



## **Cisco Advanced Web Security Reporting 6.1 Installation, Setup, and User Guide**

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# Installation and Setup

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## Introduction

The Cisco Advanced Web Security Reporting application provides filters and dashboards that are designed to give insight into very large volumes of data from multiple Cisco Web Security Appliances, and from Cisco's Cloud Web Security (CWS) gateways. The Advanced Web Security Reporting application includes a data collection-and-display application, and a related server that forwards log data collected from Web Security Appliances (WSAs) and CWS services.



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**Note**

Cloud Web Security is sometimes referred to as “ScanSafe.”

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The Advanced Web Security Reporting application receives log data and stores it in data models. You can view these data using searches, or “filters,” that you define.



Figure 1-1 General architecture of the Advanced Web Security Reporting system.

## What's New

- [New in Release 6.1, page 1-2](#)
- [New in Release 6.0, page 1-2](#)

### New in Release 6.1

- Support for changes to Archive Scan access logs, included in the AsyncOS 10.1 for Web Security Appliances release.

### New in Release 6.0

Feature	Description
Custom Filters	Define custom searches of the available access, SOCKS and AMP log data, in a process known as “filtering.”
WSA AsyncOS 10.0 changes	AMP enhancements and Referrer header-related support.



## Supported and Unsupported Features

Component	Supported	Not Supported
Server	Single-server deployments	Multiple-server deployments
Transport Methods	FTP (files and directories) TCP (syslogs)	
PDF	Integrated PDF generation Scheduled PDF Reporting	
Custom Dashboards	For each predefined report, use <b>Save As Dashboard</b> to create a custom dashboard for selected time range, source type and host (limited). For each custom filter, use <b>Save As Dashboard</b> to create a custom dashboard for selected Filter fields from access, SOCKS or AMP logs.	

## System Requirements and Sizing & Scaling Recommendations

System requirements, as well as sizing and scaling recommendations, are detailed in the *Advanced Web Security Reporting Release Notes*, available from <http://www.cisco.com/c/en/us/support/security/web-security-appliance/products-release-notes-list.html>

## Set-up Overview

### Either:

- Install the Advanced Web Security Reporting application for the first time:
  - [Install Version 6.0 or 6.1 of the Advanced Web Security Reporting Application, page 1-4](#)
  - [Licensing and Migration, page 1-9](#)
  - [Create the Folder Structure for Access and Traffic Monitor Log Files, page 1-11](#)
  - [Import and Index Historical Data, page 1-11](#)
  - [Set Up On-going Data Transfers, page 1-13](#) (Including setup of Web Security Appliance.)
  - [Configure CWS Log Updates, page 1-15](#)

### Or:

- [Upgrade to Version 6.0 or 6.1 of the Advanced Web Security Reporting Application, page 1-5](#)


# Install Version 6.0 or 6.1 of the Advanced Web Security Reporting Application

Follow the steps in this section to install version 6.0 or version 6.1 of the Advanced Web Security Reporting application.

- [On Linux, page 1-4](#)
- [On Windows, page 1-5](#)

## On Linux

These tasks must be performed in order:

- 
- Step 1** Download the installer for the Advanced Web Security Reporting 6.0 or 6.1 software:
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.0&reind=AVAILABLE&rellifecycle=&reltype=latest>
- or
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.1&reind=AVAILABLE&rellifecycle=&reltype=latest>
- Step 2** Extract the installer software.
- To install into the current working directory, issue this command:
- ```
tar zxvf cisco_wsa_reporting-6.0.0.tgz.
```
- or
- ```
tar zxvf cisco_wsa_reporting-6.1.0.tgz.
```
- To install into `/opt/cisco-wsa_reporting/` directory, use the following command:
- ```
tar zxvf cisco_wsa_reporting-6.0.0.tgz -C /opt
```
- or
- ```
tar zxvf cisco_wsa_reporting-6.1.0.tgz -C /opt
```
- Step 3** Change directory to `/cisco_wsa_reporting/` and then run the set-up script:
- ```
cd cisco_wsa_reporting
./setup.sh
```
- Progress and milestone statements are displayed during set-up.
- Step 4** Launch the Advanced Web Security Reporting application and log in:
- Navigate to `http://<hostname>:8888` in a browser window.
-  **Note** Earlier versions used port 8000; since version 4.0, the port used is 8888.
- Log in with the user name `admin` and `Cisco@admin` as the password.
  - Change the `admin` password.
-

**Next Steps**

- [Licensing and Migration, page 1-9](#)

## On Windows

**Before You Begin**

Windows allows only one installed version of the Advanced Web Security Reporting software. Thus, if you have an earlier version installed, you must back-up your existing data and then uninstall that previous version, before installing the new version.

- 
- Step 1** Download the installer for the Advanced Web Security Reporting 6.0 or version 6.1 software:  
<https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.0&relind=AVAILABLE&rellifecycle=&reltype=latest>  
or  
<https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.1&relind=AVAILABLE&rellifecycle=&reltype=latest>
- Step 2** Extract the installer; you can use applications such as 7-Zip, WinZip, etc.
- Step 3** Launch a command-line shell (PowerShell) as Administrator and change directory to the directory to which you extracted the installer.
- Step 4** Run `install.bat`.  
The application is installed in the folder `C:\Program Files\Cisco\CiscoWSAReporting`.
- Step 5** Reboot the Advanced Web Security Reporting server.
- Step 6** Launch the Advanced Web Security Reporting application and log in:
- Navigate to `http://<hostname>:8888` in a browser window.



---

**Note** Earlier versions used port 8000; since version 4.0, the port used is 8888.

---

- Log in with the user name `admin` and `Cisco@dmn` as the password.
  - Change the `admin` password.
- 

**Next Steps**

- [Licensing and Migration, page 1-9](#)

## Upgrade to Version 6.0 or 6.1 of the Advanced Web Security Reporting Application

- [Upgrading from Version 4.0 or Later, page 1-6](#)
- [Upgrading from Version 3.0 to Version 6.x, page 1-7](#)

## Upgrading from Version 4.0 or Later

Follow the steps in this section to upgrade from version 4.0 or version 4.5 to version 6.0 or version 6.1.

- [On Linux, page 1-6](#)
- [On Windows, page 1-7](#)

### On Linux

These tasks must be performed in order:

- 
- Step 1** Download the installer (CiscoAdvancedWebSecurityReporting\_Linux\_6\_0\_0.tgz or CiscoAdvancedWebSecurityReporting\_Linux\_6\_1\_0.tgz) for the Advanced Web Security Reporting software:
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.0&reind=AVAILABLE&rellifecycle=&reltype=latest>
- or
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.1&reind=AVAILABLE&rellifecycle=&reltype=latest>
- Step 2** Copy the downloaded installer file into the base directory for the `cisco_wsa_reporting` directory. For example, if the earlier version of Advanced Web Security Reporting is installed in `/opt/cisco_wsa_reporting/`, then place the `.tgz` file in the `/opt/` directory.
- Step 3** Change directory to the installation's base directory (for example, `/opt/`).
- Step 4** Issue this command to extract the installer:
- ```
tar -zxvf CiscoAdvancedWebSecurityReporting_Linux_6_0_0-002.tgz
cisco_wsa_reporting/SeamlessUpgrade.sh; cp -f cisco_wsa_reporting/SeamlessUpgrade.sh .
```
- or
- ```
tar -zxvf CiscoAdvancedWebSecurityReporting_Linux_6_1_0.tgz
cisco_wsa_reporting/SeamlessUpgrade.sh; cp -f cisco_wsa_reporting/SeamlessUpgrade.sh .
```
- Step 5** Run the upgrade script:
- ```
./SeamlessUpgrade.sh CiscoAdvancedWebSecurityReporting_Linux_6_0_0-002.tgz
```
- or
- ```
./SeamlessUpgrade.sh CiscoAdvancedWebSecurityReporting_Linux_6_1_0.tgz
```
- If the result of this command is:
- ```
./SeamlessUpgrade.sh: Permission denied
```
- Please change the permission level of the script `SeamlessUpgrade.sh` by issuing the following command:
- ```
chmod 777 SeamlessUpgrade.sh
```
- After doing this, re-run the script.
-

## On Windows

These tasks must be performed in order:

- 
- Step 1** Download the installer (`CiscoAdvancedWebSecurityReporting_Linux_6_0_0.tgz` or `CiscoAdvancedWebSecurityReporting_Linux_6_1_0.tgz`) for the Advanced Web Security Reporting software:
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.0&reind=AVAILABLE&rellifecycle=&reltype=latest>
- or
- <https://software.cisco.com/download/release.html?mdfid=282803425&softwareid=283998384&release=6.1&reind=AVAILABLE&rellifecycle=&reltype=latest>
- Step 2** Extract the installer; you can use applications such as 7-Zip, WinZip, etc.
- Step 3** Launch a command-line shell (PowerShell) as Administrator and change directory to the directory to which you extracted the installer.
- Step 4** Execute the command `.\WinSeamlessUpgrade.ps1` to upgrade the Advanced Web Security Reporting application.
- 

## Upgrading from Version 3.0 to Version 6.x

You must follow the steps in this section to upgrade your version 3.0 installation for version 6.x. Upgrading from a version 3.0 installation involves these basic steps:

- Make a back-up copy of the existing version 3.0 indexed data.
- Shut down the newly installed version 6.x application.
- Copy the version 3.0 back-up data to the new data directory.
- Restart the version 6.x application.

Detailed steps follow.

For these instructions, we assume that version 3.0 is running in `/opt/splunk` and the new version is in `/opt/cisco_wsa_reporting`. Adjust your paths accordingly.

- 
- Step 1** Stop the old version:
- ```
/opt/splunk/bin/splunk stop
```
- Step 2** Edit the old `inputs.conf` file  
(`/opt/splunk/etc/apps/SplunkforCiscoIronportWSA/local/inputs.conf`) and disable all inputs.
- Step 3** Restart the old version:
- ```
/opt/splunk/bin/splunk start
```
- Step 4** Verify that there are no hot buckets left in the main index:
- ```
cd /opt/splunk/var/lib/splunk/defaultdb/db
ls -la hot* (verify no results)
```

**Step 5** Stop the old version again:

```
/opt/splunk/bin/splunk stop
```

**Step 6** Verify that the new version is not running:

```
/opt/cisco_wsa_reporting/shutdown.sh
```

**Step 7** Clean the indexes folders of the new version:

```
cd /opt/cisco_wsa_reporting/var/lib/splunk  
rm -rf *
```

**Step 8** Copy indexes from old version to new version:

```
cd /opt/cisco_wsa_reporting/var/lib/splunk  
cp -r /opt/splunk/var/lib/splunk/defaultdb .  
cp -r /opt/splunk/var/lib/splunk/fishbucket .
```

**Step 9** Start the new version of Advanced Web Security Reporting:

```
/opt/cisco_wsa_reporting/startup.sh
```

**Step 10** In a browser, open `http://<wsa_reporting_server_host_name>:8888` and log in with the user name `admin` and password `Cisco@dmin`.

---

## Administrative Users

The Advanced Web Security Reporting application provides two administrative users:

- The “default admin” (user name: `admin` and password: `Cisco@dmin`) will have access to all administration functionality.

The `admin` user can install licenses and configure the distributed environment. Use this account to configure, test, and troubleshoot.

- The second administrative user (name: `wsa_admin` and password: `Ironp0rt`) has access to a subset of administration functionality.

We recommend that you change both passwords immediately after installation (**Settings > Users and Authentication > Access Controls > Users**).

## Configuration Best Practices

- Set time zones consistently across WSA and CWS appliances.

The time displayed in the search results reflects the ‘local’ time of the Advanced Web Security Reporting instance. By default, all inputs for the appliance logs are set to TZ = GMT.

- Document the local `admin` account password (regardless of the chosen authentication method).

# Commands To Start and Stop the Advanced Web Security Reporting Application

## On Linux

To stop the Advanced Web Security Reporting application:

Change directory to `/cisco_wsa_reporting/` and issue this command:  
`./shutdown.sh`

To start the Advanced Web Security Reporting application:

Change directory to `/cisco_wsa_reporting/` and issue this command:  
`/startup.sh`

## On Windows

To stop the Advanced Web Security Reporting application:

Change directory to `<install_home>\` and issue this command:  
`shutdown.bat`

To start the Advanced Web Security Reporting application:

Change directory to `<install_home>\` and issue this command:  
`startup.bat`



**Note**

---

On Windows, `<install_home>` is `C:\Program Files\Cisco\CiscoWSAReporting`.

---

# Licensing and Migration

The three AMP reports added in version 4.5 are supported for WSA AMP logs only.

Since version 4.0, the Advanced Web Security Reporting application provides support for both WSA and CWS log reports, which is referred to as “hybrid reporting.” To use hybrid reporting, you must install a new license. You can continue to use WSA-only reporting with your existing license. The various licensing and migration scenarios are:

- [Migration from v3.0 WSA to v4.0 WSA-only Reporting](#)
- [Migration from v3.0 WSA-only to v4.0 Hybrid Reporting](#)
- [New Hybrid Reporting License](#)

## Migration from v3.0 WSA to v4.0 WSA-only Reporting

You can install the version 4.0 or later software and your previously installed license will continue to provide WSA reporting. Further, an evaluation license is embedded in the version 4.0 and later software; this license includes the additional reporting source types that will let you evaluate hybrid reporting.

## Migration from v3.0 WSA-only to v4.0 Hybrid Reporting

As mentioned in the previous section, you can install the version 4.0 or later software and your previously installed license will continue to provide WSA reporting. In addition, the embedded evaluation license will let you evaluate the hybrid reporting feature.

In order to migrate from WSA-only to hybrid reporting, you must open a [Cisco Technical Assistance Center \(TAC\)](#) support case to remove your existing license and install a new hybrid-reporting license that includes the complete list of source types—that is, the `ciscocws` source type is included. <https://tools.cisco.com/ServiceRequestTool/scm/mgmt/case>



### Note

Contacting TAC is necessary only if you are upgrading from version 3.0 WSA-only reporting to version 4.0 or later hybrid reporting.

## New Hybrid Reporting License

After installing the version 4.0 or later software as a new Advanced Web Security Reporting user, to utilize WSA and Hybrid Web Security reporting, you can use the embedded evaluation license with no limitations during the term of the evaluation. To continue after the evaluation term, or to provide reporting beyond the evaluation limits, you must acquire a master hybrid license. With a new installation, utilize the infodoc supplied with your order to request the license.

## Hybrid Reporting License Issues

If you encounter hybrid-reporting issues, before contacting Cisco, verify that you have purchased a CWS Log Extraction license (L-CWS-LOG-LIC=), and that you have set up your environment to import CWS logs.

In addition, ensure that the reporting-application license (issued with purchase of SMA-WSPL-LIC=, SMA-WSPL-LOW-LIC=, or SMA-WSPL-HIGH-LIC=) includes **only** the following source types: `wsa_trafmonlogs`, `wsa_accesslogs`, `wsa_w3clogs`, `wsa_syslog`, `wsa_amplogs`, and especially `ciscocws`.

Using Cisco's Advanced Web Security Reporting application to process logs of any other source type, for example `ps`, will produce a license-violation error. This can happen if you install other applications which produce logs with alternate source types.

## Licensing Considerations for Version 4.0 and Later Upgrades

Initially, you will need at least an evaluation license good for a large volume of data to handle the historical data transfer. After that, you will need an Advanced Web Security Reporting license.

1. Consider the quantity of data to be indexed both during initial historical data upload, and on an on-going daily basis.
2. Acquire and upload an evaluation license sufficient for the historical data transfer.
3. Acquire and upload an Advanced Web Security Reporting license sufficient for the anticipated data of the applicable source type to be indexed.
4. Change the license type from Trial to Evaluation or Advanced Web Security Reporting.



5. Ensure that indexes are reported to the correct pool:
  - a. Navigate to **Settings > System > Licensing** and find the “Pools Indexers Volume used today” row under the appropriate license stack.
  - b. If necessary, you can click **Edit** to change the maximum daily volume allocation, and the indexers assigned.
  - c. Click **Cancel** if you made no changes, or **Submit** if you made changes.

## License Installation

To obtain licenses, please refer to the information provided when you placed your order. Follow these steps to install Advanced Web Security Reporting license(s):

- 
- Step 1** Launch the Advanced Web Security Reporting application (enter `http://<hostname>:8888` in a browser window) and log in as the default `admin` user.
  - Step 2** Navigate to **Settings > System > Licensing**.
  - Step 3** Click **Add license**.
  - Step 4** Browse to your XML license file.
  - Step 5** Click **Install**.
- 

## Create the Folder Structure for Access and Traffic Monitor Log Files

Log	Default Path	Variables
Traffic Monitor	/\$Input_base/wsa_hostname/trafmonlogs/	\$Input_base=path of root FTP folder host_name=WSA device
Access	/\$Input_base/wsa_hostname/accesslogs/	\$Input_base=deployment host_name=WSA device
AMP	/\$Input_base/wsa_hostname/amplogs/	\$Input_base=deployment host_name=WSA device

## Import and Index Historical Data

### Before You Begin

- Complete configuration tasks listed in [Upgrade to Version 6.0 or 6.1 of the Advanced Web Security Reporting Application, page 1-5](#).
- Know the folder structure. See [Create the Folder Structure for Access and Traffic Monitor Log Files, page 1-11](#).

- 
- Step 1** Copy the historical log files into the folder structure for log files.
- Step 2** In the Advanced Web Security Reporting application, log in as `admin`.
- Step 3** Verify that data is being imported:
- Select **Settings > Data > Indexes**.
  - Scroll down to the summary row.
  - Verify that the Earliest event and Latest event columns display reasonable dates. If the historical data import was run under an evaluation license, install the default license downloaded for the account, and remove any non-production licenses.
- 

**Tip**

If you find that the application is not indexing files for any type of configured input because of a checksum error, add the line `crcSalt = <source>` to each input stanza in the `inputs.conf` file. (The following section, [\(Optional\) Configure the Application to Delete Log Files After Indexing](#), describes editing the `inputs.conf` file.)

---

**What to Do Next**

- [Configure Data Inputs for WSA Logs, page 1-13.](#)

## (Optional) Configure the Application to Delete Log Files After Indexing

**Before You Begin**

If the file `inputs.conf` does not exist in the directory

`<install_home>/cisco_wsa_reporting/etc/apps/cisco_wsa_reporting/local/`, create the input-configuration file:

`<install_home>/cisco_wsa_reporting/etc/apps/cisco_wsa_reporting/local/inputs.conf`.

---

- Step 1** Using a text editor, open
- `<install_home>/cisco_wsa_reporting/etc/apps/cisco_wsa_reporting/local/inputs.conf`.

- Step 2** Add a segment as below:-

```
[batch:///home/logger/incoming/wsa176.wga/accesslogs/*]
host_segment = 4
disabled = false
sourcetype = wsa_accesslogs
move_policy = sinkhole
```

Where the first line is the FTP directory path where WSA logs are sent. The second line is the part of the FTP path containing the host name. The third line enables this FTP input. The fourth line specifies the source of this input. The final line, `move_policy = sinkhole`, enables deletion of the original data once it is indexed.

- Step 3** Save the `inputs.conf` file and then restart the Advanced Web Security Reporting application by navigating to **Settings > System > Server controls** and clicking **Restart**.
-

# Set Up On-going Data Transfers

## Before You Begin

- [Import and Index Historical Data](#), page 1-11
- Know the path to your log files: [Create the Folder Structure for Access and Traffic Monitor Log Files](#), page 1-11.
- Log into the Advanced Web Security Reporting application as `admin`.

## Configure Data Inputs for WSA Logs



### Note

To configure data input from multiple WSAs, repeat the following steps for each host.

- 
- Step 1** In the Advanced Web Security Reporting application:
- Choose **Settings > Data > Data inputs > Files & directories**.
- Step 2** Disable any inputs labeled `CiscoWSA`.
- Step 3** Click **New**.
- Step 4** Click **Continuously Monitor** and provide the full path to the FTP directory to which WSA logs will be sent. This path and the FTP path provided on the WSA's Log Subscription page must match.
- Step 5** Click **Next**.
- Step 6** Click **Manual** as the Sourcetype and provide the Sourcetype label (`wsa_accesslogs`, `wsa_trafmonlogs`, or `wsa_amplogs`).
- Step 7** Choose **Advanced Web Security 6.1.0** from the App Context menu.
- Step 8** Click **Constant value** and provide the WSA host name in the **Host field value** field.
- Step 9** Choose **Main** as the destination Index.
- Step 10** Click **Review** and review the values you provided.
- Step 11** Click **Submit**.



### Note

You can navigate to **Settings > Data > Data inputs > Files & directories** to confirm the new data input entry.

## Configuration Of Data Input for WSA Syslogs

- 
- Step 1** In the Advanced Web Security Reporting application:
- Choose **Settings > Data > Data inputs > TCP**.
- Step 2** Click **New**.
- Step 3** Click the **TCP** button and enter 514 in the **Port** field; leave the rest of the fields blank.
- Step 4** Click **Next**.
- Step 5** Click **Manual** and then enter `wsa_syslog` in the Sourcetype field.

- Step 6** Choose **Advanced Web Security 6.1.0** or **Advanced Web Security 6.1.0** as the **App Context**.
- Step 7** In the Host section, click **Custom** as the Method field, and then enter the WSA host name as the Host field value.
- Step 8** Choose **Main** as the destination Index.
- Step 9** Click **Review** and review the values you provided.
- Step 10** Click **Submit**.
- Step 11** Navigate to **Settings > Data Inputs > TCP** to confirm the new input entry.

**Note**

With a multiple-appliance configuration, you must repeat these steps from the Advanced Web Security Reporting application for each appliance. However, you also can configure multiple appliances by editing the `inputs.conf` file.

## Establish Log Transfers from A Web Security Appliance

### Before You Begin

- Know the path to your log files: [Create the Folder Structure for Access and Traffic Monitor Log Files, page 1-11](#).
- Determine the frequency of transfers, no more than 60-minute increments.
- Open the web interface for the Web Security Appliance.

- Step 1** In the Web interface for the Web Security Appliance, navigate to **System Administration > Log Subscriptions**.
- Step 2** Click **Add Log Subscription**, or click the name of an existing subscription to edit it.
- Step 3** Configure the subscription (this example refers specifically to access, AMP engine and traffic-monitor logs):

Setting	Log Type	Value
Log Type	Access	accesslogs
	Traffic Monitor	trafmonlogs
	AMP Engine	amp_logs
Log Name	Any one	Name for the log directory.
(Depending on your AsyncOS release) <b>Rollover by File Size</b> <b>Maximum File Size</b>	Any one	Recommend no more than 500 MB.
(Availability of this option varies by AsyncOS release) <b>Rollover by Time</b>	Any one	Recommend custom rollover interval of one hour (1h) or more frequent rollovers. For AMP logs, recommend one minute (1m).

Setting	Log Type	Value
Log Style	Access	<b>Squid</b>
	Traffic Monitor	N/A
	AMP Engine	N/A
Log Level	Access	N/A
	Traffic Monitor	N/A
	AMP Engine	Select <b>Debug</b> . <b>Note</b> It is important to change <b>Log Level</b> to <b>Debug</b> for AMP reporting, or little to no information will be reported.
(Optional) Custom Fields	Access only	%XX (Adds a web reputation threat reason.)
Retrieval Method <b>FTP on Remote Server</b>	Any one	Hostname: IP address or host name of the Advanced Web Security Reporting host. Directory: name of Advanced Web Security Reporting instance directory. Username/Password: FTP user name and password for access to application. <b>Note</b> If connection between Advanced Web Security Reporting and WSA is lost, logs for that period are not available until connection is restored.
Retrieval Method <b>Syslog Push</b>	Either	Hostname: IP address or host name of the Advanced Web Security Reporting host. Protocol: <b>TCP</b> . Facility: choose <b>auth</b> . <b>Note</b> If connection between Advanced Web Security Reporting and WSA is lost, logs for that period are not available until connection is restored.

**Note**

Accessing online Help from the Add Log Subscription page brings up detailed information about all settings.

## Configure CWS Log Updates

### Before You Begin

- Log into the Advanced Web Security Reporting application as `admin`.

- 
- Step 1** In the Advanced Web Security Reporting application:
- Choose **Settings > Data > Data inputs > Cisco CWS Logs**.
- Step 2** Click **New**.
- Step 3** Provide a meaningful **name** for this data input.
- Step 4** Provide the **client\_id**, **s3\_key** and **s3\_secret** that have been provided from CWS. The **client\_id** is the bucket ID used in CWS.
- Step 5** Click **More settings** check box and provide the time **Interval** in seconds at which CWS logs can be pulled; default is 3600.
- Step 6** Click **Next**.
- Step 7** A success screen is displayed.
- 



**Note** You can navigate to **Settings > Data > Data inputs > Cisco CWS Logs** to confirm the new data input entry.

---

## Set Up Department Membership Query (Optional)

Perform the set-up procedure for department membership requirements under these conditions:

- You will use AD/LDAP groups bound to roles in the Advanced Web Security Reporting application.
- You will run reports on data that are based on organizational roles.

### Related Topics

- [Restrict Access to Department Reports by Role, page 1-17](#)

## Set Up Department Membership Reporting

### Before You Begin

- Linux users: Install `ldapsearch` tool using the following command:  

```
sudo yum install openldap-clients
```

- 
- Step 1** In the Advanced Web Security Reporting application:
- Choose **Settings > Data > Data inputs > AD/LDAP Server Details**.
- Step 2** Click **LDAP AD Server Details**.
- Step 3** On the LDAP AD Server Details page, provide the following server information, and then click **Save**:
- AD/LDAP Server Name –
  - AD/LDAP User Name –
  - AD/LDAP User Password and Confirm –
  - AD/LDAP Group Name –

**Step 4** Choose **Settings > Data > Data inputs > scripts** to enable the membership script:

- On Linux, the script name is `discovery.py`.
- On Windows, the script name is `discovery.vbs`.

---

The membership script is set to run every day by default. The interval is set in seconds and can be changed by navigating to **Settings > Data > Data inputs > scripts** and editing the interval in the `discovery` file.

You can verify that the script populated the file `departments.csv` with the user data by examining the file `<install_home>/etc/apps/cisco_wsa_reporting/lookups/departments.csv`.



**Note** On Windows, if the `departments.csv` file is not populated with data at this point, change directory to `<install_home>\etc\apps\cisco_wsa_reporting\bin`, and run `cscript discovery.vbs`, where `<install_home>` is `C:\Program Files\Cisco\CiscoWSAReporting`.

---

The membership script is set to run every day by default. The interval is set in seconds and can be changed as per the deployment requirements.

## Restrict Access to Department Reports by Role

### Before You Begin

- Understand that if users are restricted to viewing data from specific departments or groups, Layer 4 Transport Monitor (L4TM) data will only be available to administrators because L4TM data is not linked to a department or role.
- Log into the Advanced Web Security Reporting application as `admin`.

---

**Step 1** In the Advanced Web Security Reporting application,

- Select **Settings > Users and authentication > Access controls > Roles**.

**Step 2** Click **New** or edit an existing role.

**Step 3** Define search restrictions for the role.

Example: To restrict a role to viewing data for the Sales Department, in the **Restrict search terms** field, enter `department=sales`.

**Step 4** Click **Save**.

---

## Troubleshooting Department Membership Reporting



### Tip

- Linux users: Verify that `ldapsearch` tool is in the Advanced Web Security Reporting user's path.
- Verify that the `departments.csv` file exists in the application's lookup folder.
- Windows users: Comment out `option explicit` to reveal more specific information the origin and cause of an error.

- Verify the LDAP paths are syntactically correct.
- Verify the bind service account name is correct.
- Verify the correct bind password is entered.
- Test connection to the remote machine over port 389.
- Verify the correct attribute was configured for the member name.
- Verify the correct attribute was used for group membership.
- Verify the correct attribute was configured for group name.

## Set Up Scheduled PDF Reporting (Optional)

Advanced Web Security Reporting application users can schedule PDF output generation from any dashboard, view, search or report. Follow these configuration steps to set up scheduled PDF reporting:

- [Configure Email Alerts, page 1-18](#)
- [Schedule PDF Report Generation, page 1-19](#)

## Configure Email Alerts

You can configure the Advanced Web Security Reporting application to send email alerts following PDF report generation.

### Before You Begin

- Log into the Advanced Web Security Reporting application as `admin`.

- 
- Step 1** In the Advanced Web Security Reporting application:
- Choose **Settings > System > Server Settings > Email Settings**.
- Step 2** Enter or update the necessary Mail Server Settings in order to send alert emails:
- Mail host** – Enter the SMTP server host name.
  - Email security** (Optional) – Select an email security option. The application can use SSL or TLS when it communicates with the SMTP server.
  - Username** – Enter the name to use during SMTP server authentication.
  - Password** – The password configured for the specified user name.
  - Confirm password** – Re-enter the password.
- Step 3** Provide the necessary Email Format information:
- Link hostname** – Host name of the server used to create outgoing results.
  - Send email as** – Sender name displayed as email originator.
  - Email footer** – The note presented as a footer in sent emails.
- Step 4** Change the PDF Report Settings if necessary: choose a **Report Paper Size** and a **Report Paper Orientation**.
- Step 5** Click **Save**.
-



## Schedule PDF Report Generation

You can schedule regular generation and emailing of a PDF report for any custom dashboard. See [Save As Dashboard, page 2-2](#) for information about creating custom dashboards.

### Before You Begin

- Log into the Advanced Web Security Reporting application as `admin`.

- 
- Step 1** Choose the desired dashboard from the **Custom Dashboards** menu.
- Step 2** Choose **Edit > Schedule PDF Delivery**.
- Step 3** In the Edit PDF Schedule dialog box, check **Schedule PDF** and provide schedule, email and page options.
- Step 4** (Optional) Click **Send Test Email** to confirm that the generated PDF is sent as an attachment to the specified email address.
- Step 5** (Optional) Click **Preview PDF** to preview the generated PDF.
-





## Filters and Dashboards

---

- [Overview of Filters and Dashboards, page 2-1](#)
- [Viewing Dashboards, page 2-1](#)
- [Creating A Custom Filter, page 2-5](#)
- [Exporting Data, page 2-7](#)
- [Data Formats, page 2-8](#)
- [Time Ranges, page 2-8](#)
- [Troubleshooting, page 2-9](#)
- [Usage Scenarios, page 2-10](#)

### Overview of Filters and Dashboards

Advanced Web Security Reporting lets you define custom searches of the available access, SOCKS and AMP log data, displaying the results of each search separately. This process is also known as “filtering.” As much as possible this filtering is consistent with the native reporting of the Web Security Appliance. Each custom search is displayed on its own page or “panel,” which you can save for future access.

The Advanced Web Security Reporting application also provides a number predefined searches, which you can choose to view at any time. These existing searches, as well as any saved filters, are referred to as “dashboards”; in fact, saved filters are accessed via the Custom Dashboards menu. Further, the pages or panels on which these searches are displayed are also sometimes referred to as dashboards.



**Note**

---

Data presented using Advanced Web Security Reporting may show more information than is available through the Web Security Appliance alone.

---

### Viewing Dashboards

#### **Before You Begin**

Advanced Web Security Reporting administrators can control the Web Security appliances (hosts) that you see on the various dashboards. Contact your Advanced Web Security Reporting administrator with details of any hosts you would like to add, remove, or rename.

- 
- Step 1** Sign into the Advanced Web Security Reporting application using a Web browser.  
The Overview dashboard presenting summary information is displayed.
- Step 2** Either choose an existing dashboard from the other menus, including the **Custom Dashboards** menu, or choose **Custom Filter** to define a new search, which you can then save as a custom dashboard.  
See [Predefined Dashboards, page 2-2](#) for a list of dashboards provided with Advanced Web Security Reporting. Using the **Custom Filter** option is described in [Creating A Custom Filter, page 2-5](#).
- Step 3** Select a time range, data source and host, if applicable.



**Tip** Improve performance by specifying smaller time ranges and crafting searches to be as precise as possible.

---

## Predefined Dashboards

The following dashboards are provided with the Advanced Web Security Reporting application by default:

- Overview
- User Analysis
  - Overview
  - Location Based
  - User Drilldown
- Browsing Analysis
  - Domain
    - Overview
    - Location Based
    - Domain Drilldown
  - URL Category
    - Overview
    - Location Based
    - URL Category Drilldown
- Application Analysis
  - Overview
  - Application
    - Location Based
    - Application Drilldown
  - Application Type
    - Application Type Drilldown

- Security Analysis
  - L4 Traffic Monitor
    - Overview
    - L4 TM Drilldown
  - Anti Malware
    - Overview
    - Client Malware Risk
    - Location Based
    - Malware Category Drilldown
    - Malware Threat Drilldown
  - Web Reputation Filters
    - Overview
    - Location Based
  - Advanced Malware Protection
    - Overview
    - Location Based
    - File Analysis – You can click the file ID (SHA256) for any entry in the “Completed Analysis Requests from This Appliance” table to open the File Analysis Detail page for that file. The File Analysis Detail page includes a File Analysis Server URL text box in which you can specify the File Analysis server for which you wish to view data. Generally, this URL is `https://intel.api.sourcefire.com` across all WSA versions through 8.5.  
  
However, if you used another server for analysis of this particular file (demonstrations perhaps), you can change the server URL here to view the details for this file (as identified by its SHA, which you clicked to arrive at this drill-down report).
  - AMP Verdict Updates
- Web Tracking
  - Proxy Services
  - SOCKS
  - SOCKS Drilldown
- Settings
  - Distributed Environment
  - System
  - Data
  - Users and Authentication
  - Third Party Services
- User
  - Edit Account

#### Related Topics

- [Viewing Dashboards, page 2-1](#)

## Save As Dashboard

On each predefined report page, you can save the displayed report as a another dashboard, in effect cloning the currently displayed dashboard.



### Note

You also can save a custom filter as a dashboard, as described in [Saving a Custom Filter as a Dashboard, page 2-6](#). These dashboards can be accessed and edited like any other custom dashboard.

- 
- Step 1** On the current report page, modify the time, data-source and host parameters as desired, then click the **Save As Dashboard** button.
- Step 2** Provide the following information in the Save As Dashboard Panel dialog box:
- **Dashboard Title** – A display name for the new dashboard.  
When saving any report page as a dashboard, you must provide a proper title to reflect the input selected in order to differentiate the custom dashboards.
  - **Dashboard ID** – Provide a file name for saving the dashboard; cannot be changed later.
  - **Dashboard Description** – (Optional) A short description.
  - **Dashboard Permissions** – Select **Private** or **Shared in App**. Private dashboards are visible only to you, while Shared dashboards are visible to all users.
- Step 3** Click **Save**.
- 

The new dashboard is added to the **Custom Dashboards** menu; choose a custom dashboard from the menu to view and edit that dashboard.

## Editing A Custom Dashboard

You can edit the currently displayed custom dashboard, repositioning and deleting individual report panels, changing the dashboard title and description, modifying the time range for search queries in those panels, modifying a panel's chart type, and so on.

- 
- Step 1** Click the **Edit** button in the current custom dashboard and choose one of the following options:
- **Edit Panels** – Enable panel editing: drag a panel title bar to reposition it; click its close button to delete a panel; add a label above the panel's title; click the appropriate button to:
    - Change the panel chart type.
    - Change chart parameters.
  - **Edit Title or Description** – Change the title and description of the entire dashboard.
  - **Edit Permissions** – Change the viewing permission for the entire dashboard.
  - **Schedule PDF Delivery** – Schedule regular generation of a report PDF from this dashboard; the generated PDF is then emailed to the address(es) you have specified.
  - **Delete** – Delete entire dashboard.
- Step 2** You also can click **Add Panel** to add a panel from similar custom dashboards to this dashboard. This button is displayed after you click the custom dashboard's **Edit** button.

**Step 3** Click **Done** when you are finished editing this dashboard.

---

## Creating A Custom Filter

When you configure a custom filter, the Advanced Web Security Reporting searches the “data model” you have selected, filtering and displaying the model’s data set by “data object(s),” or “attribute(s),” which you have also selected. Each available data model represents a set of logs of a specific type, while each data object represents a specific log type, or sometimes a data set, that is a child component of the current data model.

Follow these steps to filter and display a specific set of log data:

---

**Step 1** Click **Custom Filter** in the Advanced Web Security Reporting’s menu bar.

**Step 2** On the **Select a Data Model** page, choose the data model to search:

- **AMP Access Model** – all available Advanced Malware Protection logs.
- **SOCKS Access Model** – all available SOCKS logs.
- **Web Access Model** – all other available Web-related logs (for example, user- and domain-related access logs).

Each data model represents the collected logs of the named type.

**Step 3** On the **Select a Data Object** page:

- a. Expand the list of data objects available in the selected Data Model by clicking the right-arrow preceding the Data Model Event name (for example, “Web Access Event”).
- b. Click a data object (Event or Attribute) and then choose either **Top Values** or **Top Values by Time**.

If you choose **Top Values**, the chosen Attribute data is displayed in rows; each row presents a second column displaying the event count for that particular Attribute entry.

If you choose **Top Values by Time**, `_time` is the filter for **Split Rows**, and the chosen Attribute is the **Split Columns** filter. That is, each row represents an event time and each column represents a specific Attribute entry; thus, each table cell presents the number of occurrences of the given Attribute at a specific time.

**Note** The symbol preceding each Attribute entry indicates its type; for example, an alphanumeric or numeric value.

**Step 4** If you chose **Top Values** in the previous step, you can additionally filter the displayed data by choosing another Attribute from the **Split Columns** menu.

**Step 5** You can further adjust the information presented, and its presentation, on the custom filter dashboard, as desired. See [Changing and Saving the Custom Filter Display, page 2-6](#) for more information.

**Step 6** To save this custom filter dashboard, choose **Save As > Dashboard Panel**; it will appear in the **Custom Dashboards** menu under the name you provide.

---



**Note**

Whenever the current filter’s table or chart is being loaded or refreshed, you can click the Pause or Stop buttons. You can click Reload at any other time to reload the filtered data.

---

## Changing and Saving the Custom Filter Display

After creating a custom filter, you can use the options presented on the New Custom Filter page to successively apply additional filtering, thus further refining the information displayed. For example, in addition to using the **Split Rows** feature to split the current data set into rows, one per data entry, and then using **Split Columns** to add columns to each row, representing information extracted from each row entry, you can also apply parameters and attributes using the **Filters** and **Column Values** menus.

You can also select another Data Model, or another Data Object; you can change the formatting, and export and print the data on the page; you can change the chart type; and you can save this custom filter as a dashboard. The options on the New Custom Filter panel are:

- **Chart type** – Click a button in the data-display-type strip on the left side of the application window to change how the custom-filter data is displayed; for example, you might select a bar or a pie chart.
- **Save As** – Save the current filter as a dashboard; it will be added to the **Custom Dashboards** menu. See [Saving a Custom Filter as a Dashboard, page 2-6](#) for more information.
- **Clear** – clears the current custom filter parameters and the data display.
- **Web Access Event**
  - You can select another Data Model; as described in [Creating A Custom Filter, page 2-5](#).
  - You can select another data Object from the currently selected Data Model; as described in [Creating A Custom Filter, page 2-5](#).
  - Information about the currently displayed data set is also presented.
- **Filters** – For any displayed Filter, click the edit button (pencil icon) to change the parameters applied to that filter, or to remove that filter from the display. You can click the add (+) button to choose another data Object to the current set of Filters.
- **Split Rows** – You can edit current Row object parameters, delete a Row object, and add objects to the Split Rows as described for Filters.
- **Split Columns** – Similarly, you can edit current Column object parameters, delete a Column object, and add objects to the Split Columns.
- **Column Values** – You can also edit, delete and Column Values.



### Note

If there are multiple objects displayed for any given option, you can drag the object boxes to re-order them. For example, if the currently chosen Filters, in order from left to right, are `All time`, `category is *`, and `dest_url`, you can drag `dest_url` between the other two so the order becomes `All time`, `dest_url`, and `category is *`.

## Saving a Custom Filter as a Dashboard

On each custom filter page, you can save the displayed filter as a custom dashboard, making it readily available for future viewing.

- 
- Step 1** On the current custom filter page, modify the search parameters as desired, click the **Save As** button and then choose **Dashboard Panel**.
- Step 2** In the Save As Dashboard Panel dialog box, specify a type for this dashboard: either **New** or **Existing**.
- a. If you selected **New**, provide the following information:
    - **Dashboard Title** – (Optional) A display name for the new dashboard.



When saving any report page as a dashboard, you must provide a proper title to reflect the input selected in order to differentiate the custom dashboards.

- **Dashboard ID** – Provide a file name for saving the dashboard; this cannot be changed later.
  - **Dashboard Description** – (Optional) A short description.
  - **Dashboard Permissions** – Select **Private** or **Shared in App**. Private dashboards are visible only to you, while Shared dashboards are visible to all users.
  - **Panel Title** – (Optional) This is the title displayed at the top of the panel when you view this custom dashboard.
  - **Panel Powered By** – This is always **Inline Search**.
  - **Panel Content** – Select **Statistics** or *<chart type>* to display this filter's information as tabular data, or as the chart type currently used for display.
- b. If you selected **Existing**, provide the following information:
- **Select** – Choose the name of the existing custom dashboard to which this filter data is to be added.
  - **Panel Title** – (Optional) This is the title displayed at the top of the panel when you view this custom dashboard.
  - **Panel Powered By** – This is always **Inline Search**.
  - **Panel Content** – Select **Statistics** or *<chart type>* to display this filter's information as tabular data, or as the chart type currently used for display.

**Step 3** Click **Save**.

---

The new dashboard is added to the **Custom Dashboards** menu; choose a custom dashboard from the menu to view and edit that dashboard.

## Exporting Data

- [Exporting the Current Custom Filter Panel, page 2-7](#)
- [Exporting the Current Dashboard to a PDF File, page 2-8](#)

## Exporting the Current Custom Filter Panel

You can export the currently displayed custom-filter data as a comma-separated values (csv) file, an XML file, or a JavaScript Object Notation (json) file.

**Step 1** Click the **Export** button.

**Step 2** In the **Export Results** dialog box:

- a. Choose the desired **Format**: **CSV**, **XML**, or **JSON**.
- b. (Optional) Provide a **File Name** if desired.  
If you do not enter a file name, a random-number name is generated for you.
- c. Specify the **Number of Results** to be saved: click either **Unlimited** or **Limited**.

If you select **Unlimited**, all data returned by your current filter parameters are saved. If you select **Limited**, specify the **Max Results**—the maximum number of displayed values—to be saved.

- Step 3** Click **Export** to close the dialog box and create the export file.
- Step 4** An Open/Save dialog box appears; you can open the export file using the application defined on your system for files of the chosen **Format**, or you can elect to save the file to a location you specify.

## Exporting the Current Dashboard to a PDF File

You can export the currently displayed dashboard as a PDF file.

### Before You Begin

- Verify that the Advanced Web Security Reporting administrator has enabled PDF output.

- Step 1** Click the Export PDF button.
- Step 2** An Open/Save dialog box appears; you can open the PDF file using the application defined on your system for PDF files (usually Adobe Reader), or you can elect to save the file to a location you specify.

### Related Topics

- [Set Up Scheduled PDF Reporting \(Optional\), page 1-18](#)

## Data Formats

In some cases, the presentation of data available through Advanced Web Security Reporting differs from the presentation of data available through the native reporting in source applications.

Data	Format Example
Large numbers (greater than seven digits)	2E11 represents $2 \times 10^{11}$
Time	d+hh:mm:ss.ms indicates elapsed days, hours, minutes, seconds, and milliseconds. For example, 1+03:22:36.00 represents one day, three hours, 22 minutes, 36 seconds, and zero milliseconds.

## Time Ranges



### Tip

Select a smaller time range to return results more quickly.

## Timing of Data Availability

Range	Indexing Begins	Data Appears in Reports
Hour	Just past the hour	60-90 minutes after indexing begins
Day	After midnight daily	One day after indexing begins
Week	After midnight Saturday (early Sunday morning)	One week after indexing begins
90 Days	After midnight of the 90th day.	90 days after indexing begins.
Custom: Less than hourly	Just past the hour	60-90 minutes after indexing begins
Custom: Less than daily	After midnight daily	One day after indexing begins
Custom: Less than weekly	After midnight Saturday (early Sunday morning)	One week after indexing begins

## Troubleshooting

- Advanced Web Security Reporting uses a set of files to populate menus. If experience problems with the menus, verify that the necessary files are in the application's look-ups folder, including:
  - malware\_categories.csv
  - transaction\_types.csv
  - url\_categories.csv
- The administrator can edit the list of URL categories visible within the application. When a category appears within the access log, but is not present in the look-up file, Advanced Web Security Reporting displays "Custom Category."
- Administrators can control the options available in the drop-down fields in the Web Tracking form.
- The `departments.csv` is a file used as part of the role-based security functionality. This file may be edited manually, or by configuring one of the role-discovery scripts (available in the application's `bin` folder) as a scripted input. There is a script for both Linux and Windows.
  - Ensure the file exists in the application's look-up folder.
  - If the Linux version is used, ensure the CLI command `ldapsearch` is installed and in the application user's path.
  - If the Windows version is used, "option explicit" may be commented out to reveal more specific information regarding why and from where an error might have originated.
  - Verify the LDAP paths are syntactically correct.
  - Verify the bind service account name is correct.
  - Verify the correct bind password is entered.
  - Test connection to the remote machine over port 389.
  - Verify the correct attribute was configured for the member name.
  - Verify the correct attribute was used for group membership
  - Verify the correct attribute was configured for group name.

# Usage Scenarios

## User Investigation

This example demonstrates how a system administrator would investigate a particular user at a company. In this scenario, a manager has received a complaint that an employee is visiting inappropriate Web sites at work. To investigate this, the system administrator now needs to look at the employee's Web usage trends and transaction history:

- URL Categories by Total Transactions
- Trend by Total Transactions
- URL Categories Matched
- Domains Matched
- Applications Matched
- Malware Threats Detected
- Policies Matched for a particular User ID or Client IP

Using these reports, the system administrator can discover whether, for example, user "johndoe" was trying to access blocked URLs, which can be viewed in the Transactions Blocked column under the Domains section.

## Viewing Web Usage Trends

---

**Step 1** Select **Users** from the Cisco Advanced Web Security Reporting drop-down menu.

**Step 2** Click the User ID or Client IP address.



**Note** If you do not see the User ID or Client IP address you want to investigate in the Users table, click any User ID or Client IP. Then search for all or part of the User ID or Client IP address.

---

**Step 3** (Optional) Select **Actions > Print**.

---

## Viewing Transaction History

---

**Step 1** Select **Web Tracking** from the Cisco Advanced Web Security Reporting drop-down menu.

**Step 2** **Search** for the User ID/Client IP Address.

**Step 3** Click **Pick fields** above the transaction list to change the information displayed for each transaction.

**Step 4** (Optional) Click **Export** to export the data to a CSV file.

---

## URLs Visited

In this scenario, a Sales manager wants to discover the top five visited Web sites at their company for the last week. Additionally, the manager wants to know which users are going to those Websites.

### Viewing Most Visited Web Sites

- 
- Step 1** Select **Web Sites** from the Cisco Advanced Web Security Reporting drop-down menu.
  - Step 2** Select **Week** from the Time Range drop-down list.
  - Step 3** View the top 25 domains in the Domains Matched table.
  - Step 4** Click a domain to view the users who have visited that domain in order of frequency.
- 

## URL Categories Visited

In this scenario, the Human Resources manager wants to know what the top three URL categories all employees have visited over the past 30 days. Additionally, a network manager wants to get this information to monitor bandwidth usage, to find out what URLs are taking up the most bandwidth on the network. The example below is to show how you can gather data for several people covering several points of interest, while only having to generate one report.

### Viewing Most Common URL Categories

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- Step 1** Select **URL Categories** from the Cisco Advanced Web Security Reporting drop-down menu.
  - Step 2** View the top ten URL Categories by Total Transactions graph.
  - Step 3** (Optional) Click the **Export PDF** button. Save the PDF and send it to the appropriate people.
  - Step 4** View the Bytes Allowed column in the URL Categories Matches table.
  - Step 5** (Optional) Click the **Export PDF** button. Save the PDF and send it to the appropriate people.
  - Step 6** For finer granularity, select a specific URL Category.
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# CEF Extractor

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- [About the CEF Extractor Service, page -1](#)
- [Setting Up the CEF Extractor Service, page -1](#)

## About the CEF Extractor Service

The Common Event Format (CEF) Extractor service running in the Advanced Web Security Reporting (AWSR) application lets you transform access logs received from one or more WSAs into CEF-formatted output data that can be forwarded to other third-party security-information-management (SIM) systems, such as the ArcSight applications.

**Note**

The CEF Extractor service operates only in a distributed environment, meaning it requires at least two separate AWSR instances running on separate hosts. One AWSR instance operates as “master” or “search head,” providing dedicated search and license-sharing functions, while the other “listener” or “peer” instances operate as indexers, feeding the transformed syslog data into the AWSR databases.

## Setting Up the CEF Extractor Service

Configuring the CEF Extractor service in Advanced Web Security Reporting involves these steps:

- Set one or more peer instances as “listeners,” ready to receive, transform and index syslog data from linked WSAs. See [Setting Up a CEF Peer, page -1](#) for more information.
- Configure the master AWSR instance, or “search head.” See [Configuring the AWSR Master, page -2](#).
- Set up licensing on all master and peer systems. See [Configuring Licensing, page -3](#).
- Configure the CEF service on the master system. See [CEF Extractor Initial Configuration, page -4](#).
- [Restart the Master System, page -4](#)
- [Configure Mapping of Access Logs to CEF Output Fields, page -4](#)
- Configure data inputs for the CEF service. See [Configure Data Input for the CEF Extractor Service, page -6](#).

**Before You Begin**

- Be sure all necessary hosts have the AWSR software installed and are configured for basic operations and communications.

## Setting Up a CEF Peer

Follow these steps on the server hosting the indexing peer to configure it as a “listener” by creating a new receiver entry and specifying the port on which to listen for WSA syslog data:

**Before You Begin**

- Launch an AWSR peer and log in as an admin user.

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- Step 1** Choose **Settings > Data > Forwarding and Receiving**.
- Step 2** On the Forwarding and receiving page, click the **Add new** link in the **Configure receiving** row of the **Receive data** section of this page.
- If the desired listener port is already configured, you can click the **Configure receiving** link to go directly to the **Receive data** page to enable the port.
- Step 3** On the **Add new – Configure receiving** page, enter the number of the port to listen on.
- Step 4** Click **Save**.
- You are returned to the **Receive data** page which lists the available listen-on ports—you can enable/disable and delete individual ports. You also can add new ports from this page.
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## Configuring the AWSR Master

On the master (or search head) system, you must enable Distributed Search and add one or more Search peers to its peer roster.

### Before You Begin

- Launch the AWSR master and log in as an admin user.

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- Step 1** To enable Distributed Search:
- Click **Settings > Distributed Environment > Distributed Search**.
  - On the Distributed search page, click **Distributed search setup**.
  - On the Distributed search set up page, Select **Yes** for the **Turn on distributed search?** option.
  - Click **Save**.
- You are returned to the Distributed search page.
- Step 2** To add a search peer (that is, an indexer):
- Click the **Add new** link in the **Search peers** row of the Distributed search page.
  - On the Add new page, under Add search peers, enter the **Peer ID** in either *server\_name:management\_port* or *IP\_address:management\_port* format.
  - Provide Distributed search authentication parameters for connection to the peer:
    - **Remote username** – Provide the user name for an admin user on the remote search peer.
    - **Remote password** – Enter that user’s connection password.
    - **Confirm password** – Re-enter the password.
  - Click **Save**.
- You are returned to the Search peers page.
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The Search peers page lists all currently configured peers. You can enable/disable and delete individual Search peers. You also can add new Search peers from this page. Access this page at any time by choosing **Settings > Distributed Environment > Distributed Search** and then clicking **Search peers**.



## Configuring Licensing

The master system can share one license with each indexer. That is, each indexer peer does not need a separate, individual license. Configuring licensing on all AWSR instances is described in the following sections:

- [Peer Licensing, page -3](#)
- [Master Licensing, page -3](#)

### Peer Licensing

Each indexer is configured to access a license from a license pool maintained by the master system.

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- Step 1** On the indexer system, choose **Settings > System > Licensing** to open the Licensing page. A notification of this server's licensing role is displayed at the top of this page. The server's role can be either "associated with a remote master license server," or "acting as a master license server."
- Step 2** If this peer's displayed role is **acting as a master license server**, click the **Change to slave** button.
- Step 3** On the **Change master association** page, select **Designate a different AWSR instance as the master license server**.
- Step 4** Provide the master license server access information: either the *server\_name:management\_port* or *IP\_address:management\_port* of the desired server.
- Step 5** Click **Save**.
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### Master Licensing

The master system can share one license with each indexer. Follow these steps to specify the license pool to share with all configured indexer systems.


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- Step 1** On the search head, choose **Settings > System > Licensing** to access the Licensing page. A notification of this server's licensing role is displayed at the top of this page. The server's role can be either "associated with a remote master license server," or "acting as a master license server."
- Step 2** If this peer's displayed role is **associated with a remote master license server**, click the **Change to master** button and designate this server as the master license server in the Change master association dialog box; click **Save** in the dialog box to return to the Licensing page.
- Step 3** In the License stack section, click **Edit** in the row representing the license pool that you want to share with indexer peers.
- Step 4** On the Manage license pool page, select **Specific indexers** for the option "Which indexers are eligible to draw from this pool?" Available indexers are listed.
- Step 5** Click the green Add button in front of a desired indexer to add it to the Associated indexers list. Repeat this step as necessary.
- Step 6** Click **Submit**.
- Step 7** Click **OK** in the Update notification. You are returned to the Licensing page, where you can add licenses, and add, edit and delete license pools.
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## CEF Extractor Initial Configuration

After the AWSR CEF Extractor master and indexer systems have been set up, you must configure the CEF Extractor service.

### Before You Begin

- Launch the AWSR master system and log in as an admin user.

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- Step 1** Choose **Settings > Third Party Services > CEF Extractor** to access the CEF Extractor page. You are notified the CEF application has not yet been fully configured.
- Step 2** Click the **Continue to app setup page** button to continue to the AWSR CEF set-up page.
- Step 3** Check **Enable Indexed Realtime** to allow indexing and searching in real time. We recommend enabling this option to increase performance.
- Step 4** In the Indexer Setup section, enter the access ID information for each peer in the **Indexers** field in either *server\_name:listener\_port* or *IP\_address:listener\_port* format.
-  **Note** For each indexer entry, be sure to use the number of the listener port configured for that indexer system, as described in [Setting Up a CEF Peer, page -1](#).
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- Step 5** Click **Save**.
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## Restart the Master System

After configuring the Advanced Web Security Reporting master system, setting up peer licensing sharing, and configuring the CEF Extractor service, you must restart the master server.

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- Step 1** Choose **Settings > System > Server Controls** to access the Server controls page.
- Step 2** Click the **Restart AWSR** button and follow the instructions to restart the system.
- Step 3** When restart is completed; log in again.
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## Configure Mapping of Access Logs to CEF Output Fields

The next task is configuring mapping of WSA access logs to CEF output fields for the CEF Extractor service, and defining output destinations for this information.

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- Step 1** Choose **Settings > Third Party Services > CEF Extractor** to access the CEF Extractor page.
- Step 2** Click **New** to launch the CEF Extractor data-search set-up wizard.
- Step 3** Choose the **Data Model** from which to retrieve data; in this case, choose **Web\_Access\_Data**.
- Step 4** Choose **Web\_Access\_Event** from the **Object** drop-down list indicating the data fields are to be obtained from WSA Web access logs.

**Step 5** Click **Next** to proceed to the Map Fields page of the wizard.

This page displays two columns: CEF Output Fields and Data-model attributes. The rows in the Output Fields column are drop-down lists containing all CEF output formats, while the Data-model attribute column presents a hard-coded listing of the attribute availables in the data model.

**Step 6** Map CEF Output Fields to Web Access data-model attributes, as needed.

Some fields are automatically mapped (for example, the Data-model attribute `host` is automatically mapped to the CEF field `syslog_host`); auto-mapped and default mappings are displayed on this page; both can be altered.

To add or change a mapping, open the drop-down list in row representing the Output Field-to-Attribute mapping to be updates, and choose the CEF output field to be mapped to this Data-model attribute.

**Step 7** Click **Next** to proceed to the Create Static Fields page of the wizard.

Use the fields on this page to provide situational static values for CEF output fields that have no corresponding Data-model attributes.

**Step 8** Enter static Field Values for listed CEF Output Fields.

For example, you might enter a Field Value of `CISCO` for the CEF Output Field `dvc_vendor`, and `AWSR_CEF` for `dvc_product`.

**Step 9** Click **Next** to proceed to the Define Outputs page of the wizard.

On this page, you create or select the output group to which CEF data is to be sent.

**Step 10** Click **Create new output group**.

**Step 11** In the New Output Group dialog box, provide the following new output group parameters:

- **Name** – an identifier for this output group.
- **Hosts to output data to** – the output server(s) to be sent CEF output data; enter in either *server\_name:receive\_port* or *IP\_address:receive\_port* format.



**Note** If you are planning to output syslog data, you cannot use TCP port 514 here, as it is already in use; see [Configuration Of Data Input for WSA Syslogs, page 1-13](#).

**Step 12** Click **Save** to close the New Output Group dialog box.

**Step 13** Click **Next** to proceed to the Save Search page of the wizard.

**Step 14** Identify this mapping or search set:

- **Search Name** – an identifier or mapping name for this CEF information search set.
- **Search Description** (optional) – a short description for this CEF information search.

**Step 15** Click **Save** to complete the wizard.

The CEF Extractor page lists defined data-set mappings; you can add new sets and enable, disable or delete existing sets.

## Configure Data Input for the CEF Extractor Service

The next task is configuring the data fields for the CEF Extractor service.

**Note**

This section describes setting up WSA access logs as data input for the CEF Extractor service. You can also set up FTP push, syslog push, and CWS logs as data inputs for the service. See [Set Up On-going Data Transfers, page 1-13](#) and [Configure CWS Log Updates, page 1-15](#) for additional information.

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- Step 1** Choose **Settings > Data > Data inputs** to access the Data inputs page.
  - Step 2** Click **Add new** in the **Files & directories** row of the Data inputs page to launch the set-up wizard in which you will configure the field mappings and monitoring of a new data folder.
  - Step 3** Click the **Browse** button beside the **File or Directory** field.
  - Step 4** In the Select source dialog box, browse to and select the desired WSA access logs folder (for example, `home/logger/incoming/wsa_test/accesslogs`).
  - Step 5** Click **Select** to close the Select source dialog box.
  - Step 6** Click **Next** on the Select Source wizard page to go to the Input Setting page.
  - Step 7** For Source type, click **Select**, then click **Select Source Type** and choose `wsa_accesslogs` (you can start typing `wsa_accesslogs` into the filter field at the top of the Select Source Type drop-down list to quickly locate the entry).
  - Step 8** For App context, choose **Advanced Web Security Reporting 6.1.0** from the **App context** drop-down list.
  - Step 9** Scroll down to the Host entry, click **Segment in path**, and then enter a **Segment number**.

The Host entry specifies how the value of the host field is determined for events from this source. The Segment in path option means it is determined from a segment of the Source path specified earlier. The Segment number indicates which segment of the path is the host value. For example, in our earlier sample Source path, `home/logger/incoming/wsa_test/accesslogs`, the host name, `wsa_test`, is the fourth segment in the path, so the Segment number entered here would be 4.
  - Step 10** Click **Review** to proceed to the Review page of the wizard.
  - Step 11** Review the information you have entered and then click **Submit** to create the new data input instance.
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