# HP Operations Smart Plug-in for Web Servers

For the Windows ® operating system

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## Online Help PDF

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# Chapter 1

## Introduction

The HP Operations Smart Plug-in for Web Servers (Web Servers SPI), provides centralized tools and policies to monitor and manage the operations of the most widely used Web Servers. The Web Servers SPI supports the following Web Servers:

- Apache: Monitors the availability and performance of Apache Web Servers and Apache virtual hosts on UNIX nodes.
- Sun One: Monitors the availability and performance of Sun One Web Servers on UNIX nodes.
- Internet Information Services (IIS): Monitors the availability and performance of the following services of IIS Web Server on Windows nodes:
  - Web service
  - Application Pools
  - File Transfer Protocol (FTP) service
  - Simple Mail Transfer Protocol (SMTP) service
  - Web sites

The Web Servers SPI contains tools and policies which enable you to monitor and manage the Web Servers on the managed nodes. After installing and configuring, the Web Servers SPI, the policies monitor the events of the Web Server on your managed nodes. Whenever an event meets the defined message criteria, or threshold criteria, the rule-defined action is performed. These actions can include notification, log file entry, stopping or restarting a web server. To perform these actions, the Web Servers SPI policies can be directed to initiate Web Servers SPI tools. Using the standard HPOM processes, you can modify the policy values as required to adjust monitoring and managing actions.

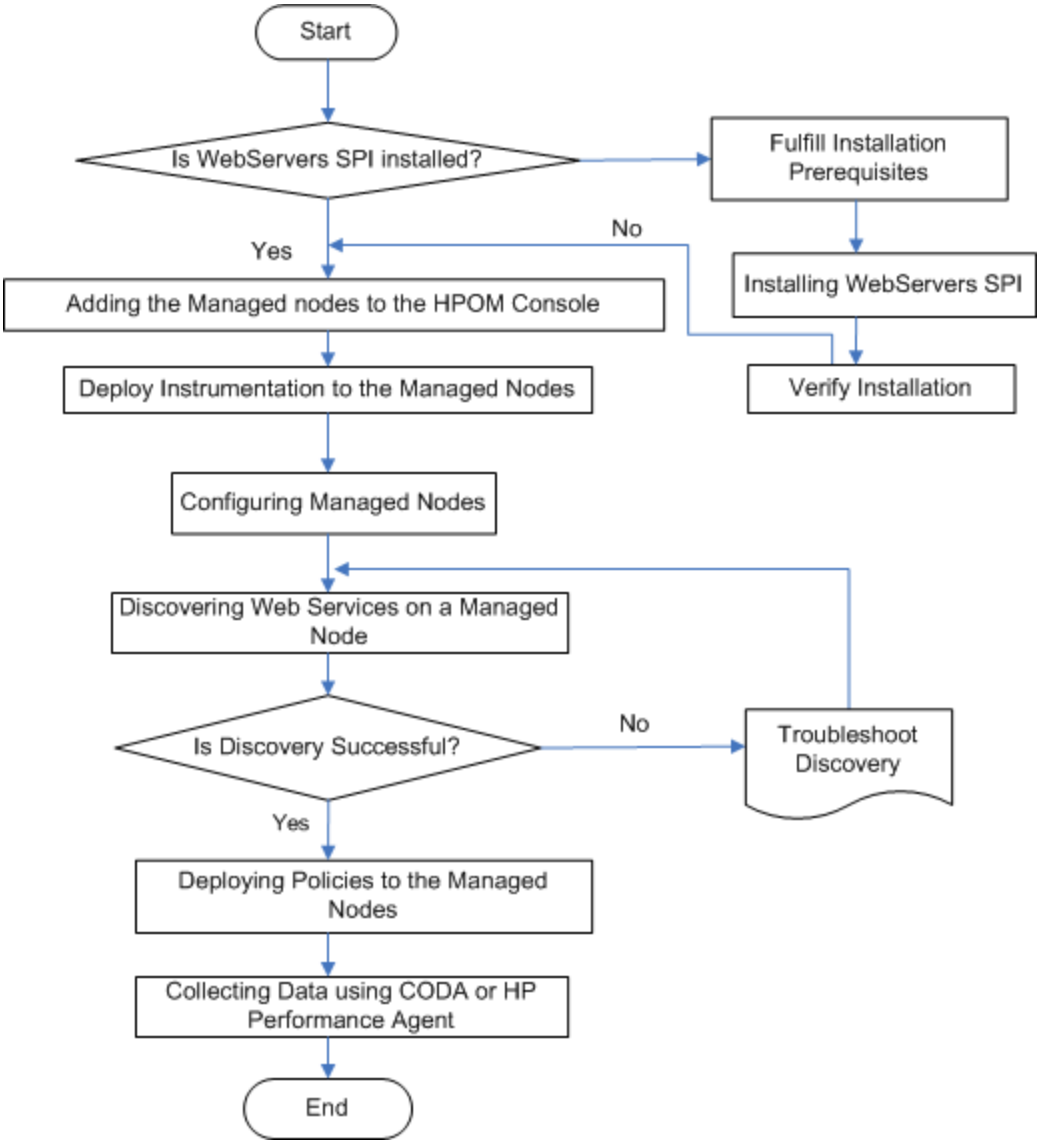
**Related Topics:**

- Installing Web Servers SPI
- Using Web Servers SPI
- Troubleshooting the Web Servers SPI

# Chapter 2

## Installing and Configuring Web Servers SPI

All the actions to install and configure the Web Servers SPI are performed on HP Operations Manager for Windows (HPOM) management server. The following flowchart shows the procedure to install and configure Web Servers SPI:




See the following topics for the descriptions of Web Servers SPI installation and configuration tasks:

1. Installation Prerequisites
2. Installing Web Servers SPI

3. Verifying Installation
4. Adding the Managed Nodes to the HPOM Console
5. Deploying Instrumentation to the Managed Nodes
6. Configuring Managed Nodes
7. Discovering Web Services on Managed Nodes
8. Collecting Data using CODA

## Installation Prerequisites

Ensure that all the following installation prerequisites and system compatibility requirements are met on the managed nodes:

- HPOM for Windows, version 8.16 or 9.xx is installed and configured on a the management server.
- Install the following on the Windows managed nodes to be monitored:
  - Install FTP 7.5 on the Windows managed node to monitor FTP service.
  - Install PowerShell to monitor IIS Web Server. The execute permission of PowerShell scripts should be set. To check the permission, run the command: `C:\>powershell get-executionPolicy`. If the value is set to **Restricted**, the scripts do not run. To set the permission to **Unrestricted**, use the command: `C:\> powershell set-executionPolicy Unrestricted`. To set the permission to **Restricted**, use the command: `C:\> powershell set-executionPolicy RemoteSigned`. If PowerShell is not installed, discovery and performance metrics do not work and no alarm message will be sent to the management server. IIS monitoring on Windows Vista requires Windows PowerShell. PowerShell can be downloaded from Microsoft. PowerShell is already included in Windows 7 and Windows Server 2008.
- Install Perl version 5.6.1 or later on the UNIX managed nodes to be monitored.

For more information about supported versions and platforms of Web Servers, see the Support Matrix (SUMA):http://support.openview.hp.com/selfsolve/document/KM323488

## Installing the Web Servers SPI

Use the Windows InstallShield wizard to install the Web Servers SPI on the HPOM for Windows management server system. The InstallShield wizard guides you through the procedure and prompts you for the information that you must enter. Download the latest patches from the following location: **http://support.openview.hp.com/selfsolve/patches**. Instructions to install a patch are available in the patch text.

To install the Web Servers SPI on Windows management server, follow these steps:

1. Make sure that prerequisites are met. For more information, see Installation Prerequisites.
2. Insert the HP Operations Smart Plug-ins DVD into the DVD drive.

3. Run the setup program.
   a. Click **Start menu** → **Run**.
   b. Type **<DVDROM_drive>:\setup.exe**
   c. Use the drive letter of your DVD-ROM drive.
      The Install Welcome message displays.

      The Installation Wizard guides you through the process.
4. Click **Next**.
   The License Agreement window opens.
5. Read the License Agreement. Click **Yes** to agree.
   The Install Destination window opens.
6. Select an installation destination and click **Next**.
   The Installation Description window opens.
7. Verify the installation destination, click **Next**.
   The Start Copying window opens.
8. Copy the files, click **Next**.
   When the installation is complete, the Install Completion window opens.
9. To close the installation wizard, click **Finish**.

After Web Servers SPI installation, policies, tools, scripts (as deployed instrumentation), and configuration files will be available on the HPOM console tree.

## Verifying Installation

To verify the Web Servers SPI is installed on your Windows management server, check the HPOM console tree for Web Servers SPI policies and tools. To use the HPOM console to check for Web Servers SPI policies and tools, follow these steps:

1. Verify the availability of Web Servers SPI tools:
   a. Click through the console tree of the HPOM: **Operations Manager** → **Tools**.
   b. Verify the list of tools in each supported Web Server listed under **Tools**.
      In the HPOM console tree, click: **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache** or **WebSPI SunONE** or **WebSPI IIS**.

      Each of these options contains the tools associated with each Web Server.
   c. Verify the list of tools for each supported web server.
      The tools available for each of the supported systems, include:

      **WebSPI Admin**

      - Remove WebSPI
      - Show WebSPI History Log
      - Show All Web Services
      - Self-Healing Info

      **WebSPI Apache**

- Configure Apache Node
- Unconfigure Apache Node
- Restart Apache
- Show Apache Configuration
- Show Apache Node Details
- Start Apache
- Status of Apache
- Stop Apache
- Show Apache Error Log
- Show Apache Access Log
- CODA Config Spec Compilation

**WebSPI IIS**

- Create Data Source
- Start FTPSVC
- Start IISADMIN
- Start SMTPSVC
- Start W3SVC
- Stop FTPSVC
- Stop IISADMIN
- Stop SMTPSVC
- Stop W3SVC

**WebSPI SunONE**

- Configure SunONE Node
- Restart SunONE
- Show SunONE Configuration
- Start SunONE
- Status of SunONE
- Show SunONE Error Log
- Show SunONE Access Log
- Show SunONE Node Details

2. Verify the list of policies listed under **Policy groups**. In the HPOM console tree, click: **Policy groups** → **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache** or **WebSPI SunONE** or **WebSPI IIS**.

3. Verify the following list of policies available for your supported Web Server:

   **WebSPI Admin**

   - WebSPI-InternalErrorLog

   **WebSPI Apache**

   - WebSPI-AP-Discovery
   - WebSPI-AP-LogMon
   - WebSPI-AP-ProcMon
   - WebSPI-AP-CPUUsage
   - WebSPI-AP-MEMUsage
   - WebSPI-AP-NumRequests
   - WebSPI-AP-BusyProcessesRate
   - WebSPI-AP-ResponseTime
   - WebSPI-AP-BytesPerSec
   - WebSPI-AP-BytesPerReq
   - WebSPI-AP-CODALOG

   **WebSPI SunONE**

   - WebSPI-SO-Discovery
   - WebSPI-SO-LogMon
   - WebSPI-SO-ProcMon
   - WebSPI-SO-CPUUsage
   - WebSPI-SO-MemoryUsage
   - WebSPI-SO-ThreadRate
   - WebSPI-SO-ErrorRate
   - WebSPI-SO-ResponseTime

   **WebSPI IIS**

   - WebSPI-IIS-Discovery
   - WebSPI-IIS-Eventlog
   - WebSPI-IIS_Metrics
     - IIS-ASP
     - IIS-ASP.NET
     - IIS-Availability
     - IIS-FTP Service
     - IIS-Performance

- IIS-SMTP Service
- IIS-WWW Service

**Related Topics:**

- Installing the Web Servers SPI
- Adding Managed Nodes to the HPOM Console

## Adding the Managed Nodes to the HPOM Console

Using standard HPOM for Windows processes, make sure that all the nodes to be managed are included in the HPOM console.

To add a new node to the HPOM console, follow these steps:

1. In the HPOM console tree, click: **Nodes**.
   This displays a list of included nodes.

2. Check the desired node by node name.
3. If any of the managed nodes are not included in the HPOM console, add them as follows:
   a. In the HPOM console tree, click: **Nodes**.
   b. Right-click the Nodes. Select: **Configure** → **Nodes**The Configure Managed Nodes window opens.
   c. Click the New node.
   Select the action: **Node Properties**.
   The Node Properties window opens.
   d. Type the new node information:
      - Name node - name of the node
      - Network - a fully qualified domain name
      - System
   e. Click **OK**.
   This adds the node to the list of nodes in the HPOM console.

## Deploying Instrumentation to the Managed Nodes

Use standard HPOM for Windows processes to deploy the Web Servers SPI to a managed node. Make sure that you configure node on the management server and the HP Operations agent on the managed node. For more information, see *HPOM for Windows Online Help*.

To deploy Web Servers SPI instrumentation to the managed nodes, follow these steps:

1. In the HPOM console tree, click: **Operations Manager** → **Nodes** . This displays a list of available nodes.

2. Select the desired node. Right-click the target node.

3. To deploy the instrumentation, click **All Tasks** → **Deploy Instrumentation**.
   The Deploy Instrumentation window opens.

4. Select the following options:
   - SHS_Data_Collector
   - SPIDataCollector
   - WebServer

5. Click **OK**.
   This deploys the reference files to the appropriate HPOM directories.

The Web Servers SPI scripts are deployed into the following directories on the UNIX managed node: **/var/opt/OV/bin/instrumentation**.

### Verifying Instrumentation Deployment

To verify if the Web Servers SPI instrumentation is deployed correctly:

- Open the Deployment jobs folder and verify that it is empty.
- Check for the Web Servers SPI scripts in the instrumentation directories on the managed node:

**NOTE:** This completes the deployment of the Web Servers SPI to the managed nodes. To start monitoring and managing the web servers on your managed nodes, proceed to Using the Web Servers SPI.

## Configuring Managed Nodes

Select the configuration tool that corresponds to the web server on the managed node. The configuration file stores configuration information about the managed node web server.

### Apache and Sun One Web Servers

To configure the managed UNIX nodes with Apache or SunONE Web Server, follow these steps:

1. From the HPOM console, select:

**Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache | WebSPI SunONE** → **Configure Apache Node | Configure SunONE Node**

2. Right-click the **Configure <server> Node** tool.
   From the pop up menu, select **All Tasks** → **Launch Tool**

   The **Select where to launch this tool** window opens.

3. Select the node(s) to be configured.

4. Click **Launch**. The **Parameters** tab of the **Edit Parameters** window opens.

5. For Apache web servers, type the path of **httpd.conf**.
   If Perl is not installed, you must configure the Apache web server by adding the additional parameter named module to the configuration tool as follows: httpd.conf module. This method might not work with Apache versions later than 2.0.55. You must also specify the tag for the Server Name as follows <*ServerName*> <*IPAddress*>:<*Port*>

   For Sun One web servers, type the path of **magnus.conf**.

6. Click **Launch**.
   Configuration of the selected nodes is now started.

   The Web Servers SPI tool attempts to discover information that is part of the Apache, IBM HTTP, or Sun One Web Server configuration on the managed nodes.

   - Apache and IBM HTTP web server:

| Attributes | Description |
|---|---|
| `Port Number` | Port number of the Web Server |
| `IP Address` | IP address of the Web Server |
| `PID File` | PID file path of the Web Server |
| `Version` | Version of the Web Server |
| `Server Root Directory` | Root path of the Web Server |
| `Document Directory` | Document root directory of the Web Server |
| `Error Log File Path` | Error log file path of the Web Server |
| `Access Log File Path` | Access log file path of the Web Server |
| `Approach` | The approach used to configure the Web Server |

- Sun One:

| | Descritpion |
|---|---|
| `Port Number` | Port number at which the SunONE site is running |
| `IP Address` | IP address of the Web Server |
| `PID File` | Path to the web server PID file, which includes the location of the Sun One site |
| `Version` | Version of the Web Server |
| `Server Root Directory` | Root path of the Web Server |
| `Document Directory` | Document root directory of the Web Server |
| `Error Log File Path` | Error log file path of the Web Server |
| `Access Log File Path` | Access log file path of the Web Server |
| `Start Script Path` | Path to the web server start script |
| `Stop Script Path` | Path to the web server stop script |
| `Restart Script Path` | Path to the web server restart script |

Note the following points:

- This configuration file is used by all the management components of the Web Servers SPI (tools or policies). Without this configuration file, management is not possible.
- Each time the **Configure <server> Node** tool is run, the existing configuration information is overwritten.
- If you need to add a new search path to the configuration file, run the **Configure <server> Node** tool.

The configuration file for each managed node is stored on the UNIX managed node in the following location: **/var/opt/OV/wsspi/conf/wsspi.cfg**

## Configuring Multiple Apache instances on a node

Web Servers SPI supports monitoring of multiple instances of Apache Web Servers. To configure multiple instances on the UNIX nodes, run **Configure Apache Node** tool for each Apache instance and enter the complete path to `http.conf` file.

### Configuring IIS Web Server

To configure the Web Servers SPI managed Windows nodes with IIS Web Server, follow these steps:

1. Run **Create Data Source** tool.
2. Deploy IIS policies.

The Windows nodes are successfully configured.

## Modifying Web Servers SPI Configuration File for Apache and Sun One Web Servers

The Web Servers SPI configuration file stores configuration information about the management server. This includes the search path for the web server binary and definitions for the number of lines in the Web Servers SPI log files and trace files. This configuration file is used by all the management components of the Web Servers SPI (tools or policies). Without the configuration file, Web Servers SPI management is not possible.

To modify the Web Servers SPI configuration file, follow these steps:

1. Open the Web Servers SPI configuration file, **wsspi.cfg**, for editing using a text editor, as required. For example, to change the number of lines in a log file.
2. Make changes and save the file.
3. Reconfigure the management server, if required.

**NOTE:**
Each time the **Configure <server> Node** tool is executed for Apache and SunONE Web Server, the existing configuration information is overwritten. If you need to add a new search path to the Web Servers SPI configuration file, **wsspi.cfg**, run the **Configure <server> Node** tool for Apache and SunONE Web Server. If the configuration file is altered at any time, run the **Configure <server> Node** tool.

## Verifying Configuration of Managed Nodes for Apache and Sun One Web Servers

There are several methods for verifying if managed nodes are configured correctly.

- Verify that managed nodes are configured by checking for the **wsspi.cfg** file on each managed node.
- For Apache and Sun One Web Servers, check that the messages reported by the **Configure <server> Node** tool. The messages are sent to the management server. Check the messages listed for a successful execution of the **Configure <server> Node** tool.
- Deploy the auto-discovery policy. This displays the web server being managed in the HPOM console service map. If the discovery policy is deployed without the configuration file **wsspi.cfg** being present, no message will be sent to the active browser and the service map is not displayed.

To see the Web Server instance in the HPOM console service map, click: **Operations Manager → Services → Applications → Web Server Apache | Web Server SunONE**.

**NOTE:**
Web Server instances will not be listed under the WebSPI Apache or WebSPI SunONE or WebSPI IIS tree until the discovery policy, **WebSPI-<server>-Discovery**, is run.

**Related Topics:**

- Configuring managed nodes
- Discovering Services on Managed Nodes

## Discovering Web Services on Managed Nodes

Discovery is the process of identifying instances of a Web Server on a managed node and displaying the status in the HPOM console Service map. Each discovered service is represented by an icon in the HPOM console service map. The color of the icon indicates the current status of the web service.

A typical scenario might include:

- Messages related to a web service discovered in the console active browser.
- A critical message indicates that the web service is down.
- The matching Service map icon changes to red.
- The red color indicates that something critical has happened to the web server. This provides a quick visual status check for the console operator.

Run the Discovery policy, **WebSPI-<server>-Discovery** during installation and configuration of the Web Servers SPI to discover the web servers on the managed node monitored by the Web Servers SPI. Run the policy at any time during normal operations to add new web servers and check for existing servers.

If you are installing and configuring the Web Servers SPI for the first time, your system is ready to begin monitoring and managing your Web Server on your managed node as soon as this task is completed.

### Discovery of Apache, Sun One, and IIS Web Servers on a node

To discover the web servers on a managed node, follow these steps:

1. In the HPOM console, click: **Operations Manager** → **Policy management**
   - Under policy type name: **Service Auto-Discovery**, or
   - Under policy group name: **SPI for Web Servers** → **WebSPI Apache | WebSPI SunONE | WebSPI IIS** → **WebSPI-AP-Discovery | WebSPI-SO-Discovery | WebSPI-IIS-Discovery**
     The **Auto-Discovery Policy** window opens.
2. Choose the nodes on which you want to check for services.
3. Click **Launch**.
   The Web Servers SPI verifies the selected managed node to supported Web Servers and displays the status in the HPOM console service map.

4. Make changes to the auto-discovery conditions, as required:
   a. From the discovery policy, select **Discover**.
   b. Change the modules, parameters, and definitions, as needed:
      - Management Modules
      - Service Type Definitions
      - User Editable Parameters
   c. Click **Save**.
5. Make changes to the scheduling criteria, as required:
   a. From the auto-discovery policy, select the **Schedule** tab.
   b. Change the values, as needed: Schedule Task frequency, Time: Specific time, Multiple Times, or Schedule Summary
   c. Click **Save**.
6. Accept the changes, click **Save** and **Close**.
   The supplied policies all have the version number, for example 1.0. Modifying a policy automatically increments the version number, for example: 1.1, 1.2, 1.3, ... The **Service Auto-Discovery** window exits.
7. Deploy the policy to the desired nodes.

**NOTE:**
For Apache and Sun One Web Server, ensure that the **Configure <server> Node** tool completes successfully before executing the **WebSPI-<server>-Discovery** policy.

Conditions that can be defined in the policy include:

- Defining Web Server types to discover
- Scheduling of server discovery

## Discovery of Apache Virtual Hosts

Web Servers SPI discovers Apache Virtual Host if it is configured in the `httpd.conf` file of Apache Web Server. After discovery, the virtual host server name with the corresponding virtual host name will be discovered in the `/var/opt/OV/wsspi/conf/wsspi.cfg` file on the node.

Run the **WebSpi-AP-VHAvailability** policy to monitor the availability of Apache Virtual Host. The `wsspi.cfg` file contains the following attributes after discovery:

| | |
|---|---|
| `<Port Number>` | Web server port number at which the Apache is running. |
| `<IP Address>` | Web server IP address |
| `<Approach>` | Web server approach for configuration |
| `<Server Root Directory>` | Web server root path |
| `<Version>` | Web server version |
| `<Document Directory>` | Web server document root directory |

| | |
|---|---|
| `<PID File>` | Path to the Web server PID file, which includes the location of the Apache site |
| `<Error Log File Path>` | Web server error log file path |
| `<Access Log File Path>` | Web server access log file path |
| `<Configuration File>` | Web server configuration file path |
| `<Start Script Path>` | Path to the web server start script |
| `<Stop Script Path>` | Path to the web server stop script |
| `<Restart Script Path>` | Path to the web server restart script |
| `<Virtual Host Server name>` | Virtual Host Name as specified in the `httpd.conf` file of Apache |

## Verifying Discovery

After the Discovery tools are run on the managed nodes, the services on the managed nodes appears in the Services map on your HP Operations Manager for Windows console.

To verify services, follow these steps:
On the HPOM Console, click through the tree as follows:
**Console → Operations Manager → Services → Applications → Web Server Apache | Web Server SunOne| WebServer_IIS**

On the HPOM console, web server managed nodes are displayed as color-coded icons that indicate the web server status on the node.

**NOTE:**
The Service map drills down to the product level. It does not show the individual services.

## Deploying Web Servers SPI Policies

You can deploy the Web Servers SPI policies manually to selected nodes. In addition, you can modify the policies and create custom policies as per your requirement.

To deploy a policy on a node, follow these steps:

1. In the HPOM console tree, click the policy group according to the Web Server as follows: **Operations Manager → Policy Management → Policy Groups → SPI for Web Servers → WebSPI Apache** or **WebSPI SunONE** or **WebSPI IIS.**

   The list of available policies appears.

2. Right-click the required policy. Select **All Task → Deploy on**.
3. Select the nodes on which the policy has to be deployed. Click **OK**.

The Web Servers SPI policy is deployed to the managed nodes.

# Collecting Data using CODA

Data logging allows you to collect data for each configured web server. This data can then be logged into CODA. The metrics collected for each web server instance includes the IP address, port number, CPU usage, memory usage, number of bytes transferred every second, number of bytes transferred for every request, and percentage of busy processes for the web server instance.

## Prerequisite for CODA Logging

For CODA data logging components to function effectively, make sure that the DSI2DDF component is deployed on the managed node. To deploy the DSI2DDF component on a node, follow these steps:

1. In the HPOM console, right-click the node on which you want to deploy the DSI2DDF component.
2. From the pop-menu, click **All Tasks** → **Deploy Instrumentation.**
3. Select **SPIDataCollector** and click **OK**.

## Logging Metrics data into CODA for Apache Web Server

To log performance metrics into CODA for Apache Web server, follow these steps:

1. Run the **Compile Apache CODA config specs** tool.
2. Deploy the **WebSPI-AP-CODALOG** policy.

If **WSSPI_CODA** source already exists, follow these steps before configuring the nodes for Apache Web server:

1. Deploy the latest instrumentation.
2. Stop CODA using the command `%ovinstalldir%/bin/OVc -stop coda.`
3. Remove the existing WSSPI_CODA data source from the node.
4. On the node, take a backup and delete the old configuration file `%ovdatadir%/wsspi/wsspi.cfg.`
5. Start CODA using the command `%ovinstalldir%/bin/OVc -stop coda.`

## Logging IIS metrics data into CODA or HP Performance Agent

To log the IIS metrics data into CODA or HP Performance Agent for IIS Web server, run **Create Data Source** tool.

# Chapter 3

## Using Web Servers SPI

The Web Servers SPI provides policies and tools specifically designed to integrate with HPOM for Windows. The Web Servers SPI uses standard HPOM policy types: log file entry, auto discovery, schedule, and threshold management. Web Servers SPI policies discover Web Servers, create logs, and perform service monitoring of your managed nodes.

### Apache and Sun One Web Servers

You can use the Web Servers SPI to perform the following tasks on any managed nodes running Apache and Sun One:

- Discover Apache Web Servers, Apache Virtual Hosts and Sun One Web Servers on a node and view service instances in the HPOM console service map.
- Configure Apache and Sun One Web Servers
- Configure multiple Apache instances on a node
- Run policies, and tools, including setting the rules by which messages are generated and tools are launched.
- Modify Web Server SPI policies as per your requirements by changing the event messages, polling intervals and threshold values
- Manage Web Servers running on the nodes by monitoring the processes
- Start, stop, and restart a service
- View the configuration and history logs
- Collect metrics data into CODA

### IIS Web Servers

You can use the Web Servers SPI to perform the following tasks on any managed nodes running IIS Web Server:

- Discover IIS Web Servers on a node and view service instances in the HPOM console service map.
- Configure Web Servers, policies, and tools, including setting the rules by which messages are generated and tools are launched.
- Manage Web Servers running on the nodes by monitoring the processes
- Modify policies as per your requirements by changing the threshold values
- Start and stop a service like FTP, SMTP and Admin
- Collect metrics data into CODA or HP Performance Agent

# Chapter 4

## Using Web Servers SPI Policies

The Web Servers SPI policies enable you to monitor the operations and performance of Web Servers. The policies contain a set of rules for monitoring log files, services, and threshold values. The Web Servers SPI policy groups are as follows:

**WebSPI Admin**
The policies to monitor the log files of Apache and Sun One Web Servers SPI are available in the WebSPI Admin policy group. The policy sends a message to HPOM message browser if any of the following message types appear in the error log file: Error, Info or Warning.

**WebSPI Apache**
The policies to monitor the availability and performance of Apache Web Server are available in the WebSPI Apache policy group.

**WebSPI SunONE**
Th policies to monitor the availability and performance of Sun One Web Server are available in the WebSPI SunONE policy group.

**WebSPI IIS**
The policies to monitor the availability and performance of IIS Web Servers are available in the WebSPI IIS policy group. The following services of IIS Web Server are monitored and managed by Web Servers SPI:

- Web service
- Web sites
- Application Pools
- File Transfer Protocol (FTP) Service
- Simple Mail Transfer Protocol (SMTP) Service

**NOTE:**

Web Servers SPI do not monitor Network News Transfer Protocol (NNTP) services of IIS on Windows nodes as the service is not available with IIS version 7.0 and 7.5 by default.

### Accessing Web Servers SPI Policies

To access the Web Servers SPI policies from the HPOM console tree, click: **Operations Manager** → **Policy management** → **Policy groups** → **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache** or **WebSPI SunONE** or **WebSPI IIS**.

**Related Topics:**

- Using Web Servers SPI Policies
- Using the Web Servers SPI

## Admin Policy

The policy to monitor the log files of Web Servers SPI for Apache and Sun One are available in the WebSPI Admin policy group.

### WebSPI-InternalErrorLog

| | |
|---|---|
| Description | This policy monitors the log files of Web Servers SPI. |
| Type | Logfile Entry |
| Policy Group | SPI for Web Servers → WebSPI Admin |

## Apache Web Servers Policies

The policies to monitor Apache Web Servers are available in the WebSPI Apache policy group. The policies are listed in the following tables:

### WebSPI-AP-LogMon

| | |
|---|---|
| Description | This policy monitors the error logs of all the web sites running the supported product web server. |
| Type | Logfile Entry |
| Policy Group | SPI for Web Servers → WebSPI Admin |

### WebSPI-AP-ProcMon

| | |
|---|---|
| Description | This policy checks whether the Apache Web Server processes are running on the nodes. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

### WebSPI-AP-Discovery

| | |
|---|---|
| Description | This policy detects the Apache Web Servers running on the managed node and displays the status in the HPOM console service map. This tool can be run at any time during the normal operations to add new Web Servers and to check the existing servers. |
| Type | Service Auto-Discovery |
| Policy Group | SPI for Web Servers → WebSPI Apache |

## WebSPI-AP-CPUUsage

| | |
|---|---|
| Description | This policy monitors the CPU usage of Apache Web Servers and sends a message if the usage exceeds the threshold value. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

## WebSPI-AP-MEMUsage

| | |
|---|---|
| Description | This policy monitors the memory usage of Apache Web Server and sends a message if usage exceeds the threshold value. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

## WebSPI-AP-NumRequests

| | |
|---|---|
| Description | This policy computes the number of requests processed through the Apache Web Server. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

## WebSPI-AP-BusyProcessesRate

| | |
|---|---|
| Description | This policy collects the total number of busy processes and calculates the busy process rate (number of busy processes per total number of web server processes) and sends a message if the calculated value exceeds the threshold value. |
| Type | Measurement Threshold |
| Default Policy Group | SPI for Web Servers → WebSPI Apache |

## WebSPI-AP-ResponseTime

| | |
|---|---|
| Description | This policy monitors the response time of the Apache web server and sends a message if the value exceeds the threshold. The policy collects response time data from the mod_hpspi Apache module. |
| Type | Measurement Threshold |

| | |
|---|---|
| Default Policy Group | SPI for Web Servers → WebSPI Apache |

### WebSPI-AP-CODALOG

| | |
|---|---|
| Description | This policy collects data for each configured Apache Web Server and logs it into CODA. The metrics collected for each Web Server instance includes the IP address, port number, CPU usage, memory usage, number of bytes transferred every second, number of bytes transferred for every request, and percentage of busy processes of the Web Server instance. By default, the policy runs every hour. |
| Type | Scheduled Task |
| Policy Group | SPI for Web Servers → WebSPI Apache |

### WebSPI-AP-BytesPerSec

| | |
|---|---|
| Description | This policy monitors the average number of kilobytes (kB) transferred per second and sends a message if the value exceeds the threshold. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

### WebSPI-AP-BytesPerReq

| | |
|---|---|
| Description | This policy monitors the average number of kilobytes (kB) transferred per request and sends a message if the value exceeds the threshold. This policy collects average bytes per request data from the `mod_hpspi` Apache module. |
| Type | Measurement Threshold |
| Policy Group | SPI for Web Servers → WebSPI Apache |

## Sun One Web Server Policies

The policies to monitor Sun One Web Servers are available in the WebSPI SunONE policy group. The policies to monitor Sun One Web Servers are listed in the following tables:

### WebSPI-SO-LogMon

| | |
|---|---|
| Description | This policy monitors the error logs of all web sites running the supported product Web Server. |
| Type | Logfile Entry |
| Policy | SPI for Windows → WebSPI SunONE |

| | |
|---|---|
| Group | |

## WebSPI-SO-ProcMon

| | |
|---|---|
| Description | This policy monitors the process that checks whether the Sun One Web Server is running. |
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

## WebSPI-SO-Discovery

| | |
|---|---|
| Description | This policy detects the Sun One Web Servers running on the managed node and displays the status in the HPOM console service map. This policy can also be run at any time during normal operations to add new Web Servers and to check for existing servers. |
| Type | Service Auto-Discovery |
| Policy Group | SPI for Windows → WebSPI SunONE |

## WebSPI-SO-CPUUsage

| | |
|---|---|
| Description | This policy monitors the CPU usage of Sun One Web Server and sends a message if usage exceeds the threshold value. |
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

## WebSPI-SO-MemoryUsage

| | |
|---|---|
| Description | This policy monitors the memory usage of Sun One Web Server and sends a message if usage exceeds the threshold value. |
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

## WebSPI-SO-ResponseTime

| | |
|---|---|
| Description | This policy computes the average response time of Sun One Web Server using **SunONE SNMP** subagent **MIB** data and sends a message if the computed value exceeds the threshold. |

| | |
|---|---|
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

### WebSPI-SO-ThreadRate

| | |
|---|---|
| Description | This policy computes the thread rate (busy threads per total threads) using **SunONE SNMP** subagent data and sends a message if the computed value exceeds the threshold. |
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

### WebSPI-SO-ErrorRate

| | |
|---|---|
| Description | This policy computes the error rate (error-generated requests per total requests) using **SunONE SNMP** subagent data and sends a message if the computed value exceeds the threshold. |
| Type | Measurement Threshold |
| Policy Group | SPI for Windows → WebSPI SunONE |

## IIS Web Server Policies

The policies to monitor IIS Web Servers are available in the WebSP IIS policy group. The policies are listed in the following tables:

### WebSPI-IIS-Discovery

| | |
|---|---|
| Description | This policy detects the IIS Web Servers running on the managed node and displays the status on the service map. This policy can also be run at any time during normal operations to add new Web Servers and to check for existing servers. |
| Type | Service Auto-Discovery |
| Policy Group | SPI for Windows → WebSPI IIS → WebSPI IIS-Discovery |

### WebSPI-IIS-Eventlog

The event log policies monitor the Windows event log file entries related to the IIS services. The following policies monitor the event logs:

### IIS_FtpServerFwdAllSystemWarnError

| | |
|---|---|
| Description | This policy forwards all FTP service system log entries with severity `Error` or `Warning` to the management server. |
| Type | Event log monitoring |
| Policy Group | SPI for Windows → WebSPI IIS → WebSPI IIS-Eventlog |

### IIS_FwdAllApplicationWarnError

| | |
|---|---|
| Description | This policy forwards all the application log entries with severity `Error` or `Warning`to the management server. |
| Type | Event log monitoring |
| Policy Group | SPI for Windows → WebSPI IIS→ WebSPI IIS-Eventlog |

### IIS_FwdAllSystemWarnError

| | |
|---|---|
| Description | This policy forwards all system log entries with severity `Error` or `Warning`to the management server. |
| Type | Event log monitoring |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Eventlog |

### IIS_SmtpServerFwdAllSystemWarnError

| | |
|---|---|
| Description | This policy forwards all SMTP system log entries with severity `Error` or `Warning` to the management server. |
| Type | Event log monitoring |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Eventlog |

## WebSPI-IIS-Metrics

The WebSPI-IIS-Metrics policy group consists of policies and metrics to monitor the services of IIS Web Servers like availability, performance, ASP, ASP.NET, FTP, SMTP, and Web services.

The following policy groups contains metrics that monitor the various services of IIS:

- IIS-ASP
- IIS-ASP.NET
- IIS-SMTP

- IIS-Availability
- IIS-Performance
- IIS-WWW
- IIS-FTP

## WebSPI-IIS-Availability

The metrics to monitor the availability of IIS Web Server are listed in the following table:

### IIS_0001

| | |
|---|---|
| Description | This metric checks the availability of Web services on the managed nodes. |
| Threshold | Critical <= 0.5 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

### IIS_0002

| | |
|---|---|
| Description | This metric checks the availability of FTP services on the managed nodes. |
| Threshold | Critical <= 0.5, Warning <= -1 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

### IIS_0004

| | |
|---|---|
| Description | This metric checks the availability of SMTP Services on the managed nodes. . |
| Threshold | Critical <= 0.5, Warning <= -1 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

### IIS_0005

| | |
|---|---|
| Description | This metric checks the availability of IIS ADMIN service on the managed nodes. |
| Threshold | Critical <= 0.5, Warning <=-1 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

### IIS_0006

| | |
|---|---|
| Description | This metric checks the availability of web sites on the managed nodes. |
| Threshold | Critical : <= 0.5, Warning <=-2 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

### IIS_0007

| | |
|---|---|
| Description | This metric checks the status of application pools on the managed nodes. |
| Threshold | Critical : <= 0.5, Warning : <=-1 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Availability |

## WebSPI-IIS-WWW

The metrics to monitor the web services on the managed nodes are listed in the following table

### IIS_0011

| | |
|---|---|
| Description | This metric computes the number of active web service connections on the managed nodes. |
| Threshold | Critical >=64, Warning>=48 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-WWW |

### IIS_0012

| | |
|---|---|
| Description | This metric computes the number of Web service requests per second. |
| Threshold | Critical >=640, Warning >=480 |
| Policy Group | SPI for Web Servers → WebSPI IIS →WebSPI IIS-Metrics → IIS-WWW |

### IIS_0013

| | |
|---|---|
| Description | This metric computes the total number of files transferred per second for a web service. |
| Threshold | Critical >=640, Warning >=600 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-WWW |

### IIS_0014

| | |
|---|---|
| Description | This metric computes the percentage of 'File Cache Hits' for a seb service. |
| Threshold | Error <=20, Warning <=25 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-WWW |

### IIS_0015

| | |
|---|---|
| Description | This metric computes the total number of bytes transferred per second for a Web Service. |
| Threshold | Critical >=64000, Warning >=48000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-WWW |

## WebSPI-IIS-FTP

The metrics to monitor the FTP service of IIS Web Server on the managed nodes are listed in the following table:

### IIS_0016

| | |
|---|---|
| Description | This metric checks the number of anonymous users currently logged on to FTP. |
| Threshold | Critical >=64, Warning >= 48 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-FTP |

### IIS_0017

| | |
|---|---|
| Description | This metric checks the number of non-anonymous users currently logged in to FTP. |
| Threshold | Critical >=64, Warning >= 48 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-FTP |

### IIS_0018

| | |
|---|---|
| Description | This metric checks the number of current connections for FTP. |
| Threshold | Critical >= 64, Warning >= 48 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-FTP |

### IIS_0019

| | |
|---|---|
| Description | This metric computes the total bytes per second transferred by the FTP service. Total bytes per second is the sum of bytes sent per second and bytes received per second. |
| Threshold | Critical >= 64000, Warning >= 48000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-FTP |

## WebSPI-IIS-SMTP

The metrics to monitor the SMTP service of IIS Web Server on the managed nodes are listed in the following table:

### IIS_0020

| | |
|---|---|
| Description | This metric checks the current inbound connections for SMTP. |
| Threshold | Critical >=600, Warning >= 500 |
| Policy Group | SPI for Windows → WebSPI IIS → WebSPI IIS-Metrics → IIS-SMTP |

### IIS_0021

| | |
|---|---|
| Description | This metric checks the number of current outbound connections for SMTP. |
| Threshold | Critical >=600, Warning >= 500 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-SMTP |

### IIS_0022

| | |
|---|---|
| Description | This metric checks the number of messages sent per second for SMTP service. |
| Threshold | Critical >= 150, Warning >= 100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-SMTP |

### IIS_0023

| | |
|---|---|
| Description | This metric checks the number of messages delivered per second for SMTP service. |
| Threshold | Critical >= 150, Warning >= 100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-SMTP |

### IIS_0024

| | |
|---|---|
| Description | This metric checks the messages received per second for SMTP. |
| Threshold | Critical >=150, Warning >= 100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-SMTP |

## WebSPI-IIS-Performance

The metrics to monitor the Performance of IIS Web Server on the managed nodes are listed in the following table:

### IIS_0026

| | |
|---|---|
| Description | This metric checks counter `Bytes Transmitted per second` of the object `Server`. |
| Threshold | Error >=64000, Warning >=90000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Performance |

### IIS_0027

| | |
|---|---|
| Description | This metric checks the counter `inetinfo instance` and `% Processor Time` counter of the object `Process` . |
| Threshold | Error >=70, Warning >=60 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Performance |

### IIS_0028

| | |
|---|---|
| Description | This metric checks the counter `Inetinfo Working Set`. |
| Threshold | Critical >=18000000, Warning>=15000000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Performance |

### IIS_0029

| | |
|---|---|
| Description | This metric checks the counter `File Cache Hits %` of the object `Internet Information Services Global`. |
| Threshold | Error <=20, Warning <=25 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-Performance |

## WebSPI-IIS-ASP

The metrics to monitor the ASP service of IIS Web Server on the managed nodes are listed in the following table:

### IIS_0030

| | |
|---|---|
| Description | This metric checks the number of ASP service requests per second on the managed nodes. |

| | |
|---|---|
| Threshold | Critical >=1000, Warning >=500 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0031

| | |
|---|---|
| Description | This metric checks the number of ASP requests running on the managed nodes. |
| Threshold | Critical>=100, Warning >=50 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0032

| | |
|---|---|
| Description | This metric checks the number of milli seconds the most recent request was waiting in the queue. |
| Threshold | Critical >=15000, Warning >=5000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0033

| | |
|---|---|
| Description | This metric checks the number of script compiler errors on the managed nodes. |
| Threshold | Critical >=40, Warning > =15 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0034

| | |
|---|---|
| Description | This metric checks the number of ASP requests rejected. |
| Threshold | Critical >=1000, Warning > =500 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0035

| | |
|---|---|
| Description | This metric checks the total number of ASP requests failed on the managed nodes. |
| Threshold | Critical >=150, Warning > =100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0036

| | |
|---|---|
| Description | This metric checks the number of preprocessor errors on the managed nodes. |
| Threshold | Critical >=40, Warning >=15 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0037

| | |
|---|---|
| Description | This metric checks the number of ASP requests waiting for service in the queue. |
| Threshold | Critical >=200, Warning >=100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0038

| | |
|---|---|
| Description | This metrics checks the execution time of ASP service requests on the managed nodes. |
| Threshold | Critical >=15000, Warning >=5000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0039

| | |
|---|---|
| Description | This metrics checks the number of ASP service errors per second on the managed nodes. |
| Threshold | Critical >=2, Warning >= 1 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

### IIS_0048

| | |
|---|---|
| Description | This metrics check the number of script errors on the managed nodes. |
| Threshold | Critical >=40, Warning >= 15 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP |

## WebSPI-IIS-ASP.NET

The metrics to monitor the ASP.NET service of IIS Web Server on the managed nodes are listed in the following table:

### IIS_0040

| | |
|---|---|
| Description | This metric checks the number of ASP.NET worker processes running on the managed nodes. |
| Threshold | Critical >=4, Warning >=2 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → WebSPI IIS-ASP.NET |

### IIS_0041

| | |
|---|---|
| Description | This metric checks the wait time of an ASP.NET request on the managed nodes. |
| Threshold | Critical >=15000, Warning >=5000 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → WebSPI IIS-ASP.NET |

### IIS_0042

| | |
|---|---|
| Description | This metric checks the number of ASP.NET requests queued on the managed nodes. |
| Threshold | Critical >=200, Warning >=100 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → WebSPI IIS-ASP.NET |

### IIS_0043

| | |
|---|---|
| Description | This metric checks the number of ASP.NET requests rejected on the managed nodes. |
| Threshold | Critical >=15, Warning >= 5 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → IIS-ASP.NET |

### IIS_0044

| | |
|---|---|
| Description | This metric checks the number of ASP.NET application restarts on the managed nodes. |
| Threshold | Critical >=4, Warning >=2 |
| Policy Group | SPI for Web Servers → WebSPI IIS → WebSPI IIS-Metrics → WebSPI IIS-Metrics |

## Schedule Policies for Collection and Data Logging of IIS

The schedule polices run at an interval of 5 minutes for the collection and data logging of IIS SPI metrics that monitor the web services of IIS. The following table shows the Schedule policies available in each IIS Policy subgroup:

| Policy Group | Schedule Policy |
|---|---|
| IIS-WWW | SCHEDULE IIS-WWW |
| IIS-ASP | SCHEDULE IIS-ASP |
| IIS-SMTP | SCHEDULE IIS-SMTP |
| IIS-Availability | SCHEDULE IIS-Availability |
| IIS-FTP | SCHEDULE IIS-FTP |
| IIS-Performance | SCHEDULE IIS-Performance |
| IIS-ASP.NET | SCHEDULE IIS-ASP.NET |

Each of these policy subgroup has a schedule policy for collection and a schedule policy for data logging which runs at an interval of 5 minutes. The following table lists the Schedule policies for collection and data logging available in each policy subgroup:

| Schedule Policy | Schedule Policy for Collection | Schedule Policy for Data Logging |
|---|---|---|
| SCHEDULE IIS-WWW | WebSPI-IIS-WWW-05min | WebSPI-IIS-WWW-Datalog-05min |
| SCHEDULE IIS-ASP | WebSPI-IIS-ASP-05min | WebSPI-IIS-ASP-Datalog-05min |
| SCHEDULE IIS-SMTP | WebSPI-IIS-SMTP-05min | WebSPI-IIS-SMTP-Datalog-05min |
| SCHEDULE IIS-Availability | WebSPI-IIS-Availability-05min | WebSPI-IIS-Availability-Datalog-05min |
| SCHEDULE IIS-FTP | WebSPI-IIS-FTP-05min | WebSPI-IIS-FTP-Datalog-05min |
| SCHEDULE IIS-Performance | WebSPI-IIS-Performance-05min | WebSPI-IIS-Performance-Datalog-05min |
| SCHEDULE IIS-ASP.NET | WebSPI-IIS-ASP.NET-05min | WebSPI-IIS-ASP.NET-Datalog-05min |

The data source name for IIS SPI is **IIS**. The following table shows the details of the table name attributes for each metric where data is logged:

| Schedule Policy | Data source Spec Name | Table Name | Attribute Name in Data Source |
|---|---|---|---|
| WebSPI-IIS-WWW-Datalog-05min | WebService.spec | WebService | INSTANCE_NAME_ WEBSRV |

| | | | |
|---|---|---|---|
| | | | I0011_ NMBROFACTVCONS<br>I0012_NUMBEROFREQS<br>I0013_TTLFLTRNSPRSEC<br>I0015_TTLBYTEPERSEC |
| WebSPI-IIS-ASP-Datalog-05min | ASP.spec | ASP | INSTANCE_NAME_ASP<br>I0030_REQPERSECOND<br>I0031_NUMOFREQEXEC<br>I0032_MSTRCTWAITTIME<br>I0033_ SCRPTCMPLERROR<br>I0034_ NUMBEROFREQREJ<br>I0035_NUMOFREQFAIL<br>I0036_NUMBOFPREERRS<br>I0037_REQINWAITQUEUE<br>I0038_REQEXECTIME<br>I0039_ERRPERSECOND |
| WebSPI-IIS-SMTP-Datalog-05min | SMTP.spec | SMTP | INSTANCE_NAME_SMTP<br>I0020_NUMOFINCONNS<br>I0021_NUMOFOUTCONNS<br>I0022_ NUMMSGSNTPRSEC<br>I0023_ NUMMSGSDLPRSEC<br>I0024_ NUMMSGRCVPRSEC |

| | | | |
|---|---|---|---|
| WebSPI-IIS-Availability-Datalog-05min | WebServiceCache.spec | WebServiceCache | INSTANCE_NAME_<br>I0014_PRCNTFLCHHITS<br>I4803_TTLFLCACHED<br>I4804_ CRFLCCHMMRYUSG |
| | Availability.spec | Availability | AVAIL_METRIC_ID<br>AVAIL_INSTANCE_NAME<br>AVAIL_VALUE |
| WebSPI-IIS-FTP-Datalog-05min | FTP.spec | FTP | INSTANCE_NAME_FTP<br>I0016_ NUMOFANYMSUSRS<br>I0017_ NUMOFNONANYUSR<br>I0018_NUMCONNECTION<br>I0019_TTLBYTTRNSPRSC |
| WebSPI-IIS-Performance-Datalog-05min | Server.spec | Server | INSTANCE_NAME_ SERVER<br>I0026_SVRBYTTRNSPRSC<br>I4603_SYSTEMERRS<br>I4604_TOTALLOGONS<br>I4605_SERVERSESSIONS |
| | Process.spec | Process | INSTANCE_NAME_PROC<br>I0027_PERCNTPROCTIME<br>I0028_ NUMINETWRKNGST<br>I4904_ELAPSEDTIME |
| | GlobalServices.spec | GlobalServices | INSTANCE_NAME_GLSRV<br>I0029_NUMGLBLFLCHHIT<br>I5003_TTLFLCACHED<br>I5004_TTLRJASYNCREQS |
| WebSPI-IIS-ASP.NET-Datalog-05min | ASPNet.spec | ASPNet | INSTANCE_NAME_ ASPNET |

| | | | |
|---|---|---|---|
| | | | I0040_ NUMWRKPROCRUNG<br>I0041_REQWAITTIME<br>I0042_ NUMOFREQQUEUED<br>I0043_ NUMOFREQREJECT<br>I0044_NUMOFAPPRESTRT |

Some of the policies in WebSPI IIS policy group have Custom Message Attributes (CMAs). IIS SPI can integrate with HP Operations Manager i using IIS Content Pack. This is possible in IIS SPI by passing custom message attributes (CMAs) to few of the policies. The details of policies which work with IIS Content pack and the corresponding CMAs are available in the following table:

| Policy | Policy subgroup |
|---|---|
| IIS_0012 | IIS-WWW Service |
| IIS_0015 | IIS-WWW Service |
| IIS_0018 | IIS-FTP Service |
| IIS_0019 | IIS-FTP Service |
| IIS_0029 | IIS-Performance |
| IIS_0030 | IIS-ASP |
| IIS_0037 | IIS-ASP |
| IIS_0039 | IIS-ASP |

The details of Custom Message Attributes (CMA) for IIS SPI are available in the following table:

| Policy | CMA:CiInfo | CMA: EventTypeIndicator (StartAction) | CMA: EventTypeIndicator(EndAction ) |
|---|---|---|---|
| IIS_ 0012 | iis:@@<$MSG_NODE_NAME> | Get_Requests:High | Get_Requests:Normal |
| IIS_ 0015 | iis:@@<$MSG_NODE_NAME> | Bytes_ Total/sec:High | Bytes_Total/sec:Normal |
| IIS_ 0018 | iis_ftp_server:@@<$MSG_ NODE_NAME> | FTP_ Connections:High | FTP_Connections:Normal |

| | | | |
|---|---|---|---|
| IIS_ 0019 | iis_ftp_server:@@<$MSG_ NODE_NAME> | FTP_Traffic:High | FTP_Traffic:Normal |
| IIS_ 0029 | iis:@@<$MSG_NODE_NAME> | File_Cache_Hits_ Percentage:Low | File_Cache_Hits_ Percentage:Normal |
| IIS_ 0030 | iis:iiswebsite:@@<$MSG_ NODE_NAME> | Application_ Throughput:High | Application_Throughput:Normal |
| IIS_ 0037 | iis:iiswebsite:@@<$MSG_ NODE_NAME> | Requests_ Performance:High | Requests_Performance:Normal |
| IIS_ 0039 | iis:@@<$MSG_NODE_NAME> | ASP_Errors:High | ASP_Errors:Normal |

## Manage Web Servers SPI Policies

You can modify the Web Servers SPI policies for the following:

- To reduce or increase the number of messages that are displayed on the HPOM console
- To adjust the thresholds of a policy
- Change the message and instructions sent to the console
- Change which tools to be launched

To manage the Web Servers SPI policies for Apache, Sun One, and IIS Web Servers , you can do the following tasks:

- Change the Event Message Responses
- Change the Polling Interval
- Change the threshold values

## Change Web Servers SPI Event Message Responses

You can change the Web Servers SPI event message responses using Web Servers SPI policies. The Web Servers SPI policies for Apache or Sun One monitors the error log file and the modifies the corresponding log file contents and the Event Log policies for IIS Web Server monitors the Windows event logs.

These policies forward selected log file entries through the **OpC** message interface to the HPOM console. Automatic start actions are performed and collected output is added to the message annotations through the Web Servers SPI service files.

To change the response to event messages, modify the corresponding error log policy as follows:

1. In the HPOM console tree, click **Operations Manager** → **Policy Management** → **Policy groups** → **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache | WebSPI SunONE** or **WebSPI IIS**. The list of policies appear.
2. Right-click the desired error log or process monitor policy.
3. Select **All Task** → **Edit.** The policy window appears.

4. Type or modify the information in the **Policy** window, as required.
   a. Make the required changes to the **responses to events**, as follows:
      i. Select **Rules**.
      ii. Change the values, rules, and responses as required. (Predefined rules are set for handling various message types. Rules can be added.)
      iii. Click **Modify**.
   b. Make the required changes to the **event criteria** as follows:
      i. Select **Options**.
      ii. Change the following values:
         - Log local events
         - Unmatched events
         - Pattern matching options
      iii. Click **Save**.
5. Accept the changes, click **Save and Close**.
   The supplied policies all have the version number, for example 1.0. Modifying a policy automatically increments the version number, for example: 1.1, 1.2, 1.3, ...

   The **Error Log** window exits.
6. Deploy the policy to the desired nodes.

## Change the Web Servers SPI Polling Intervals

To change the polling interval of Apache, Sun One, and IIS Web Servers, modify the corresponding error log policy:.

1. .In the HPOM console tree, click **Operations Manager** → **Policy Management** → **Policy groups** → **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache** or **WebSPI SunONE** or **WebSPI SunONE**.
2. Right-click the required error log policy.
3. Select **All Task** → **Edit**
   The policy window appears.
4. Type or modify the information in the policy window as required.
   a. Modify the **polling frequency**, as required:
      i. Select **Source**.
      ii. Click **Save**.
      iii. For a process monitor policy, make additional changes, as required:
         - Short name text
         - Description text
         - Source type selection

- Program parameters file name
- Store in Embedded Performance Component toggle and data

iv. Click **Save**.

b. Change the an error log policy, make additional changes as needed:
- Log File character set selections
- Send message if log file does not exist toggle
- Close after reading toggle
- Read mode toggles

c. Make changes to the **event criteria**, as required:
i. Select **Options**.

ii. Change the following values:
- Log local events toggles
- Unmatched events toggles
- Pattern matching options

iii. Click **Save**.

5. Accept the changes, click **Save** and **Close**.
The default policies all have the version number, for example 1.0. Modifying a policy automatically increments the version number, for example: 1.1, 1.2, 1.3, ...

   The **Error Log** window exits.

6. Deploy the policy to the desired nodes.

## Change Web Servers SPI Threshold Values

To change the thresholds values, modify the corresponding policy:

1. In the HPOM console tree, click **Operations Manager** → **Policy Manager**.→**Policy groups** → **SPI for Web Servers** → **WebSPI Admin** or **WebSPI Apache** or **WebSPI SunONE** or **WebSPI IIS**.

2. Right-click the required policy to modify the threshold value.
Select **All Task** → **Edit**.

   A window specific to the selected policy opens.

   a. Modify the **threshold values**, as required:
   i. Select the **Rules** tab.

   ii. Change the following values, rules, and responses:
   - Threshold level
   - Predefined rule
   - Rules
   - Level summary actions
   - Predefined actions

iii. Click **Save**.

b. Modify the **event criteria**, as required:
   i. Select **Options**
   ii. Change the values of the following:
      - Log local events toggles
      - Unmatched events toggles
      - Pattern matching options
   iii. Click **Save**.

3. Accept the changes, click **Save** and **Close**.
   The supplied policies have a default version number, for example 1.0. Modifying a policy automatically increments the version number, for example: 1.1, 1.2, 1.3, ...

   The **Error Log** window exits.

4. Deploy the policy to the desired nodes.

# Chapter 5

## Using Web Servers SPI Tools

The Web Servers SPI provides a set of tools that enable you to configure and display configuration details of the managed nodes. You can use these tools to start, stop, restart, or check the status of your managed node web servers. The tools can be started from the HPOM console or run by the Web Servers SPI policies as defined in the Web Servers SPI policy rules. Tools available for each of the supported Web Servers in each tool groups listed in the following table:

| WebSPI Admin | WebSPI Apache | WebSPI SunONE | WebSPI IIS |
|---|---|---|---|
| • Remove WebSPI<br>• Show WebSPI History Log<br>• Show All Web Services<br>• Self-Healing Info | • Configure Apache Node<br>• Unconfigure Apache Node<br>• Restart Apache<br>• Show Apache Configuration<br>• Show Apache Node Details<br>• Start Apache<br>• Status of Apache<br>• Stop Apache<br>• Show Apache Error Log<br>• Show Apache Access Log<br>• CODA Config Spec Compilation | • Configure SunONE Node<br>• Restart SunONE<br>• Show SunONE Configuration<br>• Start SunONE<br>• Status of SunONE<br>• Show SunONE Error Log<br>• Show SunONE Access Log<br>• Show SunONE Node Details | • Create Data Source<br>• Start FTPSVC<br>• Start IISADMIN<br>• Start SMTPSVC<br>• Start W3SVC<br>• Stop STPSVC<br>• Stop IISADMIN<br>• Stop SMTPSVC<br>• Stop W3SVC |

### Accessing Web Servers SPI Tools

To access the Web Servers SPI tools from the HPOM console,click:

**HP BTO Software → Operations Manager → Tools → SPI for Web Servers → WebSPI Admin | WebSPI Apache | WebSPI SunONE| WebSPI IIS**

**NOTE:** Do not modify the Web Servers SPI tools.

### SPI Admin Tools

The Admin Tool group consists of tools to manage Web Servers SPI for nodes with Apache and Sun One Web Servers. The following tables lists the tools available in this group:

### Remove WebSPI

| | |
|---|---|
| Description | This tool removes the Web Servers SPI instrumentation and configuration data from a previously configured UNIX node. Instrumentation of other products is not affected. This tool is accessed through the WebSPI Admin group and applies to all supported web services. |
| Tool Group | SPI for Web Servers → WebSPI Admin |

### Show WebSPI History Log

| | |
|---|---|
| Description | This tool shows the Web Servers SPI log files for all sites running the supported product web services. |
| Tool Group | SPI for Web Servers → WebSPI Admin |

### Show All Web Services

| | |
|---|---|
| Description | This tool displays the details of all configured Web Services. |
| Tool Group | SPI for Web Servers → WebSPI Admin |

### Self-Healing Info

| | |
|---|---|
| Description | This tool is used to gather system information about configuration, log files, and trace files of Web Servers SPI when a problem occurs in the Web Servers SPI. The tool creates a .tar file which has all the collected information. |
| Tool Group | SPI for Web Servers → WebSPI Admin |

## Apache Web Server Tools

The complete list of tools that the Web Servers SPI provides to monitor Apache Web Server are as follows:

### Configure Apache Node

| | |
|---|---|
| Description | This tool creates a Web Servers SPI configuration file on the selected managed node running the supported product web services. This tool also loads and configures `mod_hpspi` Apache modules for performance monitoring. |
| File Created | wsspi.cfg |
| Input Parameter | <httpd.conf path> |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Unconfigure Apache Node

| | |
|---|---|
| Description | This tool removes the configuration of the Apache Web Server instance so that it is no longer monitored or managed by the Web Servers SPI. |
| File Created | wsspi.cfg |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Restart Apache

| | |
|---|---|
| Description | This tool closes all connections to the UNIX managed node and restarts the Web Servers SPI services immediately on the sites running the supported product web services. |
| File Created | wsspi.cfg |
| Input Parameter | <Port Number>, <IPAddress> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Show Apache Configuration

| | |
|---|---|
| Description | This tool displays Web Servers SPI services configuration information on the selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Start Apache

| | |
|---|---|
| Description | This tool provides options to start Web Servers SPI services on selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Status of Apache

| | |
|---|---|
| Description | This tool shows the status of the node and checks the configuration of the Web |

| | |
|---|---|
| | Servers SPI instrumentation on the sites running the supported product web services. The status information on the Web Servers SPI is shown in the Tool Status dialog box. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Stop Apache

| | |
|---|---|
| Description | This tool stops the Web Servers SPI functions on the selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Show Apache Error Log

| | |
|---|---|
| Description | This tool shows the Apache web server error log file. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Show Apache Access Log

| | |
|---|---|
| Description | This tool shows the Apache web server access log file. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Show Apache Node Details

| | |
|---|---|
| Description | This tool shows the Apache configuration details such as version, document root path, and server root path. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI Apache |

## CODA Config Spec Compilation

| | |
|---|---|
| Description | This tool compiles the class specification file defined for CODA performance data logging. |
| Input | None |

| Parameter | |
|---|---|
| Tool Group | SPI for Web Servers → WebSPI Apache |

## Sun One Web Server Tools

The complete list of tools that the Web Servers SPI provides to monitor Sun One Web Server are as follows:

### Configure Sun ONE Node

| Description | This tool creates a Web Servers SPI configuration file on the selected managed node running the supported product web services. |
|---|---|
| File Created | wsspi.cfg |
| Input Parameter | <magnus.conf path> |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

### Unconfigure Sun ONE Node

| Description | This tool removes the configuration of the Sun One Web Server instance so that it is no longer monitored or managed by the Web Servers SPI. |
|---|---|
| File Modified | wsspi.cfg |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

### Restart Sun ONE

| Description | This tool closes all connections to the managed UNIX node and restarts the Web Servers SPI services immediately on the sites running the supported product web services. |
|---|---|
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## Show Sun ONE Configuration

| | |
|---|---|
| Description | This tool displays node Web Servers SPI services configuration information on the selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## Start Sun ONE

| | |
|---|---|
| Description | This tool provides options to start Web Servers SPI services on selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## Status of Sun ONE

| | |
|---|---|
| Description | This tool shows whether the node is running and checks the configuration of the Web Servers SPI instrumentation on the sites running the supported product web services. The status information on the Web Servers SPI is shown in the Tool Status dialog. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## Stop Sun ONE

| | |
|---|---|
| Description | This tool stop the Web Servers SPI functions on the selected sites running the supported product web services. |
| Input Parameter | <Port Number>, <IPAddress> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## Show Sun ONE Error Log

| | |
|---|---|
| Description | This tool shows the Sun One Web Server error log file. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

### Show Sun ONE Access Log

| | |
|---|---|
| Description | This tool shows the Sun One Web Server access log file. |
| Input Parameter | <Port Number>, <IPAddress> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

### Show Sun ONE Node Details

| | |
|---|---|
| Description | This tool shows the Sun One configuration details such as web server version, document root path, and server root path. |
| Input Parameter | <Port Number>, <IP Address> (optional) |
| Tool Group | SPI for Web Servers → WebSPI SunONE |

## IIS Web Server Tools

The complete list of tools that the Web Servers SPI provides to monitor IIS Web Server on the managed nodes are as follows:

### Start FTPSVC

| | |
|---|---|
| Description | This tool starts the FTP service of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Start IIS Services |

### Start IISADMIN

| | |
|---|---|
| Description | This tool starts the IIS Admin service of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Start IIS Services |

### Start SMTPSVC

| | |
|---|---|
| Description | This tool starts the SMTP service of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Start IIS Services |

### Start W3SVC

| | |
|---|---|
| Description | This tool starts the Web services of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Start IIS Services |

### Stop FTPSVC

| | |
|---|---|
| Description | This tool stops the FTP services of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Stop IIS Services |

### Stop IISADMIN

| | |
|---|---|
| Description | This tool stops the IIS admin services of IIS. If an SMTP service is running on a node, stop the service before starting the **Stop IISADMIN** tool. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Stop IIS Services |

### Stop SMTPSVC

| | |
|---|---|
| Description | This tool stops the SMTP services of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Stop IIS Services |

### Stop W3SVC

| | |
|---|---|
| Description | This tool stops the web services of IIS. |
| Tool Group | SPI for Web Servers → WebSPI IIS → Stop IIS Services |

## Launch a Web Servers SPI Tool

The Web Servers SPI provides tools that enable you to see the status of supported services, and to start and stop services on managed nodes. To run a tool, follow these steps:

1. In the HPOM console tree, click **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Admin | WebSPI Apache | WebSPI SunONE| WebSPI IIS**.
2. Double-click the desired tool from the selected tool group.
3. Select the nodes and click **Launch Tool**.
   The **Properties of Action to Launch** window opens.
4. Type the login information for the selected managed nodes. The user Name and password must be valid on all selected nodes.
5. Click **Launch**.
   The selected Web Servers SPI tool is launched.

## Example to Start a Service

You can use a Web Servers SPI tool to start a service on a managed node. To start Web Servers SPI services on a managed UNIX node, follow these steps:

1. In the HPOM console tree, click:
   **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache** or **WebSPI SunONE**.

2. Select the tool: **Start Apache | Start SunONE**.

3. Right-click the tool.
   For example: **Tools** → **SPI for Web Servers** → **WebSPI Apache** → **Start Apache**.

4. Select **All Tasks** → **Launch Tool**.
   The **Select where to launch this tool** window opens.

5. Select the nodes on which the server is to be started.

6. Click **Launch**.
   The Web Servers SPI services are started on the selected node(s).

**Input parameters**

- <Port Number>
- <IPAddress> (optional)

To start Web Servers SPI services on a Windows managed node with IIS Web Server, follow these steps:

1. In the HPOM console tree, click: **Operations Manager** → **Tools** → **WebSPI IIS** → **Start IIS Services**.

2. Select **Start IIS Services** tool.

3. Right-click the tool. For example: **Tools** → **SPI for Web Servers** → **Start IIS Services** → **Start FTPSVC**.

4. Select **All Tasks** → **Launch Tool**.
   The **Select where to launch this tool** window opens.

5. Select the nodes on which the service is to be started.

6. Click **Launch**.
   The Web Servers SPI services are started on the selected nodes.

## Example to Stop a Service

You can use a Web Servers SPI tool to stop a service on a managed node. To stop the Web Servers SPI Services on a managed UNIX node with Apache or Sun One Web Server, follow these steps:

1. In the HPOM console tree, select:
   **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache | WebSPI SunONE | WebSPI IIS**

2. Select the tool based on the Web Servers on the node.
   **Stop WebSPI Apache | Stop WebSPI SunONE**

3. Right-click **Stop <server>** tool.
   For example: **Tools** → **SPI for Web Servers** → **WebSPI Apache** → **Stop Apache**

4. Select **All Tasks** → **Launch Tool**.
   The **Select where to launch this tool** window opens.

5. Select the nodes on which the server is to be stopped.

6. Click **Launch**.
   The Web Servers SPI services are stopped on the selected nodes.

**Input parameters**

- <Port Number>
- <IPAddress> (optional)

To stop the Web Servers SPI services on a managed Windows node with IIS Web Server, follow these steps:

1. In the HPOM console tree, click: **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI IIS**.

2. Select the tool from **Stop IIS Services** tool group based on the service you want to stop.

3. Right-click the tool based on the service you need to stop.
   For example: **WebSPI IIS** → **Stop IIS Services**→ **Stop FTPSVC** or **Stop IISADMIN** or **Stop SMTPSVC** or **Stop W3SVC.**

4. From the pop-up menu, select **All Tasks** → **Launch Tool.**
   The **Select where to launch this tool** window opens.

5. Select the nodes on which the server is to be stopped.

6. Click **Launch**.
   The Web Servers SPI services are stopped on the selected nodes.

## Example to Restart a Web Service

You can use a Web Servers SPI tool to restart a web server service on a managed node on UNIX nodes with Apache or Sun One Web Server. To restart Web Servers SPI services on a managed UNIX node, follow these steps:

1. In the HPOM console tree, click: **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache | WebSPI SunONE**.

2. Select the tool based on the Web Server on the node:
   **Restart Apache** or **Restart SunONE**

3. Right-click the **Restart <server>** tool.
   For example: **Tools** → **SPI for Web Servers** → **WebSPI Apache** → **Restart Apache**

4. Select **All Tasks** → **Launch** tool.
   The **Select where to launch this tool** window opens.

5. Select the nodes on which the selected server is located.

6. Click **Launch**.
   The selected Web Servers SPI services are restarted.

**Input parameters**

- <Port Number>
- <IPAddress> (optional)

## Monitoring the Status of Web Servers

You can monitor Apache or Sun One Web Servers by choosing any of the following options:

- View the History Log of a Web Server
- View the Status of a Web Server
- View the Web Servers SPI Configuration
- View the Service Map Status of Web Servers

You can check the status of your monitored IIS web servers by using the option:

- View Service Map Status of Web Servers

## View the History Log of Web Servers

You can use a Web Servers SPI tool to view the Web Servers SPI history log file of Apache or Sun One Web Servers. This file contains messages relevant to the operations of the Web Servers SPI. The Web Servers SPI history log is located on the managed node:

**/var/opt/OV/wsspi/log/wsspi/error.log**

Web Servers SPI History Log File Sample. To display the Web Servers SPI log file contents on a UNIX managed node, follow these steps:

1. In the HPOM console tree, select: **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Admin**.

2. Right-click the **Show Web SPI History Log** tool.

   For example: **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Admin** → **Show WebSPI History Log**

3. Select **All Tasks** → **Launch Tool**.

The **Select where to launch this tool** window opens.

4. Select the nodes where want to see history details.

5. Click **Launch**.
   The **Tool Status** window opens with the contents of the selected log file.

### Web Servers SPI History Log File Sample.

```
======= 10/02/2012 22:20:38 IST BEGIN Apache web server configuration
10/02/12 22:20:38 [INFO] WSSPI(wsspi_config_apache.sh-27601): ERROR:
Server Root path does not exist in httpd config file. httpd config
file format might be invalid. ======= 10/02/2012 22:20:38 IST END
Apache web server configuration.
```

#### Accessing Web Servers SPI Log Files

The Web Servers SPI history log is located on the UNIX managed node at the following location: `/var/opt/OV/wsspi/log/wsspi_error_log`.

## View the Status of a Web Server

You can use a Web Servers SPI tool to view the status of Apache or Sun One Web Server services on managed UNIX nodes.

To check the status of a managed node, follow these steps:

1. In the HPOM console tree, click: **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache** or **WebSPI SunONE**
2. Select the tool based on the Web Server:
   **Status of Apache** or **Status of SunONE**.
3. Right-click the **Status of <server>** tool.
4. Select **All Tasks** → **Launch Tool**
   The **Select where to launch this tool** window opens.
5. Select the nodes where the selected server is located.
6. Click **Launch**.
   The **Tool Status** window opens with the status of the selected node listed.

**Input parameters**

- <Port Number>
- <IPAddress> (optional)

## View the Web Servers SPI Configuration

Use the **Show Apache or SunONE Configuration** tool to display the Web Server configuration information of Apache or Sun One Web Server on UNIX nodes. This displays the related information for the selected sites.

To display the web server configuration information used by the Web Servers SPI on UNIX nodes, follow these steps:

1. In the HPOM console tree, click:
   **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Apache/WebSPI SunONE** .

2. Right-click the **Show Apache Configuration**or **Show SunONE Configuration** tool.

3. Select **All Tasks** → **Launch** tool.

   The **Select where to launch this tool** window opens.

4. Select the nodes to see Apache Web Server configuration information.

5. Click **Launch**.
   The **Tool Status** window opens with the contents of the selected node configuration.

## View the Service Map Status of Web Servers

After the Web Servers SPI is installed and configured, it displays an icon for all monitored web servers in the HPOM console service map. The color of the icon shows the status of the Web Server. For example, green indicates healthy and running, red indicates critical problem.

To view the status of a managed node running Apache, Sun One, or IIS Web Server, follow these steps:

1. From the HPOM console tree, click:
   **Operations Manager** →**Services** → **Applications** →**Operations**.

2. Select the managed node to view status details.

3. Use standard HPOM for Windows processes to select from the console menu to display the Service map.

# Chapter 6

## Removing Web Servers SPI

You can remove the Web Servers SPI from the managed nodes and the management server as follows:

**Remove Web Servers SPI from the Managed nodes**

To remove the Web Servers SPI instrumentation and configuration data, use **Remove Web Servers SPI** tool for Apache and Sun One Web Servers. This action removes the Web Servers SPI from the managed node and no other product instrumentation is affected.

To remove Web Servers SPI instrumentation from a managed node, follow these steps:

1. In the HPOM console tree, click **Operations Manager** → **Tools** → **SPI for Web Servers** → **WebSPI Admin.**
2. Right-click the **Remove WebSPI** tool.
3. Select **All Tasks** → **Remove Services**.
4. Click **Launch**.

The managed node information is removed from the nodes and the Web Servers SPI functions are stopped.

To uninstall IIS SPI, manually remove the instrumentation from all the configured nodes.

**Remove Web Servers SPI from the Management Server**

Use standard Windows and HPOM for Windows processes to remove the Web Servers SPI. For more information, see *HPOM for Windows Online Help*. To remove the Web Servers SPI from the management server, follow these steps:

1. Log on to the HPOM for Windows management server.
2. Remove the Web Servers SPI policies from all nodes.
3. Use **Add or Remove Programs** on Windows to uninstall the Web Servers SPI.

The Web Servers SPI is removed from the management server.

# Chapter 7

## Troubleshooting the Web Servers SPI

This section discusses about troubleshooting the problems that may occur while using the Web Servers SPI.

- Troubleshooting Collection
- Troubleshooting Tools
- Troubleshooting Discovery
- Troubleshooting Messages
- Self-Healing Info Tool
- Tracing

### Troubleshooting Collection

| | |
|---|---|
| **Problem** | The following warning message may appear when you configure the SPI for Apache or Sun One Web Server with **Configure Node** tool: `'WARNING: Server Document Root not found in config file.` |
| **Solution** | To resolve this, add the **document root** entry into the Web Server configuration file. The following are the configuration files for the supported Web Servers:<br>• Apache - **httpd.conf**<br>• Sun One- **magnus.conf** |

| | |
|---|---|
| **Problem** | The following error appears when IIS SPI performance metrics are run:<br>`The term 'C:\ProgramData\HP\HP' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included. Verify that the path is correct and try again.`<br>`At line:1 char:21 + C:\ProgramData\HP\HP BTO Software\bin\instrumentation\Get-PerfmonCounter.ps1 -SpiPrefix IIS -MetricID 12 -Options a + CategoryInfo: ObjectNotFound: (C:\ProgramData\HP\HP:String)[] CommandNotFoundException + FullyQualifiedErrorId: CommandNotFoundException` |
| **Solution** | Ensure that PowerShell is installed on the node. To verify the installation, check whether the environment variable `PSModulePath` is set.<br>`PSModulePath=C:\Windows\system32\WindowsPowerShell\v1.0\Modules\` |

| | |
|---|---|
| | If the command gives the following error: `'Cannot start Windows PowerShell version 2.0 because it is not correctly installed.'`, re-install PowerShell. On successful installation of PowerShell, the `PSModulePath` environment will be set. |

| | |
|---|---|
| **Problem** | The following security exception appears when IIS SPI policies or metrics are run:<br>`C:\instrumentation\Get-PerfmonCounter.psi cannot be loaded because the execution of scripts is disabled on this system. Please see "get-help about_signin for more details. At line:1 char:42 C:\instrumentation\Get-PerfmonCounter.psi <<<< -SpiPrefix IIS -MetricID 0011,0012,0013,0014,0015 -Options ap +CategoryInfo: NotSpecified: <:> [ ], PSSecurityException +FullyQualifiedErrorId: RuntimeException` |
| **Solution** | This error occurs if the PowerShell scripts do not have execute permissions. To check the permission, run the command: `C:\>powershell get-executionPolicy`. If the value is set to Restricted, the PowersShell script will not run. The PowerShell scripts in IIS SPI are code-signed. Ensure that correct permissions are set for the scripts in IIS SPI to run. Ensure it is either **Unrestricted** or **RemoteSigned**, using the following command:<br>**Unrestricted**: `C:\> powershell set-executionPolicy Unrestricted` or<br>**RemoteSigned:** **`C:\> powershell set-executionPolicy RemoteSigned`** |

| | |
|---|---|
| **Problem** | The following error occurs when IIS SPI policies or metrics are run on a node:<br>`Get-Counter: The specified object was not found on the computer. At line:1 char12 +Get-Counter <<<< -Counter '\Web Service<*>\Get Requests/sec' +Categoryinfo: InvalidRequest: <:> [Get-Counter], Exception +FullyQualifiedErrorId: CounterApiError, Microsoft.PowerShell.Commands.GetCounterCommand` |
| **Solution** | This error occurs if IIS service is not enabled on the node. Enable IIS on the node. If there are specific roles like FTP or SMTP which needs to be monitored by IIS SPI, enable the corresponding service on the node. |

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| **Problem** | The metrics in IIS-FTP policy group are not working. |
| **Solution** | This problem occurs because there is a difference in the performance counter names for FTP on IIS 7.0 and IIS 7.5. For IIS 7.0, FTP version 7.5 should be installed on the managed nodes for the service to be monitored by the FTP metrics. |

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| **Problem** | The availability and performance metrics in IIS-SMTP policy group are not working. |
| **Solution** | SMTP as a service is not available from IIS on few Windows platforms. Ensure that SMTP is available and enabled on the node, before monitoring it with IIS SPI policies. |

**Related Topics:**

- Configuring Managed Nodes
- View the Web Server Configuration

## Troubleshooting Tools

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| **Problem:** | The **UnConfigure Apache Node** tool deletes the latest configured instance details irrespective of the input. |
| **Solution:** | The **UnConfigure Apache Node** tool is configured with the default port of 80. Modify the port number in the tool properties and launch the tool. |

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| **Problem:** | The following error message appears on starting any Apache Web Server tool: `Configuration file /var/opt/OV/wsspi/conf/wsspi.cfg not found or no read access.` |
| **Solution:** | This error occurs if you did not configure the node to manage Apache Web Server. Run the Apache configuration tool on this node before you launch the tools. You will also get error messages in the Message Browser if you deploy the process monitor policies on any node that is not configured. In both the cases, run the Configure Node tool according to your Web Server until this tool is successfully run. |

## Troubleshooting Discovery

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| Problem | System is unable to create the Web Servers SPI service map. |
| Solution | On the Operational interface, type the following command to assign the services to the operator: `opcservice -assign <operator> <service>`. For example: `opcservice -assign opc_adm <service>`. Run the discovery policy based on the Web Servers. |

## Troubleshooting Messages

If you are not receiving messages about the Web Servers on the HPOM for Windows console, check the following:

- **Names**
  Do not change the names of the auto-deploy policy groups. If you change the names of the auto-deploy policies, they will not deploy automatically.
- **Deployment Jobs**
  Check the **Deployment Jobs** folder in the Console tree on your HPOM for Windows console. Ensure the completion of all deployment jobs. Any job that did not complete is shown with an error. If there is an error, all subsequent deployment jobs are stopped and cannot proceed until the error is removed.
- **Changed Policy**
  If a policy has been modified, depending on the type of modification, you might need to redeploy the policy.

## Self-Healing Info Tool

Use the Self-Healing Info application when you need to gather data to solve problems with the operation of the Web Servers SPI for Apache and Sun One Web Servers. The tool stores data that will help HP support (and you) solve the problem. This data is consolidated in a file that you submit to HP support for assistance.

**Prerequisite:** Prior to using the Self-Healing Info application, turn on tracing, reproduce the problem, and follow these steps:

1. In the HPOM console, click **Tools→SPI for Web Servers→WebSPI Admin**.
2. Right-click the **Self-Healing Info** tool and select **All Tasks→Launch**.
3. Select the nodes on which you want to collect troubleshooting data. (In the message that appears, note where the compressed file will be stored.)

In your call to HP support, you can then send the file, as your support representative directs you, as part of your support case.

## Tracing

Tracing enables you to find the source of problems with the SPI by getting more information on what the scripts are processing for Apache and Sun One Web Servers.

**NOTE:**
The procedure to enable tracing is UNIX-based. To enable tracing, follow these steps:

1. Log on to the desired node.
2. Locate and change the script you want to trace:

   **For HTTPS Agent Nodes:**`/var/opt/OV/bin/instrumentation`.
3. Open the script you want to trace with a text editor.
4. Find the following line and uncomment it:
   `#WSSPI_TRC_LVL=&lttrace_level>`
5. Set `&lttrace_level>` to a number between 0 and 9, where a trace level of 0 sets tracing off and a trace level of 9 gives you the all available tracing messages.

**Trace Message Format:**

The format of a trace message is as follows:
`&ltdate> &lttime> WSSPI(&lttrace_obj>-&ltpid>): &ltmessage>`

The fields and their description are as follows:
`&ltdate>` - Current date, when the message has been added.
`&lttime>` - Current time, when the message has been added.
`&lttrace_obj>` - Trace object, in general the name of the script that is the source of the trace message.
`&ltpid>` - Process ID of the script.
`&ltmessage>` - The message text. If the message is sent from a sub function, this message contains the name of the function as prefix.

**Related Topics:**

- Troubleshooting the Web Servers SPI
- Self-Healing Info Tool

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