

High Availability Configuration Guide

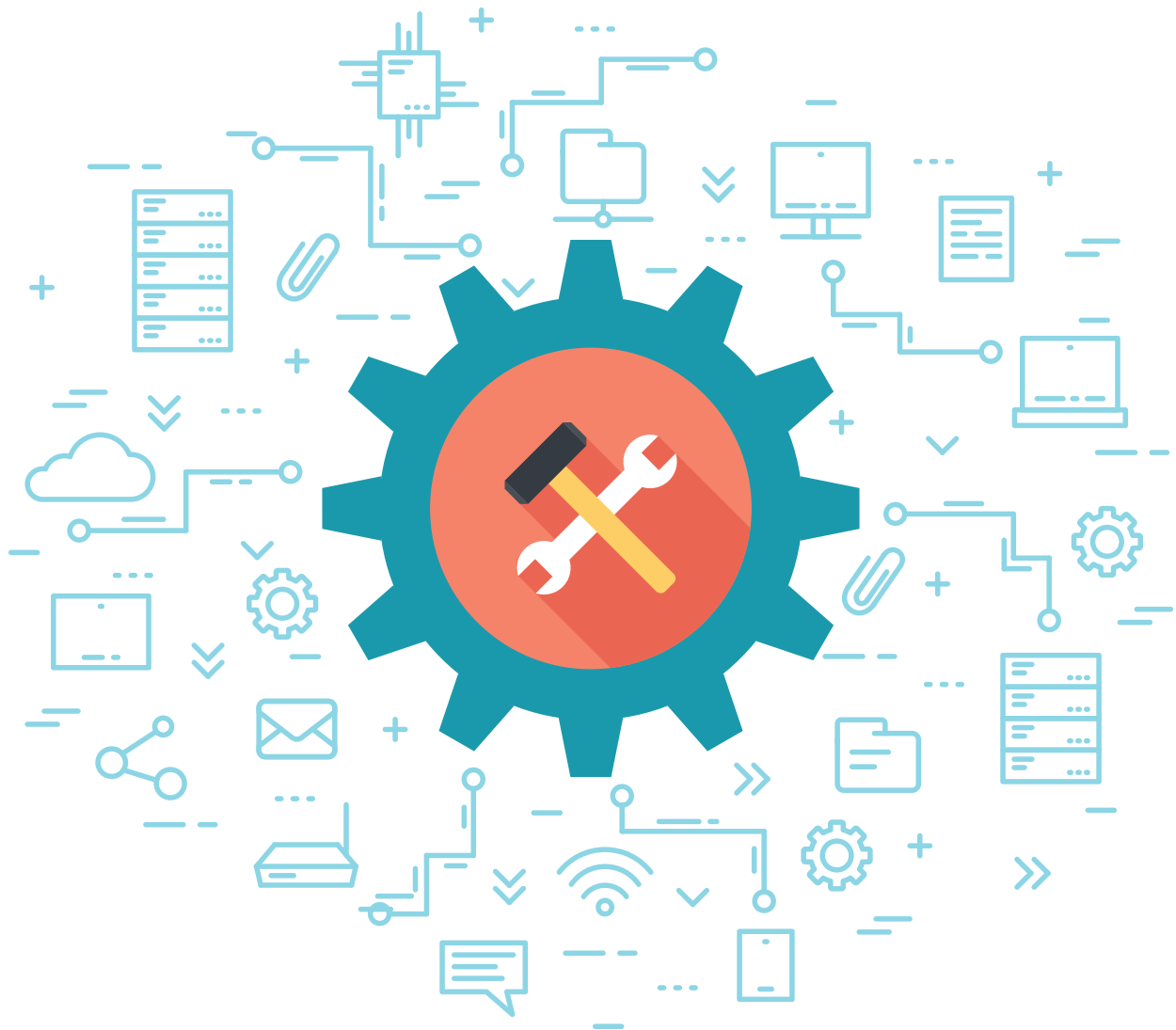


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Purpose of the document

This document explains the benefits, working, and the steps to configure EventLog Analyzer for high availability.

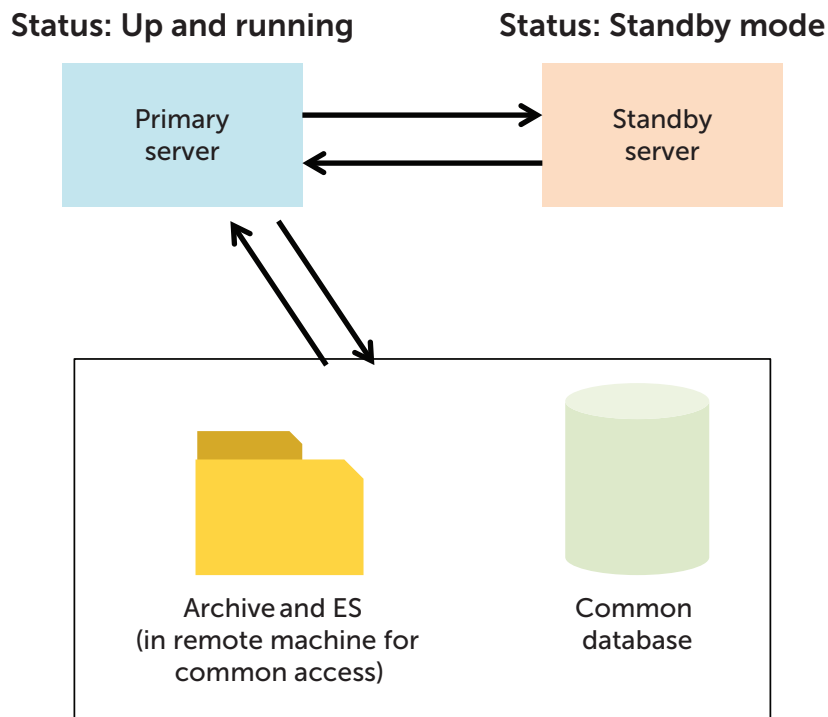
Why it is necessary to ensure high availability of EventLog Analyzer?

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.

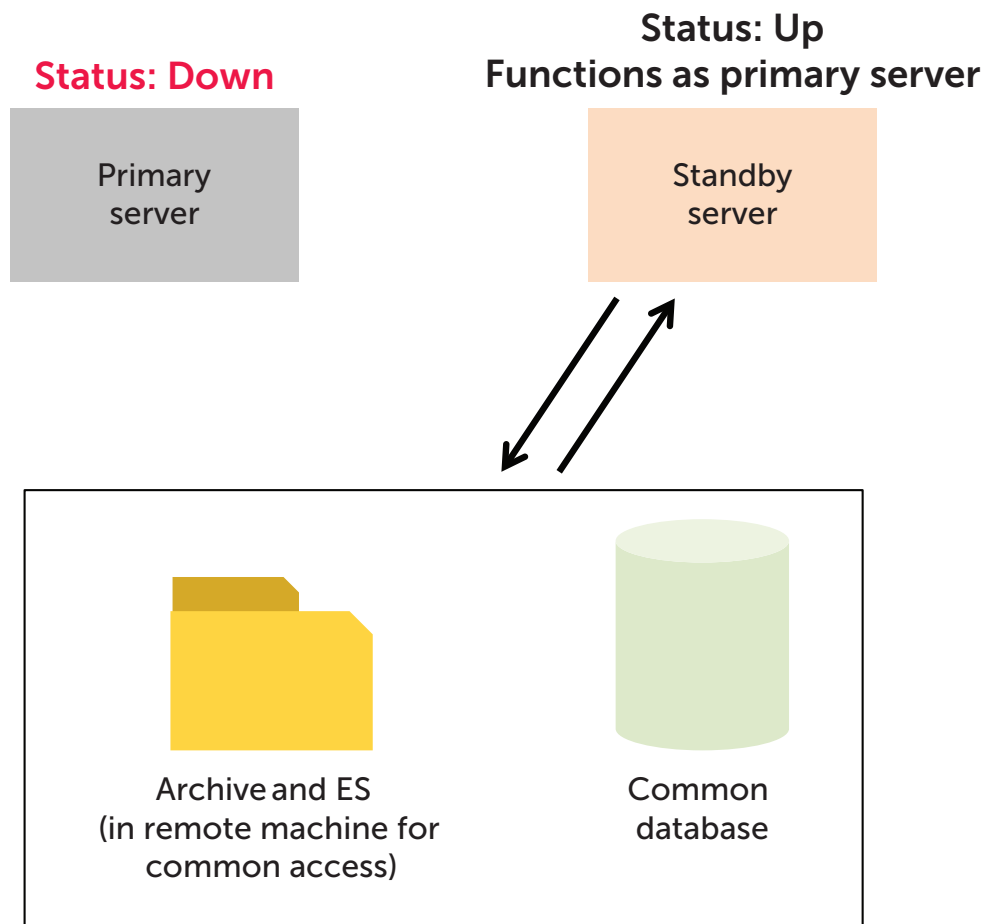
If the EventLog Analyzer server goes down, it would result in stoppage of log data collection and analysis. This could cause failure in identifying security incidents and in turn result in serious data breaches. Such breaches can cause not just huge financial losses and non-compliance penalties but also 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.



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 in EventLog Analyzer:

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=-Dremotelp=<Secondary Server IP>  
wrapper.java.additional.x+2=-Dlocalp=<Primary Server IP>  
wrapper.java.additional.x+3=-Dvirtualp=<Virtual IP>
```

In the standby server add the below lines:

```
wrapper.java.additional.x+1=-Dremotelp=<Primary Server IP>  
wrapper.java.additional.x+2=-Dlocalp=<Standby Server IP>  
wrapper.java.additional.x+3=-Dvirtualp=<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 occurrence 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 occurrence 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=-Dremotelp=123.456.789.123  
wrapper.java.additional.38=-Dlocalp=123.456.789.124  
wrapper.java.additional.39=-Dvirtualp=123.456.789.125
```

The lines to be added in the standby server are:

```
wrapper.java.additional.37=-Dremotep=123.456.789.124  
wrapper.java.additional.38=-Dlocalp=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 located in *<EventLog Analyzer_Home>\ES\Config*. 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.

Note: Please ensure that both primary and standby servers have full permission to the shared folder.

- 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.

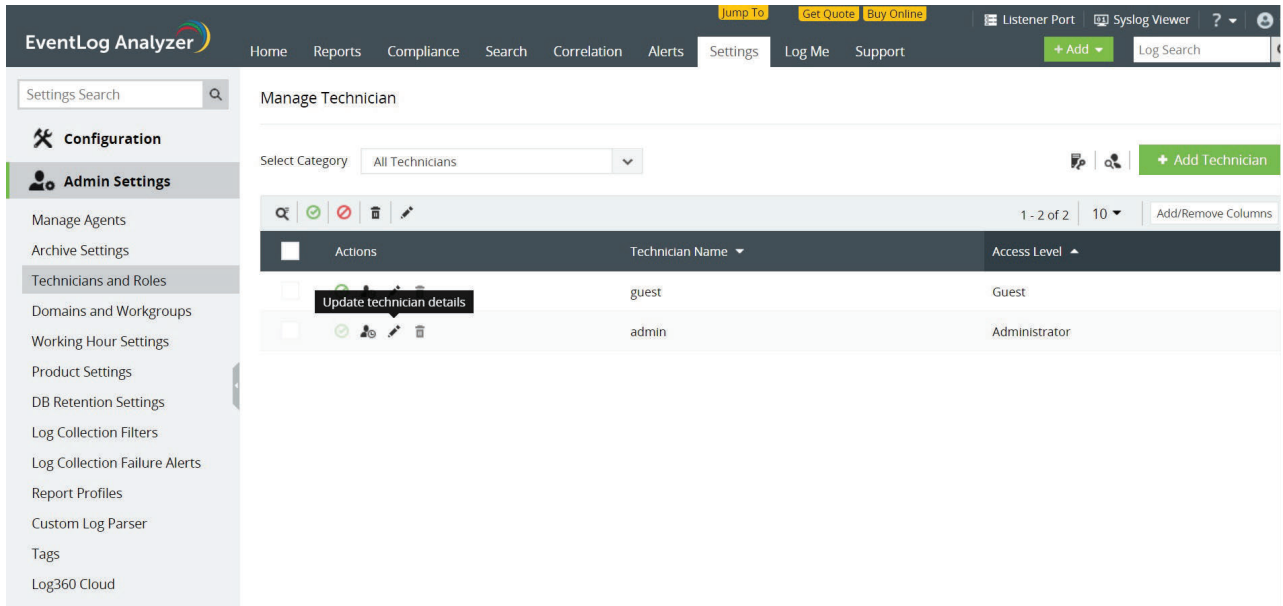
10 Now in EventLog Analyzer, navigate to **Settings> Archive> Settings** and change the location of archive log data to the common shared folder by providing its exact UNC path.

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.

The screenshot displays the 'ELA Configurations' page in the EventLog Analyzer interface. The left-hand navigation pane is open to 'Admin Settings', with 'Product Settings' selected. The main content area shows various configuration fields. The 'Reporting Mode' dropdown menu is set to 'Send Email & Save To Folder', and the adjacent text input field contains the UNC path 'C:\ManageEngine\EventLog Analyzer\reports'. A red rectangular box highlights this field, and a callout bubble points to it with the text 'Provide the common shared folder location here.' Other visible settings include '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), 'Daily SMS Limit' (50), 'Date and Time Format' (yyyy-MM-dd HH:mm:ss), 'Alert Mail Format' (HTML), 'Historic Log Collection' (Disabled), 'Allow Correlation for' (All users), and 'Database Query Access' (Enabled). The 'Attachment' radio buttons are set to 'Yes'.

- 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.



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.



ManageEngine 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. This solution is also capable of auditing business-critical applications such as SQL and Oracle databases, IIS and Apache web servers, perimeter network devices (such as firewalls, IDS/IPS, threat intelligence solutions), and user behaviors. Further, EventLog Analyzer has a best-in class log search engine that helps you with effective forensic analysis.

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