

# **Configuring and Accessing the Web User Interface**

The Cisco ASR 1000 Series Routers introduce a web user interface that expands on the functionality of web user interfaces available in other Cisco routers.

This chapter is about this web user interface and covers the following topics:

- Web User Interface Overview, on page 1
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# Web User Interface Overview

This section covers the following topics:

### Web User Interface General Overview

The web user interface is available on Cisco ASR 1000 Series Routers starting in Cisco IOS XE Release 2.1.1. The web user interface is not available in Cisco IOS XE Release 2.1.0.

The Cisco ASR 1000 Series Routers can be accessed using a web user interface. This web user interface allows users to monitor router performance using an easy-to-read graphical interface. Most aspects of a Cisco ASR 1000 Series Router can be monitored using the web user interface.

The web user interface has the following features:

- An interface that presents information in an easy-to-read graphical format.
- An interface that allows users to monitor most software processes, including processes related to the IOS and nonIOS subpackages within the Cisco IOS XE consolidated package.
- An interface that allows users to monitor most hardware components, including all RPs, ESPs, SIPs, and SPAs installed in the router.

- Access to the legacy web user interface in addition to the enhanced web user interface.
- The ability to gather the output of **show** commands from the web user interface.

### Legacy Web User Interface Overview

Previous Cisco routers have a legacy web user interface that can be used to monitor the router. This legacy web user interface presents information in a straightforward manner without using any graphics. On the Cisco ASR 1000 Series Routers, this interface is part of the larger web user interface and can be accessed by clicking the "IOS Web UI" option in the left-hand menu.

On the Cisco ASR 1000 Series Routers, the legacy web user interface can only be used to configure and monitor the IOS subpackage. In some scenarios, most notably when an **ip http** command has been successfully entered to enable the HTTP or HTTPS server while a properly configured web user interface transport map has not yet been applied on the Cisco ASR 1000 Series Router, the legacy web user interface will be accessible while the graphics-based web user interface will be inaccessible.

See the following figure for an example of the legacy web user interface home page.

#### Figure 1: Legacy Web User Interface Home Page

a ha ha	Router	11:58 am
		About   Help
	Home > IOS WebUI	Log out user15
IOS WebUI		
System	IOS WebUI	
Version		
Running Configuration		
Content	🗌 Refresh every 15 seconds 💌 Start 🎇	
Status		
Chassis	Ciona Sustama	
Environment	Cisco Systems	
Fans		
File System	Accessing Cisco ASR1006 "Router"	
IO-Ports	-	
Memory	Show diagnostic log - display the diagnostic log.	
Free	Monitor the router - HTML access to the command line interface at level 0,1,2,3,4,5,6,7,8,9,10	,11,12,13,14,15
Summary	Show tech-support - display information commonly needed by tech support.	
Mounts	Extended Ping - Send extended ping commands.	
Process Resource		
Memory	Help resources	
CPU CPU History		
Process List	<ol> <li>CCO at www.cisco.com - Cisco Connection Online, including the Technical Assistance Center (TAC)</li> </ol>	l
Sensors	2. tac@cisco.com - e-mail the TAC.	
UDS	<ol> <li>1-800-553-2447 or +1-408-526-7209 - phone the TAC.</li> <li>cs-html@cisco.com - e-mail the HTML interface development group.</li> </ol>	
Alarms	4. CS-rithil@clsco.com - e-mail the rinkic interface development group.	
Audible		
Visual		
CEF	(c) 2004-2007 Cisco Systems, Inc. All rights reserved.	
All		
VRF Summary	10:52:00 AM Thu Apr 03 2008 GMT	
Diagnostics		
Chassis Manager		
Slots		
Interfaces		
Forwarding Manager		
IP I		
OS-Interfaces		
Summary		
Modules		
FPD		
Subslot OIR		
Peers		
Chassis Manager		
Forwarding Manager Interface Manager		
Shell Manager		
WebCLI		
WEDGLI		

### **Graphics-Based Web User Interface Overview**

The web user interface on the Cisco ASR 1000 Series Routers expands the legacy web user interface available on other platforms by presenting information in easy-to-read graphics-based tables, graphs, or charts, depending on the information presented. The web user interface on the Cisco ASR 1000 Series Routers is also able to present monitoring information stored in both the IOS and nonIOS subpackages, allowing for a complete view of the router using the web user interface.

See the following figure for an example of the graphics-based web user interface home page.

271029

	lone			About   Log out us
WebUI				
tem	Home			
ersion	nume			
Inning Configuration				
Intent	Refresh every 3 minute	es 💉 Start 🏂		
atus				
Issis				
vironment	State, role and alarm		Temperature (SIP 0)	
ns	Content Alarms	(Active RP)	Left 22 °C	
e System	FRU State Role Severity		LOR ZZ C	
-Ports	200	PZ 33 PZ 33		
emory	SIP 0 Critical	(°)) (°))	Center 23 °C	
ree	SIP 1 Major	$(\circ)$	Center 23 °C	<b>Y</b>
Summary				
punts	SIP 2 Minor			
ocess Resource	ESP 0 🗾 🎌		Asic1 31 °C	
Memory CPU	ESP 1 🚺 🎇			
PU History	RPO 🗾 🎌		Right 21 °C	
ocess List	and a second sec			
Insors	RP 1 🗙 💥			
)S				
rms	Memory and Process (Active	RP)		
udible	Memory	summary	Process s	ummary
sual	ID Usage kB	Breakup	ID State Count	Breakup
	1 Used 1600160			
	1 Osec 1000100		1 Running 4	1.0005
RF Summary	2 Free 2135304			1 (3%)
gnostics			2 Sleeping 124	
lassis Manager				
ots		1 (43 %)	3 Disk Sleeping 0	
erfaces				
rwarding Manager	2 (57%)		4 Zombies 0	
S-Interfaces			5 Stopped 0	
immary				2 (97%)
dules			6 Paging 0	
D				
ibslot OIR				
ers	2			
assis Manager	Legend:			
rwarding Manager	State:- INO	rmal / OK, 👘 : Disabled, 📕	: Failed, 📒 : Booting, 📕 : Shutdov	
erface Manager Iell Manager	an anna	ala ala		
	Role :- 🥂 : Ac	tive, 🎆 : Standby		
bCLI	Alarm :- : No	rmal / OK, 🚺 : Enabled		
	Temperature:-	d region exposed by slider implie	s higher than normal temperature	

Figure 2: Graphics-Based Web User Interface Home Page

## **Persistent Web User Interface Transport Maps Overview**

To enable the graphics-based web user interface, a persistent web user interface transport map must be configured. The persistent web user interface transport map, when successfully configured and applied to the router, defines how the router handles incoming web user interface requests. In the persistent web user interface transport map, users define whether the graphics-based web user interface can be accessed through HTTP, HTTPS, or both protocols. Only one persistent web user interface transport map can be applied to a Cisco ASR 1000 Series Router at a time.

07:50:13 AM Tue Apr 22 2008 GMT

The persistent web user interface transport map configuration must be performed in addition to the legacy web user interface configuration, which is configured using the **ip http** command set. The **ip http** command settings define which ports are used by HTTP or HTTPS for both the legacy and graphics-based web user interface.

# **Configuring the Router for Web User Interface Access**

The ability to access either web user interface on the Cisco ASR 1000 Series Routers is disabled by default.

The legacy web user interface must be configured before the graphics-based web user interface can be enabled.



Note

The web user interface will not work if the Management Ethernet interface has not been configured or is not working; specifically, the default route must be specified in the Management Ethernet VRF before the web user interface can be configured.

To enable the entire web user interface, perform the following tasks:

### SUMMARY STEPS

- 1. (Optional) Ensure the clock setting on your router is accurate by entering the show clock command.
- 2. Connect to your router and enter the configure terminal command to enter global configuration mode.
- **3.** Set the HTTP server authentication method to local by entering the **ip http authentication local** command.
- 4. Enable the legacy web user interface by entering one of the following global configuration commands:
- Create and name a persistent web user interface transport map by entering the transport-map type persistent webui transport-map-name command.
- 6. Enable HTTP, HTTPS, or both by entering the following commands in transport map configuration mode:
- 7. (Optional) Enter the **show transport-map name** *transport-map-name* privileged EXEC command to verify that your transport map is properly configured.
- 8. Enable the transport map by entering the **transport type persistent webui input** *transport-map-name* global configuration command.

### **DETAILED STEPS**

**Step 1** (Optional) Ensure the clock setting on your router is accurate by entering the **show clock** command.

#### Example:

Router# **show clock** \*13:56:59.257 DST Mon May 5 2008

If the router time is not properly set, use the **clock set** and **clock timezone** commands for setting the router clock.

- Step 2 Connect to your router and enter the configure terminal command to enter global configuration mode.
- **Step 3** Set the HTTP server authentication method to local by entering the **ip http authentication local** command.
- **Step 4** Enable the legacy web user interface by entering one of the following global configuration commands:

• ip http server — Enables HTTP on port 80, which is the default HTTP port.

- ip http port port-number—Enables HTTP on the nondefault user-specified port.
- ip http secure-server Enables HTTPS on port 443, the default HTTPS port.
- ip http secure-port port-number Enables HTTPS on the nondefault user-specified port.

The legacy web user interface becomes available at this point of the procedure. Users attempting to access the web user interface after this step is completed will see the legacy web user interface only.

To enable the graphics-based web user interface, proceed to Step 5 and complete the remaining steps in this procedure.

- **Step 5** Create and name a persistent web user interface transport map by entering the **transport-map type persistent webui** *transport-map-name* command.
- **Step 6** Enable HTTP, HTTPS, or both by entering the following commands in transport map configuration mode:
  - server Enables HTTP.
  - secure-server Enables HTTPS.

Port numbers cannot be set within the transport map. The port numbers defined in Step 4 are also used with these settings in the persistent web user interface transport map.

- **Step 7** (Optional) Enter the **show transport-map name** *transport-map-name* privileged EXEC command to verify that your transport map is properly configured.
- **Step 8** Enable the transport map by entering the **transport type persistent webui input** *transport-map-name* global configuration command.

#### What to do next

#### Examples

In the following example, the HTTP server authentication method is set to local:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# ip http authentication local
```

#### Router(config)# exit

In the following example, the web user interface using the default HTTP port is enabled:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config) # ip http server
Router(config)# transport-map type persistent webui http-webui
Router (config-tmap) # server
Router(config-tmap) # exit
Router(config) # exit
Router# show transport-map name http-webui
Transport Map:
  Name: http-webui
 Type: Persistent Webui Transport
Webui:
 Server:
                 enabled
 Secure Server: disabled
Router# configure terminal
Router(config) # transport type persistent webui input http-webui
*Apr 22 02:43:55.798: %UICFGEXP-6-SERVER NOTIFIED START: R0/0: psd: Server wui has been
notified to start
```

In the following example, the web user interface using the default HTTPs port is enabled:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# ip http secure-server
Router(config)# transport-map type persistent webui https-webui
Router(config-tmap)# secure-server
Router(config-tmap)# exit
Router(config)# transport type persistent webui input https-webui
*Apr 22 02:38:43.597: %UICFGEXP-6-SERVER_NOTIFIED_START: R0/0: psd: Server wui has been
notified to start
```

In the following example, the web user interface using the default HTTP and HTTPS ports is enabled:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# ip http server
Router(config)# ip http secure-server
Router(config)# transport-map type persistent webui http-https-webui
Router(config-tmap)# server
Router(config-tmap)# secure-server
Router(config-tmap)# exit
Router(config)# transport type persistent webui input http-https-webui
*Apr 22 02:47:22.981: %UICFGEXP-6-SERVER_NOTIFIED_START: R0/0: psd: Server wui has been
notified to start
```

# Authentication and the Web User Interface

Users attempting to access the web user interface for a router are subject to the same authentication requirements configured for that router. The web browser prompts all users for a name and password combination, and the web browser then looks to the router configuration to see if a user should or should not be granted access to the web user interface.

Only users with a privilege level of 15 can access the web user interface. Otherwise, authentication of web user interface traffic is governed by the authentication configuration for all other traffic.

To configure authentication on your router, see {start cross reference} Configuring Authentication {end cross reference}. {start hypertext}

http://www.cisco.com/en/US/docs/ios/12\_2/security/configuration/guide/scfathen.html {end hypertext}

# **Domain Name System and the Web User Interface**

The Domain Name System (DNS) is a distributed database in which you can map hostnames to IP addresses through the DNS protocol from a DNS server.

If the router is configured to participate in the Domain Name System, users can access the web user interface by entering **http://** < *dns-hostname* > as the web browser address.

For information on configuring DNS, see {start cross reference}Configuring DNS{end cross reference}. {start hypertexdhttp://www.cisco.com/en/US/docs/ios/ipaddi/configuration/guide/iad\_config\_dns\_ps6922\_TSD\_Products\_Configuration\_Guide\_Chapterhtml{end hypertext}

# **Clocks and the Web User Interface**

Requests to view the web user interface can be rejected by certain web browsers if the time as seen by the web browser differs from the time as seen by the router by an hour or more.

For this reason, we recommend checking the router time using the **show clock** command before configuring the router and, if the router time is not properly set, use the **clock set** and **clock timezone** commands for setting the router clock.

Similarly, the web browser's clock source, which is usually the personal computer, must also have an accurate time to properly access the web user interface.

The following message appears when the web browser and the router clocks are more than an hour apart:

Your access is being denied for one of the following reasons:. Your previous session has timed-out, or. You have been logged out from elsewhere, or. You have not yet logged in, or. The resource requires a higher privilege level login.

If you see this message and fixing the other possible causes of the issue still does not make the web user interface accessible, check both the router clock and the PC clock to ensure both clocks reflect the accurate day and time and then retry your connection to the web user interface.

Also note that if one clock changes at daylight savings time while another clock does not, clock-related issues can occur.

# Accessing the Web User Interface

To access the web user interface, perform the following tasks:

### **SUMMARY STEPS**

- 1. Open your web browser. The web user interface supports the following web browsers:
- 2. Enter the address of the router in the address field of the web browser. The format for the address of the router in the address field is http:// < routername or management-ethernet-ip-address> : http-port] or https:// < routername or management-ethernet-ip-address> : https-port], and the addresses that are acceptable depend upon your web browser user interface configurations and whether your router is participating in DNS.Following are some examples of acceptable address field web browser entries:
- **3.** If prompted, enter your username and password. The username and password combination required to enter the web user interface is the same combination required to access the router.
- The graphics-based web user interface similar to should appear in your web browser.

#### DETAILED STEPS

**Step 1** Open your web browser. The web user interface supports the following web browsers:

- Microsoft Internet Explorer 6 or later
- Mozilla Firefox 2.0 or later
- **Step 2** Enter the address of the router in the address field of the web browser. The format for the address of the router in the address field is <a href="http://croutername">http://croutername</a> or <a href="mailto:management-ethernet-ip-address">management-ethernet-ip-address</a> : <a href="http://croutername">http://croutername</a> or </a>

*management-ethernet-ip-address>* : *https-port*], and the addresses that are acceptable depend upon your web browser user interface configurations and whether your router is participating in DNS.Following are some examples of acceptable address field web browser entries:

#### Example:

```
HTTP Using Default Port Example
http://172.16.5.1
HTTPS Using Default Port Example
https://172.16.5.1
HTTP Using NonDefault Port Example
http://172.16.5.1:94
HTTPS Using NonDefault Port Example
https://172.16.5.1:530/
HTTP Using Default Port Participating in DNS Example
http://router1
HTTPS Using Default Port Participating in DNS Example
https://router1
HTTP Using NonDefault Port Participating in DNS Example
http://router1:94
HTTPS Using NonDefault Port Participating in DNS Example
https://router1:530/
```

- **Step 3** If prompted, enter your username and password. The username and password combination required to enter the web user interface is the same combination required to access the router.
- **Step 4** The graphics-based web user interface similar to should appear in your web browser.

# **Using Auto Refresh**

The web user interface does not refresh content automatically by default.

To set an auto-refresh interval, follow these steps:

### SUMMARY STEPS

- 1. Check the **Refresh every** check box on the graphical web user interface home page. A check mark appears in the check box.
- **2.** Set the frequency of the auto-refresh interval using the drop-down menu.
- Click the Start button to the right of the drop-down menu. After hitting this button, the Start button becomes the Stop button and a countdown timer placed to the right of the Stop button begins to increment.

### **DETAILED STEPS**

Step 1 Check the **Refresh every** check box on the graphical web user interface home page. A check mark appears in the check box.

Figure 3: Checking Auto Refresh Check Box

-		
-	Home (Status)	
	🗹 Refresh every 1 minute 🛛 🔽 Start	
	Charter of the strevely in think to the strevely in think to the strevely	

- **Step 2** Set the frequency of the auto-refresh interval using the drop-down menu.
- Step 3 Click the Start button to the right of the drop-down menu. After hitting this button, the Start button becomes the Stop button and a countdown timer placed to the right of the Stop button begins to increment.

#### Figure 4: Auto Refresh Counter Example

	(Status)		
Ref	esh every 1 minute	Stop 59 secs	S Profe
Success	fully setup automatic refres	n. Please wait	

The web user interface screen refreshes every time this counter reaches 0 seconds.

If you would like to stop the auto-refresh update, click the **Stop** button to return to the default setting of no auto-refresh update.

# Web User Interface Tips and Tricks

This section provides some useful information about using the web user interface once the interface has been accessed:

- If you know a Cisco IOS command-line interface command to gather information that you are unable to gather using the web user interface, you can click IOS Web UI followed by Monitor the Router to enter commands.
- If you know a diagnostic mode command to gather information that you are unable to gather using the web user interface, you can click WebCLI to enter show commands.
- The WebCLI command line has a context-sensitive help feature that shows the options available in a certain keyword sequence using a drop-down menu. The following figure shows an example of this drop-down menu context-sensitive help feature.

#### Figure 5: Web CLI Drop-Down Menu

		Router		10:44 a About   Hel Log out user1
and the second se	<u>ne</u> > WebCLI		- 1910	
IOS WebUI				
System Version	WebCLI			
D 1 0 C 1				
Content	to conserve res	ources, the webCLI requires the following steps:		
Status	. In the comma	nd field, start entering " <b>show</b> " to see all start-phrases for	supported <b>show</b> commands	
Chassis	. After entering	the entire start-phrase or selecting one, enter a <space></space>	to see all possible matching commands	
Environment	. Enter the rema	ainder of the command or select one. Hit <b><enter< b="">&gt; to execu</enter<></b>	ite the command	
Fans	7=			
File System	Command S	how platform software process list		3.5
IO-Ports	s	how platform software process list 0		20
Memory		how platform software process list 0 summary		
Free	12			
Summary		how platform software process list 1		
Mounts	1111485	how platform software process list 1 summary		
Process Resource	s	how platform software process list 2		
Memory	s	how platform software process list 2 summary	ights reserved.	
CPU	s	how platform software process list F0	GMT	
CPU History Process List	s	how platform software process list F0 summary		
Sensors	s	how platform software process list F1		
UDS	17	how platform software process list F1 summary		
Alarms	18	how platform software process list FP active		
Audible				
Visual		how platform software process list FP active summary		
CEF	12	how platform software process list FP standby		
All	s	how platform software process list FP standby summary		
VRF Summary	s	how platform software process list R0		
Diagnostics	s	how platform software process list R0 summary		
Chassis Manager	s	how platform software process list R1		
Slots	s	how platform software process list R1 summary		
nterfaces	s	how platform software process list RP active		
Forwarding Manager		how platform software process list RP active summary		
IP OS-Interfaces				
Summary	12	how platform software process list RP standby		
Modules	s	how platform software process list RP standby summary		
FPD				
Subslot OIR				
Peers				
Chassis Manager				
Forwarding Manager				
Interface Manager				
Shell Manager				
WebCLI				

# **Configuring Web User Interface in Cisco IOS XE 16 Releases**

### Web User Interface

The Web User Interface (Web UI) is a graphical user interface that allows you to provision, monitor, and optimize your device. These sections explain how to access the web user interface and bring up the device:

### Setting Up Factory Default Device Using WebUI

Quick Setup Wizard allows you to perform the basic router configuration. To configure the router:

### Before you begin

• Before you access the WebUI, you need to have the basic configuration on the device.

- **Step 1** Connect the RJ-45 end of a serial cable to the RJ-45 console port on the router.
- **Step 2** After the device initial configuration wizard appears, enter **No** to get into the device prompt when the following system message appears on the router.

Would you like to enter the initial configuration dialog? [yes/no]: no

**Step 3** From the configuration mode, enter the following configuration parameters.

```
!
ip dhcp pool WEBUIPool
network 192.168.1.0 255.255.255.0
default-router 192.168.1.1
username webui privilege 15 password cisco
!
interface gig 0/0/1
ip address 192.168.1.1 255.255.255.0
```

- **Step 4** Connect your device to the router using an Ethernet cable to the gig 0/0/1 interface.
- **Step 5** Set up your system as a DHCP client to obtain the IP address of the router automatically.
- **Step 6** Launch the browser and enter the device IP address in your browser's address line. For a secure connection, type https://192.168.1.1/#/dayZeroRouting. For a less secure connection, enter http://192.168.1.1/#/dayZeroRouting.
- Step 7 Enter the default username (webui) and default password (cisco).

### Using Basic or Advanced Mode Setup Wizard

To configure the router using the basic or advanced mode setup:

- Step 1 Choose the Basic Mode or Advanced Mode and click Go To Account Creation Page.
- **Step 2** Enter the username and password. Reenter the password to confirm.
- Step 3 Click Create and Launch Wizard.
- **Step 4** Enter the device name and domain name.
- **Step 5** Select the appropriate time zone from the **Time Zone** drop-down list.
- **Step 6** Select the appropriate date and time mode from the **Date and Time** drop-down list.
- Step 7 Click LAN Settings.

#### **Configure LAN Settings**

Step 1 Choose the Web DHCP Pool/DHCP Pool name or the Create and Associate Access VLAN option.

a) If you choose the Web DHCP Pool, specify the following:

**Pool Name**—Enter the DHCP Pool Name.

Network—Enter network address and the subnet mask.

b) If you choose the Create and Associate Access VLAN option, specify the following:

Access VLAN—Enter the Access VLAN identification number. The range is from 1 to 4094.

Network—Enter the IP address of the VLAN.

**Management Interfaces**—Select the interface and move to the selected list box using the right and left arrows. You can also double click or drag and drop to move the interface to the selected list box.

### Step 2 Click Primary WAN Settings.

BASIC	Lan	PRIMARY WAN	WI-FI	SECURITY / APP VISIBILITY	- - SUMMARY
LAN Configuration				HELP A	ND TIPS
Webui DHCP Pool				An admin user will be create	ed with the below details
LAN Network	192.168.1.0 -				
Subnet Mask	255.255.255.0 -				
Available IP	254~				
LAN Interface	×				
< Basic Device Set	ttings			PRIMA	RY WAN SETTINGS >

#### **Configure Primary WAN Settings**

- Step 1 Select the primary WAN type. You con configure Serial, 3G/4G, Ethernet, or Broadband (xDSL) as primary WAN depending on the WAN types supported by the router.
- **Step 2** Select the interface from the drop-down list.
- **Step 3** Check the **Get DNS Server info directly from ISP** check box to get the DNS server information directly from the service provider. You can also manually enter the Primary DNS and Secondary DNS.
- **Step 4** Check the **Get IP automatically from ISP** check box to get the IP address information directly from the service provider. You can also manually enter the IP address and subnet mask.
- Step 5 Check the Enable NAT check box to enable NAT. It is recommended to enable NAT.
- Step 6 Check the Enable PPPOE check box to enable PPPoE. If you have enabled PPPoE, select the required authentication mode. The options are: PAP and CHAP.
- **Step 7** Enter the user name and password provided by the service provider.
- Step 8 Click Security / APP Visibility WAN Settings.

BASIC		PRIMARY WAN	WI-FI	SECURITY / APP VISIBILITY	J J SUMMARY
WAN Configuration	-			HELP AN	D TIPS
WAN Type *		•		An admin user will be created	d with the below details
Interface *		¥			
DNS / IP Address	-				
Get DNS Server info directly	from ISP				
<ul> <li>Get IP automatically from ISP</li> </ul>					
Enable NAT					
Profile					
Access Point Name (APN) *					
Configure username and par	ssword if provided by service				
< LAN SETTINGS					Wi-Fi >

#### **Configure Secondary WAN Settings**

For advanced configuration, you should configure the secondary WAN connection.

- Step 1 Select the secondary WAN type. You con configure Serial, 3G/4G, Ethernet, or Broadband (xDSL) as a secondary WAN depending on the WAN types supported by the router.
- **Step 2** Select the interface from the drop-down list.
- **Step 3** Check the **Get DNS Server info directly from ISP** check box to get the DNS server information directly from the service provider. You can also manually enter the Primary DNS and Secondary DNS.
- **Step 4** Check the **Get IP automatically from ISP** check box to get the IP address information directly from the service provider. You can also manually enter the IP address and subnet mask.
- Step 5 Check the Enable NAT check box to enable NAT. It is recommended to enable NAT.
- **Step 6** Check the **Enable PPPOE** check box to enable PPPoE. If you have enabled PPPoE, select the required authentication mode. The options are **PAP** and **CHAP**.
- **Step 7** Enter the user name and password provided by the service provider.
- Step 8 Click Security / APP Visibility WAN Settings.

#### **Configure Security Settings**

- Step 1 Check the Enable Cisco Recommended Security Settings check box to ensure that all passwords are not shown in plain text. The passwords are encrypted.
- Step 2 Click Day 0 Config Summary.
- **Step 3** To preview the configuration, click **CLI Preview** to preview the configuration.
- **Step 4** Click **Finish** to complete the Day Zero setup.

BASIC		PRIMARY WAN	WI-FI	SECURITY / APP VISIBILITY	SUMMARY		
SUMMARY					CLI Preview		
This screen provides the summary of all the steps configured as a part of the day zero configuration. Please click Finish to configure the device.							
> Basic	✓ Router Name: geo,	✓ Domain Name: mydomain.com, ✓ Time 2	Zone: 5.30, 🗸 Date & Time Mor	de: Automatic			
> LAN	🗸 LAN Interface: , 🗸	IP Address: , 🗸 Subnet Mask: , 🗸 Use as Di	HCP Server: Yes, 🛩 Pool Name	: , 🗸 Network: (), 🛪 Management Interface Conf	igured: No		
> Primary WAN	🗸 WAN Interface: , 🗸	✓ WAN Interface: , ✓ IP Address: Automatic, ✓ DNS: Automatic, ✓ NAT: Enabled					
> Wi-Fi	× Wi-Fi Configuration	% Wi-Fi Configuration:					
> Security / App Visibility	✓ Cisco recommende	ad security settings: Enabled, × Application V	/isibility: Disabled				
< SECURITY / APP VISIBILITY					Finish >		