 802.1Q trunking, you can configure VLANs on the interface, and you can configure a native VLAN that does not use the 802.1q encapsulation protocol. If you configure the interface for routing, you cannot configure subinterfaces or additional VLANs on the interface.

Configure Switch Device Module

If you are configuring a Gigabit Ethernet interface for routing, you can provide information about the switch module in this window. It is not required that you provide this information.

You can provide an IP address and subnet mask for the switch module, and login credentials required to log on to the the switch module interface.

Check the box at the bottom of the screen if you want to log on to the switch module after providing the information in this wizard and delivering the configuration to the router.

Configure Gigabit Ethernet Interface

Provide IP address and subnet mask information for Gigabit Ethernet interfaces in this window. For more information on IP addresses and subnet masks, see [LAN Wizard: IP Address and Subnet Mask](#).

IP Address of Physical Interface

Provide the IP address and subnet mask for the physical Gigabit Ethernet interface in these fields.

IP Address of VLAN Subinterface

Provide the IP address and subnet mask for the VLAN subinterface that you want to create on the physical interface. These fields appear if you are configuring this interface for routing. These fields do not appear if you are configuring this interface for Integrated Routing and Bridging (IRB).

Summary

This window provides a summary of the configuration changes that you made for the interface you selected.

To save this configuration to the router's running configuration and leave this wizard:

Click **Finish**. Cisco SDM saves the configuration changes to the router's running configuration. Although the changes take effect immediately, they will be lost if the router is turned off.

If you checked **Preview commands before delivering to router** in the User Preferences window, the Deliver window appears. In this window you can view the CLI commands that you are delivering to the router.

How Do I...

This section contains procedures for tasks that the wizard does not help you complete.

How Do I Configure a Static Route?

To configure a [static route](#):

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- Step 1** From the category bar, click **Routing**.
 - Step 2** In the Static Routing group, click **Add....**
The Add IP Static Route dialog box appears.
 - Step 3** In the Prefix field, enter the IP address of the static route destination network.
 - Step 4** In the Prefix Mask field, enter the subnet mask of the destination network.
 - Step 5** If you want this static route to be the default route, check the **Make this as the Default Route** check box.
 - Step 6** In the Forwarding group, select whether to identify a router interface or the destination router IP address as the method to forward data, and then choose either the forwarding router interface or enter the destination router IP address.
 - Step 7** Optionally, in the Distance Metric field, enter the distance metric to be stored in the routing table.
 - Step 8** If you want to configure this static route to be a permanent route, which means that it will not be deleted even if the interface is shut down or the router is unable to communicate with the next router, check the **Permanent Route** check box.

Step 9 Click **OK**.

How Do I View Activity on My LAN Interface?

You can view activity on a LAN interface by using the Monitor mode in Cisco SDM. Monitor mode can display statistics about the LAN interface, including the number of packets and bytes that have been sent or received by the interface, and the number of send or receive errors that have occurred. To display statistics about a LAN interface:

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- Step 1** From the toolbar, click **Monitor**.
 - Step 2** From the left frame, click **Interface Status**.
 - Step 3** In the Select an Interface field, select the LAN interface for which you want to view statistics.
 - Step 4** Select the data item(s) you want to view by checking the associated check box(es). You can view up to four statistics at a time.
 - Step 5** Click **Start Monitoring** to see statistics for all selected data items.

The Interface Details screen appears, displaying the statistics you selected. The screen defaults to showing real-time data, for which it polls the router every 10 seconds. If the interface is up and there is data transmitting across it, you should see an increase in the number of packets and bytes transferred across the interface.

How Do I Enable or Disable an Interface?

You can disable an interface without removing its configuration, and you can reenable an interface that you have disabled.

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- Step 1** Click **Interfaces and Connections** in the category bar.
 - Step 2** Click the **Edit Interfaces and Connections** tab.

- Step 3** Select the interface that you want to disable or enable.
- Step 4** If the interface is enabled, the Disable button appears below the Interface List. Click that button to disable the interface. If the interface is currently disabled, the Enable button appears below the Interface List. Click that button to disable the interface.
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How Do I View the IOS Commands I Am Sending to the Router?

If you are completing a Wizard to configure a feature, you can view the Cisco IOS commands that you are sending to the router when you click **Finish**.

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- Step 1** From the Cisco SDM Edit menu, select **Preferences**.
- Step 2** Check **Preview commands before delivering to router**.
- Step 3** Click **OK**.
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The next time you use a wizard to configure the router and click **Finish** on the Summary window, the Deliver window will appear. In this window you can view the commands that you are delivering to the router's configuration. Click **Deliver** when you are finished reviewing the commands.

If you are editing a configuration, the Deliver window is displayed when you click **OK** in the dialog window. In this window you can view the Cisco IOS commands that you are sending to the router .

How Do I Launch the Wireless Application from Cisco SDM?

Use the following procedure to launch the wireless application from Cisco SDM.

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- Step 1** Go to the Cisco SDM Tools menu and select **Wireless Application**. The **Wireless Application** launches in a separate browser window.

- Step 2** In the left panel, click the title of the configuration screen that you want to work in. To obtain help for any screen, click the help icon in the upper right corner. This icon looks like an open book with a question mark.
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