



# IP SLAs—Analyzing IP Service Levels Using the HTTP Operation

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This module describes how to use the Cisco IOS IP Service Level Agreements (SLAs) HTTP operation to monitor the response time between a Cisco device and an HTTP server to retrieve a web page. The IP SLAs HTTP operation supports both the normal GET requests and customer RAW requests. IP SLAs is a portfolio of technology embedded in most devices that run Cisco IOS software, which allows Cisco customers to analyze IP service levels for IP applications and services, to increase productivity, to lower operational costs, and to reduce the frequency of network outages. IP SLAs uses active traffic monitoring—the generation of traffic in a continuous, reliable, and predictable manner—for measuring network performance. This module also demonstrates how the results of the HTTP operation can be displayed and analyzed to determine how an HTTP server is performing.

## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the “[Feature Information for the IP SLAs HTTP Operation](#)” section on page 18.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

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## Prerequisites for the IP SLAs HTTP Operation

Before configuring the IP SLAs HTTP operation you should be familiar with the “[Cisco IOS IP SLAs Overview](#)” chapter of the *Cisco IOS IP SLAs Configuration Guide*.

## Information About the IP SLAs HTTP Operation

To perform the tasks required to monitor the performance of an HTTP server using IP SLA, you should understand the following concept:

- [HTTP Operation, page 2](#)

## HTTP Operation

The HTTP operation measures the round-trip time (RTT) between a Cisco device and an HTTP server to retrieve a web page. The HTTP server response time measurements consist of three types:

- DNS lookup—RTT taken to perform domain name lookup.
- TCP Connect—RTT taken to perform a TCP connection to the HTTP server.
- HTTP transaction time—RTT taken to send a request and get a response from the HTTP server. The operation retrieves only the home HTML page.

**Note**

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IP SLAs has individual Domain Name Server (DNS) and TCP Connect operations. For more details, see the “[Where to Go Next](#)” section on page 16.

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The DNS operation is performed first and the DNS RTT is measured. Once the domain name is found, a TCP Connect operation to the appropriate HTTP server is performed and the RTT for this operation is measured. The final operation is an HTTP request and the RTT to retrieve the home HTML page from the HTTP server is measured. One other measurement is made and called the time to first byte which measures the time from the start of the TCP Connect operation to the first HTML byte retrieved by the HTTP operation. The total HTTP RTT is a sum of the DNS RTT, the TCP Connect RTT, and the HTTP RTT.

For GET requests, IP SLAs will format the request based on the specified URL. For RAW requests, IP SLAs requires the entire content of the HTTP request. When a RAW request is configured, the raw commands are specified in HTTP RAW configuration mode. A RAW request is flexible and allows you to control fields such as authentication. An HTTP request can be made through a proxy server.

The results of an HTTP operation can be useful in monitoring your web server performance levels by determining the RTT taken to retrieve a web page.

# How to Configure the IP SLAs HTTP Operation

This section contains the following procedures:

- [Configuring and Scheduling an HTTP GET Operation on the Source Device, page 3](#)
- [Configuring and Scheduling an HTTP RAW Operation on the Source Device, page 11](#)

## Configuring and Scheduling an HTTP GET Operation on the Source Device

To measure the response time between a Cisco device and an HTTP server to retrieve a web page, use the IP SLAs HTTP operation. A GET request requires only a specified URL. This operation does not require the IP SLAs Responder to be enabled.

Perform one of the following tasks in this section, depending on whether you want to configure a basic HTTP GET operation or configure an HTTP GET operation with optional parameters:

- [Configuring and Scheduling a Basic HTTP GET Operation on the Source Device, page 3](#)
- [Configuring and Scheduling an HTTP GET Operation with Optional Parameters on the Source Device, page 5](#)

## Configuring and Scheduling a Basic HTTP GET Operation on the Source Device

Perform this task to enable an HTTP GET operation without any optional parameters.

**Note**

For information on scheduling a group of operations, see the “[IP SLAs—Multioperation Scheduling of IP SLAs Operations](#)” chapter of the *Cisco IOS IP SLAs Configuration Guide*.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla *operation-number***
4. **http {get | raw} url *url* [name-server *ip-address*] [version *version-number*] [source-ip {*ip-address* | *hostname*}] [source-port *port-number*] [cache {enable | disable}] [proxy *proxy-url*]**
5. **frequency *seconds***
6. **exit**
7. **ip sla schedule *operation-number* [life {forever | *seconds*}] [start-time {*hh:mm[:ss]* [month *day* | day *month*] | pending | now | after *hh:mm:ss*] [ageout *seconds*] [recurring]**
8. **exit**
9. **show ip sla configuration [*operation-number*]**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>
Step 2	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
Step 3	<b>ip sla operation-number</b>  <b>Example:</b> Router(config)# ip sla 10	Begins configuration for an IP SLAs operation and enters IP SLA configuration mode.
Step 4	<b>http {get   raw} url url [name-server ip-address] [version version-number] [source-ip {ip-address   hostname}] [source-port port-number] [cache {enable   disable}] [proxy proxy-url]</b>  <b>Example:</b> Router(config-ip-sla)# http get url http://198.133.219.25	Defines an HTTP operation and enters IP SLA configuration mode. <ul style="list-style-type: none"> <li>Use the <b>get</b> keyword to specify an HTTP GET operation.</li> <li>Use the <b>url</b> keyword and <i>url</i> argument to specify the URL of the destination HTTP server.</li> </ul>
Step 5	<b>frequency seconds</b>  <b>Example:</b> Router(config-ip-sla-http)# frequency 90	(Optional) Sets the rate at which a specified IP SLAs HTTP operation repeats. The default and minimum frequency value for an IP SLAs HTTP operation is 60 seconds.
Step 6	<b>exit</b>  <b>Example:</b> Router(config-ip-sla-http)# exit	Exits HTTP configuration submenu and returns to global configuration mode.
Step 7	<b>ip sla schedule operation-number [life {forever   seconds}] [start-time {hh:mm[:ss] [month day   day month]   pending   now   after hh:mm:ss] [ageout seconds] [recurring]</b>  <b>Example:</b> Router(config)# ip sla schedule 5 start-time now life forever	Configures the scheduling parameters for an individual IP SLAs operation.
Step 8	<b>exit</b>  <b>Example:</b> Router(config)# exit	(Optional) Exits global configuration mode and returns to privileged EXEC mode.
Step 9	<b>show ip sla configuration [operation-number]</b>  <b>Example:</b> Router# show ip sla configuration 10	(Optional) Displays configuration values including all defaults for all IP SLAs operations or a specified operation.

## Examples

The following example shows the configuration of an IP SLAs operation type of HTTP GET that will start immediately and run indefinitely. This operation will retrieve the home page from the www.cisco.com website.

```
ip sla 8
  http get url http://198.133.219.25
  frequency 90
!
ip sla schedule 8 life forever start-time now
```

## Troubleshooting Tips

Use the **debug ip sla trace** and **debug ip sla error** commands to help troubleshoot issues with an IP SLAs operation.

## What to Do Next

To view and interpret the results of an IP SLAs operation use the **show ip sla statistics** command. Checking the output for fields that correspond to criteria in your service level agreement will help you determine whether the service metrics are acceptable.

## Configuring and Scheduling an HTTP GET Operation with Optional Parameters on the Source Device

Perform this task to enable an HTTP GET operation on the source device and configure some optional IP SLAs parameters. The source device is the location at which the measurement statistics are stored.



### Note

For information on scheduling a group of operations, see the “[IP SLAs—Multioperation Scheduling of IP SLAs Operations](#)” chapter of the *Cisco IOS IP SLAs Configuration Guide*.

## SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla operation-number**
4. **http {get | raw} url url [name-server ip-address] [version version-number] [source-ip {ip-address | hostname}] [source-port port-number] [cache {enable | disable}] [proxy proxy-url]**
5. **history buckets-kept size**
6. **history distributions-of-statistics-kept size**
7. **history enhanced [interval seconds] [buckets number-of-buckets]**
8. **history filter {none | all | overThreshold | failures}**
9. **frequency seconds**
10. **history hours-of-statistics-kept hours**
11. **http-raw-request**
12. **history lives-kept lives**
13. **owner owner-id**

14. **history statistics-distribution-interval** *milliseconds*
15. **tag** *text*
16. **threshold** *milliseconds*
17. **timeout** *milliseconds*
18. **tos** *number*
19. **exit**
20. **ip sla schedule** *operation-number* [**life** { **forever** | *seconds* }] [**start-time** { *hh:mm[:ss]* [*month day* | *day month*] | **pending** | **now** | **after** *hh:mm:ss*] [**ageout** *seconds*] [**recurring**]
21. **exit**
22. **show ip sla configuration** [*operation-number*]

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>enable</b></p> <p><b>Example:</b> Router&gt; enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>
Step 2	<p><b>configure terminal</b></p> <p><b>Example:</b> Router# configure terminal</p>	<p>Enters global configuration mode.</p>
Step 3	<p><b>ip sla operation-number</b></p> <p><b>Example:</b> Router(config)# ip sla 10</p>	<p>Begins configuration for an IP SLAs operation and enters IP SLA configuration mode.</p>
Step 4	<p><b>http {get   raw} url url [name-server ip-address] [version version-number] [source-ip {ip-address   hostname}] [source-port port-number] [cache {enable   disable}] [proxy proxy-url]</b></p> <p><b>Example:</b> Router(config-ip-sla)# http get url http://198.133.219.25</p>	<p>Defines an HTTP operation and enters IP SLA configuration mode.</p> <ul style="list-style-type: none"> <li>Use the <b>get</b> keyword to specify an HTTP GET operation.</li> <li>Use the <b>url</b> keyword and <i>url</i> argument to specify the URL of the destination HTTP server.</li> <li>Use the <b>name-server</b> keyword and <i>ip-address</i> argument to specify the IP address of the destination DNS.</li> <li>Use the <b>version</b> keyword and <i>version-number</i> argument to specify the version number.</li> <li>Use the optional <b>source-ipaddr</b> keyword and associated options to specify an IP address or designated IP name as the source of the HTTP operation. This is useful when IP SLAs packets are to be routed within an IPsec or GRE tunnel.</li> <li>Use the optional <b>source-port</b> keyword and <i>port-number</i> argument to specify a source port number.</li> <li>Use the optional <b>cache</b> keyword to specify that cached HTTP pages can be downloaded. Use the <b>disable</b> keyword when you want to disable the download of cached HTTP pages. This is enabled by default.</li> <li>Use the optional <b>proxy</b> keyword and <i>proxy-url</i> argument to specify proxy information.</li> </ul>
Step 5	<p><b>history buckets-kept size</b></p> <p><b>Example:</b> Router(config-ip-sla-http)# history buckets-kept 25</p>	<p>(Optional) Sets the number of history buckets that are kept during the lifetime of an IP SLAs operation.</p>

	Command or Action	Purpose
Step 6	<p><b>history distributions-of-statistics-kept</b> <i>size</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# history distributions-of-statistics-kept 5</p>	(Optional) Sets the number of statistics distributions kept per hop during an IP SLAs operation.
Step 7	<p><b>history enhanced</b> [<i>interval seconds</i>] [<i>buckets number-of-buckets</i>]</p> <p><b>Example:</b> Router(config-ip-sla-http)# history enhanced interval 900 buckets 100</p>	(Optional) Enables enhanced history gathering for an IP SLAs operation.
Step 8	<p><b>history filter</b> {<i>none</i>   <i>all</i>   <i>overThreshold</i>   <i>failures</i>}</p> <p><b>Example:</b> Router(config-ip-sla-http)# history filter failures</p>	(Optional) Defines the type of information kept in the history table for an IP SLAs operation.
Step 9	<p><b>frequency</b> <i>seconds</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# frequency 90</p>	(Optional) Sets the rate at which a specified IP SLAs HTTP operation repeats. The default and minimum frequency value for an IP SLAs HTTP operation is 60 seconds.
Step 10	<p><b>history hours-of-statistics-kept</b> <i>hours</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# history hours-of-statistics-kept 4</p>	(Optional) Sets the number of hours for which statistics are maintained for an IP SLAs operation.
Step 11	<p><b>http-raw-request</b></p> <p><b>Example:</b> Router(config-ip-sla-http)# http-raw-request</p>	(Optional) Explicitly specifies the options for a GET request for an IP SLAs HTTP operation.
Step 12	<p><b>history lives-kept</b> <i>lives</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# history lives-kept 5</p>	(Optional) Sets the number of lives maintained in the history table for an IP SLAs operation.
Step 13	<p><b>owner</b> <i>owner-id</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# owner admin</p>	(Optional) Configures the Simple Network Management Protocol (SNMP) owner of an IP SLAs operation.
Step 14	<p><b>history statistics-distribution-interval</b> <i>milliseconds</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# history statistics-distribution-interval 10</p>	(Optional) Sets the time interval for each statistics distribution kept for an IP SLAs operation.

	Command or Action	Purpose
Step 15	<p><b>tag</b> <i>text</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# tag TelnetPollServer1</p>	(Optional) Creates a user-specified identifier for an IP SLAs operation.
Step 16	<p><b>threshold</b> <i>milliseconds</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# threshold 10000</p>	(Optional) Sets the upper threshold value for calculating network monitoring statistics created by an IP SLAs operation.
Step 17	<p><b>timeout</b> <i>milliseconds</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# timeout 10000</p>	(Optional) Sets the amount of time an IP SLAs operation waits for a response from its request packet.
Step 18	<p><b>tos</b> <i>number</i></p> <p><b>Example:</b> Router(config-ip-sla-http)# tos 160</p>	(Optional) Defines a type of service (ToS) byte in the IP header of an IP SLAs operation.
Step 19	<p><b>exit</b></p> <p><b>Example:</b> Router(config-ip-sla-http)# exit</p>	Exits HTTP configuration submode and returns to global configuration mode.
Step 20	<p><b>ip sla schedule</b> <i>operation-number</i> [<b>life</b> {<b>forever</b>   <i>seconds</i>}] [<b>start-time</b> {<i>hh:mm[:ss]</i> [<i>month day</i>   <i>day month</i>]   <b>pending</b>   <b>now</b>   <b>after</b> <i>hh:mm:ss</i>}] [<b>ageout</b> <i>seconds</i>] [<b>recurring</b>]</p> <p><b>Example:</b> Router(config)# ip sla schedule 5 start-time now life forever</p>	Configures the scheduling parameters for an individual IP SLAs operation.
Step 21	<p><b>exit</b></p> <p><b>Example:</b> Router(config)# exit</p>	(Optional) Exits global configuration mode and returns to privileged EXEC mode.
Step 22	<p><b>show ip sla configuration</b> [<i>operation-number</i>]</p> <p><b>Example:</b> Router# show ip sla configuration 10</p>	(Optional) Displays configuration values including all defaults for all IP SLAs operations or a specified operation.

## Examples

The following sample output shows the configuration of all the IP SLAs parameters (including defaults) for the HTTP GET operation number 8.

```
Router# show ip sla configuration 8

Complete Configuration Table (includes defaults)
Entry Number: 8
Owner:
Tag: FLL-LA
```

```

Type of Operation to Perform: http
Reaction and History Threshold (milliseconds): 5000
Operation Frequency (seconds): 90
Operation Timeout (milliseconds): 5000
Verify Data: FALSE
Status of Entry (SNMP RowStatus): active
Protocol Type: httpAppl
Target Address:
Source Address: 0.0.0.0
Target Port: 0
Source Port: 0
Request Size (ARR data portion): 1
Response Size (ARR data portion): 1
Control Packets: enabled
Loose Source Routing: disabled
LSR Path:
Type of Service Parameters: 0x0
HTTP Operation: get
HTTP Server Version: 1.0
URL: http://198.133.219.25
Proxy:
Raw String(s):

Cache Control: enabled
Life (seconds): infinite - runs forever
Next Scheduled Start Time: Start Time already passed
Entry Ageout (seconds): never
Connection Loss Reaction Enabled: FALSE
Timeout Reaction Enabled: FALSE
Threshold Reaction Type: never
Threshold Falling (milliseconds): 3000
Threshold Count: 5
Threshold Count2: 5
Reaction Type: none
Verify Error Reaction Enabled: FALSE
Number of Statistic Hours kept: 2
Number of Statistic Paths kept: 1
Number of Statistic Hops kept: 1
Number of Statistic Distribution Buckets kept: 1
Statistic Distribution Interval (milliseconds): 20
Number of History Lives kept: 0
Number of History Buckets kept: 15
Number of History Samples kept: 1
History Filter Type: none

```

## Troubleshooting Tips

Use the **debug ip sla trace** and **debug ip sla error** commands to help troubleshoot issues with an IP SLAs operation.

## What to Do Next

To view and interpret the results of an IP SLAs operation use the **show ip sla statistics** command. Checking the output for fields that correspond to criteria in your service level agreement will help you determine whether the service metrics are acceptable.

## Configuring and Scheduling an HTTP RAW Operation on the Source Device

To measure the response time between a Cisco device and an HTTP server to retrieve a web page, use the IP SLAs HTTP operation. To perform a RAW request, IP SLAs requires you to specify the entire contents of the HTTP request. After entering HTTP RAW configuration mode, you can specify HTTP 1.0 commands to complete the HTTP RAW request. This operation does not require the IP SLAs Responder to be enabled.

Perform this task to enable an HTTP RAW operation on the source device and configure some optional IP SLAs parameters. The source device is the location at which the measurement statistics are stored.

**Note**

For information on scheduling a group of operations, see the “[IP SLAs—Multioperation Scheduling of IP SLAs Operations](#)” chapter of the *Cisco IOS IP SLAs Configuration Guide*.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip sla operation-number**
4. **http {get | raw} url url [name-server ip-address] [version version-number] [source-ip {ip-address | hostname}] [source-port port-number] [cache {enable | disable}] [proxy proxy-url]**
5. **http-raw-request**
6. Enter the required HTTP 1.0 command syntax.
7. **exit**
8. **ip sla schedule operation-number [life {forever | seconds}] [start-time {hh:mm[:ss] [month day | day month]} | pending | now | after hh:mm:ss] [ageout seconds] [recurring]**
9. **exit**
10. **show ip sla configuration [operation-number]**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>enable</b></p> <p><b>Example:</b> Router&gt; enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>
Step 2	<p><b>configure terminal</b></p> <p><b>Example:</b> Router# configure terminal</p>	<p>Enters global configuration mode.</p>
Step 3	<p><b>ip sla operation-number</b></p> <p><b>Example:</b> Router(config)# ip sla 10</p>	<p>Begins configuration for an IP SLAs operation and enters IP SLA configuration mode.</p>
Step 4	<p><b>http {get   raw} url url [name-server ip-address] [version version-number] [source-ip {ip-address   hostname}] [source-port port-number] [cache {enable   disable}] [proxy proxy-url]</b></p> <p><b>Example:</b> Router(config-ip-sla)# http raw url http://198.133.219.25</p>	<p>Defines an HTTP operation.</p> <ul style="list-style-type: none"> <li>Use the <b>raw</b> keyword to specify an HTTP RAW operation.</li> <li>Use the <b>url</b> keyword and <i>url</i> argument to specify the URL of the destination HTTP server.</li> <li>Use the <b>name-server</b> keyword and <i>ip-address</i> argument to specify the IP address of the destination DNS.</li> <li>Use the <b>version</b> keyword and <i>version-number</i> argument to specify the version number.</li> <li>Use the optional <b>source-ipaddr</b> keyword and associated options to specify an IP address or designated IP name as the source of the HTTP operation. This is useful when IP SLAs packets are to be routed within an IPsec or GRE tunnel.</li> <li>Use the optional <b>source-port</b> keyword and <i>port-number</i> argument to specify a source port number.</li> <li>Use the optional <b>cache</b> keyword to specify that cached HTTP pages can be downloaded. Use the <b>disable</b> keyword when you want to disable the download of cached HTTP pages. This is enabled by default.</li> <li>Use the optional <b>proxy</b> keyword and <i>proxy-url</i> argument to specify proxy information.</li> </ul>
Step 5	<p><b>http-raw-request</b></p> <p><b>Example:</b> Router(config-ip-sla)# http-raw-request</p>	<p>Enters HTTP RAW configuration mode.</p>

	Command or Action	Purpose
Step 6	Enter the required HTTP 1.0 command syntax.  <b>Example:</b> Router(config-ip-sla-http)# GET /en/US/hmpgs/index.html HTTP/1.0\r\n\r\n	Specifies all the required HTTP 1.0 commands.
Step 7	<b>exit</b>  <b>Example:</b> Router(config-ip-sla-http)# exit	Exits HTTP RAW configuration submode and returns to global configuration mode.
Step 8	<b>ip sla schedule operation-number [life {forever   seconds}] [start-time {hh:mm[:ss] [month day   day month]   pending   now   after hh:mm:ss} [ageout seconds] [recurring]</b>  <b>Example:</b> Router(config)# ip sla schedule 5 start-time now life forever	Configures the scheduling parameters for an individual IP SLAs operation.
Step 9	<b>exit</b>  <b>Example:</b> Router(config)# exit	(Optional) Exits global configuration mode and returns to privileged EXEC mode.
Step 10	<b>show ip sla configuration [operation-number]</b>  <b>Example:</b> Router# show ip sla configuration 10	(Optional) Displays configuration values including all defaults for all IP SLAs operations or a specified operation.

## Examples

The following sample output shows the configuration of all the IP SLAs parameters (including defaults) for the HTTP RAW operation number 8.

```
Router# show ip sla configuration 8

Complete Configuration Table (includes defaults)
Entry Number: 8
Owner:
Tag:
Type of Operation to Perform: http
Reaction and History Threshold (milliseconds): 5000
Operation Frequency (seconds): 90
Operation Timeout (milliseconds): 5000
Verify Data: FALSE
Status of Entry (SNMP RowStatus): active
Protocol Type: httpAppl
Target Address:
Source Address: 0.0.0.0
Target Port: 0
Source Port: 0
Request Size (ARR data portion): 1
Response Size (ARR data portion): 1
Control Packets: enabled
Loose Source Routing: disabled
LSR Path:
```

```

Type of Service Parameters: 0x0
HTTP Operation: raw
HTTP Server Version: 1.0
URL: http://198.133.219.25
Proxy:
Raw String(s):
GET /en/US/hmpgs/index.html HTTP/1.0\r\n\r\n

Cache Control: enabled
Life (seconds): infinite - runs forever
Next Scheduled Start Time: Start Time already passed
Entry Ageout (seconds): never
Connection Loss Reaction Enabled: FALSE
Timeout Reaction Enabled: FALSE
Threshold Reaction Type: never
Threshold Falling (milliseconds): 3000
Threshold Count: 5
Threshold Count2: 5
Reaction Type: none
Verify Error Reaction Enabled: FALSE
Number of Statistic Hours kept: 2
Number of Statistic Paths kept: 1
Number of Statistic Hops kept: 1
Number of Statistic Distribution Buckets kept: 1
Statistic Distribution Interval (milliseconds): 20
Number of History Lives kept: 0
Number of History Buckets kept: 15
Number of History Samples kept: 1
History Filter Type: none

```

### Troubleshooting Tips

Use the **debug ip sla trace** and **debug ip sla error** commands to help troubleshoot issues with an IP SLAs operation.

### What to Do Next

To view and interpret the results of an IP SLAs operation use the **show ip sla statistics** command. Checking the output for fields that correspond to criteria in your service level agreement will help you determine whether the service metrics are acceptable.

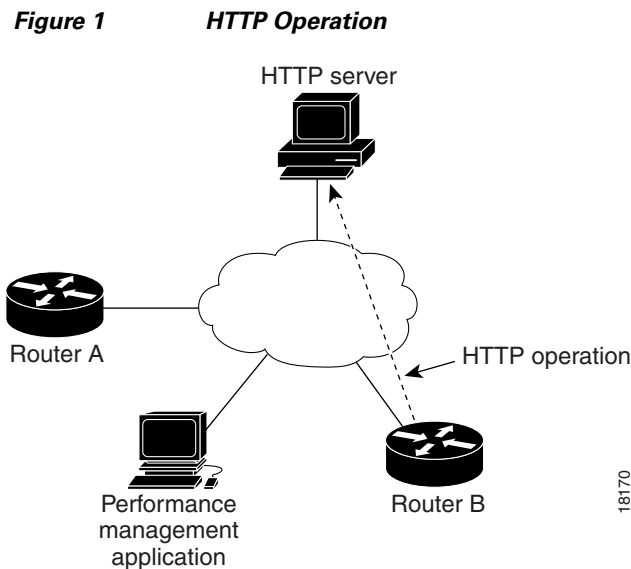
## Configuration Examples for the IP SLAs HTTP Operation

This section provides the following configuration examples:

- [Configuring an HTTP GET Operation: Example, page 15](#)
- [Configuring an HTTP RAW Operation: Example, page 15](#)
- [Configuring an HTTP RAW Operation Through a Proxy Server: Example, page 15](#)
- [Configuring an HTTP RAW Operation with Authentication: Example, page 16](#)

## Configuring an HTTP GET Operation: Example

The following example show how to create and configure operation number 8 as an HTTP GET operation. The destination URL IP address represents the www.cisco.com website. [Figure 1](#) depicts the HTTP GET operation.



### Router B Configuration

```
ip sla 8
  http get url http://198.133.219.25
!
ip sla schedule 8 start-time now
```

## Configuring an HTTP RAW Operation: Example

The following example shows how to configure an HTTP RAW operation. To use the RAW commands, enter HTTP RAW configuration mode by using the **http-raw-request** command in IP SLA configuration mode. The IP SLA HTTP RAW configuration mode is indicated by the (config-ip-sla-http) router prompt.

```
ip sla 8
  http raw url http://198.133.219.25
  http-raw-request
  GET /en/US/hmpgs/index.html HTTP/1.0\r\n
  \r\n
  end
ip sla schedule 8 life forever start-time now
```

## Configuring an HTTP RAW Operation Through a Proxy Server: Example

The following example shows how to configure an HTTP RAW operation through a proxy server. The proxy server is www.proxy.cisco.com and the HTTP server is www.yahoo.com.

```
ip sla 8
```

```

http raw url http://www.proxy.cisco.com
http-raw-request
GET http://www.yahoo.com HTTP/1.0\r\n
\r\n
end
ip sla schedule 8 life forever start-time now

```

## Configuring an HTTP RAW Operation with Authentication: Example

The following example shows how to configure an HTTP RAW operation with authentication.

```

ip sla 8
http raw url http://site-test.cisco.com
http-raw-request
GET /lab/index.html HTTP/1.0\r\n
Authorization: Basic btNpdGT4biNvoZe=\r\n
\r\n
end
ip sla schedule 8 life forever start-time now

```

## Where to Go Next

For information about other types of IP SLAs operations and IP SLAs features, see the [Cisco IOS IP SLAs Features Roadmap](#).

## Additional References

The following sections provide references related to monitoring the performance of an HTTP server using IP SLA.

## Related Documents

Related Topic	Document Title
Overview of Cisco IOS IP SLAs	“ <a href="#">Cisco IOS IP SLAs Overview</a> ” chapter of the <i>Cisco IOS IP SLAs Configuration Guide</i>
Cisco IOS IP SLAs commands: complete command syntax, defaults, command mode, command history, usage guidelines, and examples	<a href="#">Cisco IOS IP SLAs Command Reference</a>

## Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

## MIBs

MIBs	MIBs Link
CISCO-RTTMON-MIB	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## RFCs

RFCs	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

## Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>

## Feature Information for the IP SLAs HTTP Operation

Table 1 lists the features in this module and provides links to specific configuration information.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



### Note

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

**Table 1** Feature Information for the IP SLAs HTTP Operation

Feature Name	Releases	Feature Information
IP SLAs HTTP Operation	12.3(14)T, 12.2(31)SB2, 12.2(33)SRB1, 12.2(33)SXH, Cisco IOS XE Release 2.1	The Cisco IOS IP SLAs Hypertext Transfer Protocol (HTTP) operation allows you to measure the network response time between a Cisco device and an HTTP server to retrieve a web page.

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