Parallels®

Parallels Server 5 Bare Metal

Installation via PXE Server

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Introduction

This guide provides information on how to install Parallels Server 5 Bare Metal over a network using a PXE (Preboot Execution Environment) server. You will learn how to perform two types of Parallels Server Bare Metal installation in a PXE environment:

- Manual installation. When performing this kind of installation, you are asked questions by the Parallels Server Bare Metal installer and define the necessary installation and configuration settings. Manual installation is recommended if you plan to install the product on a small number of physical servers.
- Unattended installation. In this kind of installation, the Parallels Server Bare Metal installer uses a special kickstart file to determine the necessary installation and configuration settings. Unattended installation assumes that no interaction is required on your part and is recommended if you plan to install the product on a multitude of physical servers.

To install Parallels Server 5 Bare Metal over a network, you need to complete the following steps:

1. Prepare for installation from a PXE server.
2. Create a kickstart file. This step is only required if you plan to automate the procedure of deploying Parallels Server Bare Metal on your servers.
3. Install Parallels Server Bare Metal.

All these steps are explained in the following sections in detail.

Preparing for PXE Installation

First, you should prepare your network environment for a PXE installation. The example below describes the basic steps you usually need to perform to prepare for such an installation.

Choosing Servers

First, you should decide on the servers that will participate in the PXE installation. In general, you need these servers:

- PXE server. This server allows your Parallels servers to boot and install Parallels Server Bare Metal over the network. Any server capable of running a Linux operating system and having a network interface card (NIC) can play the role of a PXE server.
- DHCP server. This is a standard DHCP server providing computers on your network with the necessary network settings. You can use an existing DHCP server, if you have one, or set up a DHCP server from scratch. In the latter case, you can install it on the PXE server or use a dedicated server.
- Parallels server. This is the server where you plan to install Parallels Server Bare Metal. This server must meet the requirements described in the Preparing for Installation chapter of the *Parallels Server 5 Bare Metal Installation Guide*. In addition to the requirements listed in this chapter, the server must have a NIC with PXE support to be able to boot from the PXE server.
- HTTP or FTP server. This server will store the Parallels Server Bare Metal installation files. The given guide assumes that you will store the installation files on an HTTP server and use HTTP as the installation protocol.

Installing Software

Next, you are supposed to install the necessary software on the PXE server. First of all, you need to perform a standard installation of a Linux operating system. There are no specific requirements for what operating system to use; so, you can choose any (e.g. Red Hat Enterprise Linux 5.3 or Fedora 10).

Once your system is up and running, install the following packages:

- `tftp-server`
- `httpd`
- `syslinux`
- `dhcp` (this package must be installed only if you plan to deploy the PXE and DHCP servers on the same physical box)

Assuming that your PXE server is running an RHEL-like operating system, you can use the `yum` utility to install the packages:

```
# yum install tftp-server dhcp httpd syslinux
```

Configuring the TFTP Server

In the next step, you need to configure the TFTP server. To do this:

1. On the PXE server, open the `/etc/xinet.d/tftp` file for editing, and add the following strings to it:

```
service tftp
{
disable = 0
socket_type  = dgram
protocol     = udp
wait         = yes
user         = root
server       = /usr/sbin/in.tftpd
server_args  = -v -s /tftpboot
per_source   = 11
cps          = 100 2
flags        = IPv4
}
```

2. Copy the following files to the `/tftpboot` directory:

   - `vmlinuz`
   - `initrd.img`
   - `menu.c32`

   These files are necessary to start the Parallels Server Bare Metal installation. You can find the first two files in the `/isolinux` directory of the Parallels Server Bare Metal distribution. The `menu.c32` file is located in the `syslinux` installation directory on the PXE server (`/usr/lib/syslinux` by default).

3. Create the `/tftpboot/pxelinux.cfg` directory, and inside this directory, make the `default` file.

4. Open the `default` file for editing, and add the following strings to it:

```
default menu.c32
prompt 0
timeout 100
ontimeout PSBM
menu title Parallels Boot Menu

label PSBM
        menu label Install Parallels Server Bare Metal
        kernel vmlinuz
        append initrd=initrd.img noipv6 ksdevice=bootif
```

   Pay attention to the `timeout` parameter. Its value, in units of 1/10 s, defines the time for displaying a boot dialog box. During this time, you will need to select the entry for Parallels Server Bare Metal and press Enter to start the installation. For example, if you use the example above, you will see for 10 seconds the `Parallels Boot Menu` dialog box that will display the entry `Install Parallels Server Bare Metal`. Selecting this entry and pressing Enter will start the Parallels Server Bare Metal installation.

   For more information on parameters you can specify in the `/tftpboot/pxelinux.cfg/default` file and their configuration, see the documentation for `syslinux` and its man pages.

5. Restart the `xinet.d` service:

```
# /etc/init.d/xinet.d restart
```

Setting Up a DHCP Server

Now you can proceed with configuring a DHCP server. If you already have a DHCP server in your network, you can use this server. Otherwise, install it using the standard installation procedure.

To configure the DHCP server for installation over the network, open the `/etc/dhcpd.conf` file for editing and add the following strings to this file:

```
next-server PXE_SERVER_IP_ADDRESS;
filename "/pxelinux.0";
```

where *PXE_SERVER_IP_ADDRESS* is the IP address of your PXE server, and `/pxelinux.0` is the name of the pre-boot Linux kernel.

Setting Up an HTTP Server

Now that you have set up the PXE and DHCP servers, you need to make the Parallels Server Bare Metal distribution files available for installation over the network. You can do this as follows:

1. Set up an HTTP server (or using an existing HTTP server), and copy the Parallels Server Bare Metal installations file to this server.
2. On the PXE server, open the `/tftpboot/pxelunux.cfg/default` file for editing, and specify the path to the Parallels Server Bare Metal installation files on the HTTP server.

   Assuming that you copied the installation file to the `/var/www/pub/html/psbm` directory on the HTPP server with the IP address of `198.123.123.198`, you can add the following string to the `default` file to make the Parallels Server Bare Metal files accessible:

```
method=http://198.123.123.198/pub/psbm/
```

Configuring the Parallels Server

Before you can start the Parallels Server Bare Metal installation, you should also configure each server where you plan to install the product to boot from the network. To do this:

1. Switch on the server.
2. Enter the BIOS setup.
3. Enable the network boot.

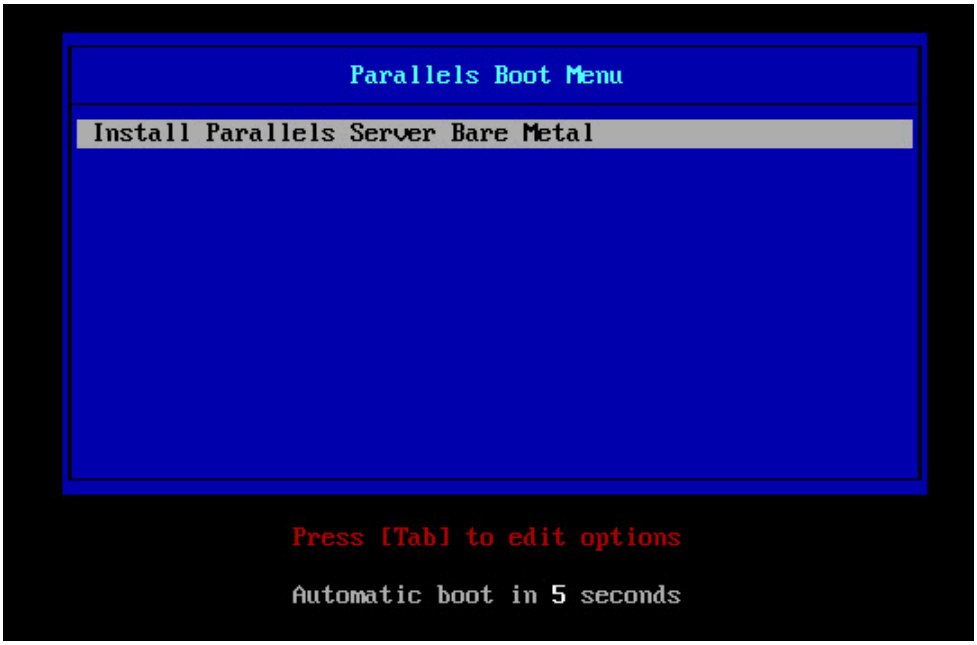
Installing Parallels Server 5 Bare Metal

Now that you have prepared all the servers, you can start the Parallels Server Bare Metal installation. All you need to do is restart the Parallels server after configuring its BIOS settings to boot from the network.

Note: If you plan to perform an unattended installation of Parallels Server Bare Metal, you should additionally create a kickstart file. Refer to the Creating a Kickstart File section (p. 17) for information on how you can do it.

Follow these guidelines to install Parallels Server Bare Metal:

1 After the server boots, you will see a dialog box asking you to select the system to install. For example, if you used the example in the Configuring the TFTP Server section (p. 7), you will see the following dialog:



Select the entry for Parallels Server Bare Metal, and press Enter.

2. Next, you are asked to choose the installation mode. Parallels Server Bare Metal can be installed using one of these modes:

   - graphical mode
   - text mode

   For the purpose of this guide, we describe how to install Parallels Server Bare Metal in the graphical mode. However, both installation modes are very much alike; so, you can use the explanations below to install the product also in the text mode.

3. Press Enter to continue with the installation.

   Note: If your physical server does not support hardware virtualization, you will be informed of this fact. You can continue the installation and install Parallels Server Bare Metal. However, in this case you will not be able to run Parallels virtual machines on this server.

4. Accept the Parallels end user license agreement by clicking Next, and in the displayed window, clicking Agree.

5. After accepting the license agreement, you are asked to join the Parallels Customer Experience Program. If you choose to participate in the program (select Agree, and press Enter), Parallels will periodically collect the information about your physical server and Containers configuration and use it to make the product better fit your needs. No private information like your name, e-mail address, phone number, and keyboard input will be collected.

6. On the next screen, you will be asked to enter the Parallels Server Bare Metal license. Every physical server must have its own license installed. Licenses are issued by Parallels and needed to start using Parallels Server Bare Metal on your server. Type the product key for Parallels Server Bare Metal in the field provided, and click Next.

You can also proceed without entering the product key and install the license after the Parallels Server Bare Metal installation. However, if you skip this step, you will not be able to automatically install Parallels Virtual Automation and its components once the Parallels Server Bare Metal installation is complete. For more information on installing Parallels Virtual Automation, see Step 11.

Note: If your license does not support using the Parallels Virtual Automation application, the options for installing this application will be grayed out in the installer and you will not be able to select them.

7 In the Partitioning window, you are supposed to choose the way of partitioning your server:

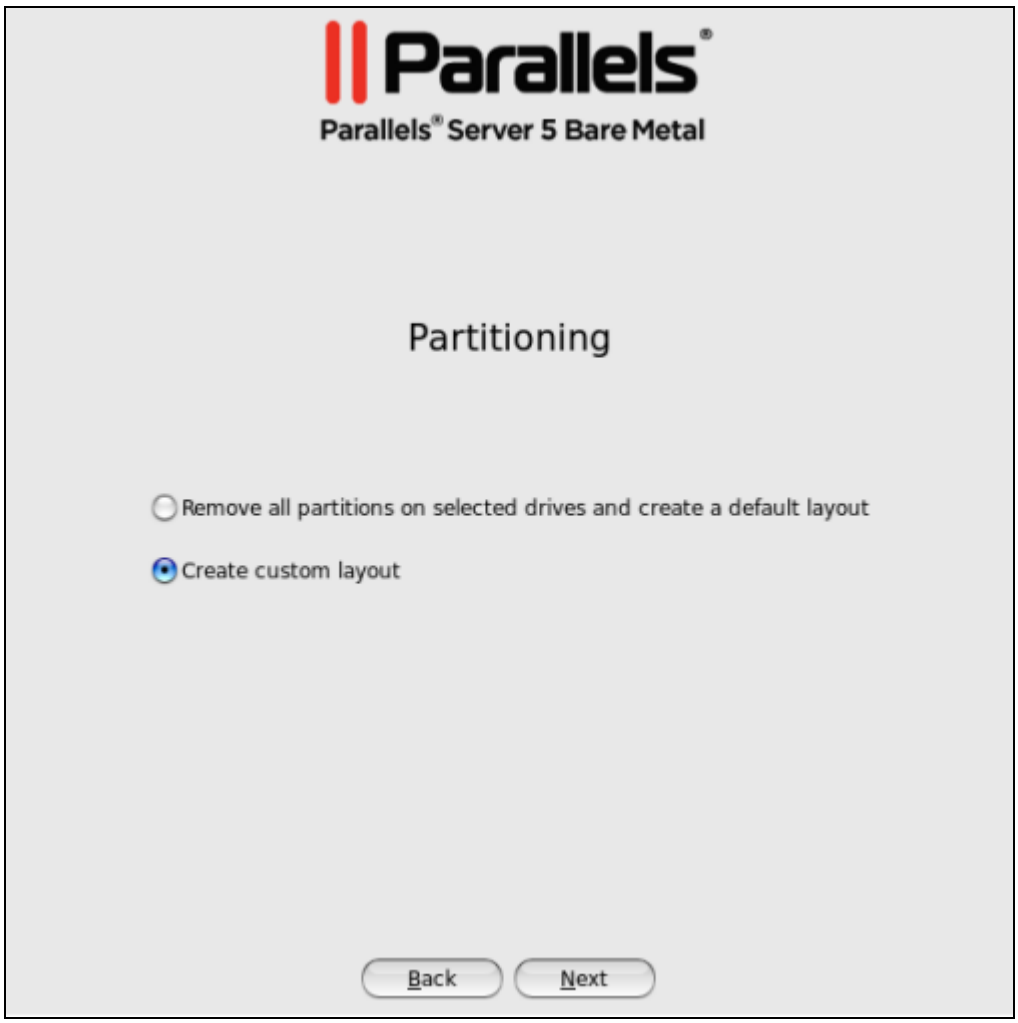
- Select the Remove all partitions on selected drives and create default layout radio button to create the default layout on the server, which includes creating the following partitions:

Partition	Description
/	The root partition containing all Parallels Server Bare Metal files.
/vz	The partition intended to host all Containers and virtual machines data.
swap	The paging partition for Parallels Server Bare Metal.

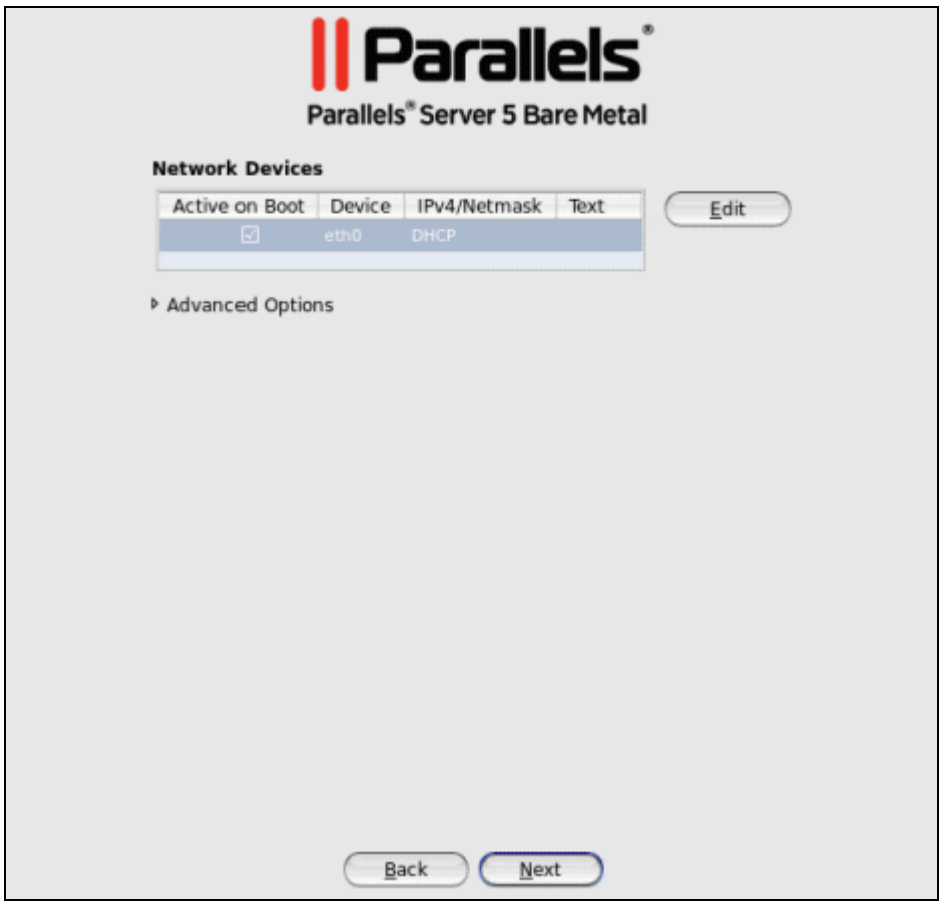
If you do not feel comfortable with partitioning your server, we recommend that you select this option and let the installer automatically partition your system.

Note: After you select this option and click Next, you will be presented with a message warning you that all data on the selected drives will be removed. To confirm your decision and proceed with the installation, click Yes.

- Select the Create custom layout radio button to manually partition your disk drive. Detailed information on how you can do it is given in the Creating Custom Layout section of the *Parallels Server Bare Metal Installation Guide*.



8 On the next screen, you will be asked to decide on the network configuration.



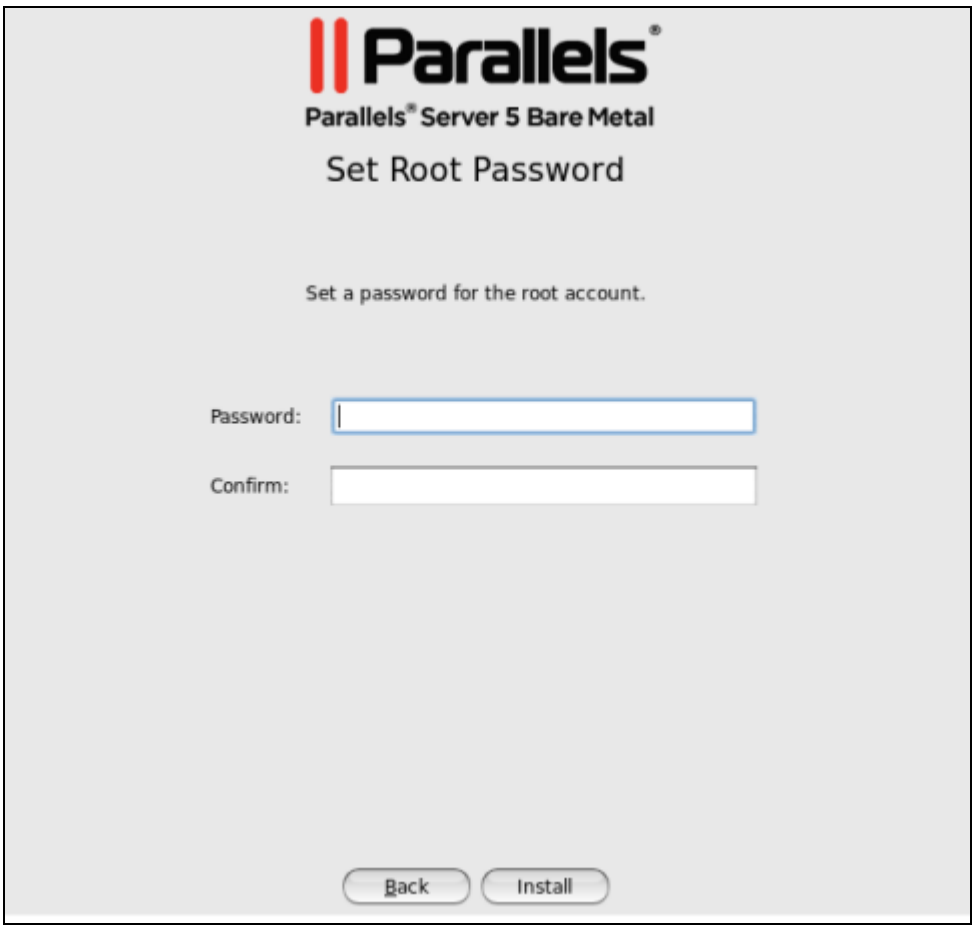
You can do one of the following:

- Accept the network settings offered by the Parallels Server Bare Metal installer by default. View the default settings in the Network Devices table, and if you are satisfied with them, click Next to proceed with the installation.
- Manually configure the network configuration settings. If you wish to configure some of the default network settings, select the network device to be configured, and click Edit. In the Edit Interface window, make sure the Enable IPv4 support check box is selected, select the Manual configuration radio button, type the IP address and network mask to be assigned to the network devices in the fields provided, and click OK.
- Specify a hostname for the Parallels server. By default, the server is configured to receive a hostname through DHCP. To specify a custom name for the server, click Advanced Options, select the manually radio button, and type the desired hostname in the provided field.

Note: If you have several network adapters installed, they all will be listed in the Network Devices table. To edit the properties of a network adapter, select the check box next to its name in the table, and click the Edit button.

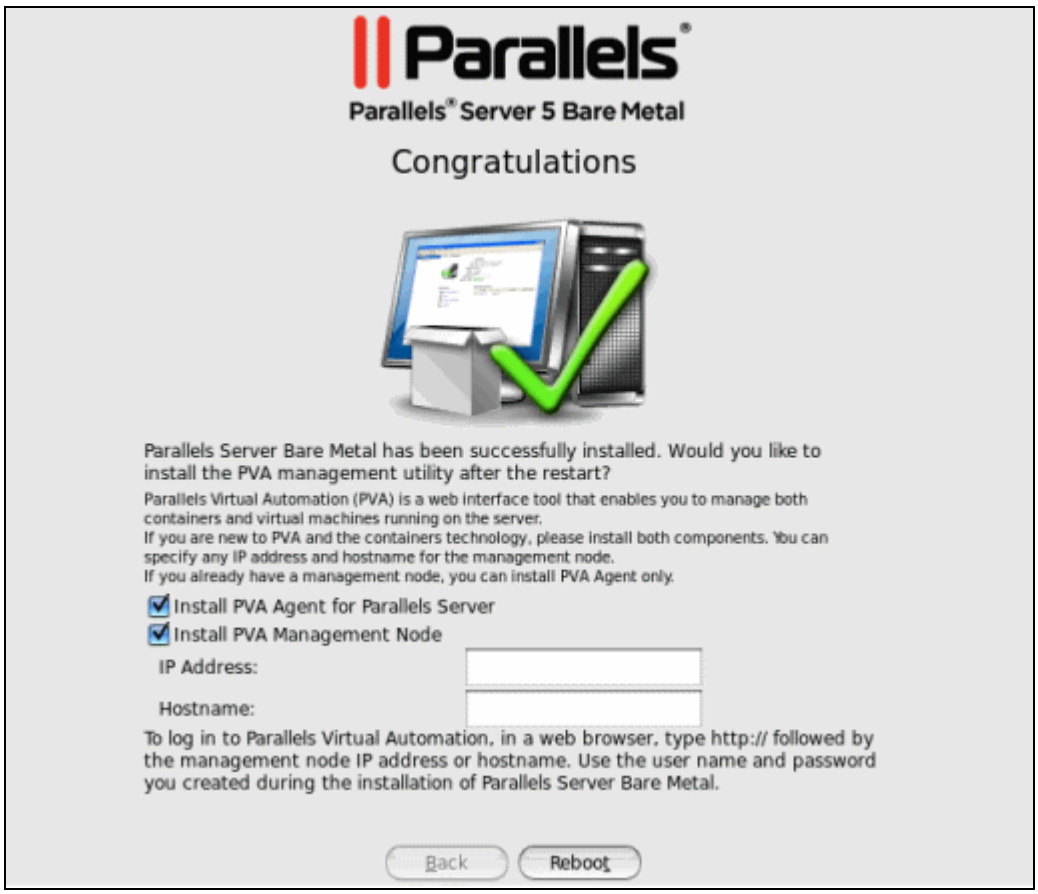
9 Next, you will be prompted to specify your time settings. To set your time zone, you can either select the nearest city to your physical location on the drop-down menu or click on the interactive map to zoom in to the needed place. You can also select the System clock uses UTC check box to set your system to UTC (Universal Time Coordinated), which makes it automatically switch between normal and daylight savings time.

10 On the next screen, you will be asked to enter the password for the root account.



You will need to log in to the physical server as `root` to be able to manage Parallels virtual machines and Containers. After providing the password and confirming it, click Install to start installing Parallels Server Bare Metal on your server.

11 Once the installation is complete, the Congratulations window appears.



In this window, do the following:

- Remove the installation DVD from the server's CD/DVD-ROM drive, clear the Install PVA Agent for Parallels Server and Install PVA Management Node check boxes, and click Reboot to restart the server and complete the installation.
- Leave the Install PVA Agent for Parallels Server and Install PVA Management Node check boxes selected to set up the Parallels Virtual Automation application and its components on the server. Using Parallels Virtual Automation, you can connect to the Parallels server and manage your virtual machines and Containers with your favorite browser.

  If you select the check boxes, you need to specify a valid IP address in the IP Address field for a special Management Node and can also set its hostname in the Hostname field. Once the installation is complete, you can log in to Parallels Virtual Automation by opening `http://IP_address_or_hostname` in the browser and using the `root` user name and the password you specified in the previous step.

  When the check boxes are selected, the Parallels Server Bare Metal installer performs the following operations after restarting the server:

a Downloads the installation packages for Parallels Virtual Automation from the Parallels web site to the server. Notice that the download process may take some time, depending on the speed of your Internet connection.

b Installs Parallels Virtual Automation and its components on the server and inside a specially created Container. The installation is automatically initiated once the installation packages are downloaded to the server and runs without your interaction.

When you are ready, remove the installation DVD from the server's CD/DVD-ROM drive, and click Reboot to restart the server.

Notes:

1. You must have an active Internet connection to download the Parallels Virtual Automation installation packages.

2. You can use Parallels Virtual Automation to manage Parallels servers only if your license allows you to do so. If the license does not support using Parallels Virtual Automation, the Install PVA Agent for Parallels Server and Install PVA Management Node options will be grayed out and you will not be able to select them. In this case, you must first upgrade your license and then install the Parallels Virtual Automation application manually.

3. For more information on setting up and using Parallels Virtual Automation, refer to the Using Parallels Virtual Automation section in the *Parallels Server Bare Metal Installation Guide*.

Creating a Kickstart File

If you plan to perform an unattended installation of Parallels Server Bare Metal, you can use a kickstart file. A kickstart file is a simple text file containing the information used by the Parallels Server Bare Metal installer to install and configure your physical server. The format of kickstart files used in Parallels Server Bare Metal installations is similar to that used to perform an unattended installation of Red Hat Enterprise Linux (RHEL). To create a kickstart file, you can use one of the following means:

- your favorite text editor
- the RHEL Kickstart Configurator application

The latter provides a special graphical user interface (GUI) facilitating the procedure of creating kickstart files.

There are two groups of options that you can include in your Parallels Server Bare Metal kickstart file:

- The first group comprises the same options that you can use when installing any RHEL-like distribution.
- The second group comprises the options specific for Parallels Server Bare Metal.

Both groups of options are described in the following sections in detail.

Standard Kickstart Options

Your kickstart file can include any of the standard Linux options used in kickstart files for installing Linux operating systems. For the full list of these options and their explanations, refer to the corresponding Linux documentation (e.g., to the *Red Hat Enterprise Linux Installation Guide*).

Listed below are the mandatory options and commands that must be included in each kickstart file:

Option	Brief Description
`auth`	Specifies authentication options for the Parallels physical server.
`bootloader`	Specifies the way of installing the bootloader.
`install`	Tells the system to install Parallels Server Bare Metal either from `nfs` or `url` (for FTP and HTTP installations).
`keyboard`	Sets the system keyboard type.
`lang`	Sets the language to use during installation and the default language to use on the installed system.
`part`	Creates a partition on the server.
`rootpw`	Sets the system's root password.
`timezone`	Sets the system time zone.
`%packages`	Specifies the packages or package groups to install on the server. For installing Parallels Server Bare Metal, you should indicate these 2 package groups: `@base` and `@core`.

Parallels Server Bare Metal Kickstart Options

Along with standard Linux options, Parallels Server Bare Metal provides a number of specific parameters and keywords that you can add to your kickstart file. Using these parameters, you can make your Parallels Server Bare Metal system ready for use right after the installation.

The table below lists all available parameters and keywords:

Parameter	Description
`key`	Mandatory. The Parallels Server Bare Metal product key.
`cep`	Mandatory. Specify if you want to participate in the Parallels Customer Experience Program. ▪ `--agree`. Join the program. In this case, Parallels will periodically collect the information about the configuration of your physical server and virtual machines and Containers and use it to make the product better fit your needs. No private information like your name, e-mail address, phone number, and keyboard input will be collected. ▪ `--disagree`. Do not join the program.
`up2date`	Optional. Invokes the `vzup2date` utility with the specified options. This parameter accepts all options that you can normally pass to `vzup2date`. For detailed information on the `vzup2date` options, refer to the vzup2date section in the *Parallels Command Line Reference Guide*.
`vznetcfg`	Optional. Invokes the `vznetcfg` utility with the specified options. This parameter accepts all options that you can normally pass to `vznetcfg`. The options and their values should be separated by an equals sign (for example, `vznetcfg --net=virt_network1:eth0`). For detailed information on the `vznecfg` options, refer to the vznetcfg section in the *Parallels Command Line Reference Guide*.
`vziptables`	Optional. The names of `iptables` modules you want to have loaded inside Containers that will be hosted on the Parallels server. To specify several modules, separate them by space.

`vztturlmap`

Optional. The URL of the repository and repository mirrors to be used for handling EZ OS and application templates.

By default, Parallels Server Bare Metal uses the following URLs:

- `http://fedora.redhat.com` for handling Fedora-related templates.
- `http://mirror.centos.org` for handling CentOS-related templates.
- `http://archive.ubuntu.com` for handling Ubuntu-related templates.
- `http://download.opensuse.org` for handling openSUSE-related templates.
- `ftp://ftp.suse.com` for handling SUSE-related templates.
- `ftp://ftp.de.debian.org` for handling Debian-related templates.
- `http://vzdownload.swsoft.com` for obtaining specific software packages for the aforementioned Linux distributions. These packages are necessary for the correct operation of your OS templates.

To use your own URL, you first need to specify the name of the respective Linux distribution, followed by = and the desired URL (e.g., `$FC_SERVER=http://myrepository.com` to redefine the default repository for Fedora). To use several URLs, separate them by space.

Note: Some Linux distributions (e.g. Red Hat Enterprise Linux and SUSE Linux Enterprise Server) do not have official repositories. So you should manually create software repositories before starting to use OS templates for such distributions. Refer to the *Parallels Server Bare Metal Templates Management Guide* to learn how you can do it.

`nosfxtemplate`

Optional. Skip installing the pre-created and pre-cached EZ templates on the server. The current version of Parallels Server Bare Metal is shipped with only one pre-created and pre-cached OS EZ template - `centos-5-x86_64`.

`%eztemplates`

Optional. The list of EZ templates to install on the server. All available templates are listed in the `/Packages` directory of the Parallels Server Bare Metal distribution. They can be easily identified by the `-ez-`*`number`*`.swsoft.noarch.rpm` ending (e.g. `centos-5-x86-ez-3.0.0-14.swsoft.noarch.rpm`).

The names of the templates must be specified without the ending and separated by the new-line character, for example:

```
%eztemplates
centos-5-x86
devel-centos-5-x86_64
```

When using this parameter, keep in mind the following:

- If you specify the empty list, no templates will be installed on the server.
- If you skip this parameter, all templates included in the Parallels Server Bare Metal distribution will be installed on the server.
- You can indicate the `--cache` argument next to a respective OS template to cache it after installation. To cache all specified OS templates, specify `--cache` after `%eztemplates`.

  Note: To cache OS templates for some Linux distributions (e.g. Red Hat Enterprise Linux and SUSE Linux Enterprise Server), you should first create special repositories storing the necessary software packages for these OS templates. Refer to the *Parallels Server Bare Metal Templates Management Guide* to learn how you can do it.

- This option must be specified as the first one after the keys.

`pvaagent`

Optional. Download and install the PVA Agent for Parallels Server and Parallels Power Panel components on the server. After doing so, you can register the server with the Parallels Virtual Automation application and to use this application to manage virtual machines and Containers residing on it via a standard web browser.

By default, the PVA Agent for Parallels Server and Parallels Power Panel components are downloaded from the Parallels repository. However, you can specify an alternative repository using the `pvaurl` option.

`pvamn`

Optional. Create a special Container on the server and install the PVA Management Server and Control Center components in the Container. Once the Container is created and the components are installed, the Container starts acting as the Master Server, ensuring the communication between the server and Parallels Virtual Automation.

The `pvamn` option is used with the following parameters:

- `--ip` (mandatory): the IP address to log in to Parallels Virtual Automation.
- `--hostname` (optional): the hostname to log in to Parallels Virtual Automation.

If you use both parameters, separate them by space (for example,

```
pvamn --ip 10.10.10.10 --hostname hostname.com).
```

Once the installation is complete, you can log in to Parallels Virtual Automation by opening `http://`*`IP_address_or_hostname`* in the browser and using the `root` user name and the password you set as the value of the `rootpw` option (see Standard Kickstart Options (p. 18)).

By default, the PVA Management Node and Control Center components

	are downloaded from the Parallels repository. However, you can specify an alternative repository using the `pvaurl` option.
	Note: For more information on using Parallels Virtual Automation for managing servers with Parallels Server Bare Metal, refer to the *Parallels Virtual Automation User's Guide* available at www.parallels.com.
`pvaurl`	Optional. Download the PVA Agent for Parallels Server, Parallels Power Panel, PVA Management Server, and Control Center components from the local repository. By default, all components are downloaded from the Parallels remote repository. The path to the local repository must be specified in the following format: `http://`*`server_hostname_or_IP/path_to_PVA_directory`*`/pva-setup-deploy.x86_64`. Assuming that your server hostname is `server.com` and the full path to the Parallels Virtual Automation directory on this server is `/pva`, you need to add the following line to the kickstart file: `pvaurl http://server.com/pva` For more information on creating a local repository for Parallels Virtual Automation components, see Create a Local Repository for Parallels Virtual Automation Components (p. 23).
`ipscope --start` *`IP_Address`* `--end` *`IP_Address`*	Optional. Define the range of IP addresses the Parallels DHCP server will be able to allocate to virtual machines in host-only networks. By default, the IP address range for host-only networks includes IP addresses from 10.37.130.1 to 10.37.130.254.

Creating a Local Repository for Parallels Virtual Automation Components

By default, if you choose to set up Parallels Virtual Automation, the Parallels Server Bare Metal installer downloads all the necessary components from the Parallels remote repository. You can also create a local repository that will host the Parallels Virtual Automation components and have the installer download the setup files from this repository. For example, this may be necessary if your server where you plan to install Parallels Server Bare Metal is not connected to the Internet.

To create a local repository for Parallels Virtual Automation components, do the following:

1. Set up a web server in you local network, if you do not have any.
2. Create the `/www/pva` directory on the web server:
3. Download the `pva-setup-deploy.x86_64` file from http://download.pa.parallels.com/pva/4.6.3/pva-setup-deploy.x86_64, and copy it to the `/www/pva` directory.
4. Download the `pva4.6.3.repo.tar.gz` archive from http://download.pa.parallels.com/pva/4.6.3/pva4.6.3.repo.tar.gz, copy it to the `/www/pva` directory, and extract the archive. As a result, you should have the `/www/pva/repo` directory containing a number of subdirectories and files.

Once you create a local repository, you need to tell the Parallels Server Bare Metal installer to download Parallels Virtual Automation components from this repository. To do this, add the following line to the kickstart file:

```
pvaurl http://server_hostname_or_IP/path_to_PVA_directory
```

Assuming that your web server hostname is `server.com` and the full path to the Parallels Virtual Automation directory on this server is `/pva`, you can add the following line to the kickstart file to make the installer download the setup files from your local repository:

```
pvaurl http://server.com/pva
```

Note: Specifying an alternative repository for downloading Parallels Virtual Automation components is supported in kickstart files only.

Kickstart File Example

Below is an example of a kickstart file that you can use to install and configure Parallels Server Bare Metal on your physical server. The explanation of a particular option or command is preceded by the # symbol. You can use this file as the basis for creating your own kickstart file.

```
# Install Parallels Server Bare Metal from an HTTP location
install
http
# Use English as the language during the installation and as the default
system language
lang en_US.UTF-8
# Use the English keyboard type.
keyboard us
# The following 4 commands can be used to remove all partitions from your hard
drive and create these partitions: /, /vz, and swap.
# clearpart --all --drives=
# part / --fstype ext3 --size=10096 --grow --maxsize=10096 --ondisk=
# part /vz --fstype ext3 --size=30768 --grow --ondisk=
# part swap --size=2000 --grow --maxsize=18032 --ondisk=
# Use a DHCP server to obtain network configuration
network --bootproto dhcp
# Set the root password for the server.
rootpw xxxxxxxxx
# Use md5 encryption for user passwords and enable shadow passwords.
authconfig --enableshadow --enablemd5
# Set the system time zone to America/New York and the hardware clock to UTC.
timezone --utc America/New_York
# Set sda as the first drive in the BIOS boot order and write the boot record
to mbr
bootloader --location=mbr
# Tell the Parallels Server Bare Metal installer to reboot the system after
installation.
reboot
# Install the Parallels Server Bare Metal license on the server.
key XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX
# Join the Parallels Customer Experience Program.
cep --agree
# Search for available Parallels Server Bare Metal updates and install them on
the server.
up2date
# Create the virt_network1 Virtual Network on the server and associate it with
the network adapter eth0.
vznetcfg --net=virt_network1:eth0
# Load the ip_tables ipt_REJECT ipt_tos ipt_limit modules on the server.
vziptables ip_tables ipt_REJECT ipt_tos ipt_limit
# Use the http://myrepository.com to handle Fedora OS and application
templates.
vztturlmap $FC_SERVER http://myrepository.com
# Install the following EZ templates on the server: fedora-core-11-x86_64,
fedora-core-11-x86, mailman-fedora-core-11-x86_64, mailman-fedora-core-11-x86.
Cache all OS templates.
# Skip the installation of the pre-created templates.
nosfxtemplate
%eztemplates --cache
fedora-core-11-x86_64
fedora-core-11-x86
mailman-fedora-core-11-x86_64
mailman-fedora-core-11-x86
# Install the Parallels Server Bare Metal packages on the server.
%packages
@base
```

```
@core
```

Copying the Kickstart File

To perform the kickstart installation of Parallels Server Bare Metal, you should first make the kickstart file accessible over the network. To do this:

1. Copy your kickstart file to the same directory on the HTTP server where the Parallels Server Bare Metal installation files are stored (e.g. to `/var/www/html/pub/psbm`).
2. Add the following string to the `/tftpboot/pxelunux.cfg/default` file:

```
ks=http://repo.sw.ru/pub/psbm/kickstart_file_name
```

   Assuming that your kickstart file is named `ks.cfg`, your `default` file should look like the following:

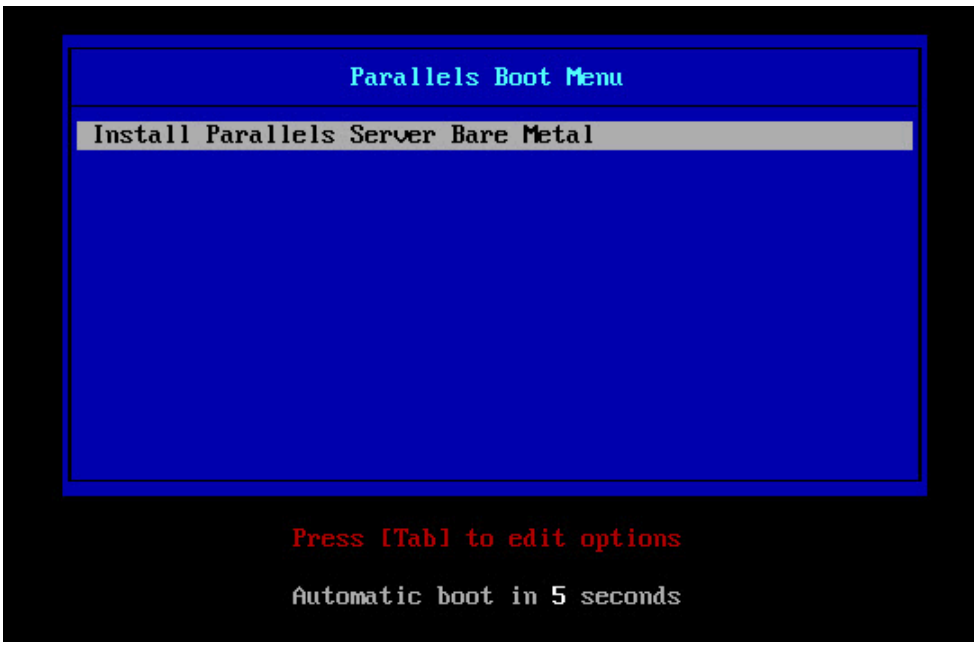
```
default menu.c32
prompt 0
timeout 100
ontimeout PSBM
menu title Parallels Boot Menu

label PSBM
        menu label Install Parallels Server Bare Metal
        kernel vmlinuz
        append initrd=initrd.img noipv6 ks=http://repo.sw.ru/pub/psbm/ks.cfg
method=http://psbm.server.com/pub/psbm/ ksdevice=bootif
```

Starting Installation

Now you can start installing Parallels Server Bare Metal. To do this:

1. Restart the Parallels server (see Configuring the Parallels Server (p. 8)).
2. After the server boots, a dialog box is displayed asking you to select the system to install. For example, if you used the example in the Configuring the TFTP Server section (p. 7), the following dialog box appears:



Select the entry for Parallels Server Bare Metal, and press Enter. The installation is launched automatically and proceeds without your interaction.