Kaspersky Endpoint Security 12.2 for Linux

Quick Start Guide to installation and initial configurationusing the command line

This guide will help you perform the installation and initial configuration of Kaspersky Endpoint Security 12.2 for Linux using the command line on an individual device in your infrastructure.

> This guide does not cover the installation of Kaspersky Endpoint Security 12.2 for Linux in Light Agent mode, or the installation and initial configuration of the application using Kaspersky Security Center. For more information about the application's operating modes, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/264263.htm.

In that article, you will also find recommendations on how to optimize the application to minimize the impact on the performance of your infrastructure.

Preparing to install Kaspersky Endpoint Security 12.2 for Linux

Preparation for installation involves the following steps:

1. Checking that the target device (the device on which you will perform the installation) meets the minimum hardware requirements for installing Kaspersky Endpoint Security 12.2 for Linux: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197642.htm.

   Please note that the amount of system resources required by Kaspersky Endpoint Security 12.2 for Linux depends on the functionality that you plan to use and the workload that the device must process. This means that the minimum system requirements are sufficient for a server not under load, while a high-load server may require significantly more resources.

2. Making sure the target device satisfies the minimum software requirements of Kaspersky Endpoint Security 12.2 for Linux. The Help contains a list of architectures (32-bit, 64-bit, and Arm 64-bit) and OS distributions supported by Kaspersky Endpoint Security 12.2 for Linux: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197645.htm.

   If your OS is not on the list of supported operating systems, we recommend contacting Kaspersky Technical Support to find out if you can installing Kaspersky Endpoint Security 12.2 for Linux on your operating system.

   If you operating system is not on the list, it may mean that Kaspersky Endpoint Security 12.2 for Linux had not been tested for compatibility with this OS at the time when the release version of the application was released. This may be the case if the OS is outdated and no longer supported by the OS vendor or, conversely, if the OS is too new.

3. Making sure that the device has all packages needed for installing Kaspersky Endpoint Security 12.2 for Linux and preparing the OS.

   The sequence of actions for checking the OS settings required to install the application is provided in the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/264265.htm.

   Please note:

   - You need to check whether the perl interpreter version 5.10 or later is installed. To do so, look at the output of the perl -v command. Example:

   ```
   $ perl -v
   This is perl 5, version 30, subversion 0 (v5.30.0) built for x86_64-linux-gnu-thread-multi
   ...
   ```

   - For RHEL systems, such as RED OS, you also need to check whether the perl-Getopt-Long and perl-File-Copy packages required for installation are present. You can check this using the following commands:

     - rpm -q perl-Getopt-Long
     - rpm -q perl-File-Copy

     Example output of the rpm -q perl-Getopt-Long command if the package is installed:

     ```
     $ rpm -q perl-Getopt-Long
     perl-Getopt-Long-2.51-1.el7.noarch
     ```

     Example output of the rpm -q perl-Getopt-Long command if the package is not installed:

     ```
     $ rpm -q perl-Getopt-Long
     package perl-Getopt-Long is not installed
     ```

   The initial configuration script, which runs after installing the Kaspersky Endpoint Security 12.2 for Linux package, requires the Perl language interpreter and the above mentioned packages.

4. Making sure a license key is present to activate Kaspersky Endpoint Security 12.2 for Linux.

   The set of available functions of the Kaspersky Endpoint Security application depends on the license (see the table in the Help section: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/273758.htm).

   For more information about licensing Kaspersky Endpoint Security 12.2 for Linux, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/69238.htm.

   You can add a license key using an activation code or a key file.

   To activate with an activation code, the application needs internet access to connect to Kaspersky activation servers.

   If necessary, you can get a key file based on an activation code. For details, see https://support.kaspersky.com/common/buy/7180.

   When you first install Kaspersky Endpoint Security 12.2 for Linux, the initial configuration script will prompt you to activate the application using a trial license, which is valid for 30 days.

Deployment and initial configuration of Kaspersky Endpoint Security 12.2 for Linux

Installing the application locally on the command line

Before installation, you must find out the architecture of your operating system (32-bit, 64-bit or ARM 64-bit) and the type of package manager that your OS uses.

Then you need to copy the kesl package (the package required to install the application) and the kesl-gui package (an optional package for installing the graphical user interface) to the target device. You must choose packages to match your architecture, package manager type, and bitness of your OS.

If you do not want to use a graphical user interface on the target device, you do not need to copy the kesl-gui package.

> We recommend using the latest builds of packages, which contain fixes for errors discovered since the official release date of the Kaspersky Endpoint Security version being installed. To download the latest build with fixes, you can use the Kaspersky Technical Support request form; for details, see https://support.kaspersky.com/corporate/faq-for-business-products#how-to-create-technical-support-request.

For a description of how to install kesl and kesl-gui packages for various architectures and package managers for different Linux OS distributions, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/233694.htm.

> Please note that installing the kesl-gui package without first installing the kesl package is not possible.

Initial configuration of Kaspersky Endpoint Security 12.2 for Linux after installing the package

After installation, you must run the initial configuration script for Kaspersky Endpoint Security 12.2 for Linux.

Next, let's look at running the initial configuration script in interactive mode (for more details, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197897.htm).

Automatic initial configuration of the application using the autoinstall.ini auto-response file is not covered in this article. For a description of that scenario, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197909.htm.

To start the Kaspersky Endpoint Security initial configuration script, run the following command:

```
# /opt/kaspersky/kesl/bin/kesl-setup.pl
```

> You must run the initial configuration script as root.

Please note the following important initial configuration steps:

- At the first step of the script, when asked whether you want to use the application in Light Agent mode to protect virtual environments, answer n (No).
- At the next step, select the language. This setting determines the language in which the script displays the End User License Agreement and the Privacy Policy.

- You are then prompted to read and accept the End User License Agreement and the Privacy Policy.

  If you fail to accept at least one of these agreements, the initial configuration script terminates, and you cannot use Kaspersky Endpoint Security 12.2 for Linux.

- Next, you will be asked to accept or decline the terms of use of Kaspersky Security Network (for more information about using Kaspersky Security Network, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/265020.htm).

  Use of Kaspersky Security Network is voluntary. You can enable or disable the use of Kaspersky Security Network at any time after installing the application.

- The next important step of the initial configuration script is to specify proxy server settings to make sure the application has internet access.

  If the target device uses a proxy server for internet access, you must configure specify proxy server settings to allow the application to update its databases from Kaspersky public update servers.

  For more information on configuring a proxy server, see https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197275.htm.

- The next important step of the initial configuration script is the initial update of the application databases. The Kaspersky Endpoint Security 12.2 for Linux distribution kit does not include the databases that the application needs to work.

  The application is not activated until the initial database update task is successfully completed.

  You can perform the database update while the initial configuration script is running or after the script has finished.

After completing the initial configuration, updating the databases, and adding the license key, Kaspersky Endpoint Security 12.2 for Linux becomes operational with default settings.

You can check whether the application has been installed and activated successfully using the command:

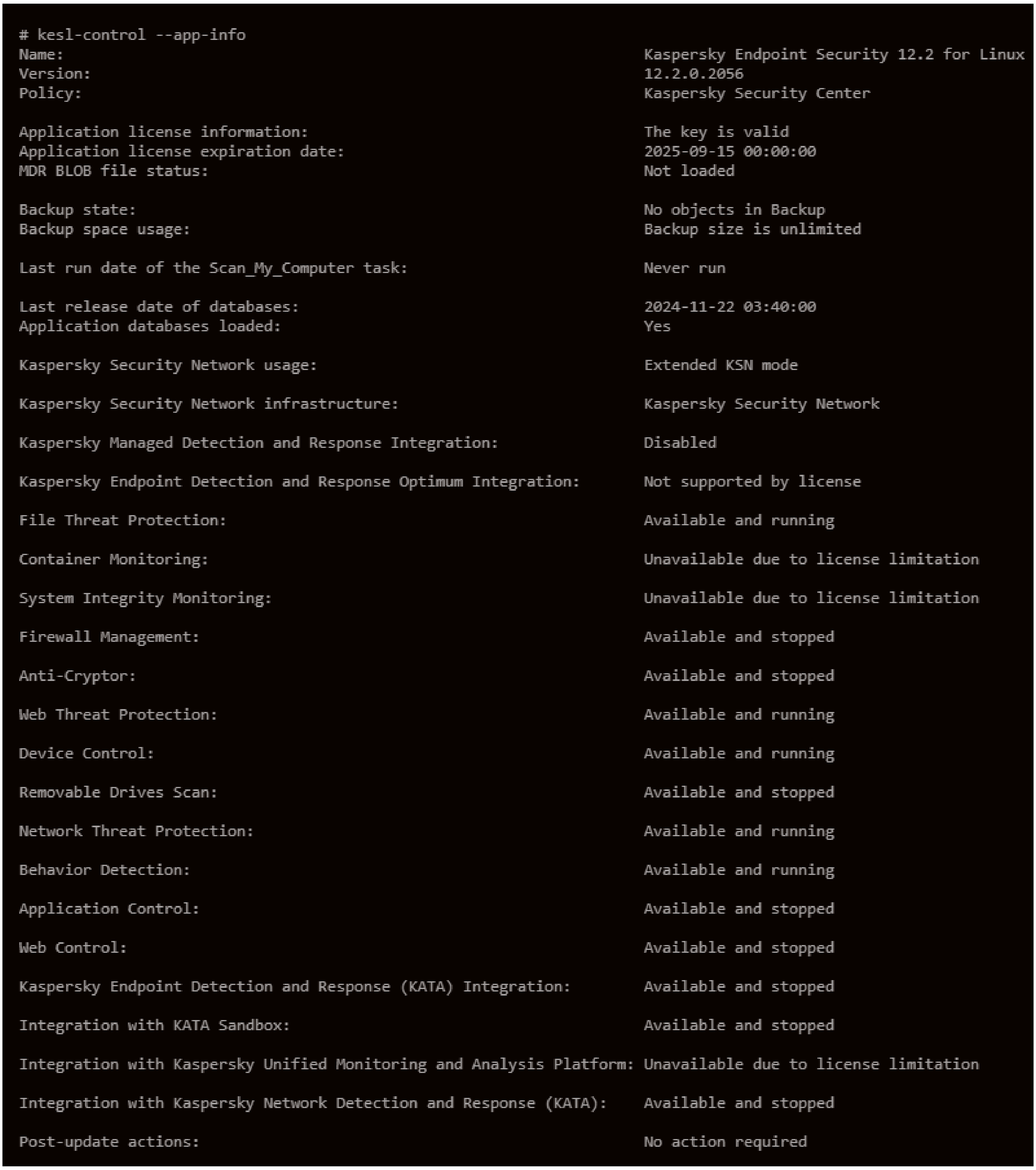
```
# kesl-control --app-info
```

An example of the output of the kesl-control --app-info command is shown in the screenshot below.

Some application tasks may not be available due to license restrictions.

For example, this is why the Container Monitoring (https://support.kaspersky.com/help/KES4Linux/12.2.0/en-US/264266.htm) and System Integrity Monitoring (https://support.ka spersky.com/help/KES4Linux/12.2.0/en-US/264310.htm) tasks are unavailable in the screenshot below.

Example output of the kesl-control --app-info command:



```
# kesl-control --app-info
Name:                                                                Kaspersky Endpoint Security 12.2 for Linux
Version:                                                             12.2.0.2056
Policy:                                                              Kaspersky Security Center

Application license information:                                     The key is valid
Application license expiration date:                                 2025-09-15 00:00:00
MDR BLOB file status:                                                Not loaded

Backup state:                                                        No objects in Backup
Backup space usage:                                                  Backup size is unlimited

Last run date of the Scan_My_Computer task:                          Never run

Last release date of databases:                                      2024-11-22 03:40:00
Application databases loaded:                                        Yes

Kaspersky Security Network usage:                                    Extended KSN mode

Kaspersky Security Network infrastructure:                           Kaspersky Security Network

Kaspersky Managed Detection and Response Integration:                Disabled

Kaspersky Endpoint Detection and Response Optimum Integration:       Not supported by license

File Threat Protection:                                              Available and running

Container Monitoring:                                                Unavailable due to license limitation

System Integrity Monitoring:                                         Unavailable due to license limitation

Firewall Management:                                                 Available and stopped

Anti-Cryptor:                                                        Available and stopped

Web Threat Protection:                                               Available and running

Device Control:                                                      Available and running

Removable Drives Scan:                                               Available and stopped

Network Threat Protection:                                           Available and running

Behavior Detection:                                                  Available and running

Application Control:                                                 Available and stopped

Web Control:                                                         Available and stopped

Kaspersky Endpoint Detection and Response (KATA) Integration:        Available and stopped

Integration with KATA Sandbox:                                       Available and stopped

Integration with Kaspersky Unified Monitoring and Analysis Platform: Unavailable due to license limitation

Integration with Kaspersky Network Detection and Response (KATA):    Available and stopped

Post-update actions:                                                 No action required
```

Optimizing application performance

This section provides recommendations for configuring the application to minimize the impact on the performance of business applications running on the target device. This section also provides recommendations for configuring the application for several typical server roles.

Command line settings are described because when installed as described above, the application is not governed by a Kaspersky Security Center policy.

> You must configure the application as root or as a user to which the Kaspersky Endpoint Security 12.2 for Linux administrator role was assigned during the installation process.

You can also configure application settings centrally using Kaspersky Security Center policies and tasks via Kaspersky Security Center Web Console or via Administration Console (https://support.kaspersky.com/help/KES4Linux/12.2.0/en-US/264152.htm).

This article does not cover the management the application using Kaspersky Security Center.

Configuring the Web Threat Protection and Network Threat Protection tasks

After completing the installation and initial configuration of Kaspersky Endpoint Security 12.2 for Linux, analyze the resource consumption on the device and the impact on the performance of installed applications using built-in tools of your operating system or monitoring system data. If the analysis reveals a significant degradation of application performance and/or levels of system resource usage that are critical for the operation of the OS or applications, we recommend performing additional configuration of the running Web Threat Protection and Network Threat Protection tasks. By default, these tasks are disabled (the Web Threat Protection task is enabled at application startup only if an installed web browser is detected on the system).

Consider the following:

- If the system has its own network rules (or firewalld rules) with Drop policies, then for the application to work correctly, you need to add an accept rule to allow incoming connections from the loc al host:

  ```
  iptables -A INPUT -i lo -j ACCEPT
  ```

- If you did not configure the proxy server settings during the initial application configuration and the device does not have direct access to the internet, then for the Web Threat Protection task to work correctly, you must set CertificateVerificationPolicy=LocalCheck in the encrypted connection verification settings (see the Help: https://support.kaspersky.com/help/KES4Linux/12.2.0/en-US/261136.htm).

  You can specify this setting by running the following command:

  ```
  # kesl-control --set-net-settings CertificateVerificationPolicy=LocalCheck
  ```

  With this value, the application does not use the internet to check and download the missing chains that are required to validate a certificate.

  You can also specify proxy server settings by running the following command:

  - If your proxy server uses authentication:

    ```
    # kesl-control --set-app-settings UseProxy=Yes ProxyServer=<user
    name>:<password>@<IP address of the proxy server>:<port>
    ```

  - If your proxy server does not use authentication:

    ```
    # kesl-control --set-app-settings UseProxy=Yes ProxyServer=<IP address of
    the proxy server>:<port>
    ```

- If you are using the Network Threat Protection task, setting MonitorNetworkPorts=All is guaranteed to cause resources to be unavailable via the SMB protocol.
- Using the Web Threat Protection and Network Threat Protection tasks together with Kubernetes requires additional meticulous and painstaking configuration of OS network rules, and in some cases it may be not possible at all, for example when using Kubernetes with CNI Cillium.

Specifying File Threat Protection task settings and exclusions

The File Threat Protection task has ID=1 and is enabled by default after the application is installed and activated. For more details, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/264271.htm.

The File Threat Protection task intercepts file operation events in the system and, by default, blocks these operations until the application has finished processing the event. After processing is complete, the application either allows the operations and the file operation block is removed, or the application performs the actions on the scanned file described in the FirstAction and SecondAction settings of the File Threat Protection task (for more information about the settings, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/197639.htm).

Enabling archive scanning (the ScanArchived setting of the File Threat Protection task) can have a significant impact on system performance. If archive scanning is enabled, access to the archived file is "delayed" until it is unpacked into a temporary location and scanned. The definition of archive here includes traditional archives as well as packaged objects such as .jar.

By default, archive scanning is disabled, and to optimize the application's performance, we do not recommend enabling it.

There are several types of exclusions for the File Threat Protection task:

- In the task settings, you can configure exclusions by file path (you can also specify the mount type), file mask, threat type, and path to the process performing file operations.

  This type of exclusion works like this: the file operation is intercepted and blocked, then if the application determines that the operation is occurring in an area that is excluded from the scan, the file operation is unblocked and the object of the file operation is not scanned. Minimal delays in file operations do occur.
- In the general application settings, you can configure global exclusions.

  Such exclusions can be specified for system mount points and system mount point types (Local, AllRemoteMounted, Mounted:NFS, Mounted:SMB, Mounted:Custom). Scopes excluded in this way are not tracked by the application at all, which means no delay whatsoever is introduced to file operations.

  We recommend adding mounted remote resources with unstable or slow connections (for example, NFS, SMB) to global exclusions.

For information on configuring both types of exclusions for the File Threat Protection task, see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/248490.htm.

Do exclusions make the device less secure? By adding exclusions, we strive to achieve a reasonable balance between the security of the system and its performance. For example, according to Kaspersky virus experts, you can safely add data files and index files of databases to exclusions. It is believed that no danger exists of such files becoming virus vectors.

For information on configuring exclusions to reduce the impact on the performance of the target device, also see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/206054.htm.

Recommendations for typical server roles

PostgreSQL DB Server

In case of the PostgreSQL database, it is critical to prevent even the slightest delays in file operations with data files and Write Ahead Log (WAL) files. We also recommend excluding file operations of PostgreSQL processes from scanning.

For a typical PostgreSQL installation, these files (including the PostgresSQL executable files) are located at the following paths:

- /var/lib/postgresql/13/main — directory with data
- /var/lib/postgresql/13/main/pg_wal — WAL files
- /usr/lib/postgresql/13/bin/ — executable files

Ask your database administrators how the paths are configured on your device.

We recommend adding the first two paths to global scan exclusions (see the Help: https://support.kaspersky.com/KES4Linux/12.2.0/en-US/248490.htm).

If the paths to the data directory and the WAL files are not separate mount points in the system (you can find the list of mount points in the output of the mount command), you must make them mount points. For example, to make a mount point from the data directory for a typical PostgreSQL installation (/var/lib/postgresql/13/main), run the following command:

```
mount --bind /var/lib/postgresql/13/main/ /var/lib/postgresql/13/main
```

In this case, there is no need to add a separate mount point for the WAL file directory because it is already under the /var/lib/postgresql/13/main mount point.

Next, you need to add a global exclusion:

```
# kesl-control --set-app-settings ExcludedMountPoint.item_0000=/var/lib/postgresql/13/main
```

To ensure that the mount point created with the 'mount --bind' command remains in the system after restart, add the following line to /etc/fstab:

```
/var/lib/postgresql/13/main /var/lib/postgresql/13/main none defaults,bind 0 0
```

To apply the global exclusions specified above, you need to restart the application:

```
# systemctl restart kesl.service
```

Web server

In typical web server usage, high user load on the server while operating over the HTTPS protocol will cause Web Threat Protection and Network Threat Protection to significantly impact system resource consumption due to the cost of decrypting HTTPS traffic. In this case, we recommend disabling Web Threat Protection and Network Threat Protection.

Proxy server

If you are using a proxy server or install a load balancer on the target device, we recommend disabling Web Threat Protection and Network Threat Protection.