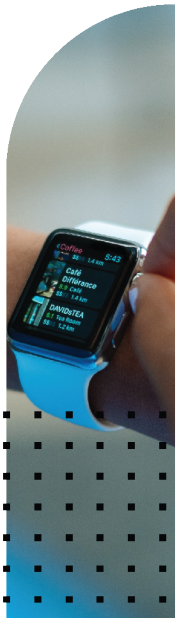
CLI Reference Guide

FortiSandbox 4.0.0



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FortiSandbox 4.0.0 CLI Reference Guide
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Introduction

You can access the FortiSandbox CLI (Command Line Interface) using the FortiSandbox console or using an SSH or TELNET client. These services must be enabled on the port1 interface.

CLI commands are intended to be used for initial device configuration and troubleshooting. Some commands are specific to hardware or VM devices. Use `?` or `help` with the command for information on how to use the command.

An administrator's privilege to execute CLI commands is defined in the admin profile. In the admin profile, enable the `JSON API / CLI` option to allow administrators with that profile to execute all CLI commands. Disabling that option restricts administrators with that profile to a limited subset of CLI commands.

The FortiSandbox CLI is case-sensitive.

What's new in FortiSandbox

The following commands and variables are new or have changed in version 4.0.0.

Command	Description
`status`	This command now also shows the USB filesystem status check.
`sandboxing-rse`	Use this new command to enable, disable, or view the Rating Service Endpoint API.
`sandboxing-adaptive`	Use this new command to turn adaptive scan on or off.
`sandboxing-parallel`	Use this new command to turn parallel scan on or off.
`sandboxing-ratio`	Use this new command to turn VM scan ratio on or off.
`set` and `unset`	The `set` and `unset` command has a new `api-port` option.
`prescan-config`	This new command supports large files up to 10GB in VM.
`sandboxing-pexbox`	Use this new command to turn the PE emulator on or off.
`filesize-limit`	This command now lets you set the maximum single file size and the maximum child file size to scan.
`test-network`	This command now lets you test VM downloadable and rating service endpoint.

Configuration commands

The following configuration commands are available:

Command	Description
`show`	Show the bootstrap configuration, including the port IP address (IPv4 and IPv6), network mask, port MAC address, and default gateway. If the port is being used by a sniffer, it will not be displayed.
`set`	Set configuration parameters. • `set admin-port <portx>` - Enable a new administrative port other than port1. It cannot be set to port3 or sniffer ports. • `set api-port` - Set ports for API connection. • `set date <date>` - Set system date, in the format of YYYY-MM-DD. • `set default-gw <ip>` - Set the default gateway address. • `set port3-speed [<auto> | <speed full|half>]` - Set port3 speed and duplex settings. The option `port3-speed` is not for FSA_VM. • `set port-mtu <portx> <1200-9000>` - Set a port's MTU value. • `set portX-ip <ip/netmask>` - Set the portX IP address in IP/netmask format. • `set time <time>` - Set system time, in the format of HH:MM:SS.
`unset`	Unset the admin port or the default gateway: • `unset admin-port` • `unset api-port` • `unset default-gw`

System commands

Command	Description
`reboot`	Reboot the FortiSandbox. All sessions will be terminated. The unit goes offline and there is a delay while it restarts.
`config-reset`	Reset the FortiSandbox configuration to factory default settings. Job data is kept. For installed VM images, their clone numbers and *Scan Profile* settings are set back to default.
`factory-reset`	Reset the FortiSandbox configuration to factory default settings. All data is deleted. For installed VM images, only Default VMs are kept and their clone number and *Scan Profile* settings are set back to default.
`shutdown`	Shutdown the FortiSandbox.
`status`	Display the FortiSandbox firmware version, serial number, system time, disk usage, disk inode usage, image status check, Microsoft Windows VM status, VM network access configuration, and RAID information.
`sandbox-engines`	Display FortiSandbox FortiGuard component versions including the Tracer Engine, Rating Engine, Traffic Sniffer, Botnet Signature Database, IPS Signature Database, and Android engine versions.
`vm-license`	List embedded Windows Product key information.
`vm-status`	Show VM system status and their license situation. If there is an issue with a VM, an error message displays information to help troubleshoot the problem.
`vm-reset`	Activate and initialize a VM image again, in case it is necessary to rebuild a VM image. Optionally, specify a VM name with `-n <VM name>`, or all VMs are reset.
`fw-upgrade`	Upgrade or re-install the FortiSandbox firmware via Secure Copy (SCP) or File Transfer Protocol (FTP) server. For details, see fw-upgrade on page 11.
`reset-widgets`	Reset the GUI widgets.
`cleandb`	Clean up the internal database and job information. This command erases all stored data and reboots the device. This command only works on devices that are in standalone mode.
`log-purge`	Delete all system logs.
`pending-jobs`	Show the status of or delete pending jobs. For details, see pending-jobs on page 11.
`device-authorization`	Configure new client device authorization . For details, see device-authorization on page 13.

Command	Description
`iptables`	Enable/disable IP tables. For details, see iptables on page 13.
`usg-license`	Convert the unit to be USG licensed. For details, see usg-license on page 15.
`hc-settings`	Configure the unit as a HA-Cluster mode unit. For details, see hc-settings on page 15.
`hc-status`	List the status of HA-Cluster units.
`hc-worker`	Add/update/remove a worker unit to/from an HA-Cluster. This command can only be run on a worker unit.
`hc-primary`	Enable/disable the malware detection features on the primary unit. Use `-s<percent>` to turn on file scan and set the percentage of the scanning capacity to be used. If no number is entered, 50% will be used.
`restore-sysconf`	Restore system configuration from remote server. For details, see restore-sysconf on page 18.
`backup-sysconf`	Upload system configuration backup to remote server. For details, see backup-sysconf on page 18.
`resize-hd`	After changing the virtual hard disk size on the hypervisor, execute this command to make the change recognizable to the firmware. This command is only available on private VM platforms prior to v4.0.2.
`confirm-id`	Set confirm ID for Microsoft Windows or Office activation. For details, see confirm-id on page 18.
`vm-customized`	Install customized VM. For details, see vm-customized on page 19.
`sandboxing-cache`	Enable/disable sandboxing result check. For details, see sandboxing-cache on page 20.
`reset-scan-profile`	Reset the clone number and file extension association back to firmware default values using the `-r` option.
`sandboxing-prefilter`	Enable/disable sandboxing prefilter for file types. For details, see sandboxing-prefilter on page 20.
`sandboxing-embeddedurl`	Enable/disable sandboxing embedded urls in PDF or OFFICE documents. For details, see sandboxing-embeddedurl on page 21.
`sandboxing-rse`	Enable/disable/view Rating Service Endpoint API. For details, see sandboxing-rse on page 21.
`sandboxing-adaptive`	Enable/disable adaptive scan. For details, see sandboxing-adaptive on page 22.

Command	Description
`sandboxing-parallel`	Enable/disable parallel scan. For details, see sandboxing-parallel on page 22.
`sandboxing-ratio`	Set VM scan ratio. For details, see sandboxing-ratio on page 23.
`sandboxing-pexbox`	Turn the PE emulator on or off. For details, see sandboxing-pexbox on page 23.
`filesize-limit`	Set the maximum single file size and the maximum child file size to scan. For details, see filesize-limit on page 23.
`remote-auth-timeout`	Set the timeout for remote authentication. For details, see remote-auth-timeout on page 24.
`log-dropped`	Enable/disable the log file drop event. For details, see log-dropped on page 24.
`vm-internet`	Allow Virtual Machines to access external network through outgoing port3 and set gateway for port3. For details, see vm-internet on page 25.
`cm-status`	List the status of units joining the Global Threat Information Network.
`fsck-storage`	Check the file system on the hard disk and repair it if it's not clean. System reboots immediately.
`raid-rebuild`	Rebuild raid after a new HD replaces a bad one. This option is only available on hardware models. For details, see raid-rebuild on page 25.
`reset-sandbox-engine`	Reset the tracer/rating engine back to firmware default. For details, see reset-sandbox-engine on page 26.
`set-maintainer`	Enable/disable the maintainer account. For details, see set-maintainer on page 26.
`set-tlsver`	Set the allowed TLS version for HTTPS service. For details, see set-tlsver on page 26.
`fortimail-expired`	Enable/disable expired timeout option for FortiMail files. For details, see fortimail-expired on page 27.
`oftpd-con-mode`	Enable/disable conserve mode of OFTPD. For details, see oftpd-con-mode on page 27.
`device-lenc`	Enable/disable OFTPD supporting FortiGate-LENC devices. For details, see device-lenc on page 28.
`upload-settings`	Configure data upload settings to community cloud. For details, see upload-settings on page 28.

Command	Description
`ai-mode`	Enable/disable using AI logic to do job's behavior analysis. For details, see ai-mode on page 29.
`set-cfg-backup-key`	Set your own passphrase that openSSL uses to encrypt or decrypt a configuration backup file.
`prescan-config`	Configure support for large files of up to 10GB in VM. For details, see prescan-config on page 30.

fw-upgrade

Upgrade or re-install the FortiSandbox firmware via SCP, FTP, or HTTPS server. Before running this option, download the firmware file to a server that supports file copy via FTP/SCP/HTTPS.

The system will boot up after the firmware is downloaded and installed.

Syntax

```
fw-upgrade <option> [options]
```

Option	Description
`-h`	Help information.
`-b`	Download an image file from this server and upgrade the firmware.
`-v`	Download a VM image file from this server and install.
`-t<ftp | https | scp>`	The protocol type, FTP, HTTPS, or SCP (default = SCP).
`-s<IP address>`	The IP address of the server that the image will be downloaded from.
`-u<user name>`	The user name for authentication.
`-f<file path>`	The full path for the image file.

Example

```
fw-upgrade -v -tscp -s172.17.58.136 -utest -f /home/test/WIN7X64VM.pkg
```

pending-jobs

This command allows users to view job queues statistics and purge them.

Syntax

```
pending-jobs <show|purge> <source> <jobqueue> <filetype>
```

Option	Description
`show / purge`	Show or purge the pending jobs.
`source`	One of: • `all` • `ondemand` • `rpc` • `device` • `fgt` • `fml` • `fct` • `fwb` • `sniffer` • `adapter` • `netshare` • `url` - URLs submitted through the On Demand page. • `urlrpc` - URLs submitted through JSON API. • `urldev` - URLs submitted from devices such as FortiMail. • `urlfgt` • `urlfml` • `urlfct` • `urlfwb` • `urladapter` • `urlsniffer` - URLs embedded in email body that are detected by sniffer.
`jobqueue`	One of: • `all` - All job queues. • `vm` - Sandobxing job queue. • `nonvm` - non-Sandboxing job queue. • `pre` - Files pending to enter job queue.
`filetype`	One of: • `all` • `exe` • `pdf` • `doc` • `flash` • `web` • `url` • `android` • `mac` • `user` • `other`

device-authorization

Users can decide to either manually or automatically authorize a new client device.

Syntax

```
device-authorization <option>
```

Option	Description
-h	Help information.
-a	When a new device other than FortiClient registers, FortiSandbox will authorize it automatically.
-m	When a new device other than FortiClient registers, the user has to authorize it manually from the GUI.
-e	Authorize all existing devices if they are not already.
-o	When a new FortiClient registers, it inherits authorization status from the managing EMS or FortiGate. or the user has to change it manually from the GUI.
-f	When a new FortiClient registers, FortiSandbox will authorize it automatically.
-l	Display the status of device and FortiClient authorization (default = manual).

iptables

This command is used to enable or disable IP tables. The settings will be discarded after reboot.

Syntax

```
iptables -[ACD] chain rule-specification [options]
iptables -I chain [rulenum] rule-specification [options]
iptables -R chain rulenum rule-specification [options]
iptables -D chain rulenum [options]
iptables -[LS] [chain [rulenum]] [options]
iptables -[FZ] [chain] [options]
iptables -[NX] chain
iptables -E old-chain-name new-chain-name
iptables -P chain target [options]
iptables -h (print this help information)
```

Commands

Either long or short commands are allowed.

`--append -A chain`	Append to chain.
`--check -C chain`	Check for the existence of a rule.
`--delete -D chain`	Delete matching rule from chain.
`--delete -D chain rulenum`	Delete rule rulenum (1 = first) from chain.
`--insert -I chain [rulenum]`	Insert in chain as rulenum (default 1=first).
`--replace -R chain rulenum`	Replace rule rulenum (1 = first) in chain.
`--list -L [chain [rulenum]]`	List the rules in a chain or all chains.
`--list-rules -S [chain [rulenum]]`	Print the rules in a chain or all chains.
`--flush -F [chain]`	Delete all rules in chain or all chains.
`--zero -Z [chain [rulenum]]`	Zero counters in chain or all chains.
`--new -N chain`	Create a new user-defined chain.
`--delete-chain -X [chain]`	Delete a user-defined chain.
`--policy -P chain target`	Change policy on chain to target.
`--rename-chain -E old-chain new-chain`	Change chain name, (moving any references).

Options

Either long or short options are allowed.

`--ipv4 -4`	Nothing (line is ignored by ip6tables-restore).
`--ipv6 -6`	Error (line is ignored by iptables-restore).
`[!] --protocol -p proto`	Protocol: by number or name, for example: `tcp`.
`[!] --source -s address[/mask] [...]`	Source specification.
`[!] --destination -d address [/mask][...]`	Destination specification.
`[!] --in-interface -i input name[+]`	Network interface name ([+] for wildcard).
`--jump -j target`	Target for rule (may load target extension).
`--goto -g chain`	Jump to chain with no return.
`--match -m match`	Extended match (may load extension).
`--numeric -n numeric`	Output of addresses and ports.

[!] --out-interface -o output name[+]	Network interface name ([+] for wildcard).
--table -t table	Table to manipulate (default: `filter').
--verbose -v	Verbose mode.
--wait -w	Wait for the xtables lock.
--line-numbers	Print line numbers when listing.
--exact -x	Expand numbers (display exact values).
[!] --fragment -f	Match second or further fragments only.
--modprobe=<command>	Try to insert modules using this command.
--set-counters PKTS BYTES	Set the counter during insert/append.
[!] --version -V	Print package version.

usg-license

Convert the unit to be USG licensed. When a USG license is applied, only FortiGuard Distribution Network (FDN) servers in the United States can be used.

syntax

```
usg-license
```

Option	Description
-h	Help information.
-l	List the USG license status.
-s<USG-license-string>	Set this unit to be USG licensed.
-r<Regular-license-string>	Revert the unit back to a regular license.

hc-settings

Configure the unit as a HA-Cluster mode unit.

syntax

```
hc-settings <option> [options]
```

Option	Description
-h	Help information.
-l	List the Cluster configuration.
-sc	Set this unit to be a HA-Cluster mode unit.
-t<N|M|P|R>	Set this unit to be a HA-Cluster mode unit.
N	N/A.
M	Primary unit.
P	Secondary unit.
R	Worker unit.
-n<name string>	Set alias name for this unit.
-c<HA-CLUSTER name>	Set the HA-Cluster name for primary unit.
-p<authentication code>	Set the authentication code for primary unit.
-i<interface>	Set interface used for cluster internal communication.
-si	Set the fail-over IPs for this cluster for primary unit.
-i<interface>	Specify the interface for external communication
-a<IP/netmask>	Specify the IP address and netmask for external communication. This IP address will be applied as the alias IP of the specified interface. It must be in the same subnet as the unit IP subnet of the specified interface.
-se	Enable traffic encryption between HA cluster members.
-sd	Disable traffic encryption between HA cluster members.

hc-worker

Configure the unit as a HA-Cluster worker or secondary unit.

syntax

```
hc-worker <option>
```

Option	Description
-h	Help information.
-a	Add the worker/secondary unit to the HA-Cluster.
-r	Remove the worker/secondary unit from the HA-Cluster.

Option	Description
-u	Update the worker/secondary unit information.
-s	The primary unit IP address.
-p	The HA-Cluster authentication code.

hc-primary

Configure the unit as a HA-Cluster primary unit.

syntax

```
hc-primary <option> [options]
```

Option	Description
-h	Help information.
-u	Turn off file scan on primary unit.
-s<10-100>	Turn on file scan on primary unit with 10% to 100% processing capacity.
-l	Display the file scan status on primary unit.
-r<serial number>	Remove the worker unit from the HA-Cluster by its serial number.

hc-status

Check HA-Cluster status.

syntax

```
hc-status <option> [options]
```

Option	Description
-h	Help information.
-l	List the status of HA-Cluster units.

restore-sysconf

Restore system configuration from a configuration backup in a remote server.

Syntax

```
restore-sysconf [-s|-t|-u|-f|-o]
```

Option	Description
-s<server IP>	Remote server IP address.
-t<scp|ftp|tftp>	Download protocol.
-u<username>	Username for server authentication.
-f<fpath>	Configuration backup full path.
-o	Restore user authentication.

backup-sysconf

Upload system configuration backup to remote server.

Syntax

```
backup-sysconf [-s|-t|-u|-f]
```

Option	Description
-s<server IP>	Remote server IP address.
-t<scp|tftp>	Upload protocol.
-u<username>	Username for server authentication.
-f<fpath>	Upload path including file name.

confirm-id

Validate a Microsoft Windows or Office key after contacting Microsoft customer support. For more details, please contact Fortinet Customer Support.

Syntax

```
confirm-id <option> [options]
```

Option	Description
-a	Add a confirmation ID
-k	License key.
-c	Conformation ID.
-n	Name of VM.
-d	Delete a confirmation ID.
-k	License key.
-l	List all confirmation IDs.

vm-customized

Install a customized VM and download a customized VM image from FortiSandbox.

Syntax

```
vm-customized <option> ... <option>
```

Option	Description
-h	Help information.
-c[n|l|f|d|u]	Operation command.
n	Install a new customized VM.
l	List installed customized VM.
f	Upload a meta file for a customized VM.
d	Display a meta file for a customized VM.
u	Upload a VDI file to a remote server. Supported protocols include TFTP, FTP, and SCP.
-t<ftp|scp>	The protocol type, FTP or SCP (default = SCP).
-s<server IP>	Download the image file from this FTP or SCP server IP address.
-u<user name>	User name for authentication.
-f<full path of filename>	Full path for the image file or meta file.
-d<hardware/machine ID>	Original hardware ID or machine ID.
-k<MD5 checksum>	MD5 checksum for the uploaded file.
-v[o|n]	Set the base information for VM image

Option	Description
o<OS type>	WindowsXP, Windows7, Windows7_64, Windows81, Windows81_64 , Windows10, or Windows10_64.
n<VM name>	Name of the VM.
-r <VM name>	Replace the VM if it already exists.
-m <VM meta file name>	Name of the VM meta file.

sandboxing-cache

Turn the sandboxing result cache on or off.

When it is off, the same file will be scanned again by sandboxing. When it is on, sandboxing scan results will be added to an internal cache and reused in future when the same file is scanned.

When the scan condition is changed, such as when a new tracer engine is installed, the cache will be purged.

Syntax

```
sandboxing-cache <option>
```

Option	Description
-h	Help information.
-e	Enable sandboxing result cache (default).
-d	Disable sandboxing result cache.
-l	Display the status of the sandboxing result cache.
-r	Remove all existing cache results

sandboxing-prefilter

Allow user to turn on or off FortiGuard prefiltering of certain file types.

If a file type is associated with a guest VM image, it will be scanned if the file type enters the job queue as defined in the Scan Profile page. The user can turn on FortiGuard prefiltering of a file type so that files of that type will first be statically scanned by an advanced analytic engine, and only suspicious files will be sandboxing scanned by the guest image. This can improve the system's scan performance, and all files will still go through an AV scan, a static scan, and community cloud query steps.

For the URL type, when FortiGuard prefiltering is enabled, only URLs whose web filtering rating is Unrated will be scanned inside associated guest VM image.

Syntax

```
sandboxing-prefilter [-h|-l|-e|-d] -t[dll|pdf|swf|js|htm|url|office|trustvendor|trustdomain]
```

Option	Description
-h	Help information.
-e	Enable sandboxing prefilter.
-d	Disable sandboxing prefilter.
-l	Display the status of sandboxing prefilter.
-t	Enable/disable sandboxing prefilter for specific file types: archive, dll, pdf, swf, js, htm, url, office, trustvendor, trustdomain. archive and trustdomain are enabled by default. Other prefilters are disabled by default. When trustvendor is selected, executable files from a small internal list of trusted vendors will skip the sandboxing scan step. When trustdomain is selected, files downloaded from a small internal list of trusted domains will skip the sandboxing scan step

sandboxing-embeddedurl

Turn on or off sandboxing embedded URLs in PDF or Office documents. Only randomly selected URLs will be scanned.

Syntax

```
sandboxing-embeddedurl <option>
```

Option	Description
-h	Help information.
-e	Enable sandboxing embedded URLs in PDF or Office documents.
-d	Disable status for sandboxing embedded URLs (default).
-i	Disable embedded URL extraction in PDF or Office documents.
-l	Display the status of sandboxing embedded URL.

sandboxing-rse

Turn rating service endpoint API on or off. When off, FortiSandbox uses local rating source. When on, FortiSandbox uses it as the rating source only when the results returned by the rating service are different from the results from local rating.

Syntax

```
sandboxing-rse [-h|-l|-e|-d]
```

Option	Description
-h	Help information.
-e	Enable rating service endpoint.
-d	Disable rating service endpoint.
-l	Display the status of rating service endpoint.

sandboxing-adaptive

Turn adaptive scan on or off.

Syntax

```
sandboxing-adaptive [-h|-l|-e|-d]
```

Option	Description
-h	Help information.
-e	Enable adaptive sandboxing scan.
-d	Disable adaptive sandboxing scan.
-l	Display the adaptive sandboxing scan status.

sandboxing-parallel

Turn parallel scan on or off.

Syntax

```
sandboxing-parallel [-h|-l|-e|-d]
```

Option	Description
-h	Help information.
-e	Enable parallel sandboxing scan.
-d	Disable parallel sandboxing scan.
-l	Display the parallel sandboxing scan status.

sandboxing-ratio

Turn VM scan ratio on or off.

Syntax

```
sandboxing-ratio [-h|-s|-r|-l]
```

Option	Description
-h	Help information.
-s	Set customized ratio (low bound) of jobs to be scanned in sandboxing, from 0 to 100. 0 means no customized setting on the ratio. 100 means all jobs are scanned in sandboxing;
-r	Reset local VM scan ratio statistics.
-l	Display the customized sandboxing ratio.

sandboxing-pexbox

Turn PE emulator on or off.

Syntax

```
sandboxing-pexbox [-h|-l|-e|-d]
```

Option	Description
-h	Help information.
-l	Display the pexbox service status.
-e	Enable pexbox service.
-d	Disable pexbox service.

filesize-limit

Set the maximum single file size and the maximum child file size to scan.

Syntax

```
filesize-limit [-h|-l|-t] -t[all|ondemand|netshare|jsonrpc|icap|device] -v[MB] -u[MB]
```

Option	Description
-h	Help information.
-l	Display the file size limitation.
-t	Set the input sources: all, ondemand, sniffer, netshare, jsonrpc, icap, device, adapter.
-v	Set the single file size limitation, in megabytes (0 - 1024).
-u	Set the total uncompressed file size limitation for an archive file, in megabytes (0 - 2048).

The upper bound for FSA_VM ondemand is 10240MB.

remote-auth-timeout

Set Radius or LDAP authentication timeout value.

Syntax

```
remote-auth-timeout <option>
```

Option	Description
-h	Help information.
-s	Set the timeout value, in seconds (10 - 180, default = 10).
-u	Unset the timeout value.
-l	Display the timeout value.

log-dropped

Enable or disable the log file drop event.

Syntax

```
log-dropped [-h|-l|-e|-d]
```

Option	Description
-h	Help information.
-l	Show the current configuration.
-e	Enable log dropped file.
-d	Disable log dropped file (default).

vm-internet

Syntax

```
vm-internet [options]
```

Option		Description
-h		Help information.
-l		Display the current configuration.
-s		Set the VM internet configuration for port3.
	-g<gateway IP>	Next hop gateway IP address.
	-d<DNS server IP>	DNS server IP address.
-u		Unset VM internet configuration for port3.

raid-rebuild

Rebuild raid after a new HD replaces a bad one. This option is only available on hardware models.

Syntax

```
raid-rebuild <options>
```

Option	Description
-h	Help information.
-d[diskno]	Rebuild RAID after the HD disk number is swapped.
-l[diskno]	Show the rebuild progress.

reset-sandbox-engine

Reset tracer and rating engines back to firmware default.

Syntax

```
reset-sandbox-engine <option>
```

Option	Description
-h	Help information.
-t	Reset tracer engine to firmware default.
-r	Reset rating engine to firmware default.
-b	Reset both tracer and rating engines to firmware default.

set-maintainer

The maintainer account is used to reset users' passwords.

Syntax

```
set-maintainer <option>
```

Option	Description
-h	Help information.
-l	Show current setting.
-d	Disable maintainer account.
-e	Enable maintainer account (default).

set-tlsver

Set allowed TLS version for HTTPS service.

Syntax

```
set-tlsver <option>
```

Option	Description
`-h`	Help information.
`-l`	Show current TLS versions.
`-r`	Reset to default versions.
`-e[1|2|3]`	Set the allowed TLS versions. `1`, `2`, or `3` are for TLS 1.1, 1.2, or 1.3. Separate versions with `|`, for example `-e2|3` will enable TLS 1.2 and 1.3. The default is TLS 1.2 and 1.3. TLS 1.0 is not supported.

fortimail-expired

Enable/disable timeout check for FortiMail files. By default, FortiMail will hold mail for set period to wait for the verdict from FortiSandbox. Before FortiSandbox scans a file or URL that is sent from FortiMail, it will check if the verdict is still needed - FortiMail may have already released the email after timeout. If not, FortiSandbox will give the job an *Other* rating and a *skipped* status.

Syntax

```
fortimail-expired <option>
```

Option	Description
`-h`	Help information.
`-e`	Enable expired timeout for FortiMail files.
`-d`	Disable expired timeout for FortiMail files (default).
`-l`	Display the status of timeout feature for FortiMail files.

oftpd-con-mode

Enable/disable conserve mode of OFTPD.

Syntax

```
oftpd-con-mode <option>
```

Option	Description
`-h`	Help information.
`-e`	Enable OFTPD conserve mode.

Option	Description
-d	Disable OFTPD conserve mode (default).
-l	Display the status of OFTPD conserve mode.

device-lenc

Enable/disable OFTPD supporting FG-LENC devices.

Syntax

```
device-lenc <option>
```

Option	Description
-h	Help information.
-e	Enable support for Low-Encryption (LENC) devices.
-d	Disable support for Low-Encryption (LENC) devices (default).
-l	Display current support status for Low-Encryption (LENC) devices.

upload-settings

Configure data upload settings to community cloud.

Syntax

```
upload-settings <option>
```

Option	Description
-h	Help information.
-e	Enable the specified upload setting.
-d	Disable the specified upload setting.
-t[uploadcloud | submiturl | uploadstats]	Set the type of upload setting: • uploadcloud: Upload malicious and suspicious file information to Sandbox Community Cloud. Default is enabled. • submiturl: Submit suspicious URL to Fortinet WebFilter service. Default is disabled. • uploadstats: Upload statistics data to FortiGuard service. Default is disabled.

Option	Description
-l	Display the status of the upload settings

Example

To enable upload statistics to FortiGuard services:

```
upload-settings -tuploadstats -e
```

ai-mode

Enable/disable using AI logic to do job's behavior analysis.

In cluster mode, this setting is synchronized to all the nodes. It can be set on standalone or primary units.

This command can only be run by users whose profile has *Scan Policy* enabled.

Syntax

```
ai-mode <option>
```

Option	Description
-h	Help information.
-l	Display the current AI mode setting.
-e	Enable using AI logic to do job's behavior analysis.
-d	Disable using AI logic to do job's behavior analysis (default).

set-cfg-backup-key

Set your own passphrase that openSSL uses to convert into an encryption/decryption key to encrypt or decrypt a configuration backup file.

Syntax

```
set-cfg-backup-key <option>
```

Option	Description
-h	Help information.
-s	Set configuration backup encryption key.
-r	Reset configuration backup encryption key to default.

prescan-config

Configure support for large files of up to 10GB in VM. Large file support is only available for VMs although this command is available on all platforms. Large files are usually archive files that contain many files.

In a cluster environment, use this command only in the primary node and the setting is synchronized to other nodes.

Syntax

```
prescan-config [-h|-l|-c|-n|-b|-u]
```

Option	Description
-h	Help information.
-l	Show prescan settings.
-c	Set maximum number of child files to extract from archive file (default = 1000). This maximum number is applied to the overall unpacking process of the top level archive file. The maximum depends on model.
-n	Set regular file (<=512MB) unpack timeout in seconds (default = 15). The timeout value is applied to each individual file. For a regular file, there is an overall hardcoded timeout of the number of files multiplied by 10 seconds. If timeout occurs when unpacking a file, it is put in the non-VM queue.
-b	Set big file (>512MB) unpack timeout in seconds (default = 600). The timeout value is applied to each individual file. For a big file, there is an overall hardcoded timeout of 3600 seconds. If timeout occurs when unpacking a file, it is put in the non-VM queue.
-u	Unset all prescan settings, that is, set to default.

Utility commands

The following utilities are available:

Command	Description
`ping`	Test network connectivity to another network host: `ping <IP address> [-c count | -vb default | -c0 continuous ping]`
`tcpdump`	Examine local network traffic: `tcpdump [ -c count ] [ -i interface ] [ expression ]`
`traceroute`	Examine the route taken to another network host: `traceroute <host>`

Diagnose commands

The following diagnostic commands are available:

Command	Description
`hardware-info`	Display general hardware status information. Use this option to view CPU, memory, disk, and RAID information, as well as system time settings.
`diagnose-clilog`	Record all CLI input and output. See diagnose-clilog on page 32 for details.
`diagnose-krnlog`	Record the kernel ring buffer. See diagnose-krnlog on page 33 for details.
`diagnose-debug`	Display detailed debug logs of network share scan and communications with devices. See diagnose-debug on page 33 for details.
`diagnose-sys-top`	Display system top information. See diagnose-sys-top on page 34 for details.
`diagnose-sys-perf`	Display system performance information. Optionally, specify how many previous hours to show with `-m<hours>` (maximum = 40320, default = 1).
`disk-attributes`	Display system disk attributes. This option is only available on hardware models.
`disk-errors`	Display any system disk errors. This option is only available on hardware models.
`disk-health`	Display disk health information. This option is only available on hardware models.
`disk-info`	Display disk hardware status information. This option is only available on hardware models.
`raid-hwinfo`	Display RAID hardware status information, including if auto RAID (AutoRebuild) is enabled. This option is only available on hardware models.
`tac-report`	A collection of config, diagnose, system, and utility commands for monitoring and troubleshooting purposes.
`test-network`	Test the network connection. Use the output to detect network speed and connection to FDN servers and Microsoft servers.

diagnose-clilog

Record and display CLI inputs and outputs.

Syntax

```
diagnose-clilog [-h|-e|-d|-l|-s]
```

Option	Description
-h	Show help.
-e	Enable recording CLI logs.
-d	Disable recording CLI logs (default).
-l	List the current CLI log recording status.
-s	Show recorded CLI logs.

diagnose-krnlog

Record and display kernel logs.

Syntax

```
diagnose-krnlog [-h|-e|-d|-l|-s]
```

Option	Description
-h	Show help.
-e	Enable recording kernel log.
-d	Disable recording kernel log (default).
-l	List the current kernel log recording status.
-s	Show the recorded kernel log contents.

diagnose-debug

Display detailed debug logs of network share scan and communications with devices. It is useful for troubleshooting OFTP and network share scan issues.

Syntax

```
diagnose-debug [netshare|device|adapter] [device_serial_number]
```

Option	Description
netshare	Network share daemon.

Option	Description
device	OFTP daemon for FortiGate, FortiMail, and FortiClient devices.
adapter_cb	Daemon for third party device such as Bit9 + CARBON BLACK.
adapter_icap	Daemon for Internet Content Adaptation Protocol (ICAP).
adapter_bcc	Daemon for BCC.
adapter_mta_relay	Daemon for MTA relay.
device_serial_number	The device serial number.

diagnose-sys-top

Display current system top processes and current CPU and memory usage.

Syntax

```
diagnose-sys-top -[h|l|i]
```

Option	Description
-h	Help information.
-l<value>	Maximum lines (maximum = 100, default = 50).
-i<value>	Interval to delay, in seconds (default = 5).
Keyboard input operations:	
q	or ^C to quit.
m	Sort by memory usage.
p	Sort by CPU usage
t	Sort by time usage.
n	Sort by PID

test-network

Test the network connection. The output can be used to detect network speed and connection to FDN servers and the Internet.

Syntax

```
test-network <option>
```

Option	Description
-h	Help information.
local_resolve_speed	Test system DNS resolve.
ping_speed	Test ping speed.
wget_speed	Test wget speed.
fdn	Test FDN service.
web_filter	Test Web Filtering service.
cloud	Test FSA community cloud service.
cloudvm	Test FSA Windows Cloud VM service.
vm_connect	Test VM Internet access via port3.
connect	Test system Internet connection.
resolve_speed	Test VM DNS resolve speed.
vm_downloadable	Test VM downloadable.
rating_service_ endpoint	Test rating service endpoint.

Change log

Date	Change Description
2021-04-19	Initial release.
2022-01-14	Updated System commands on page 8.
2022-11-19	Updated sandboxing-cache on page 20.

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