



Parallels Desktop for Mac Pro Edition

Command-Line Reference

v14

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Contents

Introduction	4
Command-Line Reference	5
Parallels Desktop Management	5
Display Parallels Desktop Info	5
License Management	6
Parallels Desktop Preferences	8
User List and Virtual Machine Location	9
Virtual Network Info	10
Virtual Network Settings	10
USB Devices	12
Send Problem Report	12
Shut Down Parallels Desktop	12
Parallels Desktop Plugin Commands	13
Error Handling	13
Virtual Machine Management.....	13
General Virtual Machine Management	13
Virtual Machine Configuration Tasks	22
Snapshot Management	36
Miscellaneous Commands	37
Error Handling	39
Index	40

CHAPTER 1

Introduction

This guide is intended for users of Parallels Desktop for Mac Pro Edition. It documents the command-line interface that can be used to manage Parallels Desktop and virtual machines. The interface supports the majority of Parallels Desktop management tasks that can be performed using the Parallels Desktop graphical user interface.

The command-line interface includes the following utilities:

- **prlsrvctl** — the utility is used to manage Parallels Desktop. The tasks include getting general information about Parallels Desktop, modifying Parallels Desktop preferences, getting a list of users, obtaining statistics, installing a license, and others.
- **prlctl** — the utility is used to manage virtual machines. The tasks include creating and configuring virtual machines, snapshot management, cloning operations, installing Parallels Tools, obtaining statistics, generating problem reports, and many others.

The command-line utilities are installed on a Mac as part of Parallels Desktop installation. You can run the utilities in Terminal.

CHAPTER 2

Command-Line Reference

In This Chapter

Parallels Desktop Management.....	5
Virtual Machine Management.....	13

Parallels Desktop Management

The **prlsrvctl** command-line utility is used to perform management tasks on Parallels Desktop. The tasks include getting the Parallels Desktop information, modifying Parallels Desktop preferences, installing a license, obtaining statistics and problem reports, and others.

The general syntax is as follows:

```
prlsrvctl command [options] [-v, --verbose number]
```

The parameters are:

- *command*: one of the available commands.
- *options*: command options.
- **-v, --verbose *number***: Show verbose output. The greater the number, the more verbose output will be produced.

The subsequent sections describe the available **prlsrvctl** commands grouped by functionality.

Display Parallels Desktop Info

prsrvctl info

Displays the detailed information about the Parallels Desktop configuration.

Optional parameters

--license

If included, only the Parallels Desktop license information is displayed.

--activation-id

If included, only the license activation ID is displayed.

--deactivation-id

If included, only the license deactivation ID is displayed.

--json

Produces the machine-readable output in JSON format.

License Management

This section describes Parallels Desktop license management tasks.

Sign in to Parallels Account

web-portal signin *<email>*

Sign in to your Parallels account. The *<email>* parameter specifies your registered email address. When prompted, enter your Parallels account password. You can also specify a file containing the password using an optional parameter (see below).

This command must be used before you activate Parallels Desktop Pro or Home editions from the command line using the **install-license** command.

Optional parameters

-p,--read-passwd *<path>*

Specifies a text file with your Parallels account password.

Related commands

web-portal signout

Signs you out of your Parallels account.

info --web-portal

Displays the information about whether you are signed in to your Parallels account and lists details if you are.

Install a Parallels Desktop License

prlsrvctl install-license **<-k, --key <key>>**

Installs a Parallels Desktop license. The **-k, --key <key>** parameter specifies a Parallels Desktop license key to install.

Optional parameters

-n, --name *<name>*

The license owner name.

-c, --company *<name>*

The license company name.

--deferred

Stores the license for deferred installation. The license will be activated the next time Parallels Desktop is started. If a license has already been activated, it should be deactivated first before using this option. See the **prlsrvctl deactivate-license** command.

--activate-online-immediately

Activates the license over the Internet immediately.

Notes

When activating Parallels Desktop Pro or Home editions, you must be signed in to your Parallels account before executing this command. See **Sign in to Parallels Account** (p. 6).

Install / Remove a Deferred License

prlsrvctl deferred-license *<--install | --remove>*

Installs or removes a license stored for deferred installation.

Parameters

--install

Installs the license stored for deferred installation.

--remove

Removes the license stored for deferred installation.

Update a License

prlsrvctl update-license

Updates the current Parallels Desktop license.

Activate a License Online

prlsrvctl activate-license-online

Activates the installed Parallels Desktop license over the Internet.

Notes

This command is no longer used in Parallels Desktop v14 and later.

Activate a License Offline

prlsrvctl activate-license-offline <-i, --id <confirmation-id>>

Activates the installed Parallels Desktop license offline.

Deactivate a License

prlsrvctl deactivate-license [--skip-network-errors]

Deactivates the current Parallels Desktop license. The **--skip-network-errors** option skips network errors and removes the license locally.

Parallels Desktop Preferences

prlsrvctl set

The **prlsrvctl set** command is used to modify Parallels Desktop preferences. The available parameters and options are described below.

Parameters

--mem-limit <auto | size>

Sets the total memory allocated to Parallels Desktop and its virtual machines. The **auto** option optimizes the memory usage. The **size** option allows the user to set the memory size manually.

-s, --min-security-level <low | normal | high>

Specifies the minimum connection security level to connect to the server. Low - no transmitted data is encrypted. Normal - only the most important data is encrypted. High - all transmitted data is encrypted.

-c, --cep <on | off>

Enables or disables the participation in the Customer Experience Program.

--verbose-log <on | off>

Enables or disables verbose logging.

--log-rotation <on | off>

Enables or disables automatic rotation of the Parallels Dispatcher Service and virtual machine log files.

--allow-attach-screenshots <on | off>

Enables or disables attaching virtual machine and host screenshots to a problem report.

--require-pwd <create-vm | add-vm | remove-vm | clone-vm>:<on | off>

Require a password to perform a corresponding action (create a VM, add a VM, etc.).

--require-custom-pwd <create-vm | add-vm | remove-vm | clone-vm | edit-preferences>:<on | off>

Require to enter a custom password to perform a corresponding action.

--custom-pwd [--custom-pwd-mode <on | off | change>]

Sets, resets, or changes the custom password for restricting common operations.

--lock-edit-settings <on | off [--host-admin <name>]>

Locks or unlocks Parallels Desktop preferences for editing. The **--host-admin** parameter specifies the host administrator name if an administrator password is required to unlock Parallels Desktop preferences for editing.

--external-dev-auto-connect <host | guest | ask>

When a new external device is attached to the Mac, connect it to the host, guest, or ask the user what to do.

--default-encryption-plugin <plugin-id>

Sets the default encryption plugin.

--reset-default-encryption-plugin

Resets the default encryption plugin.

--hide-license-request-params <on | off>

Hides the host name and user name in requests to Parallels Licensing Server.

User List and Virtual Machine Location

prlsrvctl user list [-o, --output *field* [,*field*...]] [-j, --json]

Lists users currently existing in Parallels Desktop. The **-o**, **--output** *field* [,*field*...] option is used to display the specified field(s) only.

prlsrvctl user set <--def-vm-home <path>>

Modifies the default virtual machines location to the specified path.

Virtual Network Info

prlsrvctl net info *<vnetwork_id>*

Displays a detailed information about the specified virtual network.

prlsrvctl net list [-j, --json]

Lists existing virtual networks.

Virtual Network Settings

prlsrvctl net set *<vnetwork_id>* [*options*]

The **prlsrvctl net set** command is used to modify virtual network settings. The available parameters and options are described below.

Parameters

-i, --ifname *<if>*

Sets the name of the network interface in Parallels Desktop to which the virtual network will be bound.

-m, --mac *<mac>*

Sets the MAC address of the network interface in Parallels Desktop to which the virtual network will be bound. The network interface with the specified MAC address must exist in Parallels Desktop.

-t, --type *<bridged | host-only | shared>*

Sets the virtual network type.

-d, --description *<description>*

Sets the virtual network description.

-n, --name *<new_name>*

Sets a new name for the virtual network.

--ip *<ip[/mask]>*

Sets an IPv4 address and subnet mask for the Parallels virtual network adapter.

--dhcp-server *<on | off>*

Enables or disables the Parallels virtual DHCPv4 server.

--dhcp-ip *<ip>*

Sets an IPv4 address for the Parallels virtual DHCPv4 server.

--ip-scope-start *<ip>*

Sets the start IPv4 address for the pool of IPv4 addresses.

--ip-scope-end *<ip>*

Sets the end IPv4 address for the pool of IPv4 addresses.

--ip6 *<ip[/mask]>*

Sets an IPv6 address and subnet mask for the Parallels virtual network adapter.

--dhcp6-server *<on | off>*

Enables or disables the Parallels virtual DHCPv6 server.

--dhcp-ip6 *<ip>*

Sets an IPv6 address for the Parallels virtual DHCPv6 server.

--ip6-scope-start *<ip>*

Sets the start IPv6 address for the pool of IPv6 addresses.

--ip6-scope-end *<ip>*

Sets the end IPv6 address for the pool of IPv6 addresses.

--host-assign-ip6 *<on | off>*

Sets whether the host interface for this network will have IPv6 address.

--connect-host-to-net *<on | off>*

Connects the host to the current Parallels virtual network adapter.

--nat-<tcp | udp>-add *<rule_name, src_port, <dest_ip | dest_vm>, dest_port>*

Adds a new port forwarding rule. The options are:

rule_name: a rule name.

src_port: port number for incoming connections.

dest_ip: an IP address to which incoming connections will be forwarded.

dest_vm: the name or UUID of the virtual machine to which incoming connections will be forwarded.

dest_port: port number to which incoming connections will be forwarded.

--nat-<tcp | udp>-del *<rule_name>*

Deletes the specified port forwarding rule.

USB Devices

prlsrvctl usb list [-j, --json]

Lists installed USB devices together with the information on their assignments for the current user.

prlsrvctl usb set <usb_dev_id> <vm_uuid | vm_name>

Assigns a specified USB device to the specified virtual machine. The USB device will be connected to the specified virtual machine when the virtual machine is started or a device is attached to the host computer.

prlsrvctl usb del <usb_dev_id>

Removes a specified USB device assignment.

Send Problem Report

prlsrvctl problem-report <-d, --dump | -s, --send [--proxy <user[:password]@proxyhost[:port]> | --no-proxy]>

Generates a problem report. If the **-s, --send** option is specified, sends the report to Parallels. The **--proxy** parameter specifies Internet proxy settings if you are using one to connect to the Internet.

Optional parameters

--stand-alone

Assembles a report without connecting to the Parallels Desktop service.

--name <user_name>

Appends the user name to the report.

--email <user_email>

Appends the user email address to the report.

--description <problem_description>

Appends a free-form description to the report.

Shut Down Parallels Desktop

prlsrvctl shutdown [-f, --force]

Shuts down Parallels Desktop. The command correctly stops all services. The optional **-f**, **--force** parameter forcibly shuts down Parallels Desktop and hard-stops services if necessary.

Parallels Desktop Plugin Commands

prlsrvctl plugin list [-j, --json]

Lists installed Parallels plugins.

prlsrvctl plugin refresh

Refreshes installed Parallels plugins.

Error Handling

The **prlsrvctl** utility returns 0 on success or an error code on failure.

Virtual Machine Management

The **prlctl** utility is used to perform management tasks on virtual machines. The utility supports a full range of tasks from creating and administering virtual machines to getting statistics and generating problem reports.

The general syntax is as follows:

prlctl *command* <vm_ID | vm_name> [*options*] [-v, --verbose *number*]

The parameters are:

- *command*: one of the available commands.
- *vm_ID* | *vm_name*: ID or name of the target virtual machine.
- *options*: command options.
- **-v**, **--verbose** *number*: Show verbose output. The greater the number, the more verbose output will be produced.

The subsequent sections describe the available **prlctl** commands grouped by functionality.

General Virtual Machine Management

This section describes various **prlctl** commands allowing you to perform such tasks as listing virtual machines, creating new virtual machines, cloning, performing power operations (start, stop, pause, etc.), encrypting, and many others.

List Virtual Machines

Syntax 1

prctl list

Lists existing virtual machines. By default (when no parameters are included), only running VMs are displayed.

Optional parameters

-a, --all

Lists all existing virtual machines regardless of their state (running, stopped, suspended, etc.).

-f, --full

Shows the real IP address(es) for running virtual machines.

-o, --output *field* [, *field*...]

Displays only the specified field(s).

-s, --sort *<field | -field>*

Sorts by *field* (arguments are the same as those for **-o**). Add "-" (minus sign) before the field name to reverse the sort order.

-L

Lists fields which can be used for both the output (**-o, --output**) and sort order (**-s, --sort**) options.

-t, --template

Include templates in the output.

-j, --json

Produces output in JSON format.

Syntax 2

list -i, --info

Displays the VM configuration information. By default, the information for all existing VMs is shown.

Optional parameters

-f, --full

Shows the real IP address(es) for running virtual machines.

-j, --json

Produces output in JSON format.

vm_id | vm_name

Returns the information about a VM specified by ID or name.

Create a Virtual Machine

Syntax 1

```
prctl create <vm_name> --ostemplate <name>
```

Creates a virtual machine from the specified virtual machine template. The **--ostemplate** <name> parameter specifies the source template name. To obtain the list of available templates, use the **prctl list -t** command.

Optional parameters

--dst

A path to the directory where the virtual machine files will be stored. If omitted, the default location will be used.

--changesid

Change the Windows security identifier (SID) of a Windows-based virtual machine template. It requires Parallels Tools to be installed in the template. If omitted, the original SID will be used.

Syntax 2

```
prctl create <vm_name> -o,--ostype <name | list>
```

Creates a virtual machine and optimizes it for the OS type specified in the **--ostype** option. Use the **list** option to get the list of available OS types: **prctl create vm_name -o list**, then select a desired OS type name and use it as a value of the **-o** parameter.

Syntax 3

```
prctl create <vm_name> -d,--distribution <name | list>
```

Creates a virtual machine and optimizes it for the OS distribution specified in the **--distribution** option. Use the **list** option to get the list of available distributions: **prctl create vm_name -d list**, then select a desired distribution name and use it as a value of the **-o** parameter.

Common optional parameters

--no-hdd

Create a virtual machine without hard disk drives.

--lion-recovery

Create a virtual machine from the Lion OS host recovery partition.

Delete a Virtual Machine

prctl delete *<vm_id | vm_name>*

Deletes a virtual machine. The command removes a virtual machine from Parallels Desktop and permanently deletes all its files from the host computer. Once completed, this operation cannot be reversed.

Register / Unregister a Virtual Machine

Register a virtual machine

prctl register *<path>*

Registers a virtual machine with Parallels Desktop. The *<path>* parameter specifies a path to the virtual machine file.

Optional parameters

--preserve-uuid

If included, the existing virtual machine ID will be kept unchanged.

--uuid *<UUID>*

If included, the specified UUID will be assigned to the virtual machine. Note that you can include either the **-uuid** or the **--preserve-uuid** parameter, but not both. If none of the two parameters are included, an automatically generated ID will be used for the virtual machine.

--force

If included, all validation checks will be skipped.

--regenerate-src-uuid

If included, the virtual machine source ID will be automatically generated (the SMBIOS product ID will be changed as well).

Unregister a virtual machine

prctl unregister *<vm_id | vm_name>*

Unregisters the specified virtual machine.

Remarks

Use the **register** command when you have a virtual machine on the host that doesn't show up in the list of the virtual machines registered with Parallels Desktop. This can be a machine that was previously removed from Parallels Desktop or a machine that was manually copied from another location.

The **unregister** command removes a virtual machine from Parallels Desktop but does not delete it from the host. You can re-register such a machine with Parallels Desktop later using the **register** command.

Clone a Virtual Machine

prctl clone *<vm_id | vm_name>* **--name** *<new_name>*

Clones (makes an exact copy of) a specified virtual machine. The **-name** *<new_name>* parameter specifies a name to give to the new virtual machine.

Optional parameters

--template

Make the new virtual machine a template.

--dst

Set the path to the directory where the virtual machine files will be stored. If omitted, the default location will be used.

--changesid

Change the current Windows security identifier (SID) of a Windows-based virtual machine template. It requires Parallels Tools to be installed in the virtual machine template.

--regenerate-src-uuid

Regenerate the virtual machine source ID (the SMBIOS product ID will also be changed).

--linked

Create a linked clone.

-i, --id <*snapid*>

Create a linked clone based on a snapshot with given *snapid*.

--detach-external-hdd <**yes** | **no**>

Specifies what to do with hard disks located outside the source virtual machine file. If you specify **yes**, outside hard disks will be removed from the destination VM. If you specify **no**, outside hard disks will remain in the new VM. Please note that in either case, the outside hard disks will NOT be copied to the destination.

Convert a Virtual Machine

prctl convert <*path*>

This command is used to convert a third-party virtual machine to a Parallels virtual machine. The <*path*> parameter specifies a path to the original virtual machine.

Optional parameters

--dst <*path*>

A path where the converted virtual machine files will be stored. If omitted, the default virtual machine location will be used.

--force

If included, the virtual machine conversion will continue even if the guest OS cannot be identified.

Notes

The following third-party virtual machines and disks are supported:

- Microsoft Hyper-V
- Microsoft Virtual PC
- Virtual Box
- VMware

Move Virtual Machine Files

prctl move <*vm_id* | *vm_name*> **--dst** <*path*>

Moves the files of a specified virtual machine to a location specified in the **-dst** parameter on the same computer. The command supports moving only stopped and suspended virtual machines.

Install Parallels Tools

prctl installtools <vm_id | vm_name>

Installs Parallels Tools in the specified virtual machine. To use this command, the target virtual machine must be running.

Log In to a Virtual Machine

prctl enter <vm_id | vm_name>

Logs in to the virtual machine. The command creates a command prompt channel to a virtual machine and allows you to execute commands in it. Parallels Tools must be installed in the virtual machine.

Optional parameters

--current-user or **--user** <user_name>

Include the **--current user** option to log in as the current macOS user or use the **--user** parameter and specify a user name.

--password <password>

The user password.

Execute a Command In a Virtual Machine

prctl exec <vm_id | vm_name> <command>

Executes a command inside a virtual machine. Parallels Tools must be installed in the virtual machine. Commands in Linux guests are invoked with `bash -c`.

Optional parameters

--current-user or **--user** <user_name>

Include the **--current user** option to log in as the current macOS user or use the **--user** parameter and specify a user name.

--password <password>

The user password

-r, --resolve-paths

Enable converting host paths to guest.

Get Virtual Machine Status

prctl status <vm_id | vm_name>

Displays the status of the specified virtual machine.

Power Operations

prctl start <vm_id | vm_name>

Starts the specified virtual machine. The **start** command can be used to start a stopped virtual machine or to resume a paused virtual machine.

prctl resume <vm_id | vm_name>

Resumes the specified virtual machine.

prctl pause <vm_id | vm_name>

Pauses the specified virtual machine.

prctl suspend <vm_id | vm_name>

Suspends the specified virtual machine.

prctl restart <vm_id | vm_name>

Restarts the specified virtual machine. The **restart** command first gracefully shuts down a virtual machine and then starts it again.

prctl reset <vm_id | vm_name>

Resets the specified virtual machine. The **reset** command first performs a 'hard' virtual machine shutdown and then starts it again.

prctl reset-uptime <vm_id | vm_name>

Resets the specified virtual machine uptime counter (the counter start date/time will also be reset with this action).

prctl stop <vm_id | vm_name> [--kill]

Stops the specified virtual machine. You can use the **--kill** option to forcibly stop the VM. The **stop** command can perform a 'hard' or a graceful virtual machine shutdown. If the **--kill** parameter is included, the 'hard' shutdown will be performed. If the parameter is omitted, the outcome of the graceful shutdown attempt will depend on the following:

- If the Parallels Tools package is installed in a virtual machine, the graceful shutdown will be performed using its facilities.
- If the Parallels Tools package is not installed, the command will try to perform a graceful shutdown using ACPI. Depending on the ACPI support availability in the guest operating system, this may work or not.

Change Windows SID

prctl change-sid <vm_id | vm_name>

Changes the Windows security identifier (SID) in the specified virtual machine.

Capture a Screen Area

prctl capture <vm_id | vm_name> **--file** <name>

Captures a screen area of a virtual machine to a file in PNG format. The **--file** <name> parameter specifies the target file name and path.

Encrypt / Decrypt a Virtual Machine

prctl encrypt <vm_id | vm_name> [**--dry-run**]

Encrypts the specified virtual machine. You can use the the **--dry-run** option to check preconditions for successful encryption. The **encrypt** command will encrypt the specified virtual machine and all its data. A user will be prompted to enter an encryption password after the command is executed. The password will be required to decrypt the virtual machine later. The encryption password can be modified for an encrypted virtual machine using the **change-passwd** command (see below).

prctl decrypt <vm_id | vm_name> [**--dry-run**]

Decrypts the specified encrypted virtual machine. You can use the the **--dry-run** option to check preconditions for successful decryption. The **decrypt** command will decrypt the specified virtual machine. A user will have to enter a password that was specified when the virtual machine was encrypted.

prctl change-passwd <vm_id | vm_name>

Changes the encryption password for the specified virtual machine. A user will be asked to enter the current and the new password.

Archive / Unarchive a Virtual Machine

prctl archive <vm_id | vm_name>

Archives the specified virtual machine bundle.

prctl unarchive <vm_id | vm_name>

Unarchives the specified virtual machine bundle.

Set Password Protection

prctl protection-set <vm_id | vm_name>

Protects the specified encrypted virtual machine expiration date settings with a password.

prctl protection-remove *<vm_id | vm_name>*

Disables password protection of the specified encrypted virtual machine expiration date settings.

Virtual Machine Configuration Tasks

This section describes **prctl set** command options that you can use to configure a virtual machine.

The general syntax is as follows:

prctl set *<vm_id | vm_name>* [*options*]

The **prctl set** command is used to modify the configuration of a virtual machine and manage virtual machine devices and shared folders. The subsequent subsections describe parameters and options that can be used with this command to perform a variety of virtual machine configuration management tasks.

CPU and Memory Parameters

--cpus *<num>*

Sets the number of CPUs to be available to the virtual machine.

--memsize *<num>*

Sets the amount of memory for the virtual machine (in megabytes).

Boot Order Parameters

--device-bootorder *<"name1 name2 ...">*

Specifies the order of boot devices for the virtual machine. Supported devices are HDD, CD/DVD, FDD, Network. A device name can be obtained using the **prctl list -i** command.

--efi-boot *<on | off>*

Sets EFI boot options. Specify **on** to boot using the EFI firmware. Specify **off** to boot using the BIOS firmware (default).

--select-boot-device *<on | off>*

Enables or disables selecting a boot device at the virtual machine startup.

--external-boot-device *<name>*

Sets an external device from which to boot the virtual machine.

Video Parameters

--videosize <num>

Sets the amount of memory for the virtual machine graphic card (in megabytes).

--3d-accelerate <off | highest | dx9>

Sets 3d acceleration video mode.

--vertical-sync <on | off>

Enables or disables vertical synchronization.

--high-resolution <on | off>

Enables or disables high resolution video mode for retina display.

Mouse and Keyboard Parameters

--smart-mouse-optimize <auto | on | off>

Sets smart mouse optimization mode.

--sticky-mouse <on | off>

Enables or disables sticky mouse option.

--keyboard-optimize <on | off>

Enables or disables keyboard optimization mode.

Virtual Printer Parameters

--sync-host-printers <on | off>

Enables or disables using host printers in Windows guests (starting from Windows 2000).

--sync-default-printer <on | off>

Synchronizes host's default printer with Windows default printer.

USB and Bluetooth Parameters

--auto-share-camera <on | off>

Enables or disables automatic Web camera sharing.

--auto-share-bluetooth <on | off>

Enables or disables automatic sharing of bluetooth devices.

--support-usb30 <on | off>

Enables or disables USB 3.0 support.

Startup and Shutdown Parameters

--autostart <off | open-window | start-app | start-host | user-login>

Sets the virtual machine autostart options:

off: The virtual machine is started manually.

open-window: The virtual machine starts when its window opens.

start-app: The virtual machine starts when Parallels Desktop starts.

start-host: The virtual machine is started automatically on the host boot.

user-login: The virtual machine is started automatically on user logon.

--autostart-delay <n>

Sets the delay of the virtual machine autostart on host boot to n seconds.

--autostop <stop | suspend | shutdown>

Specifies what should happen to the virtual machine on host shutdown.

--startup-view <same | window | coherence | fullscreen | modality | headless>

Sets the virtual machine startup view options:

same: Same as the last time

window: Normal window

coherence: Coherence

fullscreen: Full screen

modality: Modality

headless: Headless

--on-shutdown <window | close | quit>

Sets the virtual machine shutdown options:

window: The virtual machine window stays open after the virtual machine is shut down.

close: The virtual machine window closes after the virtual machine is shut down.

quit: Parallels Desktop quits after the virtual machine is shut down.

--on-window-close <suspend | shutdown | stop | ask | keep-running>

Sets the virtual machine window close options:

suspend: The virtual machine is suspended after its window is closed.

shutdown: The virtual machine is shut down after its window is closed.

stop: The virtual machine is forcibly stopped after its window is closed.

ask: Ask the user what to do: suspend, shut down, or stop the virtual machine.

keep-running: The virtual machine is kept running after its window is closed.

--pause-idle <on | off>

Enables or disables pausing of an idle virtual machine.

--undo-disks <off | discard | ask>

Sets the virtual machine undo disks options:

off: Undo disks mech is off.

discard: Discard all changes made in the virtual machine after it is stopped.

ask: Ask the user what to do: apply changes or discard them after the virtual machine is stopped.

Optimization Parameters

--faster-vm <on | off>

Sets the performance mode: faster virtual machine or faster host.

--adaptive-hypervisor <on | off>

Enables or disables adaptive hypervisor.

--disable-winlogo <on | off>

Enables or disables Windows logo.

--auto-compress <on | off>

Enables or disables automatic compression of virtual disks.

--nested-virt <on | off>

Enables or disables nested virtualization.

--pmu-virt <on | off>

Enables or disables PMU virtualization.

--longer-battery-life <on | off>

Sets a power option: longer battery life or better performance.

--battery-status <on | off>

Shows or hide battery status.

--resource-quota <low | medium | unlimited>

Sets the virtual machine resource quota:

low: The host uses maximum possible resources.

medium: The host and the virtual machine evenly share resources.

unlimited: The virtual machine uses maximum possible resources.

Sharing Parameters

--smart-mount <on | off>

Enables or disables shared volumes.

--shared-profile <on | off>

Enables or disables shared profile.

--shared-cloud <on | off>

Enables or disables shared cloud.

--sh-app-guest-to-host <on | off>

Enables or disables sharing guest applications with host.

--show-guest-app-folder-in-dock <on | off>

Enables or disables showing the folder with guest OS applications in the Dock.

--sh-app-host-to-guest <on | off>

Enables or disables sharing host applications with guest.

Coherence Parameters

--winsystray-in-macmenu <on | off>

Shows Windows notification area in the Mac menu bar.

--auto-switch-fullscreen <on | off>

Allows applications to auto-switch to full screen.

--disable-aero <on | off>

Enables or disables Windows Aero.

--hide-min-windows <on | off>

Allows to hide minimized windows.

Security Parameters

--require-pwd <exit-fullscreen | change-vm-state | manage-snapshots | change-guest-pwd>:<on | off>

Sets whether a password is required to perform a corresponding action.

--lock-on-suspend <on | off>

Always locks the guest OS on suspend.

--isolate-vm <on | off>

Isolates the the virtual machine from the host.

--smart-guard <on | off>

Enables or disables smart guard mech.

--sg-notify-before-create <on | off>

Notifies the user before creating a snapshot.

--sg-interval <seconds>

Sets a time interval between taking snapshots.

--sg-max-snapshots <num>

Sets the maximum allowed number of snapshots.

--lock-edit-settings <on | off [--host-admin <name>]>

Locks or unlocks editing of the virtual machine configuration.

--host-admin <name>

Specifies the host administrator name if an administrator password is required to unlock editing of the virtual machine configuration.

--userpasswd <user : passwd> [--host-admin <name>]

Sets a password for the specified user in the virtual machine. If the user account does not exist, it is created. The **--host-admin** <name> parameter specifies the host administrator name if an administrator password is required to change the user password in the virtual machine. Parallels Tools must be installed in the virtual machine for the command to succeed.

--password-to-edit

Asks a password to edit the virtual machine configuration.

Expiration Date Parameters

--expiration <<on|off>|**date:**<yyyy-MM-ddThh:mm:ss>|**time-check:**<seconds>|**offline-time:**<seconds>|**time-server:**<url>|**note:**<text>>

Expiration date parameters:

on|off: Enables or disables expiration date checking.

date: Sets a date and time when the virtual machine usage period expires (e.g. 2014-12-30T20:30:00).

time-check: Sets how often (in seconds) Parallels Desktop contacts the time server to check the expiration date and time.

offline-time: Sets the time period (in seconds) during which a user can work with the virtual machine if Parallels Desktop is unable to check the expiration date and time.

time-server: Specifies the URL of a trusted time server to check the expiration date and time.

note: Adds a note (e.g. system administrator contact info).

Device Management

The following options can be used to manage devices: **--device-add**, **--device-set**, **--device-del**, **--device-connect**, **--device-disconnect**. Only one option can be specified at a time.

Device Connect / Disconnect / Set / Delete

--device-connect <device_name>

Connects the specified device to a running virtual machine. The device can be of type fdd, cdrom, sound, or net. To obtain a device name, use the **prctl list -i** command.

--device-disconnect <device_name>

Disconnects the specified device from a running virtual machine.

--device-set <device_name> <<--enable | --disable> | <--connect | --disconnect>>

Enables/disables or connects/disconnects the specified device in the virtual machine configuration.

--device-del <device_name> [--detach-only | --destroy-image | --destroy-image-force]

Removes the specified device from the virtual machine.

If **--detach-only** is specified and the device is a virtual hard disk drive, the disk image is preserved.

If **--destroy-image** is specified, the virtual HDD image is removed from the server.

If **--destroy-image-force** is specified, the virtual HDD image is removed from all snapshots and from the server.

The default action on deleting a virtual HDD is to detach the HDD image as if **--detach-only** was specified.

Adding a Device

The general syntax is as follows:

```
--device-add <hdd | cdrom | net | fdd | serial | parallel | sound | usb> [device_options]
```

The subsequent sections describe specific device type options.

Adding a Virtual Hard Disk

```
--device-add hdd [--image <image_name>] [--type <expand | plain>] [--size <n>] [--split]
    [--iface <ide | scsi | sata>] [--position <n>] [--subtype <buslogic | lsi-spi | lsi-
sas>]
    [--online-compact <on | off>]
```

Parameters

image_name: the name of the file to be used for emulating the VM virtual disk drive. If this option is omitted, a new file is created inside the directory storing all VM-related configuration files and assigned the name of `harddiskN.hdd`.

--type: specifies the type of the virtual disk from one of the following:

- **expand (default)**: virtual disks of this type are small initially and grow in size as you add data to it.
- **plain**: virtual disks of this type have a fixed size from the moment of their creation.

--size: hard disk size, in megabytes.

--split: splits the hard disk into 2 Gb pieces.

--iface: virtual hard disk interface type: **ide**, **scsi**, or **sata**.

--position: the SCSI / IDE / SATA device identifier to be used for the disk drive. Allowed ranges:

- 0-3 for IDE disk drives
- 0-6 for SCSI disk drives
- 0-5 for SATA disk drives

--subtype: virtual hard disk subtype: **buslogic**, **lsi-spi**, **lsi-sas**.

--online-compact: enables or disables virtual hard disk online compact mode.

Connecting a Physical Hard Disk

```
--device-add hdd --device <real_name> [--iface <ide | scsi | sata>] [--passth <yes | no>]
                                     [--position <n>] [--subtype <buslogic | lsi-spi | lsi-sas>]
```

Parameters

--device: the name of the host computer hard disk that will be connected to the virtual machine. To obtain the names of all hard disks installed on the host, use the **prlsrvctl info** command.

--iface: virtual hard disk interface type: **ide**, **scsi**, **sata**.

--passth: enables the passthrough mode for the specified device.

--position: the SCSI / IDE / SATA device identifier to be used for the disk drive. Allowed ranges:

- 0-3 for IDE disk drives
- 0-6 for SCSI disk drives
- 0-5 for SATA disk drives

--subtype: virtual hard disk subtype: **buslogic**, **lsi-spi**, **lsi-sas**.

Adding a Virtual CD/DVD Drive

```
--device-add cdrom [--image <name>] [--iface <ide | scsi | sata>] [--position <n>]
                  [--subtype <buslogic | lsi-spi | lsi-sas>]
```

Parameters

--image: connect the specified image file to the virtual machine. The following image file formats are supported: **iso**, **cue**, **ccd**, **dmg**.

--iface: virtual CD/DVD interface type: **ide**, **scsi**, **sata**.

--position: the SCSI / IDE / SATA device identifier to be used for the DVD/CD drive. Allowed ranges:

- 0-3 for IDE disk drives
- 0-6 for SCSI disk drives

- 0-5 for SATA disk drives

--subtype: virtual CD/DVD-ROM subtype: **buslogic**, **lsi-spi**, **lsi-sas**.

Connecting a Physical CD/DVD Drive

```
--device-add cdrom --device <name> [--iface <ide | scsi | sata>] [--passthru <yes | no>]
      [--position <n>] [--subtype <buslogic | lsi-spi | lsi-sas>]
```

Parameters

--device: the name of the host computer CD/DVD drive that will be connected to the virtual machine. To obtain the names of all CD/DVD drives installed on the host, use the **prlsrvctl info** command.

--iface: virtual CD/DVD drive interface type.

--passthru: enables the passthrough mode for the specified device.

--position: the SCSI / IDE / SATA device identifier to be used for the CD/DVD drive. Allowed ranges:

- 0-3 for IDE disk drives
- 0-6 for SCSI disk drives
- 0-5 for SATA disk drives

--subtype: virtual CD/DVD drive subtype.

Adding a Virtual Floppy Disk Drive

```
--device-add fdd --image <image> [--recreate]
```

Adds a virtual floppy disk drive based on a file image. The **--recreate** option recreates the image file if it exists.

Connecting a Physical Floppy Disk Drive

```
-device-add fdd [--device <real_name>]
```

Adds a physical floppy disk drive. The **--device** option specifies a physical floppy disk drive name.

Adding a Virtual Network Adapter

```
--device-add net --type <shared | bridged | host-only> [--iface <name>] [--mac <addr | auto>]
```

```
no> --ipadd <addr [/mask]> | --ipdel <addr[/mask]> | --dhcp <yes | no> | --dhcp6 <yes |  
no>]  
--gw <gw>] [--gw6 <gw6>] [--nameserver <addr>] [--searchdomain <addr>]  
--configure <yes | no>] [--apply-iponly <yes | no>]  
--adapter-type <virtio | e1000 | e1000e | rtl>
```

Parameters

--type: the type of the network adapter to create in the virtual machine.

--iface: the host network interface to be assigned to the bridged or host-only virtual network adapter.

--mac: the MAC address to be assigned to the virtual network adapter. If omitted, the MAC address will be automatically generated.

--ipadd: the IP address to be assigned to the network adapter in the virtual machine.

--ipdel: the IP address to be removed from the network adapter in the virtual machine.

--dhcp: specifies whether the virtual network adapter should get its IP settings through a DHCP server.

--dhcp6: specifies whether the virtual network adapter should get its IPv6 settings through a DHCP server.

--gw: the default gateway to be used by the virtual machine.

--gw6: the default IPv6 gateway to be used by the virtual machine.

--nameserver: the default DNS server to be used by the virtual machine.

--searchdomain: the default search domain to be used by the virtual machine.

--configure: if set to **yes**, the settings above are applied to the virtual network adapter instead of its original settings. Configuring any of the settings above automatically sets this option to **yes**.

--apply-iponly: if set to **yes**, the hostname, nameserver, and search domain settings from the virtual machine configuration file are ignored.

--adapter-type: specifies the network adapter emulation type.

Adding a Virtual Serial Port

```
--device-add serial {--device <name>|--output <file>|--socket <name> [--socket-mode <server|client>]}
```

Parameters

--device: the number of the host computer serial port that will be used by the virtual machine.

--output: the path to the file where the output of the virtual serial port will be sent.

--socket: the name of the host computer socket to which the serial port will be connected.

--socket-mode: the socket operation mode.

Adding a Virtual Parallel Port

```
--device-add parallel {--device <name> | --output <file>}
```

Parameters

--device: the parallel port number on the host computer that will be used by the virtual machine.

--output: the path to the file where the output of the virtual parallel port will be sent.

Adding a Virtual Sound Card

```
--device-add sound --output <name> --input <name>
```

Enabling USB Support

```
--device-add usb
```

Shared Folders

A shared folder is a host OS folder that can be accessed from a virtual machine.

```
--shf-host <on | off>
```

Enables or disables sharing the user-defined host OS folders with guest OS.

```
--shf-host-add <name> --path <path> [--mode <ro | rw>] [--shf-description <desc>] [--enable | --disable]
```

Shares the host OS folder name with a virtual machine.

--shf-host-del <name>

Removes the specified folder from the list of shared folders.

--shf-host-set <name> **--path** <path> [**--mode** <ro | rw>] [**--shf-description** <desc>] [**--enable** | **--disable**]

Modifies the settings of the host OS shared folder name.

--shf-host-defined <off | alldisks | home>

off: Disable sharing of folders defined by the host OS.

alldisks: Share all host OS disks with a virtual machine.

home: Share a host OS user's home directory with a virtual machine.

--shf-guest <on | off>

Enables or disables sharing of user-defined guest OS folders with the host OS.

--shf-guest-automount <on | off>

Enables or disables automatic mounting of shared guest OS folders on the desktop.

Advanced

--time-sync <on | off>

Enables or disables the virtual machine time synchronization.

--disable-timezone-sync <on | off>

Enables or disables timezone synchronization. Enable this option to sync only UTC time without timezone synchronization.

--sync-vm-hostname <on | off>

Enables or disables synchronization of the virtual machine name and hostname in guest OS. Supported only for Linux guests.

--sync-ssh-ids <on | off>

Enables or disables synchronization of macOS SSH public keys with those from the guest OS "authorized_keys" file.

This feature is similar to the ssh-copy-id(1) utility. When enabled, all macOS SSH public keys are added to the guest OS "authorized_keys" file. This allows users to log in to the guest OS via SSH without having to enter the password.

The following SSH keys are synced:

- When a user creates a new SSH key pair in macOS, the public key is also added to the guest OS.

- When a user removes a public key from macOS, this key is also removed from the guest OS.

The details of current implementation:

- Public key synchronization is currently available for Linux guests only.
- Public key synchronization works if the guest OS user has the same name in macOS or the user is the only regular user of the guest system.

The public key is synced in the following cases:

- After Parallels Tools are installed.
- After booting or rebooting the guest OS.
- After the virtual machine resumes.
- After the public key synchronization feature is enabled/disabled.

Additional information:

- If the feature is disabled, all macOS SSH public keys are removed from the guest OS.
- The "authorized_keys" file and public keys are searched only in the "~/.ssh" directory.
- SSH authorization certificates are not supported.

--show-dev-tools <on | off>

Enables or disables show developer tools in menu.

--swipe-from-edges <on | off>

Enables or disables edge swipe gestures.

--rename-ext-disks

Renames external virtual hard disks bundles using the virtual machine name.

Miscellaneous

--name <name>

Changes the virtual machine name.

--description <desc>

Sets the virtual machine description.

--distribution <name | list>

Sets the virtual machine OS version(s) family.

--asset-id <id>

Changes the virtual machine asset ID.

--template <on | off>

Converts the virtual machine to template and back.

--tools-autoupdate <yes | no>

Enables or disables the auto-update mode for Parallels Tools Agent.

--usedefanswers <on | off>

Enables or disables default mech answers to the questions from the virtual machine.

Snapshot Management

This section describes command used to manage virtual machine snapshots.

Take a Virtual Machine Snapshot

prctl snapshot <vm_id | vm_name>

Creates a virtual machine snapshot.

Optional parameters

-n, --name <name>

A snapshot name. If omitted, a default name will be used.

-d, --description <desc>

A snapshot description.

Delete a Snapshot

prctl snapshot-delete <vm_id | vm_name> -i, --id <snapid>

Deletes a virtual machine snapshot. The **-i, --id <snapid>** parameter specifies the ID of the snapshot to delete.

Optional parameters

-c, --children

If included, all child snapshots of the specified snapshot will be deleted.

List Snapshots

prctl snapshot-list <vm_id | vm_name> [{"-t,--tree"} | [{"-i,--id <snapid>"}] [{"-j, json}

Lists the virtual machine snapshot tree. There are three modes of snapshot listing:

- If the **-t**, **--tree** option is specified, the tree is displayed using ASCII graphics.
- If the **-i**, **--id** *<snapid>* option is specified, the specified snapshot information is displayed.
- If no option is specified, the snapshot tree is displayed as a table with two columns: PARENT_SNAPSHOT_ID, SNAPSHOT_ID.

The optional **-j**, **--json** parameter produces an output in JSON format.

Revert to a Snapshot

prctl snapshot-switch *<vm_id | vm_name>* **-i**, **--id** *<snapid>* [**--skip-resume**]

Reverts the specified virtual machine to the specified snapshot. The **-i**, **--id** *<snapid>* parameter specifies the ID of a snapshot to revert to.

If the optional **--skip-resume** parameter is included, the virtual machine will not be started if it was running when the snapshot was taken.

Miscellaneous Commands

This section describes miscellaneous **prctl** commands.

Generate a Problem Report

prctl problem-report *<vm_id | vm_name>*

<-d, --dump | -s, --send [**--proxy** *[user [:password] @proxyhost [:port]]*] [**--no-proxy**]

Generates a problem report. If the **-s**, **--send** option is specified, the report is sent to Parallels. Otherwise, it is dumped to stdout.

Parameters

-d, --dump

If included, the report is displayed on the screen. You can pipe the output to a file and then send it to the Parallels technical support.

-s, --send

If this option is included (instead of **-d**, **--dump**), the report is sent to Parallels. You can specify additional optional parameters, which are described below.

--proxy *user:password@proxyhost:port*

If you use a proxy server to connect to the Internet, include the **--proxy** parameter and specify the proxy server information. The problem report will be sent to Parallels through this proxy server.

--no-proxy

Do not use a proxy server to send the problem report. This is the default behavior, so you can include or omit this parameter.

Optional Parameters

--name <*user_name*>

Inserts the specified user name into the report.

--email <*user_e-mail*>

Inserts the specified e-mail address into the report.

--description <*problem_description*>

Inserts the specified free-form description into the report.

Use Guest Debugger

prctl guest-debugger <*vm_id* | *vm_name*> [**--port** <*port*>]

Allows you to connect the debugger to a running virtual machine via the specified port. The debugger must be installed on the same computer where the virtual machine is running.

Create a VM Dump

prctl debug-dump <*vm_id* | *vm_name*>

[**--name** <*dump_file_name*>] [**--path** <*output_directory_path*>]

Creates a virtual machine dump in ELF format and saves it to a file. The resulting dump file can be opened with the Linux **crash** utility or (with some limitations) with the **GDB** debugger.

Optional parameters

--name <*dump_file_name*>

Allows you to specify a dump file name. By default, the file is named `memory.elf.dmp`. When you create a new dump file, it replaces the previous file (if it exists). Giving it a custom name to a file solves this issue.

--path <*output_directory_path*>]

By default, dump files are saved to the virtual machine directory. If you want to save them to another directory, specify the directory path using the **--path** parameter.

Notes

To create a dump, the virtual machine must be running or paused. Suspended virtual machines are not supported by this command. The command returns 0 (zero) on success and a non-zero value on failure.

Error Handling

The **prctl** utility returns 0 on success or an error code on failure.

Index

A

- Activate a License Offline - 8
- Activate a License Online - 7
- Adding a Device - 29
- Adding a Virtual CD/DVD Drive - 30
- Adding a Virtual Floppy Disk Drive - 31
- Adding a Virtual Hard Disk - 29
- Adding a Virtual Network Adapter - 31
- Adding a Virtual Parallel Port - 33
- Adding a Virtual Serial Port - 33
- Adding a Virtual Sound Card - 33
- Advanced - 34
- Archive / Unarchive a Virtual Machine - 21

B

- Boot Order Parameters - 22

C

- Capture a Screen Area - 21
- Change Windows SID - 21
- Clone a Virtual Machine - 17
- Coherence Parameters - 26
- Command-Line Reference - 5
- Connecting a Physical CD/DVD Drive - 31
- Connecting a Physical Floppy Disk Drive - 31
- Connecting a Physical Hard Disk - 30
- Convert a Virtual Machine - 18
- CPU and Memory Parameters - 22
- Create a Virtual Machine - 15
- Create a VM Dump - 38

D

- Deactivate a License - 8
- Delete a Virtual Machine - 16
- Delete a Snapshot - 36
- Device Connect / Disconnect / Set / Delete - 28
- Device Management - 28
- Display Parallels Desktop Info - 5

E

- Enabling USB Support - 33
- Encrypt / Decrypt a Virtual Machine - 21
- Error Handling - 13, 39
- Execute a Command In a Virtual Machine - 19
- Expiration Date Parameters - 28

G

- General Virtual Machine Management - 13
- Generate a Problem Report - 37
- Get Virtual Machine Status - 20

I

- Install / Remove a Deferred License - 7
- Install a Parallels Desktop License - 6
- Install Parallels Tools - 19
- Introduction - 4

L

- License Management - 6
- List Snapshots - 36
- List Virtual Machines - 14
- Log In to a Virtual Machine - 19

M

- Miscellaneous - 35
- Miscellaneous Commands - 37
- Mouse and Keyboard Parameters - 23
- Move Virtual Machine Files - 18

O

- Optimization Parameters - 25

P

- Parallels Desktop Management - 5
- Parallels Desktop Plugin Commands - 13
- Parallels Desktop Preferences - 8
- Power Operations - 20

R

- Register / Unregister a Virtual Machine - 16
- Revert to a Snapshot - 37

S

- Security Parameters - 27
- Send Problem Report - 12
- Set Password Protection - 21
- Shared Folders - 33
- Sharing Parameters - 26
- Shut Down Parallels Desktop - 12
- Sign in to Parallels Account - 6
- Snapshot Management - 36
- Startup and Shutdown Parameters - 24

T

- Take a Virtual Machine Snapshot - 36

U

- Update a License - 7
- USB and Bluetooth Parameters - 23
- USB Devices - 12
- Use Guest Debugger - 38
- User List and Virtual Machine Location - 9

V

- Video Parameters - 23
- Virtual Machine Configuration Tasks - 22
- Virtual Machine Management - 13
- Virtual Network Info - 10
- Virtual Network Settings - 10
- Virtual Printer Parameters - 23