



Dr.WEB®

Anti-virus

for UNIX File Servers

Defend what you create

Administrator Manual

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Dr.Web® Anti-virus for UNIX File Servers
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Doctor Web

Doctor Web develops and distributes Dr.Web® information security solutions which provide efficient protection from malicious software and spam.

Doctor Web customers can be found among home users from all over the world and in government enterprises, small companies and nationwide corporations.

Dr.Web antivirus solutions are well known since 1992 for continuing excellence in malware detection and compliance with international information security standards. State certificates and awards received by the Dr.Web solutions, as well as the globally widespread use of our products are the best evidence of exceptional trust to the company products.

We thank all our customers for their support and devotion to the Dr.Web products!



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Introduction

This Manual describes the following anti-virus software:

- **Dr.Web® Anti-virus for UNIX File Servers** for **Linux**;
- **Dr.Web® Anti-virus for UNIX File Servers** for **FreeBSD**;
- **Dr.Web® Anti-virus for UNIX File Servers** for **Solaris x86**.

As far as all these solutions for UNIX systems differ from each other only slightly, all of them will be referred to as **Dr.Web for UNIX File Servers**. Critical differences are described in the corresponding chapters and paragraphs.

The manual is designed for a person responsible for anti-virus protection and security ("Administrator" hereinafter).

Protection of UNIX file servers involves detection and neutralization of viruses and other malware. Although most malware is designed for non-UNIX systems, viruses for other operating systems and macro-viruses for applications can spread via local networks.

Virus check is made when a server performs a requested file operation (i.e. writing or reading files on the server).

Dr.Web for UNIX File Servers includes the following components:

- **Dr.Web Scanner** - console anti-virus scanner that provides detection and neutralization of viruses on the local machine and in the shared directories;
- **Dr.Web Daemon** - a background that performs functions of an external anti-virus filter;
- **Dr.Web Monitor** - a resident component that runs and terminates other **Dr.Web** modules in the required order;
- **Dr.Web Agent** - a resident component that helps to configure and manage **Dr.Web** components, gathers statistics and provides integration with **Dr.Web Enterprise Security Suite (Dr.Web ESS)**;



By default, the solution includes **Dr.Web Agent**, designed for integration with **Dr.Web ESS** 6.0. If you want to integrate the suite with **Dr.Web ESS** 10.0, install the updates for **Dr.Web Agent** and perform additional configuration steps. For details, refer to the [Dr.Web Agent](#) section.

- **Dr.Web Engine** and virus databases that are regularly updated;
- **Dr.Web Updater** (implemented as a **Perl** script) - a component that provides regular updates to virus databases;
- **Dr.Web Samba VFS SpIDer** - a resident component that monitors file operations. The component is implemented as a plug-in for a *VFS* interface (*Virtual File System*) in **Samba**. It serves as a client for **Dr.Web Daemon** and integrates all other packages with **Samba** file servers;
- **Dr.Web Console for UNIX File Servers** – web management interface, a **Webmin** built-in module, used for **Dr.Web for UNIX File Servers** management and configuration via the web interface from any browser.

The following picture shows the structure of **Dr.Web for UNIX File Servers** and its components.

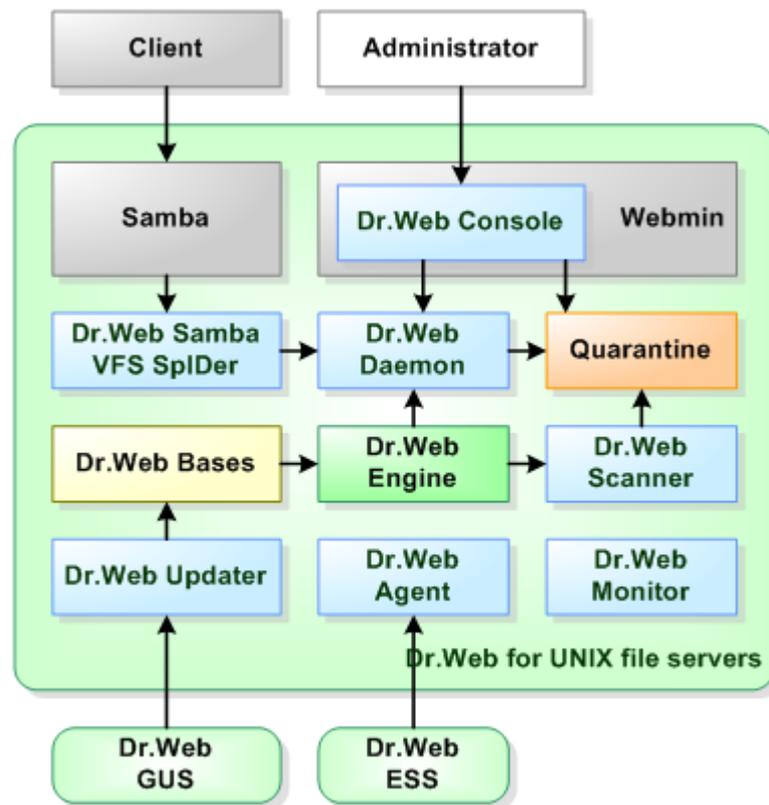


Figure 1. Structure of Dr.Web for UNIX File Servers and its components

The present manual provides information on setup, configuration, and usage of **Dr.Web for UNIX File Servers**, that is:

- General product description
- Installation of **Dr.Web for UNIX File Servers**
- Running **Dr.Web for UNIX File Servers**
- Usage of **Dr.Web Updater**
- Usage of **Dr.Web Agent**
- Usage of console scanner **Dr.Web Scanner**
- Usage of background on-demand scanner **Dr.Web Daemon**
- Usage of **Dr.Web Monitor**
- Integrating **Dr.Web Samba VFS SpIDer** with **Samba** file servers
- Usage of **Dr.Web Console for UNIX File Servers** web interface for **Dr.Web for UNIX File Servers** configuration

At the end of this manual, you can find contact information for technical support.

Doctor Web products are constantly developed. Updates to virus databases are issued daily or even several times a day. New product versions appear. They include enhancements to detection methods, as well as to the means of integration with UNIX systems. Moreover, the list of applications compatible with **Doctor Web** is constantly expanding. Therefore, some settings and functions described in this Manual can slightly differ from those in the current program version. For details on updated program features, refer to the documentation delivered with an update.



Terms and Abbreviations

The following conventions are used in the Manual:

Convention	Description
Bold	Names of buttons and other elements of the graphical user interface (GUI), and required user input that must be entered exactly as given in the guide.
Green and bold	Names of Doctor Web products and components.
<u>Green and underlined</u>	Hyperlinks to topics and web pages.
Monospace	Code examples, input to the command line and application output.
<i>Italics</i>	Placeholders which represent information that must be supplied by a user. For command-line input, it indicates parameter values.
CAPITAL LETTERS	Names of keys and key sequences.
Plus sign ('+')	Indicates a combination of keys. For example, ALT+F1 means to hold down the ALT key while pressing the F1 key.
Exclamation mark	A warning about potential errors or any other important comment.

To define directories, where the suite components are installed, the following conventions are used: `%bin_dir`, `%etc_dir` and `%var_dir`. Depending on the OS, these symbols refer to the following directories:

for Linux and Solaris:

```
%bin_dir = /opt/drweb/  
%etc_dir = /etc/drweb/  
%var_dir = /var/drweb/
```

for FreeBSD:

```
%bin_dir = /usr/local/drweb/  
%etc_dir = /usr/local/etc/drweb/  
%var_dir = /var/drweb/
```

The following conventions are used in the Manual:

Abbreviation	Description
ASCII	American Standard Code for Information Interchange
CIDR	Classless Inter-Domain Routing
DEB	Extension for package files for software distribution in Debian (and others used dpkg)
DNS	Domain Name System
HTML	HyperText Markup Language
IP	Internet Protocol
IPv4	Internet Protocol, version 4
IPv6	Internet Protocol, version 6
IPC	Inter-Process Communication
MD5	Message Digest 5 algorithm
OS	Operating System
PID	Process IDentifier in UNIX based OS
POSIX	Portable Operating System Interface for Unix
RFC	Request for Comments



Abbreviation	Description
RPM	Package files format (and extension) for Red Hat Package Manager
SSL	Secure Socket Layers protocol
TCP	Transmission Control Protocol
TLS	Transport Layer Security protocol
URL	Uniform Resource Locator
UUID	Unique User IDentifier
XML	eXtensible Markup Language

The following abbreviations are used in chapter about component **Dr.Web Console for UNIX File Servers**:

Abbreviation	Description
CGI	Common Gateway Interface
JSON	JavaScript Object Notation

System Requirements

Dr.Web for UNIX File Servers is compatible with

- **Linux** distributions that meet requirements listed in [Compatibility with Linux Distributions](#);
- **FreeBSD** version 6.x and higher for Intel x86 and amd64 platform;
- **Solaris** version 10 for Intel x86 and amd64 platform.



Used platform must be fully compatible with x86 processor architecture in 32-bit or 64-bit modes. 64-bit systems must support 32-bit applications.

The products, operating in **FreeBSD** 6.x, cannot be [integrated](#) with **Dr.Web ESS** 10.

For example:

To enable support for 32-bit applications in systems based on **Debian/Ubuntu Linux** the `libc6-i386` library must be installed, in systems based on **ALT Linux** - the `i586-glibc-core` library.

For successful operation of **Dr.Web for UNIX File Servers**, it is required to:

- Install and run **Dr.Web Daemon** and anti-virus **Dr.Web Engine** version 6.0.2 or later.
- Install and run **Samba** file server version 3.0 or later.
- Installed **Perl** 5.8.0 or later for **Dr.Web Updater**.

Dr.Web for UNIX File Servers hardware requirements are the same as requirements for the command line interface of the compatible operating system.

Installation requires 150 megabytes of free space on hard drive. Web interface installation requires additional 50 megabytes.

GUI installer of **Dr.Web for UNIX File Servers** requires **X Window System**. Execution of interactive configuration script in graphical mode requires `xterm` or `xvt` terminal emulators.

In addition to that, the following packages must be installed in your system:

- `base64`
- `unzip`



- `crond`

For successful installation of **Dr.Web for UNIX File Servers** in **FreeBSD** OS (version later than 8.0), the `compat7x` library is required.

Depending on the range of problems to be solved by **Dr.Web for UNIX File Servers** and operational load, meeting additional hardware requirements can be necessary.



Please note that **Dr.Web Samba VFS SpIDer** component of **Dr.Web for UNIX File Servers** does not support the `CLUSTER_SUPPORT` option by default. If the installed **Samba** includes the `CLUSTER_SUPPORT` option, errors can occur during scanning.

To avoid such problems, you can configure the **Dr.Web Samba VFS SpIDer** source codes after **Dr.Web for UNIX File Servers** installation and enable support for all required options, including `CLUSTER_SUPPORT`. Once you finish [configuring the source codes](#), compile **Dr.Web Samba VFS SpIDer**.

To check whether the installed **Samba** includes the `CLUSTER_SUPPORT` option, use the following command:

```
smbd -b | grep CLUSTER_SUPPORT
```

Compatibility with Linux Distributions

Dr.Web for UNIX File Servers solution is compatible with x86 and x86-64 **Linux** distributions.

Requirements for kernel versions and glibc library depend on the type of the installation package:

- Universal package for UNIX systems (Linux x86):
 - `kernel` version 2.4.x, `glibc` version 2.2 (not recommended) and later,
 - OR
 - `kernel` version 2.6.x, `glibc` version 2.3 and later;
- Universal package for UNIX systems (Linux x86-64):
 - `kernel` version 2.6.x, `glibc` version 2.3 (recommended) and later;
- Native RPM distribution packages (rpm-apt, urpmi, yum, zypper):
 - `kernel` version 2.6.18 and later, `glibc` version 2.5 and later;
- Native DEB distribution packages (apt):
 - `kernel` version 2.6.26 and later, `glibc` version 2.7 and later.

Performance of **Dr.Web for UNIX File Servers** was tested on the following distributions:

Linux distribution	Versions	
	32-bit	64-bit
ALT Linux	4.0 – 5.0 CPTT 6.0 (ru)	5.0 CPTT 6.0 (ru)
Arch Linux	–	all
ASPLinux	12.0 – 14.0	–
Debian	3.1 – 6.0	4.0 – 6.0
Fedora	–	14.0
Gentoo	all	



Linux distribution	Versions	
	32-bit	64-bit
Mandriva Linux	higher than 2009, CS4	2010.x
Mandrake	10.x	10.x
openSUSE	10.3 – 11.0	10.3 – 11.0
PCLinux	2010	2010
RedHat Enterprise Linux (RHEL)	4.0 – 6.0	5.0 – 6.0
Suse Linux Enterprise Server	9.0 – 11.0	10.0 – 11.0
Ubuntu	7.04 – 11.04	7.04 – 11.04

Compatibility with MSVS OS

Dr.Web for UNIX File Servers is compatible with the following versions of **MSVS** OS:

- **MSVS** 3.0 80001-12 (rev. 0, 1, 2, 3);
- **MSVS** 3.0 80001-14 (rev. 0, 1, 2);
- **MSVS** 3.0 80001-08;
- **MSVS** 3.0 80001-16;
- **MSVS** 3.0 FSTEK.

Other **Linux** distributions that meet the requirements mentioned above are also supported (but they were not tested). If you encounter any compatibility problems with the used **Linux** distribution, please contact technical support at <http://support.drweb.com/request/>.

Package File Location

Dr.Web for UNIX File Servers solution is installed to the default `%bin_dir`, `%etc_dir` and `%var_dir` directories. OS independent directory tree is created in the following directories:

- `%bin_dir` - directory with executable modules of **Dr.Web for UNIX File Servers** and **Dr.Web Updater** (perl script `update.pl`);
- `%bin_dir/doc/` - documentation on the product. All documentation is available in both Russian and English languages and represented in KOI8-R и UTF-8 text files.

`%bin_dir/doc/samba/` - documentation for **Dr.Web Samba VFS SpIDer**, script for automatic creation and update of symbolic links - `update-links.sh` and a script example.

- `%bin_dir/lib/` - directory with various service libraries and supporting files for **Dr.Web for UNIX File Servers** component operation, for example:
 - `ru_scanner.dwl` - file of **Dr.Web Scanner** language resources.
- `%bin_dir/web/` - **Dr.Web for UNIX File Servers** web interface module for connection to **Webmin**.
- `%etc_dir/` - directory with **Dr.Web for UNIX File Servers** configuration and enable files that manage startup of components operating in daemon mode^{*}
- `%etc_dir/agent/` - directory with additional configuration files for **Dr.Web Agent**;
- `%etc_dir/monitor/` - directory with additional configuration files for **Dr.Web Monitor**;
- `%var_dir/bases/` - directory with virus databases (*.vdb files);
- `%var_dir/infected/` - **Quarantine** folder that serves for isolation of infected or suspicious files if the corresponding action is specified in **Dr.Web for UNIX File Servers** settings.
- `%var_dir/lib/` - anti-virus engine implemented as a loadable library (`drweb32.dll`).



*) Directory of the `enable` files depends on **Dr.Web for UNIX File Servers** installation method:

- **Installation using the universal package for UNIX systems:**

Files are stored in the `%etc_dir` directory and named as follows
`drwebd.enable,`
`drweb-monitor.enable.`

- **Installation using the native DEB packages:**

Files are stored in the `/etc/defaults` directory and named as follows
`drwebd,`
`drweb-monitor.`

- **Installation using native RPM packages:**

Files are stored in the `/etc/sysconfig` directory and named as follows
`drwebd.enable,`
`drweb-monitor.enable.`

Configuration Files

General format of configuration files

All **Dr.Web for UNIX File Servers** settings are stored in configuration files which you can use to configure all suite components. Configuration files are text files, so they can be edit in any text editor. They have the following format:

```
--- beginning of file ---

[Section 1 name]
Parameter1 = value1, ..., valueK
...
ParameterM = value1, ..., valueK

[Section X name]
Parameter1 = value1, ..., valueK
...
ParameterY = value1, ..., valueK

--- end of file ---
```

Configuration files are formed according to the following rules:

- Symbols ';' or '#' mark the beginning of a comment. Text that follows these symbols is ignored by **Dr.Web for UNIX File Servers** modules when reading a file.
- Contents of the file is divided into sets of named sections. Possible section names are hardcoded and cannot be changed. The section names are specified in square brackets.
- Each file section contains configuration parameters, grouped by meaning.
- One line contains a value (or values) only for one parameter.
- General format for parameter value setting (spaces enclosing the '=' signed are ignored) is the following:

```
<Parameter name> = <Value>
```

- Parameter names are hardcoded and cannot be changed.
- Names of all sections and parameters are case insensitive.
- Order of sections in a file and order of parameters in sections are of no consequence.
- Parameter values in a file may be enclosed in quotation marks (and must be enclosed in quotation marks if they contain spaces).



- Some parameters can have more than one value. In this case, parameter values are separated by a comma or each parameter value is set separately in different lines of the configuration file. If values of a parameter are separated by commas, spaces between a comma and a value are ignored. If a space is a part of a value, the whole value must be enclosed in quotation marks.



If a parameter can have several values, that is explicitly designated. If the possibility to assign several values to a parameter is not explicitly designated, the parameter can have only one value.

Example of assigning several values to a parameter:

- 1) Separating values by commas:

```
Parameter = Value1, Value2, "Value 3"
```

- 2) Setting of each parameter value separately:

```
Parameter = Value2  
Parameter = Value1  
Parameter = "Value 3"
```



If a parameter is not specified in a configuration file, this does not mean that the parameter does not have any value. In this case, the parameter value is assigned by default. Only a few parameters are optional or do not have default values, which is mentioned separately.

Parameter description rules used in this Manual

Each parameter in this manual is described as follows:

ParameterName = {Parameter type Possible values}	Description
	{Whether more than one value is possible} {Special remarks} {Important remarks}
	Default value: ParameterName = {value nothing}

Description of parameters is provided in this document in the same order as they are specified in the corresponding configuration file created upon **Dr.Web for UNIX File Servers** installation.

The `Parameter type` field can be one of the following:

- **numerical value** — parameter value expressed as a whole non-negative number.
- **time** — parameter value expressed as a date unit. The value is a whole number that can be followed by a symbol defining the type of a date unit (`s` – seconds, `m` – minutes, `h` – hours; symbol is case insensitive). If the value does not have a symbol, the parameter is expressed in seconds (by default).

Examples: 30h, 15m, 6 (in the last example, time is expressed in seconds).

- **size** — parameter value expressed as a unit of memory size (disk space or RAM). The value is a combination of a whole number that can be followed by a symbol defining the type of a memory size unit (`b` – bytes, `k` – kilobytes, `m` – megabytes, `g` – gigabytes; symbol is case insensitive). If the value does not have a symbol, the parameter is expressed in bytes.

Examples: 20b, 15k

- **permissions** — parameter value expressed as a three-digit number which determines file access permissions in UNIX format:

Each permission is a combination (sum) of three base permissions:

- Read permission (`r`) is specified by 4;
- Write permission (`w`) is specified by 2;



- Execute permission (x) is specified by 1.

First digit in the value defines permissions for the file owner, second digit - for owner's group, and third digit - for all other users (neither owners nor members of the group).

Examples: 755, 644

- **logical (Yes/No)** — parameter value expressed as a string that can be one of the following: "Yes" or "No".
- **path to file/directory** — parameter value expressed as a string which contains a path to a file or folder in the file system. Note, that names of files and folders are case sensitive. If mentioned, you can specify a file mask as a parameter value. A **mask** can include the following symbols:
 - ? — replaces one symbol in the file (folder) name;
 - * — replaces any sequence of symbols (including an empty sequence) in the file (folder) name.

Example: "? .e*" — this mask defines all files with a name consisting of only one character and with an extension which is of any length and starts with "e" (x.exe, g.e, f.enable and others).
- **action** — parameter value expressed as a string which contains actions (those that are applied to objects by **Dr.Web for UNIX File Servers** components). In some cases, the parameter can have one basic and three additional actions specified (in such a case, the name of the parameter type is **actions list**). Basic action must be the first in the list. Different parameters can have a different action list and, in this case, it is specified separately for each parameter. For information on available actions, see [Allowed actions](#).
- **address** — parameter value expressed as a string which contains socket address of a **Dr.Web for UNIX File Servers** component or used external program.
Address is of the following format: **TYPE:ADDRESS**. There are three available **TYPES**:
 - **inet** — a TCP socket, **ADDRESS** is specified in the following format: **PORT@HOST_NAME**, where **HOST_NAME** can be either a direct IP address or domain name of the host.
Example:

```
Address = inet:3003@localhost
```
 - **local** — a local UNIX socket, **ADDRESS** is a path to the socket file.
Example:

```
Address = local:%var_dir/.daemon
```
 - **pid** — a real process address that is to be read from the process PID file. This address type is allowed only in certain cases that are explicitly designated in the parameter description.
- **text value, string** — parameter value expressed as a text string. The text can be enclosed in quotation marks (and the text must be enclosed in quotation marks if it contains spaces).
- **log level** — parameter value expressed as a string which contains the [verbosity level](#) of logging into the file or **syslog** system service.
- **value** — parameter has the type that is not described in the previous items of the list. In this case, all available values are provided.

Behaviour of the modules if configuration file parameters are ill-defined

- If any parameter value is incorrect, the respective **Dr.Web for UNIX File Servers** module outputs an error message and terminates.
- If any unknown parameter is found when loading a configuration file, **Dr.Web for UNIX File Servers** logs the corresponding message and continues operation in the normal mode.



Logging

All **Dr.Web for UNIX File Servers** components keep records about their operation in the logs. You can set a log mode for each component (output of information into the file or to **syslog**).

You can also select a log verbosity level: for example, set high level of verbosity (the `Debug` option) or disable logging (the `Quiet` option). To set the verbosity level, use the `LogLevel1` parameter. You can also specify additional parameters for certain plug-ins to configure their verbosity log level (for example, keeping records of IPC subsystem operation is modified by the `IPCLevel1` parameter).



If the `LogLevel1` configuration parameter is not available for a plug-in, it is not allowed to adjust its log mode. In this case, the default log mode has a verbosity level similar to `Debug`.

Log verbosity levels

If allowed, you can set one of the following log verbosity levels for a **Dr.Web for UNIX File Servers** component (the list is arranged in ascending order of detail):

- `Quiet` – Logging is disabled.
- `Error` – The component logs only fatal errors.
- `Alert` – The component logs errors and important warnings.
- `Warning` – The component logs errors and all warnings.
- `Info` – The component logs errors, warnings and information messages.
- `Notice` – This mode is similar to the `Info` mode, but the component also logs notifications.
- `Debug` – This mode is similar to the `Notice` mode, but the component also logs debug information.
- `Verbose` – The component logs all details on its activity (this mode is not recommended, because a large volume of logged data can considerably reduce performance of both the program and **syslog** service if it is enabled).



Each **Dr.Web for UNIX File Servers** component can have different set of allowed log verbosity levels. For information on available verbosity levels, see description of the corresponding parameters.

Logging into syslog

If you select the mode of logging information into **syslog**, it is necessary to specify a verbosity log level and a message source label. The label can be used by the **syslog** service for internal routing of messages to different logs. Routing rules are configured in the **syslog** daemon configuration file (usually, the path to the file is `/etc/syslogd.conf`).

To set a flag for syslog messages, specify `SyslogFacility` parameter value in configuration files. You can specify one of the following parameter values:

- `Daemon` – label of a resident system service (daemon) message;
- `Local0`, ..., `Local7` – label of a user application message (8 values are reserved `Local0` to `Local7`);
- `Kern` – label of a system kernel message;
- `User` – label of a user process message;
- `Mail` – label of a mail system message.

Note that if information is logged into **syslog**, an additional parameter - `SyslogPriority` - can be specified in configuration files. `SyslogPriority` defines a verbosity level of logging into **syslog** and is modified by one of the values available for the `LogLevel1` parameter. If you select the mode of logging into the file, `SyslogPriority` is ignored. Otherwise, information is logged into **syslog** with



the less verbosity level.

Example:

Let us assume that logging of component operation is defined by the following parameter values: **LogLevel** = `Debug`, **SyslogPriority** = `Error`. If mode of logging into **syslog** is selected, the log verbosity level is `Error` (that means only records about errors are to be logged and the `Debug` value is ignored).

Allowed Actions

You can configure **Dr.Web for UNIX File Servers** components to apply specified actions to objects that are detected to be malicious, suspicious or potentially dangerous.

Different parameters can have different available actions, they are listed in each parameter description.

You can use the following actions when configuring the settings:

You can use the following actions when configuring **Dr.Web Scanner**:

- `Move` – move the file to the **Quarantine** folder;
- `Delete` – delete the infected file;
- `Rename` – rename the file;
- `Ignore` – ignore the file;
- `Report` – only log information about the file;
- `Cure` – try to cure the infected object.

The following actions are available for **Dr.Web Samba VFS SpIDer**:

- `Pass` – allow access to the file;
- `Rename` – rename the file and restrict access to it;
- `Discard` – delete the file;
- `Quarantine` – move the file to the **Quarantine** folder and restrict access to the object;
- `Reject` – restrict access to the file.



Please note that action names are case insensitive (for example, value `Report` equals to `report`).



Installation and Deinstallation

Below you can find detailed description of **Dr.Web for UNIX File Servers** installation, update and uninstallation procedures in UNIX systems. You need superuser (`root`) privileges to perform these operations. To get it, use the `su` command or `sudo` prefix.

If previously the product was installed from packages of other formats (for example, RPM or DEB), ensure that they are carefully uninstalled.

Dr.Web for UNIX File Servers distribution package for UNIX systems is delivered in EPM format (script-based distribution package with installation and uninstallation scripts and standard install/uninstall GUIs) designed to use with ESP Package Manager (EPM). Please note that all these scripts relate to the EPM package, not to any of the **Dr.Web for UNIX File Servers** components.

You can install, deinstall, and update **Dr.Web for UNIX File Servers** in one of the following ways:

- using GUI;
- using console scripts.

During installation, dependencies are supported, that is if a component installation requires other components to be installed in the system (for example, `drweb-daemon` package requires `drweb-common` and `drweb-bases` packages), they will be installed automatically.



Please note that the **Dr.Web Samba VFS SpIDer** component of **Dr.Web for UNIX File Servers** does not support the `CLUSTER_SUPPORT` option by default. If the installed **Samba** includes the `CLUSTER_SUPPORT` option, errors can occur during scanning.

To avoid such problems, you can configure the **Dr.Web Samba VFS SpIDer** source codes after **Dr.Web for UNIX File Servers** installation and manually enable support for all required options, including `CLUSTER_SUPPORT`. Once you finish [configuring](#) the source codes, compile **Dr.Web Samba VFS SpIDer**.

To check, whether the installed **Samba** includes the `CLUSTER_SUPPORT` option, use the following command:

```
smbd -b | grep CLUSTER_SUPPORT
```

If you install **Dr.Web for UNIX File Servers** to a computer where other **Dr.Web** products have been previously installed from EPM packages, then at every attempt to remove a module via graphical installer you will be prompted to remove absolutely all **Dr.Web** modules, including those from other products.



Please, pay special attention to the actions you perform and selections you make during uninstallation to avoid accidental removal of some useful components.

Installation from Distribution Package for UNIX Systems

Dr.Web for UNIX File Servers solution is distributed as a self-extracting package `drweb-file-servers_[version number]~[OS name].run`.

The following components are included in this distribution:

- `drweb-common`: contains the main configuration file - `drweb32.ini`, libraries, documentation and directory structure. During installation of this component, `drweb` user and `drweb` group are created;



- `drweb-bases`: contains Anti-virus search Engine (**Dr.Web Engine**) and virus databases. It requires `drweb-common` package to be installed;
- `drweb-libs`: contains common libraries for all the components of the suite;
- `drweb-epm6.0.2-libs`: contains libraries for graphical [installer](#) and [uninstaller](#). It requires `drweb-libs` package to be previously installed;
- `drweb-epm6.0.2-uninst`: contains files of [graphical uninstaller](#). It requires `drweb-libs` package to be previously installed;
- `drweb-boost147`: contains common libraries for **Dr.Web Agent** and **Dr.Web Monitor**. It requires `drweb-libs` package to be previously installed;
- `drweb-updater`: contains update utility - **Dr.Web Updater** for **Dr.Web Engine** and virus databases. It requires `drweb-common` and `drweb-libs` packages to be installed;
- `drweb-agent`: contains **Dr.Web Agent** executable files and its documentation. It requires `drweb-common` and `drweb-boost147` packages to be installed;
- `drweb-agent-es`: contains files required for communication between **Dr.Web Agent** and **Dr.Web ESS** server version 6 in central protection mode. It requires `drweb-agent`, `drweb-updater` and `drweb-scanner` packages to be installed;
- `drweb-agent10`: contains executable files and documentation for the updated **Dr.Web Agent** (designed for operation with **Dr.Web ESS** server version 10).
- `drweb-agent10-es`: contains files required for communication between the updated **Dr.Web Agent** and **Dr.Web ESS** server version 10 in central protection mode.
- `drweb-daemon`: contains **Dr.Web Daemon** executable files and its documentation. It requires `drweb-bases` and `drweb-libs` packages to be previously installed;
- `drweb-scanner`: contains **Dr.Web Scanner** executable files and its documentation. It requires `drweb-bases` and `drweb-libs` packages to be installed;
- `drweb-monitor`: contains **Dr.Web Monitor** executable files and its documentation. It requires `drweb-agent`, `drweb-common` and `drweb-boost147` packages to be installed;
- `drweb-samba-web`: contains web interface - **Dr.Web Console for UNIX File Servers**;
- `drweb-file-servers-doc`: contains **Dr.Web for UNIX File Servers** documentation;
- `drweb-smbspider`: contains compiled libraries for different versions of **Samba** servers. It requires `drweb-libs`;
- `drweb-smbspider-src`: contains source codes used to build necessary libraries for specific version of Samba.

In distributions for 64-bit systems, two additional packages are included: `drweb-libs` and `drweb-libs32`, which contain libraries for 64 and 34-bit systems correspondingly.

To install all **Dr.Web for UNIX File Servers** components automatically, use either console (CLI) or the default file manager of your GUI-based shell. In the first case, allow the execution of the corresponding self-extracting package with the following command:

```
# chmod +x drweb-file-servers_[version number]~[OS name].run
```

and then run it:

```
# ./drweb-file-servers_[version number]~[OS name].run
```

As a result,

`drweb-file-servers_[version number]~[OS name]`

directory is created, and the [GUI installer](#) starts. If it starts without root privileges, the GUI installer tries to gain required privileges.

If the GUI installer fails to start, then [interactive console installer](#) starts automatically.



If you need only to extract the content of the package without starting the GUI installer, use `--noexec` command line parameter:

```
# ./drweb-file-servers_[version number]~[OS name].run --noexec
```

After you extract the content, you can start the GUI installer and continue setup with the following command:

```
# drweb-file-servers_[version number]~[OS name]/install.sh
```

To install with the use of the console installer, use the following command:

```
# drweb-file-servers_[version number]~[OS name]/setup.sh
```

Installation, regardless of the used method, includes the following steps:

- Original configuration files are recorded to the `%etc_dir/software/conf/` directory with the following names: `[configuration_file_name].N`.
- Operational copies of configuration files are installed to the corresponding directories.
- Other files are installed. If a file with the same name already exists in the directory (e.g. after inaccurate removal of previous package versions), it is overwritten with the new file, and a copy of the old one is saved as `[file_name].O`. If a file with the `[file_name].O` name already exists in this directory, it is replaced with the new file.
- If you select the **Run interactive postinstall script** check box in the corresponding window of the GUI installer, then after installation of the components completes, the post-install script is initialized for **Dr.Web for UNIX File Servers** basic adjustment.
- Script `update-links.sh` is initialized to check the version of **Samba** installed in the system. The script creates a symbolic link in the `/usr/lib/samba/vfs/` directory to the library required for the **Samba** version. If different **Samba** versions are installed to the same directory, a symbolic link is created to only one of the versions. If different **Samba** versions are installed to different directories, a symbolic link to each of the libraries is created. At that, the following text is logged for each installed **Samba**:

Example for Linux:

```
Update links for /usr/sbin/smbd
create symlink /opt/drweb/lib/lib smb_spider.so.3.X.X --> /usr/lib/samba/vfs/
smb_spider.so
Please, update your config /etc/samba/smb.conf
```



Please note that if the used **Linux** distribution features **SELinux**, installation can be interrupted by the security subsystem. If such situation occurs, set **SELinux** to `(Permissive)` mode. To do this, enter the following command:

```
# setenforce 0
```

and restart the installer.

After the installation completes, configure **SELinux** [security policies](#) to enable correct operation of anti-virus components.

You can remove the `drweb-file-servers_[version number]~[OS name]` directory and `.run` file after successful completion of installation.

Using GUI Installer

To install with GUI



1. Enter the following command:

```
# drweb-file-servers_[version number]~[OS name]/install.sh
```

The setup program launches. On the Welcome screen, click **Next**.

At any step you can return to the previous one by clicking **Back**. To continue installation, click **Next**. To abort installation, click **Cancel**.

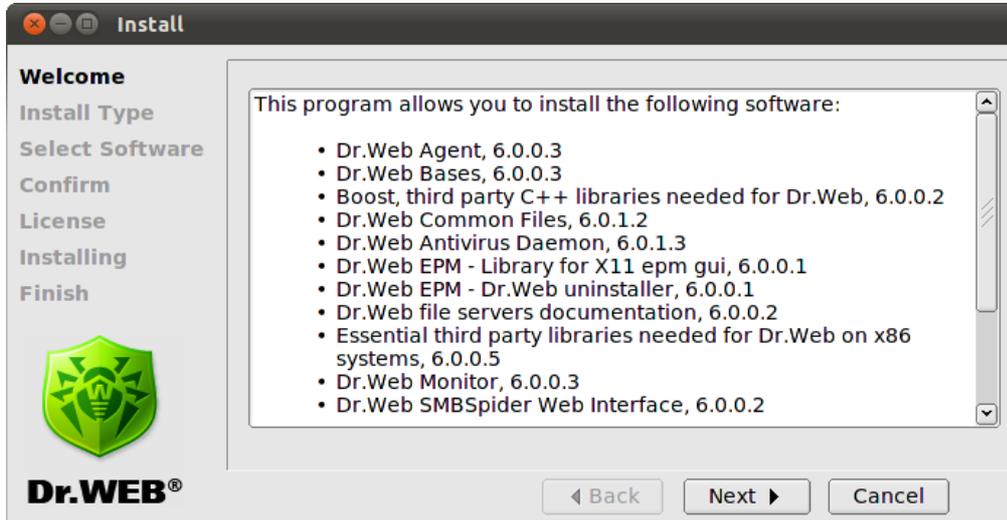


Figure 2. Welcome screen

2. On the **Install Type** screen, select the installation type: typical configuration for **Dr.Web for File Servers** with all the necessary components selected by default or custom configuration.

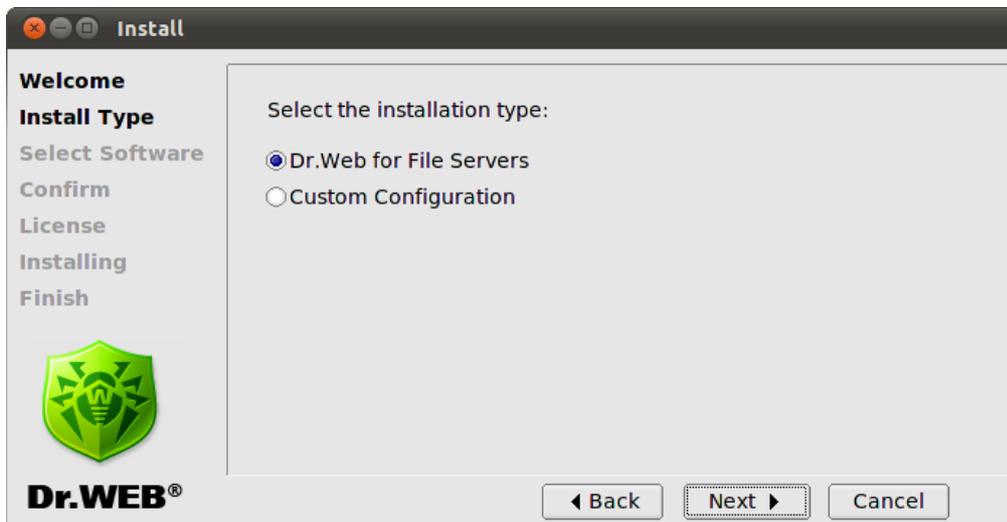


Figure 3. Install type window

If you selected **Custom Configuration**, then select necessary components on the **Select Software** screen:

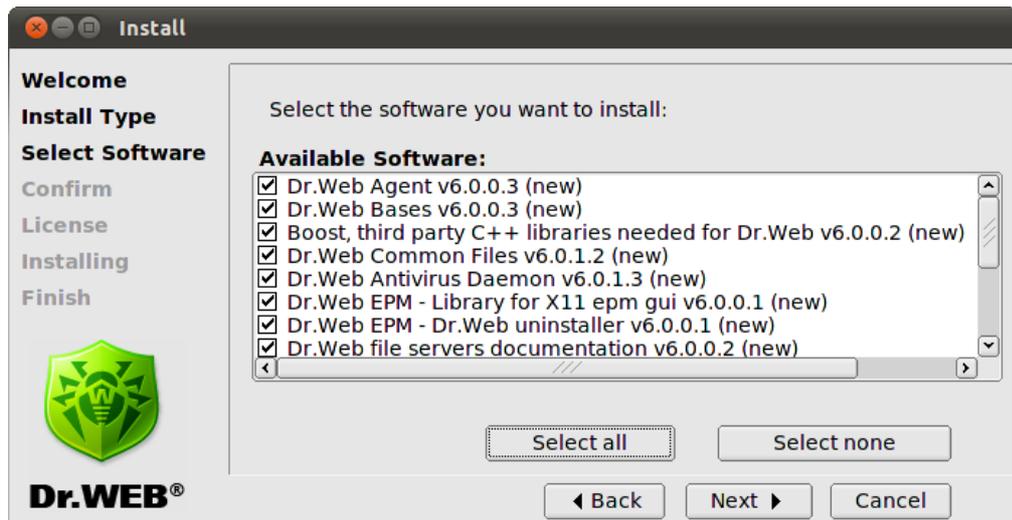


Figure 4. Select Software screen



If installation of a component requires some other components to be previously installed, all corresponding dependencies are selected for installation automatically. For example, if you select to install **Dr.Web Antivirus Daemon**, then **Dr.Web Bases** and **Dr.Web Common Files** are installed automatically.

Click to **Select all** to select all components. Click **Install None** to clear selection.

3. On the **Confirm** screen, review and confirm the list of components to install:

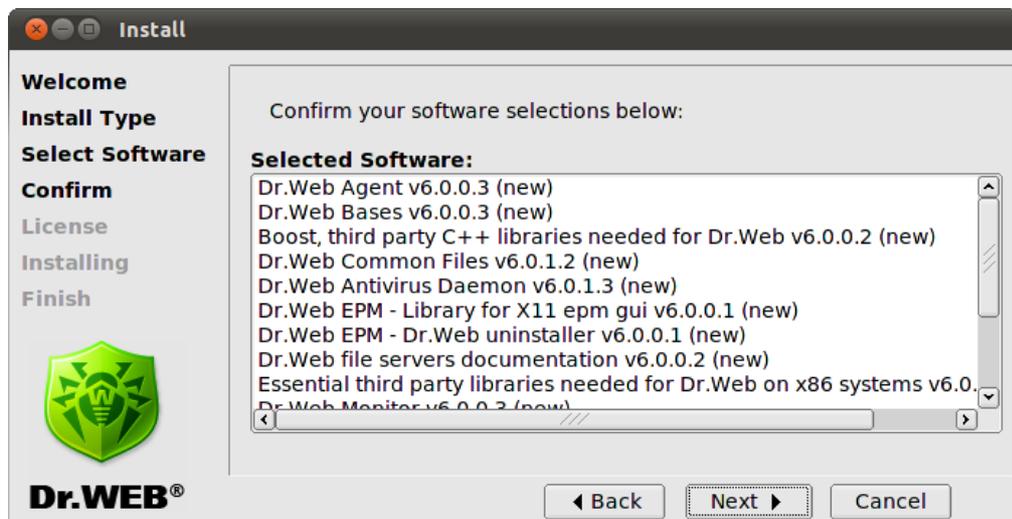


Figure 5. Confirm screen

Click **Next** to confirm selection, or click **Back** to make changes.

4. Review the **License Agreement**. To proceed, you need to accept it. If necessary, use the **Language** list to select a preferred language of the agreement (Russian and English languages are available):

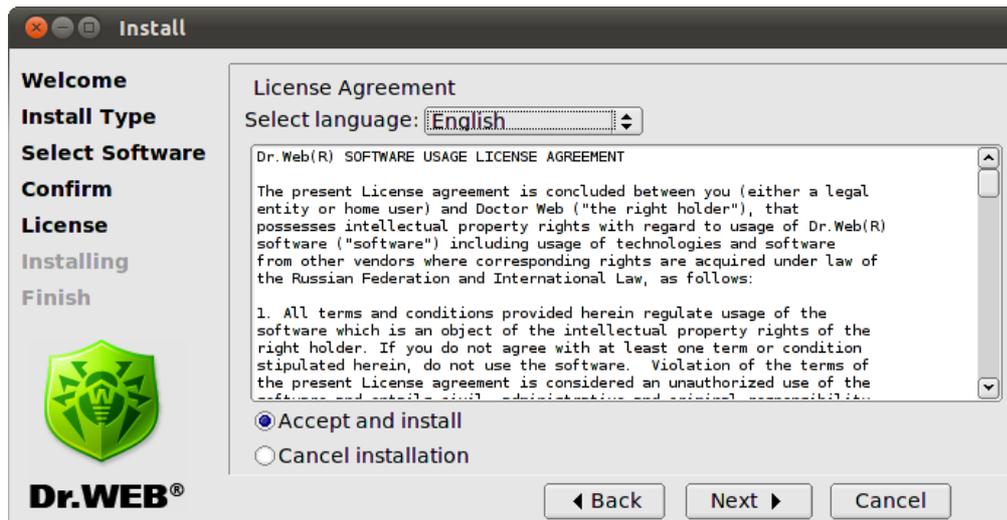


Figure 6. License Agreement screen

5. After you accept the **License Agreement**, installation starts. On the **Installing** screen, you can review the installation process in real-time:

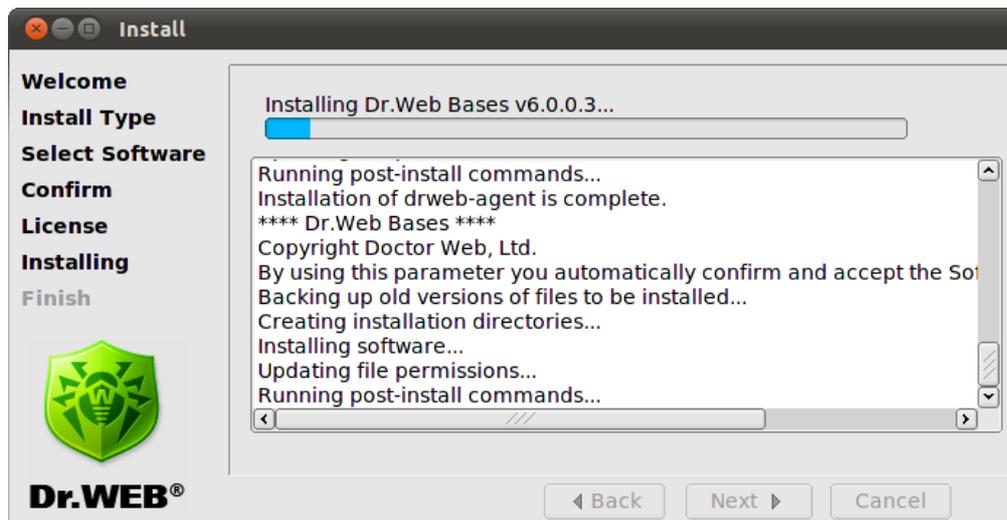


Figure 7. Installing screen

This report is logged at the same time in the `install.log` log file located at the `drweb-file-servers_[version number]~[OS name]` directory. If you selected **Run interactive post-install script**, once component installation completes, the post-install script for **Dr.Web for UNIX File Servers** basic configuration initializes.



```
DrWeb
This installation script will help you to configure DrWeb for File Servers
Do you want to continue? (YES/no) yes
yes
Do you want to install Dr.Web license key file? (YES/no) yes
yes
Enter path to the Dr.Web license key file or '0' to skip: 0

Updating RunApplist in /etc/drweb/monitor.conf .
/etc/drweb/monitor.conf is up-to-date, it is not necessary to modify it.
Do you want your smb.conf to be patched now? (YES/no) yes
yes
Samba daemon not found!

Please enter the path to your Samba daemon executable (smbd)
(enter 0, Q or Quit to cancel): █
```

Figure 8. Interactive post-install script

After initialization of the script, you can specify a path to the key file, set an order of mail processing by the plug-ins and automatically enable services necessary for **Dr.Web for UNIX File Servers** proper operation (for example, **Dr.Web Daemon**, **Dr.Web Agent**, **Dr.Web Monitor**). You can also select from the list network disks to be protected by **Dr.Web for UNIX File Servers**.

On the **Finish** screen, you can see a notification that further adjustment is required to provide proper operation of **Dr.Web for UNIX File Servers**, click **Close** to exit setup:

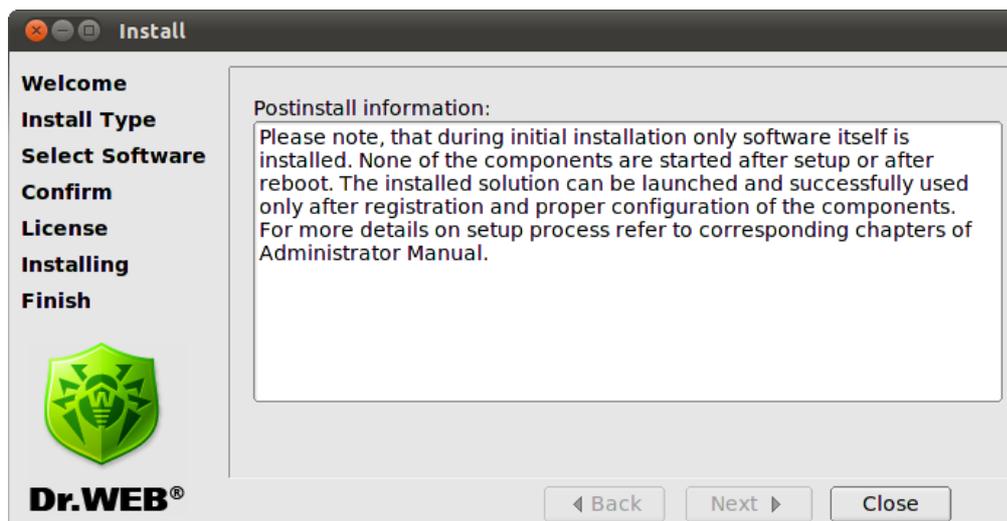


Figure 9. Finish screen

Using Console Installer

Console installer starts automatically if the GUI installer fails to start. If the console installer also fails to

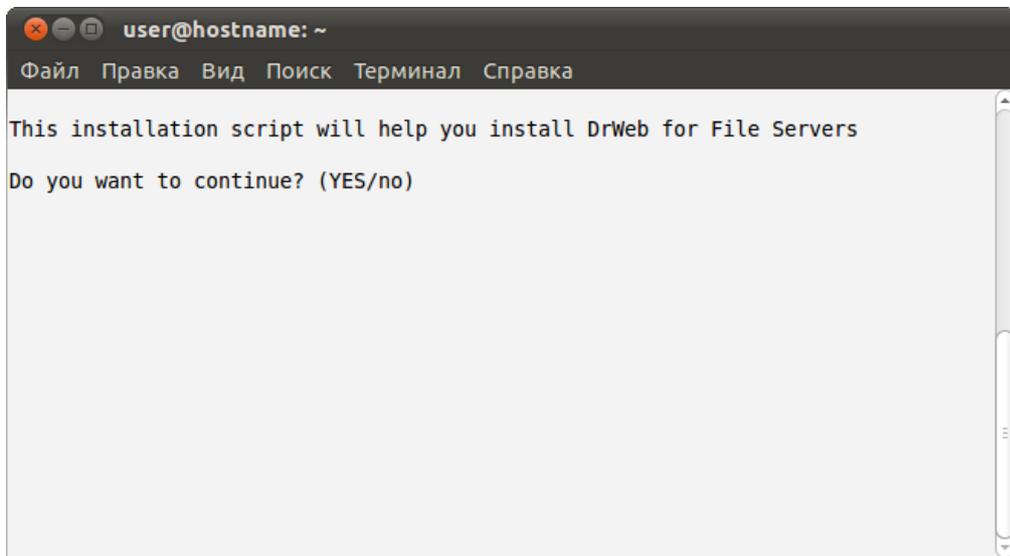


start (for example, if it is impossible to gain necessary privileges), you can try to run the following command with `root` privileges:

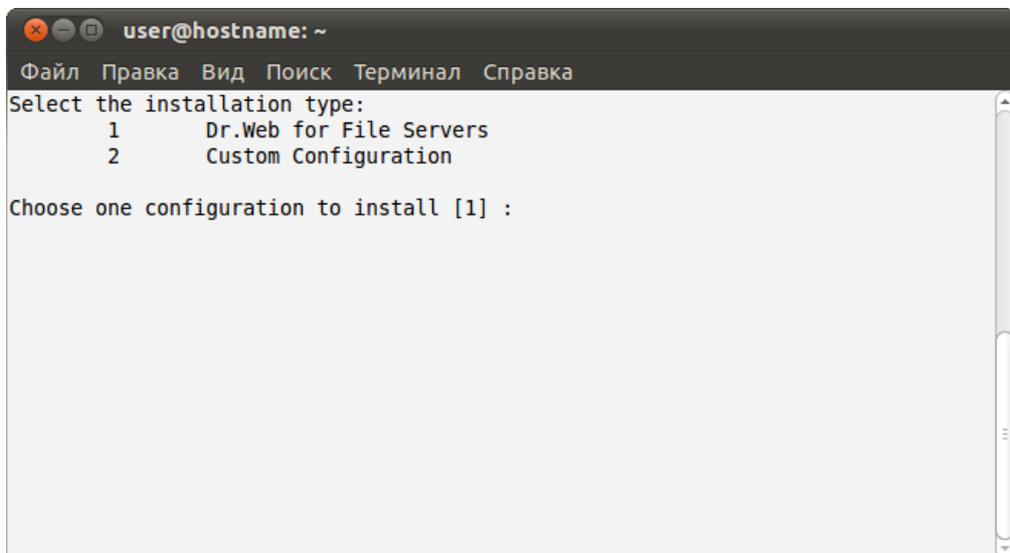
```
# drweb-file-servers_[version number]~[OS name]/setup.sh
```

To install from console

1. Once the console installer starts, the following dialog window opens:



2. If you want to install **Dr.Web for UNIX File Servers**, enter **Y** or **Yes** (values are case insensitive), otherwise enter **N** or **No**. Press ENTER.
3. If you chose to install **Dr.Web for UNIX File Servers**, installer suggests you to select the installation type:



To select a required mode, enter the respective number and press ENTER.

4. If you selected **Custom Configuration**, specify required components to install:



```
user@hostname: ~
Файл Правка Вид Поиск Терминал Справка
Select the software you want to install:
  [ ] 1 Dr.Web Agent v6.0.0.3 (new)
  [ ] 2 Dr.Web Bases v6.0.0.3 (new)
  [ ] 3 Boost, third party C++ libraries needed for Dr.Web v6.0.0.2 (new)
  [ ] 4 Dr.Web Common Files v6.0.1.2 (new)
  [ ] 5 Dr.Web Antivirus Daemon v6.0.1.3 (new)
  [ ] 6 Dr.Web EPM - Library for X11 epm gui v6.0.0.1 (new)
  [ ] 7 Dr.Web EPM - Dr.Web uninstaller v6.0.0.1 (new)
  [ ] 8 Dr.Web file servers documentation v6.0.0.2 (new)
  [ ] 9 Essential third party libraries needed for Dr.Web on x86 systems v
6.0.0.5 (new)
  [ ] 10 Dr.Web Monitor v6.0.0.3 (new)
  [ ] 11 Dr.Web SMBSpider Web Interface v6.0.0.2 (new)
  [ ] 12 Dr.Web Antivirus Scanner v6.0.1.3 (new)
  [ ] 13 Dr.Web Samba VFS Spider - sources v6.0.0.2 (new)
  [ ] 14 Dr.Web Samba VFS Spider v6.0.0.2 (new)
  [ ] 15 Dr.Web Updater v6.0.0.4 (new)

To select a package you want to install or deselect some previously
selected package - enter the corresponding package number and press Enter.

You may enter A or All to select all the packages, and N or None to deselect all
of them.
Enter I or Install to install selected packages.
Enter 0, Q or Quit to quit the dialog.
All values are case insensitive.
Select:
```

To specify a required component, enter the respective number and press ENTER.

5. Review the **License Agreement**. To scroll the text, press SPACEBAR:

```
user@hostname: ~
Файл Правка Вид Поиск Терминал Справка
Dr.Web(R) SOFTWARE USAGE LICENSE AGREEMENT

The present License agreement is concluded between you (either a legal
entity or home user) and Doctor Web ("the right holder"), that
possesses intellectual property rights with regard to usage of Dr.Web(R)
software ("software") including usage of technologies and software
from other vendors where corresponding rights are acquired under law of
the Russian Federation and International Law, as follows:

1. All terms and conditions provided herein regulate usage of the
software which is an object of the intellectual property rights of the
right holder. If you do not agree with at least one term or condition
stipulated herein, do not use the software. Violation of the terms of
the present License agreement is considered an unauthorized use of the
software and entails civil, administrative and criminal responsibility.

2. If you are a legal owner of the Software's copy, you receive the
--More-- (24%)
```

To continue the installation, you need to accept the **License Agreement**. If you agree to the terms, enter **Y** or **Yes**. Otherwise, the installation aborts.

6. The installation process starts immediately. You can review results of the installation steps in the console in real time:



```
user@hostname: ~
Файл Правка Вид Поиск Терминал Справка
Creating installation directories...
Installing software...
Updating file permissions...
Running post-install commands...
Installation of drweb-libs is complete.
Backing up old versions of files to be installed...
Creating installation directories...
Installing software...
Updating file permissions...
Installation of drweb-boost144 is complete.
Backing up old versions of files to be installed...
Creating installation directories...
Installing software...
Checking configuration files...
Updating file permissions...
Running post-install commands...
Installation of drweb-agent is complete.
Copyright Doctor Web, Ltd.
```

7. Once installation of the components completes, the post-install script runs automatically to set up **Dr.Web for UNIX File Servers** basic configuration. You are offered to specify the path to the license key file and automatically enable all the services necessary for **Dr.Web for UNIX File Servers** proper operation (for example, **Dr.Web Daemon**, **Dr.Web Agent**, **Dr.Web Monitor**). In addition, you can specify network disks to be protected.

```
user@hostname: ~
Файл Правка Вид Поиск Терминал Справка

This installation script will help you to configure DrWeb for File Servers

Do you want to continue? (YES/no) yes
yes
Do you want to install Dr.Web license key file? (YES/no) yes
yes
Enter path to the Dr.Web license key file or '0' to skip: 0

Updating RunAppList in /etc/drweb/monitor.conf .
/etc/drweb/monitor.conf is up-to-date, it is not necessary to modify it.
Do you want your smb.conf to be patched now? (YES/no) yes
yes

Samba daemon not found!

Please enter the path to your Samba daemon executable (smbd)
(enter 0, Q or Quit to cancel):
```

Removing Distribution Package for UNIX Systems

To remove all the components of **Dr.Web for UNIX File Servers** via [GUI uninstaller](#), start it with the following command:

```
# %bin_dir/remove.sh
```

If startup is performed without root privileges, the GUI uninstaller tries to gain appropriate privileges.



If the GUI uninstaller fail to start, then [interactive console uninstaller](#) is initialized.

After uninstallation you can also remove `drweb` user and `drweb` group from your system.

During uninstallation, the following actions are performed:

- Original configuration files are removed from the `%etc_dir/software/conf/` directory.
- If operational copies of configuration files are not modified by the user, they are also removed. If the user made any changes to them, they are preserved.
- Other **Dr.Web** files are removed. If a copy of an old file was created during installation, this file is restored under the name it had before the installation. Such copies are usually named `[file_name].O`.
- License key files and log files are saved to their corresponding directories.
- `update-links.sh` script is executed with the `--remove` parameter and removes a symbolic link `/usr/lib/samba/vfs/smb_spider.so`.



If there are several symbolic links for different **Samba** versions, all links are removed and the following information displays:

```
Remove link /usr/lib/samba/vfs/smb_spider.so
```

```
Please, update your config /etc/samba/smb.conf
```

Please note that after removing **Dr.Web for UNIX File Servers**, you must remove the following line from the `smb.conf` file for each protected shared resource:

```
vfs objects = smb_spider
```

Using GUI Uninstaller

To uninstall with GUI

1. Enter the following command:

```
# %bin_dir/remove.sh
```

On the Welcome screen, click **Next**:

At any step, you can return to the previous stage by clicking **Back**. To continue installation, click **Next**. To abort uninstallation, click **Cancel**.

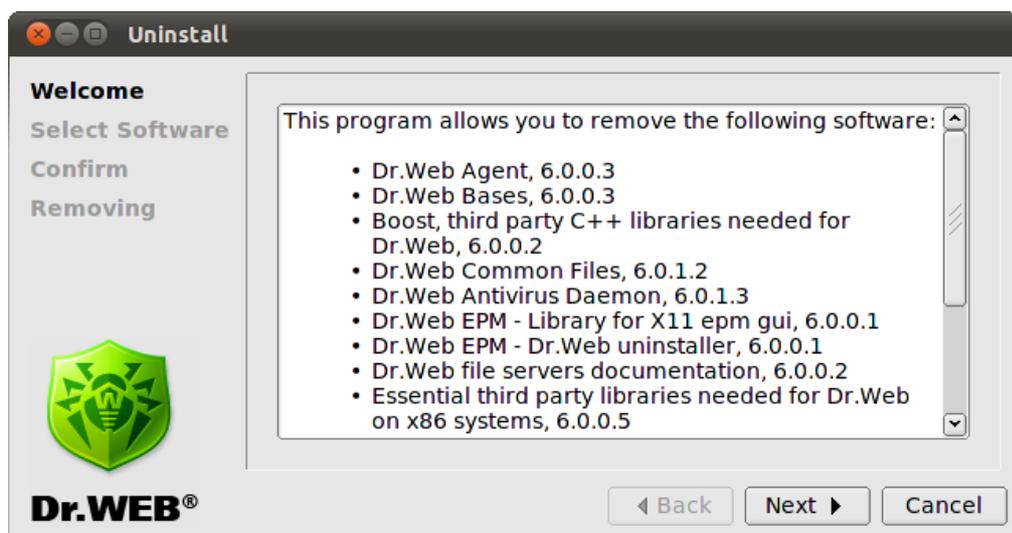


Figure 10. Welcome screen



2. On the **Select Software** screen, select components to remove:

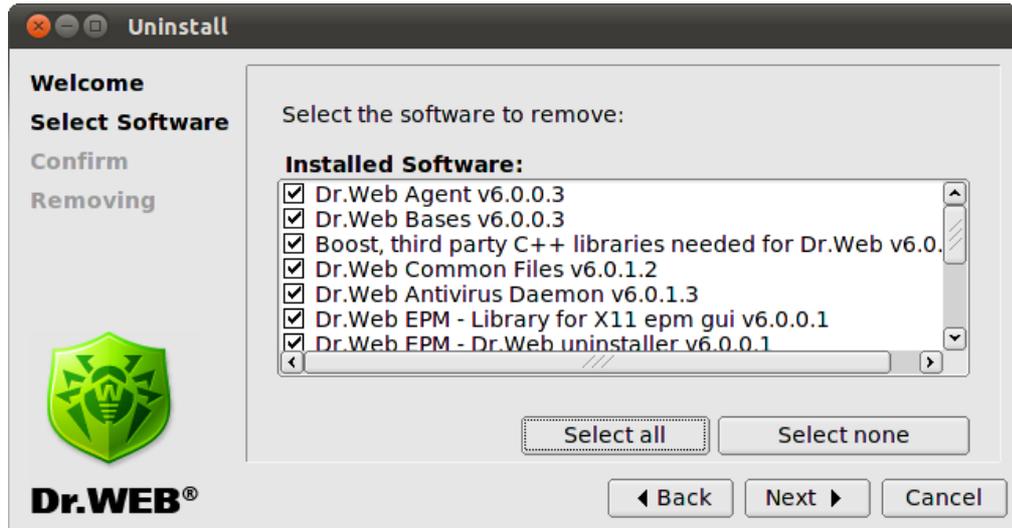


Figure 11. Select Software screen

All corresponding dependencies are selected to be uninstalled automatically.

If you installed **Dr.Web for UNIX File Servers** on the computer with another **Dr.Web** product installed from EPM-packages, then the setup lists all **Dr.Web** modules for both **Dr.Web for UNIX File Servers** and the older product. Please pay attention to the actions you perform and selection you make during uninstallation to avoid accidental removal of useful components.

Click **Select All** to select all components. To clear selection, click **Select None**.

When you complete selection, click **Next**.

3. On the **Confirm** screen, review and confirm the list of components to remove:

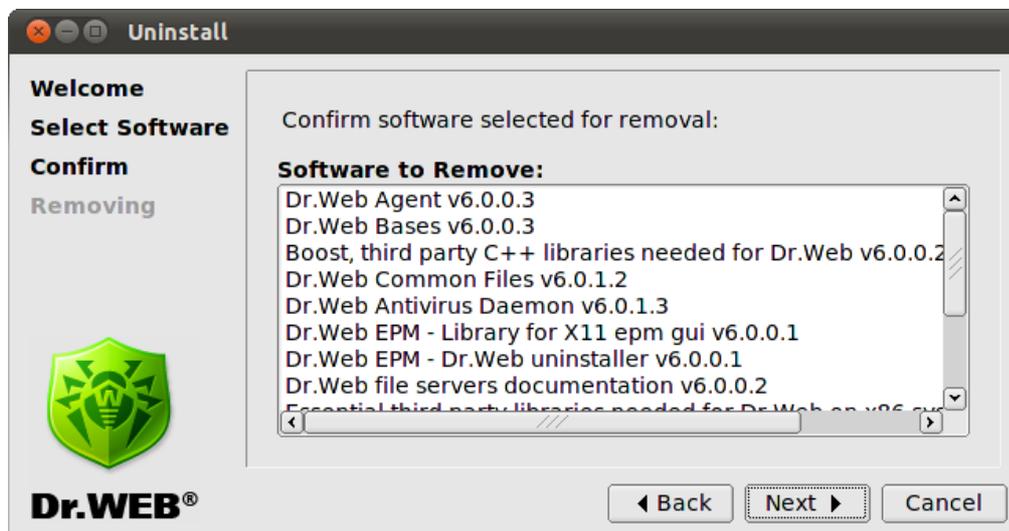


Figure 12. Confirm screen

Click **Next** to confirm selection, or click **Back** to make changes.

4. On the **Removing** screen, you can review results of the uninstallation steps in real time:

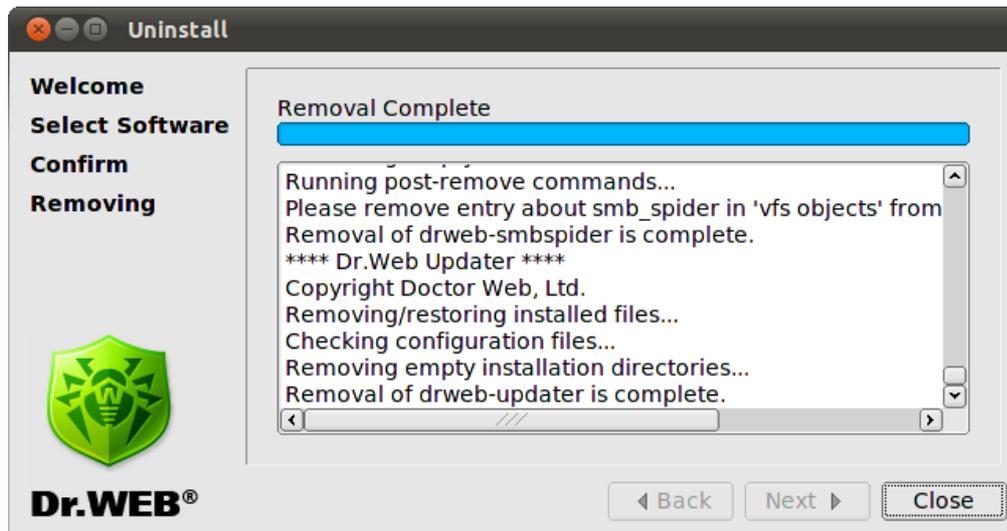


Figure 13. Removing screen

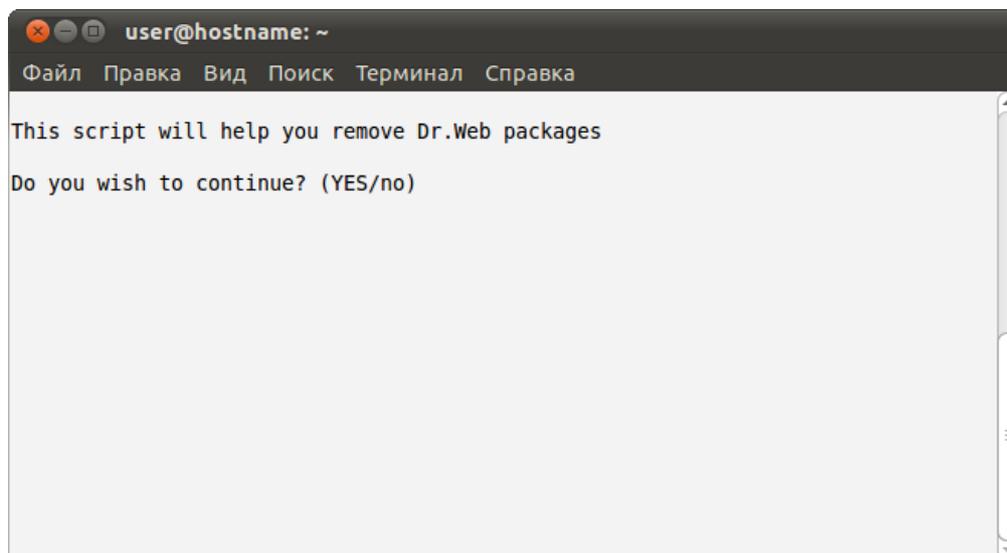
5. Click **Close** to exit setup.

Using Console Uninstaller

Console uninstaller starts automatically when graphical uninstaller fails to start.

To uninstall from console

1. Once the console uninstaller starts, a dialog window opens:



If you want to uninstall **Dr.Web for UNIX File Servers**, enter **yes**, otherwise enter **no**. Press ENTER.

2. Review the list of components available for removal:



```
user@hostname: ~
Файл  Правка  Вид  Поиск  Терминал  Справка
Select the software you want to remove:
  [ ] 1 Dr.Web Agent (6.0.0.3)
  [ ] 2 Dr.Web Bases (6.0.0.3)
  [ ] 3 Boost, third party C++ libraries needed for Dr.Web (6.0.0.2)
  [ ] 4 Dr.Web Common Files (6.0.1.2)
  [ ] 5 Dr.Web Antivirus Daemon (6.0.1.3)
  [ ] 6 Dr.Web EPM - Library for X11 epm gui (6.0.0.1)
  [ ] 7 Dr.Web EPM - Dr.Web uninstaller (6.0.0.1)
  [ ] 8 Dr.Web file servers documentation (6.0.0.2)
  [ ] 9 Essential third party libraries needed for Dr.Web on x86 systems (
6.0.0.5)
  [ ] 10 Dr.Web Monitor (6.0.0.3)
  [ ] 11 Dr.Web SMBSpider Web Interface (6.0.0.2)
  [ ] 12 Dr.Web Antivirus Scanner (6.0.1.3)
  [ ] 13 Dr.Web Samba VFS Spider (6.0.0.2)
  [ ] 14 Dr.Web Samba VFS Spider - sources (6.0.0.2)
  [ ] 15 Dr.Web Updater (6.0.0.4)

To select a package you want to remove or deselect some previously
selected package - enter the corresponding package number and press Enter.

You may enter A or All to select all the packages, and N or None to deselect all
of them.
Enter R or Remove to remove selected packages.
Enter 0, Q or Quit to quit the dialog.
All values are case insensitive.
Select:
```

3. To select components to remove, follow the prompts .
4. To confirm you selection and start uninstallation, enter **Y** or **Yes** (they are case insensitive) and press ENTER:

```
user@hostname: ~
Файл  Правка  Вид  Поиск  Терминал  Справка
A list of packages marked for removal:
drweb-agent
drweb-bases
drweb-boost144
drweb-common
drweb-daemon
drweb-epm6.0.0-libs
drweb-epm6.0.0-uninst
drweb-file-servers-doc
drweb-libs
drweb-monitor
drweb-samba-web
drweb-scanner
drweb-smbspider
drweb-smbspider-src
drweb-updater
Are you sure you want to remove the selected packages? (YES/no)
```

5. You can results of the uninstallation steps in the console in real time.
6. Once the process completes, exit setup.

Updating Distribution Package for UNIX Systems

Updating procedure combines installation and deinstallation procedures. To update **Dr.Web for UNIX File Servers**, download the latest version of the corresponding software, [remove](#) the previous version and [install](#) the new one.



After an update, license key files, log files, and configuration files modified by the user are remained in the corresponding directories.

Installing from Native Packages

You can install **Dr.Web for UNIX File Servers** from native packages for common **Linux** distributions or **FreeBSD** operating system.

All packages are located in the **Dr.Web** official repository <http://officeshield.drweb.com/drweb/>. Once you added the repository to the package manager of your system, you can install, update or remove necessary packages like any other program from repository. All dependencies are resolved automatically.



After installing packages from repository, automatic post-install script for installing license key file is not initiated. Licence key file must be manually copied to %bin_dir.

For the updates to take effect, you need to restart all **Dr.Web** services after updating from repository.



All the following commands to add repositories, import keys, install and remove packages must be run with administrator privileges (`root`).

If it is necessary, use the `sudo` or `su` commands.

Debian, Ubuntu (apt)

1. Installation:

Debian repository is signed with the digital key. It is necessary to import the key or correct operation. To do this, use the following command

```
wget -O - - http://officeshield.drweb.com/drweb/drweb.key | apt-key add -
```

or

```
curl http://officeshield.drweb.com/drweb/drweb.key | apt-key add -
```

To add the repository to your system, add the following line to `/etc/apt/sources.list` file:

```
deb http://officeshield.drweb.com/drweb/debian stable non-free
```

To install **Dr.Web for UNIX File Servers**, use the following commands:

```
apt-get update
apt-get install drweb-file-servers
```

2. Deinstallation:

To remove **Dr.Web for UNIX File Servers**, use the following command:

```
apt-get remove drweb-file-servers
```

To remove all installed packages from **Dr.Web**, use the following command (in some systems, it is required to escape the '*' character with a backslash: '*'):

```
apt-get remove drweb*
```

To automatically remove unused packages from the system, use the following command:

```
apt-get autoremove
```



Removal with the use of `apt-get` has the following features:

1. The first variant of the command removes only the `drweb-file-servers` package, but other packages (which could be automatically installed on the package installation to resolve dependences) remain in the system.
2. The second variant of the command removes from the system all packages which names start with 'drweb' (this is a standard pattern for a **Dr.Web** package name). Please note that this command removes from the system all packages which name corresponds to the pattern, not only those of **Dr.Web for UNIX File Servers**.
3. The third variant of the command removes from the system all unused packages which were automatically installed for resolving dependences of some removed packages. Please note that this command removes all unused packages from the system, not only those of **Dr.Web for UNIX File Servers**.

You can also use alternative package managers (for example, `Synaptic`, `aptitude`) to install or remove the packages. Moreover, it is recommended to use alternative managers, such as `aptitude`, to resolve a package conflict if it occurs.

ALT Linux, PCLinuxOS (apt-rpm)

1. Installation:

To add the repository to you system, add the following line to the `/etc/apt/sources.list` file:

32-bit version:

```
rpm http://officeshield.drweb.com/drweb/altlinux stable/i386 drweb
```

64-bit version:

```
rpm http://officeshield.drweb.com/drweb/altlinux stable/x86_64 drweb
```

To install **Dr.Web for UNIX File Servers**:

```
apt-get update
apt-get install drweb-file-servers
```

2. Uninstallation:

In this case, uninstallation process is the same as for **Debian** and **Ubuntu** (see above).

You can also use alternative package managers (for example, `Synaptic`, `aptitude`) to install or remove the packages.

Mandriva (urpmi)

1. Installation:

Download a repository key from <http://officeshield.drweb.com/drweb/drweb.key> and save it to the disk. After that, import the key with the following command:

```
rpm --import <path to repository key>
```

Open the following file:

<http://officeshield.drweb.com/drweb/drweb-i386.urpmi-media>

or

http://officeshield.drweb.com/drweb/drweb-x86_64.urpmi-media

After you open a file, you will be offered to add a repository to the system.



Alternatively, you can add the repository via console using one of the following commands:

```
urpmi.addmedia drweb http://officeshield.drweb.com/drweb/mandriva/stable/i386/
```

or

```
urpmi.addmedia drweb http://officeshield.drweb.com/drweb/mandriva/stable/x86_64/
```

To install **Dr.Web for UNIX File Servers**:

```
urpmi.update drweb
urpmi drweb-file-servers
```

2. Deinstallation:

To remove **Dr.Web for UNIX File Servers**:

```
urpme drweb-file-servers
```

To automatically remove unused packages from the system:

```
urpme --auto-orphans drweb-file-servers
```



Removal with the use of **urpme** has the following features:

1. The first variant the command removes only the `drweb-file-servers` package, but other packages (which could be automatically installed on the package installation to resolve dependences) remain in the system.
2. The second variant of the command removes the `drweb-file-servers` package and all unused packages, which were automatically installed to resolve dependences of some removed packages. Please note that this command removes all unused packages from the system, not only those of **Dr.Web for UNIX File Servers**.

You can also use alternative package managers (for example, **rpmrake**) to install or remove the packages.

Red Hat Enterprise Linux, Fedora, CentOS (yum)

1. Installation:

Add to the `/etc/yum.repos.d` directory the file with following content:

32-bit version:

```
[drweb]
name=DrWeb - stable
baseurl=http://officeshield.drweb.com/drweb/el5/stable/i386/
gpgcheck=1
enabled=1
gpgkey=http://officeshield.drweb.com/drweb/drweb.key
```

64-bit version:

```
[drweb]
name=DrWeb - stable
baseurl=http://officeshield.drweb.com/drweb/el5/stable/x86_64/
gpgcheck=1
enabled=1
gpgkey=http://officeshield.drweb.com/drweb/drweb.key
```

To install **Dr.Web for UNIX File Servers**:

```
yum install drweb-file-servers
```



2. Deinstallation:

To remove **Dr.Web for UNIX File Servers**:

```
yum remove drweb-file-servers
```

To remove all installed packages from **Dr.Web**, use the following command (in some systems, it is required to escape the '*' character with a backslash: '*'):

```
yum remove drweb*
```



Removal with the use of **yum** has the following features:

1. The first variant of the command removes only the `drweb-file-servers` package, but other packages (which could be automatically installed on the package installation to resolve dependences) remain in the system.
2. The second variant of the command removes from the system all packages, names of which start with the 'drweb' string (this is a standard pattern for a **Dr.Web** package name). Please note that this command removes from the system all packages which name corresponds to the pattern, not only those of **Dr.Web for UNIX File Servers**.

You can also use alternative package managers (for example, **PackageKit**, **Yumex**) to install or remove the packages.

Zypper package manager (SUSE Linux)

1. Installation:

To add the repository, use the following command:

```
zypper ar -t YUM http://officeshield.drweb.com/drweb/e15/stable/i386/ drweb
```

or

```
zypper ar -t YUM http://officeshield.drweb.com/drweb/e15/stable/x86_64/ drweb
```

To install **Dr.Web for UNIX File Servers**, use the following commands:

```
zypper refresh
zypper install drweb-file-servers
```

2. Deinstallation:

To remove **Dr.Web for UNIX File Servers**, use the following command:

```
zypper remove drweb-file-servers
```

To remove all installed packages from **Dr.Web**, use the following command (in some systems, it is required to escape the '*' character with a backslash: '*'):

```
zypper remove drweb*
```



Removal with the use of **zypper** has the following features:

1. The first variant of the command removes only the `drweb-file-servers`, package but other packages (which could be automatically installed on the package installation to resolve dependences) remain in the system.
2. The second variant of the command removes from the system all packages, names of which start with the 'drweb' string (this is a standard pattern for a **Dr.Web** package name). Please note that this command removes from the system all packages which name corresponds to the pattern, not only those of **Dr.Web for UNIX File Servers**.



You can also use alternative package managers (or example, **YaST**) to install or remove the packages.

FreeBSD operating system

Installation:

You can install **Dr.Web** products from meta-ports for **FreeBSD**. Download the `drweb-file-servers_current-current~freebsd_all.tar.gz` archive from <http://officeshield.drweb.com/drweb/freebsd/ports/>. After that, unpack the archive and use the `make install` command to compile and install **Dr.Web for UNIX File Servers**. If you install **Dr.Web for UNIX File Servers** in **FreeBSD 6.1**, specify the path to the `/usr/ports/Mk/` directory using the `-I` parameter. That directory contains the ports tree.

Example:

```
tar -xzvf drweb-file-servers_current-current~freebsd_all.tar.gz
make install -I /usr/ports/Mk/
```

Installing Dr.Web Samba VFS SpIDer from Source Codes

If you use some other versions of **Samba** or **Samba** for 64-bit operating system, you can compile **Dr.Web Samba VFS SpIDer** from source codes included into the `drweb-smbspider-src` distribution package. To do this, you also need source codes of your **Samba** (respective packages can be downloaded from [Samba.org](http://us1.samba.org/samba/ftp/old-versions/) website (<http://us1.samba.org/samba/ftp/old-versions/>)).

To compile **Dr.Web Samba VFS SpIDer** from source codes:

- Install package with necessary source codes `drweb-smbspider-src` with the following command:

```
# drweb-file-servers_[version number]~[OS name]/drweb-smbspider-
src.install.
```

After that, in the `/usr/src/` directory the tar archive `drweb-file-servers_[version number].src.tar.gz` will appear.



You can use the now command-line option to install the component without confirmations. Please note that if you use this option, you automatically accept the **Software License Agreement**.

Text of the **Software License Agreement** is provided in English and Russian languages in the following files respectively `LICENSE` and `LICENSE.ru`.

- Change the current directory to `/usr/src/` and extract archive file with the following command:

```
# tar -xzvf drweb-smbspider-[version number].src.tar.gz
```

- Change the current directory to `drweb-smbspider-[version number].src` and enter the following command:

```
# ./configure -with-samba-source=<dir_with_Samba_source_codes>
```



For successful execution of this command, **m4** macro-processor, **gcc** compiler and **make** utility are required in the system.

In **Solaris** OS, it is required to use GNU **m4** (i.e. **gm4**) instead of the standard **m4** macro-processor and the **gcc** compiler *version 4.**.

When you compile **Dr.Web Samba VFS SpIDer** for operating with **Samba 4**, you should use the path `<dir_with_Samba_source_codes>/source3`.



- Finish building of **Dr.Web Samba VFS SpIDer** and install it with the following commands:

```
# make  
# make install
```



Registration Procedure

Permissions to use **Dr.Web for UNIX File Servers** are specified in the key file.

License key file contains the following information:

- list of **Dr.Web for UNIX File Servers** components licensed to the user;
- license period;
- other restrictions (for example, number of protected workstations).

By default, the license key file is located in the directory with **Dr.Web for UNIX File Servers** executables.

License key file is digitally signed to prevent its editing. Edited key file becomes invalid. It is not recommended to open your key file in text editors in order to avoid its accidental invalidation.

Users who have purchased **Dr.Web for UNIX File Servers** from **Doctor Web** certified partners obtain the license key file. Key files contain the following information which depends on the license type. The license key file also contains information on the user and seller of the product.

For evaluation purposes users may also obtain a demo key file. It allows them to enjoy full functionality of the **Dr.Web for UNIX File Servers** solution, but has a limited term of use, and no technical support is provided.

License key file can be supplied as:

- a `drweb32.key` file license key for workstations, or as a zip archive containing a license key file in case of purchasing **Dr.Web for UNIX File Servers** as a standalone product;
- a zip-archive, which contains a key file for **Dr.Web Enterprise Server** (`enterprise.key`) and a key file for workstations (`agent.key`) in case of purchasing **Dr.Web for UNIX File Servers** as a part of **Dr.Web Enterprise Security Suite**.

License key file can be received in one of the following ways:

- by email as a ZIP-archive containing license key file with `*.key` extension (usually after registration on the website). Extract the license key file using an appropriate archiving utility and copy (or move) it to the directory with **Dr.Web for UNIX File Servers** executable files (default directory for UNIX systems is `%bin_dir`);
- within the distribution package;
- on a separate data carrier as a file with `*.key` extension. In this case, a user must copy it manually to the `%bin_dir` directory.

License key file is sent to a user via email usually after registration on the website (website location is specified in the registration card supplied with the product). Visit the website, fill in the web form with your customer data and submit your registration serial number (printed on the registration card). After that, your license is activated and a key file is created according to the specified serial number. The key file is sent to the specified email address.

It is recommended to keep the license key file until it expires, and use it to reinstall or restore **Dr.Web for UNIX File Servers**. If the license key file is damaged or lost, it can be recovered by the same procedure as during license activation. In this case, you must use the same product serial number and customer data that you provided during the registration; only the email address can be changed (in this case, a license key file will be sent to the new email address). If the serial number matches any entry in **Dr.Web for UNIX File Servers** database, the corresponding key file will be automatically dispatched to the specified email address.

One serial number can be registered no more than 25 times. If you need to recover a lost license key file after its 25th registration, send a request for license key file recovery at <http://support.drweb.com/>



[request/](#) stating the data input during registration, valid email address, and detailed description of your problem. The request will be considered by **Dr.Web for UNIX File Servers** technical support service engineers. If the request is approved, a license key file will be provided via automatic support system or dispatched via email.

Path to a license key file of the certain component must be specified as a **key** parameter value in the corresponding configuration file (`drweb32.ini`).

Example:

```
Key = %bin_dir/drweb32.key
```

If a license key file specified as a **key** parameter value failed to be read (wrong path, permission denied) or is expired, blocked or invalid, the corresponding component terminates its operation.

If the license expires in less than two weeks, **Dr.Web Scanner** outputs a warning message on its startup and **Dr.Web Daemon** notifies the user via email. Messages are sent on every startup, restart or reload of **Dr.Web Daemon** for every license key file installed. To enable this option, set up the **MailCommand** parameter in the `[Daemon]` section of the `drweb32.ini` configuration file.

If you want to use a key file from another location, specify the full path to it as a **LicenseFile** parameter value in the `[StandaloneMode]` section of the **Dr.Web Agent** configuration file (see `[StandaloneMode]` [section](#) description).



Starting Dr.Web for UNIX File Servers

This section describes startup of **Dr.Web for UNIX File Servers** in **Linux**, **Solaris** or **FreeBSD** operating systems.

For Linux and Solaris OS

To run **Dr.Web for UNIX File Servers**:

1. Register the software.
2. Copy or move the key file to the directory with **Dr.Web for UNIX File Servers** executable files (the default directory for UNIX systems is `%bin_dir`). Name of the key file can be different in different distribution packages (for details, see [Software Registration](#)):
 - If **Dr.Web for UNIX File Servers** was purchased as a standalone product, license key file is named `drweb32.key`. In this case, copy the file to the `%bin_dir` directory without changing its name.
 - If **Dr.Web for UNIX File Servers** was purchased as a part of **Dr.Web Enterprise Security Suite**, archive received during registration contains a key file for **Dr.Web Enterprise Server** (`enterprise.key`) and a key file for workstations (`agent.key`). Rename `agent.key` as `drweb32.key` and copy it to the `%bin_dir` directory.

To use a key file from a different location or with another name (for example, `agent.key`), specify its full path as a `Key` parameter value in the `drweb32.ini` configuration file. In the `Standalone` mode, alternative path to the key file must be specified as a value of the `LicenseFile` parameter in `agent.conf` (a configuration file of **Dr.Web Agent**).

3. Configure the software by making necessary changes to the configuration files. For details on configuration parameters, see the corresponding sections of this Manual.
4. Set 1 as a value of the `ENABLE` variable in the `drwebd.enable` file to run **Dr.Web Daemon**. If it is not required to run **Dr.Web Daemon** on the local machine (properly configured **Dr.Web Daemon** is working on another local network computer), the value of the `ENABLE` variable must be 0 (its default value).
5. Set 1 as a value of the `ENABLE` variable in the `drweb-monitor.enable` file to run **Dr.Web Monitor**.

Location of the `enable` files depends on **Dr.Web for UNIX File Servers** installation type:

- **Installation from universal package for UNIX systems:**
Files are saved to the `%etc_dir` directory and named as follows
`drwebd.enable`,
`drweb-monitor.enable`.
- **Installation from native DEB packages:**
Files are saved to the `/etc/defaults` directory and named as follows
`drwebd`,
`drweb-monitor`.
- **Installation from native RPM packages:**
Files are saved to the `/etc/sysconfig` directory and named as follows
`drwebd.enable`,
`drweb-monitor.enable`.

-
6. Run **Dr.Web Daemon** and **Dr.Web Monitor** either from the console or a file manager of your operation system. After startup, **Dr.Web Monitor** starts all other **Dr.Web for UNIX File**



Servers components.

In case of installation from native packages in Solaris:

During **Dr.Web for UNIX File Servers** installation, the SMF service management system attempts to run **Dr.Web Monitor**. If **Dr.Web Monitor** cannot find a licence key file (for example, on the first installation of **Dr.Web for UNIX File Servers**), it stops its operation and SMF goes into the maintenance state.

To run **Dr.Web Monitor**, reset the maintenance state:

- Enter the following command

```
# svcs -p <FMRI>
```

where FMRI is a unique identifier of a controlled resource. In this case, a unique identifier of **Dr.Web Monitor** is required.

- Force termination of the process from `svcs -p` output list.

```
# pkill -9 <PID>
```

where PID is a number of the process listed above.

- Restart **Dr.Web Monitor** with the following command:

```
# svcadm clear <FMRI>
```

While installing **Dr.Web for UNIX File Servers** from native packages in Solaris, run **Dr.Web for UNIX File Servers** with the SMF service management system:

```
# svcadm enable <drweb-monitor>
# svcadm enable <drweb-daemon>
```

To stop the service:

```
# svcadm disable <service_name>
```



The `drwebd` module can be launched in one of the following two modes:

1. with the `init` script (standard launch)
2. with the **Dr.Web Monitor**

In the second mode, set the `ENABLE` parameter to 0 in the `enable` file.

Each of the components can be run independently as well, but note that **Dr.Web Agent** must be started first since all other modules receive configuration from **Dr.Web Agent**.

For FreeBSD OS

To run **Dr.Web for UNIX File Servers**:

1. Register the software.
2. Copy or move the key file (with the `.key` extension) to the directory with **Dr.Web for UNIX File Servers** executable files (the default directory for UNIX systems is `%bin_dir`). Name of the key file can differ in different distribution packages (for details, see [Software Registration](#)):
 - If **Dr.Web for UNIX File Servers** was purchased as a standalone product, license key file is named `drweb32.key`. In this case, copy the file to the `%bin_dir` directory without changing its name.
 - If **Dr.Web for UNIX File Servers** was purchased as a part of **Dr.Web Enterprise Security Suite**, archive received during registration contains a key file for **Dr.Web Enterprise Server** (`enterprise.key`) and a key file for workstations (`agent.key`). Rename `agent.key` to



`drweb32.key` and copy the file to the `%bin_dir` directory.

To use a key file from a different location or with another name (for example, `agent.key`), specify its full path as a `key` parameter value in the `drweb32.ini` configuration file. In the `Standalone` mode, alternative path to the key file must be specified as a value of the `LicenseFile` parameter in `agent.conf` (a configuration file of **Dr.Web Agent**).

3. Configure the software by making necessary changes to the configuration files. For details on configuration parameters, see the corresponding sections of this Manual.
4. Add the following lines to the `/etc/rc.conf` file:
 - `drwebd_enable="YES"` - to run **Dr.Web Daemon**. If it is not required to run **Dr.Web Daemon** on the local machine (properly configured **Dr.Web Daemon** is working on another local network computer), then you do not need to add the line to the `rc.conf` file;
 - `drweb_monitor_enable="YES"` - to run **Dr.Web Monitor**.
5. Run **Dr.Web Daemon** and **Dr.Web Monitor** either from the console or from a file manager of your operation system. After startup, **Dr.Web Monitor** starts all other **Dr.Web for UNIX File Servers** components.

Each of the components can be run independently as well, but note that **Dr.Web Agent** must be started first since all other modules receive their configuration from **Dr.Web Agent**.

Configuring SELinux Security Policies

If the used **Linux** distribution features **SELinux** security subsystem (`Security-Enhanced Linux`), you need to configure security policies used by **SELinux** in order to enable correct operation of anti-virus components (**Dr.Web Daemon** and **Dr.Web Console Scanner**) after the installation.

Moreover, if **SELinux** is enabled, product installation [from distribution packages](#) (`.run`) can fail because an attempt to create `drweb` user, whose privileges are used by **Dr.Web for UNIX File Servers**, will be blocked.

Thus, before installing the product, check **SELinux** operation mode with the use of `getenforce` command. This command outputs the current operation mode which can be one of the following:

- **Permissive** – protection is active, but permissions are supported: actions that violate the security are not denied but logged.
- **Enforced** – protection is active and restrictions are enforced: actions that violate the security are logged and blocked.
- **Disabled** – **SELinux** is installed but not active.

If **SELinux** is operating in the `Enforced` mode, temporarily (until the product is installed and security policies are configured) enable `Permissive` mode. To do this, enter the `setenforce 0` command that temporarily (until the next restart) sets **SELinux** operation mode to `Permissive`. To enable the `Enforced` mode again, enter the `setenforce 1` command.

Note that regardless of the mode enabled with the `setenforce` command, after system restart **SELinux** will operate in the mode specified in the settings (normally, **SELinux** configuration file is located in the `/etc/selinux` directory).

In general, if `audit` daemon is used, the log file resides in `/var/log/audit/audit.log`. Otherwise, notifications on forbidden actions are logged to the following log file: `/var/log/messages`.

For correct operation of anti-virus components when **SELinux** is enabled, compile special security policies once the product installation completes.



Please note that some Linux distributions may not have the below mentioned utilities installed by default. In this case you need to additionally install the required packages.

To create required policies:

1. Create a new file with **SELinux** policy source code (.te file). The file defines restrictions applied to the described module. The source file can be created in one of the two ways:

- 1) **With the use of `audit2allow` utility.** This way is more simple. The utility generates permissive rules based on the messages on denial of access to system log files. You can set automatic search of messages in log files or set path to the log file manually.



`audit2allow` utility resides in the `policycoreutils-python` package, or `policycoreutils-devel` package (for **RedHat Enterprise Linux, CentOS, Fedora** OS, depending on the version), or `python-sepolgen` package (for **Debian, Ubuntu** OS).

Example usage:

```
# audit2allow -M drweb -i /var/log/audit/audit.log
```

OR

```
# cat /var/log/audit/audit.log | audit2allow -M drweb
```

In this example, `audit2allow` utility searches for access denied messages in the `audit.log` file.

```
# audit2allow -a -M drweb
```

In this example, `audit2allow` searches for access denied messages in log files automatically.

In both cases two files are created as a result of the utility operation: `drweb.te` policy source file and `drweb.pp` policy module which is ready for installation.

In most cases you do not need to adjust policies created by the utility. So, it is recommended to go to [step 4](#) for installation of the `drweb.pp` policy module. Note that `audit2allow` utility outputs `semodule` command invocation string. Copy the string to the command line and execute. That way, you will do instructions of [step 4](#). Go to [step 2](#) only if you want to adjust the policies which are automatically formed for **Dr.Web for UNIX File Servers** components.

- 2) **With the use of `policygentool` utility.** As a parameter, specify the name of the module which operation you want to configure and the path to its executable file.



Note that `policygentool` utility included in `selinux-policy` package for **RedHat Enterprise Linux** and **CentOS Linux** OS might not function correctly. In this case, use `audit2allow` utility.

Example of creating policies with `policygentool`:

- o For **Dr.Web Console Scanner**:

```
# policygentool drweb-scanner /opt/drweb/drweb.real
```

- o For **Dr.Web Daemon**:

```
# policygentool drweb-daemon /opt/drweb/drwebd.real
```

You will be prompted to get information on some domain features and then for each of the modules, 3 files will be created which determine the policy:

```
[module_name].te, [module_name].fc и [module_name].if.
```



2. If necessary, edit generated source file of the `[module_name].te` policy and then use the `checkmodule` utility to create a binary representation (`.mod`) of the policy source file.



Please note that for successful policy compilation, a `checkpolicy` package must be installed in the system.

Usage example:

```
# checkmodule -M -m -o drweb.mod drweb.te
```

3. Create a policy module (`drweb.pp`) with the use of `semodule_package` utility.

Example:

```
# semodule_package -o drweb.pp -m drweb.mod
```

4. To install a new policy module into the module store, use the `semodule` utility.

Example:

```
# semodule -i drweb.pp
```

After system restart, **SELinux** security subsystem will be configured to enable correct operation of **Dr.Web for UNIX File Servers**.

For details on how to configure **SELinux** and on its operation features, refer to documentation for the used **Linux** distribution.



Dr.Web Updater

You can use **Dr.Web Updater** to enable automatic updates of virus databases and content-specific black and white lists of Internet resources for **Dr.Web for UNIX File Servers**. **Dr.Web Updater** is implemented as a console script `update.pl` written in **Perl**, and you can find the module in the directory with **Dr.Web for UNIX File Servers** executable files.

Dr.Web Updater requires installed **Perl** 5.8.0 or later.

Dr.Web Updater settings are located in the `[Updater]` section of the `drweb32.ini` configuration file in `%etc_dir` directory. To use an alternative configuration file, specify the full path to it with a command line parameter on the startup.

To run the script, use the following command:

```
$ %bin_dir/update.pl [parameters]
```

For details on allowed parameters, see [Command Line Parameters](#).



In the standard mode, updates are downloaded and installed automatically under the `drweb` user.

Do not start updating under the `root` superuser as this results in changing the ownership of updated files to `root` superuser and may cause an error on attempt to update them automatically in the future.

Updating Anti-Virus and Virus Databases

To provide reliable protection, **Dr.Web for UNIX File Servers** requires regular updates to virus databases.

Dr.Web for UNIX File Servers virus databases are stored as files with the `*.vdb` extension. Update servers of **Dr.Web Global Updating System (Dr.Web GUS)** can also store them within `lzma-`archives. When new viruses are discovered, small files (only several KBytes in size) with database segments describing these viruses are released to provide quick and effective countermeasures.

Updates are the same for all supported platforms. There are daily "hot" updates (`drwtoday.vdb`) and regular weekly updates (`drwXXXYY.vdb`), where `XXX` is a version number of an anti-virus engine, and `YY` is a sequential number, starting with `00` (for example, the first regular update for version 6.0 is named `drw60000.vdb`).

"Hot" updates are issued daily or even several times a day to provide effective protection against new viruses. These updates are installed over the old ones: that is, a previous `drwtoday.vdb` file is overwritten. When a new regular update is released, all records from `drwtoday.vdb` are copied to `drwXXXYY.vdb`, and a new empty `drwtoday.vdb` file is issued.

If you want to update virus databases manually, you must install all missing regular updates first, and then overwrite `drwtoday.vdb` file.

To add an update to the main virus databases, place the corresponding file to the directory with **Dr.Web for UNIX File Servers** executable files (`/var/drweb/bases/` by default) or to any other directory specified in the configuration file.

Signatures for virus-like malicious programs (adware, dialers, hacktools and others) are supplied in two additional files - `drwrisky.vdb` and `drwnasty.vdb` - with the structure similar to virus databases. These files are also regularly updated: `dwrXYYYY.vdb` and `dwnXYYYY.vdb` are for regular updates, and `dwrtoday.vdb` and `dwntoday.vdb` are for "hot" updates.



From time to time (as new anti-virus techniques are developed), new versions of the anti-virus package are released, containing the updated algorithms, implemented in the anti-virus engine **Dr.Web Engine**. At the same time, all released updates are brought together, and the new package version is completed with the updated main virus databases with descriptions of all known viruses. Usually after an upgrade of a package version, new databases can be linked to the old **Dr.Web Engine**. Please note that this does not guarantee detection or curing of new viruses, as it requires upgrading of algorithms in **Dr.Web Engine**.

Being regularly updated, virus databases have the following structure:

- `drwebase.vdb` – general virus database, received with the new version of the package;
- `drwXXXXYY.vdb` – regular weekly updates;
- `drwtoday.vdb` – "hot" updates released daily or several times a day;
- `drwnasty.vdb` – general database of other malware, received with the new version of the package;
- `dwnXXXXYY.vdb` – regular weekly updates for other malware;
- `dwntoday.vdb` – "hot" updates for other malware;
- `drwrisky.vdb` – general database of riskware, received with the new version of the package;
- `dwrXXXXYY.vdb` – regular weekly updates for riskware;
- `dwrtoday.vdb` – "hot" updates for riskware.

Virus databases can be automatically updated with **Dr.Web Updater** module (`%bin_dir/update.pl`). After installation, a user crontab file (`/etc/cron.d/drweb-update`) is automatically created to run **Updater** every 30 minutes. That ensures regular updates and maximum protection. You can modify this file to change update period.

Cron Configuration

For Linux: a special file with user settings is created in the `/etc/cron.d/` directory during installation of the software. It enables interaction between `cron` and **Dr.Web Updater**.



In the task created for `crond`, the vixie cron syntax is used. If you use a different `cron` daemon, such as `dcron`, create a task to start **Dr.Web Updater** automatically.

For FreeBSD and Solaris: manual configuration of `cron` is required to enable its interaction with **Dr.Web Updater**.

For example, when you use **FreeBSD** you may add the following string to `crontab` of `drweb` user:

```
*/30 * * * * /usr/local/drweb/update.pl
```

If you work with **Solaris**, the following set of commands is used:

```
# crontab -e drweb
# 0,30 * * * * /opt/drweb/update.pl
```

Please note that by default the `cron` daemon launches **Dr.Web Updater** once in 30 minutes (at the 0 and 30 minutes of every hour). This may result in increased load on the **Dr.Web GUS** update servers and cause update delays. To avoid such situation, it is recommended to change default values to arbitrary.



Command Line Parameters

- `--help` – shows brief help.
- `--ini` – specifies another (not default) configuration file to be used. To use another configuration file, specify the full path to it with the `--ini` command line parameter. If the name of the configuration file is not specified, `%etc_dir/drweb32.ini` is used.

Example:

```
$ /opt/drweb/update.pl --ini=/path/to/conf_file
```

- `--what` – temporarily overrides value of the `section` parameter on **Updater** startup. The new specified value is used until next start of the script. Possible values: `scanner` or `daemon`.

Example:

```
$ /opt/drweb/update.pl --what=Scanner
```

- `--components` – displays a list of all product components available for update.

Example:

```
$ /opt/drweb/update.pl --components
```

- You can also use the command line parameter `--not-need-reload`:
 - if this parameter is not specified, all daemons (**Dr.Web Daemon** for **Dr.Web for UNIX File Servers**) which components were updated, removed, or added are restarted after `update.pl` script finishes;
 - if the `--not-need-reload` parameter is specified without any value, after the `update.pl` script finishes no daemon of **Dr.Web for UNIX File Servers** is restarted;
 - if some daemon names are specified as the `not-need-restart` value, the corresponding daemons are not restarted after the `update.pl` script finishes. Names of non-restarted daemons must be separated by commas and listed without white spaces. The names are case insensitive.

Example:

```
$ /opt/drweb/update.pl --not-need-reload=drwebd
```

Blocking Updates for Selected Components

You can configure **Dr.Web Updater** to block updates to selected components of your **Dr.Web for UNIX File Servers**.

To view the list of available components, use the `--components` command line parameter:

Example:

```
# ./update.pl --components

Available Components:
  agent
  drweb          (frozen)
  icapd          (frozen)
  vaderetro_lib
```

If updates to a component are blocked, that component is marked as *frozen*. Frozen components are not updated when **Dr.Web Updater** is started.



Blocking updates

To block updates for specific component, use the `--freeze=<components>` command-line parameter, where `<components>` is a comma separated list of components to be frozen.

Example:

```
# ./update.pl --freeze=drweb
Updates for component 'drweb' are frozen.
Run command './updater --unfreeze=drweb' to start updates again.
```

Unblocking updates

To enable updates for a frozen component, use the `--unfreeze=<components>` command-line parameter, where `<components>` is a comma separated list of components to be unfrozen.

Example:

```
# ./update.pl --unfreeze=drweb
Updates for component 'drweb' are no longer frozen.
```



Unfreezing will not update the component.

Restoring Components

When **Dr.Web for UNIX File Servers** components are being updated, **Dr.Web Updater** saves their back-up copies to the working directory. It enables you to restore any component to its previous state if any problem occurs during an update.

To restore component to its previous state, use the `--restore=<components>` command line parameter, where `<components>` is a comma separated list of components to be restored.

Example:

```
# ./update.pl --restore=drweb

Restoring backup for component 'drweb'...
Updates for component 'drweb' are frozen.
Run command './updater --unfreeze=drweb' to start updates again.

Backup for component 'drweb' has been restored!
Dr.Web (R) restore details:

Following files has been restored:
  /var/drweb/bases/drwtoday.vdb
  /var/drweb/bases/dwntoday.vdb
  /var/drweb/bases/dwrtoday.vdb
  /var/drweb/bases/timestamp
  /var/drweb/updates/timestamp
```



Restored components are automatically frozen. To enable updates for a restored component, unfreeze it.

Configuration

Dr.Web Updater settings are stored in the `Updater` section of the configuration file (`drweb32.ini` by default) which is located in `%etc_dir` directory:



Section [Updater]

UpdatePluginsOnly = {logical}	<p>If Yes value is specified, Dr.Web Updater does not update Dr.Web Daemon and Dr.Web Scanner. It updates only the plug-ins.</p> <p><u>Default value:</u> UpdatePluginsOnly = No</p>
Section = {Daemon Scanner}	<p>Specifies the section of configuration file where Dr.Web Updater takes the settings, such as a path to the key file, paths to virus databases and others. Possible values: <code>Scanner</code>, <code>Daemon</code>.</p> <p>Value of this parameter can be temporarily overridden by the <code>--what</code> command line parameter. The specified value is used until the next start of the script.</p> <p><u>Default value:</u> Section = <code>Daemon</code></p>
ProgramPath = {path to file}	<p>Path to the executable file of Dr.Web Daemon or Dr.Web Scanner. It is used by Dr.Web Updater to get the product version.</p> <p><u>Default value:</u> ProgramPath = <code>%bin_dir/drwebd</code></p>
SignedReader = {path to file}	<p>Path to the program which is used to read digitally signed files.</p> <p><u>Default value:</u> SignedReader = <code>%bin_dir/read_signed</code></p>
LzmaDecoderPath = {path to directory}	<p>Path to the directory that contains a program used for unpacking of lzma-archives.</p> <p><u>Default value:</u> LzmaDecoderPath = <code>%bin_dir/</code></p>
LockFile = {path to file}	<p>Path to the file used to prevent sharing of certain files during their processing by Dr.Web Updater.</p> <p><u>Default value:</u> LockFile = <code>%var_dir/run/update.lock</code></p>
CronSummary = {logical}	<p>If you specify Yes, Dr.Web Updater outputs an update report for each session to <code>stdout</code>.</p> <p>This mode can be used to send notifications to administrator by email, if Dr.Web Updater is run by the <code>cron</code> daemon.</p> <p><u>Default value:</u> CronSummary = <code>Yes</code></p>
DrlFile = {path to file}	<p>Path to the file (<code>*.drl</code>) with the list of Dr.Web GUS servers.</p> <p>Dr.Web Updater selects a server from this list in random order to download updates.</p> <p>For details on downloading updates, see Updating Process.</p> <p>This file is signed by Doctor Web and must not be modified by a user. The file is updated automatically.</p> <p><u>Default value:</u> DrlFile = <code>%var_dir/bases/update.drl</code></p>



CustomDrlFile = {path to file}	<p>Path to the file (*.drl) with the alternative list of Dr.Web GUS servers.</p> <p>Dr.Web Updater also selects a server from this list in random order to download updates.</p> <p>For details on downloading updates, see Updating Process.</p> <p>This file is signed by Doctor Web and must not be modified by a user. It is updated automatically.</p> <p>Default value: CustomDrlFile = %var_dir/bases/custom.drl</p>
FallbackToDrl = {logical}	<p>Allows using the file specified by DrlFile when connection to one of the servers listed in CustomDrlFile failed.</p> <p>If the parameter value is No, the file specified in DrlFile is not used.</p> <p>If the file specified in CustomDrlFile does not exist, the file specified in DrlFile is used regardless of the FallbackToDrl parameter value.</p> <p>For details on downloading updates, see Updating Process.</p> <p>Default value: FallbackToDrl = Yes</p>
DrlDir = {path to directory}	<p>Path to the directory that contains drl files with lists of Dr.Web GUS servers for each plug-in.</p> <p>These files are signed by Doctor Web and must not be modified by a user.</p> <p>Default value: DrlDir = %var_dir/drl/</p>
Timeout = {numerical value}	<p>Maximum wait time for downloading updates from the selected Dr.Web GUS server, in seconds.</p> <p>Default value: Timeout = 90</p>
Tries = {numerical value}	<p>Number of attempts by Dr.Web Updater to establish connection with the selected update server.</p> <p>Default value: Tries = 3</p>
ProxyServer = {host name IP address}	<p>Host name or IP address of the proxy server which is used for Internet access.</p> <p>If the proxy server is not used, the value of this parameter must be empty.</p> <p>Default value: ProxyServer =</p>
ProxyLogin = {string}	<p>User login to access the used proxy server (if it requires authentication).</p> <p>Default value: ProxyLogin =</p>



ProxyPassword = {string}	The password to access the used proxy server (if it requires authentication). Default value: ProxyPassword =
LogFileName = {syslog file name}	Path to the log file name. You can specify <code>syslog</code> as a log file name and logging will be performed by <code>syslogd</code> system service. Default value: LogFileName = <code>syslog</code>
SyslogFacility = {syslog label}	Log type label which is used by <code>syslogd</code> system service. Default value: SyslogFacility = <code>Daemon</code>
LogLevel = {log level}	Log verbosity level . The following levels are allowed: <ul style="list-style-type: none">• Quiet• Error• Warning• Info• Debug• Verbose Default value: LogLevel = <code>Info</code>
BlacklistPath = {path to directory}	Path to the directory with <code>.dws</code> files. Default value: BlacklistPath = <code>%var_dir/dws</code>
AgentConfPath = {path to file}	Path to Dr.Web Agent configuration file. Default value: AgentConfPath = <code>%var_dir/agent.conf</code>
ExpiredTimeLimit = {numerical value}	Number of days left before license expiration during which Dr.Web Updater is attempting to update license key file. Default value: ExpiredTimeLimit = <code>14</code>
ESLockfile = {path to file}	Path to the lock file. If the lock file exists, Dr.Web Updater can not be automatically initialized by <code>cron</code> daemon. Default value: ESLockfile = <code>%var_dir/run/es_updater.lock</code>

Updating Procedure

Updating is performed in the following stages:

1. **Dr.Web Updater** reads the configuration file (`drweb32.ini` by default, or specified with the `--`



ini command line argument).

2. **Dr.Web Updater** uses parameters from the [Updater] section of the configuration file (see the description [above](#)) as well as the following parameters: **EnginePath**, **VirusBase**, **UpdatePath** and **PidFile**.
3. **Dr.Web Updater** selects **Dr.Web GUS** server for downloading updates. The server is selected in the following way:
 - Reading of the files which contain lists of update servers. The filenames are specified in the **Dr1File** and **CustomDr1File** parameters;
 - If both files are not accessible, updating process stops and terminates;
 - If only one of the files is accessible, it is used regardless of the value specified for the **FallbackToDr1** parameter;
 - If both files are accessible, **Dr.Web Updater** uses the file specified in the **CustomDr1File** parameter;
 - If it is impossible to connect to any of the servers from this file (specified in **CustomDr1File**), and the **FallbackToDr1** value is set to **Yes**, **Dr.Web Updater** tries to establish connection with the servers from the file specified in the **Dr1File** parameter. If the connection fails, the updating process stops and terminates.
4. **Dr.Web Updater** tries to connect to servers from the selected file in random order until connection is established (**Dr.Web Updater** waits for the server to respond during the period specified in the **Timeout** parameter).
5. **Dr.Web Updater** requests the list of available updates from the selected **Dr.Web GUS** server and then requests the corresponding lzma archives. If the archives are not available on the server, the updates are downloaded as **vdb** files. To unpack lzma-archives, **lzma** utility is used. Path to the directory with the utility is specified in the **LzmaDecoderPath** parameter.
6. After updates are unpacked, they are saved to the corresponding directories as described in [Updating](#).



Dr.Web Agent

Dr.Web Agent is a resident module used to manage settings of **Dr.Web for UNIX File Servers** modules, define anti-virus policy depending on available licenses and collect virus statistics. Statistics, depending on **Dr.Web Agent** operational mode, is sent with the predetermined frequency either to the public server of the company or to the central protection server that works under **Dr.Web Agent**. When **Dr.Web for UNIX File Servers** modules are started or settings are changed, **Dr.Web Agent** sends all necessary configuration to these modules.



Note that `drweb-agent` can operate in enterprise mode only with **Dr.Web ESS 6**. If you want to ensure connection to the central protection server **Dr.Web ESS 10**, install and configure the new agent version, implemented as `drweb-agent10` module. For details on how to install and configure `drweb-agent10`, refer to the [Migration to Dr.Web ESS 10](#) section.

Dr.Web Agent can interact with other modules through exchanging control signals.

Since all **Dr.Web for UNIX File Servers** components (except for **Dr.Web Monitor**) receive their configuration via `drweb-agent` module, it must be run before all these modules, but after the `drweb-monitor` module.

Please note that when several parameters with the same name are specified in the configuration file, **Dr.Web Agent** unites them in one comma delimited string. You can also use a backslash symbol "\" to define parameter value in several lines. New line after backslash is added to the previous line when **Dr.Web Agent** is reading configuration. Note that using of a space character after a slash is not allowed.

Operation Mode

If necessary, **Doctor Web** can be connected to a corporate or private anti-virus network managed by **Dr.Web Enterprise Security Suite (Dr.Web ESS)**. To operate in the central protection mode, you do not need to install additional software or uninstall your **Dr.Web** solution.

To provide you with this option, **Dr.Web Agent** can operate in one of the two following modes:

- **Standalone mode** when a protected computer is not included in an anti-virus network or managed remotely. In this mode, configuration files and key files reside on local drives, and **Dr.Web Agent** is fully controlled from the protected computer.
- **Enterprise mode** (or central protection mode), when protection of the computer is managed from the central protection server. In this mode, some features and settings of **Dr.Web for UNIX File Servers** may be modified and blocked for compliance with a general (for example, company) security policy. Licence key file for operation in this mode is received from the central protection server. Your personal key file on the local computer is not used.



Note that `drweb-agent` can operate in enterprise mode only with **Dr.Web ESS 6**. If you want to ensure connection to the central protection server **Dr.Web ESS 10**, install and configure the new agent version, implemented as `drweb-agent10` module. For details on how to install and configure `drweb-agent10`, refer to the [Migration to Dr.Web ESS 10](#) section.

To use central protection mode

1. Contact the anti-virus network administrator of your company for a public key file and parameters of connection to the central protection server.
2. In the **Dr.Web Agent** configuration file (by default, `%etc_dir/agent.conf`), adjust the following parameters in the `[EnterpriseMode]` section:



- Set the `PublicKeyFile` parameter value to location of a public key file received from anti-virus network administrator (usually, `%var_dir/drwcsd.pub`). This file includes an encryption public key for access to **Dr.Web ESS**. If you are the anti-virus network administrator, you can locate the file in the corresponding directory on the **Enterprise Server**.
 - Set the `ServerHost` parameter value to the IP-address or host name of the **Enterprise Server**.
 - Set the `ServerPort` parameter value to the **Enterprise Server** port number.
3. To connect to the central protection server, set the `UserEnterpriseMode` parameter value to Yes.

In the central protection mode, some features and settings of **Dr.Web for UNIX File Servers** may be modified and blocked in compliance with the general security policy. A key file for operation in this mode is received from the central protection server. Your personal key file on the local computer is not used.



To run **Dr.Web Agent** in the central protection mode, `drweb-agent-es` package must be installed.

To enable **Dr.Web for UNIX File Servers** to fully support the central protection mode, set **Dr.Web Monitor** to operate in enterprise mode. For more details, see [Operation Mode](#) of **Dr.Web Monitor**.

To use standalone mode

1. Ensure that all parameters in the `[StandaloneMode]` section of the **Dr.Web Agent** configuration file (by default, `%etc_dir/agent.conf`) are adjusted properly.
2. In the `[EnterpriseMode]` section of the **Dr.Web Agent** configuration file, set the `UseEnterpriseMode` parameter to No.

When switching to this mode, all settings of **Dr.Web for UNIX File Servers** are unlocked and restored to their previous or default values. You can access all features of **Dr.Web for UNIX File Servers** solutions again and configure them.



For correct operation in the standalone mode, **Dr.Web for UNIX File Servers** requires a valid personal key file. The key files received from the central protection server cannot be used in this mode.

Using **Dr.Web for UNIX File Servers** and **Dr.Web Anti-virus for Linux** together in the central protection mode

Because of the implementation features, **Dr.Web for UNIX File Servers** and **Dr.Web Anti-virus for Linux** cannot be simultaneously operate in the central protection mode if they are both installed on the same computer. To enable **Dr.Web for UNIX File Servers** to operate in the central protection mode, change the operation mode of **Dr.Web Anti-virus for Linux** to the Standalone mode and delete or move to another directory the following files: `%etc_dir/agent/drweb-cc.amc` and `%etc_dir/agent/drweb-spider.amc`.

If you want to switch **Dr.Web Anti-virus for Linux** back to the central protection mode later, we recommended to save the files as a back up copy in a directory that is different from `%etc_dir/agent`. In this case, disable the central protection mode of **Dr.Web for UNIX File Servers**, copy back up copies of `drweb-cc.amc` and `drweb-spider.amc` files to the `%etc_dir/agent/` directory and follow the instructions provided in the **Dr.Web Anti-virus for Linux** User Manual.



Command Line Parameters

To run **Dr.Web Agent**, use the following command:

```
drweb-agent [parameters]
```

where the following parameters are available:

Short case	Extended case	Arguments
-h	--help	
<u>Description:</u> Show information about supported command line parameters on the screen and terminate the module		
-v	--version	
<u>Description:</u> Show Dr.Web Agent version on the screen and terminate the module		
-u	--update-all	
<u>Description:</u> Start updating all Dr.Web for UNIX File Servers components		
-f	--update-failed	
<u>Description:</u> Start updating Dr.Web for UNIX File Servers components, updating of which failed in the standard mode		
-C	--check-only	
<u>Description:</u> Check correctness of Dr.Web Agent configuration. This parameter cannot be used if a Dr.Web Agent process is already running in the system		
-c	--conf	<path to file>
<u>Description:</u> Enable the module to use the specified configuration file		
-d	--droppwd	
<u>Description:</u> Discard registration data required to access Dr.Web Enterprise Server (username, password). At the next connection attempt, a new process of workstation registration will start.		
-p	--newpwd	
<u>Description:</u> Change username and password required to access Dr.Web Enterprise Server		
-s	--socket	<path to file>
<u>Description:</u> Use the specified socket for interaction with the controlled modules		
-P	--pid-file	<path to file>
<u>Description:</u> Use the specified file as a PID file of Dr.Web Agent		
-e	--export-config	<application name>
<u>Description:</u> Export configuration of the specified application to Dr.Web Enterprise Server . Use the application name specified in the header of the Application "<application name>" section in the corresponding amc file (see Interaction with other Suite components).		
This parameter cannot be used if a Dr.Web Agent process is already running in the system or if you want to export Dr.Web Anti-virus for Linux configuration.		



Configuration File

Configuration of **Dr.Web Agent** is specified in the following file: `%etc_dir/agent.conf`.

For general organization concept of **Dr.Web for UNIX File Servers** configuration files, see [Configuration Files](#).

[Logging] Section

The [Logging] section contains **Dr.Web Agent** logging settings:

[Logging]

Level = {log level}	Dr.Web Agent log verbosity level . The following levels are available: <ul style="list-style-type: none">• Quiet• Error• Alert• Info• Debug <u>Default value:</u> Level = Info
IPCLevel = {log level}	Log verbosity level of IPC library. The following levels are available: <ul style="list-style-type: none">• Quiet• Error• Alert• Info• Debug <u>Default value:</u> IPCLevel = Error
SyslogFacility = {syslog label}	Log type label used by <code>syslogd</code> system service. <u>Default value:</u> SyslogFacility = Daemon
FileName = {path to file syslog}	Path to the log file. You can specify <code>syslog</code> as a log file name and logging will be performed by <code>syslogd</code> system service. <u>Default value:</u> FileName = <code>syslog</code>

[Agent] Section

The [Agent] section contains general **Dr.Web Agent** settings:

[Agent]

MetaConfigDir = {path to directory}	Name of the directory where meta-configuration files of drweb-agent are located.
---	---



	<p>These files contain settings of interaction between Dr.Web Agent and other modules of the Dr.Web suite. Meta-configuration files are provided by Dr.Web developers and do not need to be modified.</p> <p><u>Default value:</u> MetaConfigDir = %etc_dir/agent/</p>
UseMonitor = {logical}	<p>Yes value indicates to drweb-agent that Dr.Web Monitor is used as a part of Dr.Web for UNIX File Servers.</p> <p><u>Default value:</u> UseMonitor = Yes</p>
MonitorAddress = {address}	<p>Socket used by Dr.Web Agent for interaction with Dr.Web Monitor (the parameter value must be the same as the Address parameter value in the Dr.Web Monitor configuration file).</p> <p><u>Default value:</u> MonitorAddress = local:%var_dir/ipc/.monitor</p>
MonitorResponseTime = {numerical value}	<p>Maximum time to get a response from drweb-monitor module, in seconds.</p> <p>If Dr.Web Monitor does not respond during this period, Dr.Web Agent considers drweb-monitor not running and stops trying to establish connection with Dr.Web Monitor.</p> <p><u>Default value:</u> MonitorResponseTime = 5</p>
PidFile = {path to file}	<p>Name of the file where Dr.Web Agent PID is written on Dr.Web Agent startup.</p> <p><u>Default value:</u> PidFile = %var_dir/run/drweb-agent.pid</p>

[Server] Section

The [Server] section contains parameters that control interaction of **Dr.Web Agent** with other **Dr.Web for UNIX File Servers** modules:

[Server]

Address = {address}	<p>Socket used by Dr.Web Agent to interact with other modules of the suite.</p> <p>You can specify multiple sockets separating them by comma.</p> <p><u>Default value:</u> Address = local:%var_dir/ipc/.agent, inet:4040@127.0.0.1</p>
Threads = {numerical value}	<p>Number of drweb-agent simultaneous threads.</p> <p>This parameter determines maximum number of simultaneous connections to modules that report virus statistics to Dr.Web Agent. The parameter value cannot be changed with SIGHUP signal.</p> <p>If 0 is specified, number of threads is unlimited (not recommended).</p> <p><u>Default value:</u> Threads = 2</p>



Timeout = {numerical value}	Maximum time (in seconds) for establishing connection between Dr.Web Agent and other Dr.Web modules. If the value is set to 0, time for establishing connection is unlimited.
	<u>Default value:</u> Timeout = 15

[EnterpriseMode] Section

The [EnterpriseMode] section contains parameters of **Dr.Web Agent** operation in the **Enterprise** mode:

[EnterpriseMode]

UseEnterpriseMode = {logical}	If the value is set to Yes , Dr.Web Agent operates in the Enterprise mode, if the value is set to No - in the Standalone mode.
	<u>Default value:</u> UseEnterpriseMode = No
ComputerName = {text value}	Name of the computer in Anti-virus network .
	<u>Default value:</u> ComputerName =
VirusbaseDir = {path to directory}	Path to the directory where virus databases are located.
	<u>Default value:</u> VirusbaseDir = %var_dir/bases
PublicKeyFile = {path to file}	Path to the public key file required to access Dr.Web Enterprise Server .
	<u>Default value:</u> PublicKeyFile = %bin_dir/drwcsd.pub
ServerHost = {IP address}	IP address of Dr.Web Enterprise Server .
	<u>Default value:</u> ServerHost = 127.0.0.1
ServerPort = {port number}	Number of the port required to access Dr.Web Enterprise Server .
	<u>Default value:</u> ServerPort = 2193
CryptTraffic = {Yes Possible No}	Encryption of traffic between Dr.Web Enterprise Server and Dr.Web Agent : <ul style="list-style-type: none">• Yes – force encryption• Possible – encrypt if possible• No – do not encrypt
	<u>Default value:</u> CryptTraffic = possible
CompressTraffic = {Yes Possible No}	Compression of traffic between Dr.Web Enterprise Server and Dr.Web Agent : <ul style="list-style-type: none">• Yes – force compression



	<ul style="list-style-type: none"> • Possible – compress if possible • No – do not compress
	<p><u>Default value:</u> CompressTraffic = possible</p>
CacheDir = {path to directory}	<p>Path to the directory, where different utility files are stored: configuration files, files with access privileges for applications managed by Dr.Web Enterprise Server, files with registration information on Dr.Web Enterprise Server, etc.</p>
	<p><u>Default value:</u> CacheDir = %var_dir/agent</p>

[StandaloneMode] Section

The [StandaloneMode] section contains parameters of **Dr.Web Agent** operation in the **Standalone** mode:

[StandaloneMode]

StatisticsServer = {text value}	<p>Address (URL) of the virus statistics server If the value is not specified, statistics is not sent.</p>
	<p><u>Default value:</u> StatisticsServer = stat.drweb.com:80/update</p>
StatisticsUpdatePeriod = {numerical value}	<p>Period (in minutes) for statistics updating. Value cannot be less than 5</p>
	<p><u>Default value:</u> StatisticsUpdatePeriod = 10</p>
StatisticsProxy = {hostname IP address}	<p>IP address or host name of proxy server for sending virus statistics.</p> <p>Please note that if the parameter value is not set, the value of <code>http_proxy</code> environment variable is used.</p>
	<p>Example: <code>StatisticsProxy = localhost:3128</code></p>
	<p><u>Default value:</u> StatisticsProxy =</p>
StatisticsProxyAuth = {text value}	<p>Authentication string (<username>:<password>) to access proxy server.</p>
	<p>Example: <code>StatisticsProxyAuth = test:testpwd</code></p>
	<p><u>Default value:</u> StatisticsProxyAuth =</p>
UUID = {text value}	<p>Unique user ID for the statistics server http://stat.drweb.com/.</p> <p>Please note that this parameter is mandatory for sending statistics. Thus, if you want to enable this option, specify the personal UUID as the parameter value (md5 sum of license key file is usually used as UUID).</p>
	<p><u>Default value:</u> UUID =</p>



<code>LicenseFile =</code> {paths to files}	Location of Dr.Web license key files or demo key files. Paths in the list are separated by commas (if the list contains more than one path). Default value: <code>LicenseFile = %bin_dir/drweb32.key</code>
--	---

[Update] Section

The [Update] section contains parameters of **Dr.Web for UNIX File Servers** update via **Dr.Web Enterprise Server**:

[Update]	
<code>CacheDir =</code> {path to directory}	Directory where Dr.Web Agent temporarily stores downloaded update files. Default value: <code>CacheDir = %var_dir/updates/cache</code>
<code>Timeout =</code> {numerical value}	Maximum time (in seconds) for Dr.Web Agent to process downloaded update files. If 0 is specified, time for process is unlimited. Default value: <code>Timeout = 120</code>
<code>RootDir =</code> {path to directory}	Path to the root directory. Default value: <code>RootDir = /</code>

For more information, see *Administrator Manual* for **Dr.Web ESS**.

Running Dr.Web Agent



Please note that if at the post-install script runtime you select the "Configure Services" option in the conversation, all services including **Dr.Web Agent**, will be started automatically.

When **Dr.Web Agent** starts with the default settings, the following actions are performed:

- **Dr.Web Agent** searches and loads its configuration file. If the configuration file is not found, **Dr.Web Agent** terminates.
- If the parameters in the [EnterpriseMode] section are set correctly and **Dr.Web for UNIX File Servers** is operating within **Anti-virus network**, **Dr.Web Agent** starts in the Enterprise mode. Otherwise, if parameters in the [Standalone] section are set correctly, **Dr.Web Agent** starts in the Standalone mode. If the parameters in the [Standalone] section are not set, **Dr.Web Agent** terminates.
- Socket for interaction of **Dr.Web Agent** with other **Dr.Web** modules is created. If a TCP socket is used, several connections can be established (loading continues if at least one connection is established). If a UNIX socket is used, it can only be created if the user, whose privileges are used to run `drweb-agent`, has read and write access to its directory. If a socket cannot be created, **Dr.Web Agent** terminates.

Further loading process depends on the selected operation mode.



If **Dr.Web Agent** operates in the **Enterprise mode**:

- **Dr.Web Agent** connects to **Dr.Web Enterprise Server**. If the server is unavailable or authorization process fails during the first connection attempt, **Dr.Web Agent** terminates. If **Dr.Web Agent** worked previously with this server and now the server is temporary unavailable (for example, if any connection problem occurs), **Dr.Web Agent** uses backup copies of configuration files received from the server earlier. These files are encrypted and must not be edited by a user. An attempt to edit the files makes them invalid.
- If the connection is established, **Dr.Web Agent** receives key files and settings from **Dr.Web Enterprise Server**. After all settings and key files are received, **Dr.Web Agent** is fully operational.

If **Dr.Web Agent** operates in the **Standalone mode**, [meta-configuration](#) files (.amc) that manage **Dr.Web Agent** interaction with other **Dr.Web** modules are loaded. Location of meta-configuration files is set in the `MetaConfigDir` parameter in the `[Agent]` section of the **Dr.Web Agent** configuration file. When meta-configuration files are successfully loaded, **Dr.Web Agent** is ready to operate.

Interaction with Other Suite Components

Interaction with other suite components is performed by **Dr.Web Agent** metaconfiguration files (.amc files). These files contain configuration parameters that are sent to the respective **Dr.Web** modules by **Dr.Web Agent**. The files reside in the directory specified in the `MetaConfigDir` parameter (by default - `%etc_dir/agent`). Usually, one file contains configuration parameters of one component and name of the file matches to the name of the **Dr.Web for UNIX File Servers** component.

Each module is described in the `Application` section with the corresponding name. At the end of the section `EndApplication` must be specified.

The following parameters must be present in the module description:

- `id`: identifier of the module in **Dr.Web ESS**.
- `ConfFile`: path to the module configuration file.
- `Components`: description of the modules. At the end of this section, `EndComponents` must be specified. Description of each module must contain the following information: name and list of sections in the configuration file with parameters that are necessary for proper operation. The list of sections and parameters is comma separated.

To describe individual parameters properly, specify the full path to them (for example, `/Quarantine/DBISettings`). In the section descriptions, only their names can be specified (for example, `General`).

To denote line breaks, a back slash (`\`) is used.

If the component requires all settings from the configuration file, you can specify a path `"/*` instead of the list of sections and/or parameters.

Example of amc file for Dr.Web Samba VFS SpIDer for Linux:

```
Application "Dr.Web (R) SMB_SPIDER"
  ID          110
  ConfFile    "/etc/drweb/smb_spider.conf"
  Components
    smb_spider      DaemonCommunication, Scanning, Actions, Logging
  EndComponents
EndApplication
```

Integration with Dr.Web Enterprise Security Suite

There are two possible situations which require integration of **Dr.Web for UNIX File Servers** with **Dr.Web Enterprise Security Suite**:



- Setup and initial configuration of **Dr.Web for UNIX File Servers** in the existing **Anti-virus Network** operated by **Dr.Web ESS**;
- Embedding of working UNIX server with already installed and configured **Dr.Web for UNIX File Servers** in the **Anti-virus Network** operated by **Dr.Web ESS**.

To enable **Dr.Web for UNIX File Servers** to work in **Dr.Web ESS** environment, configure **Dr.Web Agent** and **Dr.Web Monitor** components for operation in the `Enterprise` mode, and register the suite on **Dr.Web Enterprise Server**.

According to the connection policy for new working stations (for details, see **Dr.Web Enterprise Security Suite** administrator manual), **Dr.Web for UNIX File Servers** can be connected to **Dr.Web Enterprise Server** in two different ways:

- when a new account is automatically created by the central protection server
- when a new account is created by administrator manually.

Configuring Components to Run in Enterprise Mode

To start the components in the `Enterprise` mode after installation, it is necessary to adjust parameter values in the local configuration files of **Dr.Web Agent** and **Dr.Web Monitor**.

For Dr.Web Agent

In the `[EnterpriseMode]` section of **Dr.Web Agent** configuration file (`%etc_dir/agent.conf`) set the following parameter values:

- `UseEnterpriseMode` = `Yes`;
- `PublicKeyFile` = `%var_dir/drwcsd.pub` (public encryption key used to access **Dr.Web Enterprise Server**. Administrator must move this file from the corresponding directory of **Dr.Web Enterprise Server** to the specified path);
- `ServerHost` = IP address or host name of **Dr.Web Enterprise Server**;
- `ServerPort` = **Dr.Web Enterprise Server** port (2193 by default).

For Dr.Web Monitor

In the `[Monitor]` section of the **Dr.Web Monitor** configuration file `%etc_dir/monitor.conf` set the following parameter values:

- `UseEnterpriseMode` = `Yes`.

Automatic Creation of New Account by ES Server

When a new account is created automatically:

1. On the first run in the `Enterprise` mode, **Dr.Web Agent** sends a request for the account details (station ID and password) to **Dr.Web Enterprise Server**;
2. If **Dr.Web Enterprise Server** is set to the **Approve access manually** mode (used by default; for details, see the administrator manual for **Dr.Web ESS**), system administrator must confirm registration of a new station via **Dr.Web Control Center** web interface in one minute;
3. After the first connection, **Dr.Web Agent** records the hash of the station ID and password into the `pwd` file. This file is created in the directory specified in the `CacheDir` parameter of the `[EnterpriseMode]` section (default value is `%var_dir/agent/`);
4. Data from this file is used every time **Dr.Web for UNIX File Servers** connects to **Dr.Web Enterprise Server**;
5. If you delete the password file, repeated registration request will be sent to **Dr.Web Enterprise Server** on the next **Dr.Web Agent** startup.



Manual Creation of New Account by Administrator

To create a new account manually:

1. Create a new account on **Dr.Web Enterprise Server**: specify the station ID and password (for details, see the administrator manual for **Dr.Web ESS**).
2. Start **Dr.WebAgent** with the `--newpwd` command line parameter (or `-p`) and enter the station ID and password. **Dr.Web Agent** records the hash of station ID and password into the `pwd` file. This file is created in the directory that is specified in the `CacheDir` parameter of the `[EnterpriseMode]` section (default value is `%var_dir/agent/`).
3. Data from this file is used every time **Dr.Web for UNIX File Servers** connects to **Dr.Web Enterprise Server**.
4. If you delete the password file, retry registration on the next **Dr.Web Agent** startup.

Configuring Components via Dr.Web Control Center (embedded in Enterprise Security Suite)

You can configure **Dr.Web for UNIX File Servers** and **Dr.Web Daemon** ([anti-virus module](#) included in the standard installation package) via **Dr.Web Control Center**.

The standard installation package **Dr.Web Enterprise Security Suite** includes basic configuration files for **Dr.Web for UNIX File Servers** and **Dr.Web Daemon** for **Linux**, **FreeBSD** and **Solaris**. When you configure certain components via the web interface (**Dr.Web Control Center**), values of the corresponding parameters change in these configuration files on **Dr.Web Enterprise Server**. After that, every time the components start, **Dr.Web Agent** requests configuration from **Dr.Web Enterprise Server**.

Export of Existing Configuration to ES Server

You can export configuration from the local computer to **Dr.Web Enterprise Server** automatically when **Dr.Web Agent** is operating in the `Enterprise` mode. To export configuration, use the command line parameter `--export-config` (or `-e`).



You must specify the name of the component (`DAEMON`, `SMB_SPIDER`).

Example:

```
# %bin_dir/drweb-agent --export-config SMB_SPIDER
```

Starting the System

To start the system:

1. Start **Dr.Web Monitor** on the local computer:

For **Linux** and **Solaris**:

```
# /etc/init.d/drweb-monitor start
```

For **FreeBSD**:

```
# /usr/local/etc/rc.d/00.drweb-monitor.sh start
```



Integration with Dr.Web ESS 10

Dr.Web for UNIX File Servers 6.0.2 includes two versions of the **Dr.Web Agent**:

- **Dr.Web Agent**, implemented as `drweb-agent` module, in **enterprise mode** can interact only with **Dr.Web ESS** server version 6.
- **Dr.Web Agent**, implemented as `drweb-agent10` module, in **enterprise mode** can interact only with **Dr.Web ESS** server version 10.

To start using the central protection server **Dr.Web ESS** 10, configure standard [integration](#) and also make additional settings.



The products, operating in **FreeBSD** 6.x, cannot be integrated with **Dr.Web ESS** 10.

Configuring connection to Dr.Web ESS 10

As **Dr.Web ESS** does not support management of **Dr.Web Monitor** and **Dr.Web Daemon**, `drweb-agent10` uses two supplementary configuration files in addition to the [standard](#) file `%etc_dir/agent.conf`: `es_monitor.conf` and `es_daemon.conf`. They are located in the same directory. These files store configuration for **Dr.Web Monitor** and **Dr.Web Daemon**. The configuration settings will be used for adjusting operation of these modules in **enterprise mode**.

Each file line contains the parameter value of the corresponding module configuration. The format is as follows: `<section>/<parameter> <value>`, where `<section>` is the name of the section from the component configuration file, `<parameter>` is the parameter name, and `<value>` is the value specified for this parameter.

Example (for `es_monitor.conf` file that contains [settings](#) for **Dr.Web Monitor component** operation in **enterprise mode**):

```
Monitor/RunAppList DAEMON
```

This line contains the value of `RunAppList` parameter stored in `[Monitor]` [section](#) in **Dr.Web Monitor** configuration file. This parameter value is used when the suite is running in **enterprise mode**. In this case, **Dr.Web Monitor** starts only **Dr.Web Daemon**.

Example (for `es_daemon.conf` file that contains [settings](#) for **Dr.Web Daemon component** operation in **enterprise mode**):

```
Daemon/MaxCompressionRatio 500
```

This line contains the value of `MaxCompressionRatio` parameter stored in `[Daemon]` [section](#) in **Dr.Web Daemon** configuration file. This parameter value is used when the suite is running in **enterprise mode**. In this case, **Dr.Web Daemon** uses 500 as the threshold value of compression ratio.

To connect **Dr.Web for UNIX File Servers** to the central protection server **Dr.Web ESS** 10:

1. Open `agent.mmc` [meta-configuration file](#) (used by **Dr.Web Monitor** for communication with **Dr.Web Agent**) and replace the specified binary file name `drweb-agent` with `drweb-agent10`.



2. In `es_monitor.conf` file, specify components to be started in **enterprise** mode. For that purpose, edit the `es_monitor.conf` accordingly. The set of started components must be similar to the set of components started in **standalone** mode (specified as the value of `RunAppList` parameter stored in `[Monitor]` section in **Dr.Web Monitor** configuration file). If more than one component must be started, they are specified as a comma-separated list. Note that white spaces are not allowed. Example:

```
Monitor/RunAppList DAEMON
```

As the component names, here should be used the names specified in `Application` section of `mmc-files`.

3. If required, configure parameters in `es_daemon.conf` file that is used by **Dr.Web Daemon** respectively in **enterprise** mode.
4. If **standalone** mode was previously used, switch operation of **Dr.Web Agent** and **Dr.Web Monitor** components to **enterprise** mode by specifying appropriate settings in their configuration files, as described in the [Configuring Components to Run in Enterprise Mode](#) section.
5. Restart **Dr.Web Monitor** by using the following command:

```
# service drweb-monitor restart
```

Gathering Virus Statistics

Dr.Web Agent receives statistics on computer threats from the controlled modules and sends it either to the official **Doctor Web** statistics website: <http://stat.drweb.com/> (if the Internet connection is available) or to **Dr.Web ESS** (if **Dr.Web Agent** is operating in the Enterprise mode).

Dr.Web Agent needs the *unique user identifier* (UUID) to connect to this website. By default, MD5 hash of the key file is used as a UUID. Also you can get a personal UUID from **Doctor Web Technical Support**. In this case, specify your UUID explicitly in the **Dr.Web Agent** configuration file (`[StandaloneMode]` section).



Statistics is gathered only for those **Dr.Web** modules that receive settings from **Dr.Web Agent**. Instructions on how to set up interaction with **Dr.Web Agent** are given in the sections describing the modules.

On the statistics website (at <http://stat.drweb.com/>), you can view aggregate statistics on computer threats both for a given server and for all servers supported by **Dr.Web Anti-virus for UNIX** or by **Dr.Web for UNIX File Servers** with an anti-virus plug-in. **Dr.Web Agent** can simultaneously process statistics on computer threats from several different **Dr.Web** products which are able to interact with **Dr.Web Agent**.

If **Dr.Web Agent** is operating in the Enterprise mode, you can view statistics on the special page of **Dr.Web Control Center**. In this case, statistics gathered by **Dr.Web Enterprise Server** is also sent to the **Doctor Web** statistics server as a summary of the **Anti-virus network** statistics.

Statistics is available in both HTML and XML formats. The second format is convenient if you plan to publish this statistics on another website, since data in the XML format can be transformed according to the website concept and design.

To view aggregate statistics on computer threats for all supported servers, visit <http://stat.drweb.com/>. You can view a list of detected threats for all supported servers (in descending order) with overall percentage of detections.



Appearance of the webpage can differ depending on the used browser.

The following figure shows threats statistics page.



Figure 14. Computer threats statistics

You can change search options and repeat the search. To do this:

1. Select either **Mail** or **Files** check boxes to get statistics on computer threats detected in emails or files.
2. In the drop-down lists for **Start date** and **End date**, select **start/end date** and **time** for the required period.
3. In the **Top** field, enter the required number of rows in the statistics table (most frequently detected threats will be shown).
4. Click **Query**. The file with aggregate statistics in the XML format can be found at <http://info.drweb.com/export/xml/top>

**Example:**

```
<drwebvirustop period="24" top="5"
  vdbaseurl="http://info.drweb.com/virus_description/"
  updatedutc="2009-06-09 09:32:02">
<item>
  <vname>Win32.HLLM.Netsky</vname>
  <dwvlid>62083</dwvlid>
  <place>1</place>
  <percents>34.201062139103</percents>
</item>
<item>
  <vname>Win32.HLLM.MyDoom</vname>
  <dwvlid>9353</dwvlid>
  <place>2</place>
  <percents>25.1303270912579</percents>
</item>
<item>
  <vname>Win32.HLLM.Beagle</vname>
  <dwvlid>26997</dwvlid>
  <place>3</place>
  <percents>13.4593034783378</percents>
</item>
<item>
  <vname>Trojan.Botnetlog.9</vname>
  <dwvlid>438003</dwvlid>
  <place>4</place>
  <percents>7.86446592583328</percents>
</item>
<item>
  <vname>Trojan.DownLoad.36339</vname>
  <dwvlid>435637</dwvlid>
  <place>5</place>
  <percents>7.31494163115527</percents>
</item>
</drwebvirustop>
```

In this file, the following XML attributes are used:

- `period` – duration (in hours) of the statistics collection process;
- `top` – number of the most frequently detected threats shown in the statistics table (number of rows);
- `updatedutc` – last statistics update time;
- `vname` – threat name;
- `place` – place of the virus in the statistics;
- `percents` – percentage of the total number of detections.



Value of the period parameter and size of the sample cannot be changed by user.

To get personalized threat statistics

Visit one of the following webpages:

- For statistics in HTML format, go to <http://stat.drweb.com/view/<UUID>>. Page with the personalized statistics is similar to the aggregate statistics page.
- For the file with the personalized threat statistics in XML format, go to <http://stat.drweb.com/xml/<UUID>>.

The `<UUID>` in both cases stands for the MD5 hash of your license key file (unless you have a personal UUID received from **Doctor Web Technical Support**).

**Example:**

```
<drwebvirustop period="24" top="2" user="<UUID>"
  lastdata="2005-04-12 07:00:00+04">
  <item>
    <caught>69</caught>
    <percents>24.1258741258741</percents>
    <place>1</place>
    <vname>Win32.HLLM.Netsky.35328</vname>
  </item>
  <item>
    <caught>57</caught>
    <percents>19.9300699300699</percents>
    <place>2</place>
    <vname>Win32.HLLM.MyDoom.54464</vname>
  </item>
</drwebvirustop>
```

In this file, the following XML attributes are used:

- `period` – duration (in hours) of the statistics collection process;
- `top` – number of the most frequently detected threats shown in the table (number of rows);
- `user` – user identifier;
- `lastdata` – time when user last sent data to the server;
- `vname` – threat name;
- `place` – threat place in the statistics;
- `caught` – number of detections of the certain threat;
- `percents` – percentage of the total number of detections.



Value of the period parameter and size of the sample cannot be changed by user.



Dr.Web Monitor

Dr.Web Monitor is a memory resident module `drweb-monitor`.

It is used to increase fault-tolerance of the whole **Dr.Web for UNIX File Servers** suite. It ensures correct startup and termination of suite components as well as restart of any component if it is operating abnormally. **Dr.Web Monitor** starts all modules and loads, if necessary, some extra components of these modules. If **Dr.Web Monitor** fails to start a module, it repeats an attempt later. Number of attempts and time period between them are defined by **Dr.Web Monitor** settings.

After all modules are loaded, **Dr.Web Monitor** permanently controls their operation. If any module or one of its components operates abnormally, **Dr.Web Monitor** restarts the application. Maximum number of attempts to restart a component and a period of time between them are defined by **Dr.Web Monitor** settings. If any of the modules starts to operate abnormally, **Dr.Web Monitor** notifies the system administrator.

Dr.Web Monitor can interact with **Dr.Web Agent** by exchanging control signals.

Operation Mode

If necessary, **Doctor Web** solutions can be used to connect to a corporate or private **Anti-virus network** managed by **Dr.Web Enterprise Security Suite**. To operate in the central protection mode, it is not required to install additional software or uninstall your **Dr.Web** solution.

To provide you with this option, **Dr.Web Monitor** can operate in one of the following modes:

- **Standalone mode** when a protected computer is not included in an anti-virus network and is managed locally. In this mode, configuration files and key files reside on local drives, **Dr.Web Monitor** is fully controlled from the protected computer, and all modules start in accordance with the settings specified in the **Dr.Web Monitor** configuration file.
- **Enterprise mode** (or **central protection mode**) when protection of the local computer is managed from the central protection server. In this mode, some features and settings of **Dr.Web for UNIX File Servers** can be modified and blocked for compliance with a general security policy (for example, corporate security policy). A key file for operation in this mode is received from the central protection server. Your personal key file on the local computer is not used.

To enable central protection mode

1. Contact anti-virus network administrator of your company for a public key file and parameters of connection to the central protection server.
2. In **Dr.Web Monitor** configuration file (by default, `%etc_dir/monitor.conf`), set the `UseEnterpriseMode` parameter value to `Yes`.

In the central protection mode, some features and settings of **Dr.Web for UNIX File Servers** can be modified or blocked for compliance with the general security policy. A key file for operation in this mode is received from the central protection server. Your personal key file on the local computer is not used.



For **Dr.Web for UNIX File Servers** to fully support the central protection mode, also enable **Dr.Web Agent** to operate in the Enterprise mode. For details, see [Operation Mode](#) of **Dr.Web Agent**.

To enable standalone mode

1. Ensure that all modules that you want **Dr.Web Monitor** to start are listed in the `RunAppList` parameter in the `[Monitor]` section of **Dr.Web Monitor** configuration file (by default, `%etc_dir/monitor.conf`). The modules must be installed and configured properly.



- In the [Monitor] section of **Dr.Web Monitor** configuration file, set the **UseEnterpriseMode** parameter value to No.

On switching to this mode, all settings of **Dr.Web for UNIX File Servers** are unlocked and restored to their previous or default values. You can access all settings of **Dr.Web for UNIX File Servers** again and configure them.



For correct operation in the standalone mode, **Dr.Web for UNIX File Servers** requires a valid personal key file. The key files received from the central protection server cannot be used in this mode.

Command Line Parameters

To run **Dr.Web Monitor**, use this command:

```
drweb-monitor [parameters]
```

where the following parameters are allowed:

Short case	Extended case	Arguments
-h	--help	
<u>Description:</u> Show information about supported command line parameters on the screen and terminate the module		
-v	--version	
<u>Description:</u> Show Dr.Web Monitor version on the screen and terminate the module		
-u	--update	
<u>Description:</u> Start updating all Dr.Web for UNIX File Servers components		
-C	--check-only	
<u>Description:</u> Check correctness of Dr.Web Monitor configuration. This parameter cannot be used if a Dr.Web Monitor process is already running in the system.		
-A	--check-all	<path to file>
<u>Description:</u> Check correctness of configuration of all Dr.Web for UNIX File Servers components		
-c	--conf	<path to file>
<u>Description:</u> Module must use the specified configuration file		
-r	--run	<application name>[,<application name>,...]
<u>Description:</u> Run applications, name of which are specified. Use the application name specified in the header of the Application "<application name>" section in the corresponding mmc file (for details, see Interaction with other Suite Components).		
This parameter cannot be used if a Dr.Web Monitor process is already running in the system.		

Example usage:

```
drweb-monitor -r AGENT
```

Configuration File

Adjustment of **Dr.Web Monitor** settings is performed in its configuration file



```
%etc_dir/monitor.conf.
```

For general organization concept of **Dr.Web for UNIX File Servers** configuration files, see [Configuration Files](#).

[Logging] Section

In the [Logging] section, parameters responsible for logging information on operation of **Dr.Web Monitor** are collected:

[Logging]	
<pre>Level = {log level}</pre>	<p>Dr.Web Monitor log verbosity level.</p> <p>The following levels are available:</p> <ul style="list-style-type: none"> • Quiet • Error • Alert • Info • Debug <p><u>Default value:</u> Level = Info</p>
<pre>IPCLevel = {log level}</pre>	<p>Log verbosity level for IPC library.</p> <p>The following levels are available:</p> <ul style="list-style-type: none"> • Quiet • Error • Alert • Info • Debug <p><u>Default value:</u> IPCLevel = Error</p>
<pre>SyslogFacility = {syslog label}</pre>	<p>Log type label which is used by <code>syslogd</code> system service.</p> <p><u>Default value:</u> SyslogFacility = Daemon</p>
<pre>FileName = {syslog path to file}</pre>	<p>Path to the log file.</p> <p>You can specify <code>syslog</code> as a log file name and logging will be performed by <code>syslogd</code> system service. In this case, you must also specify the SyslogFacility parameter.</p> <p><u>Default value:</u> FileName = <code>syslog</code></p>

[Monitor] Section

The [Monitor] section contains main settings of **Dr.Web Monitor**:

[Monitor]	
<pre>RunForeground = {logical}</pre>	<p>Yes value forbids Dr.Web Monitor to operate in daemon mode.</p> <p>This option can be used by some monitoring utilities (for example, daemontools).</p>



	<p>Default value: RunForeground = No</p>
User = {text value}	<p>Name of the user whose privileges are used by Dr.Web Monitor.</p> <p>Default value: User = drweb</p>
Group = {text value}	<p>User group name used to run Dr.Web Monitor with certain user privileges.</p> <p>Default value: Group = drweb</p>
PidFileDir = {path to directory}	<p>Path to the directory of a file where information on Dr.Web Monitor process identifier (PID) is written upon the module startup.</p> <p>Default value: PidFileDir = %var_dir/run/</p>
ChDir = {path to directory}	<p>Change of working directory upon Dr.Web Monitor startup.</p> <p>If this parameter is set, Dr.Web Monitor changes directory to the one specified in this parameter value. Otherwise, working directory is not changed.</p> <p>Default value: ChDir = /</p>
MetaConfigDir = {path to directory}	<p>Path to the directory where metaconfiguration files reside.</p> <p>These files contain settings defining Dr.Web Monitor interaction with other Dr.Web components. Metaconfiguration files are provided by Dr.Web developers and do not require editing.</p> <p>Default value: MetaConfigDir = %etc_dir/monitor/</p>
Address = {address}	<p>Socket used by Dr.Web Monitor to receive control signals from other Dr.Web components.</p> <p>Default value: Address = local:%var_dir/ipc/.monitor</p>
Timeout = {numerical value}	<p>Maximum time (in seconds) to establish connection between Dr.Web Monitor and other Dr.Web components.</p> <p>Default value: Timeout = 5</p>
TmpFileFmt = {text value}	<p>Name templates for Dr.Web Monitor temporary files.</p> <p>Template format: path_to_file.XXXXXX</p> <p>where x is a random symbol (letter or digit), used in temporary file names.</p> <p>Default value: TmpFileFmt = %var_dir/msgs/tmp/monitor.XXXXXX</p>
RunAppList = {text value}	<p>List of modules started by Dr.Web Monitor; use comma as a delimiter.</p> <p>Please note that this parameter is not modified upon uninstalling a Dr.Web component. You must manually remove the uninstalled</p>



	<p>component from this parameter value. Otherwise, Dr.Web Monitor will not be able to run and start other Dr.Web components.</p> <p>Default value: RunAppList = AGENT</p>
UseEnterpriseMode = {logical}	<p>If the value is set to Yes, Dr.Web Monitor receives the list of modules to be started from Dr.Web Agent rather than from the RunAppList parameter value.</p> <p>Default value: UseEnterpriseMode = No</p>
RecoveryTimeList = {numerical values}	<p>Time intervals between attempts to restart components that are not responding (in seconds).</p> <p>This parameter can have multiple values, separated by commas. First attempt to restart a component is made after a period of time specified in the first parameter value, second attempt – using the second parameter value, and so on.</p> <p>Default value: RecoveryTimeList = 0,30,60</p>
InjectCmd = {string}	<p>Command to send reports.</p> <p>Please note that if you want to send reports to other addresses (not only to <code>root@localhost</code>), you need to specify the addresses in the command.</p> <p>Default value: InjectCmd = "/usr/sbin/sendmail -t"</p>
AgentAddress = {address}	<p>Socket used by Dr.Web Monitor to interact with Dr.Web Agent (parameter value must be the same as the Address parameter value from Dr.Web Agent configuration file).</p> <p>Default value: AgentAddress = local:%var_dir/ipc/.agent</p>
AgentResponseTime = {numerical value}	<p>Maximum time to wait a response from <code>drweb-agent</code> module in seconds.</p> <p>If Dr.Web Agent does not respond during this time period, Dr.Web Monitor considers <code>drweb-agent</code> not working and tries to restart it.</p> <p>If 0 is specified, response time is unlimited.</p> <p>Default value: AgentResponseTime = 5</p>



Running Dr.Web Monitor

When **Dr.Web Monitor** is started with the default settings, the following actions are performed:

1. **Dr.Web Monitor** searches for and loads its configuration file. If the configuration file is not found, loading process stops;
2. **Dr.Web Monitor** starts operating in the `daemon` mode. So, information about loading problems cannot be output to the console and, thus, is logged to the file;
3. Socket for **Dr.Web Monitor** interaction with other **Dr.Web for UNIX File Servers** modules is created. If a TCP socket is used, several connections can be established (loading process continues if at least one connection is established). If a UNIX socket is used, it can be created only if the user whose privileges are used to run `drweb-monitor` has read and write access to the certain directory. If a socket cannot be created, loading process stops;
4. PID-file with information on `drweb-monitor` process identifier is created. If the PID-file cannot be created, loading process stops;
5. `drweb-monitor` module starts other suite components. If a module cannot load, **Dr.Web Monitor** tries to restart it. If all **Dr.Web Monitor** attempts to start the module failed, **Dr.Web Monitor** unloads all previously loaded modules and terminates. **Dr.Web Monitor** reports problems connected with the modules startup in one of the available ways (logging to the file, notifying via email, startup of a custom program). Notification methods used for various modules are set in the **Dr.Web Monitor** [meta-configuration](#) file (`.mmc`).

To start **Dr.Web Monitor** in the automatic mode, do one of the following:

- change the value of the `ENABLE` variable to `1` in the `drweb-monitor enable` file (for **Linux** and **Solaris**);
- add `drweb_monitor_enable="YES"` line to the `/etc/rc.conf` file (for **FreeBSD**).



Please note that if at the post install script runtime you select the "Configure Services" option in the conversation, all services including **Dr.Web Agent** will be started automatically.

Location of the enable files depends on **Dr.Web for UNIX File Servers** installation type:

- Installation from the **universal package for UNIX systems**:
Files will be saved to `%etc_dir` directory and have the following names
`drwebd.enable`,
`drweb-monitor.enable`.
- Installation from **native DEB packages**:
Files will be saved to `/etc/defaults` directory and have the following names
`drwebd`,
`drweb-monitor`.
- Installation from **native RPM packages**:
Files will be saved to `/etc/sysconfig` directory and have the following names
`drwebd.enable`,
`drweb-monitor.enable`.

Interaction with Other Suite Components

Interaction with other suite components is performed with the use of **Dr.Web Monitor** meta-configuration files (`mmc` files). These files are included in packages of those products which can interact with **Dr.Web Monitor** and reside in the directory specified in the `MetaConfDir` parameter (by default - `%etc_dir/monitor`). The files contain information on component composition, location of binary files, their launch order and startup options. Usually, one file contains information on one component and name of the file matches to the name of the **Dr.Web for UNIX File Servers**



component.

Each component is described in the `Application` section with the corresponding name. At the end of the section, `EndApplication` must be specified.

The following parameters must be present in the component description:

- **FullName** – full name of the component.
- **Path** – path to the binary files.
- **Depends** – names of the components which must be started before the described component. For example, `AGENT` component must be started before **Dr.Web Daemon**, therefore in the `mmc` file for **Dr.Web Daemon** `Depends` parameter has the `AGENT` value. If there are no dependencies, this parameter can be skipped.
- **Components** – list of binary files of modules started together with the component. Modules are started in the same order as they are specified in this parameter. For each module the following information must be specified (space separated): command line parameters (can be enclosed in quotation marks), timeouts for startup and stop (`StartTimeout` and `StopTimeout`), notification type and startup privileges. *Notification type* – defines where notifications on component failure are sent. When `MAIL` value is specified, notifications are sent by mail, when `LOG` value is specified, information is only logged to the file. *Startup privileges* – defines a group and a user, whose privileges are used by the component.

Example of mmc file for Dr.Web Daemon:

```
Application "DAEMON"
  FullName  "Dr.Web (R) Daemon"
  Path      "/opt/drweb/"
  Depends   "AGENT"
  Components
    # name  args  MaxStartTime  MaxStopTime  NotifyType  User:Group
    drwebd "-a=local:/var/drweb/ipc/.agent --foreground=yes" 30 10 MAIL drweb:drweb
  EndComponents
EndApplication
```



Dr.Web Command Line Scanner

Command line **Dr.Web Scanner** provides you with detection and neutralization of malware on the local machine. The component is presented by the `drweb` module.

Dr.Web Scanner checks files and boot records specified on its startup. For anti-virus checking and curing, **Dr.Web Scanner** uses **Dr.Web Engine** and virus databases, but does not use the resident module **Dr.Web Daemon** (operation is performed independently of it).

Running Dr.Web Scanner

You can run **Dr.Web Scanner** with the following command:

```
$ %bin_dir/drweb
```

If `%bin_dir` directory is added to the `PATH` environment variable, you can run **Dr.Web Scanner** from any directory. However, doing so (as well as making a symbolic link to **Dr.Web Scanner** executable file in directories like `/bin/`, `/usr/bin/`, etc.) is not recommended for security reasons.

Dr.Web Scanner can be run with either root or user privileges. In the latter case, virus scanning can be performed only in those directories, where the user has read access, and infected files will be cured only in directories, where the user has write access (usually it is the user home directory, `$HOME`). There are also other restrictions when **Dr.Web Scanner** is started with user privileges, for example, on moving and renaming infected files.

When **Dr.Web Scanner** is started, it displays the program name, platform name, program version number, release date and contact information. It also shows user registration information and statistics, list of virus databases and installed updates:

```
Dr.Web (R) Scanner for Linux, v6.0.1 (February 19, 2010)
Copyright (c) Igor Daniloff, 1992-2010
Support service: http://support.drweb.com/
To purchase: http://buy.drweb.com/
Program version: 6.0.0.10060 <API:2.2>
Engine version: 6.0.0.9170 <API:2.2>
Loading /var/drweb/bases/drwtoday.vdb - Ok, virus records: 1533
Loading /var/drweb/bases/drw60012.vdb - Ok, virus records: 3511
-----
Loading /var/drweb/bases/drw60000.vdb - Ok, virus records: 1194
Loading /var/drweb/bases/dwn60001.vdb - Ok, virus records: 840
Loading /var/drweb/bases/drwebase.vdb - Ok, virus records: 78674
Loading /var/drweb/bases/drwrisky.vdb - Ok, virus records: 1271
Loading /var/drweb/bases/drwnasty.vdb - Ok, virus records: 4867
Total virus records: 538681
Key file: /opt/drweb/drweb32.key
Key file number: XXXXXXXXXXXX
Key file activation date: XXXX-XX-XX
Key file expiration date: XXXX-XX-XX
```

After displaying this report, **Dr.Web Scanner** terminates and command line prompt. To scan for viruses or neutralize detected threats, specify additional command line parameters.

By default, **Dr.Web Scanner** starts with the following parameters:

```
-ar -ha -fl- -ml -sd -al -ok
```

These parameters are optimal for thorough anti-virus protection and can be used in most typical cases. If any of the parameters is not required, disable it with "-" postfix as described above.



Disabling scan of archives and packed files will significantly decrease an anti-virus protection level, because viruses are often distributed in archives (especially, self-extracting archives) attached to an email message. Office documents (Word, Excel) dispatched within an archive or a container can also pose a threat to security of your computer as they are vulnerable to macro viruses.

When you start **Dr.Web Scanner** with default parameters, no cure actions and no actions for incurable and suspicious files are performed. To enable these actions, specify the corresponding command line parameter explicitly.

The following actions are recommended:

- **cu** – cure infected files and system areas without deleting, moving or renaming infected files;
- **icd** – delete incurable files;
- **spm** – move suspicious files;
- **spr** – rename suspicious files.

When **Dr.Web Scanner** is started with **cu** action specified, it tries to restore the original state of an infected object. It is possible only if a detected virus is a known virus, and cure instructions for it are available in virus database; even in this case a cure attempt may fail if the infected file is seriously damaged by a virus.

When an infected file is found within an archive, the file is not cured, deleted, moved or renamed. To cure such a file, manually unpack the archive to the separate directory and instruct **Dr.Web Scanner** to check it.

When **Dr.Web Scanner** is started with **icd** action specified, it removes all infected files from the disk. This option is suitable for incurable (irreversibly damaged by a virus) files.

The **spr** action instructs **Dr.Web Scanner** to replace a file extension with another one (*.### by default, that is the first extension character is replaced with the "#" character). Enable this parameter for files of other operating systems, detected heuristically as suspicious. Renaming helps to avoid accidental execution of such files in these operating systems and therefore prevents infection.

The **spm** action instructs **Dr.Web Scanner** to move infected or suspicious files to the **Quarantine** directory (%var_dir/infected/ by default). This option is of insignificant value since infected and suspicious files of other operating systems cannot infect or damage a UNIX system. Moving of suspicious files of a UNIX system may cause system malfunction or failure.

Thus, the following command is recommended for day-to-day scanning:

```
$ drweb <path> -cu -icd -spm -ar -ha -fl- -ml -sd
```

You can save this command to the text file and convert it into simple shell script with the following command:

```
# chmod a+x [filename]
```

Dr.Web Scanner default settings could be adjusted in the configuration file.

Command Line Parameters

You can run **Dr.Web Scanner** with the following command:

```
$ %bin_dir/drweb <path> [parameters]
```

where <path> – is either the path (or paths) to scanned directories or mask for checked files. If a path is specified with the following prefix: disk://<path to device file> (files of the devices are



located in the `/dev` directory), **Dr.Web Scanner** checks the boot sector of the corresponding device and cure it, if necessary. The path can start with an optional parameter `-path`.

When **Dr.Web Scanner** is started only with the `<path>` argument, without any parameters specified, it scans the specified directory using the default set of parameters (for details, see below).

The following example shows a command to check the user home directory:

```
$ %bin_dir/drweb ~
```

Once scanning completes, **Dr.Web Scanner** displays all detected threats (infected and suspicious files) in the following format:

```
/path/file infected [virus] VIRUS_NAME
```

After that, **Dr.Web Scanner** outputs summary report in the following format:

```
Report for "/opt/drweb/tmp":
Scanned      : 34/32      Cured        : 0
Infected     : 5/5       Removed      : 0
Modifications : 0/0       Renamed      : 0
Suspicious   : 0/0       Moved       : 0
Scan time    : 00:00:02 Scan speed   : 5233 KB/s
```

Numbers separated by slash `"/"` mean the following: the first number – total number of files, the second one – number of files in archives.

You can use `readme.eicar` file, included in the distribution package, to test **Dr.Web Scanner**. Open this file in any text editor and follow the instructions from the file to transform it into `eicar.com` program.

When you check the program with **Dr.Web Scanner**, the following message must be output:

```
%bin_dir/doc/eicar.com infected by Eicar Test File (Not a Virus!)
```

This program is not a virus and is used only for testing of anti-virus software.

Dr.Web Scanner has numerous command-line parameters. In accordance with UNIX conventions, the parameters are separated from a path by a space character and start with a hyphen ("`-`"). To get a full list of parameters, run **Dr.Web Scanner** with either `-?`, `-h`, or `-help` parameters.

The **Console Scanner** basic parameters can be divided into the following groups:

- [Scan area](#) parameters
- [Diagnostic](#) parameters
- [Action](#) parameters
- [Interface](#) parameters

Scan Area Parameters

These parameters determine where to perform a virus scan:

Parameter	Description
<code>-path [=] <path></code>	<p>Sets the path to be scanned.</p> <p>Symbol '=' can be skipped, in this case a path for scanning is separated from the <code>-path</code> parameter by a space. You can specify several paths in one <code>-path</code> parameter (paths will be combined into one list). You can also specify paths without the <code>-path</code> parameter.</p> <p>If in the startup options the <code><path></code> parameter is specified with following prefix: <code>disk://<path to device file></code>,</p>



Parameter	Description
	the boot sector (MBR) of the corresponding device is checked and cured, if necessary. Device file is a special file, located in the <code>/dev</code> directory and named as <code>sdx</code> or <code>hdX</code> , where <code>x</code> is a letter of the Latin alphabet (<code>a</code> , <code>b</code> , <code>c</code> , ...). For example: <code>hda</code> , <code>sda</code> . Thus, to check MBR of disk <code>sda</code> , specify the following: <code>disk:///dev/sda</code>
<code>-@[+]<file></code>	Instructs to scan objects listed in the specified file. Add a plus '+' if you do not want the file with the list of objects to be deleted when scanning completes. The file can contain paths to directories that must be periodically scanned or list of files to be checked regularly.
<code>--</code>	Instructs to read the list of objects for scanning from the standard input stream (<code>stdin</code>).
<code>-sd</code>	Sets recursive search for files to scan in subfolders.
<code>-fl</code>	Instructs to follow symbolic links to both files and folders. Links that cause loops are ignored.
<code>-mask</code>	Instructs to ignore filename masks.

Diagnostic Parameters

These parameters determine object types to be scanned for viruses:

Parameter	Description
<code>-al</code>	Instructs to scan all objects defined by scan paths regardless of their file extension and structure. This parameter is opposite to the <code>-ex</code> parameter.
<code>-ex</code>	Instructs to scan only files of certain types in the specified paths. The list of file types must be specified in the FileTypes variable of the configuration file. The configuration file is defined by the <code>-ini</code> parameter. By default, objects with the following file extensions are scanned: EXE, COM, DLL, SYS, VXD, OV?, BAT, BIN, DRV, PRG, BOO, SCR, CMD, 386, FON, DO?, XL?, WIZ, RTF, CL*, HT*, VB*, JS*, INF, PP?, OBJ, LIB, PIF, HLP, MD?, INI, MBR, IMG, CSC, CPL, MBP, SH, SHB, SHS, SHT*, CHM, REG, XML, PRC, ASP, LSP, MSO, OBD, THE*, NWS, SWF, MPP, OCX, VS*, DVB, CPY, BMP, RPM, ISO, DEB, AR?, ZIP, R??, GZ, Z, TGZ, TAR, TAZ, CAB, LHA, LZH, BZ2, MSG, EML, 7Z, CPIO. This parameter is opposite to the <code>-al</code> parameter.
<code>-ar[d m r][n]</code>	Instructs to scan files within archives (ARJ, CAB, GZIP, RAR, TAR, ZIP, etc.). An archive is understood to be a tar archive (*.tar) or compressed archive (*.tar.bz2, *.tbz). If additional modifiers (<code>d</code> , <code>m</code> or <code>r</code>) are not specified, Dr.Web Scanner only informs the user on detected malicious or suspicious files in archives. Otherwise, it applies the specified actions to detected threats.
<code>-cn[d m r][n]</code>	Instructs to scan files within containers (HTML, RTF, PowerPoint). If additional modifiers (<code>d</code> , <code>m</code> or <code>r</code>) are not specified, Dr.Web Scanner only informs the user on detected malicious or suspicious files in containers. Otherwise, it applies the specified actions to detected threats.
<code>-ml[d m r][n]</code>	Instructs to scan contents of mail files. If additional modifiers (<code>d</code> , <code>m</code> or <code>r</code>) are not specified, Dr.Web Scanner only informs the user on detected malicious or suspicious objects. Otherwise, it applies the specified actions to detected threats.
<code>-upn</code>	Scan executable files packed with LZEXE, DIET, PKLITE, EXEPACK without output of the compression type.
<code>-ha</code>	Enables heuristic analysis to detect unknown threats.



For some parameters, you can use the following additional modifiers:

- Add **d** to delete objects to avert the threat
- Add **m** to move objects to **Quarantine** to avert the threat
- Add **r** to rename objects to avert the threat (that is, replace the first character of the file extension with '#')
- Add **n** to disable logging of the archive, container, mail file or packer type

If malicious objects are detected within complex objects such as archives, containers, packed or mail files, the reaction is applied to the whole complex object, and not to the included malicious object only.

Action Parameters

These parameters determine which actions are applied to infected (or suspicious) objects:

Parameter	Description
-cu [d m r]	Defines an action applied to infected files and boot sectors. If an additional modifier is not specified, Dr.Web Scanner cures infected objects and deletes incurable files (unless another action is specified in the -ic parameter). Additional modifiers allow to set another action instead of curing, but the new action can be applied only to infected files. In this case, action for incurable files must be set with -ic parameter.
-ic [d m r]	Defines an action applied to incurable files. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-sp [d m r]	Defines an action applied to suspicious files. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-adw [d m r i]	Defines an action applied to adware. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-dls [d m r i]	Defines an action applied to dialers. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-jok [d m r i]	Defines an action applied to joke programs. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-rsk [d m r i]	Defines an action applied to potentially dangerous programs. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.
-hck [d m r i]	Defines an action applied to hacktools. If an additional modifier is not specified, Dr.Web Scanner only informs the user about the threat.

Additional modifiers indicate actions that is applied in order to avert threats:

- Add **d** to delete objects.
- Add **m** to move objects to **Quarantine**.
- Add **r** to rename objects, that is, replace the first character of extension with '#'.
- Add **i** to ignore threats (available for minor threats only such as adware etc), that is, apply no action and do not list such threats in the report.

If malicious objects are detected within complex objects such as archives, containers, packed or mail files, the action is applied to the whole complex object, and not to the included malicious object only.



Interface Parameters

These parameters configure **Dr.Web Scanner** output:

Parameter	Description
<code>-v, -version, --version</code>	Instructs to output information on the product and engine versions and exit Dr.Web Scanner .
<code>-ki</code>	Instructs to output information about the license and its owner (in UTF8 encoding only).
<code>-go</code>	Instructs to run Dr.Web Scanner in batch mode when all questions implying answers from a user are skipped and all decisions implying a choice are taken automatically. This mode is useful for automatic scanning of files, for example, during a daily (or weekly) check of the hard drive.
<code>-ot</code>	Instructs to use the standard output (<code>stdout</code>).
<code>-oq</code>	Disables information output.
<code>-ok</code>	Instructs to list all scanned objects in the report and mark the "clean" object with Ok .
<code>-log=[+] <path to file></code>	Instructs to log Dr.Web Scanner operations in the specified file. The file name is required for enabling logging. Add a plus '+' if you want to append the log file instead of overwriting it.
<code>-ini=<path to file></code>	Instructs to use the specified configuration file. By default, Dr.Web Scanner uses <code>drweb32.ini</code> (this configuration file is shared by Dr.Web Daemon , Dr.Web Scanner and Dr.Web Updater). Dr.Web Scanner uses parameters specified in the <code>[Scanner]</code> section of this file. The list of the scanner parameters and available values are similar to the those specified in the <code>[Daemon]</code> section .
<code>-lng=<path to file></code>	Instructs to use the specified language file. The default language is English.
<code>-a = <Control Agent address></code>	Run Dr.Web Scanner in the central protection mode.
<code>-ni</code>	Disables the use of the configuration file for adjusting scanner settings. Dr.Web Scanner is configured via command line parameters.
<code>-ns</code>	Disables interruption of scanning process even upon receipt of interruption signals (SIGINT).
<code>--only-key</code>	On startup, only key file is received from Dr.Web Agent .

You can use the hyphen «-» postfix (no space) to disable the following parameters:

```
-ar -cu -ha -ic -fl -ml -ok -sd -sp
```

For example, if you start **Dr.Web Scanner** with the following command:

```
$ drweb <path> -ha-
```

heuristic analysis (enabled by default) will be disabled.

For the `-cu`, `-ic` and `-sp` parameters, the "negative" form disables any action specified with additional modifiers, that is, information on detection of infected or suspicious object is logged, but no action is performed to avert threats.

The `-al` and `-ex` parameters have no "negative" form, but specifying one of them cancels actions of the other.

By default (if **Dr.Web Scanner** configuration is not customized and no parameters are specified), **Dr.Web Scanner** is started with the following parameters:

```
-ar -ha -fl- -ml -sd -al -ok
```



Default **Dr.Web Scanner** parameters (including scan of archives, packed files, files of email programs, recursive search, heuristic analysis and others) are sufficient for everyday diagnostics and can be used in most typical cases. You can also use hyphen «-» postfix to disable required parameters (as it is shown above with an example of heuristic analysis).

Disabling scanning of archives and packed files significantly decreases anti-virus protection level, because viruses are often distributed as archives (especially, self-extracting ones) attached to an email message. Office documents are potentially susceptible to infection with macro viruses (e.g., **Word**, **Excel**) and can also be dispatched via email within archives and containers.

When you run **Dr.Web Scanner** with default parameters, no cure actions and no actions for incurable and suspicious files are performed. To enable these actions, specify the corresponding command line parameters explicitly.

Configuration

Dr.Web Scanner can be used with default settings, but it could be convenient to configure it according to your needs. **Dr.Web Scanner** settings are stored in the configuration file (`drweb32.ini` by default) which is located in `%etc_dir` directory.

To use another configuration file, specify the full path to it as a command line parameter, for example:

```
$ %bin_dir/drweb -ini=%bin_dir/etc/drweb.ini
```

For general principles of the **Dr.Web for UNIX File Servers** configuration files organization, see [Configuration files](#).

[Scanner]

EnginePath = {path to file}	Location of <code>drweb32.dll</code> module (anti-virus engine Dr.Web Engine). This parameter is also used by Dr.Web Updater . <u>Default value:</u> EnginePath = <code>%bin_dir/lib/drweb32.dll</code>
VirusBase = {list of file masks}	Masks for loading virus databases. This parameter is also used by Dr.Web Updater . Multiple values are allowed (separated by commas). By default, virus databases files has a <code>.vdb</code> extension <u>Default value:</u> VirusBase = <code>%var_dir/bases/*.vdb</code>
UpdatePath = {path to directory}	This parameter is used by Dr.Web Updater (<code>update.pl</code>) and is mandatory. <u>Default value:</u> UpdatePath = <code>%var_dir/updates/</code>
TempPath = {path to directory}	Directory where anti-virus engine Dr.Web Engine stores temporary files. It is used for unpacking archives or when the system is low on memory <u>Default value:</u> TempPath = <code>/tmp/</code>



<code>LngFileName = {path to file}</code>	Language file location. By default, language files have a <code>.dwl</code> extension <u>Default value:</u> <code>LngFileName = %bin_dir/lib/ru_scanner.dwl</code>
<code>Key = {path to file}</code>	Key file location (license or demo). By default, key files have a <code>.key</code> extension <u>Default value:</u> <code>Key = %bin_dir/drweb32.key</code>
<code>OutputMode = {Terminal Quiet}</code>	Output mode: <ul style="list-style-type: none">• Terminal – console output• Quiet – no output <u>Default value:</u> <code>OutputMode = Terminal</code>
<code>HeuristicAnalysis = {logical}</code>	Enables or disables heuristic detection of unknown viruses. Heuristic analysis can detect previously unknown viruses which are not included in the virus database. It relies on advanced algorithms to determine if scanned file structure is similar to the virus architecture. Because of that, heuristic analysis can produce false positives: all objects detected by this method are considered suspicious. Please send all suspicious files to Dr.Web through http://vms.drweb.com/sendvirus/ for checking. To send a suspicious file, put it in a password protected archive, include password in the message body and attach Dr.Web Scanner report. <u>Default value:</u> <code>HeuristicAnalysis = Yes</code>
<code>ScanPriority = {signed numerical value}</code>	Dr.Web Scanner process priority. Value must be between <code>-20</code> (highest priority) and <code>19</code> (Linux) or <code>20</code> (other UNIX-like operating systems). <u>Default value:</u> <code>ScanPriority = 0</code>
<code>FileTypes = {list of file extensions}</code>	File types to be checked "by type", i.e. when the <code>ScanFiles</code> parameter (explained below) has <code>ByType</code> value. " <code>*</code> " and " <code>?</code> " wildcard characters are allowed. <u>Default value:</u> <code>FileTypes = EXE, COM, SYS, OV?, BAT, BIN, DRV, PRG, BOO, SCR, CMD, VXD, 386, DLL, FON, DO?, XL?, WIZ, RTF, CL*, HT*, VB*, JS*, INF, AR?, ZIP, R??, PP?, OBJ, LIB, HLP, MD?, INI, MBR, IMG, CSC, CPL, MBP, SHS, SHB, PIF, SO, CHM, REG, XML, PRC, ASP, LSP, MSO, OBD, THE*, NWS, SWF, BMP, MPP, OCX, DVB, CPY, MSG, EML</code>
<code>FileTypesWarnings = {logical}</code>	Notifies about files of unknown types. <u>Default value:</u> <code>FileTypesWarnings = Yes</code>
<code>ScanFiles = {All ByType}</code>	Instructs to scan all files (<code>All</code> value) or only files with the extensions specified in the <code>FileType</code> parameter (<code>ByType</code> value).



	<p>The parameter can have the <code>ByType</code> value only in the local scan mode. In other modes, the value must be set to <code>All</code>.</p> <p>All mail fails are scanned regardless of the <code>scanFiles</code> parameter value.</p> <p>Default value: ScanFiles = All</p>
ScanSubDirectories = {logical}	<p>Enables or disables scanning of subdirectories.</p> <p>Default value: ScanSubDirectories = Yes</p>
CheckArchives = {logical}	<p>Enables or disables checking of files in archives (RAR, ARJ, TAR, GZIP, CAB and others).</p> <p>Default value: CheckArchives = Yes</p>
CheckEMailFiles = {logical}	<p>Enables or disables checking mail files.</p> <p>Default value: CheckEMailFiles = Yes</p>
ExcludePaths = {list of path file masks}	<p>Masks for files to be skipped during scanning. Multiple values are allowed (separated by commas).</p> <p>Default value: ExcludePaths = /proc,/sys,/dev</p>
FollowLinks = {logical}	<p>Allows or forbids Dr.Web Scanner to follow symbolic links during scanning.</p> <p>Default value: FollowLinks = No</p>
RenameFilesTo = {mask}	<p>Mask for renaming files when the <code>Rename</code> action is applied.</p> <p>Default value: RenameFilesTo = #??</p>
MoveFilesTo = {path to directory}	<p>Path to the Quarantine directory.</p> <p>Default value: MoveFilesTo = %var_dir/infected/</p>
EnableDeleteArchiveAction = {logical}	<p>Enables or disables <code>Delete</code> action for complex objects (archives, mailboxes, HTML pages) if they contain infected files.</p> <p>Please note, if the action is enabled, a whole complex object is to be deleted. Use this option carefully!</p> <p>Default value: EnableDeleteArchiveAction = No</p>
InfectedFiles = {action}	<p>Sets one of the following actions upon detection of an infected file: Report, Cure, Delete, Move, Rename, Ignore.</p> <p>Delete and Move actions are applied to a whole complex object upon detection of infected files within it.</p> <p>Default value: InfectedFiles = Report</p>



SuspiciousFiles = {action}	Sets one of the following actions upon detection of a suspicious file: Report, Delete, Move, Rename, Ignore. Default value: SuspiciousFiles = Report
IncurableFiles = {action}	Sets one of the following actions applied if an infected file cannot be cured (use only if InfectedFiles = Cure): Report, Delete, Move, Rename, Ignore. Default value: IncurableFiles = Report
ActionAdware = {action}	Sets one of the following actions upon detection of adware: Report, Delete, Move, Rename, Ignore. Default value: ActionAdware = Report
ActionDialers = {action}	Sets one of the following actions upon detection of a dialer program: Report, Delete, Move, Rename, Ignore. Default value: ActionDialers = Report
ActionJokes = {action}	Sets one of the following actions upon detection of a joke program: Report, Delete, Move, Rename, Ignore. Default value: ActionJokes = Report
ActionRiskware = {action}	Sets one of the following actions upon detection of a potentially dangerous program: Report, Delete, Move, Rename, Ignore. Default value: ActionRiskware = Report
ActionHacktools = {action}	Sets one of the following actions upon detection of a hacktool: Report, Delete, Move, Rename, Ignore. Default value: ActionHacktools = Report
ActionInfectedMail = {action}	Sets one of the following actions upon detection of an infected file in a mailbox: Report, Delete, Move, Rename, Ignore. Default value: ActionInfectedMail = Report
ActionInfectedArchive = {action}	Sets one of the following actions upon detection of an infected file in an archive (ZIP, TAR, RAR, etc.): Report, Delete, Move, Rename, Ignore. Default value: ActionInfectedArchive = Report



<code>ActionInfectedContainer = {action}</code>	<p>Sets one of the following actions upon detection of an infected file in a container (OLE, HTML, PowerPoint, etc.): Report, Delete, Move, Rename, Ignore.</p> <p><u>Default value:</u> ActionInfectedContainer = Report</p> <p>Logging parameters:</p>
<code>LogFileName = {syslog file name}</code>	<p>Log file name.</p> <p>You can specify <code>syslog</code> as a log file name to use <code>syslogd</code> system service for logging.</p> <p>In this case you must also specify the SyslogFacility and SyslogPriority parameters.</p> <p><u>Default value:</u> LogFileName = <code>syslog</code></p>
<code>SyslogFacility = {syslog label}</code>	<p>Log type label which is used by <code>syslogd</code> system service.</p> <p><u>Default value:</u> SyslogFacility = <code>Daemon</code></p>
<code>SyslogPriority = {log level}</code>	<p>Log verbosity level when <code>syslogd</code> system service is used.</p> <p>The following levels are allowed:</p> <ul style="list-style-type: none">• Error• Alert• Warning• Info• Notice <p><u>Default value:</u> SyslogPriority = <code>Info</code></p>
<code>LimitLog = {logical}</code>	<p>Enables or disables limit of log file size (if LogFileName value is not set to <code>syslog</code>).</p> <p>With this parameter enabled, Dr.Web Scanner checks log file size on startup. If log file size exceeds the MaxLogSize parameter value, log file content will be erased and logging will start from scratch.</p> <p><u>Default value:</u> LimitLog = <code>No</code></p>
<code>MaxLogSize = {numerical value}</code>	<p>Maximum log file size in Kbytes.</p> <p>Used only with LimitLog = <code>Yes</code>.</p> <p>If this parameter value is set to 0, log file size is not checked.</p> <p><u>Default value:</u> MaxLogSize = 512</p>
<code>LogScanned = {logical}</code>	<p>Enables or disables logging of information about all scanned objects regardless whether they are infected or not.</p> <p><u>Default value:</u> LogScanned = <code>Yes</code></p>
<code>LogPacked = {logical}</code>	<p>Enables or disables logging of additional information about files packed with DIET, PKLITE and other utilities.</p>



	<p><u>Default value:</u> LogPacked = Yes</p>
LogArchived = {logical}	<p>Enables or disables logging of additional information about files archived with various archiving utilities.</p> <p><u>Default value:</u> LogArchived = Yes</p>
LogTime = {logical}	<p>Enables or disables logging of time for each record. Parameter is not used if LogFileName = syslog.</p> <p><u>Default value:</u> LogTime = Yes</p>
LogStatistics = {logical}	<p>Enables or disables logging of scan statistics.</p> <p><u>Default value:</u> LogStatistics = Yes</p>
RecodeNonprintable = {logical}	<p>Enables or disables transcoding of characters that are undisplayable on a given terminal (see also the description of the following two parameters).</p> <p><u>Default value:</u> RecodeNonprintable = Yes</p>
RecodeMode = {Replace QuotedPrintable}	<p>Decoding mode for non printable characters if RecodeNonprintable = Yes.</p> <p>When RecodeMode = Replace, all non-printable characters are substituted with the RecodeChar parameter value (see below).</p> <p>When RecodeMode = QuotedPrintable, all non-printable characters are converted to the Quoted Printable encoding.</p> <p><u>Default value:</u> RecodeMode = QuotedPrintable</p>
RecodeChar = {"?" "_" ...}	<p>Sets character for replacing non-printable characters if RecodeMode = Replace.</p> <p><u>Default value:</u> RecodeChar = "?"</p>

The following parameters can be used to reduce time of scanning archives (by skipping some objects in an archive).

MaxCompressionRatio = {numerical value}	<p>Maximum compression ratio, that is ratio between size of unpacked file and its size within an archive. If a ratio exceeds the specified value, the file will not be extracted and therefore will not be checked. An email message with such an archive is considered as a "mail bomb".</p> <p>Parameter can have only natural values.</p> <p>If the value is set to 0, compression ratio will not be checked</p> <p><u>Default value:</u> MaxCompressionRatio = 5000</p>
CompressionCheckThreshold = {numerical value}	<p>Minimum size of a file enclosed within an archive, in Kbytes. If a file size is less than the specified value, the compression ratio will not be checked (if such a check is enabled by the MaxCompressionRatio parameter).</p>



	<p>Default value: CompressionCheckThreshold = 1024</p>
MaxFileSizeToExtract = {numerical value}	<p>Maximum size of a file enclosed in an archive, in Kbytes. If a file size exceeds the specified value, the file is skipped.</p> <p>An email message with such a file is considered as a "mail bomb".</p> <p>Default value: MaxFileSizeToExtract = 50000</p>
MaxArchiveLevel = {numerical value}	<p>Maximum archive nesting level.</p> <p>If an archive nesting level exceeds the specified value, the archive is skipped.</p> <p>An email message with such a file is considered as a "mail bomb".</p> <p>If the value is set to 0, archive nesting level will not be checked</p> <p>Default value: MaxArchiveLevel = 8</p>
MaximumMemoryAllocationSize = {numerical value}	<p>Maximum size of the memory (in Mbytes) that can be used by Dr.Web Scanner to check one file.</p> <p>If the value is set to 0, memory allocation is not limited.</p> <p>Default value: MaximumMemoryAllocationSize = 0</p>
ScannerScanTimeout = {numerical value}	<p>Maximum time period allowed for scanning one file (in seconds).</p> <p>If the value is set to 0, scanning time is not limited.</p> <p>Default value: ScannerScanTimeout = 0</p>
MaxBasesObsolescencePeriod = {numerical value}	<p>Maximum time (in hours) after last update when virus databases are considered as up-to-date.</p> <p>Upon the expiration of this time period, notification displays informing that the databases are obsolete.</p> <p>If the value is set to 0, database actuality will not be checked.</p> <p>Default value: MaxBasesObsolescencePeriod = 24</p>
ControlAgent = {address}	<p>Dr.Web Agent socket address.</p> <p>Example:</p> <pre>ControlAgent = inet:4040@127.0.0.1,local:%var_dir/ipc/.agent</pre> <p>Dr.Web Scanner receives a license key file and configuration from Dr.Web Agent. (if OnlyKey = No).</p> <p>Default value: ControlAgent = local:%var_dir/ipc/.agent</p>
OnlyKey = {logical}	<p>Enables receiving only a license key file from Dr.Web Agent, without configuration. At that, Dr.Web Scanner uses the local configuration file.</p> <p>If the value is set to No and the address of a Dr.Web Agent socket is specified, Dr.Web Agent also receives statistics on Dr.Web Scanner operation (information is sent after scanning of each file).</p>



Default value:
OnlyKey = No

Exit Codes

When the scan task ends, **Dr.Web Scanner** returns an exit code which determines result of scanning.

The exit code is always constructed as an combination (sum) of codes that are related to the corresponding events of scanning process. The possible events and related codes are following:

Code	Event
1	Known virus detected
2	Modification of known virus detected
4	Suspicious object found
8	Known virus detected in archive, mailbox or other container
16	Modification of known virus detected in archive, mailbox or other container
32	Suspicious file found in archive, mailbox or other container
64	At least one infected object succesfully cured
128	At least one infected or suspicious file deleted/renamed/moved

The actual value returned by **Dr.Web Scanner** is equal to the sum of codes for the events that occurred during scanning. Obviously, the sum can be easily decomposed into separate event codes. For example, return code $9 = 1 + 8$ means that known viruses were detected, including viruses in archives, mail archives or containers; curing and others actions were not executed; no other threat events occurred during scanning.

If no threat events occurred during scanning, **Dr.Web Scanner** returns the exit code 0.



Dr.Web Scanner has one feature: in some cases, when no threats were found during scanning, it can return the exit code 128 instead of exit code 0. This case is similar to the case "no threats found" (exit code 0).



Dr.Web Daemon

Dr.Web Daemon is a background anti-virus module `drwebd`, designed to perform scanning for viruses on request received from other **Dr.Web** components. It can scan files on the disk or data transferred through a socket. Requests for anti-virus scanning are sent using a special protocol via UNIX or TCP sockets. **Dr.Web Daemon** uses the same anti-virus engine (**Dr.Web Engine**) and virus databases, like **Dr.Web Scanner**, and is able to detect and cure all known viruses.

Dr.Web Daemon is always running and has simple and intelligible protocol for sending scanning requests, which makes it a perfect solution to be used as an anti-virus filter for file servers. **Dr.Web for UNIX File Servers** is a ready-made solution for integrating **Dr.Web Daemon** with **Samba** file servers version 3.0 and later..



Note that **Dr.Web Daemon** cannot scan the contents of the encrypted files because in this case it is necessary to know the password that been used for encryption. So, these files will be passed without the scan, and for the client application the special return code will be returned.

Command-Line Parameters

To run **Dr.Web Daemon**, use the following command:

```
drwebd [parameters]
```

where the following `parameters` are available:

Short case	Extended case	Arguments
-h, -?	-help, --help	
<u>Description:</u> Show information about supported command line parameters on the screen and terminate the module		
-a		<Agent socket address>
<u>Description:</u> Start Dr.Web Daemon in the central protection mode under control of the specified copy of Dr.Web Agent		
-ini		<path to file>
<u>Description:</u> Module must use the specified configuration file		
	--foreground	<yes no>
<u>Description:</u> Operation mode of Dr.Web Daemon . If <code>yes</code> is specified, Dr.Web Daemon is a foreground process. Otherwise (<code>no</code>), Dr.Web Daemon is a background process		
	--check-only	<command line parameters for checking>
<u>Description:</u> Check Dr.Web Daemon configuration correctness on startup. If any command line parameter is specified, correctness of the value is also checked		
	--only-key	
<u>Description:</u> On startup, Dr.Web Daemon receives from Dr.Web Agent only the license key file		



Running Dr.Web Daemon

When **Dr.Web Daemon** is started with the default settings, the following actions are performed:

- Search and load of the configuration file. If the configuration file is not found, loading of **Dr.Web Daemon** terminates. Path to the configuration file can be specified on startup with the `-ini` command line parameter: `{path/to/your/drweb32.ini}`, otherwise, the default value `{%etc_dir/drweb32.ini}` can be used. On startup, correctness of several configuration parameters is checked, and if a parameter value is incorrect, the default parameter value is set;
- Creation of a log file. A user account under which **Dr.Web Daemon** is started must have appropriate privileges to write to the log file directory. Users do not have write permission for the default log directory `{/var/log/}`. Therefore, if the `user` parameter is specified, adjust the `LogFile` parameter and provide alternative log file directory;
- Load of a key file from the location specified in the configuration file. If the key file is not found, loading of **Dr.Web Daemon** terminates;
- If the `user` parameter is specified, **Dr.Web Daemon** attempts to change its privileges;
- Load of **Dr.Web Engine** (`drweb32.dll`). If **Dr.Web Engine** is damaged or not found (because of errors in the configuration file), initialization of **Dr.Web Daemon** terminates;
- Load of virus databases in arbitrary sequence from the location specified in the configuration file. If virus databases are damaged or absent, initialization of **Dr.Web Daemon** proceeds;
- **Dr.Web Daemon** enters daemon mode, so all information about initialization problems cannot be output to the console and is logged to the log file;
- Creation of a socket for interaction between **Dr.Web Daemon** and other **Dr.Web for UNIX File Servers** modules. When TCP-sockets are used, there can be several connections (loading continues if at least one connection is established). When a UNIX socket is used, **Dr.Web Daemon** user account must have appropriate privileges to read and write from the directory of this socket. User accounts for modules must have execution access to the directory and write and read access to the socket file. Users do not have write permission for the default socket directory `{/var/run/}`. If the `user` parameter is specified, adjust the `socket` parameter and provide alternative path to the socket file. If creation of the UNIX socket was unsuccessful, initialization of **Dr.Web Daemon** terminates;
- Creation of a PID file with **Dr.Web Daemon** PID information and transport addresses. User account under which **Dr.Web Daemon** is started must have appropriate privileges to write to the directory of the PID file. Users do not have write permission for the default socket directory `{/var/run/}`. So, if the `user` parameter is specified, adjust the `PidFile` parameter and provide alternative path to the PID file. If creation of the PID file was unsuccessful, initialization of **Dr.Web Daemon** terminates.

Dr.Web Daemon Testing and Diagnostics

If no problems occurred during initialization, **Dr.Web Daemon** is ready to use. To ensure that the daemon is initialized correctly, use the following command:

```
$ netstat -a
```

and check whether required sockets are created.

**TCP sockets:**

```
. . .
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address Foreign Address State
. . .
tcp 0 0 localhost:3000 *:* LISTEN
. . .
```

Unix socket:

```
. . .
Active UNIX domain sockets (servers and established)
Proto RefCnt Flags Type State I-Node Path
. . .
unix 0 [ ACC ] STREAM LISTENING 1127 %var_dir/.daemon
. . .
```

Missing of the required sockets in the list indicates problems with **Dr.Web Daemon** initialization.

To perform a functional test and obtain service information, use **Dr.Web Daemon console client** (**drwebdc**).

TCP sockets:

```
$ drwebdc -nHOSTNAME -pPORTNUM -sv -sb
```

Unix socket:

```
$ drwebdc -uSOCKETFILE -sv -sb
```

Report, similar to the following example, is output to the console:

```
- Version: DrWeb Daemon 6.00
- Loaded bases:
Base /var/drweb/bases/drwtoday.vdb
contains 5 records.
Base /var/drweb/bases/drw60003.vdb
contains 409 records.
Base /var/drweb/bases/drw60002.vdb
contains 543 records.
Base /var/drweb/bases/drwebase.vdb
contains 51982 records.
Base /var/drweb/bases/drw60001.vdb
contains 364 records.
Total 53303 virus-finding records.
```

If the report was not output, run extended diagnostics.

For TCP socket:

```
$ drwebdc -nHOSTNAME -pPORTNUM -sv -sb -v
```

For UNIX socket:

```
$ drwebdc -uSOCKETFILE -sv -sb -v
```



More detailed report can help to identify the problem:

```
dwlib: fd: connect() failed - Connection refused
dwlib: tcp: connecting to 127.0.0.1:3300 - failed
dwlib: cannot create connection with a DrWeb daemon
ERROR: cannot retrieve daemon version
Error -12
```

You can test **Dr.Web Daemon** with the special **eicar.com** program included in the installation package. Use any text editor to transform `readme.eicar` into `eicar.com` (see instructions within the file).

For TCP-socket:

```
$ drwebdc -n<HOST> -p<PORT> eicar.com
```

For UNIX socket:

```
$ drwebdc -u<SOCKETFILE> eicar.com
```

The following result are output:

```
Results: daemon return code 0x20
(known virus is found)
```

If the results were not output, check **Dr.Web Daemon** log file to see whether the file was scanned. If the file was not scanned, run extended diagnostic (see above).

If file was scanned successfully, **Dr.Web Daemon** is fully operational.



When scanning very large archives, some issues with timeout expiration may occur. To fix this, increase values of the `FileTimeout` and `SocketTimeout` [parameters](#).

Please note that **Dr.Web Daemon** cannot scan files larger than **2 Gbytes**. Such files will not be sent for scanning.

Scan Modes

Dr.Web Daemon has two scan modes:

- scan of chunks received from the socket (**remote scan mode**);
- scan of files on the disk (**local scan mode**).

In the **remote scan mode**, client sends data to be scanned to **Dr.Web Daemon** through a socket. **Dr.Web Daemon** can scan both anonymous memory and memory mapped objects with only one difference - in logging. This mode enables scanning of files without read access but is less efficient than the local scan mode.

Local scan mode is easier to use and provides better performance since client sends to **Dr.Web Daemon** only a file path instead of the file. For the reason that clients can be located on different computers, the path must be specified in relation to the actual location of **Dr.Web Daemon**.



Local scan mode requires careful configuration of user privileges. **Dr.Web Daemon** must have read access to each file that is to be scanned. To perform **Cure** and **Delete** actions to files in mailboxes, you must also permit write access.



If the system is configured correctly, **Dr.Web Daemon** does not require `root` superuser privileges..

If required, name of the user with whose privileges **Dr.Web Daemon** must run is set as the `User` parameter value in **Dr.Web Daemon** settings. In addition, you can configure user and their group used on module startup. For that purpose, edit `mmc-file` of **Dr.Web Monitor** if it is used for management of **Dr.Web for UNIX File Servers** components.

Processed Signals

Dr.Web Daemon can receive and process the following signals:

- `SIGHUP` – reload the configuration file;
- `SIGTERM` – correct termination of **Dr.Web Daemon**;
- `SIGKILL` – force termination of **Dr.Web Daemon** (if any problem occurs);
- `SIGUSR1` – [save process pool statistics](#) to the log file.



Please note that `SIGUSR1` signal must be sent to its parent process only, because child processes are terminated after receiving of `SIGUSR1`.

Log Files and Statistics

Daemon Log

Since **Dr.Web Daemon** is a resident program, information on its operation can be obtained only from a log file. Log file contains details on processing of all scanning request sent to **Dr.Web Daemon**. You can specify the log file location in a value of the `LogFile` parameter.

Dr.Web Daemon can log information to different files depending on a client that sent the request. You can specify different log files for every **Dr.Web** clients (for example, **Dr.Web for UNIX File Servers**) in the `ClientsLogs` parameter value.

Regardless of the `ClientsLogs` parameter, if **Dr.Web Daemon** recognizes its client, scanning results will marked with a prefix indicating the client. The following prefixes are available:

- `<web>` – **Dr.Web ICAPD**;
- `<smb_spider>` – **Dr.Web Samba SpIDer**;
- `<mail>` – **Dr.Web MailD**;
- `<drwebdc>` – console client for **Dr.Web Daemon**;
- `<kerio>` – **Dr.Web for Kerio Internet Gateways**;
- `<lotus>` – **Dr.Web for IBM Lotus Domino**.



In the **FreeBSD** operating system, `syslog` service can intercept information output by **Dr.Web Daemon** to the console. In this case, the information is logged character-by-character. That occurs when the logging level is set to `*.info` in the `syslog` configuration file (`syslog.conf`).

Statistics on process pool

Statistics on pool used for processing scanning request is output to the log file upon receipt of `SIGUSR1` signal (the signal must be sent only to parent process, as if a child process receives `SIGUSR1`, it terminates).

Output of statistics on process pool is regulated by the `stat` value (`yes` or `no`), specified for the `ProcessesPool` parameter. Collected statistics is not aggregated. Each time the saved record



contains statistics on the pool state between previous and current moment of saving.

Example of pool statistics output record:

```
Fri Oct 15 19:47:51 2010 processes pool statistics: min = 1 max = 1024
(auto) freetime = 121 busy max = 1024 avg = 50.756950 requests for new
process = 94 (0.084305 num/sec) creating fails = 0 max processing time =
40000 ms; avg = 118646 ms curr = 0 busy = 0
```

where:

- `min` – minimal number of processes in the pool;
- `max` – maximal number of processes in the pool;
- `(auto)` – displays if limits on number of processes in the pool are determined automatically;
- `freetime` – maximum idle time for a process in the pool;
- `busy max` – maximum number of simultaneously used processes, `avg` - average number of simultaneously used processes;
- `requests for new process` – number of requests for new process creation (frequency of requests per second is displayed in parenthesis);
- `creating fails` – number of failed attempts to create a new process (failures usually occur when the system is running low on resources);
- `max processing time` – maximum time for processing a single scanning request;
- `avg` – average time for processing a single scanning request;
- `curr` – number of all current processes in the pool;
- `busy` – number of currently used processes in the pool.

Configuration

Dr.Web Daemon can be run with default settings, but you can configure it according to your specific requirements. **Daemon** settings are stored in the `[Daemon]` section of the configuration file (`drweb32.ini` by default) which is located in `%etc_dir` directory. To use another configuration file, specify the full path to it as a command-line option.

[Daemon]

EnginePath = {path to file}	Location of <code>drweb32.dll</code> module (anti-virus engine Dr.Web Engine). This parameter is also used by the Dr.Web Updater . <u>Default value:</u> EnginePath = <code>%bin_dir/lib/drweb32.dll</code>
VirusBase = {list of files (masks)}	Masks for virus databases. This parameter is also used by Dr.Web Updater . Multiple values are allowed (separated by commas). By default, virus databases files has the <code>.vdb</code> extension <u>Default value:</u> VirusBase = <code>%var_dir/bases/*.vdb</code>
UpdatePath = {path to directory}	Directory to store updates. The parameter is mandatory. <u>Default value:</u> UpdatePath = <code>%var_dir/updates/</code>
TempPath = {path to directory}	Directory where the Dr.Web Engine anti-virus engine puts temporary files.



	<p>It is used when system has insufficient memory or to unpack certain types of archives.</p> <p><u>Default value:</u> TempPath = %var_dir/spool/</p>
Key = {path to file}	<p>Key file location (license or demo). By default, a key file has the .key extension.</p> <p>Please note that Dr.Web Daemon and Dr.Web Scanner can have different license key files. In this case, change the value of this parameter correspondingly.</p> <p>The parameter value can be set several times to specify several license key files. In this case, Dr.Web Daemon tries to combine all license permissions from all available license key files.</p> <p><u>Default value:</u> Key = %bin_dir/drweb32.key</p>
OutputMode = {Terminal Quiet}	<p>Output mode:</p> <ul style="list-style-type: none">• Terminal - console output• Quiet - no output <p><u>Default value:</u> OutputMode = Terminal</p>
RunForeground = {logical}	<p>Allows to disable or enable daemon mode for Dr.Web Daemon.</p> <p>With Yes value specified Dr.Web Daemon runs as a foreground process. This parameter can be used for certain monitoring utilities (for example, Dr.Web Monitor).</p> <p><u>Default value:</u> RunForeground = No</p>
User = {text value}	<p>User under which Dr.Web Daemon operates.</p> <p>It is strongly recommended to create a separate drweb user account, which will be used by Dr.Web Daemon and filters. It is not recommended to run Dr.Web Daemon with root privileges, even though it may take less time to configure.</p> <p>This parameter cannot be changed when reloading configuration using SIGHUP.</p> <p><u>Default value:</u> User = drweb</p>
PidFile = {path to file}	<p>File to store Dr.Web Daemon's PID and UNIX socket (if it is enabled by the Socket parameter) or port number (if TCP socket is enabled by the Socket parameter).</p> <p>If more than one Socket parameter is specified, this file contains information on all the sockets (one per line).</p> <p>This file is created every time Dr.Web Daemon starts.</p> <p><u>Default value:</u> PidFile = %var_dir/run/drwebd.pid</p>
BusyFile = {path to file}	<p>File where Dr.Web Daemon busy flag is stored.</p> <p>This file is created by a Dr.Web Daemon child process upon receipt of the scan command and is removed after successful command execution.</p>



	<p>Filenames created by each Dr.Web Daemon child process are appended by a dot and ASCII representation of the PID (for example, <code>/var/run/drwebd.bsy.123456</code>).</p> <p><u>Default value:</u> BusyFile = <code>%var_dir/run/drwebd.bsy</code></p>
<p>ProcessesPool = {process pool settings}</p>	<p>Settings of dynamic process pool.</p> <p>At first, specify the number of processes in the pool:</p> <ul style="list-style-type: none">• auto - number of processes is set automatically depending on system load;• N - nonnegative integer. Pool will have at least N active processes, additional processes will be created if necessary;• N-M - positive integer, $M \geq N$. The pool will have at least N active processes, additional processes will be created if necessary, but maximum total number of processes cannot exceed M. <p>Then specify optional secondary parameters:</p> <ul style="list-style-type: none">• timeout = {time in seconds} - timeout for closing an inactive process. This parameter does not affect the first N processes which wait for requests indefinitely.• stat = {yes no} - statistics on processes in a pool. If yes, it is saved to the log file each time SIGUSR1 system signal is received.• stop_timeout = {time in seconds} - maximum time to wait for a running process to stop. <p><u>Default value:</u> ProcessesPool = <code>auto, timeout = 120, stat = no, stop_timeout = 1</code></p>
<p>OnlyKey = {logical}</p>	<p>Enables receiving only a license key file from Dr.Web Agent, without configuration. At that, Dr.Web Scanner uses the local configuration file.</p> <p>If the value is set to No and the address of a Dr.Web Agent socket is specified, Dr.Web Daemon sends operational statistics to Dr.Web Agent (information is sent after scanning of every file).</p> <p><u>Default value:</u> OnlyKey = <code>No</code></p>
<p>ControlAgent = {address}</p>	<p>Dr.Web Agent socket address.</p> <p>Example: ControlAgent = <code>inet:4040@127.0.0.1, local:%var_dir/ipc/.agent</code></p> <p>Dr.Web Daemon receives from Dr.Web Agent a license key file (and configuration if OnlyKey = No. Moreover, in this case the socket is used for sending statistics on Dr.Web Daemon operation to Dr.Web Agent).</p> <p><u>Default value:</u> ControlAgent = <code>local:%var_dir/ipc/.agent</code></p>
<p>MailCommand = {string}</p>	<p>Shell command used by Dr.Web Daemon and Dr.Web Updater for sending notifications on new updates to the user (administrator) via email.</p> <p>If the period before the key file (or one of the key files) expiration</p>



	<p>is less than the period specified by the NotifyPeriod parameter, Dr.Web Daemon starts sending notifications upon every system startup, restart or reboot.</p> <p><u>Default value:</u> MailCommand = <code>"/usr/sbin/sendmail -i -bm -f drweb -- root"</code></p>
NotifyPeriod = {numerical value}	<p>This parameter value specifies the period (in days) before license key expiration date when Dr.Web Daemon starts prompting a user to renew the license.</p> <p>If the parameter value is set to 0, Dr.Web Daemon starts sending out notifications immediately after the key file expires.</p> <p><u>Default value:</u> NotifyPeriod = 14</p>
NotifyFile = {path to file}	<p>Path to the file with a timestamp of the last license expiration notification.</p> <p><u>Default value:</u> NotifyFile = <code>%var_dir/.notify</code></p>
NotifyType = {Ever Everyday Once}	<p>Frequency of sending license expiration notifications.</p> <ul style="list-style-type: none">• Once – notification is sent only once.• Everyday – notification is sent daily.• Ever – notification is sent upon every Dr.Web Daemon restart and every database update. <p><u>Default value:</u> NotifyType = Ever</p>
FileTimeout = {numerical value}	<p>Maximum time (in seconds) allowed for Dr.Web Daemon to perform scanning of one file.</p> <p>If the parameter value is set to 0, time to scan of one file is unlimited.</p> <p><u>Default value:</u> FileTimeout = 30</p>
StopOnFirstInfected = {logical}	<p>Enables or disables interruption of file scanning upon detection of the first virus.</p> <p>If the value is set to <code>yes</code>, it can significantly reduce mail server load and scan time.</p> <p><u>Default value:</u> StopOnFirstInfected = No</p>
ScanPriority = {signed numerical value}	<p>Priority of Dr.Web Daemon process.</p> <p>Value must be in the following range: -20 (highest priority) to 19 (lowest priority for Linux) or 20 (lowest priority for FreeBSD and Solaris).</p> <p><u>Default value:</u> ScanPriority = 0</p>
FileTypes = {list of file extensions}	<p>Types of files to be checked "by type", that is, when the ScanFiles parameter value (described below) is set to <code>ByType</code>.</p> <p>"*" and "?" wildcard characters are allowed.</p>



	<p><u>Default value:</u></p> <p>FileTypes = EXE, COM, SYS, OV?, BAT, BIN, DRV, PRG, BOO, SCR, CMD, VXD, 386, DLL, FON, DO?, XL?, WIZ, RTF, CL*, HT*, VB*, JS*, INF, AR?, ZIP, R??, PP?, OBJ, LIB, HLP, MD?, INI, MBR, IMG, CSC, CPL, MBP, SHS, SHB, PIF, SO, CHM, REG, XML, PRC, ASP, LSP, MSO, OBD, THE*, NWS, SWF, BMP, MPP, OCX, DVB, CPY, MSG, EML</p>
FileTypesWarnings = {logical}	<p>Notify on files of unknown types</p> <p><u>Default value:</u></p> <p>FileTypesWarnings = Yes</p>
ScanFiles = {All ByType}	<p>Scan only files with extensions specified in the FileTypes parameter (the ByType value) or all files (the All value).</p> <p>This parameter can have the ByType value only in the local scan mode (in other modes, only the All value can be set).</p> <p>In mailboxes, all files are always checked (regardless of the ScanFiles parameter value).</p> <p><u>Default value:</u></p> <p>ScanFiles = All</p>
CheckArchives = {logical}	<p>Enables or disables checking of files in archives.</p> <p>The following formats are supported: ZIP (WinZip, InfoZIP, etc.), RAR, ARJ, TAR, GZIP, CAB and others.</p> <p><u>Default value:</u></p> <p>CheckArchives = Yes</p>
CheckEMailFiles = {logical}	<p>Enables or disables checking of email files.</p> <p><u>Default value:</u></p> <p>CheckEMailFiles = Yes</p>
ExcludePaths = {list of path file masks}	<p>Masks for files to be skipped during scanning.</p> <p><u>Default value:</u></p> <p>ExcludePaths = /proc,/sys,/dev</p>
FollowLinks = {logical}	<p>Enables or disables Dr.Web Daemon to follow symbolic links during scanning.</p> <p><u>Default value:</u></p> <p>FollowLinks = No</p>
RenameFilesTo = {mask}	<p>Mask for renaming files when the Rename action is applied.</p> <p><u>Default value:</u></p> <p>RenameFilesTo = #??</p>
MoveFilesTo = {path to directory}	<p>Path to the Quarantine directory.</p> <p><u>Default value:</u></p> <p>MoveFilesTo = %var_dir/infected/</p>
BackupFilesTo = {path to directory}	<p>Directory for backup copies of cured files.</p> <p><u>Default value:</u></p> <p>BackupFilesTo = %var_dir/infected/</p>



LogFileName = {syslog file name}	<p>Log file name.</p> <p>You can specify <code>syslog</code> as a log file name and logging will be performed by <code>syslogd</code> system service.</p> <p>In this case, also specify the SyslogFacility and SyslogPriority parameter values.</p> <p><u>Default value:</u> LogFileName = <code>syslog</code></p>
SyslogFacility = {syslog label}	<p>Log type label used by <code>syslogd</code> system service.</p> <p><u>Default value:</u> SyslogFacility = <code>Daemon</code></p>
SyslogPriority = {log level}	<p>Logging priority (log verbosity level) when <code>syslogd</code> system service is used.</p> <p>There are the following levels allowed:</p> <ul style="list-style-type: none">• Error• Alert• Warning• Info• Notice <p><u>Default value:</u> SyslogPriority = <code>Info</code></p>
LimitLog = {logical}	<p>Enables or disables limit for log file size (if LogFileName value is not specified to <code>syslog</code>).</p> <p>If limit is enabled, Dr.Web Daemon checks the size of a log file on startup or on receipt of <code>HUP</code> signal. If the log file size is greater than <code>MaxLogSize</code> value, the log file is overwritten with an empty file and logging starts from scratch.</p> <p><u>Default value:</u> LimitLog = <code>No</code></p>
MaxLogSize = {numerical value}	<p>Maximum log file size in Kbytes.</p> <p>Used only with LimitLog = <code>Yes</code>.</p> <p>Set this parameter value to 0 if you do not want a log file to be unexpectedly modified on startup.</p> <p><u>Default value:</u> MaxLogSize = <code>512</code></p>
LogScanned = {logical}	<p>Enables or disables logging of information about all scanned objects regardless whether they are infected or not.</p> <p><u>Default value:</u> LogScanned = <code>Yes</code></p>
LogPacked = {logical}	<p>Enables or disables logging of additional information about files packed with DIET, PKLITE and other utilities.</p> <p><u>Default value:</u> LogPacked = <code>Yes</code></p>
LogArchived = {logical}	<p>Enables or disables logging of additional information about files archived with various archiving utilities.</p>



	<p>Default value: LogArchived = Yes</p>
LogTime = {logical}	<p>Enables or disables logging of time for each record. The parameter is not used if LogFileNames = syslog.</p> <p>Default value: LogTime = Yes</p>
LogProcessInfo = {logical}	<p>Enables or disables logging PID of the scanning process and filter address (host name or IP address) from which scanning has been activated.</p> <p>This data is logged before each record.</p> <p>Default value: LogProcessInfo = Yes</p>
RecodeNonprintable = {logical}	<p>Enables or disables transcoding of characters that are undisplayable on a given terminal (see also the description of the following two parameters).</p> <p>Default value: RecodeNonprintable = Yes</p>
RecodeMode = {Replace QuotedPrintable}	<p>Decoding mode for non-printable characters (if RecodeNonprintable = Yes).</p> <p>When RecodeMode = Replace, all non-printable characters are substituted with the RecodeChar parameter value (see below).</p> <p>When RecodeMode = QuotedPrintable, all non-printable characters are converted to Quoted Printable encoding.</p> <p>Default value: RecodeMode = QuotedPrintable</p>
RecodeChar = {"?" "_" ...}	<p>Sets a character to replace all non-printable characters if RecodeMode = Replace.</p> <p>Default value: RecodeChar = "?"</p>
Socket = {address list}	<p>List of sockets to be used for communication with Dr.Web Daemon (separated by commas).</p> <p>Example: Socket = inet:3000@127.0.0.1,local:%var_dir/.daemon</p> <p>You can also specify a socket address in the following format: PORT [interfaces] FILE [access].</p> <p>For a TCP socket, specify a decimal port number (PORT) and the list of interface names or IP addresses for incoming requests (interfaces).</p> <p>Example: Socket = 3000 127.0.0.1, 192.168.0.100</p> <p>For UNIX sockets, specify a socket name (FILE) and access permissions in the octal form.</p> <p>Example: Socket = %var_dir/.daemon 0660</p> <p>Number of Socket parameter values is not limited. Dr.Web Daemon will work with all sockets described correctly.</p>



	To enable connections on all available interfaces, set 3000 0.0.0.0 as a value of this parameter.
	<u>Default value:</u> Socket = %var_dir/run/.daemon

SocketTimeout = {numerical value}	Maximum time (in seconds) allowed for transferring data through socket (file scanning time is not included). If the parameter value is set to 0, the time is unlimited.
	<u>Default value:</u> SocketTimeout = 10

ClientsLogs = {string list}	Enables splitting of log files. If during communication with Dr.Web Daemon a client uses the option to transfer its ID, log file will be substituted with the file specified in this parameter. Descriptions of log files are separated by commas or spaces. If more than six values are set, the configuration file is considered invalid. Log files are defined in the following way: <client name1>:<path to file>, <client name2>:<path to file> Client name may be one of the following: <ul style="list-style-type: none">• web — Dr.Web ICAPD;• smb_spider — Dr.Web Samba SpIDer;• mail — Dr.Web MailD;• drwebdc — console client for Dr.Web Daemon;• kerio — Dr.Web for Kerio Internet Gateways;• lotus — Dr.Web for IBM Lotus Domino. Example: drwebdc:/var/drweb/log/drwebdc.log, smb:syslog, mail:/var/drweb/log/drwebmail.log
	<u>Default value:</u>

MaxBasesObsolescencePeriod = {numerical value}	Period, in hours, after last update, during which virus databases are considered up-to-date. When this period is over, a message notifying that databases are obsolete is output. If value is set to 0, database obsolescence is not checked.
	<u>Default value:</u> MaxBasesObsolescencePeriod = 24

The following parameters can be used to reduce scanning time in archived files (some objects in archives are not checked). Actions applied to skipped depend on the **ArchiveRestriction** parameter value of the corresponding modules.

MaxCompressionRatio = {numerical value}	Maximum compression ratio, that is a ratio between size of unpacked file and its size within an archive. The parameter can have only natural values. If the ratio exceeds
--	--



	<p>the specified value, file will not be extracted and therefore will not be checked.</p> <p>Value of this parameter must be not less than 2.</p> <p><u>Default value:</u> MaxCompressionRatio = 5000</p>
CompressionCheckThreshold = {numerical value}	<p>Minimum size of a file enclosed within an archive (in Kbytes) for which compression ratio check is performed (if such a check is enabled by the MaxCompressionRatio parameter). Value of this parameter must be greater than 0.</p> <p><u>Default value:</u> CompressionCheckThreshold = 1024</p>
MaxFileSizeToExtract = {numerical value}	<p>Maximum size of a file enclosed in an archive, in Kbytes. If a file size exceeds the specified value, the file is skipped.</p> <p><u>Default value:</u> MaxFileSizeToExtract = 40960</p>
MaxArchiveLevel = {numerical value}	<p>Maximum allowed archive nesting level.</p> <p>If an archive nesting level exceeds the specified value, an archive is not scanned.</p> <p><u>Default value:</u> MaxArchiveLevel = 8</p>
MessagePatternFileName = {path to file}	<p>Path to template for a license expiration message.</p> <p>You can configure output of an expiration message according to your needs. To do this, use the following variables in the template. The specified variables are substituted with the corresponding values:</p> <ul style="list-style-type: none">• \$EXPIRATIONDAYS — number of days left until license expiration;• \$KEYFILENAME — path to license key file;• \$KEYNUMBER — license number;• \$KEYACTIVATES — license activation date;• \$KEYEXPIRES — license expiration date. <p>If there is no user-defined template, standard message in English is output.</p> <p><u>Default value:</u> MessagePatternFileName = %etc_dir/templates/drwebd/msg.tmpl</p>
MailTo = {email address}	<p>Email address of an administrator where the following information is sent: messages about license expiration, virus databases obsolescence, etc.</p> <p><u>Default value:</u> MailTo =</p>



Integration with Samba

Integration of **Samba** file service and **Dr.Web Daemon**, resident anti-virus component, is implemented with the use of a special module **Dr.Web Samba VFS SpIDer**. When **Samba** file servers attempt to access a file, **Dr.Web Samba VFS SpIDer** sends this file through a socket to **Dr.Web Daemon** for anti-virus check.

Requirements

Integration of **Samba** file service and **Dr.Web Daemon**, resident module which performs anti-virus check, requires the following components to be installed:

- **Samba** file server version 3.0.x — 3.5.x or later; the server must be configured accordingly.
- **Dr.Web Daemon**, configured accordingly, and **Dr.Web Engine** version 6.0.2
- **Dr.Web Samba VFS SpIDer** plug-in, which supports all options used by **Samba** file server
- **Webmin** component to enable use of web interface **Dr.Web Console for UNIX File Servers**.



Dr.Web Samba VFS SpIDer does not provide full support for **Samba** server version 4: the module supports only `s3fs` file system; thus, `ntvfs` file system is not supported.

Integrating Dr.Web solution with Samba

Add the following section to the **Samba** configuration file (`/etc/samba/smb.conf` by default) and edit the settings in accordance with the used directories:

```
[drweb_audit]
comment = Dr.Web protected directory
path = /<path to directory to be protected>/
vfs objects = smb_spider
smb_spider: config = <path to configuration file or Agent socket address>
writeable = yes
browseable = yes
guest ok = yes
public = yes
```

After you finish editing, restart **Samba** file server.

If you want each protected shared resource to be configured with a separated configuration file, add the following line to each resource section:

```
smb_spider: config = %etc_dir/smp_spider.conf
```

Dr.Web Samba VFS SpIDer can also receive settings from **Dr.Web Agent**. To enable this option, in the `smb.conf` file substitute the line containing the `smb_spider.conf` file path with the following line:

```
smb_spider: config = <Agent socket address>
```

Example:

UNIX socket (**Dr.Web Agent** is running on the local machine):

```
smb_spider: config = local:%var_dir/ipc/.agent
```



TCP socket (**Dr.Web Agent** is running on a remote machine):

```
smb_spider: config = inet:4040@127.0.0.1
```

Note that if you specified **Dr.Web Agent** address in `smb_spider: config`, **Dr.Web Samba VFS SpIDer** sends statistics to **Dr.Web Agent**. To ensure correct statistics gathering, add the line with **Dr.Web Agent** address to the section of each protected shared resources.

Dr.Web Samba VFS SpIDer Startup

Dr.Web Samba VFS SpIDer monitor is activated on attempt to open a shared resource on the server. When the monitor is initialized

- **Dr.Web Samba VFS SpIDer** checks versions of the interface and **Samba** server
- **Dr.Web Samba VFS SpIDer** reads its configuration file (`%etc_dir/smb_spider.conf` by default)
- **Dr.Web Samba VFS SpIDer** starts monitoring file operations performed by the clients.

On the first and second steps, **Dr.Web Samba VFS SpIDer** outputs information to the system log (`syslog`). By default, the following values are used to configure `syslogd`:

```
SyslogFacility = Daemon  
SyslogPriority = Info
```

It is recommended to start the modules in the following order:

- **Dr.Web Daemon**
- **Dr.Web Samba VFS SpIDer**

To ensure optimal performance, grant **Dr.Web Daemon** with permissions to access shared resources.



If **Dr.Web Daemon** is running without read access (for scanning) or write access (for curing, removing files, etc.) to files on a shared resource, the component will operate in the remote scanning mode and receive necessary files via the socket. In this mode, performance is considerably reduced.

Dr.Web Daemon cannot scan files size of which exceeds 2 GB; therefore, **Dr.Web Samba VFS SpIDer** does not send such files for scanning.

Configuration File

Dr.Web Samba VFS SpIDer can be started with default settings, but if you want to ensure optimal performance, you may adjust it according to your specific requirements. Configuration of **Dr.Web Samba VFS SpIDer** is located in the `%etc_dir` directory (`smb_spider.conf` file by default). To use another configuration file, specify the full path to it in the `smb.conf` configuration file by adding the following line:

```
smb_spider: config = /my/new/path/smb_spider.conf
```

For description of **Dr.Web for UNIX File Servers** configuration files, refer to the [Configuration Files](#) section.

[DaemonCommunication]

```
Address = {addresses list}
```

List of socket addresses used for communication with **Dr.Web Daemon**.

Addresses in the list are separated by commas.



	<p><u>Default value:</u> pid:%var_dir/run/drwebd.pid</p>
<code>Cache = {logical}</code>	<p>Enables or disables caching the IP address of the host where Dr.Web Daemon operates.</p> <p>If the parameter value is set to <code>No</code>, the IP address is requested every time the files are sent for scanning.</p> <p>This parameter is used only when communicating with Dr.Web Daemon via TCP sockets (see the description of the previous parameter).</p> <p><u>Default value:</u> Cache = Yes</p>
<code>Timeout = {numerical value}</code>	<p>Timeout for one file to be scanned (in seconds).</p> <p>If the parameter is set to <code>0</code>, scanning time is not limited.</p> <p><u>Default value:</u> Timeout = 120</p>
<code>UseTcpNodelay = {logical}</code>	<p>Enables the <code>TCP_NODELAY</code> option to configure TCP socket for connection with Dr.Web Daemon.</p> <p>Use this option only if network stability problems occur.</p> <p><u>Default value:</u> UseTcpNodelay = No</p> <p>[Scanning]</p>
<code>HeuristicAnalysis = {On Off}</code>	<p>Enables or disables the heuristic analyzer mode.</p> <p>The detection method used by the <i>heuristics analyzer</i> is based on certain knowledge about the attributes that characterize malicious code. Each attribute or characteristic has a weight coefficient that determines the level of its severity and reliability. Depending on the sum weight of a file, the <i>heuristics analyzer</i> calculates the probability of unknown virus infection. As with any system of hypothesis testing under uncertainty, the <i>heuristics analyzer</i> may commit type I or type II errors (i.e., it may omit viruses or raise false alarms).</p> <p><u>Default value:</u> HeuristicAnalysis = On</p>
<code>StripPath = {numerical value}</code>	<p>Remove the specified number of segments from the beginning of the scanning path.</p> <p>If the parameter value set to <code>0</code>, a full path is used. If the value is set to <code>1</code>, one segment, including the first forward slash character (<code>/</code>), is removed from the beginning of the scanning path. If the value is set to <code>2</code>, two segments, including the second forward slash character, are removed.</p> <p>Example:</p> <p>Let us assume that a scanning path is specified as:</p> <pre>path = /some/path/to/file.ext</pre> <p>If <code>StripPath = 1</code>, the path will be as follows:</p> <pre>path = some/path/to/file.ext</pre> <p>If <code>StripPath = 2</code>, the path will be as follows:</p> <pre>path = path/to/file.ext.</pre> <p><u>Default value:</u> StripPath = 0</p>



<code>PrefixPath = {path to directory}</code>	<p>Specifies the path segment that is added to the beginning of the scanning path after it has been processed by the <code>StripPath</code> parameter.</p> <p>Value of this parameter must not end with a slash ("/") character; the required slash character will be added automatically.</p> <p>Example:</p> <p>Let us assume that a scanning path is specified as: <code>path = /certain/path/to/file.ext</code></p> <p>If <code>StripPath = 2</code>, the path will be as follows <code>path = path/to/file.ext</code></p> <p>If <code>PrefixPath = /quite/another</code>, the final path will be as follows <code>path = /quite/another/path/to/file.ext</code></p> <p><u>Default value:</u> <code>PrefixPath =</code></p>
<code>MaxFileSizeToScan = {numerical value}</code>	<p>Sets the maximum size of file to be for scanned, in KB.</p> <p>If the value is set to 0, file size is unlimited.</p> <p><u>Default value:</u> <code>MaxFileSizeToScan = 0</code></p>
<code>ScanMode = {onWrite onRead onAccess}</code>	<p>You can specify the following parameter values:</p> <ul style="list-style-type: none">• <code>onAccess</code> — a file is scanned on attempt to open or run it as well as on close (after the file was created or modified).• <code>onRead</code> — a file is scanned only on attempt to open or run it. This mode allows to increase performance, but decreases the protection level as files are not scanned when copied to the server. Although an infected file can not be run by a remote user in this mode, the file can be run by a user with local access to the shared directory (that is, bypassing the Samba server).• <code>onWrite</code> — a file is scanned only on close after it was created or modified. This mode allows to further increase performance, but significantly decreases the protection level as files are not scanned on execution. An infected file can be copied to the shared directory by a user with local access (that is, bypassing the Samba server) and then run by a remote user without scanning. <p><u>Default value:</u> <code>ScanMode = onAccess</code></p>
<code>RewriteDataBase = {logical}</code>	<p>When the parameter value is set to <code>Yes</code>, databases of blocked (infected) and allowed (clean) files are overwritten every time a new user accesses a shared directory.</p> <p><u>Default value:</u> <code>RewriteDataBase = Yes</code></p>
<code>BlockedCacheSize = {numerical value}</code>	<p>Size (in bytes) of database that stores blocked (infected) files.</p> <p>When the parameter value is set to 0, a database of blocked files is not created. Otherwise, md5 hash sum of files scanned by Dr.Web Daemon and detected as infected are saved to the database. On a subsequent attempt to open a file, its md5 hash sum is compared to sums stored in the database and if the match is found, the file is treated as infected without sending it to Dr.Web Daemon for repeated scanning.</p>



	<p><u>Default value:</u> BlockedCacheSize = 4096</p>
AllowedCacheSize = {numerical value}	<p>Size (in bytes) of database that stores allowed (cleaned) files.</p> <p>When the parameter value is set to 0, a database of allowed files is not created. Otherwise, md5 hash sum of files scanned by Dr.Web Daemon and detected as clean are saved to the database. On a subsequent attempt to open a file, its md5 hash sum is compared to sums stored in the database and if the match is found, the file is treated as clean without sending it to Dr.Web Daemon for repeated scanning.</p> <p><u>Default value:</u> AllowedCacheSize = 4096</p>
LocalScan = {logical}	<p>Enables or disables the local scan mode.</p> <p>If the parameter value is set to Yes, Dr.Web Daemon scans files in the local mode; that is, only paths to the files are transmitted to the component. Otherwise, it receives the file content.</p> <p><u>Default value:</u> LocalScan = yes</p>

Dr.Web Samba VFS SpIDer can apply specified actions to files independently if **Dr.Web Daemon** has insufficient permissions or is set to operate in the **remote scan** mode.

[Actions]

LicenseLimit = {action}	<p>Action applied to files during scanning of which a license error occurred (for example, license expired).</p> <p>You can specify one of the following actions: pass, reject.</p> <p><u>Default value:</u> LicenseLimit = reject</p>
Infected = {action}	<p>Action applied to an infected object.</p> <p>You can specify one of the following actions: cure, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Infected = quarantine</p>
Suspicious = {action}	<p>Action applied to a suspicious object</p> <p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Suspicious = quarantine</p>
Incurable = {action}	<p>Action applied to an incurable object.</p> <p>You can specify one of the following actions: rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Incurable = quarantine</p>
Adware = {action}	<p>Action applied to an object containing an advertising program (adware).</p>



	<p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Adware = quarantine</p>
Dialers = {action}	<p><u>Action</u> applied to a dialer program.</p> <p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Dialers = quarantine</p>
Jokes = {action}	<p><u>Action</u> applied to a joke program.</p> <p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Jokes = quarantine</p>
Riskware = {action}	<p><u>Action</u> applied to riskware.</p> <p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Riskware = quarantine</p>
Hacktools = {action}	<p><u>Action</u> applied to a program used for hacking.</p> <p>You can specify one of the following actions: pass, rename, discard, quarantine, reject.</p> <p><u>Default value:</u> Hacktools = quarantine</p>
Archives = {action}	<p><u>Action</u> applied to archives containing infected files.</p> <p>You can specify one of the following actions: rename, discard, quarantine, reject.</p> <p>To enable removal of such archives, set <code>EnableDeleteArchiveAction = Yes</code> parameter in the main configuration file <code>drweb32.ini</code>.</p> <p><u>Default value:</u> Archives = quarantine</p>
SkipObject = {action}	<p><u>Action</u> applied to files which cannot be scanned by Dr.Web Daemon (for example, password protected or broken archives, symbolic links, non-regular files).</p> <p>You can specify one of the following actions: pass, reject.</p> <p><u>Default value:</u> SkipObject = pass</p>
ArchiveRestriction = {action}	<p><u>Action</u> applied to an archive that cannot be scanned by Dr.Web Daemon because a threshold value specified in the main configuration file is exceeded (for example, compression ratio, size of archived objects, nesting level).</p>



	<p>You can specify one of the following actions: pass, reject.</p> <p><u>Default value:</u> ArchiveRestriction = pass</p>
ScanningErrors = {action}	<p><u>Action</u> applied to files that caused errors during scanning (for example, Dr.Web Daemon is out of memory or does not have permissions required for further processing).</p> <p>You can specify one of the following actions: pass, reject.</p> <p><u>Default value:</u> ScanningErrors = reject</p>
ProcessingErrors = {action}	<p><u>Action</u> applied to files that caused errors during scanning (for example, Dr.Web Samba VFS SpIDer is not configured appropriately or cannot connect to Dr.Web Daemon).</p> <p>Possible values are: pass, reject.</p> <p><u>Default value:</u> ProcessingErrors = reject</p>
ShellScriptForBlockedFile = {path to file}	<p>Path to the shell script that is initialized when a file is blocked.</p> <p>Dr.Web Samba VFS SpIDer passes the following parameters to the script:</p> <ul style="list-style-type: none">• FileName — name of the infected file• UserName — login name of the user who tried to access the blocked file• UserHost — name of the host from which the user tried to open the blocked file• DaemonReport — Dr.Web Daemon report. <p>Example of such a script (file <code>smb_script.sh</code>) is located in the following directory</p> <pre>%bin_dir/doc/samba/</pre> <p><u>Default value:</u> ShellScriptForBlockedFile =</p>
Quarantine = {path to directory}	<p>Path to the Quarantine directory.</p> <p><u>Default value:</u> Quarantine = %var_dir/infected/</p>
QuarantineFilesMode = {access permissions}	<p><u>Permissions to access</u> files in Quarantine.</p> <p><u>Default value:</u> QuarantineFilesMode = 0660</p>
	<p>[Logging]</p>
LogFileName = {syslog path to file}	<p>Log file name.</p> <p>You can specify <code>syslog</code> to enable logging with the syslog service.</p> <p>In this case, you must also specify values for SyslogFacility and SyslogPriority parameters.</p> <p><u>Default value:</u> LogFileName = syslog</p>



<p>Level = {log level}</p>	<p><u>Log verbosity level.</u></p> <p>You can specify one of the following levels:</p> <ul style="list-style-type: none">• Quiet• Errors• Alerts• Info• Debug• Verbose <p><u>Default value:</u></p> <p>Level = Info</p>
<p>SyslogFacility = {syslog label}</p>	<p><u>Facility label</u> for logging with the <code>syslog</code> service.</p> <p><u>Default value:</u></p> <p>SyslogFacility = Daemon</p>
<p>SyslogPriority = {log level}</p>	<p><u>Verbosity level</u> for logging with the syslog service.</p> <p>You can specify one of the following levels:</p> <ul style="list-style-type: none">• Alert• Info• Notice• Debug <p><u>Default value:</u></p> <p>SyslogPriority = Info</p>



Dr.Web Console for UNIX File Servers

Setup and configuration of **Dr.Web for UNIX File Servers** can be performed via the web interface **Dr.Web Console for UNIX File Servers**. It is implemented as a plug-in to **Webmin** (for detailed information on **Webmin** interface, visit its official website at <http://www.webmin.com/>).

To achieve optimal performance of web interface **Dr.Web Console for UNIX File Servers**, ensure that the following **Perl** modules are installed on your system:

- **XML::Parser** — module for parsing XML documents
- **XML::XPath** — set of modules for parsing XPath statements
- **CGI** — module enabling operation with Common Gateway Interface
- **Cwd** — module for detection of the current working directory of any process
- **Data::Dumper** — module for writing arbitrary data structures to memory and reading from it
- **Text::Iconv** — module that provides a Perl interface to `iconv()` encoding conversion function
- **perl-devel** (or **libperl-dev**, depending on the distribution) — packaged used for building **Text::Iconv**
- **JSON** — module for parsing and converting to JSON (JavaScript Object Notation)
- **Encode::CN** - module used for Chinese character encoding
- **Encode::HanExtr** - module with additional set of Chinese character encodings
- **Switch** – module that enables use of `switch-case` statements.

It is recommended to install missing modules from the command line. For that purpose, `root` privileges are required. Names of the modules may vary, but typically they are included in the following packages: `perl-Convert-BinHex`, `perl-IO-stringy`, `perl-MIME-tools`, `perl-XML-Parser`, `perl-XML-XPath`. To install modules in `rpm` systems, it is recommended to choose `noarch.rpm` packages.

Appearance of the web interface may differ from the given screenshots depending on the **Webmin** version and used browser.



Due to features of **Webmin** implementation, **Dr.Web Console for UNIX File Servers** web interface does not display correctly in **Internet Explorer 7**. If problems with displaying of web pages occur, try to use **Internet Explorer 8** or **9** (and later) or use another browser.

Installation

To start working with **Dr.Web Console for UNIX File Servers**, do the following:

- install **Webmin**;
- install **Dr.Web Console for UNIX File Servers** plug-in located in the `%bin_dir/web/` directory.

Webmin configuration and installation of modules is performed with the use of **Webmin** web interface.



The screenshot shows the Webmin main page. On the left is a navigation menu with options: Login: zzzz, Webmin, Change Language and Theme, Webmin Configuration, Servers, Un-used Modules, a search box, System Information, Refresh Modules, and Logout. On the right, the Webmin logo is displayed above a system status table. The table lists system details such as hostname, operating system, version, time on system, kernel and CPU, system uptime, CPU load averages, real memory, virtual memory, and local disk space. Each row includes a horizontal bar chart representing the usage percentage.

System hostname	xxxxxxx
Operating system	Debian Linux 5.0
Webmin version	1.450
Time on system	Mon Mar 16 14:59:57 2009
Kernel and CPU	Linux 2.6.26-1-686 on i686
System uptime	45 days, 2 hours, 42 minutes
CPU load averages	0.27 (1 min) 0.26 (5 mins) 0.28 (15 mins)
Real memory	1.97 GB total, 746.18 MB used
Virtual memory	2.53 GB total, 12.61 MB used
Local disk space	226.73 GB total, 211.33 GB used

Figure 15. Webmin main page

To install additional modules, click **Webmin Configuration** on the main menu and then click **Webmin Modules** on the open page.

The screenshot shows the 'Webmin Configuration' page. The left navigation menu is identical to Figure 15. The main content area is titled 'Webmin Configuration' and 'Webmin 1.450'. It features a grid of 20 icons representing different configuration options: IP Access Control, Ports and Addresses, Logging, Proxy Servers and Downloads, User Interface, Webmin Modules (highlighted with a red box), Operating System and Environment, Language, Index Page Options, Upgrade Webmin, Authentication, Reassign Modules, Edit Categories, Module Titles, Webmin Themes, Trusted Referrers, Anonymous Module Access, File Locking, Mobile Device Options, Blocked Hosts and Users, Advanced Options, Debugging Log File, SSL Encryption, and Certificate Authority. Below the grid are four buttons: 'Start at boot time' (with radio buttons for Yes and No), 'Restart Webmin', 'Submit OS Information', and 'Refresh Modules'. Each button has a corresponding explanatory text block.

Figure 16. Webmin configuration

To install required modules

1. Click the **Browse** button near the **From local file** text field on the **Webmin Modules** page. A new browser window opens to provide navigation through folders and files.
2. Choose the corresponding installation package from the list (%bin_dir/web/drweb-samba-web.wbm.gz by default).

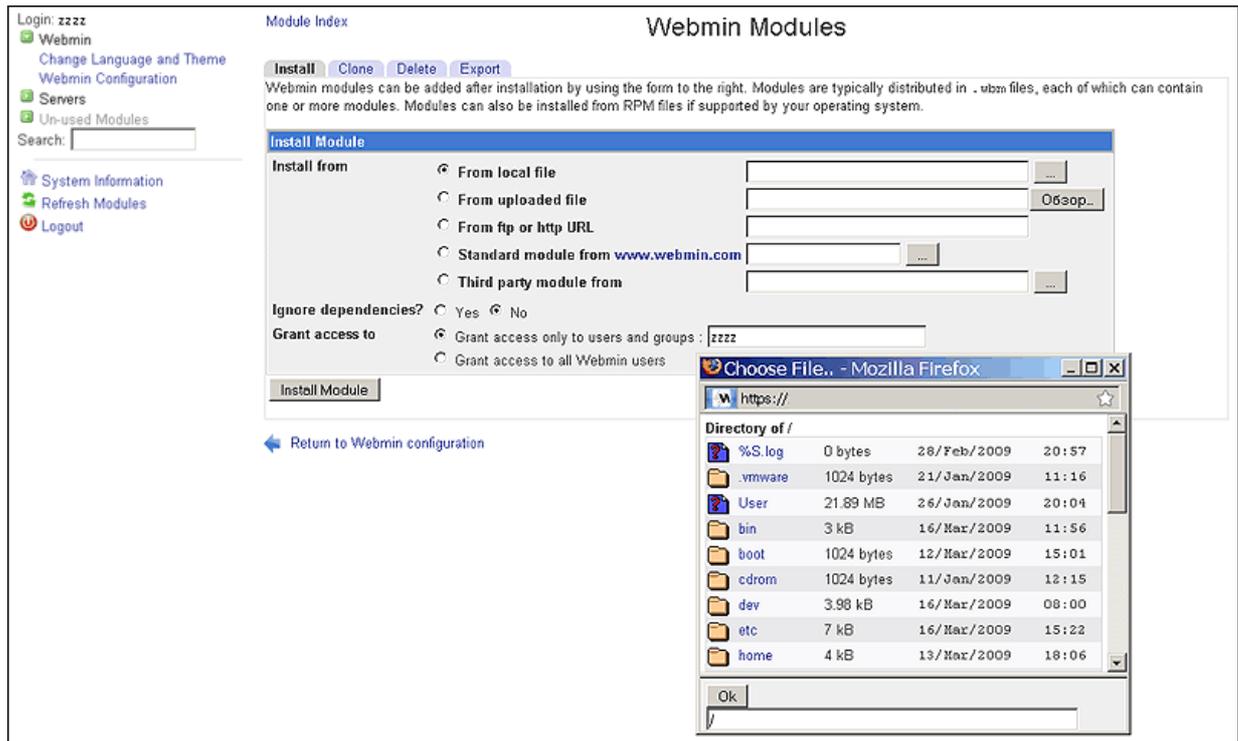


Figure 17. Webmin modules

3. After you click an item from the list, path to this item is added to the field below. If you click the item twice, the folder opens. With the second click on the previously selected file, navigation window closes, and the full path to the selected file appears in **From local file text** field. You can also click **OK** after you select a required file.
4. After you select an installation package file, click **Install Module**.
5. When the installation completes, a link to the new **Dr.Web Console for UNIX File Servers** module appears in the **Servers** section of the main menu.

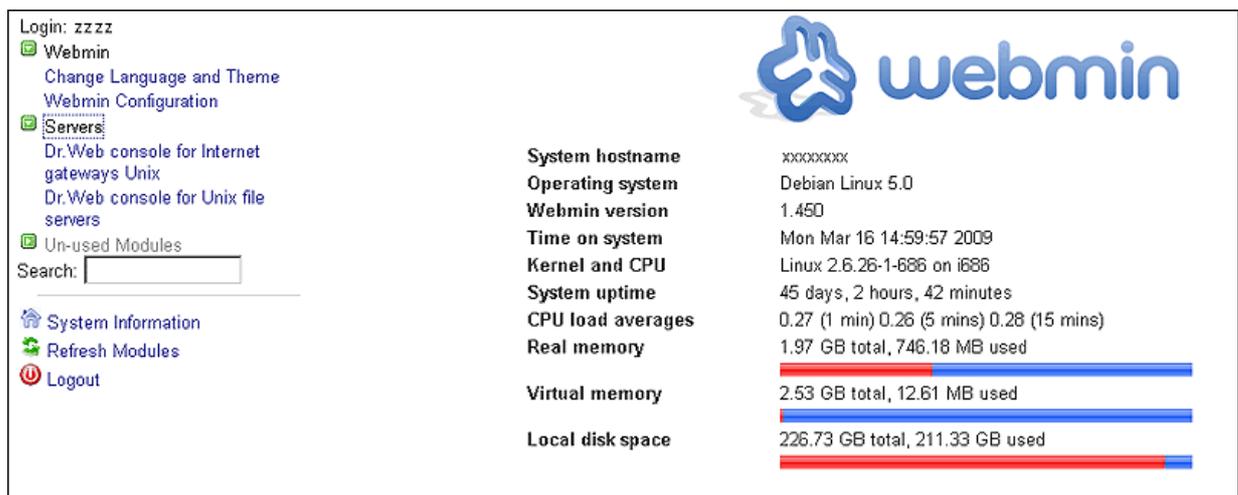


Figure 18. Dr.Web Console for UNIX File Servers module



If you use **Webmin** 1.680 or later, you should also add the following line to its configuration file (usually, this is the file `/etc/webmin/config`):

```
no_content_security_policy=1
```

Basic Configuration

You can select the language for web interface **Dr.Web Console for UNIX File Servers**. For that purpose, select the **Change Language and Theme** item in the **Webmin** section of the main menu.

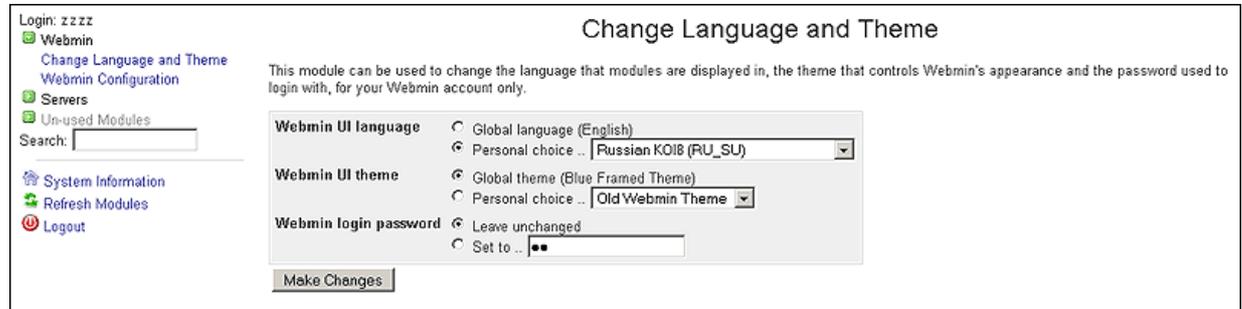


Figure 19. Webmin main page

If you want to use Russian language for both web interfaces, select **Russian KOI8 (RU_SU)** or **Russian CP1251 (RU_RU)** option from the **Personal choice..** drop-down list in the **Webmin UI language** section. If you select the **Russian UTF-8 (RU.UTF-8)** option, Russian language will be used only for **Dr.Web Console for UNIX File Servers** web interface.

On this page, you can also change layout of **Webmin** web interface (select the required item in the **Personal choice..** drop-down list of the **Webmin UI theme** section) as well as set a new password to access Webmin (in the the **Webmin login password** section, select the **Set to..** item and type the password).

To save and apply all changes, click **Make Changes** button and refresh the page.

To access **Dr.Web Console for UNIX File Servers** basic settings, click  on the top pane of the page. On the open page, you can specify the path to `smb_spider.conf` configuration file, number of files shown per page in **Quarantine** and the [operation mode](#).

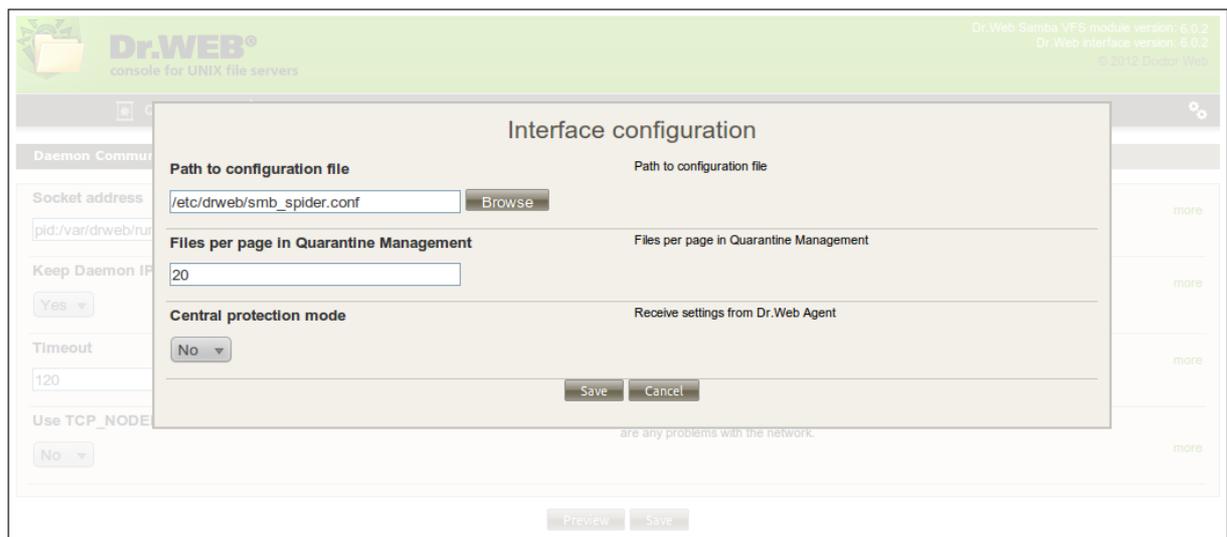


Figure 20. Module configuration



User Interface

When navigating within the **Dr.Web Console for UNIX File Servers** sections, you cannot open the previous page using the standard **Back** function. If you click **Back** or use the corresponding key combination, the previous section of the main menu opens.

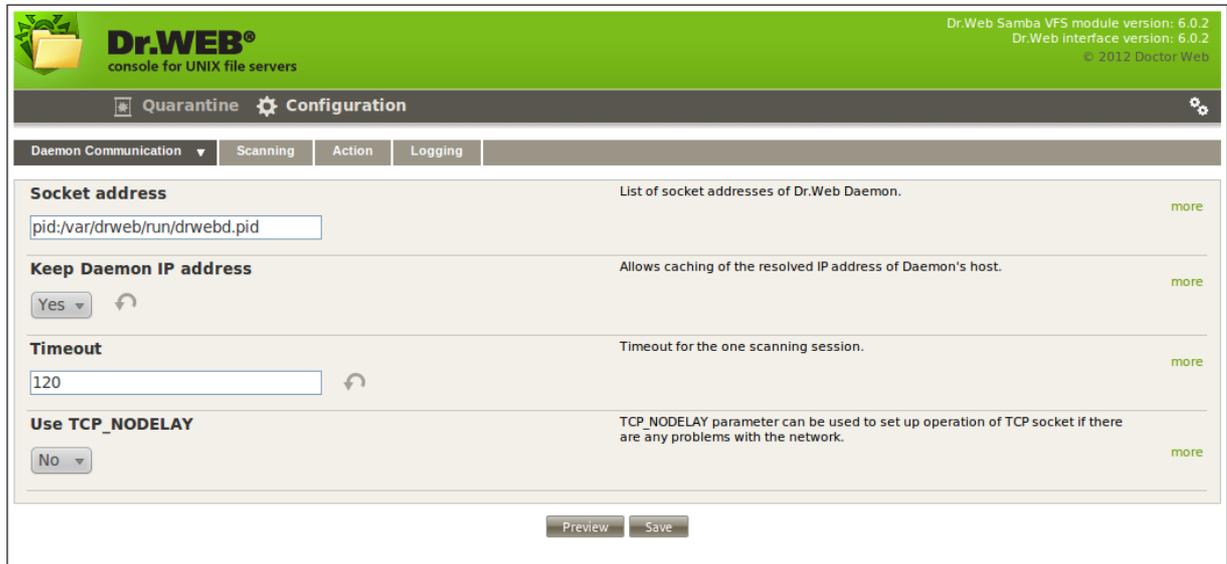


Figure 21. Dr.Web Console for UNIX File Servers main page

Right of the module header, information on the current versions of **Dr.Web Samba VFS SpIDer** and **Dr.Web for UNIX File Servers** web interface displays.

Under the module header, you can see the following two sections: **Quarantine** and **Configuration**. By default, the **Daemon Connection** tab of the **Configuration** section opens.

To adjust parameters, selected the required values in the drop-down lists or specify manually in the corresponding text fields. For detailed description of the parameters, click **more**.

Configuration

You can specify required parameter values either by selecting them from the corresponding drop-down lists or typing them in the text fields.

After changing a parameter value, you can immediately undo the change by clicking  or restore the default settings by clicking . The latter action is always available, even after the changes are saved.



If **Dr.Web for UNIX File Servers** operates in the central protection mode, the administrator of the central protection server can block an option to adjust the settings. If so, users cannot configure **Dr.Web for UNIX File Servers** settings.

To view the changes, click **Preview**. On the open page, you can choose whether or not to save the adjustments (to undo a change, clear the corresponding checkbox). To continue adjusting the settings, click **Continue Editing** and the previous page will open. To cancel all of the changes, click **Cancel changes**. To save the changes, click **Save**.

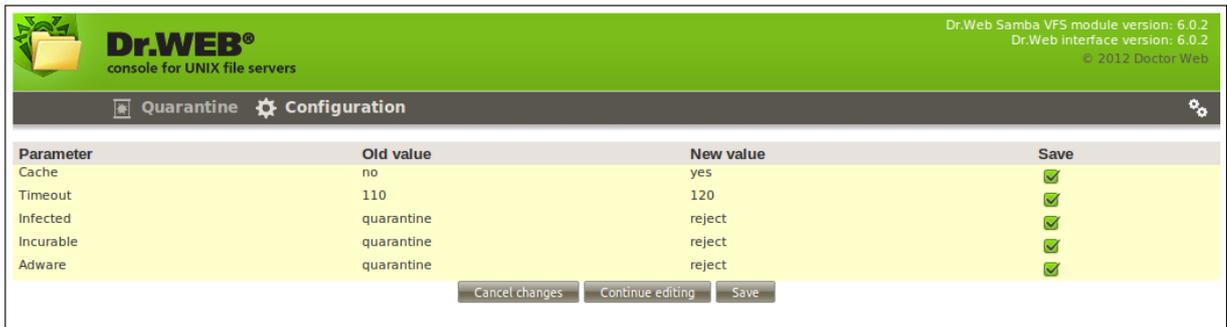


Figure 22. Preview page

When you click **Save**, notification on the configuration being saved displays on the screen. Click the notification to return to the settings page.



Figure 23. Saving configuration



Changes specified on the **Scanning** and **Action** tabs will be applied only after the **Samba** server is restarted or a new user session starts.

Daemon Communication

On the **Daemon Configuration** tab, you can configure communication with [Dr.Web Daemon](#) (for example, specify its socket address, maximum time to scan one file).

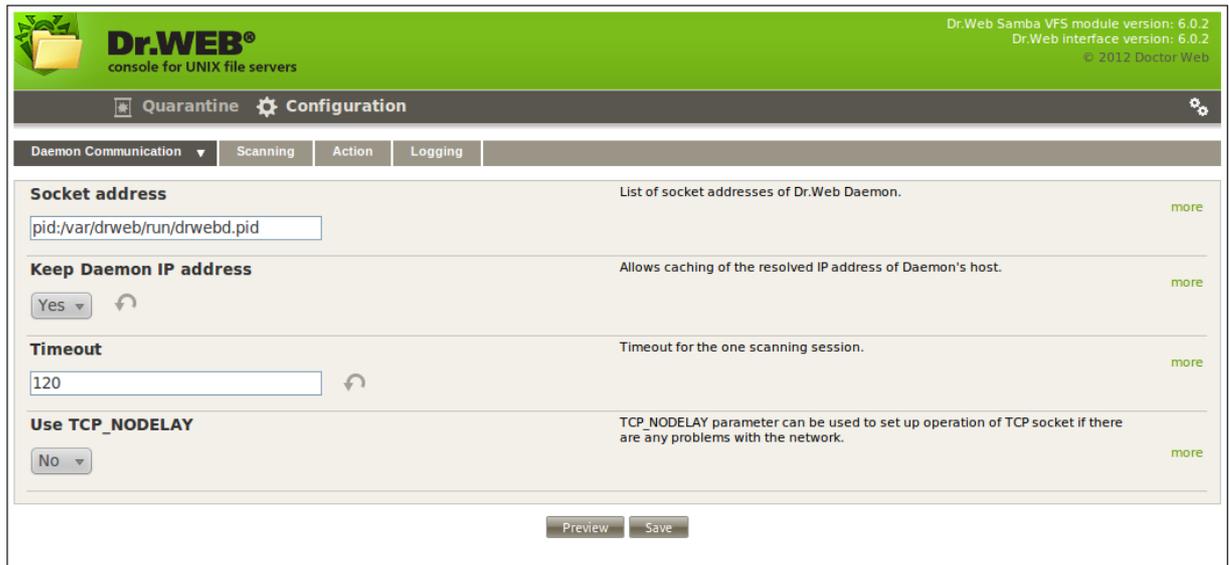


Figure 24. Daemon Communication tab

Scanning

On the **Scanning** tab, you can enable heuristic analysis, specify scanning mode, set limits on file size, configure paths to scanned directories.



The screenshot shows the Dr.Web console interface for UNIX file servers. The top navigation bar includes 'Quarantine' and 'Configuration' tabs. Below this is a sub-menu with 'Daemon Communication', 'Scanning', 'Action', and 'Logging'. The 'Scanning' tab is active, displaying several configuration sections:

- Heuristic analysis:** A dropdown menu set to 'Yes' and a refresh icon. Description: 'Enable/disable heuristic detection of unknown viruses.' A 'more' link is on the right.
- Strip path:** A text input field containing '0'. Description: 'Allows to remove the certain amount of segments from the beginning of specified scan path.' A 'more' link is on the right.
- Add segment to path:** A text input field and a 'Browse' button. Description: 'Specifies path segment to be added to the beginning of scan path.' A 'more' link is on the right.
- File size limit:** A text input field containing '0'. Description: 'Maximum size of file for scan.' A 'more' link is on the right.
- Scanning mode:** A dropdown menu set to 'onAccess'. Description: 'Scanning mode.' A 'more' link is on the right.
- Rewrite database:** A dropdown menu set to 'Yes'. Description: 'Rewrite data base of the allowed and the blocked files.' A 'more' link is on the right.
- Blocked files cache size:** A text input field containing '8192' and a refresh icon. Description: 'Size of cache to store md5 hashes of scanned infected files.' A 'more' link is on the right.
- Clean files cache size:** A text input field containing '4096'. Description: 'Size of cache to store md5 hashes of scanned clean files.' A 'more' link is on the right.
- Local scanning:** A dropdown menu set to 'Yes'. Description: 'Allows to use local scan mode.' A 'more' link is on the right.

At the bottom of the configuration area are 'Preview' and 'Save' buttons.

Figure 25. Scanning tab



Changes specified on the **Scanning** and **Action** tabs will be applied only after the **Samba** server is restarted or a new user session starts.

Action

On the **Action** tab, you can specify actions to be applied to detected threats and files that caused errors during scanning. You can also specify path to the **Quarantine** directory and permissions to access quarantined files.



Dr.WEB®
console for UNIX file servers

Dr.Web Samba VFS module version: 6.0.2
Dr.Web interface version: 6.0.2
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Quarantine Configuration

Daemon Communication | Scanning | **Action** | Logging

License limit Action to be applied to files which have not been scanned due to license expiration. [more](#)

Infected Action to be applied to files, infected with known virus. [more](#)

Suspicious Action to be applied to suspicious files. [more](#)

Incurable Action to files that cannot be cured. [more](#)

Riskware Action to be applied to riskware. [more](#)

Hacking tools Action to be applied to hacktools. [more](#)

Skipped Action to be applied to files, which cannot be scanned by Daemon. [more](#)

Archive restrictions Action to be applied to archives, which cannot be scanned by Daemon. [more](#)

Administrator address IP address of Administrator's computer.

Run shell script on blocking Path to shell script to be initialized upon blocking of the file. [more](#)

Quarantine Path to quarantine directory.

QuarantineFilesMode Access permissions to files in quarantine.

	Read	Write	Execute	
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SUID
Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> SGID
Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Sticky bit

Figure 26. Action section



Changes specified on the **Scanning** and **Action** tabs will be applied only after the **Samba** server is restarted or a new user session starts.

Logging

On the **Logging** tab, you can configure logging for **Dr.Web for UNIX File Servers**.

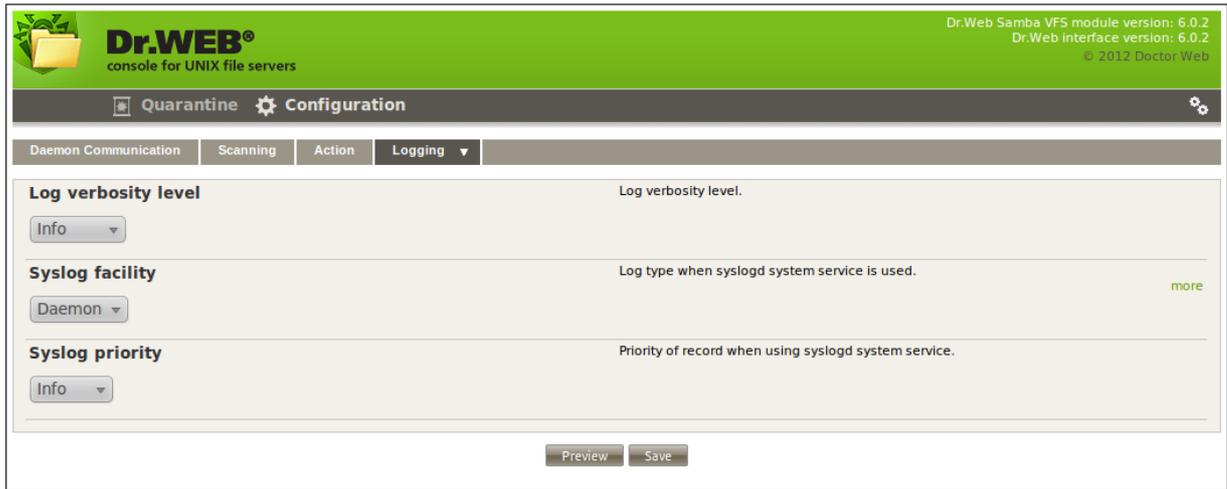


Figure 27. Logging tab

Quarantine

Quarantine page contains the list of links to quarantined files. If the `quarantine` action is specified on the **Action** tab for a certain file type, such files are moved to the **Quarantine** directory and their names are created from address of those web pages from which the files were downloaded.



Figure 28. Quarantine tab

To remove a file from the **Quarantine** directory, select the corresponding checkbox and click **Delete**.

Running in Enterprise Mode

To start **Dr.Web Console for UNIX File Servers** in the central protection mode, configure **Dr.Web Agent** as described in the [corresponding section](#). After making necessary changes, click  on the navigational menu at the top of the page. In the open window, set Central Protection Mode parameter value to `Yes`.

Central Protection Mode parameter can have one of the following two values:

- `No` – in this mode **Dr.Web Console for UNIX File Servers** interacts with local configuration file and does not have access to the configuration received by **Dr.Web Agent** from **Dr.Web Enterprise Server**. Changes made to the configuration in this mode take effect only after



Dr.Web Agent is set to operate in the Standalone mode.

- Yes - in this mode **Dr.Web Console for UNIX File Servers** receives configuration from the **Dr.Web Agent** socket. If **Dr.Web Agent** is operating in the Standalone mode, the following warning is output to the **Dr.Web Console for UNIX File Servers**:
Receiving settings error: unable to establish connection with Dr.Web Agent.

If there is a problem connecting to **Dr.Web Enterprise Server**, the following behaviours of **Dr.Web Console for UNIX File Servers** are possible:

- If **Dr.Web Enterprise Server** is unavailable upon the initial connection or authorization process fails, **Dr.Web Agent** terminates. In this case, check the settings and try to restart **Dr.Web Agent** and **Dr.Web Console for UNIX File Servers**.
- If connection to **Dr.Web Enterprise Server** was established earlier, but now the server is temporary unavailable (for example, in the event of connection problems), **Dr.Web Agent** uses backup copies of configuration files that were previously received from the server. These files are encrypted and must not be edit by users. Edited files become invalid.

Configuring User Permissions

When **Dr.Web Agent** is running in the Enterprise mode, **Dr.Web Control Center** administrator can partially or completely block user permission to configure **Dr.Web** components installed on the workstation.

To set permissions of a workstation user:

- Enter **Dr.Web Control Center**. Note that the administrator must have sufficient privileges to adjust settings of **Dr.Web** anti-virus software.
- On the main menu, select **Network**, then click the workstation name in the hierarchical list. On the open control menu (left pane), select **Permissions**. This opens the permission configuration window.

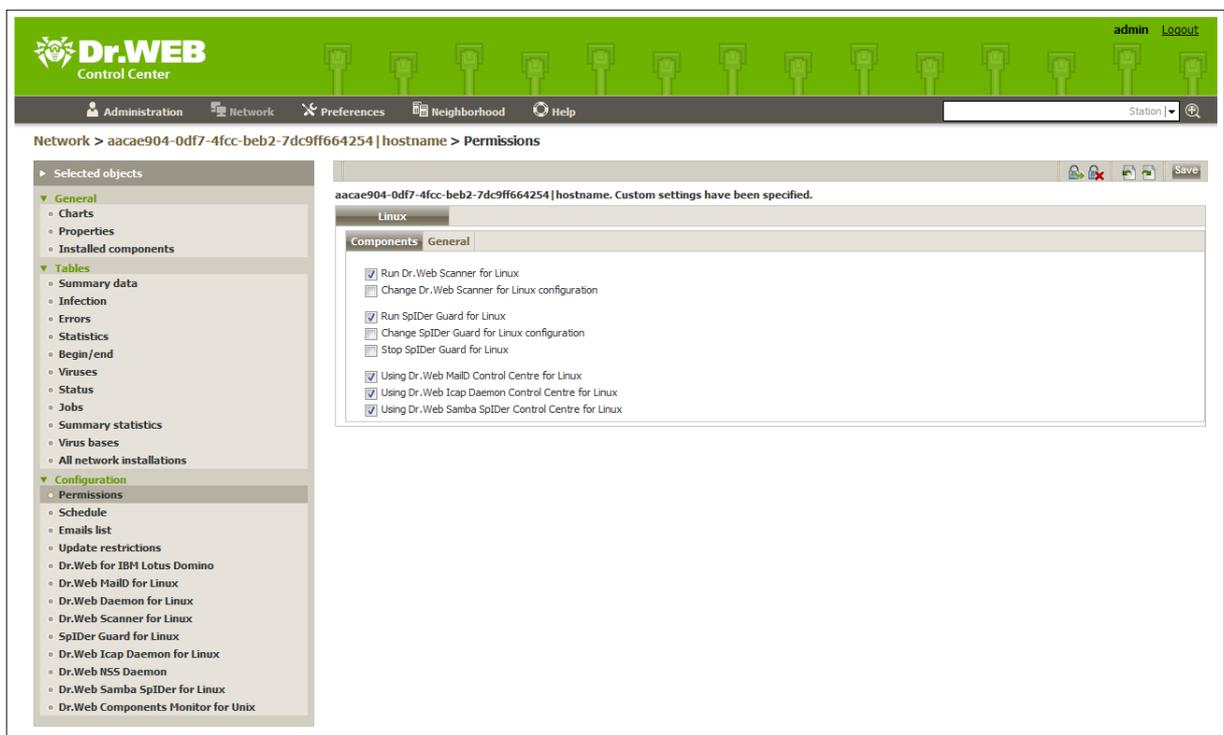


Figure 29. User permissions configuration

- In the **Components** section, select components to be available for the workstation user to



change. For example, to allow the workstation user to adjust **Dr.Web for UNIX File Servers** configuration, select the **Using Dr.Web Samba SpIDer Control Centre for Linux** checkbox and click **Save**.

- To disable the workstation user to adjust **Dr.Web for UNIX File Servers** configuration, clear the **Using Dr.Web Samba SpIDer Control Centre for Linux** checkbox and click **Save**. In this mode, **Console** displays the corresponding warning and **Preview** and **Save** buttons become unavailable.

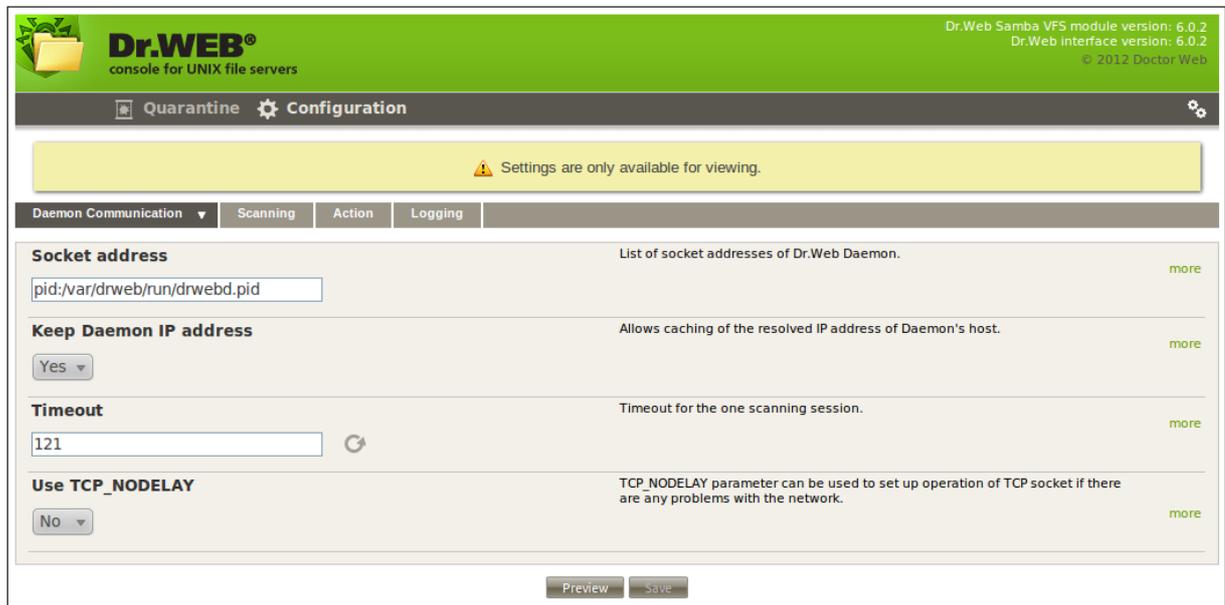


Figure 30. Read-only user permissions

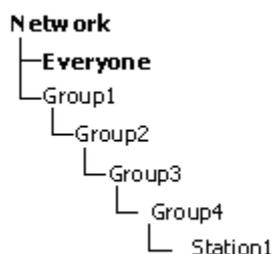
Configuring Workstation

When a new workstation is created, its configuration settings are inherited from a group it belongs to. That group is called the *primary group*. If the settings of the primary group are modified, these changes are inherited by all workstations included into the group, unless the workstation configuration is customized. When creating a workstation, you can specify what group is to be treated as primary. By default, the primary group is the **Everyone** group.

Inheritance in nested groups depends on the group hierarchy. If for a station no custom settings are specified, it inherits configuration from its parent group, and this process repeats recursively. Therefore, search for the group configuration is performed upwards through the hierarchical tree of nested groups, starting from the primary group of the station and further until the root group is reached. If no custom settings are found, the workstation inherits configuration of the **Everyone** group.

Example:

The structure of a hierarchical list is as follows:



Group4 is the primary group for Station1. To determine the settings to be inherited by Station1,



the search is performed in the following order: Station1 → Group4 → Group3 → Group2 → Group1 → Everyone.

You can edit configuration inherited from the primary group in two ways:

- Using **Dr.Web Control Center** interface. To edit configuration, select **Network** on the main menu, then click the workstation name in the hierarchical list. On the control menu (on the left pane), select the component you want to configure. You need the [corresponding permissions](#) to perform this operation. The configuration process is similar to the one via [Console](#). When necessary changes are made, click **Save** to save them.

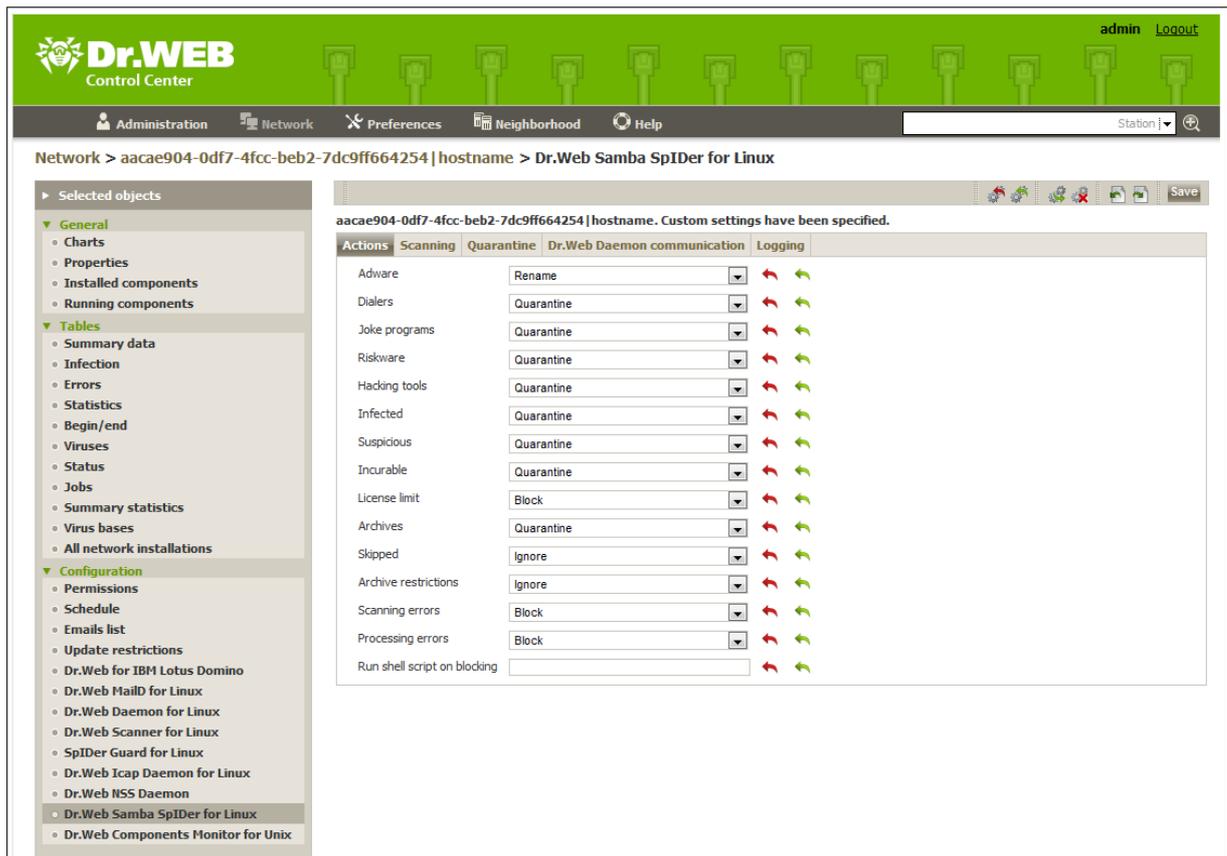


Figure 31. Configuration of Dr.Web Samba SpIDer for Linux via Dr.Web Control Center interface

- If appropriate permissions are set, parameters can be reconfigured via **Dr.Web Console for UNIX File Servers**. The configuration process is similar to the one in the [Standalone mode](#). If the workstation user has insufficient privileges for that, settings are open in read-only mode.

Types of Administrator Accounts

There are four types of administrator accounts:

- *Administrators with full rights* have exclusive rights for management of **Dr.Web Enterprise Server** and **Anti-virus network**. They can view and edit the **Anti-virus network** configuration and create new administrator accounts. An administrator with full rights can configure the anti-virus software installed on the workstation, limit and disable user intervention into anti-virus software administration.

An administrator with full rights can view and edit the list of current administrator accounts.



- *Administrators with read-only rights* can only view **Anti-virus network** settings and its separate elements, but cannot modify them.
- *Group Administrators with full rights* have access to all system groups and those custom groups which they are allowed to manage (including nested groups). *Group Administrator* accounts can be created for custom groups only (see Administrator manual for **Dr.Web® Enterprise Security Suite**). In the hierarchical tree, only those groups are displayed for *group administrators* which they are allowed to access.

The list of current administrator accounts is not available for *Group Administrators*.

- *Group Administrators* with read-only rights can be granted full rights to adjust the available groups or read-only rights.
- *Default administrators* with full rights created automatically during **Dr.Web Enterprise Server** (the **admin** account).

Thus, *Administrators with full rights* can:

- Add new and delete already existing administrator accounts.
- Adjust settings for all administrators of **Anti-virus network**.

Group administrators and *administrators with read-only rights* can:

- Adjust some of their account settings.



Contacts

Dr.Web for UNIX File Servers solution is constantly improved. You can find news and the latest information on available updates on the website at:

<http://www.drweb.com/>

Sales department:

<http://buy.drweb.com/>

Technical support:

<http://support.drweb.com/>

Please include the following information in the problem report:

- full name and version of your operating system;
- versions of **Dr.Web for UNIX File Servers** modules;
- configuration files of all modules;
- log files of all modules.



Appendix. The License Policy

Dr.Web for UNIX File Servers solution is available as a separate product and as a part of «universal» and «economy» **Dr.Web** kits. Types of licenses vary correspondingly.

All licenses can be purchased for definite terms, i.e. for 1, 2 or 3 years. Amount of protected file servers may also vary. License terms, their quantitative parameters and limitations may be different for various regional partners of **Doctor Web**, or may be revised hereafter. To learn more about regional license terms, contact our partner in your region. List of the **Doctor Web** trusted partners can be found on the corporate web site <http://partners.drweb.com/>.

During the whole license term client have the right to download updates from the **Dr.Web Global Updating System (Dr.Web GUS)** servers and to receive a technical support from **Doctor Web** and its partners.

File Servers Protection

Dr.Web for UNIX File Servers solution is being licensed according the number of file servers used. Minimal license covers protection of 1 file server.

Components continue to work 24 hours after the license has expired.

Address of product's page: <http://products.drweb.com/fileserver/unix/?lng=en>

