Configuring and Accessing the Web User Interface

The Cisco 8500 Series Catalyst Edge Platform 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

This section covers the following topics:

Web User Interface General Overview

The Cisco Catalyst 8500 Series Edge Platforms 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 Cisco Catalyst 8500 Series Edge Platforms 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.
- 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.

Graphics-Based Web User Interface Overview

The web user interface on the Cisco Catalyst 8500 Series Edge Platforms 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 Catalyst 8500 Series Edge Platforms 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.

Figure 1: Graphics-Based Web User Interface Home Page
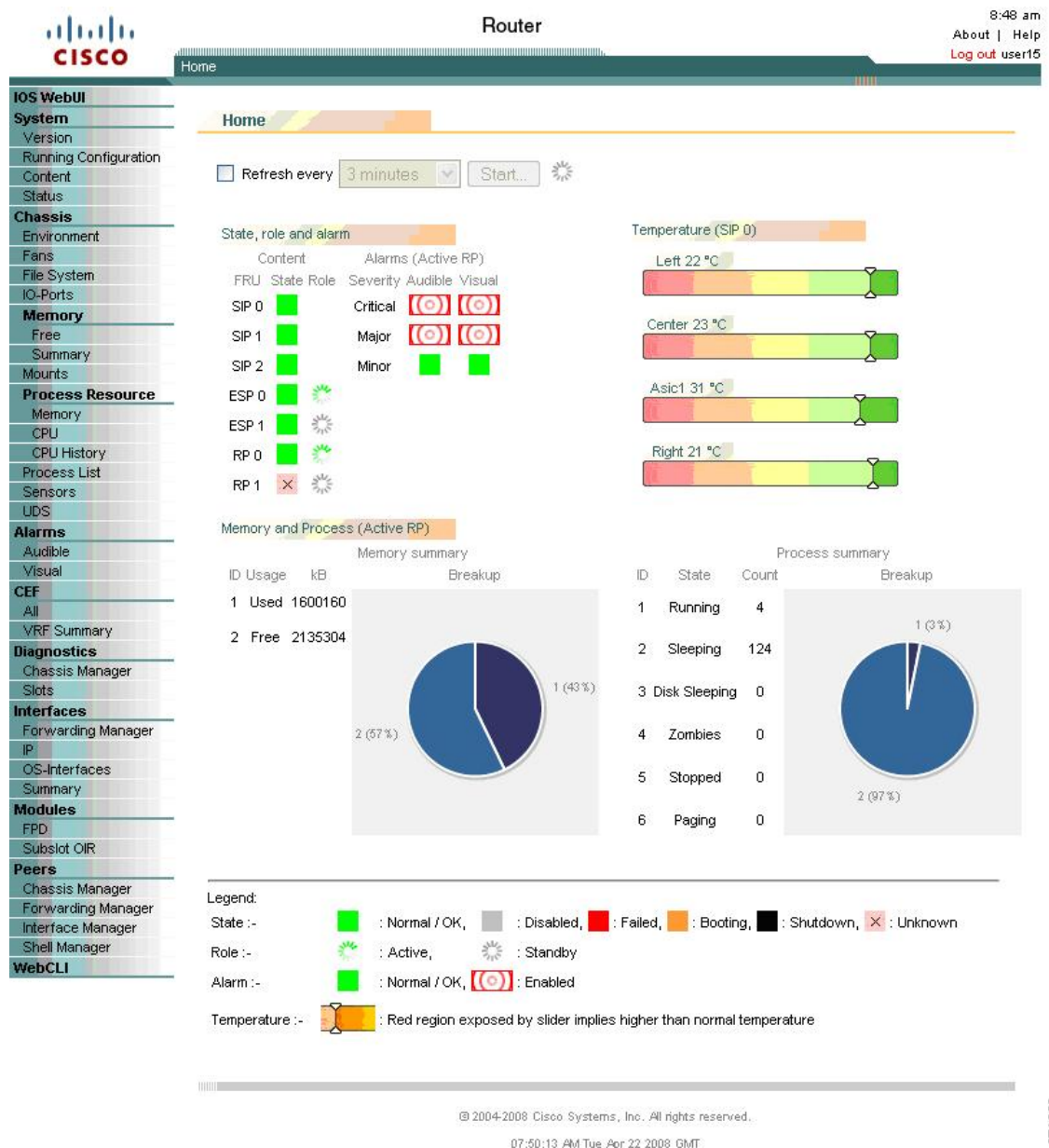
Persistent Web User Interface Transport Maps Overview

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 Cisco Catalyst 8500 Series Edge Platforms at a time.

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 Catalyst 8500 Series Edge Platforms 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:
5. 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.

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.

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.
4. 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 **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:

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.
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.

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 2: Checking Auto Refresh Check Box
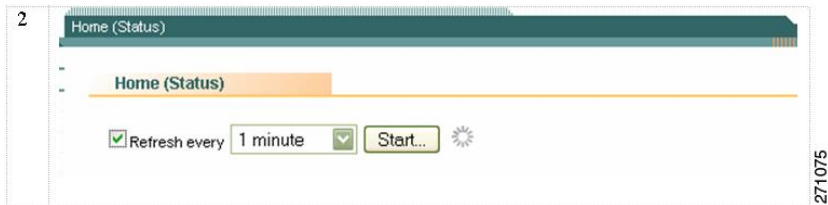
Step 2   Set the frequency of the auto-refresh interval using the drop-down menu.

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 3: Auto Refresh Counter Example
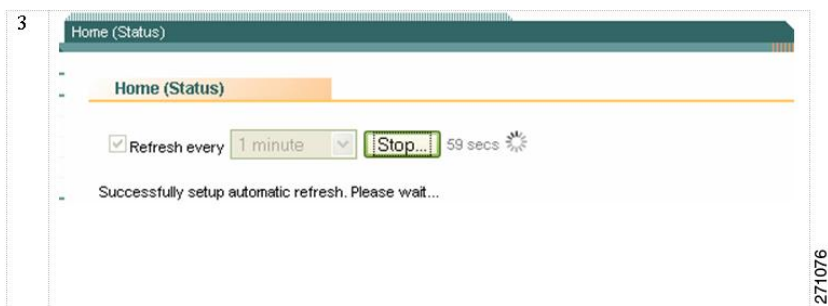
The web user interface screen refreshes every time this counter reaches 0 seconds.

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.