

Configuring Email Logging in AOS

AdTran Operating System (AOS) supports sending log events via e-mail. This guide explains how to configure and troubleshoot logging via e-mail.

- AOS Device with configured and establish connections
- Correctly configured Email Server
- IP Address of Email Server
- Destination Email Address
- Source Email Address
- IP Address of a DNS Server

For configuring via the Web Interface:

- AOS 12 or Higher
 - 1st Generation NetVanta (1200860Lx and 1200870Lx) and NetVanta 2000 Series routers do not support firmware revision 12 or higher
- Modern web-browser with Javascript support
 - Internet Explorer 5 or Higher; Firefox 1.5 or Higher

Configuring via the Web Interface

Configuring logging via the Web Interface is supported in AOS firmware revisions 12 and higher. If your AOS device does not support AOS firmware revision 12, you should use the section titled “Configuring via the Command Line Interface”. For more information about accessing the web interface, consult the guide titled “Accessing the Web Interface in AOS”.

Setting DNS Servers:

- 1) Click **Hostname / DNS** in the left menu.
- 2) Enter the IP Address of a DNS server in **Primary DNS Server**. Your ISP or your network administrator will provide you with IP Addresses for DNS.
- 3) Optionally, enter the IP Address of a DNS server in **Secondary DNS Server**.

Enabling DNS Lookup

- 4) Check the **DNS Lookup** check box to enable DNS lookup.
- 5) Click **Apply**.

Enabling Logging:

- 6) Click **Logging** under Utilities in the left menu.
- 7) Check the **Event History** check box.

Enabling Email Logging:

- 8) Click the **Email Logging** tab.
- 9) Check the **Enable Email Logging** check box to enable logging via email.

Configuring Email Logging Options:

- 10) Choose an **Email Forwarding Priority Level**. ‘Info (0)’ is the most verbose and ‘fatal (0)’ is the least verbose. For general information about interface state changes and firewall messages, choose ‘Notice (3)’.
- 11) Enter the IP Address or DNS name of your SMTP e-mail server in **Email Server**. Note that this guide does not cover configuring or establishing an SMTP e-mail server. You should consult the e-mail server’s documentation and test the server prior to completing this guide.
- 12) Enter the destination e-mail address for log messages in **Email Receiver List**. Multiple addresses, separated by semi-colons, may be used. Do not use spaces.
- 13) Enter destination e-mail addresses for exception reports in **Exception Report Receiver List**. Exception reports can be evaluated to determine why an AOS device performed a software reset to return to functionality.

*Note: You should **NOT** enter an adtran.com e-mail account in this the *Exception Report Receiver List*. AdTran Technical Support will request Exception Reports as needed.*
- 14) Enter an e-mail address in **Email Sender** that will be used as the “From” field in e-mails. This value may be restricted by the SMTP server. You should ensure that your SMTP server will forward e-mail for this address.

Note: Your AOS device will now begin sending log entries via e-mail. Use the “*Troubleshooting*” section of this guide if you do not begin receiving e-mails with AOS log entries from your AOS device.

Configuring via the Command Line Interface

Email logging can be configured via the Command Line Interface AOS version 7 and higher. For more information about access the Command Line Interface, consult the guide titled “Accessing the Command Line Interface in AOS”

Accessing Global Configuration Mode:

- 1) Type **enable** to enter Privileged mode. You may be prompted for a password. If you do not know this password, consult the guide “Password Recovery in AOS”.
- 2) Type **configure terminal** to access Global Configuration Mode.

Setting DNS Servers:

- 3) Type **ip name-server <primary-server-address> <secondary-server-address>** to set the primary and Secondary DNS Server IP Addresses. Your ISP or your network administrator will provide these IP Addresses.
(Example: *ip name-server 1.2.3.4 1.2.3.5*)

Enabling Domain Lookup:

- 4) Type **ip domain-lookup** to enable DNS lookups in AOS. This will allow AOS to lookup DNS entries when using a host name for the “logging email receiver-ip” setting later in this guide.

Enabling Event Logging:

- 5) Type **event-history on** to enable event history logging. This is required for email logging to function.

Enabling Email Logging:

- 6) Type **logging email on** to enable email logging.

Configuring Email Logging Options:

- 7) Type **logging email priority-level <priority-level>** to set the priority level. The priority level options are ‘error’, ‘fatal’, ‘warning’, ‘notice’ and ‘info’ in order of verbosity; ‘error’ being the least and ‘info’ being the most verbose.
(Example: *logging email priority-level notice*)
- 8) Type **logging email address-list <address-list>** to set the destination e-mail addresses for e-mail logs entries. Multiple addresses should be split by semi-colons. Do not use spaces.
(Example: *logging email address-list test@test.com;bob@bob.com*)
- 9) Type **logging email receiver-ip <ip-address or hostname>** to set the SMTP e-mail server to be used for sending email. Note that this guide does not cover

configuring an SMTP server. You should configure and test the SMTP server prior to using this guide.

(Example: *logging email receiver-ip mail.test.com*)

- 10) Type **logging email sender <sender-address@hostname.com>** to set the “From” address in email log entries. The value for this address may be restricted by your SMTP server. You should ensure that your SMTP server will forward e-mail for this address.

(Example: *logging email sender test@test.com;bob@bob.com*)

- 11) Type **logging email exception-report address-list <address-list>** to send exception reports via email. Exception reports can be evaluated to determine why an AOS device performed a software reset to return to functionality.

(Example: *logging email exception-report address-list test@test.com*)

Note: You should **NOT** enter an adtran.com e-mail account in this the *Exception Report Receiver List*. AdTran Technical Support will request Exception Reports as needed.

- 12) Type **logging email source-interface <interface> <interface-number>** to set the source interface, and subsequently source IP Address, for communicating with the SMTP server. If your SMTP server is inside your network, you should use the inside interface, and similarly the outside interface for SMTP servers outside of your network.

(Example: *logging email source-interface ppp 1*)

(Example: *logging email source-interface eth 0/1*)

Note: Your AOS device will now begin forwarding log entries via e-mail. Use the “*Troubleshooting*” section of this guide if you do not begin receiving e-mails with AOS log entries from your AOS device.

Example Configuration

```
!  
ip name-server 1.2.3.4 1.2.3.5  
ip domain-lookup  
event-history on  
logging email on  
logging email priority-level notice  
logging email receiver-ip mail.test.com  
logging email address-list test@test.com;bob@bob.com  
logging email exception-report address-list test@test.com  
logging email sender me@test.com  
!
```

Trouble Shooting

It is important to understand that the source interface for sending email log entries must be “UP” when the logged event occurs. If the interface over which the e-mail log entry must be sent is “Down” the e-mail cannot be transmitted, and therefore you will not receive an email log entry. For example, if the SMTP server exists across a T1 connection, you will not receive email log entries about that T1 interface going down, because there is no method to deliver that e-mail.

Before troubleshooting the AOS Device, you should review the activity and error log files of your SMTP for connections and results from the AOS device. Be sure that your SMTP server is not rejecting connections or producing errors because of the sender address or source IP Address of the AOS device.

Set the Priority Level:

First, set the priority level to ‘info’. This will ensure that all event messages are transmitted to the email server. If after setting the priority-level to ‘info’ you find the sought after message in your logging records, set a more verbose priority-level and try again.

Cause a logged event:

Logging can be most easily troubleshot by causing a logged event; such as causing an interface to go ‘UP’ or ‘DOWN’. Choose an un-used interface, and pull the plug.

Connectivity:

If after setting the priority-level to ‘info’ you find that emails are not being sent to the SMTP server (by checking the SMTP server logs), be sure that the AOS device and your syslog server have connectivity. An acceptable test is to ping the email server. From the command line interface of the NetVanta type the command “ping <ip-address>” to ping the IP Address of the SMTP email server. If there is no response, the server and the AOS device do not have connectivity. You should evaluate the connectivity, and return to this guide when connectivity exists.