



FortiSIEM - Linux Agent Installation Guide

Version 5.3.1

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Change Log

Date	Change Description
04-17-2019	Initial version of FortiSIEM - Linux Agent Installation Guide.
08/19/2019	Revision 1: Updated the location of the image download site.
11/21/2019	Release of FortiSIEM - Linux Agent Installation Guide for 5.2.6.
03/30/2020	Release of FortiSIEM - Linux Agent Installation Guide for 5.3.0.
06/30/2020	Revision 2: Added section "Installing Linux Agent Without Supervisor Communication".

FortiSIEM Linux Agent

FortiSIEM Linux Agents provides a scalable way to collect logs and other telemetry from Linux systems in a secure and optimized manner.

Note: FortiSIEM Linux Agent will not do file integrity monitoring on `/root` directory.

This section describes how to install, setup, maintain and troubleshoot FortiSIEM Linux Agent.

- [Prerequisites](#)
- [Installing Linux Agent](#)
- [Installing Linux Agent Without Supervisor Communication](#)
- [Managing Linux Agent](#)
- [Uninstalling Linux Agent](#)
- [REST APIs used for Communication](#)
- [Troubleshooting from Linux Agent](#)

Prerequisites

Ensure that the following prerequisites are met before installing FortiSIEM Linux Agent:

- [Supported Operating Systems](#)
- [Software Requirements](#)
- [Hardware Requirements](#)
- [Communication Ports](#)

Supported Operating Systems

FortiSIEM Linux Agent has been tested to run on the following Linux Operating Systems:

- CentOS 6.9 and later
- CentOS 7.4 and later
- Red Hat Enterprise Linux 6.9 and later
- Ubuntu 14.04, 16.04, 18.04, 20.04 LTS
- Amazon Linux 1 and Amazon Linux 2
- SuSE Enterprise Linux (SLES) 12 and 15

For CentOS and Red Hat, the version requirements are:

- `curl` version later than 7.19.7
- `nss.x86_64` version later than 3.36.0

If `curl` and `nss` versions are out of date, run `yum update -y nss curl lib curl` to upgrade.

Software Requirements

Make sure that `rsyslog` service is running before installing or re-installing FortiSIEM Linux Agent.

- To check the service status, run:
`systemctl status rsyslog.service`
- If `rsyslog` service is down, start the service by running:
`systemctl start rsyslog.service`

The following packages must be installed before FortiSIEM Linux Agents can run:

OS name	Package name	Install command
Ubuntu 14, 16, 18, and 20	libcap2-bin auditd rsyslog logrotate	<code>apt-get install <package_name></code> or <code>apt install <package_name></code>
CentOS 6 CentOS 7 RHEL 6 RHEL 7 Amazon Linux 1 and 2	libcap audit rsyslog logrotate If SELinux is enabled, then the following packages also must be installed: policycoreutils-python libselinux-utils setools-console	<code>yum install <package_name></code>
SuSE 12 and 15	libcap-progs audit audit-audispd-plugins rsyslog logrotate	<code>zypper install <package_name></code>

Hardware Requirements

Component	Requirement
CPU	1 vCPU, x64 at 1.5 GHz or higher
RAM	512 MB or higher (FortiSIEM Linux Agent uses <100 MB)
Disk	1 GB or higher (FortiSIEM Linux Agent uses 300 MB)

Communication Ports

FortiSIEM Linux Agent communicates outbound via HTTPS with Supervisor and Collectors. The Agent registers to the Supervisor and periodically receives monitoring template updates, if any. The events are forwarded to the Collectors.

Installing Linux Agent

FortiSIEM Linux Agent is available as a Linux installation script: `fortisiem-linux-agent-installer-5.3.1.1668.sh` from the Fortinet Support website <https://support.fortinet.com>. See "Downloading FortiSIEM Products" for more information on downloading products from the support website.

During installation, the Linux Agent will register with FortiSIEM Supervisor.

The required parameters are:

- **SUPER_IP**: IP Address or Host name/FQDN of Supervisor node
- **ORG_ID**: FortiSIEM Organization Id to which this Agent belongs
- **ORG_NAME**: FortiSIEM Organization Name
- **AGENT_USER**: Agent user name (for registration only)
- **AGENT_PASSWORD**: Agent password (for registration only)

The optional parameters are:

- **HOST_NAME**: This name will be displayed in FortiSIEM CMDB. If this is not specified, the agent will try to discover the hostname
- **VERIFY**: a flag indicating whether agent will verify Super and Collector SSL Certificate using TLS handshake
- **CERT**: the full path where the CA Certificate is located

For Service Provider installations, the Agent user name and password is defined in the Organization. See [here](#) for details.

For Enterprise installations, Agent user name and password is defined in **CMDB > User** page. You must create a user and check Agent Admin. See [here](#) for details.



- Before installing FortiSIEM Agent on FortSIEM Nodes, you must do detailed performance testing since FortSIEM nodes consume significant CPU to process a high volume of events in real-time.
- To run FortiSIEM Linux Agent on FortiSIEM nodes, add this to `/etc/rsyslog.conf` and restart `phParser`:

```
$IncludeConfig /etc/rsyslog.d/fsm-*.conf
```

Follow the steps below to install FortiSIEM Linux Agent:

1. Find the FortiSIEM Linux Agent download location.
2. Find the Organization ID, Organization Name and Agent Registration Credentials:
 - a. Log in to FortiSIEM in Super Global mode as Admin user.
 - b. Go to **ADMIN > Setup > Organizations** and locate the Organization (ID, Name) to which this Agent belongs. If not present, then create an Organization.
 - c. Locate the Agent Registration User and Password for the Organization. If not present, define them.
3. Make sure the Templates and Host to Template association policies are defined for this Host:
 - a. Log in to FortiSIEM in Super Global mode.
 - b. Go to **ADMIN > Setup > Linux Agent** tab and make sure the templates and host to template associations are defined. One of the host-to-template association policies must match this Agent. The first matched policy will be selected.

4. Install the Agent:

- a. SSH to the host as `root`.
- b. Based on the information from steps #1 and #2 above, follow one of the options below:

- **2-Step Install**

- i. Download the installer using the command:

```
wget https://<FortiSIEM_Download_Location>/fortisiem-linux-agent-installer-5.3.1.1668.sh
```

- ii. Install the Agent:

```
bash fortisiem-linux-agent-installer-5.3.1.1668.sh -s <SUPER_IP> -i <ORG_ID> -o <ORG_NAME> -u <AGENT_USER> -p <AGENT_PWD> -n <HOST_NAME>
```

If certificate verification is required, then run:

```
bash fortisiem-linux-agent-installer-5.3.1.1668.sh -s <SUPER_IP> -i <ORG_ID> -o <ORG_NAME> -u <AGENT_USER> -p <AGENT_PWD> -n <HOST_NAME> -v
```

- **Download and install the Agent using the command:**

```
wget https://<FortiSIEM_Download_Location>/fortisiem-linux-agent-installer-5.3.1.1668.sh && chmod +x fortisiem-linux-agent-installer-5.3.1.1668.sh && ./fortisiem-linux-agent-installer-5.3.1.1668.sh -s <SUPER_IP> -i <ORG_ID> -o <ORG_NAME> -u <AGENT_USER> -p <AGENT_PWD> -n <HOST_NAME>
```

If certificate verification is required, then run:

```
wget https://<FortiSIEM_Download_Location>/fortisiem-linux-agent-installer-5.3.1.1668.sh && chmod +x fortisiem-linux-agent-installer-5.3.1.1668.sh && ./fortisiem-linux-agent-installer-5.3.1.1668.sh -s <SUPER_IP> -i <ORG_ID> -o <ORG_NAME> -u <AGENT_USER> -p <AGENT_PWD> -n <HOST_NAME> -v
```

If the installation is successful, `INSTALLATION SUCCESS` message will appear in the standard output. The Agent will register to the Supervisor and start running.

5. Check CMDB for successful registration:

- a. Log in to FortiSIEM in Super Global mode as Admin user.
- b. Go to **CMDB** and search for the Agent Host name.
- c. Check the **Status** column to see the registration status.

Installing Linux Agent Without Supervisor Communication

In typical installations, FortiSIEM Agents register to the Supervisor node, but send the events by using the Collector. In many MSSP situations, customers do not want Agents to directly communicate with the Supervisor node. This requirement can be satisfied by setting up the Collector as an HTTPS proxy between the Agent and the Supervisor. This section describes the required configurations.

- [Step 1: Setup the Collector as an HTTPS Proxy](#)
- [Step 2: Install Agents to Work with the Collector](#)

Step 1: Setup the Collector as an HTTPS Proxy

Follow these steps to setup the Collector as an HTTPS proxy:

1. Log in to the Collector.
2. Go to `/etc/httpd/conf.d`.
3. Create the configuration file `agent-proxy.conf` with the content [below](#).
4. Restart httpd, for example:

```
service httpd restart
```

agent-proxy.conf Content

```
ProxyPass /phoenix/rest/register/linuxAgent https://{actual IP address of the Supervisor  
node}/phoenix/rest/register/linuxAgent  
ProxyPassReverse /phoenix/rest/register/linuxAgent https://{actual IP address of the  
Supervisor node}/phoenix/rest/register/linuxAgent  
  
ProxyPass /phoenix/rest/linuxAgent/update https://{actual IP address of the Supervisor  
node}/phoenix/rest/linuxAgent/update  
ProxyPassReverse /phoenix/rest/linuxAgent/update https://{actual IP address of the Supervisor  
node}/phoenix/rest/linuxAgent/update  
  
SSLProxyEngine on  
SSLProxyVerify none  
SSLProxyCheckPeerCN off  
SSLProxyCheckPeerExpire off
```

Step 2: Install Agents to Work with the Collector

Follow these steps to install the Linux Agents to work with the Collector.

1. If you already have agents registered with the Supervisor, then uninstall them.
2. Re-install the Linux Agents, following the instructions [here](#). During installation, set the Supervisor IP to the IP address of the Collector node.

Managing Linux Agent

Follow the sections below to manage FortiSIEM Linux Agent:

Displaying Agent Status

1. SSH to the host as `root`.
2. Run the command to display the Agent Status: `service fortisiem-linux-agent status`
The Agent status will be displayed in the standard output.

Starting Agent

1. SSH to the host as `root`.
2. Run the command to start the Agent: `service fortisiem-linux-agent start`

Stopping Agent

1. SSH to the host as `root`.
2. Run the command to stop the Agent: `service fortisiem-linux-agent stop`

Uninstalling Linux Agent

Follow the steps below to uninstall Linux Agent:

1. SSH to the host as `root`
2. Run the command: `/opt/fortinet/fortisiem/linux-agent/bin/fortisiem-linux-agent-uninstall.sh`

If uninstall is successful, `UNINSTALL success` message will appear in the standard output.

REST APIs used for Communication

A Linux Agent uses the following REST APIs:

Purpose	URL	Notes
Registration to Supervisor	<code>https://<SuperFQDN>:<port>/phoenix/rest/register/linuxAgent</code>	Supported Port is 443
Status update to Supervisor	<code>https://<SuperFQDN>:<port>/phoenix/rest/linuxAgent/update</code>	Supported Port is 443
Event Upload to Collectors	<code>https://<CollectorFQDNorIP>:<port>/linuxupload</code>	Supported Port is 443

Troubleshooting from Linux Agent

The debugging information is available in two log files:

- Agent Service logs are located in `opt/fortinet/fortisiem/linux-agent/log/fortisiem-linux-agent.log`
- Agent Application log files are located in `/opt/fortinet/fortisiem/linux-agent/log/phoenix.log`



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