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# Parallels Server 4.0 for Mac Bare Metal Edition

Command Line Reference Guide



*Parallels Holdings, Ltd.  
c/o Parallels International GmbH.  
Parallels International GmbH  
Vordergasse 49  
CH8200 Schaffhausen  
Switzerland  
Tel: + 49 (6151) 42996 - 0  
Fax: + 49 (6151) 42996 - 255*

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## CHAPTER 1

# Introduction

## In This Chapter

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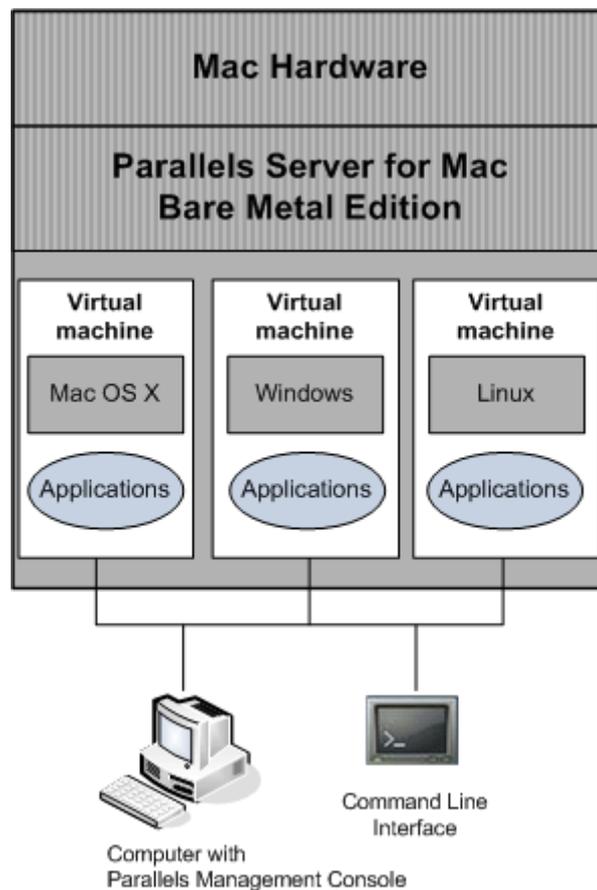
## About Parallels Server 4.0 for Mac Bare Metal Edition

Parallels Server 4.0 for Mac Bare Metal Edition provides you with the possibility to run Parallels virtual machines on bare Apple hardware. Using this software, you can efficiently use your Mac's hardware resources by sharing them among multiple virtual machines.

Parallels Server for Mac Bare Metal Edition is installed directly on the Mac hardware and does not need any operating system for its functioning. Once installed, Parallels Server for Mac Bare Metal Edition allows you to create virtual machines and manage them using the following tools:

- **Command-line interface (CLI).** This tool comprises a set of Parallels command-line utilities for managing virtual machines both locally and remotely.
- **Parallels Management Console.** Parallels Management Console is a remote management tool for Parallels Server for Mac Bare Metal Edition with a graphical user interface. This tool can be used to manage Macs and Parallels virtual machines residing on them.

Graphically, a server with the Parallels Server for Mac Bare Metal Edition software installed can be represented as follows:



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## About This Guide

This guide is a complete reference on all Parallels Server for Mac Bare Metal Edition command-line utilities. It familiarizes you with the way to configure Parallels Server for Mac Bare Metal Edition to meet your requirements and to perform various tasks by using the corresponding command-line utilities.

The primary audience for this guide is anyone who is looking for an explanation of a particular configuration option, needs help for a particular command, or is seeking for a command to perform a certain task.

## Organization of This Guide

Chapter 1, *Introduction*, gives an overview of the Parallels Server for Mac Bare Metal Edition product and this guide.

Chapter 2, *Parallels Server for Mac Bare Metal Edition Utilities*, provides instructions on managing Parallels Server for Mac Bare Metal Edition and your virtual machines.

## Documentation Conventions

Before you start using this guide, it is important to understand the documentation conventions used in it.

The table below presents the existing formatting conventions.

<u>Formatting convention</u>	<u>Type of Information</u>	<u>Example</u>
Special Bold	Items you must select, such as menu options, command buttons, or items in a list.	Go to the <b>Resources</b> tab.
	Titles of chapters, sections, and subsections.	Read the <b>Basic Administration</b> chapter.

<i>Italics</i>	Used to emphasize the importance of a point, to introduce a term or to designate a command-line placeholder, which is to be replaced with a real name or value.	These are the so-called <i>EZ templates</i> . To destroy a Container, type <code>vzctl destroy <i>ctid</i></code> .
Monospace	The names of commands, files, and directories.	Use <code>vzctl start</code> to start a Container.
<code>Preformatted</code>	On-screen computer output in your command-line sessions; source code in XML, C++, or other programming languages.	<code>Saved parameters for Container 101</code>
<b>Monospace Bold</b>	What you type, as contrasted with on-screen computer output.	<code># rpm -v virtuoizzo-release</code>
Key+Key	Key combinations for which the user must press and hold down one key and then press another.	Ctrl+P, Alt+F4

Besides the formatting conventions, you should also know about the document organization convention applied to Parallels documents: chapters in all guides are divided into sections, which, in their turn, are subdivided into subsections. For example, **About This Guide** is a section, and **Documentation Conventions** is a subsection.

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## Formatting Legend

Format	Meaning
<b>Bold</b>	Parameters that the user must type exactly as shown.
<i>Italic</i>	Parameter values that the user must supply.
Between square brackets. Example: [ <b>--name</b> <i>name</i> ]	Optional parameters.
Between curly brackets and/or separated by pipe ( ). Examples: <i>ID</i>   <i>name</i> { <b>-o</b> <i>name</i>   <b>-d</b> <i>name</i> }	Set of choices from which the user must choose only one.
Parameter followed by the same parameter in brackets with ellipses. Example: <i>name</i> [ , <i>name</i> . . . ]	Parameters that can be repeated more than once in the same command line.

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## Getting Help

In addition to this guide, there are a number of other resources available for Parallels Server for Mac Bare Metal Edition which can help you use the product more effectively. These resources include:

### Manuals:

- *Parallels Server 4.0 for Mac Bare Metal Edition Installation Guide*. This guide provides detailed information on installing Parallels Server for Mac Bare Metal Edition on your server, including the pre-requisites and the stages you shall pass.
- *Getting Started With Parallels Server 4.0 for Mac Bare Metal Edition*. This guide provides basic information on how to install Parallels Server for Mac Bare Metal Edition on your server, create new virtual machines, and perform main operations on them. Unlike the *Parallels Server 4.0 for Mac Bare Metal Edition Installation Guide*, it does not contain detailed description of all the operations needed to install and set Parallels Server for Mac Bare Metal Edition to work (e.g. installing Parallels Server for Mac Bare Metal Edition in the text mode).
- *Parallels Server 4.0 for Mac Bare Metal Edition User's Guide*. This guide provides comprehensive information on Parallels Server for Mac Bare Metal Edition covering the necessary theoretical conceptions as well as all practical aspects of working with the product. However, it does not deal with the process of installing and configuring your system.

### Help systems:

- *Getting Started with Parallels Management Console*. This help system provides information on how to start working in Parallels Management Console. You will learn how to install this application on your computer, connect to a physical server running Parallels Server for Mac Bare Metal Edition, and perform the basic operations on your virtual machines.
- *Parallels Management Console User's Guide*. This help system provides detailed information on Parallels Management Console - a graphical user interface tool for managing physical servers and their virtual machines.

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## Feedback

If you spot a typo in this guide, or if you have thought of a way to make this guide better, you can share your comments and suggestions with us by completing the feedback form at the Parallels documentation feedback page (<http://www.parallels.com/en/support/usersdoc/>).

## CHAPTER 2

# Parallels Server for Mac Bare Metal Edition Utilities

This section provides information on utilities that you can use to manage Parallels servers and virtual machines residing on them.

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# prlsrvctl

## General Syntax

The `prlsrvctl` command-line utility is used to perform management tasks on the Parallels server and Parallels Server for Mac Bare Metal Edition. The tasks include getting the Parallels Server for Mac Bare Metal Edition information, modifying its preferences, installing a license, obtaining statistics and problem reports, and some others.

### Syntax

```
prlsrvctl command [options] [-l, --login user[:passwd]@server] [-v, --verbose number]
```

### Parameters

Name	Description
<code>command</code>	The name of the command to execute.
<code>options</code>	Command options. See individual commands for available options.
<code>-l, --login</code>	Connect to the remote Parallels server and execute a command on it. If this parameter is omitted, the command will be executed on the local server.
<i>user</i>	The name of the user used to log in to the remote server.
<i>passwd</i>	The user password. If the password is omitted, you will be prompted to enter it.
<i>server</i>	The remote server IP address or hostname.
<code>-v, --verbose</code> <i>number</i>	Show verbose output. The greater the <i>number</i> , the more verbose output will be produced.

### Remarks

To display help, enter `prlsrvctl` on the command-line without any parameters.

### Links

Legend (p. 9)

## prlsrvctl info

Displays the Parallels server and Parallels Server for Mac Bare Metal Edition configuration information.

### Syntax

```
prlsrvctl info
```

### Remarks

The information returned by the `info` command includes the following:

- Server ID and hostname.
- Parallels Server for Mac Bare Metal Edition version number.
- Default directory for storing virtual machine files.
- Parallels Server for Mac Bare Metal Edition memory limits.
- Parallels Server for Mac Bare Metal Edition minimum allowable security level.
- Default directory for storing virtual machine backups.
- Parallels Server for Mac Bare Metal Edition license information.
- Server hardware configuration information.
- Other miscellaneous info.

### Links

General Syntax (p. 12), Legend (p. 9)

## prlsrvctl install-license

Installs the Parallels Server for Mac Bare Metal Edition license on the Parallels server.

### Syntax

```
prlsrvctl install-license -k,--key key [-n,--name name] [-c,--company name]
```

### Parameters

Name	Description
<code>-k, --key key</code>	License key.
<code>-n, --name name</code>	License user name.
<code>-c, --company name</code>	License company name.

### Links

General Syntax (p. 12), Legend (p. 9)

## prlsrvctl net

The `prlsrvctl net` command allows you to create and configure Parallels virtual networks. The following subsections describe how to perform individual virtual network configuration tasks.

### Creating a New Virtual Network

The `prlsrvctl net add` command can be used to create a new virtual network.

#### Syntax

```
prlsrvctl net add vnetwork_id [-i,--ifname if] [-m,--mac mac_address]
                        [-t,--type bridged|host-only|shared]
                        [-d,--description description]
```

#### Parameters

Name	Description
<code>vnetwork_id</code>	A user-defined name that will identify the new virtual network.
<code>-i,--ifname if</code>	The name of a physical network adapter on the Parallels server to which this virtual network should be bound.
<code>-m,--mac mac_address</code>	The MAC address of a virtual network adapter on the Parallels server to which this virtual network should be bound.
<code>-t,--type value</code>	The type of the virtual network to create. Possible values are: <ul style="list-style-type: none"> <li>▪ <code>bridged</code> -- a virtual machine connected to this type of virtual network appears as an independent computer on the network.</li> <li>▪ <code>host_only</code> -- a virtual machine connected to this type of virtual network can access only the Parallels server and the virtual machines connected to the same virtual network.</li> <li>▪ <code>shared</code> -- a virtual machine connected to this type of virtual network uses the Parallels server network connections.</li> </ul>
<code>-d,--description description</code>	A user-defined description of the virtual network.

#### Links

General Syntax (p. 12), Legend (p. 9)

## Modifying a Virtual Network

The `prlsrvctl net set` command allows you to modify an existing virtual network.

### Syntax

```
prlsrvctl net set vnetwork_id [-i,--ifname if] [-m,--mac mac_address]
                        [-t,--type bridged|host-only|shared]
                        [-d,--description description]
                        [-n, --name new_name]
```

### Parameters

Name	Description
<code>vnetwork_id</code>	The name of the virtual network to modify.
<code>-i,--ifname if</code>	The name of a physical network adapter on the Parallels server to which this virtual network should be bound.
<code>-m,--mac mac_address</code>	The MAC address of a virtual network adapter on the Parallels server to which this virtual network should be bound.
<code>-t,--type</code>	The type of the virtual network to create. Possible values are: <ul style="list-style-type: none"> <li>▪ <code>bridged</code> -- a virtual machine connected to this type of virtual network appears as an independent computer on the network.</li> <li>▪ <code>host_only</code> -- a virtual machine connected to this type of virtual network can access only the Parallels server and the virtual machines connected to the same virtual network.</li> <li>▪ <code>shared</code> -- a virtual machine connected to this type of virtual network uses the Parallels server network connections.</li> </ul>
<code>-d,--description description</code>	A user-defined description of the virtual network.
<code>-n, --name new_name</code>	A new name for the virtual network. Use this parameter if you would like to rename the virtual network.

### Links

General Syntax (p. 12), Legend (p. 9)

## Deleting a Virtual Network

The `prlsrvctl net del` command allows to delete an existing virtual network.

### Syntax

```
prlsrvctl net del vnetwork_id
```

### Parameters

Name	Description
<code>vnetwork_id</code>	The name of the virtual network to delete.

### Links

General Syntax (p. 12), Legend (p. 9)

## Listing Existing Virtual Networks

The `prlsrvctl net list` command lists the existing virtual networks.

### Syntax

```
prlsrvctl net list
```

### Links

General Syntax (p. 12), Legend (p. 9)

## prlsrvctl set

Allows you to modify Parallels Server for Mac Bare Metal Edition preferences.

### Syntax

```
prlsrvctl set [--mem-limit auto|size]
              [-s,--min-security-level low|normal|high]
              [-c,--cep on|off]
              [--mng-settings allow|deny]
              [{--device device --assignment host|vm}]
              [--backup-storage user[:passwd]@server[:port]]]
              [--backup-path path]
```

### Parameters

Name	Description
--mem-limit	Sets the upper limit of the memory size that can be reserved for Parallels Server for Mac Bare Metal Edition operation. The following options are available: <ul style="list-style-type: none"> <li>▪ <code>auto</code> -- if this option is used, the memory size will be calculated automatically.</li> <li>▪ <code>size</code> -- user-defined memory size, in megabytes.</li> </ul>
-s, --min-security-level	The lowest allowable security level that can be used to connect to the Parallels server. The following options are available: <ul style="list-style-type: none"> <li>▪ <code>low</code> -- plain TCP/IP (no encryption).</li> <li>▪ <code>normal</code> -- most important data is sent and received using SSL over TCP/IP (user credentials during login, guest OS clipboard, etc.) Other data is sent and received using plain TCP/IP with no encryption.</li> <li>▪ <code>high</code> -- all of the data is sent and received using SSL.</li> </ul>
-c, --cep	Enables/disables the participation in the Customer Experience Program (CEP). The following options are available: <ul style="list-style-type: none"> <li>▪ <code>on</code> -- enables CEP.</li> <li>▪ <code>off</code> -- disables CEP.</li> </ul>
--mng-settings	Allows you to grant or deny permission to new users to modify Parallels Server for Mac Bare Metal Edition preferences. By default, only administrators of the host OS can modify Parallels Server for Mac Bare Metal Edition preferences. When a new user profile is created (this happens when a user logs in to the Parallels server for the first time), he/she will be granted or denied this privilege based on the default setting. This parameter allows you to set that default setting. Please note that this parameter only affects new users (the users that will be created in the future). The profiles of the existing users will not be modified.

<code>--device <i>device</i> --assignment</code>	Allows you to set the assignment mode for the specified VTd device. The following options are available: <ul style="list-style-type: none"> <li>▪ <code>host</code> -- assign the device to the Parallels server.</li> <li>▪ <code>vm</code> -- assign the device to virtual machines.</li> </ul>
<code>--backup-storage</code>	The default backup server where virtual machine backups will be stored.
<i>user</i>	The name of the user on the backup server.
<i>passwd</i>	The user password.
<i>server</i>	The backup server IP address or hostname.
<i>port</i>	The port number. If omitted, the default port number will be used.
<code>--backup-path <i>path</i></code>	The name and path of the default directory on the backup server where virtual machines backups will be stored.

## Links

General Syntax, Legend (p. 9)

## prlsrvctl shutdown

Shuts down the Parallels Server for Mac Bare Metal Edition component responsible for managing virtual machines. No operations on virtual machines are possible.

## Syntax

```
prlsrvctl shutdown [-f, --force]
```

## Parameters

Name	Description
<code>-f, --force</code>	Specifies whether the shutdown operation should be forced. If one or more virtual machines are running, clients are connected, or some tasks are currently in progress, then forcing the shutdown will stop all processes automatically and will shut down the Parallels Server for Mac Bare Metal Edition component.

## Links

General Syntax, Legend (p. 9)

## prlsrvctl user list

Displays the list of Parallels Server for Mac Bare Metal Edition users (only those users are displayed that have created at least one virtual machine on the Parallels servers).

### Syntax

```
prlsrvctl user list [-o, --output name[,name...]]
```

### Parameters

Name	Description
<code>-o, --output name</code>	<p>Names of the fields to include in the output. The following fields are available:</p> <ul style="list-style-type: none"> <li>▪ <code>name</code> -- User name.</li> <li>▪ <code>mng_settings</code> -- Indicates whether the user is allowed to modify Parallels Server for Mac Bare Metal Edition preferences.</li> <li>▪ <code>def_vm_home</code> -- The user default virtual machine folder.</li> </ul> <p>The fields must be specified using the lower case letters.</p>

### See Also

`prlsrvctl user set` (p. 20)

### Links

General Syntax, Legend (p. 9)

## prlsrvctl user set

Allows to modify the profile of a Parallels Server for Mac Bare Metal Edition user.

### Syntax

```
prlsrvctl user set name|uuid [--def-vm-home path]
                        [--mng-settings allow|deny]
```

### Parameters

Name	Description
<i>name</i>	The user name.
<i>uuid</i>	The user UUID (universally unique ID).
<code>--def-vm-home path</code>	The default virtual machine directory name and path.
<code>--mng-settings</code>	Specifies whether the user should be allowed to modify Parallels Server for Mac Bare Metal Edition preferences. The available options are: <ul style="list-style-type: none"> <li>▪ allow</li> <li>▪ deny</li> </ul>

### See Also

`prlsrvctl user list` (p. 19)

### Links

General Syntax, Legend (p. 9)

## prlsrvctl statistics

Obtains Parallels Server for Mac Bare Metal Edition statistics.

### Syntax

```
prlsrvctl statistics [-a, --all] [--loop] [--filter name]
```

### Parameters

Name	Description
-a, --all	<i>This parameter is not currently used.</i>
--loop	Subscribes to receive statistics on the periodic basis. Once you execute the command with this option, the statistics will be displayed in your console window every time a new set of values is collected. To unsubscribe, press the Enter key or Ctrl-C in your console window.
--filter name	<i>This parameter is not currently used.</i>

### Links

General Syntax, Legend (p. 9)

## prlsrvctl problem-report

Generates a problem report and displays it on the screen.

### Syntax

```
prlsrvctl problem-report
```

### Parameters

The command accepts no parameters.

### Remarks

The command collects technical data about Parallels Server for Mac Bare Metal Edition and the Parallels server and displays the report on the screen (the output can also be piped to a file). The report can then be directed to the Parallels technical support for analysis.

### Links

General Syntax, Legend (p. 9)

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## vzup2date

The `vzup2date` utility is used to update your Parallels Server for Mac Bare Metal Edition software and templates and keep them at the most recent version. It has the following syntax:

```
vzup2date [-s|-z] [-m interactive]
vzup2date [config_options] [-s|-z] -m {batch|messages} \
    <command> [command_options] [filters] [update_IDs]
vzup2date {-?|--help}
```

The `vzup2date` utility can be launched in two modes:

- In the graphical mode: in this case `vzup2date` should be used with the `-s` and `-z` switches only or without any parameters at all. You can also specify the `-m interactive` switch to explicitly indicate that `vzup2date` is to be run in the graphical mode.
- In the command-line mode containing two submodes: the batch submode and the messages submode. To run `vzup2date` in the command-line mode, you should specify either the `-m batch` switch or `-m messages` switch for executing `vzup2date` in the batch or messages submodes, respectively. Both submodes are meant to update Parallels Server for Mac Bare Metal Edition in the unattended mode and have the identical syntax; however, they are different in their output. The batch submode output is more user friendly than the messages submode one which is mostly suitable for machine processing.

The following options can be passed to `vzup2date` in both modes - graphical and command-line:

Name	Description
<code>-s, --system</code>	Used to check and, if necessary, download and install Parallels Server for Mac Bare Metal Edition system updates, i.e newest versions of the Parallels Server for Mac Bare Metal Edition core and utilities. If the <code>-s</code> is omitted and the <code>-t</code> option is not specified either, the <code>vzup2date</code> utility looks for the Parallels Server for Mac Bare Metal Edition system updates.
<code>-z</code>	Used to check and, if necessary, download and install OS and application EZ templates. You should explicitly specify this option to make <code>vzup2date</code> look for EZ template updates.

## Setting Connection Parameters

If you have not set the necessary connection parameters for the repository with Parallels Server for Mac Bare Metal Edition updates in the `/etc/sysconfig/vzup2date/vzup2date.conf` file on the server or wish to redefine any of them, you may specify the following options:

Name	Description
<code>-R,</code> <code>--</code> <code>repository=path</code>	<p>The URL used to connect to the repository with Parallels Server for Mac Bare Metal Edition updates. The <code>path</code> value should be specified in the form of <code>[protocol://][user:password@]server[:port][/repository_dir]</code> where:</p> <ul style="list-style-type: none"> <li>▪ <code>protocol</code> indicates what protocol is to be used while connecting to the update server (e.g. <code>http</code> or <code>https</code>).</li> <li>▪ <code>user:password</code> denotes the user name and password used to access the update server.</li> <li>▪ <code>server</code> is the IP address or the domain name where the update repository is located.</li> <li>▪ <code>port</code> denotes the port number of the update server used for establishing the connection.</li> <li>▪ <code>repository_dir</code> specifies the directory on the update server where the required Parallels Server for Mac Bare Metal Edition updates are stored.</li> </ul>
<code>--proxy=path</code>	<p>The proxy server address, if you use this server. The <code>path</code> value should be specified in the form of <code>[protocol://][user:password@]server[:port]</code> where</p> <ul style="list-style-type: none"> <li>▪ <code>protocol</code> indicates what protocol to use while connecting to the proxy server (e.g. <code>http</code> or <code>https</code>).</li> <li>▪ <code>user:password</code> denotes the user name and password used to log it to the proxy server.</li> <li>▪ <code>server</code> is the IP address or the domain name of the proxy server.</li> <li>▪ <code>port</code> specifies the port number of the proxy server used for establishing the connection.</li> </ul>
<code>--local-</code> <code>path=path</code>	The path to the local directory on the server where the downloaded Parallels Server for Mac Bare Metal Edition updates are stored.
<code>--log-path=path</code>	The path to the log file on the server containing the information on Parallels Server for Mac Bare Metal Edition updates.
<code>--save-config</code>	Use this option to save the specified parameters in the <code>/etc/sysconfig/vzup2date/vzup2date.conf</code> file on the server.

## Available Commands

The commands that can be used with `vzup2date` in the command-line mode (i.e. while specifying either the `-m batch` switch or the `-m messages` switch) are given in the table below:

Name	Description
<code>list</code>	Lists the updates matching the criteria specified in <code>[filters]</code> and <code>[update_IDs]</code> . Detailed information on filters and update IDs is given below. If no filters and update IDs are specified, all updates for the OS and application templates installed on the server are displayed.
<code>show</code>	Displays detailed information on the updates matching the criteria specified in <code>[filters]</code> , and <code>[update_IDs]</code> . If no filters and update IDs are specified, information on updates for all OS and application templates installed on the server is shown.
<code>get</code>	Checks and downloads Parallels Server for Mac Bare Metal Edition updates matching the criteria specified in <code>[filters]</code> , and <code>[update_IDs]</code> from the Parallels update server to the local directory on the server. The path to the local directory can be set either in the <code>/etc/sysconfig/vzup2date/vzup2date.conf</code> file or by specifying the <code>--local-path</code> option. If no filters and update IDs are specified, updates for all OS and application templates installed on the server are downloaded to the local directory.
<code>install</code>	Checks and, if necessary, downloads and installs Parallels Server for Mac Bare Metal Edition updates matching the criteria specified in <code>[filters]</code> , and <code>[update_IDs]</code> . If no filters and updates IDs are specified, updates for all OS and application templates on the server are downloaded and installed.  In some cases, you may need to update the <code>vzup2date</code> utility itself. To do this, pass the <code>--self-update</code> option to the <code>vzup2date install</code> command.
<code>showconf</code>	Shows the contents of the <code>/etc/sysconfig/vzup2date/vzup2date.conf</code> file on the server.
<code>install-self-update <i>update_ID</i></code>	Installs updates with the specified ID for the <code>vzup2date</code> utility. You may need to update <code>vzup2date</code> before you are able to get the latest Parallels Server for Mac Bare Metal Edition updates. To display the latest updates for <code>vzup2date</code> , you can use the <code>vzup2date get</code> command.

All the aforementioned commands (except for `showconf` and `install-self-update`) can be used with the following options:

Name	Description
<code>--cache</code>	If specified, <code>vzup2date</code> does not search the update server for the update packages that are already available in the local repository directory on the server. When used with the <code>vzup2date install</code> command, <code>vzup2date</code> does not check the integrity of the update files located in the local repository directory.
<code>--nosignatures</code>	If specified, <code>vzup2date</code> does not validate digital signatures of the

	downloaded update packages.
<code>--status-log-file=path</code>	The path to the status log file where the messages on Parallels Server for Mac Bare Metal Edition updates will be stored (e.g. <code>/vz/vzup2date/my_file.log</code> ). Without specifying this option, the messages are sent to <code>stdout</code> only. The option can be used in the messages submode only.
<code>--status-log-prog=path</code>	The path to the status log program. This program should accept log messages sent to <code>stdout</code> . The option can be used in the messages submode only.
<code>--status-log-id=ID</code>	The ID assigned to the status log file and unique within the given system. This ID will be used as the name of the log file with the <code>.log</code> extension created during the <code>vzup2date command</code> execution. By default, this file is located in the <code>/vz/vzup2date/ipc</code> directory on the server. The option can be used in the messages submode only.

---

**Note:** The `vzup2date install` command has a number of additional options described in the `vzup2date install` subsection (p. 28).

---

## Update Filters and Update IDs

The `vzup2date` utility allows you to specify what particular Parallels Server for Mac Bare Metal Edition updates should be searched for on the update server, download the found updates, and install them on the server. This can be done by using special update filters or by explicitly specifying the update IDs. You can also combine both methods to get the right updates for your Parallels Server for Mac Bare Metal Edition installation.

The filters that can be used with `vzup2date` can be divided in two groups:

- The filters used to update Parallels Server for Mac Bare Metal Edition system files. They are presented in the table below:

Name	Description
<code>--major</code>	<p>Selects the latest major update for your current Parallels Server for Mac Bare Metal Edition installation. To see what latest update is available, you can use the <code>vzup2date list</code> or <code>vzup2date show</code> commands. If you do not specify an update ID for the major Parallels Server for Mac Bare Metal Edition update, your installation will be automatically updated to the latest Parallels Server for Mac Bare Metal Edition version available on the Parallels update server.</p> <p>Bear in mind that the major Parallels Server for Mac Bare Metal Edition release you are updating to might also already have available minor updates (i.e. updates for the Parallels Server for Mac Bare Metal Edition core and tools). However, they will not be applied during the major Parallels Server for Mac Bare Metal Edition update. Thus, to install the latest Parallels Server for Mac Bare Metal Edition version and then to apply minor updates for it, you will need to launch the utility twice.</p>
<code>--core</code>	<p>Selects updates available for your current Parallels Server for Mac Bare Metal Edition core. While working with the Parallels Server for Mac Bare Metal Edition core updates, keep in mind the following:</p> <ul style="list-style-type: none"> <li>▪ Each Parallels Server for Mac Bare Metal Edition release has its own set of core updates. Therefore, the update to the latest core version is possible only within the given Parallels Server for Mac Bare Metal Edition release.</li> <li>▪ Core updates are cumulative, i.e. the updates with higher versions include the functionality of all previous core updates within the given Parallels Server for Mac Bare Metal Edition release (e.g. the CU-2.6.20 core update includes all functionality of CU-2.6.18, CU-2.6.16, etc.).</li> <li>▪ Only the updates for the core version currently installed in your system are shown. For example, if your system is running the 2.6 core version, all core updates for 2.6 will be shown.</li> </ul>
<code>--tools</code>	<p>Selects updates available for your current Parallels Server for Mac Bare Metal Edition utilities. While working with Parallels Server for Mac Bare Metal Edition tools updates, keep in mind the following:</p> <ul style="list-style-type: none"> <li>▪ Each Parallels Server for Mac Bare Metal Edition release has its own set of utility updates. Therefore, the update to the latest utility version is possible only within the given Parallels Server for Mac Bare Metal Edition release.</li> <li>▪ As distinct from the Parallels Server for Mac Bare Metal Edition core updates, utility updates are incremental, i.e. they include the</li> </ul>

new functionality only.

- The filters used to update EZ templates. These are the following filters:

Name	Description
<code>--update-os</code>	Selects updates for all OS templates installed on the server.
<code>--all-os</code>	Selects all OS templates available on the Parallels update server.
<code>--update-app- for=<i>OS_List</i></code>	Selects updates for all application templates included in the specified OS templates.
<code>--update-app</code>	Selects updates for all application templates on the server.
<code>--all-app- for=<i>OS_List</i></code>	Selects all application templates available on the update server for the specified OS templates.
<code>--all-app</code>	Selects all application templates for all OS templates installed on the server.
<code>--update</code>	Selects updates for all OS and application templates installed on the server.

## vzup2date install

The `vzup2date install` command is used to install new OS and application templates on the server or to update any of the existing OS and application templates already installed on the server. It has the following syntax:

```
vzup2date [config_options] [-s|-t|-z] -m {batch|messages} install\
         [options] [filters] [update_IDs]
```

Along with the options which are common for all `vzup2date` commands and described in the previous subsection, you can also use the following options with `vzup2date install`:

Name	Description
<code>--reboot</code>	Automatically reboots the server, if needed, after the Parallels Server for Mac Bare Metal Edition update completion. For example, the system reboot may be required in the case of updating the Parallels Server for Mac Bare Metal Edition core or installing major updates on the server. If the option is omitted, the system will not reboot.
<code>--loader-autoconfig</code> [= <i>bootloader</i> ]	Automatically recognizes and reconfigures the Lilo and GRUB boot loaders after the Parallels Server for Mac Bare Metal Edition update completion. You can explicitly specify what boot loader is to be reconfigured by specifying either GRUB or Lilo as the value of <i>bootloader</i> .
<code>--self-update</code>	Automatically updates the <code>vzup2date</code> utility. If an updated version of <code>vzup2date</code> is available, this version is downloaded and installed on the server at first. After that, the command is re-launched and the Parallels Server for Mac Bare Metal Edition system update is performed.
<code>--novzpkgcache</code>	Do not run the <code>vzpkgcache</code> utility in case of standard OS templates and the <code>vzpkg create cache</code> utility in case of EZ OS templates. By default, a tarball (cache) is automatically created for every OS template or its update installed on the server by using the <code>vzup2date install</code> command.

For example, to update to the latest Parallels Server for Mac Bare Metal Edition core within your current Parallels Server for Mac Bare Metal Edition release and to automatically reconfigure the GRUB boot loader, you can issue the following command:

```
# vzup2date -m batch install --core --loader-autoconfig=grub
Downloading releases information. Please, wait...done
Downloading updates information for 4.0. Please, wait...done
Downloading detailed updates information. Please, wait...done
Checking downloaded packages integrity:
  [#####]
100%
Downloading 16 packages
 1 kernel-doc-2.6.10-021stab028.19.777.i386.r 100%    2MB    2.1MB/s
 2 kernel-headers-2.6.10-021stab028.19.777.i3 100%    1MB    2.0MB/s
 3 vzkernel-2.6.10-021stab028.19.777.athlon.r 100%    5MB    1.9MB/s
 4 vzkernel-2.6.10-021stab028.19.777.i686.rpm 100%    6MB    2.1MB/s
 5 vzkernel-enterprise-2.6.10-021stab028.19.7 100%    6MB    2.0MB/s
 6 vzkernel-entnosplit-2.6.10-021stab028.19.7 100%    6MB    2.2MB/s
...
```

## vzup2date-mirror

The `vzup2date-mirror` utility is used to create local mirrors of the Parallels official repository storing the latest versions of the Parallels Server for Mac Bare Metal Edition software and OS and application templates. The `vzup2date-mirror` utility has the following syntax:

```
vzup2date-mirror [options] [local_repo_path]
```

You can pass the following options to `vzup2date-mirror`:

Name	Description
<code>-s, --system</code>	Creates a local mirror of the repository storing the latest versions of the Parallels Server for Mac Bare Metal Edition core and utilities. It also can be used to update your existing local mirror.  If this option is not specified and the <code>-z</code> option is omitted, <code>vzup2date-mirror</code> will also make the repository mirror with Parallels Server for Mac Bare Metal Edition system files.
<code>-z, --eztemplates</code>	Creates a local mirror of the repository storing the latest versions of OS and application EZ templates.
<code>-c, --config</code>	The full path to the configuration file that will be used by <code>vzup2date-mirror</code> on the step of connecting to the Parallels official repository and downloading new updates. If omitted, the utility uses the default <code>vzup2date-mirror.conf</code> file which is located in the <code>/etc/vzup2date-mirror</code> directory.
<code>local_repo_path</code>	The path to the repository mirror. If omitted, the utility uses the repository mirror whose location is defined in the <code>vzup2date-mirror</code> configuration file. Detailed information on <code>vzup2date-mirror.conf</code> is provided in the <a href="#">Configuration File for vzup2date-mirror</a> subsection.
<code>-q, --quiet</code>	Reports only errors during the <code>vzup2date-mirror</code> execution.
<code>-D, --delete</code>	Automatically deletes obsolete updates during the <code>vzup2date-mirror</code> execution.
<code>--version</code>	Prints the utility version and exits.
<code>-h, --help, -?</code>	Displays the utility usage and exits.

When executed, the `vzup2date-mirror` utility completes a number of tasks (connects to the Parallels official repository, creates a special directory and downloads the specified Parallels Server for Mac Bare Metal Edition system or templates updates to this directory, etc.) resulting in building a local mirror of the Parallels official repository or some of its parts.

---

## vzlicload

This utility is used to manage Parallels Server for Mac Bare Metal Edition licenses on your server. It has the following syntax:

```
vzlicload [options]
```

The utility accepts the following options:

<code>-p, --product-key</code>	Installs the Parallels Server for Mac Bare Metal Edition license on the server.
<code>-f, --license-file</code> <code>&lt;file_path&gt;</code>	The full path to the license file containing the license to be installed on the server.
<code>-r, --remove</code>	Removes the license with the specified serial number from the server. You can find out the license serial number using the <code>vzlicview</code> utility (see the <code>vzlicview</code> subsection (p. 32) for details).
<code>-i, --stdin</code>	Makes <code>vzlicload</code> use standard input as a license.
<code>-h, --help</code>	Prints the usage help and exits.

---

## vzlicupdate

This utility can be used to perform the following license-related operations:

- Activate your Parallels Server for Mac Bare Metal Edition installation using a special activation code.
- Update the currently installed license on the server.
- Transfer the license installed on the Source Server with the help of an activation code to the Destination Server.

The `vzlicupdate` utility has the following syntax:

```
vzlicupdate [options]
```

The utility accepts the following options:

<code>-a, --activate activation_code</code>	Activates the Parallels Server for Mac Bare Metal Edition installation using the specified activation code. To successfully complete this task, your server must be connected to the Internet.
<code>-t, --transfer</code>	Transfers the license activated with the activation code from the Source Server to the Destination Server. Should be run along with the <code>-a</code> option on the Destination Server, i.e. on the server where you are planning to transfer the license.
<code>-s, --server hostname[:port]</code>	The hostname of the Parallels Key Authentication (KA) server responsible for updating Parallels Server for Mac Bare Metal Edition licenses, activating Parallels Server for Mac Bare Metal Edition installations, and transferring licenses from the Source Server to the Destination Server. If not specified, the <code>ka.parallels.com</code> hostname is used.
<code>-n, --no-check</code>	Updates the license currently installed on the server even if it is still valid.
<code>-v, --verbose</code>	Sets the log level to its maximum possible value.
<code>-h, --help</code>	Prints the utility usage and exits.

When executed without any options, `vzlicupdate` updates the license currently installed on the server. However, you can use the options listed in the table above to complete other license-related tasks.

---

## vzlicview

This utility displays the license contents along with the license status information. It has the following syntax:

```
vzlicview [options]
```

The following options can be used with this utility:

<code>-p, --product-key</code> <code>&lt;key_number&gt;</code>	Displays the license information contained in the specified Parallels Server for Mac Bare Metal Edition product key.
<code>-f, --license-file</code> <code>&lt;file&gt;</code>	Displays the license information from the specified Parallels Server for Mac Bare Metal Edition license file.
<code>-i, --stdin</code>	Makes <code>vzlicview</code> use standard input as a license and display its information.
<code>-h, --help</code>	Displays the utility usage and exits.

When executed without any options, the utility returns the contents and status of the license currently installed on the server. The utility can report the following statuses for Parallels Server for Mac Bare Metal Edition licenses:

ACTIVE	The license installed on the server is valid and active.
VALID	The license the utility parses is valid and can be installed on the server.
EXPIRED	The license has expired and, therefore, could not be installed on the server.
GRACED	The license has been successfully installed on the server, but it has expired and is currently on the grace period (i.e. it is active till the end of the grace period).
INVALID	The license is invalid (for example, because of the server architecture mismatch) or corrupted.

---

## vznetcfg

The `vznetcfg` utility is used to manage the following network devices on the server:

- physical and VLAN (Virtual Local Area Network) adapters
- Virtual Networks (VNs)

`vznetcfg` has the following syntax:

```
vznetcfg command
```

Where *command* can be one of the following:

Name	Description
<code>net new &lt;VN_name&gt;</code>	Creates a new Virtual Network with the name of <code>&lt;VN_name&gt;</code> on the server.
<code>net addif &lt;VN_name&gt;   &lt;interface_name&gt; &gt;</code>	Connects a network device with the name of <code>&lt;interface_name&gt;</code> to the Virtual Network having the name of <code>&lt;VN_name&gt;</code> . You can join the following network devices to the Virtual Network: <ul style="list-style-type: none"> <li>▪ physical network interface cards (NICs) installed on the server</li> <li>▪ VLAN adapters bound to NICs on the server</li> </ul>
<code>net delif &lt;interface_name&gt;</code>	Disconnects a network device (either a NIC or a VLAN adapter) with the name of <code>&lt;interface_name&gt;</code> from the corresponding Virtual Network.
<code>net change &lt;old_VN_name&gt; &lt;new_VN_name&gt;</code>	Changes the Virtual Network name from <code>&lt;old_network_ID&gt;</code> to <code>&lt;new_VN_name&gt;</code> .
<code>net del &lt;VN_name&gt;</code>	Removes the Virtual Network with the name of <code>&lt;VN_name&gt;</code> from the server.
<code>vlan add &lt;parent_interface&gt; &lt;index_number&gt;</code>	Creates a new VLAN adapter, associates it with the VLAN ID of <code>&lt;index_number&gt;</code> (where <code>&lt;index_number&gt;</code> can be an arbitrary integer number to be used to uniquely identify the VLAN among other VLANs on the server), and ties it to the <code>&lt;parent_interface&gt;</code> physical network adapter on the server.
<code>vlan del &lt;vlan_adapter_name&gt;</code>	Removes the VLAN adapter with the name of <code>&lt;vlan_adapter_name&gt;</code> from the server.
<hr/> <p><b>Note:</b> A VLAN adapter name is automatically generated by Parallels Server for Mac Bare Metal Edition on the basis of the VLAN ID and the name of the physical adapter you specified during the VLAN adapter creation (e.g. <code>eth0.1</code>). You can find out the VLAN name using the <code>vznetcfg if list</code> command.</p> <hr/>	
<code>if list</code>	Lists detailed information on all network devices (NICs, VLAN adapters, etc.) available on the server.

<code>net list</code>	Displays detailed information on the Virtual Networks currently existing on the server.
<code>init all</code>	Initializes all interfaces (e.g. VLANs and bridges) listed in the <code>/etc/vz/vznet.conf</code> file on the server. You may wish to make use of this command when creating startup scripts.
<code>down all</code>	Disables all interfaces (e.g. bridges and VLANs) listed in the <code>/etc/vz/vznet.conf</code> file on the server.

---

## vzreport

`vzreport` is used to compile a problem report and to automatically send it to the Parallels support team. It has the following syntax:

```
vzreport [options]
```

The following command-line options can be used with the `vzreport` utility:

<u>Name</u>	<u>Description</u>
<code>-h, --help</code>	Print usage information.
<code>-q, --quiet</code>	Quiet mode. Print error messages only.
<code>-p, --progress</code>	Causes <code>vzreport</code> to print additional information on its progress.
<code>-n, --name <i>name</i></code>	The name of the person submitting the problem report.
<code>-c, --company <i>company</i></code>	The name of the company where the person is working.
<code>-e, --email <i>e-mail_address</i></code>	The e-mail address to be used to contact the person generating the problem report.
<code>-s, --subject <i>subject</i></code>	The main subject of the problem report.
<code>-m, --description <i>problem_description</i></code>	Additional information which, in your opinion, can help solve the problem.

When launched without any options, the `vzreport` utility starts in the full screen mode; however, you can force it to run in the command line mode by specifying an option containing either your contact information (e.g. `-n` denoting your name) or the problem report description (e.g. `-m` used to provide additional information on your problem). Moreover, if you have specified at least one option with your contact information and/or problem description, you should also indicate all the other options.

## vzstatrep

`vzstatrep` is run on the Monitor Server and used to analyze the logs collected by the `vzlmond` daemon on one or more servers to generate statistic reports and graphics on the basis of the gathered logs, and to send these reports and graphics to the server administrator's e-mail address(es). The `vzstatrep` utility has the following syntax:

```
vzstatrep [options]
```

The following command-line options can be passed to `vzstatrep`:

Name	Description
<code>--plot</code>	Generate graphics for the resources parameters specified as the values of the <code>STATS_PLOT</code> parameter in the <code>/etc/vzstatrep.conf</code> file on the Monitor Server.
<code>--sendmail</code>	Send the statistic report and graphics to the e-mail address(es) specified as the value(s) of the <code>STATS_EMAIL</code> parameter in the <code>/etc/vzstatrep.conf</code> file on the Monitor Server. If the <code>--sendmailto</code> option is omitted, you should obligatorily use this option.
<code>--sendmailto mail</code>	Send the statistic report and graphics to the e-mail address specified as the value of this option. You can set several e-mail addresses and separate them by spaces. If the <code>--sendmail</code> option is omitted, you should obligatorily use this option.
<code>--weekly</code>	Generate statistic reports and graphics on a weekly basis. By default, <code>vzstatrep</code> analyzes the logs and produces the server resources statistics once a day.
<code>--nodes hostname</code>	Analyze the logs from the server whose IP address or hostname is specified as the value of this option. You can set several servers by separating them by spaces and enclosing them in quotes (e.g. <code>"my_hardware_node1 my_hardware_node2"</code> ). If the option is omitted or its value is not specified, the logs from the servers set as the values of the <code>NODES</code> parameter in the <code>/etc/vzstatrep.conf</code> file on the Monitor Server are analyzed.

The `vzstatrep` utility generates statistic reports and graphics on the basis of the logs gathered by `vzlmond` (by default, the logs are stored in the `/var/log/vzstat` directory on the server) and containing information on the memory and CPU consumption of the server, network resources on the server, etc. You do not need to perform any additional operations to start using `vzstatrep`. All the necessary parameters can be set during the `vzstatrep` execution by using the aforementioned options. However, if you wish to run the `vzstatrep` utility as a cron job and/or free yourself from the necessity to manually specify the needed options each time you wish to run `vzstatrep`, you should edit the `/etc/vzstatrep.conf` configuration file on the Monitor Server and set the parameters values contained in this file. Detailed information on the `/etc/vzstatrep.conf` file is provided in the `vzstatrep Configuration File` subsection.

# pctl

Parallels virtual machines can be managed using the `pctl` command-line utility. The utility is installed on the Parallels server during the product installation.

## General Syntax

The `pctl` utility is used to perform administration tasks on virtual machines. The utility supports a full range of tasks from creating and administering virtual machines to installing Parallels Tools, getting statistics, and generating problem reports.

### Syntax

```
pctl command ID|name [options] [-v, --verbose number]
```

### Parameters

Name	Description
<code>command</code>	The name of the command to execute (see the table below for the complete list of commands).
<code>ID</code>	The ID of the virtual machine on which to perform the operation. To obtain the list of the available virtual machines, use the <code>pctl list</code> command (p. 40).
<code>name</code>	The name of the virtual machine on which to perform the operation. To obtain the list of the available virtual machines, use the <code>pctl list</code> command (p. 40).
<code>options</code>	Command options. See individual commands for available options.
<code>-v, --verbose number</code>	Show verbose output. The greater the <i>number</i> , the more verbose output will be produced.

### Remarks

To display help, enter `pctl` without any parameters.

### Links

Legend (p. 9)

## pctl create

Creates a new virtual machine. A virtual machine can be created from scratch or from a virtual machine template. When created from scratch, the target operating system type or version must be specified. To create a virtual machine from a template, the template name must be passed to the command.

### Syntax

```
pctl create name {--ostype name | --distribution name} [--location path]
pctl create name --ostemplate name [--location path]
```

### Parameters

Name	Description
<i>name</i>	User-defined new virtual machine name. If the name consists of two or more words separated by spaces, it must be enclosed in quotes.
-o, --ostype <i>name</i>	The name of the family of the operating system that will be installed in the virtual machine. Select from one of the following: <ul style="list-style-type: none"> <li>▪ windows</li> <li>▪ macos</li> <li>▪ linux</li> <li>▪ feebbsd</li> <li>▪ other (specify this option if the operating system you are planning to install is not listed above).</li> </ul>
-d, --distribution <i>name</i>	The operating system version that will be installed in the virtual machine. For the full list of OS versions, refer to the pctl man pages.
--ostemplate <i>name</i>	The name of the virtual machine template from which to create the new virtual machine. Use the pctl list --template command to obtain the list of the available templates.
--location <i>path</i>	Name and path of the directory where to store the new virtual machine files. If this parameter is omitted, the files will be created in the default virtual machine directory.

### Remarks

When creating a virtual machine from scratch, you may specify the operating system family or version. If an operating system version is specified using the --distribution parameter, the virtual machine will be configured for that operating system. If an operating system family is specified using the --ostype parameter, the virtual machine will be configured for the default version of this OS family. The default versions are determined internally by Parallels and are kept in sync with other Parallels management tools such as Parallels Management Console. The best way to find out the default versions used in your Parallels installation is by creating a sample virtual machine.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl start, stop, reset

Start, stop, and reset a virtual machine.

### Syntax

```
pctl start ID|name
pctl stop ID|name [--kill]
pctl reset ID|name
```

### Parameters

Name	Description
<i>ID</i>	The ID of the virtual machine to start, stop, or reset.
<i>name</i>	The name of the virtual machine to start, stop, or reset.
--kill	Perform a 'hard' virtual machine shutdown. If this option is omitted, an attempt to perform a graceful shutdown will be made.

### Remarks

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.

The `reset` command stops and then starts a virtual machine. The command first performs a 'hard' virtual machine shutdown and then starts the virtual machine from the stopped state.

The `start` command can be used to start a stopped virtual machine or to resume a paused virtual machine (p. 41).

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl delete

Deletes a virtual machine from the Parallels server. The command removes a virtual machine from the Parallels Server for Mac Bare Metal Edition registry and permanently deletes all its files from the server. Once completed, this operation cannot be reversed.

### Syntax

```
pctl delete ID | name
```

### Parameters

Name	Description
<i>ID</i>	The ID of the virtual machine to delete.
<i>name</i>	The name of the virtual machine to delete.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl clone

Creates an exact copy of the specified virtual machine.

### Syntax

```
pctl clone ID | name --name new_name [--template] [--location path]
```

### Parameters

Name	Description
<i>ID</i>	The ID of the virtual machine to clone
<i>name</i>	The name of the virtual machine to clone.
--name <i>new_name</i>	The name to be assigned to the new virtual machine.
--template	Create a virtual machine template instead of a real virtual machine. Templates are used as a basis for creating new virtual machines.
--location <i>path</i>	Name and path of the new virtual machine directory. If this parameter is omitted, the new virtual machine will be created in the default directory.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl list

Obtains a list of virtual machines on the Parallels server. The command allows you to obtain a summary list containing only the virtual machine ID, name, and status or to obtain a detailed information about a specific or all virtual machines.

### Syntax

```
pctl list [--all] [--template] [--no-header]
          [-o, --output name[,name...]] [-s, --sort name|-name]
pctl list --info [ID|name]
```

### Parameters

Name	Description
-a, --all	List all, running, stopped, suspended, and paused virtual machines. If this and the rest of the parameters are omitted, only the running virtual machines will be displayed.
-t, --template	List the available virtual machine templates. The real virtual machines will not be included in the output.
--no-header	Do not display column headers.
<i>ID</i>	The ID of the virtual machine for which to display the detailed information. If none specified, the information will be displayed for all registered virtual machines.
-o, --output <i>name</i>	Display one (or any combination) of the following fields: <ul style="list-style-type: none"> <li>▪ <i>uuid</i> -- Virtual machine ID.</li> <li>▪ <i>name</i> -- Virtual machine name.</li> <li>▪ <i>status</i> -- Virtual machine status (running, stopped, etc.).</li> </ul> The above fields can be combined in a single command using comma separator (e.g. <i>uuid, name</i> ). The excluded fields will not be displayed. The field names must be typed in lower case.
-s, --sort <i>name</i>	Sort the virtual machine list by the specified parameter in ascending order.
-i, --info	Display detailed information about a virtual machine.
<i>ID</i>	The ID of the virtual machine for which to display the detailed information. If not specified, the information will be displayed for all registered virtual machines.
<i>name</i>	The name of the virtual machine for which to display the detailed information. If not specified, the information will be displayed for all registered virtual machines.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl pause, suspend, resume

Pause, suspend, and resume a virtual machine.

### Syntax

```
pctl pause ID | name
pctl suspend ID | name
pctl resume ID | name
```

### Parameters

Name	Description
<i>ID</i>	The ID of the virtual machine to pause, suspend, or resume.
<i>name</i>	The name of the virtual machine to pause, suspend, or resume.

### Remarks

The `pause` command pauses a virtual machine. To continue the virtual machine operation, use the `pctl start` command (p. 38).

The `suspend` command suspends the virtual machine operation. When a running virtual machine is suspended, the state of the virtual machine processes is saved to a file on the host. After that, the machine is stopped. To resume the machine, use the `resume` command.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl register, unregister

The `register` command is used to register a virtual machine with Parallels Server for Mac Bare Metal Edition.

The `unregister` command removes a virtual machine from the Parallels Server for Mac Bare Metal Edition registry.

### Syntax

```
pctl register path
pctl unregister ID|name
```

### Parameters

Name	Description
<i>path</i>	An absolute path to the virtual machine directory.
<i>ID name</i>	The ID or the name of the virtual machine to remove from the Parallels Server for Mac Bare Metal Edition registry.

### Remarks

Use the `register` command when you have a virtual machine on the server that does not show up in the list of the virtual machines registered with the Parallels Server for Mac Bare Metal Edition. This can be a machine that was previously removed from the registry or a machine that was copied from another location.

The `unregister` command removes a virtual machine from the Parallels Server for Mac Bare Metal Edition registry, but does not delete the virtual machine files from the server. You can re-register such a machine with Parallels Server for Mac Bare Metal Edition later using the `register` command.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl installtools

Installs Parallels Tools in the specified virtual machine.

### Syntax

```
pctl installtools ID | name
```

### Parameters

Name	Description
<i>ID</i>	The ID of the target virtual machine.
<i>name</i>	The name of the target virtual machine.

### Notes

To use this command, the target virtual machine must be running.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl snapshot

Takes a snapshot of a running virtual machine.

### Syntax

```
pctl snapshot ID | name [-n, --name name] [-d, --description desc]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
-n, --name <i>name</i>	User-defined snapshot name.
-d, --description <i>desc</i>	User-defined snapshot description.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl snapshot-delete

Deletes a virtual machine snapshot.

### Syntax

```
pctl snapshot-delete ID | name -i, --id snapshot_id
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
-i, --id <i>snapshot_id</i>	The ID of the snapshot to delete.

### Notes

If the specified snapshot has child snapshots that were derived from it, they will NOT be deleted.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl snapshot-list

Displays a list of snapshots of the specified virtual machine.

### Syntax

```
pctl snapshot-list ID | name [-t, --tree] [-i, --id snapshot_id]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
-t, --tree	Displays the snapshot list as a tree. The default display format is tabular with Parent Snapshot ID and Snapshot ID as columns.
-i, --id <i>snapshot_id</i>	The ID of the snapshot to use as a root. If this parameter is omitted, the entire snapshot tree will be displayed.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl snapshot-switch

Reverts the specified virtual machine to the specified snapshot.

### Syntax

```
pctl snapshot-switch ID | name -i, --id snapshot_id
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
-i, --id <i>snapshot_id</i>	The ID of the snapshot to revert to.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl migrate

Migrates a virtual machine from one host to another.

### Syntax

```
pctl migrate <[source_server/]ID> <destination_server[/ID]> [--dst <path>]
```

Options:

Name	Description
<i>ID</i>	The source virtual machine ID or name.
<i>source_server</i>	The IP address or hostname of the Source Server where the virtual machine is hosted before migration.
<i>destination_server</i>	The IP address or hostname of the Destination Server where the virtual machine is migrated from the Source Server.
--dst <i>path</i>	Name and path of the directory on the Destination Server where the virtual machine files should be stored.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl capture

Captures the screen of a virtual machine desktop and saves it to a file on the client machine. The data is saved in the Portable Network Graphics (PNG) format.

### Syntax

```
pctl capture ID | name --file name
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
--file <i>name</i>	Name and path of the file to which the image should be saved. You should include the file extension (.png) or the file will be saved without one.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl backup

Backs up a virtual machine.

### Syntax

```
pctl backup vm_id|vm_name
           [-s,--storage user[:passwd]@server[:port]]
           [--description desc]
```

### Parameters

Name	Description
<i>vm_id vm_name</i>	The UUID or the name of the virtual machine to back up.
-s,--storage	This option is used to specify the backup server connection and login parameters. If this option is omitted, the backup will be saved on the default backup server. The default backup server can be configured using the <code>prlsrvctl set</code> command.
<i>user</i>	The name of the user on a remote backup server.
<i>passwd</i>	The user password. If omitted, the user will be prompted to enter a password.
<i>server</i>	Server hostname or IP address.
<i>port</i>	Port number. If omitted, the default port number will be used.
--description <i>desc</i>	Backup description.
-i	Create a full backup of the virtual machine. A full backup contains all virtual machine data.
-f	Create an incremental backup of the virtual machine. An incremental backup contains only the files changed since the previous full or incremental backup. This is the default backup type.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl backup-list

Lists the available backups for the specified virtual machine.

### Syntax

```
pctl backup-list [vm_id|vm_name] [-f,--full]
                [-s,--storage user[:passwd]@server[:port]]
```

### Parameters

Name	Description
<i>vm_id</i>   <i>vm_name</i>	The UUID or the name of the virtual machine for which to list the available backups.
-f, --full	Display full backup information.
-s, --storage	Backup server connection and login parameters. If this option is omitted, the backups will be searched for on the default backup server. The default backup server can be configured using the <code>prlsrvctl set</code> command.
--localvms	List only the backups of the virtual machines that were residing on the local server .
<i>user</i>	The name of the backup server user.
<i>passwd</i>	The user password.
<i>server</i>	Backup server hostname or IP address.
<i>port</i>	Port number. If omitted, the default port is used.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl backup-delete

Deletes a virtual machine backup.

### Syntax

```
pctl backup-delete {{vm_id|vm_name} | -t,--tag backup_id}
                    [-s,--storage user[:passwd@server[:port]]]
```

### Parameters

Name	Description
<i>vm_id vm_name</i>	The UUID or the name of the virtual machine. If this option is specified, the command will delete the latest virtual machine backup. To delete a specific backup, omit this option and specify the backup ID using the <code>--tag</code> option (described below).
<code>-t, --tag backup_id</code>	The ID of the backup to delete.
<code>-s, --storage</code>	The backup server connection and login parameters. If this option is omitted, the backups will be searched for on the default backup server. The default backup server can be configured using the <code>prlsrvctl set</code> command.
<i>user</i>	The name of the backup server user.
<i>passwd</i>	The user password.
<i>server</i>	Backup server hostname or IP address.
<i>port</i>	Port number. If this option is omitted, the default port will be used.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl restore

Restores a virtual machine from a backup.

### Syntax

```
pctl restore {{vm_id|vm_name} | -t,--tag backup_id}
            [-s,--storage user[:passwd@server[:port]]]
            [-n, --name new_name]
```

### Parameters

Name	Description
<i>vm_id vm_name</i>	The UUID or the name of the virtual machine. If this option is specified, the command will restore it from the latest available backup. To restore a virtual machine from a specific backup, omit this option and specify the backup ID using the <code>--tag</code> option (described below).
<code>-t, --tag backup_id</code>	The backup ID from which to restore a virtual machine.
<code>-s, --storage</code>	The backup server connection and login parameters. If this option is omitted, the backups will be searched for on the default backup server. The default backup server can be configured using the <code>prlsrvctl set</code> command.
<i>user</i>	The name of the backup server user.
<i>passwd</i>	The user password.
<i>server</i>	The backup server hostname or IP address.
<i>port</i>	Port number. If omitted, the default port will be used.
<code>-n, --name new_name</code>	A new name to assign to the restored virtual machine. If omitted, the virtual machine will be restored with the original name.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl exec

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

### Syntax

```
pctl exec vm_id | vm_name command
```

### Parameters

Name	Description
<i>vm_id</i>   <i>vm_name</i>	The UUID or the name of the virtual machine.
<i>command</i>	A command to execute.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl enter

Creates a command prompt channel to a virtual machine. By using this command, you can create a command prompt channel and execute commands in a virtual machine. Parallels Tools must be installed in a virtual machine to use this utility.

### Syntax

```
pctl enter exec vm_id | vm_name
```

### Parameters

Name	Description
<i>vm_id</i>   <i>vm_name</i>	The UUID or the name of the virtual machine.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl problem-report

Obtains a problem report for the specified virtual machine and displays it on the screen.

### Syntax

```
pctl problem-report ID | name
```

### Parameters

Name	Description
<i>ID</i>	The ID of the virtual machine for which to obtain the problem report.
<i>name</i>	The name of the virtual machine for which to obtain the report. If the name consists of separate words, it must be enclosed in quotes.

### Remarks

The command collects technical data about a virtual machine and displays the report on the screen (the output can also be piped to a file). The report can then be forwarded to the Parallels technical support for the analysis of the problem.

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl server

Obtains the information about the Parallels server and Parallels Server for Mac Bare Metal Edition. It also allows you to disable the Parallels Server for Mac Bare Metal Edition component responsible for managing virtual machines.

### Syntax

```
pctl server shutdown|info
```

### Parameters

Name	Description
info	Displays the Parallels Server for Mac Bare Metal Edition information.
shutdown	Disables the Parallels Server for Mac Bare Metal Edition component responsible for managing virtual machines. If one or more virtual machines are running, clients are connected, or some tasks are currently in progress, then the operation will be aborted.

### See Also

`prlsrvctl info` (p. 13)

`prlsrvctl shutdown` (p. 18)

### Links

General Syntax (p. 12), Legend (p. 9)

## pctl set

The `pctl set` command is used to modify the configuration of a virtual machine and manage virtual machine devices and shared folders. The following subsections provide technical information on how to use the command to perform these tasks.

## Modifying Virtual Machine Configuration

The `pctl set` command can be used to modify some of the virtual machine configuration parameters, including virtual CPU availability, RAM and video memory size, startup and shutdown options, and some others.

### Syntax

```
pctl set ID|name [--cpus number] [--memsize number]
        [--videosize number] [--description description]
        [--autostart on|off|auto] [--autostart-delay number]
        [--autostop stop|suspend]
        [--start-as-user administrator|owner|user:passwd]
```

### Parameters

Name	Description
<i>ID</i>	Target virtual machine ID.
<i>name</i>	Target virtual machine name.
<code>--cpus number</code>	Number of virtual CPUs in the virtual machine. If the host has more than one CPU, this option allows you to set the number of virtual CPUs to be available in the virtual machine.
<code>--memsize number</code>	The amount of memory (RAM) available to the virtual machine, in megabytes.
<code>--videosize number</code>	The amount of video memory available to the virtual machine graphics card.
<code>--description VM_description</code>	Short description of the virtual machine.
<code>--autostart on off auto</code>	<p>Defines the virtual machine start-up options:</p> <ul style="list-style-type: none"> <li>▪ <code>on</code> -- the virtual machine is started automatically when the Parallels server starts or the Parallels Server for Mac Bare Metal Edition component responsible for managing virtual machines is disabled.</li> <li>▪ <code>off</code> -- the autostart is off. This is the default virtual machine start-up mode.</li> <li>▪ <code>auto</code> -- resume the virtual machine state prior to shutting down the Parallels server or disabling the Parallels Server for Mac Bare Metal Edition component responsible for managing virtual machines.</li> </ul> <p>If you set this option to <code>on</code> or <code>auto</code>, you must additionally specify the <code>--start-as-user</code> option (see below).</p>
<code>--autostart-delay number</code>	Sets the time delay used during the virtual machine automatic startup.

<code>--autostop stop suspend</code>	<p>Sets the automatic shutdown mode for the specified virtual machine:</p> <ul style="list-style-type: none"><li>▪ <code>stop</code> -- the virtual machine is stopped when you shut down the Parallels server or disable the Parallels component responsible for managing virtual machines.</li><li>▪ <code>suspend</code> -- the virtual machine is suspended when the Parallels server is shut down or the Parallels component responsible for managing virtual machines is disabled.</li></ul>
<code>--start-as-user administrator owner user:passwd</code>	<p>Specifies the account to use to autostart the virtual machine:</p> <ul style="list-style-type: none"><li>▪ <code>administrator</code> -- start the virtual machine as the administrator of the host operating system.</li><li>▪ <code>owner</code> -- start the virtual machine as the virtual machine owner.</li><li>▪ <code>user:passwd</code> -- start the virtual machine as the specified user.</li></ul>

## Links

General Syntax (p. 12), Legend (p. 9)

## Managing Virtual Devices

The `pctl set` command allows to add virtual devices to a virtual machine and to modify and delete existing virtual devices.

### General Syntax

```
pctl set ID|VM_name --device-add dev_type options
pctl set ID|VM_name --device-set name options
pctl set ID|VM_name --device-del name
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
<code>--device-add dev_type options</code>	<p>Adds a virtual device to the specified virtual machine.</p> <p>The <i>dev_type</i> parameter specifies the virtual device type (hdd, cdrom, fdd, net, etc.).</p> <p>The <i>options</i> parameters specifies device-type specific options.</p>
<code>--device-set name options</code>	<p>Modifies the configuration of an existing virtual device in the specified virtual machine.</p> <p>The <i>name</i> parameter specifies the virtual device name.</p> <p>The <i>options</i> parameters specifies device-type specific options.</p>
<code>--device-del name</code>	<p>Deletes a virtual device from the virtual machine. The <i>name</i> parameter specifies the name of the virtual device to delete.</p>

### Remarks

All device-related parameters can be subdivided into the following categories:

- Hard disk drives (p. 58)
- Optical disk drives (p. 60)
- Network cards (p. 63)
- Floppy disk drives (p. 62)
- USB devices (p. 67)
- Serial ports (p. 65)
- Parallel ports (p. 66)
- Sound cards (p. 68)

Each group of parameters is explained in the following subsections in detail.

### Notes

All operations on virtual machine devices (adding, modifying, or removing a device) must be performed on a stopped virtual machine. An attempt to perform any of these operations on a running virtual machine will result in error.

## Links

Legend (p. 9)

## Hard Disk Drive Management Parameters

This group of parameters is used to add and configure virtual hard disks in a virtual machine.

### Syntax

```
pctl set ID|VM_name --device-add hdd [--image name]
    [--type expand|plain][--size number][--split]
    [--iface ide|scsi][--position number]
    [--enable|--disable]

pctl set ID|VM_name --device-add hdd --device name
    [--iface ide|scsi][--position number]
    [--enable|--disable]

pctl set ID|VM_name --device-set hddN [--image name]
    [--type expand|plain][--size number][--split]
    [--iface ide|scsi][--position number]
    [--enable|--disable]

pctl set ID|VM_name --device-set hddN --device name
    [--iface ide|scsi][--position number]
    [--enable|--disable]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
--device-add	Adds a virtual hard disk drive to the virtual machine.  You can connect up to four IDE devices and up to seven SCSI devices to a virtual machine. This includes hard disks and optical disk drives.
--device-set	Modifies the parameters of an existing virtual hard disk.
hdd	Specifies the type of the virtual device to add to the virtual machine (in this instance, a virtual hard disk).
hddN	The name of the virtual hard disk to modify. Virtual hard disks are named using the hddN format where N is the drive index number starting from 0 (e.g. hdd0, hdd1). To obtain the list of disk names, use the pctl list command with the --info option.
--image <i>name</i>	This options is used to create a virtual hard disk using an image file. You have an option of creating a new image file or to use an existing image. <ul style="list-style-type: none"> <li>▪ To use an existing image file, specify its name and path using the <i>name</i> parameter.</li> <li>▪ To create a new image file, omit the --image parameter. New image files are created in the virtual machine directory and are automatically named using the harddiskN.hdd format, where N is the disk index number (e.g. harddisk0.hdd, harddisk1.hdd).</li> </ul>
--device <i>name</i>	This option is used to create a virtual hard disk based on a boot camp partition (Mac hosts). The <i>name</i> parameter must contain the boot

	camp partition name.
<code>--type expand plain</code>	For image file based virtual disk drives, specified the disk type: <ul style="list-style-type: none"> <li>▪ <code>expand</code> -- expanding disk. The image file is small initially and grows in size as you add data to it. This is the default virtual disk type.</li> <li>▪ <code>plain</code> -- plain disk. The image file has a fixed size from the moment it is created (i.e the space is allocated for the drive fully). Plain disks perform faster than expanding disks.</li> </ul>
<code>--size number</code>	The size of the virtual hard disk, in megabytes. The default size is 32,000 MB.
<code>--split</code>	Splits the hard disk image file into 2 GB pieces. You should split a virtual disk if it is stored on a file system that cannot support files larger than 2 GB (e.g. FAT16).
<code>--iface ide scsi</code>	Interface type: <ul style="list-style-type: none"> <li>▪ <code>ide</code> -- IDE drive.</li> <li>▪ <code>scsi</code> - SCSI drive (default).</li> </ul>
<code>--position number</code>	The SCSI or IDE device identifier to be used for the virtual disk. The allowed ID ranges are the following: <ul style="list-style-type: none"> <li>▪ for IDE devices: 0:0, 0:1, 1:0, 1:1;</li> <li>▪ for SCSI device: 0:0, 1:0, 2:0, 3:0, 4:0, 5:0, 6:0.</li> </ul> You can use one of the following formats for specifying IDs: <i>ID:bus</i> , <i>ID-bus</i> , <i>ID</i> . For example, if you specify 3:0 (or 3-0 or 3) as <i>number</i> for a SCSI drive, the guest OS will see the drive as having ID 3 on SCSI bus 0.
<code>--enable</code>	Enables the specified virtual disk drive. All newly added disk drives are enabled by default (provided the <code>--disable</code> option is omitted).
<code>--disable</code>	Disables the specified virtual disk drive. The disk drive itself is not removed from the virtual machine configuration.

## Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Optical Disk Drive Management Parameters

This group of parameters is used to add and configure virtual optical disk drives, such as DVD or CD drives.

### Syntax

```
pctl set ID|VM_name --device-add cdrom --image image_name
    [--iface ide|scsi] [--position number]
    [--enable|--disable] [--connect|--disconnect]

pctl set ID|VM_name --device-add cdrom --device device_name
    [--iface ide|scsi] [--position number]
    [--enable|--disable] [--connect|--disconnect]

pctl set ID|VM_name --device-set cdromN
    {--device name|--image name} [--iface ide|scsi]
    [--position number][--enable|--disable]
    [--connect|--disconnect]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
--device-add	Adds a DVD/CD drive to the virtual machine. You can connect up to four IDE devices and up to seven SCSI devices to a virtual machine. This includes virtual hard disks and DVD/CD drives.
--device-set	Modifies the parameters of an existing virtual optical disk.
cdrom	Specifies the virtual device type (in this instance, a CD or DVD drive).
cdrom <i>N</i>	The name of the DVD/CD drive to modify. The <i>N</i> postfix indicates the drive index number. To obtain the list of the available drives, use the <code>pctl list</code> command with the <code>--info</code> option.
--device <i>name</i>	The name of the physical optical disk to connect to the virtual machine.
--image <i>name</i>	The name of an existing disk image file to mount in the virtual machine. Currently, the following image file formats are supported: <code>.iso</code> , <code>.cue</code> , <code>.ccd</code> , and <code>.dmg</code> . The image must not be compressed and/or encrypted.
--iface <i>ide scsi</i>	Interface type: <ul style="list-style-type: none"> <li>▪ <code>ide</code> -- IDE disk.</li> <li>▪ <code>scsi</code> -- SCSI disk (default).</li> </ul>
--position <i>number</i>	The SCSI or IDE device identifier to be used for the DVD/CD drive. The allowed ID ranges are the following: <ul style="list-style-type: none"> <li>▪ for IDE devices: <code>0:0</code>, <code>0:1</code>, <code>1:0</code>, <code>1:1</code>;</li> <li>▪ for SCSI device: <code>0:0</code>, <code>1:0</code>, <code>2:0</code>, <code>3:0</code>, <code>4:0</code>, <code>5:0</code>, <code>6:0</code>.</li> </ul> <p>You can use one of the following formats for specifying IDs: <code>ID:bus</code>, <code>ID-bus</code>, <code>ID</code>. For example, if you specify <code>3:0</code> (or <code>3-0</code> or <code>3</code>) as <i>number</i> for a SCSI drive, the guest OS will see the drive as having ID 3 on SCSI bus 0.</p>

<code>--enable</code>	Enables the specified DVD/CD drive. All newly added drives are enabled by default (provided the <code>--disable</code> option is omitted).
<code>--disable</code>	Disables the specified optical disk drive. The disk drive itself is not removed from the virtual machine configuration.
<code>--connect</code>	Automatically connect the specified optical disk drive during the virtual machine startup process.
<code>--disconnect</code>	Do not automatically connect the specified optical disk drive during the virtual machine startup process.

## Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Floppy Disk Drive Management Parameters

This group of parameters is used to add floppy disk drives to a virtual machine and to modify existing virtual floppy disk drives.

### Syntax

```
pctl set ID|VM_name --device-add fdd [--device name]
      [--enable|--disable][--connect|--disconnect]

pctl set ID|VM_name --device-set fdd [--device name]
      [--enable|--disable][--connect|--disconnect]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
<i>fdd</i>	Specifies the type of the virtual device to add or modify (in this instance, a floppy disk drive).
<code>--device-add</code>	Adds a new floppy disk drive to the virtual machine. You can connect only one floppy disk drive to a virtual machine.
<code>--device-set</code>	Modifies the parameters of an existing virtual floppy disk drive.
<code>--device name</code>	The name of the physical floppy disk drive to connect to the virtual machine. If this parameter is omitted, a floppy drive image emulating the floppy disk drive will be created.
<code>--enable</code>	Enables the specified floppy disk drive. All newly added floppy drives are enabled by default (provided the <code>--disable</code> option was omitted during the drive creation).
<code>--disable</code>	Disables the specified floppy disk drive. The drive itself is not removed from the virtual machine configuration.
<code>--connect</code>	Connect the specified floppy disk drive automatically during the virtual machine startup process.
<code>--disconnect</code>	Use this option if you don't want the specified floppy disk drive automatically connected to the virtual machine on its start.
<code>--image path</code>	The name and path of an existing floppy disk image file (usually <code>floppy.fdd</code> ) to mount in the virtual machine.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Network Adapter Management Parameters

This group of parameters is used to manage virtual network adapters in a virtual machine.

### Syntax

```
pctl set ID|VM_name --device-add net --type shared|host|bridged
        [--mac addr][--enable|--disable][--connect|--disconnect]

pctl set ID|VM_name --device-add net --type bridged --iface name
        [--mac addr][--enable|--disable] [--connect|--disconnect]

pctl set ID|VM_name --device-set netN --type shared|host
        [--mac addr][--enable|--disable][--connect|--disconnect]

pctl set ID|VM_name --device-set netN --type bridged
        --iface name [--mac addr|auto][--enable|--disable]
        [--connect|--disconnect]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
<code>--device-add</code>	Adds a new virtual network adapter to the virtual machine.
<code>--device-set</code>	Used to configure an existing virtual network adapter.
<i>net</i>	Specifies the virtual device type to add (in this instance, a virtual network adapter).
<i>netN</i>	The name of the virtual network adapter to modify. To obtain the list of the available adapters, use the <code>pctl list</code> command with the <code>--info</code> option.
<code>--type</code> <i>shared host bridge</i> <i>d</i>	Sets the networking mode for the virtual network adapter: <ul style="list-style-type: none"> <li><code>shared</code> -- Shared networking. Select this option if you wish to enable Network Address Translation (NAT) for the adapter. The adapter will share the IP address with the Parallels server when communicating with external networks.</li> <li><code>host</code> -- Host-only networking. Select this option if you wish the virtual machine to communicate only with the Parallels server and other virtual machines included in the same network. Access to external networks is not allowed.</li> <li><code>bridged</code> -- Bridged networking. The adapter is bound to the specified physical network adapter. The virtual machine will appear as a standalone computer on the network.</li> </ul>
<code>--iface name</code>	Used with the bridged networking mode (see above). Specifies the name of the physical network adapter to which the virtual adapter should be bound.
<code>--mac addr</code>	The MAC address to be assigned to the virtual network adapter. If this option is omitted, the MAC address will be generated automatically.
<code>--mac addr auto</code>	Specifies the MAC address to assign to an existing network adapter. Specify a desired MAC address using the <i>addr</i> parameter value or use the <code>auto</code> option to re-generate the existing address automatically.

<code>--enable</code>	Enables the virtual network card. All newly created network adapters are enabled by default (provided the <code>--disable</code> option is omitted).
<code>--disable</code>	Disables virtual network adapter. The adapter itself is not removed from the virtual machine configuration. Please note that a disabled virtual network adapter can only be enabled in a stopped virtual machine.
<code>--connect</code>	Automatically connect the virtual network adapter during the virtual machine startup process.
<code>--disconnect</code>	Do not automatically connect the virtual network adapter during the virtual machine startup process.

## Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Serial Port Management Parameters

This group of parameters is used to manage serial ports in a virtual machine.

### Syntax

```
pctl set ID|VM_name --device-add serial
    {--device name|--output file|--socket name}
    [--enable|--disable][--connect|--disconnect]

pctl set ID|VM_name --device-set serialN
    {--device name|--output file|--socket name}
    [--enable|--disable][--connect|--disconnect]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
--device-add	Adds a new serial port to the virtual machine. You can connect up to four serial ports to a virtual machine.
--device-set	Modifies the parameters of an existing serial port.
serial	Specifies the type of the virtual device to add (in this instance, a serial port).
--device <i>name</i>	The name of the physical serial port to which to connect the virtual machine.
--output <i>file</i>	The name and path of the output file to which to connect the virtual serial port.
--socket <i>name</i>	The name of the physical socket to which to connect the virtual serial port.
--enable	Enables the virtual serial port. All newly added serial ports are enabled by default (provided the --disable option is omitted).
--disable	Disables the virtual serial port.
--connect	Automatically connect the virtual serial port during the virtual machine startup process.
--disconnect	Do not automatically connect the virtual serial port during the virtual machine startup process.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Parallel Port Management Parameters

This group of parameters is used to manage parallel port in a virtual machine.

### Syntax

```
pctl set ID|VM_name --device-add parallel
    {--device name|--output file_name}
    [--enable|--disable][--connect|--disconnect]

pctl set ID|VM_name --device-set parallelN
    {--device name|--output file_name}
    [--enable|--disable][--connect|--disconnect]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>name</i>	The virtual machine name.
--device-add	Adds a new parallel port to the virtual machine. You can connect up to three parallel ports to a virtual machine.
--device-set	Modifies the parameters of an existing virtual parallel port.
parallel	Specified the type of the virtual device to add (in this instance, a virtual parallel port).
parallelN	The name of the parallel port to modify. To obtain the list of ports, use the <code>pctl list</code> command with the <code>--info</code> option.
--device <i>name</i>	The name of the physical parallel port to which to connect the virtual parallel port.
--output <i>file_name</i>	The name of the output file to which to connect the virtual parallel port.
--enable	Enables the specified parallel port. All newly added parallel ports are enabled by default (provided the <code>--disable</code> option was omitted during the port creation).
--disable	Disable the specified virtual parallel port. The port itself is not removed from the virtual machine configuration.
--connect	Automatically connect the specified virtual parallel port during the virtual machine startup process.
--disconnect	Do not automatically connect the specified virtual parallel port during the virtual machine startup process.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## USB Controller Management Parameters

This group of parameters is used to manage the USB controller in a virtual machine.

### Syntax

```
pctl set ID | VM_name --device-add usb [--enable | --disable]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
usb	The type of the virtual device to add to the virtual machine (in this instance, a USB device).
--enable	Enables the USB controller. This is the default option.
--disable	Disables the USB controller.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Sound Device Management Parameters

This group of parameters is used to manage sound devices in a virtual machine.

### Syntax

```
pctl set ID | VM_name --device-add sound --output name
[ --enable | --disable ] [ --connect | --disconnect ]

pctl set ID | VM_name --device-set sound --output name
[ --enable | --disable ] [ --connect | --disconnect ]
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
sound	The type of the virtual device to add to the virtual machine (in this instance, a sound device).
--output <i>name</i>	The name of a physical output device to which to connect the virtual sound device.
--input <i>name</i>	The name of the physical input device to which to connect the virtual sound device.
--enable	Enables the specified sound device. All newly added sound devices are enabled by default (provided the --disable option is omitted).
--disable	Disables the specified virtual sound device.
--connect	Automatically connect the sound device during the virtual machine startup process.
--disconnect	Do not automatically connect the sound device during the virtual machine startup process.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Removing Devices from Virtual Machine

The `--device-del` option is used to remove virtual devices from a virtual machine.

### Syntax

```
pctl set ID | name --device-del name
```

### Parameters

Name	Description
<code>--device-del <i>name</i></code>	The name of the virtual device to delete from the virtual machine. To obtain the list of virtual devices, use the <code>pctl list</code> command with the <code>--info</code> option.

### Links

General Syntax (p. 12), Virtual Device Management (p. 56), Legend (p. 9)

## Managing Shared Folders

The `pctl set` command can be used to add shared folders to a virtual machine and to modify and delete existing shared folders.

### Syntax

```
pctl set ID|VM_name --sharedfolder-add name --path path
                                     [--mode ro|rw]
                                     [--description txt]
                                     [--enable|--disable]

pctl set ID|VM_name --sharedfolder-set name [--mode ro|rw]
                                     [--path path]
                                     [--description txt]
                                     [--enable|--disable]

pctl set ID|VM_name --sharedfolder on|off

pctl set ID|VM_name --sharedfolder-del name
```

### Parameters

Name	Description
<i>ID</i>	The virtual machine ID.
<i>VM_name</i>	The virtual machine name.
<code>--sharedfolder-add</code>	Adds a shared folder to the virtual machine.
<code>--sharedfolder-set</code>	Modifies the settings of an existing shared folder.
<code>--sharedfolder on off</code>	Turns folder sharing on or off.
<code>--sharedfolder-del</code>	Removes the shared folder specified by <i>name</i> from the shared folder list.
<i>name</i>	User-defined shared folder name.
<code>--path</code>	Name and path of a folder on the Parallels server to share with the specified virtual machine.
<code>--mode</code>	Sharing mode: <ul style="list-style-type: none"> <li>▪ <code>ro</code> -- read-only.</li> <li>▪ <code>rw</code> -- read and write.</li> </ul>
<code>--description</code>	User-defined shared folder description.
<code>--enable</code>	Enable the shared folder.
<code>--disable</code>	Disable the shared folder.

### Links

General Syntax (p. 12), Legend (p. 9)

## pmigrate

Migrating virtual machines is performed using the `pmigrate` utility. This utility has the following syntax:

```
pmigrate <source_server> <destination_server> [options]
```

`<source_server>` is the Source Server which can be either the server where the virtual machine to be migrated is residing (if you are migrating a virtual machine) or the physical computer to be migrated (if you are migrating a physical computer). `<destination_server>` is the Destination Server, i.e. the Parallels server where the virtual machine or the physical server is to be migrated. If the Source and/or Destination Server is not specified, the operation is performed on the local server.

`<source_server>` and `<destination_server>` consists of two parts:

- `<type>` denotes the type of computer to migrate and can be one of the following:
  - `h` must be specified when migrating a physical computer.
  - `v` must be specified when migrating a virtual machine.
- `<address>` denotes the location of computer to migrate and can be one of the following:
  - The computer location if you are migrating a physical computer.
  - The computer location and the virtual machine name if you are migrating a virtual machine. The location must be separated from the virtual machine name by the slash (/).

The location format is as follows:

```
[<user>[:<password>]@]<destination_server_IP_address_or_hostname>[:<destination_server_port>]
```

Common options:

<code>--dst=&lt;path&gt;</code>	Specifies the name and path of the directory on the Destination Server where the virtual machine files will be stored. If this option is omitted, the default directory is used.
<code>-h, --help</code>	Displays the information on the utility usage.

Options specific for migrating physical computers to virtual machines:

<code>-r, --reg[=&lt;y n&gt;]</code>	Specifies whether to register the resulting virtual machine on the Parallels server. By default, the virtual machine is registered.
<code>--osdata=&lt;path&gt;</code>	Sets the path to the directory with data files required for the OS reconfiguration and not found on the source computer.
<code>-a, --all</code>	Migrate all computer's disks and partitions with all available data. If this option is omitted, only data from the active disk drive is migrated.
<code>--key=&lt;auth_key&gt;</code>	Set the authentication key for passwordless access to the physical computer you want to migrate. To set this key on the computer, use the <code>parallels-transporter-agent -regkey &lt;value&gt;</code> command ( <code>&lt;auth_key&gt;</code> can be any alphanumeric value).

## pbackup

The `pbackup` utility is run on the so-called Backup Server. It connects via SSH to the servers where some or all virtual machines are to be backed up and puts the tarballs into the directory defined in the `/etc/vzbackup.conf` global backup configuration file (by default, this directory is `/vz/backup`). Later on, the virtual machine backups may be restored from this directory. It has the following syntax:

```
pbackup [backup_options] SERVER1 ... [CT options]
```

You may specify any number of servers names or IP addresses in the command-line. You may also enter these names as the value of the `BACKUP_NODES` parameter in the global backup configuration file to avoid the necessity to specify them in the command-line. In this case, you shall specify the `-a` option instead.

The backup options are the following:

- `-a` Back up all servers specified in the global backup configuration file.
- `-c CONFIG` Use an alternative backup configuration file.
- `-n CREDENTIALS` Set the Backup Server, i.e. the server that will be used for storing the resulting virtual machine backups. If this parameter is omitted, the specified virtual machines will be backed up to the server where they are hosted.  
  
The Backup Server can be specified in this format:  
`user[[:password]@server_IP_address_or_hostname[:port]]`
- `--ssh-opts OPTIONS` Options to be passed to `ssh`. See examples in the global backup configuration file.
- `-F, -I` Create a full backup. A full backup contain all virtual machine data.
- `-i` Make an incremental backup or, if no full backups are available, a full backup. An incremental backup contains only the file that were changed since the previous full or incremental backup.

The virtual machine options define the list of virtual machines to be backed up:

- `-e VM1...` The virtual machines to back up on the server. Virtual machines can be specified using both their IDs and their names.
- `-x VM1...` The virtual machines that need not be backed up (virtual machines to exclude). Virtual machines can be specified using both their IDs and their names.

---

## prestore

The `prestore` utility is also run on the Backup Server. It uses the virtual machine backups stored on the Backup Server to restore them to their original servers (or to any other location if the `-d` option is specified). The syntax of the utility is the following:

```
prestore [restore_options] server1 ... [CT_options]
```

You can specify any number of servers (their names or IP addresses) whose virtual machines were at one time backed up and now need to be restored.

The restore options are the following:

- l Do not restore any virtual machines. Show the information on the virtual machines available to be restored.
- n *destination\_server* The Backup Server where to look for existing backups. If this option is omitted, `prestore` searches for the backups on the server from which they were originally backed up.  
The Destination server can be specified in the following format:  
`<user[[:password]@server_IP_address_or_hostname[:port]]>`
- e *CT1...* The virtual machines to be restored on the server. Any virtual machine can be specified using both its ID or name.
- x *CT1...* The virtual machines that need not be restored (virtual machines to exclude). Any virtual machine can be specified using both its ID and name.

## prl\_disk\_tool

The `prl_disk_tool` utility is used to manage disk drives of your virtual machines. This utility has the following syntax:

```
prl_disk_tool <COMMAND> [OPTIONS] --hdd <disk_name>
```

### Resizing Virtual Disks

When resizing virtual disks, the utility has the following syntax:

```
prl_disk_tool resize --size <size>[M|G] [--resize_partition] --hdd <disk_name>
[--force]
prl_disk_tool resize -i,--info [--units <K|M|G>] --hdd <disk_name>
```

#### Parameters

<code>resize</code>	Changes the capacity of the virtual disk. The disk to be resized must be formatted as NTFS, FAT 16, FAT 32, ext2, or ext3.
<code>--size</code>	The new size for the virtual disk. It can be set either in megabytes (specify <code>M</code> after the value) or in gigabytes (specify <code>G</code> after the value). By default, the size is set in megabytes.
<code>--</code>	
<code>resize_partition</code>	Resizes the last partition of the specified virtual disk.
<code>--hdd</code>	The full path to the virtual disk to be configured.
<code>--force</code>	Forces the resizing operation for suspended virtual disks.
<code>-i, --info</code>	Do not resize the virtual disk; just show the size the disk will have after resizing.
<code>--units</code>	Displays the disk size in kilobytes ( <code>K</code> ), megabytes ( <code>M</code> , default), and gigabytes ( <code>G</code> ).

### Compacting Virtual Disks

When compacting virtual disks, the utility has the following syntax:

```
prl_disk_tool compact [--buildmap] --hdd <disk_name> [--force]
prl_disk_tool compact -i,--info --hdd <disk_name>
```

#### Parameters

<code>compact</code>	Removes all empty blocks from the expanding virtual disk and reduces its size on your physical disk. The disk to be compacted must be formatted as NTFS, FAT 16, FAT 32, ext2, or ext3. You can also try to compact virtual disks with other filesystems using the <code>--buildmap</code> option.
<code>--hdd</code>	The full path to the virtual disk to be configured.
<code>--buildmap</code>	Used to compact virtual disks with unsupported filesystems.
<code>--force</code>	Forces the compacting operation for suspended virtual disks.
<code>-i, --info</code>	Do not compact the virtual disk; just display the information about the size the disk will have after compacting.

### Preparing Virtual Disks for Booting

The `prl_disk_tool` utility can also be used to prepare virtual disks and real Boot Camp partitions for booting into virtual machines. In this case the utility has the following syntax:

```
prl_disk_tool configure --hdd <disk_name> [--para <paravirt_driver>] [--boot <boot_driver>]
```

### Parameters

<code>configure</code>	Prepares a disk or a real Boot Camp partition for booting into a virtual machine.
<code>--hdd</code>	The full path to the virtual disk to be configured.
<code>--para</code>	Specifies the full path to the Parallels virtualization driver.
<code>--boot</code>	Specifies the full path to the Parallels boot driver.

### Displaying Utility Help

To display the utility help, use this command:

```
prl_disk_tool --help
```

---

## vznetstat

This utility outputs traffic usage statistics for virtual machines. It has the following syntax:

```
vznetstat [-v <ID>] [-c <class>] [-a] [-r]
```

The utility displays input and output traffic for virtual machines for each defined network class. The network classes are described in the `/etc/vz/conf/networks_classes` file. If no options are specified the network statistics for all running virtual machines is printed.

The utility accepts the following options:

<code>-v &lt;ID&gt;</code>	Display statistics for virtual machines with the ID of <code>&lt;ID&gt;</code> . Multiple <code>-v</code> options can be given to a single <code>vznetstat</code> invocation.
<code>-c &lt;class&gt;</code>	Show the network statistics for the <code>&lt;class&gt;</code> class only.
<code>-a</code>	Display statistics for all classes.
<code>-r K M G</code>	Display the network statistics, which is shown in bytes by default, in the following measurement units: <ul style="list-style-type: none"> <li>▪ K: display the network statistics in kilobytes</li> <li>▪ M: display the network statistics in megabytes</li> <li>▪ G: display the network statistics in gigabytes</li> </ul>
<code>--help</code>	Display the utility usage information.

# Glossary

*Guest operating system (Guest OS).* An operating system installed inside a virtual machine. It can be any of the supported Windows, Linux, or Mac operating systems.

*Hardware virtualization.* A virtualization technology allowing you to virtualize physical servers at the hardware level. Hardware virtualization provides the necessary environment for creating and managing Parallels virtual machines.

*Parallels Management Console.* A Parallels Server for Mac Bare Metal Edition management and monitoring tool with graphical user interface. Parallels Management Console is cross-platform and can run on Microsoft Windows, Linux, and Mac computers.

*Parallels Server.* A hardware virtualization solution that enables you to efficiently use your physical server's hardware resources by sharing them between multiple virtual machines created on this server.

*Parallels server (or physical server or server).* A server where the Parallels Server for Mac Bare Metal Edition software is installed for hosting Parallels virtual machines.

*Parallels Server for Mac Bare Metal Edition license.* A special license that you should install on the physical server to be able to start using Parallels Server for Mac Bare Metal Edition. Every physical server must have its own license installed.

*Virtual machine (VM).* A computer emulated by Parallels Server for Mac Bare Metal Edition. A virtual machine is functionally identical to an isolated standalone computer, with its own operating system, IP addresses, processes, files, its own users database, its own configuration files, its own applications, system libraries, and so on.

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