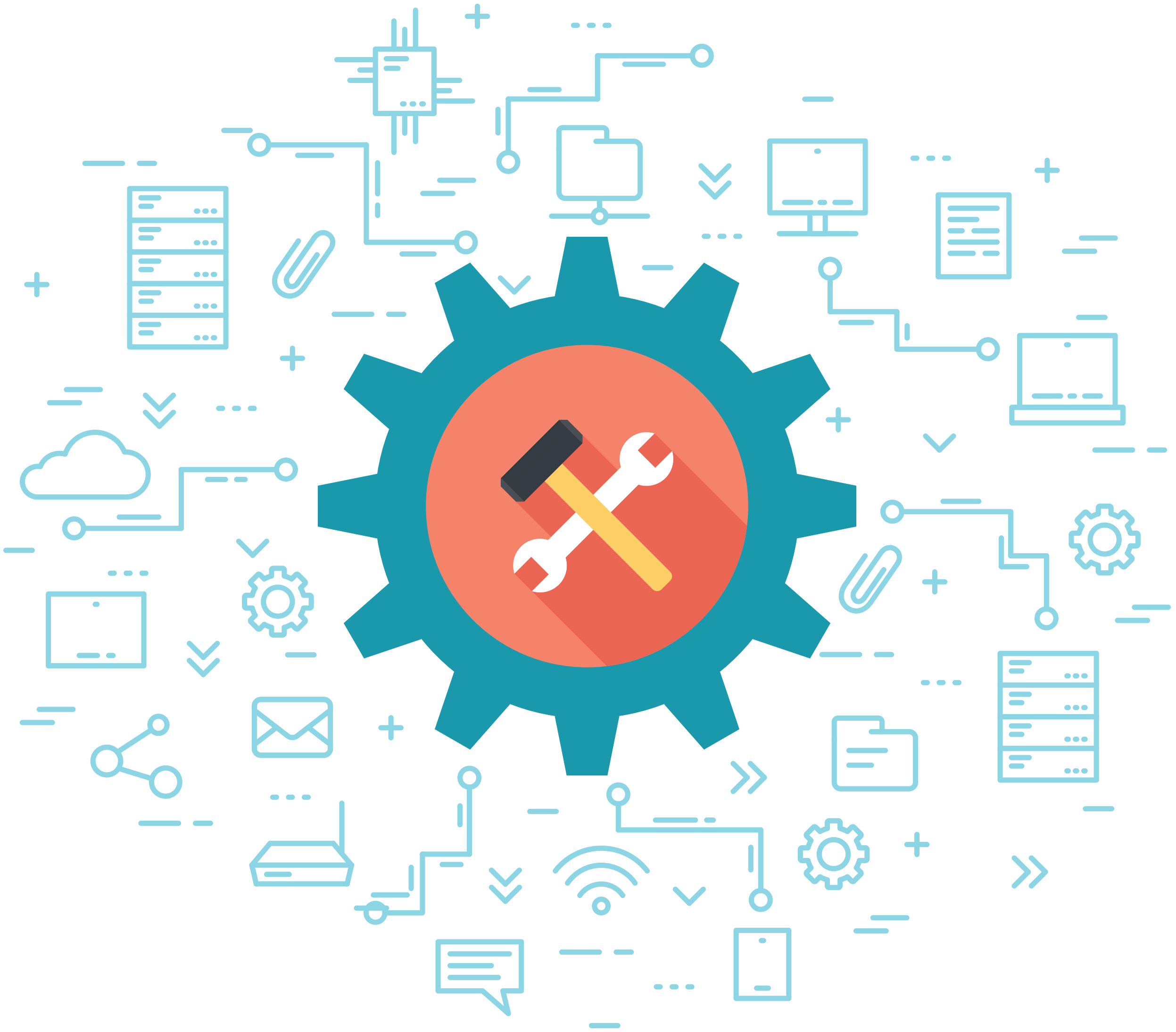
ManageEngine
EventLog Analyzer

# Disaster Recovery and High Availability Configuration Guide



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# Purpose of the document

This document highlights the provisions for disaster recovery in the distributed edition of EventLog Analyzer. It also illustrates the working and benefits of the high availability feature in the product.

# EventLog Analyzer Distributed Edition

The distributed edition of EventLog Analyzer involves deployment of one admin server and many managed servers. The managed servers can be installed at different locations (one per LAN environment) and connected to the central admin server.

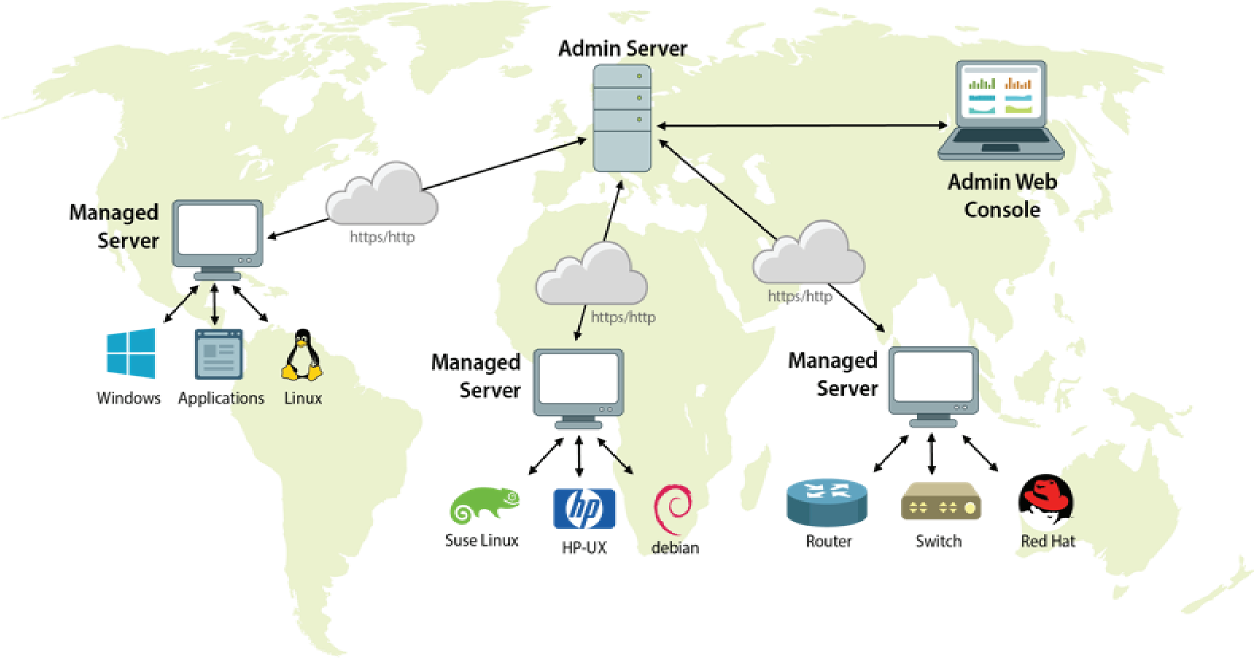


Fig. 1 EventLog Analyzer Distributed Edition Architecture

**Managed server:** The managed server is the installation of EventLog Analyzer that collects logs from sources present in that specific location. This information is then relayed onto the single central admin server.

**Admin server:** The admin server is that installation of EventLog Analyzer which aggregates information from all the other managed servers installed across the globe. The admin server acts as a single central console and displays reports, alerts, and other log information from all the managed servers.

# Disaster Recovery for EventLog Analyzer Distributed Edition

Log data from all possible log sources is collected and stored in the EventLog Analyzer server. This data is analyzed to detect anomalies and network security threats. Hence, the EventLog Analyzer server is a critical component from the perspective of an organization's network security. In the unlikely event of a major glitch in your environment which causes the EventLog Analyzer server to go down, log processing and analysis would come to a halt. This stoppage might turn out to be a gateway for security breaches. To avert such disasters, EventLog Analyzer has a backup mechanism.

As a disaster recovery measure, EventLog Analyzer offers the high availability feature. It allows for every EventLog Analyzer server, both admin and managed, to be configured with a standby server. This standby server would continuously monitor the primary server. In case the primary server fails, the standby server would immediately step in and start performing all the duties of the primary one without any lapse. Read more about the working of EventLog Analyzer's high availability module in the upcoming sections.

# High availability in EventLog Analyzer Distributed Edition

To configure high availability for the distributed edition, the below mentioned procedure needs to performed on each installation of EventLog Analyzer, be it an admin server or a managed server.

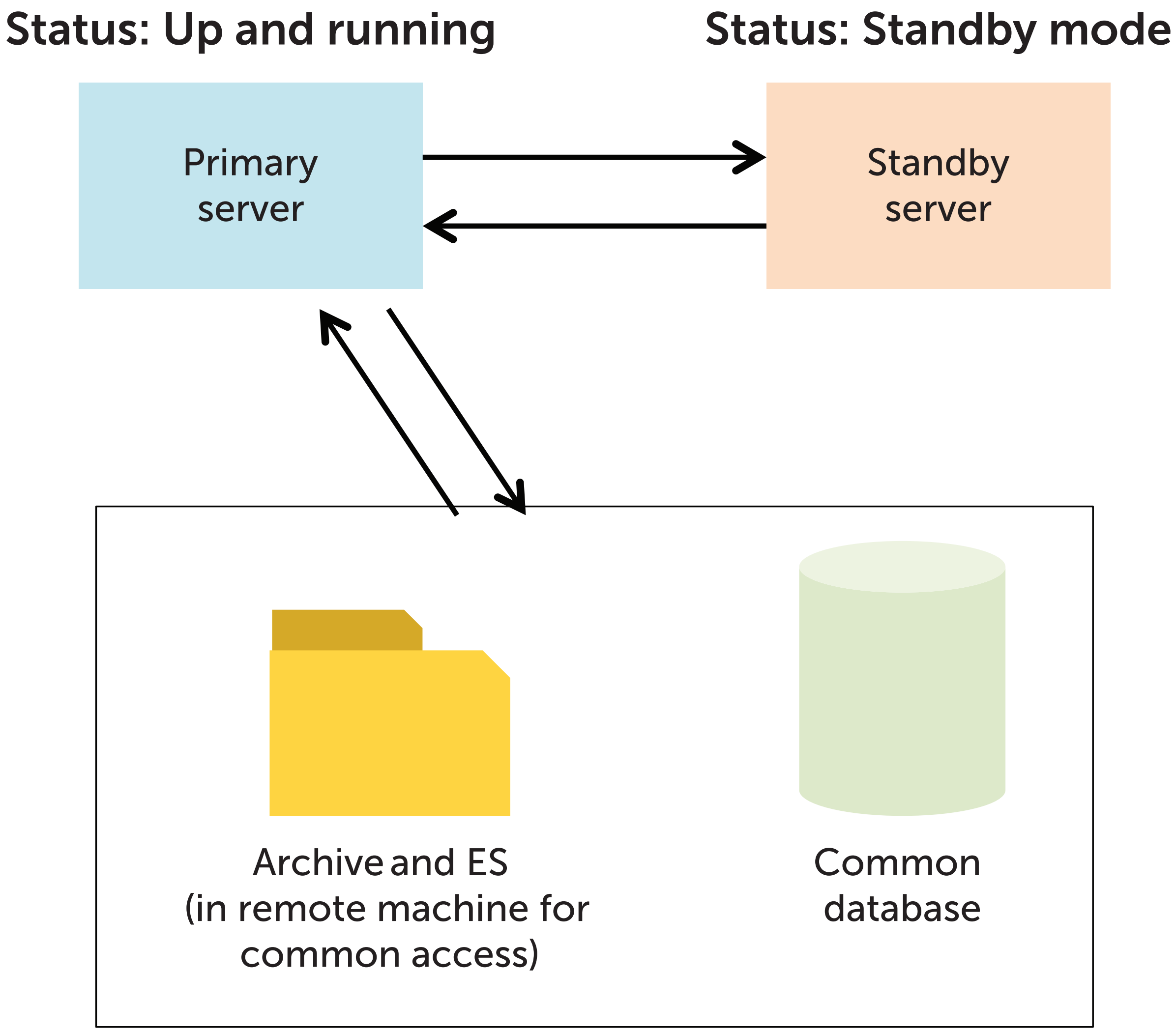
## Why it is necessary to ensure high availability of EventLog Analyzer?

Being a network security solution, EventLog Analyzer constantly monitors log data, looks for anomalies and attack patterns, validates threats, and helps in combating security attacks.

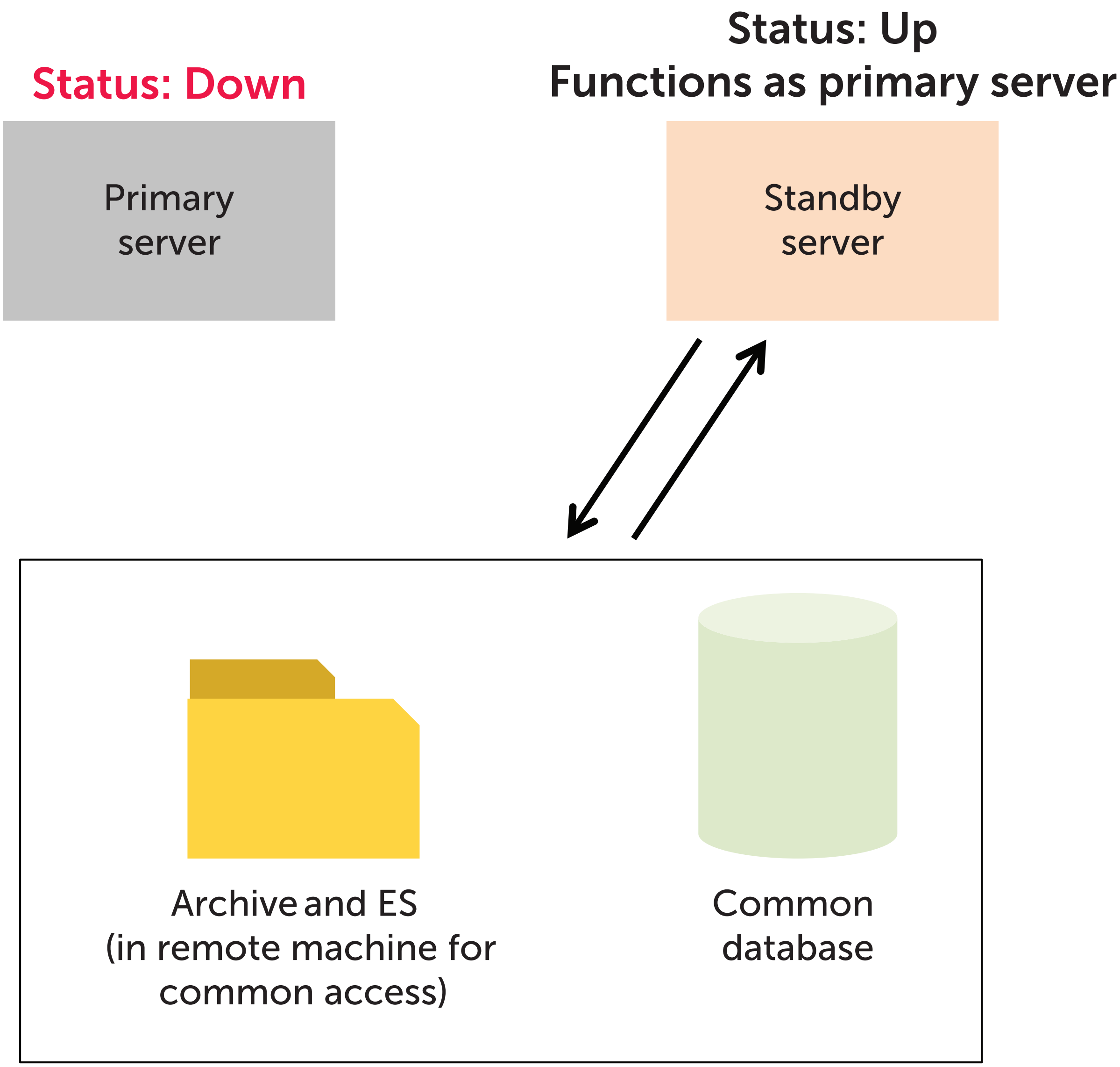
If the EventLog Analyzer server goes down, it would result in stoppage of log data collection and analysis. This could cause failure in identifying security incidents and in turn result in serious data breaches. Such breaches can cause not just huge financial losses and non-compliance penalties but also loss of credibility and reputation. Hence it's advisable to ensure high availability of EventLog Analyzer and thereby keep it running all the time.

## Working of High Availability in EventLog Analyzer

EventLog Analyzer's high availability setup includes two separate installations. One of them acts as a primary server while the other acts as a standby server. Both the installations would point to the same database. And the archived log data and ES data will be available in the common network share.



By default, the primary server will deliver all the required services. The standby server will also be started but it will remain in the standby mode. But it will continuously keep monitoring the primary server's status. Whenever the primary server fails, the standby server will kick in and take up the role of the primary server. It will start collecting the logs to prevent any data loss and continue to perform all the functions of the primary server until the actual primary server is brought back into service.


Status: Down
Status: Up
Functions as primary server
Primary server
Standby server
Archive and ES (in remote machine for common access)
Common database

## Prerequisites

Before beginning configuring EventLog Analyzer for high availability, make sure you have two static IP addresses and one virtual IP address.

## Steps to configure high availability

Configuring high availability in EventLog Analyzer is simple. The following steps will explain how to configure high availability in EventLog Analyzer.

1. Install EventLog Analyzer in two separate servers.
   **Note:** Both the primary and standby servers should be in the same network.

2. Change one of the server's database to SQL by executing the changeDBserver.bat file located in <EventLog_Analyzer Home>\tools. In the dialog box that appears, enter the required details and save.

3. Now run the same **changeDBserver.bat** file in the other server and point to the same database.
   **Note:**

   **(a)** When you run the file, an error message saying "Database already exists" will pop up. This error message can be ignored.

   **(b)** Ensure that the first server is down while executing the **changeDBserver.bat** file on the second server.

4. Please note that both the primary and standby servers should have static IP addresses. To configure static IP address,

   - Navigate to **Start > Control Panel > Network Sharing Center >Ethernet (Local Area Connection).**
   - Select **Properties** menu.
   - Now, uncheck **Internet Protocol Version 6 (TCP/IPv6).**
   - Select **Internet Protocol Version 4 (TCP/IPv4)** and click on **Properties**.
   - Select the **Use the following IP address** radio button.
   - Enter a static IP address and the subnet mask.
   - Finally, click **OK** to save the configuration.

The same steps mentioned above need to be followed in the standby server to configure static IP address.

5 Now add the below entry in **wrapper.conf** file located in *<EventLog Analyzer_Home>\server\conf*.

In the primary server, include the below lines:

```
wrapper.java.additional.x+1=-DremoteIp=<Secondary Server IP>
wrapper.java.additional.x+2=-DlocalIp=<Primary Server IP>
wrapper.java.additional.x+3=-DvirtualIp=<Virtual IP>
```

In the standby server add the below lines:

```
wrapper.java.additional.x+1=-DremoteIp=<Primary Server IP>
wrapper.java.additional.x+2=-DlocalIp=<Standby Server IP>
wrapper.java.additional.x+3=-DvirtualIp=<Virtual IP>
wrapper.java.additional.x+4=-DSecondary=true
```

**Note:** Both the primary and standby servers should be configured with the same virtual IP address.

The value of x varies depending on the setup in your organization. To find the value of x that you need to enter,

- Navigate to <EventLog Analyzer_Home>\server\conf\wrapper.conf and search for "wrapper.java.additional.".
- Navigate to the last occurence of the search result and note down the numerical value that is next to "wrapper.java.additonal." It is your value for x.
- Add the commands for primary and secondary servers based on this value of x.

For example, let us consider the last occurence of searching for "wrapper.java.additional." to be "wrapper.java.additional.36". In this scenario, your value for x is 36 and the lines you would need to add in the primary server would be:

```
wrapper.java.additional.37=-DremoteIp=123.456.789.123
wrapper.java.additional.38=-DlocalIp=123.456.789.124
wrapper.java.additional.39=-DvirtualIp=123.456.789.125
```

The lines to be added in the standby server are:

```
wrapper.java.additional.37=-DremoteIp=123.456.789.124
wrapper.java.additional.38=-DlocalIp=123.456.789.123
wrapper.java.additional.39=-DvirtualIp=123.456.789.125
wrapper.java.additional.40=-DSecondary=true
```

Also ensure that,

- The virtual IP address is in the local network IP range. Using this IP address, the high availability script will automatically add or remove the virtual IP during the product startup and shutdown.

- EventLog Analyzer processes are bound to the virtual IP. In case of syslog monitoring, the syslog devices should be configured to forward their log data to this virtual IP address.

6 Now, in both the primary and standby servers, edit and update the interface name (interfaceName field) and virtual IP netmask ***(VirtualIPNetMask field)*** in the **StartHA.vbs** and **StopHA.vbs** files located in ***<EventLog Analyzer_Home>\tools directory***. The value of the ***interfaceName*** field should be of the connection name found in your **Network Sharing Center**. The ***VirtualIPNetMask*** field should be filled with the subnet mask of the virtual IP.

7 Edit the path data in the elasticsearch.yml file *<EventLogAnalyzer_Home/ES/Config>* to install the product as a service. The value of the path.data field should be that of the common shared location, so that it can store logs of both primary and standby servers in ES data. The node.max_local_storage_nodes fields has to be modified to 2 to support the latest ES version in High Availability.( node.max_local_storage_nodes: 2).

8 Before starting EventLog Analyzer, ensure that it is installed as a service. If it is not installed as a service, execute the **service.bat –I** command from ***<EventLog Analyzer_Home>\bin directory*** to install the product as a service.

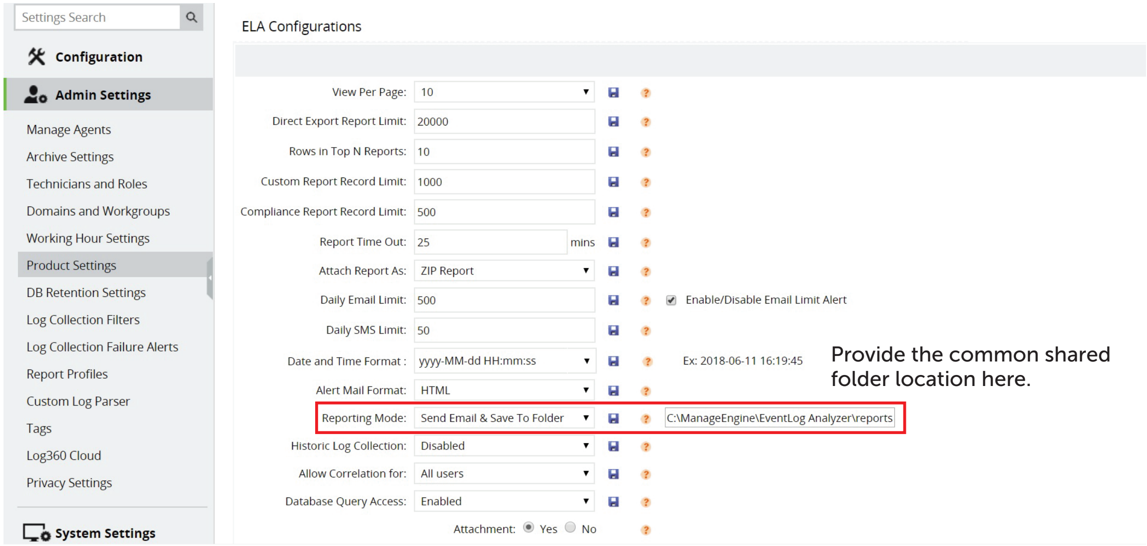
**9** Start the primary server from Windows Services console.

**Note:** Please use only an administrator credential to start EventLog Analyzer service in both primary and standby servers.

**10** Now in EventLog Analyzer, navigate to **Settings> Archive> Settings** and change the location of archive log data to the common shared folder by providing its exact UNC path.

**11** You need to change the custom reports' storage location as well. To do that, navigate to **Settings> Admin Settings> Product Settings**. In the **ELA Configurations** page, provide the common shared folder location in the *UNC path box for the Reporting Mode* field. This will change the location of custom reports to the common shared folder.

**Note:** Ensure that you've selected the **Send Email and Save to Folder** option in the *Reporting Mode* field.

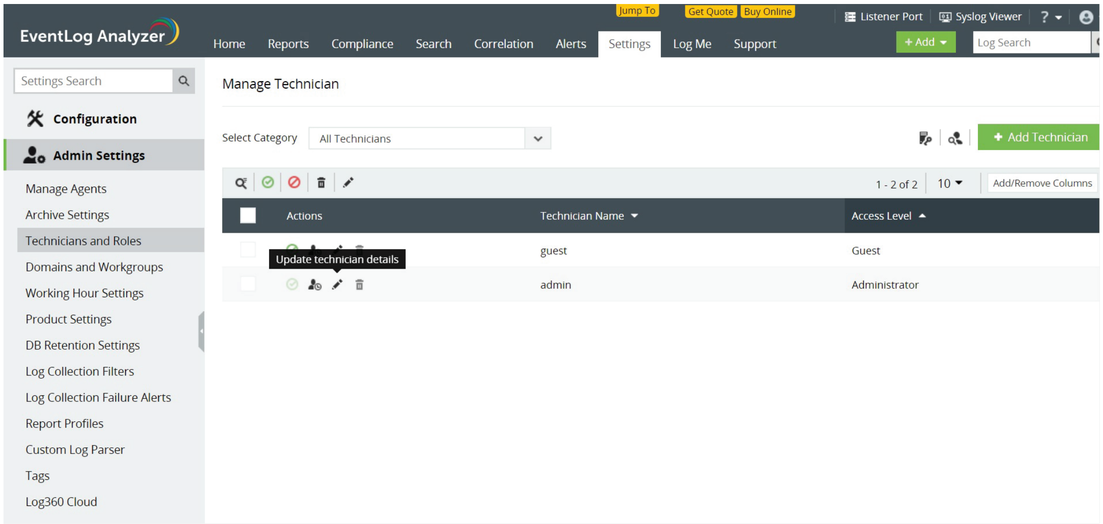


ELA Configurations

View Per Page: 10
Direct Export Report Limit: 20000
Rows in Top N Reports: 10
Custom Report Record Limit: 1000
Compliance Report Record Limit: 500
Report Time Out: 25 mins
Attach Report As: ZIP Report
Daily Email Limit: 500 ☑ Enable/Disable Email Limit Alert
Daily SMS Limit: 50
Date and Time Format : yyyy-MM-dd HH:mm:ss Ex: 2018-06-11 16:19:45
Alert Mail Format: HTML
Reporting Mode: Send Email & Save To Folder C:\ManageEngine\EventLog Analyzer\reports
Historic Log Collection: Disabled
Allow Correlation for: All users
Database Query Access: Enabled
Attachment: ● Yes ○ No

Provide the common shared folder location here.

**12** Email notification will be sent to the product users who have administrator privileges. To configure or change the email address of admin user, navigate to **Settings>Admin Settings>Technicians and Roles**. This will display the product's technicians and their corresponding roles. Click on the edit icon for the admin user and you will be prompted with the *Update technician details* dialog box, where you can edit the email address of the admin user.



| Actions | Technician Name | Access Level |
|---|---|---|
| | guest | Guest |
| | admin | Administrator |

## Steps to activate standby server automatically

- Try to start the EventLog Analyzer service in the standby server while the primary server is up and running. The service startup will fail but this would trigger a process called **wscript.exe** that will start monitoring the primary server's availability.

- Once the primary server goes down, the standby server will automatically get initiated and also email notifications will be sent to administrators immediately.

- Troubleshoot the primary server when it goes down. Upon finishing troubleshooting, shutdown the standby server manually and then start the primary server.

- When the primary server is up and running, perform step 1 to initiate the script in the standby server.

For any further clarifications and queries, contact **eventlog-support@manageengine.com**.

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## EventLog Analyzer

EventLog Analyzer is a web-based log management solution that automates log collection, analysis, correlation, and archival process. The solution comes with more than 1000 predefined reports, 800 ready made alert profiles, and over 25 predefined correlation rules that helps meet the auditing, compliance and security needs of enterprises.

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