Parallels H-Sphere 3.6.2 Installation Guide

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Parallels

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Contents

CHAPTER 1

Preface

In this chapter:

Typographical Conventions

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

The following kinds of formatting in the text identify special information.

Formatting convention	Type of Information	Example
Special Bold	Items you must select, such as menu options, command buttons, or items in a list.	Go to the **System** tab.
	Titles of chapters, sections, and subsections.	Read the **Basic Administration** chapter.
Italics	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.	The system supports the so called *wildcard character* search.
`Monospace`	The names of commands, files, directories, and domain names.	The license file is located in the `http://docs/common/licenses` directory.

`Preformatted`	On-screen computer output in your command-line sessions; source code in XML, C++, or other programming languages.	`# ls –al /files` `total 14470`
`Preformatted Bold`	What you type, contrasted with on-screen computer output.	**`# cd /root/rpms/php`**
CAPITALS	Names of keys on the keyboard.	SHIFT, CTRL, ALT
KEY+KEY	Key combinations for which the user must press and hold down one key and then press another.	CTRL+P, ALT+F4

Feedback

If you have found a mistake in this guide, or if you have suggestions or ideas on how to improve this guide, please send your feedback using the online form at http://www.parallels.com/en/support/usersdoc/. Please include in your report the guide's title, chapter and section titles, and the fragment of text in which you have found an error.

CHAPTER 2

Preparing for Parallels H-Sphere Installation

This chapter provides comprehensive information on how to prepare Linux and Unix servers for the installation of Parallels H-Sphere components.

Note: configuration files for Apache, FTP, PHP, DNS, MySQL, and PostgreSQL should be customized indirectly via respective template files. Otherwise, all custom changes in major default configuration files are removed with each H-Sphere update! If you need those files customized, please carefully follow the configuration file templates customization instruction in Appendix C (on page 38).

In this chapter:

Supported Operating Systems

Before requesting Parallels H-Sphere installation, install one of the following operating systems:

Operating System	Supported OS Version
RedHat Enterprise Linux	5.x (i386, x86-64)
	6.x (i386, x86-64)
CentOS	5.x (i386, x86-64)
	6.x (i386, x86-64)
CloudLinux	5.6 (i386, x86_64) 6.3 (i386, x86_64)
FreeBSD	8.3 (i386, x86-64)
	7.4 (i386, x86-64)

Important:
1. FreeBSD: Control Panel installed on a server with a 64-bit operating system requires the glibc 32-bit compatibility library.
2. CloudLinux is supported as a RedHat Enterprise Linux clone. The customizations allowed by it are not propagated to UI, and should be performed manually according to instructions published on the CloudLinux site, if needed.

Single-Server and Multi-Server Installation

General Considerations

Parallels H-Sphere can be installed on one or more servers. The required number of servers and their hardware configuration will largely depend on the number of accounts you are planning to host, Web and mail quotas, traffic load and other related factors.

Here are some general considerations common to Parallels H-Sphere server environment:

- We recommend installing Control Panel to a separate server. It is also acceptable to install one DNS server to the Control Panel server box, for example, if you are planning 2-server installation.
- You **must not** install PostgreSQL hosting service on the same box with Control Panel, as the latter requires a separate PostgreSQL server for its system database.
- You can have several DNS servers on one box. However, for multiserver Parallels H-Sphere installation, you should install each DNS server on a separate box. The best solution is to have two DNS servers on separate boxes.
- We advise installing mail server on the same box with MySQL server, as mail server requires its own MySQL database.
- It is reasonable to allocate separate physical servers for the most resource-consuming services. Usually, these are Web and mail servers, but sometimes it may be MySQL and PostgreSQL.

According to these recommendations, the following **4-server installation** may be an optimal solution:

- **Server 1:** Control Panel (with the system PostgreSQL database);
- **Server 2:** Web1 + DNS1;
- **Server 3:** Mail + MySQL1 (user DB) + DNS2;
- **Server 4:** PostgreSQL (user DB) + MySQL2 (user DB).

Later on, you may add more boxes to your system, as your needs grow:

- **Server 5:** Web2;
- **Server 6:** Mail2 (with its own MySQL DB);

Hardware Requirements

If you are going to install Parallels H-Sphere to only one computer, make sure it is at least Pentium III, 500MHz CPU and 512MB RAM. This will allow to host only a small number of customers. Adding Parallels SiteStudio will require *at least* 1000MHz CPU and 1GB RAM.

Sample 1/2/3-Server Configurations

Below are sample 1/2/3-server H-Sphere installations with preferable partitioning schemes outlined.

One Server Installation	Two Server Installation	Three Server Installation
Single-server installation includes Control Panel, DNS, Web, mail, and MySQL services. The PostgreSQL hosting service isn't included because of the Parallels H-Sphere system PostgreSQL database. Make sure you have at least two IPs available, because some features (like OpenSRS) require at least two DNS servers. Examples: **40GB HDD:** /root partition (/etc, /tmp, /root) - 1-3 GB /usr - 3-5 GB /var - 5-7 GB for mail and MySQL files /hsphere (or /home) - the remaining disk space for Parallels H-Sphere installation and Web hosting. **80GB HDD:** / root partition (/etc, /tmp, /root) - 2-6 GB /usr - 6-10 GB /var - 10-15 GB for mail and MySQL files /hsphere (or /home) - the remaining disk space for Parallels H-Sphere installation and Web hosting. **120+ GB HDD:** / root partition (/etc, /tmp, /root) - 3-10 GB /usr - 10-20 GB	Consider the following partitioning scheme for the two-server configuration: **1) Control Panel + DNS2:** The partitioning requirements are similar to those for one server installation. This box will have the Parallels H-Sphere control panel, the system database, DNS server, and Parallels SiteStudio (optional). **2) Web + Mail + MySQL + PostgreSQL + DNS1:** / - 1-3 GB /usr -3-5 GB /var - 5-7 GB for mail and MySQL files. /hsphere - takes the rest of the space for Web content and is the biggest partition.	Consider the following partitioning scheme for a three-server configuration: **1) Control Panel** The partitioning requirements are the similar to those for the one server installation. This box will have the Parallels H-Sphere control panel, the system database, and Parallels SiteStudio (optional). **2) Web + DNS2:** / - 1-3 GB /usr - 3-5 GB /var -3-5 GB /hsphere - takes the rest of the space and is the biggest partition. **3) Mail + DNS1 + MySQL + PostgreSQL:** / - 1-3 GB /usr - 3-5 GB /var - takes the rest of the space for mail and MySQL files.

/var - 15-30 GB for mail and MySQL files /hsphere (or /home) - the remaining disk space for Parallels H-Sphere installation and Web hosting. The more users you are planning to have, the more disk space is required. If you want to have Parallels SiteStudio, it will also be installed onto this partition. However, this will require at least 512 RAM and a 500MHz processor. In addition, you can create a separate mail partition for the Parallels H-Sphere mail system. Its size will depend on your mail quotas for users and the number of mailboxes.		

HDD Partitioning

Parallels H-Sphere is installed to the /hsphere directory.

We recommend dedicating a separate partition for the Parallels H-Sphere installation directory and mount it as /hsphere.

```
# mkdir -p /hsphere
# chmod 755 /hsphere
```

Parallels H-Sphere directory can be located on any other partition as well. However, we do not recommend installing Parallels H-Sphere to the root / partition. Having Parallels H-Sphere on the root partition may cause certain problems. For instance, if disk quota gets damaged, you cannot repair it without server reboot and `fsck` check in the single user mode.

If your Parallels H-Sphere installation directory is to be located on another partition, for example, `/usr/hsphere` on the `/usr` partition, the `/hsphere` symlink to this directory must be anyway created:

```
# mkdir -p /usr/hsphere
# ln -s /usr/hsphere /hsphere
# chmod 755 /usr/hsphere
```

Important: Do not create `/hsphere` as a symlink to another partition on servers with FreeBSD 5.3 and up! Allocate the separate /hsphere partition instead! If this is impossible, use `nullfs` partitioning for this purpose.

There are no more requirements to partitioning the servers, just make sure there is enough disk space to store user and other Parallels H-Sphere data.

Required Components and Configuration

Prior to the installation, make sure your server is configured properly and has all necessary components.

In this section:

Open SSH

Install OpenSSH package on each Parallels H-Sphere box. You can use standard RPMs under Linux or packages under FreeBSD. Usually, the standard Linux and FreeBSD installations contain the OpenSSH package, you can use it without any restrictions. However, we recommend updating the package to the latest version. SSH keys need to be configured under the cpanel user.
To enable *Permit Root Login*, open file /etc/ssh/sshd_config and uncomment the line:

```
PermitRootLogin yes
```

Make sure *PermitRootLogin* is set to yes. Then restart SSH:

- for Linux:

```
/etc/init.d/sshd restart
```

- for FreeBSD:

```
/etc/rc.d/sshd restart
```

Enable the OpenSSH daemon start at server startup.
Start the OpenSSH daemon

Kernel

We strongly recommend using *typical* Linux/FreeBSD kernel (i.e., coming with official OS distributives or updates). In particular, in case of FreeBSD we insist on GENERIC kernel with basic configuration. We do not guarantee correct Parallels H-Sphere work on a server with customized kernel! Please carefully test Parallels H-Sphere functionality on such a server before it becomes a production server!

Locale

Please make sure that the Control Panel server's default locale is set to `en_US.UTF-8`.

Disk Quota

Enable the disk quota feature on each Parallels H-Sphere Web server. There is no need to enable it on other servers.

➢ *To enable disk quota:*

1. Log in as root.
Insert the usrquota directive (userquota for FreeBSD) into the /etc/fstab file for the corresponding partition.
On Linux, it must look similar to this:

```
LABEL=/hsphere   /hsphere   ext2   defaults,usrquota   1 1
```

On FreeBSD, it must look similar to this:

```
LABEL=/hsphere   /hsphere ufs rw,userquota 2 2
```

Execute the following commands:

```
quotaoff /partition_with_userquota_enabled
mount -o remount /partition_with_userquota_enabled (Linux only,
skip this line with FreeBSD)
rm -rf /partition_with_userquota_enabled/aquota.user
/partition_with_userquota_enabled/quota.user
quotacheck -mufv /partition_with_userquota_enabled(Linux)
quotacheck -guv /partition_with_userquota_enabled(FreeBSD)
quotaon /partition_with_userquota_enabled
```

Perform the following steps:

a. `# touch /partition_with_userquota_enabled/aquota.user`

b. `# quotacheck -m /partition_with_userquota_enabled`

and ignore the message:

"quotacheck: WARNING - Quotafile /partition_with_userquota_enabled/aquota.user was probably truncated. Can't save quota settings..."

`# quotaon /partition_with_userquota_enabled`

FreeBSD Web server installations: Enable disk quota in the kernel configuration. Also, in /etc/default/rc.conf set:

```
enable_quotas="YES"
```

Root Partitions

We don't recommend enabling the disk quota feature on root partitions. Use other partitions for this! Therefore, we advise not to place Parallels H-Sphere files on the root partition.

Quotacheck

Quota versions can have some differences on different operating systems. You may need to execute the `quotacheck` command with some additional parameters. Please read the command manual before performing this action.

Ports

In your firewall settings, open the following ports in both directions and specify the connection type - tcp or udp or both.
We need that firewall be configured by our customers.

Note: Pix firewall doesn't work correctly with Parallels H-Sphere and Parallels SiteStudio, because it doesn't allow servers within one Parallels H-Sphere cluster to communicate by external IPs, which is critical for both products.

Control Panel Server

Port	Usage	Connection Type	Note
20	FTP-DATA	tcp	
21	FTP	tcp	
22	SSH	tcp	
53	DNS	udp	
443	HTTPS	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers
1922	IMAGEMAKER	tcp	localhost only
3306	MySQL	tcp	to all MySQL servers
5432	Postgres	tcp	CP only
8009	Tomcat	tcp	CP only
8080	HTTP	tcp	

8443	SSL	tcp	
55000	OpenSRS	tcp	if used
10125	SOAP	tcp	between Parallels H-Sphere servers

Web Server

Port	Usage	Connection Type	Note
20	FTP-DATA	tcp	
21	FTP	tcp	
22	SSH	tcp	
53	DNS	udp	
80	HTTP	tcp	
443	HTTPS	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers

Mail Server

Port	Usage	Connection Type	Note
22	SSH	tcp	
25	SMTP	tcp	
53	DNS	udp	
80	HTTP	tcp	
110	POP	tcp	
143	IMAP	tcp	
144	IMAP proxy	tcp	localhost only
465	Mail SSL	tcp	open this port only if you want to use Mail SSL

587	submissio n	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers
993	Mail SSL	tcp	open this port only if you want to use Mail SSL
995	Mail SSL	tcp	open this port only if you want to use Mail SSL

DNS Server

Port	Usage	Connection Type	Note
22	SSH	tcp	
53	DNS	tcp and udp	For highest security, open: ▪ udp permanently ▪ tcp worldwide during Parallels H-Sphere installation and post-installation tests ▪ tcp between Parallels H-Sphere DNS servers permanently.
873	RSYNC	tcp	between Parallels H-Sphere servers
953	RNDC	tcp and udp	For highest security, open: ▪ udp permanently ▪ tcp worldwide during Parallels H-Sphere installation and post-installation tests ▪ tcp between Parallels H-

			Sphere DNS servers permanently.

MySQL Server

Port	Usage	Connection Type	Note
22	SSH	tcp	
53	DNS	udp	
80	HTTP	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers

PgSQL

Ports	Usage	Connection Type	Note
22	SSH	tcp	
53	DNS	udp	
80	HTTP	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers
5432	Postgres	tcp	

RealServer

Ports	Usage	Connection Type	Note
22	SSH	tcp	
53	DNS	udp	
80	HTTP	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers

Windows Server

Ports	Usage	Connection Type	Note

20	FTP-DATA	tcp	
21	FTP	tcp	
25	SMTP	tcp	
53	DNS	udp	
80	HTTP	tcp	
443	HTTPS	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers
1433	MS SQL	tcp	
3306	MySQL	tcp	
3389	Terminal Service	tcp	
5432	Postgres	tcp	
5631	pcAnywhere	tcp	optional
10125	SOAP	tcp	

MS SQL Server

Ports	Usage	Connection Type	Note
53	DNS	udp	
80	HTTP	tcp	
873	RSYNC	tcp	between Parallels H-Sphere servers
1433	MS SQL	tcp	
3389	Terminal Service	tcp	
5631	pcAnywhere	tcp	optional
10125	SOAP	tcp	

MPS Server

Ports	Usage	Connection Type	Note

80	HTTP	tcp	

MRTG Server

Ports	Usage	Connection Tye	Note
80	HTTP		
443	HTTPS		

Note: all ports should be opened for external connections unless specified otherwise (for example, "*tcp between Parallels H-Sphere servers*").

DNS Server Notes

1. Port 953 (rndc) should be open for localhost only if your DNS server is using BIND 9.x.

If your DNS server is using BIND 8.x, it can be upgraded to run with Parallels H-Sphere, but old domains would still have to be managed by hand. Please agree your DNS server upgrade with our installation team.

Please mind that we don't provide support for Reverse DNS configuration.

Perl

Parallels H-Sphere installation script is written in Perl, therefore Perl is required on each box. To check if Perl is installed, run:

```
perl -V
```

Caution: Do not update or change any configuration to your system Perl, as it will most likely damage your Parallels H-Sphere installation.

Make

Make sure the `make` utility is installed on every box. To check if `make` is installed, run:

```
make -v
```

Command-Line URL Download Utility (wget or fetch)

Parallels H-Sphere installation script requires the command-line URL download utility, `wget` for Linux, `fetch` for FreeBSD.

Compat3x Package

On FreeBSD 4.X servers, make sure to have the compat3x package installed for compatibility with 3.x. To diagnose if your compat3x is missing, run:

```
/stand/sysinstall
```

and then go to **Configure** -> **Distributions**

SELinux Must Be Off

(RedHat Enterprise Linux 4, CentOS 4 and up, and White Box Enterprise Linux 4 only)

Before Parallels H-Sphere installation, *make sure SELinux is off* on your Linux servers.

To check SELinux status, run:

```
selinuxenabled && echo $?
```

If as a result of this command you receive 0, SELinux is enabled. No result means that SELinux is off.

To disable SELinux, set the following option in `/etc/selinux/config`:

```
SELINUX=disabled
```

This will turn off SELinux after reboot. To disable SELinux immediately, type:

setenforce 0

Libmap Content

If you are to install Control Panel on a FreeBSD box, especially in case of multiprocessor architecture, please make sure you have the `/etc/libmap.conf` file on the Control Panel box with the following content:

```
[java]
libpthread.so libc_r.so
libpthread.so.2 libc_r.so.6

[javac]
libpthread.so libc_r.so
libpthread.so.2 libc_r.so.6

[/hsphere/shared/java/diablo-jdk1.5.0/bin/java]
libpthread.so libc_r.so
libpthread.so.2 libc_r.so.6

[/hsphere/shared/java/diablo-jdk1.5.0/bin/javac]
libpthread.so libc_r.so
```

```
libpthread.so.2 libc_r.so.6
```

If you are to install Conrol Panel or PostgreSQL hosting service on a FreeBSD 8.3 or 7.4 version and above, please make sure you have the `/etc/libmap.conf` file on this server with the following content:

```
libintl.so.8    libintl.so.9
```

ifconfig

Make sure the `ifconfig` utility on the Control Panel box has '755' permissions by running:

```
#which ifconfig
/path/to/ifconfig
#chmod 755 /path/to/ifconfig
```

CHAPTER 3

Installing Parallels H-Sphere

To install Parallels H-Sphere from scratch, please carefully follow the instructions provided below in this chapter. If you want to install Parallels H-Sphere by importing a specially formatted `config.xml` file, refer to Appendix A. Installing with prepared Parallels H-Sphere configuration (on page 34).

In this chapter:

Step 1. Running the Parallels H-Sphere Installation Script

1. Log into the server where you install Parallels H-Sphere as root:

```
$ su -l
```

Download the Parallels H-Sphere install script:

Linux:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0/U36.0
```

FreeBSD:

```
# fetch
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0/U36.0
```

Run the install script with the install option:

```
# sh ./U36.0 install
```

Choose the cpinstall mode to install basic Parallels H-Sphere packages on the Control Panel server to be able to run Parallels H-Sphere Control Panel. In the installer's command line type in the following command:

```
cpinstall zone=SERVICE_ZONE ip=SERVICE_IP
```

where SERVICE_ZONE is the service domain name (for example, ***samplehosting.com***), and SERVICE_IP is the service domain IP.

This will start the Control Panel installation process.

You can find more info on Parallels H-Sphere installation script options in Appendix B (on page 36).

Step 2. Installing the Parallels H-Sphere via Control Panel

1. Upon successful installation, run Parallels H-Sphere Control Panel at http://SERVICE_IP:8080/ in your favorite browser.

Note: If you have problems with running Control Panel, please try to When restarting the Control Panel, make sure that you are logged into the Control Panel server as root.

For Linux:

```
/etc/rc.d/init.d/httpdcp stop
killall -9 java
sleep 10
/etc/rc.d/init.d/httpdcp start
```

For FreeBSD:

```
/usr/local/etc/rc.d/apachecp.sh stop
killall -9 java
sleep 10
/usr/local/etc/rc.d/apachecp.sh start.
```

1. Log into Parallels H-Sphere Control Panel as ***admin*** with password ***admin***. Later on you will be able to change the administrator password.
   After you log in, you must enter your valid Parallels H-Sphere license purchased from the *Buy Parallels Support and Services for Parallels H-Sphere* page. Otherwise, you won't be able to proceed with the installation. H-Sphere 3.2 and up introduces licensing through a unified Parallels licensing system.

Run Parallels H-Sphere Installation Wizard which allows shaping your Parallels H-Sphere cluster by adding boxes and hosting services and configuring basic Parallels H-Sphere settings.

Running Parallels H-Sphere Installation Wizard

Now that you ran the Parallels H-Sphere updater in the installation mode with the `cpinstall` option, you need to:

Step 1. Manage configuration file

Welcome to the H-Sphere pre-configuration page. Please shape your H-Sphere cluster before you complete H-Sphere installation (update).

Configuration File		
Import	Export	Restore to Default

General Settings	
System Domain	
Type of Installation	Multi Server
Use NAT IP mapping	No

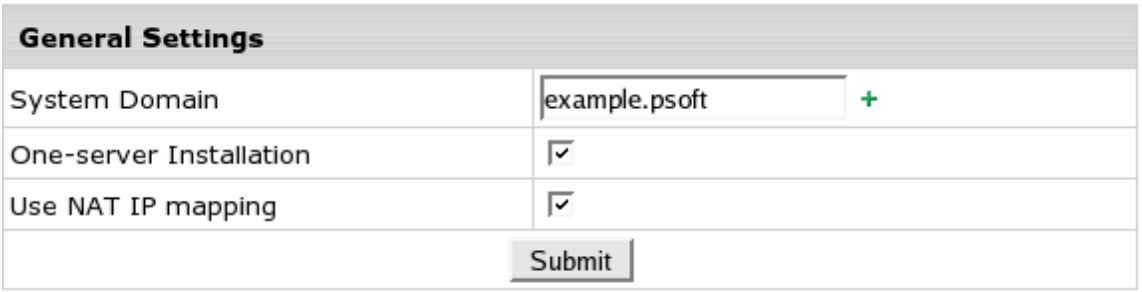
Physical Servers				
ID	Name	Host IP	Type	Controls

Installation Wizard writes the Parallels H-Sphere cluster configuration into the specially formatted config.xml file (see sample config.xml). The **Configuration File** section on the main page enables you to:

- **Import:** You upload the prepared XML file from a local machine to Parallels H-Sphere and later reconfigure Parallels H-Sphere in the wizard. Read more on Parallels H-Sphere installation from prepared config.xml file;
- **Export:** export config.xml with your Parallels H-Sphere cluster configuration to your local machine.
- **Restore to Default:** choose this option to recreate config.xml and to restart configuring Parallels H-Sphere cluster in the wizard.

Step 2. Edit general settings

1. Click the **Edit General Settings** icon on the right corner of the **General Settings** caption and proceed to the following page:



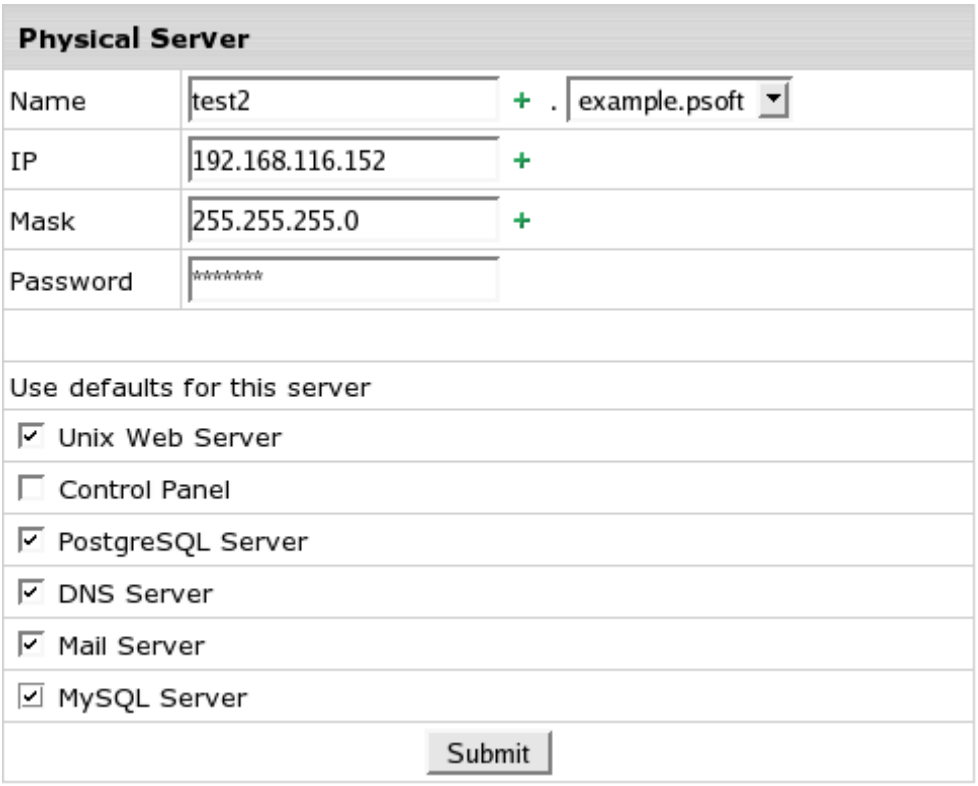
- **System Domain:** Specify the service domain name here.
- **One Server Installation**: check this box if you need a single server installation. You can't add more than one physical server by checking this options.
- **Use NAT IP mapping:** Check this box if you implement NAT (on page 54) on your Parallels H-Sphere.

Press **Submit** and return to the main page of the wizard.

Step 3. Add physical servers

1. Click the **Add Physical Server** icon on the right corner of the **Physical Servers** caption.

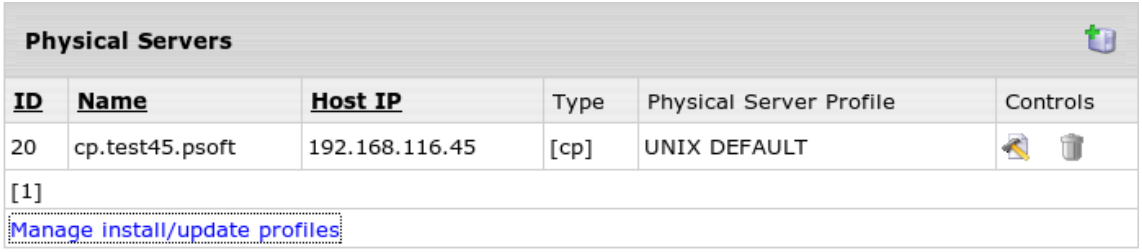
Fill in the form for adding new physical servers and services:



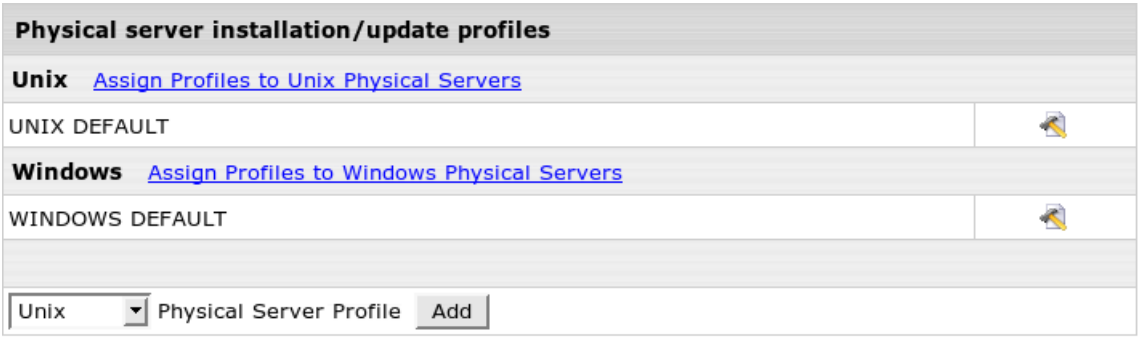
Set physical server Name, IP, root password, and choose which logical servers (Control Panel, Web, mail, DNS, MySQL, PostgreSQL) will be installed there. They will be installed with default settings which can be changed if necessary.

Click **Submit**.

After you have added physical servers into Parallels H-Sphere cluster, you will see them on the main page of the wizard:



Here you may also configure physical server profiles, setting update rules for each physical server or groups of servers. Click **Manage install/update profiles** below the Physical Servers form to configure the profiles:



Step 4. Add logical servers

Once physical server is added, you can add logical servers:

1. Select the type of logical server you want to add and click **Submit**.

   Choosing **Use defaults for this server** will apply default names for Parallels H-Sphere logical servers on this server. By default, they are named web***N***, mail***N***, ns***N***, mail***N***, mysql***N***, respectively.

You can edit logical server parameters, if necessary.

Step 5. Choose between full and reduced installation

Now that you're done with Parallels H-Sphere configuration:

1. Click **Proceed With Installation Wizard.**

   Note: If you choose to **Skip Installation Wizard**, you will be taken directly to Administrator Control Panel and all your pre-configuration will be lost.

Choose the installation mode: **full** or **reduced** installation.

Aborted Installation

If at any point of your installation process, you:

- Go to your wizard **Home** in the middle of installation
- Loose connection with your browser
- Skip installation (as on Step 5)

you will have a choice of further actions:

- **Proceed with Installation Wizard** will take you to the point of interrupted installation process
- **Go to Admin CP** will take you to your administrator panel without completing installation
- **Clear Installed Data** will cancel all settings and you can start installation from scratch

Step 3. Completing Parallels H-Sphere Installation Wizard

There are two alternative ways to complete full installation: *via Control Panel web interface* or *running Parallels H-Sphere install/update script with postinstall option*.

Option One: completing installation via Control Panel web interface

1. On the page that appears check the servers you want to be updated/installed and click **Start**. To see the update log, click the server name link.
   On multiserver installations, you can see the update process simultaneously on each server. To do it, click the logical server links to switch between the server logs.
   Update process indicator  legend:
   - **Yellow:** ready for update
   - **Blue:** update is running
   - **Green:** update successfully finished
   - **Red:** update finished with error. If update fails, you will see an error message with details.
     Important: You don't need to restart the whole update process if the update fails only on a certain server. Just log into this server manually, fix possible issues and resume this step on this particular server.

When update is finished and the light turns green, click **Proceed to complete installation.**

On the page that appears, click **Return to Admin CP**.
You will be taken to administrator Control Panel.

Option Two: Completing installation with postinstall option

Return to the Parallels H-Sphere installation script (on page 24) and choose the `postinstall` option there:

```
postinstall
```

This will complete Parallels H-Sphere installation according to the configuration you built. You can find more info on Parallels H-Sphere install script options in Appendix B (on page 36).

Installing Parallels SiteStudio with Parallels H-Sphere

To install Parallels SiteStudio with Parallels H-Sphere, run after the Parallels H-Sphere installation:

```
# sh U36.0 install postinstall sitestudio
```

CHAPTER 4

Performing Post-Installation Tasks

Built-in Accounts

Standard Parallels H-Sphere installation would include two accounts, neither of which may be deleted:

1. the admin account (login: ***admin***, password: ***admin***) to configure system settings. It is extremely recommended to change the password of the admin account after the installation and testing have been completed.

the wwwuser account (login: ***wwwuser***, password: ***userwwww***) to manage the control panel domain.

Control Panel URL

After the installation, the control panel becomes accessible at the address:
`http://your_ip_address:8080` or
`http://cp.your_domain_name:8080`

If your Parallels H-Sphere has been configured with SSL protection, use the addresses:
`https://your_ip_address:8443` or
`https://cp.your_domain_name:8443`

See also *Customize your Control Panel URL* documentation in System Administrator Guide.

DNS Configuration

Some Parallels H-Sphere features (like webmail, WebShell, phpMyAdmin) will work only after you add a DNS zone and an instant alias template. To check these features immediately, specify in the DNS configuration of your local workstation (not Parallels H-Sphere server) that Parallels H-Sphere primary DNS server is your primary nameserver. For example, if your workstation is Linux, add a corresponding line in `/etc/resolv.conf`.

If you are running a one box installation, you can have two DNS IPs for ns1 and ns2. At least two DNS servers are required to offer domian registration services with OpenSRS or Enom. If you need more than two DNS servers, you need to set up one more box, and your DNS services need to be fully reconfigured.

PostgreSQL

The Parallels H-Sphere Control Panel requires the postgresql daemon running. Don't start Parallels H-Sphere Control Panel without it. To find out if PostgreSQL is running, type:

Linux:

```
/etc/init.d/postgresql status
```

FreeBSD:

```
/usr/local/etc/rc.d/010.pgsql.sh
```

CHAPTER 5

Appendix A. Installing with Prepared Parallels H-Sphere Configuration

It is possible to perform Parallels H-Sphere installation by importing a specially formatted `config.xml` file with all Parallels H-Sphere physical and logical servers' configuration.

Run the install script with the `install` option. In the installer's command line, enter:

```
install xml=CONFIG_XML_LOCATION [ skip-sitestudio ]
```

Creating config.xml file

Parallels H-Sphere includes the `hsphere-info` package installed on each Parallels H-Sphere Unix server. The package installs the `/hsphere/shared/bin/hsinfo` script on each server, and the script collects information about this server into the `/hsphere/shared/etc/config.xml` file.

The **hsinfo** has the following syntax:

```
Usage:
hsinfo [ -ame ] [ -p box IP ] [ -g group ] [ -t type ] [ -f xmlfile ] [
-s delimiter ]
hsinfo -l [ -p box IP ] [ -g group ] [ -s delimiter ] [ -f xmlfile ]
hsinfo -i [ -ame ] [ -g group ] [ -f xmlfile ] [ -s delimiter ]
hsinfo -n [ -p box IP ] [ -g group ] [ -f xmlfile ]
hsinfo -o a[ddress]|i[nterface]|n[umber] [ -f xmlfile ]
hsinfo -d [ -f xmlfile ]
hsinfo -v [ -f xmlfile ]
hsinfo -G
hsinfo -T
hsinfo -h -l list of logical server names
      -i list of physical server IPs -n domain name of the logical
server
      -d servise zone name -p phisical box IP (default: local physical
box)
      -v hspere version
      -a show IP address -m show mask
      -e show external IP addreyyss
      -o show network interface name of the physical IP
      -G list of possible logical server groups
      -T list of possible IP types
      -h help
by default show only IP addresses
group: cp, mail, unix_hosting, windows_hosting, mysql, pgsql, mssql,
dns, mrtg, system (default: all)
type: system, service, shared, dedicated, resellerSSL, resellerDNS, all
(default: service)
xmlfile: XML file location (default: /hsphere/shared/etc/config.xml)
```

The `/hsphere/shared/etc/config.xml` XML file contains information about physical and logical server names, ids, IPs; system zones; current Parallels H-Sphere version, etc.

Sample config.xml

The `/hsphere/local/config/customs/customs` utility returns the files customized by user according to the customization `conf_file`. It has the following syntax:

```
Usage:
customs [ -hmv ] [ -c conf_file ] { package_name1 }
[ package_name2 ... ]
      -h : to see this help message;
      -m : to return the masks of the given packages (names only);
      -v : verbose, package mask output before the list of its
customized files;
      -c conf_file : path to the user customization configuration file,
                     default:
/hsphere/local/config/customs/customs.conf;
package_nameN : name of the package to list the customized files for.
```

CHAPTER 6

Appendix B. Installation Script Options

Parallels H-Sphere installation is performed by a script that brings about more flexibility in the process of installation and introduces a variety of advanced features and improvements.

➢ *Before running Parallels H-Sphere installer:*

1. Download the install script. For example, for Parallels H-Sphere 3.6.1 run under root on Linux box:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/U36.0P2/U36.0P2
```

Run script the script in the install mode:

```
# sh U36.0P2 install
```

You will get the list of installation modes, each having its own options.

(1) `install` -- Full installation mode. Requires prepared config.xml with Parallels H-Sphere cluster configuration.

(2) `cpinstall` -- Control Panel installation mode. Afterwards, log into Parallels H-Sphere Control Panel Web interface, go through Pre-Configuration wizard, and then complete installation in mode (3).

(3) `postinstall` -- post-installation Parallels H-Sphere cluster configuration, to be run after mode (2).

(4) `sitestudio` -- install Parallels SiteStudio on the Control Panel box.

(5) `sitebuilder` -- install Parallels Sitebuilder on the Control Panel box (for Parallels H-Sphere 3.3 and up).

If you want more information on every mode, simply type its number in the command line.

Install Modes:

- **install** - Parallels H-Sphere installation from the prepared config.xml file with configuration of Parallels H-Sphere cluster to be installed. config.xml contains information about Parallels H- Sphere physical and logical servers, with root passwords to physical server where Parallels H-Sphere is to be installed (see sample config.xml at http://download.hsphere.parallels.com/HSdocumentation/xmls/config.xml). During the installation this file is temporarily stored in the `~cpanel/.settings` directory. You can also use the cpinstall mode and run Parallels H-Sphere Pre-Configuration Wizard in administrator Control Panel to create and import/export `config.xml`.

```
install xml=CONFIG_XML [ skip-sitestudio ] [ url=Link ] [
mirror=mirror_number ]
```

- **cpinstall** - install only system PostgreSQL and packages to be able to run Control Panel. Later on, you need to log into administrator Control Panel and go through Parallels H-Sphere Pre-Configuration Wizard to shape your Parallels H-Sphere cluster, and finally, run the installer in the `postinstall` mode.

```
cpinstall zone=SERVICE_ZONE ip=IP1 [ ip2=IP2 ] [ natip=NAT_IP ] [ mask=MASK ] [ url=Link ] [ mirror=mirror_number ]
```

- **postinstall** - run this mode to complete Parallels H-Sphere installation after cpinstall and after adding servers and services in the Parallels H-Sphere Pre-Configuration mode in administrator Control Panel.

```
postinstall
```

- **sitestudio** - install Parallels SiteStudio on the Control Panel box.

```
sitestudio [ url=Link ] [ mirror=mirror_number ]
```

- **sitebuilder** - install Parallels Sitebuilder on the Control Panel box.

```
sitebuilder [ url=Link ] [ mirror=mirror_number ]
```

Where:

Obligatory Parameters:

- **xml** - the path to config.xml file. This path should not be `/hsphere/shared/etc/config.xml`
- **zone** - service domain name (e.g., `samplehosting.com`).
- **ip** - service zone IP - IP of Control Panel box.

Optional parameters:

- **ip2** - the IP of the second DNS logical server (ns2). If ip2 is not set, the ns2 logical server will not be created.
- **natip** - the external server IP for NAT mapping.
- **mask** - the network mask. If mask is not set, the default value (255.255.255.0) is used.
- **skip-sitestudio** - install Parallels H-Sphere without Parallels SiteStudio.
- **group** - comma-separated list of logical servers to be installed. Possible groups: mail, web, dns, mysql, pgsql, cp, vps (using common ips and group tags is allowed).
- **url** - alternative path to package download, this option differs from 'mirror', which includes predefined list of the maintained HS mirrors. Package lists are downloaded from default location or mirror, pointed via mirror option. (Default path is `http://download.hsphere.parallels.com/shiv/HS`)
- **mirror** - allows setting another mirror instead of the default one. At this moment available the following HS servers: [0] - `download.hsphere.parallels.com` (default) and [1] - `download2.hsphere.parallels.com` (mirror).

CHAPTER 7

Appendix C. Customizing Server Configuration Files by Means of Templates

You cannot customize some major service configuration files (for Web, mail, DNS, databases) **directly**, as your changes in these files will be overwritten with a consequent Parallels H- Sphere update! Instead, you need to create **configuration file templates** by means of the hsphere-update wrapper and **customize** these templates instead of default configuration files.

You can customize configuration file templates by means of Parallels H-Sphere updater, provided you have not customized your templates already. For this purpose two new options are added to the hspackages wrapper of the Parallels H-Sphere update script:

- `hspackages ctemplates=[OPTIONS]` - Place custom templates for comma-separated list of services into predefined locations if custom templates are not there already.
- `hspackages edit=IP:/path/to/custom/template` - Edit custom template on a specified server in a specified location.

Important:
If you run the hspackages ctemplates command **without options**, it will create custom templates on **all related servers** of the Parallels H-Sphere cluster! To specify **particular** servers where custom configuration templates should be created, please use the extended syntax of the hspackages command. For example, to create PHP custom configuration templates only on the physical boxes 192.168.1.10 and 192.168.1.11, run:
`hspackages ctemplates=php ips=192.168.1.10,192.168.1.11`
The hspackages ctemplates command should be run **only once**, in order to create custom configuration templates! Then you customize these files according to your needs. Next time you run it, it will prompt re-creating your custom configuration templates, thus you may lose your customization!
The only exclusion when you need to run `hspackages ctemplates` again is when a coming version of the hsphere-update package contains updates of default configuration templates. You will be specially notified of this in the respective update notes.

In this chapter:

Control Panel Apache

Default Control Panel Apache httpd.conf template is included into the `hsphere-update` and installed here:
`/hsphere/pkg/scripts/templates/cpapache/httpd.conf.tmpl.default`

➢ *To customize the template:*

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/U36.0P2/U36.0P2
      ```

   2. Run the update script:

      ```
      # sh ./U36.0P2
      ```

   3. Execute the hspackages wrapper with the `ctemplates=httpdcp` option:

      ```
      hspackages ctemplates=httpdcp [OPTIONS]
      ```

Custom template will be placed into the following location:

`/hsphere/local/home/cpanel/apache/etc/httpd.conf.tmpl.custom`

1. Edit the `/hsphere/local/home/cpanel/apache/etc/httpd.conf.tmpl.custom` file according to your needs.

To immediately apply changes, run the conf file generating script which is as a rule executed in the postinstall section of the package:
`/hsphere/shared/scripts/apache-restart`

Extra Control Panel Apache Configuration Files

Parallels H-Sphere allows to customize some extra Apache configuration files for Control Panel. They are located in the `/hsphere/local/home/cpanel/apache/conf/extra/` directory:

- `httpd-autoindex.conf` - directives controlling the display of server-generated directory listings
- `httpd-cache.conf` - directives providing HTTP content cache configuration
- `httpd-info.conf` - Apache status-related directive blocks
- `httpd-languages.conf` - directives which provide the `mod_mime` and `mod_negotiation` modules global configuration

- vh-ssl-default.conf - Global SSL default VirtualHost configuration

These extra configuration files are provided for easier configuration of Apache modules, such as mod_cache, mod_security, etc.

After the configuration file customization, the correspondent *.tmpl.custom files will be created in the same directory:

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
      U36.0P2/U36.0P2
      ```

   2. Run the update script:

      ```
      # sh ./U36.0P2
      ```

   3. Execute the hspackages wrapper with the ctemplates=httpdcp_extra option:

      ```
      hspackages ctemplates=httpdcp_extra [OPTIONS]
      ```

      After that, custom templates /hsphere/local/home/cpanel/apache/conf/extra/*.tmpl.custom will be created.

Edit the /hsphere/local/home/cpanel/apache/conf/extra/*.tmpl.custom files according to your needs.
To immediately apply changes, restart Apache:

```
/hsphere/shared/scripts/apache-restart
```

Apache

Default configuration Apache templates are included into the hsphere-update package and installed in the following locations:

```
/hsphere/pkg/scripts/templates/hs-
31/apache/httpd.conf.tmpl.default
/hsphere/pkg/scripts/templates/hs-
31/apache/httpd2.conf.tmpl.default
/hsphere/pkg/scripts/templates/hs-
31apache/lsrv.conf.tmpl.default
```

➢ *To customize them, perform:*

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
      U36.0P2/U36.0P2
      ```

   2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the hspackages wrapper with the ctemplates=`httpd` option for Apache 1.3 and/or `ctemplates=httpd2` option for Apache 2.2:

```
hspackages ctemplates=httpd [OPTIONS]
```

Custom templates will be placed into the following locations:

```
/hsphere/local/config/httpd/lsrv.conf.tmpl.custom
/hsphere/local/config/httpd/httpd.conf.tmpl.custom
/hsphere/local/config/httpd2/lsrv.conf.tmpl.custom
/hsphere/local/config/httpd2/httpd.conf.tmpl.custom
```

```
Edit the .custom files according to your needs:
   /hsphere/local/config/httpd/lsrv.conf.tmpl.custom
   /hsphere/local/config/httpd/httpd.conf.tmpl.custom
To immediately apply changes, run the conf file generating
script which is as a rule executed in the postinstall section of
the package:
    /hsphere/shared/scripts/apache-restart
```

Customizing /hsphere/shared/apache/htdocs/index.html

If you need to leave `/hsphere/shared/apache/htdocs/index.html` unchanged after the update, create the following file:

```
touch /hsphere/local/config/httpd/index.html.custom
```

If the latter file exists, then you can customize your `index.html` file without the risk of its being overwritten.

Extra Apache Configuration Files

Parallels H-Sphere allows to customize some extra Apache configuration files, such as:

- `httpd-autoindex.conf` - directives controlling the display of server-generated directory listings
- `httpd-cache.conf` - directives providing HTTP content cache configuration (Apache 2.2 only)
- `httpd-gzip.conf` - directives for global settings provided by the mod_gzip module (Apache 1.3 only)
- `httpd-info.conf` - Apache status-related directives
- `httpd-languages.conf` - directives which provide the mod_mime and mod_negotiation modules global configuration
- `httpd-security.conf` - ModSecurity configuration options
- `httpd-security2.conf` - ModSecurity v.2 configuration options (Apache 2.2 only)
- `vh-ssl-default.conf` - global SSL default VirtualHost configuration

Default templates `*.tmpl.defaiult` for these configuration files are installed with `hsphere-updater` to the following directories:

Apache 1.3: /hsphere/pkg/scripts/templates/hs-31/apache/extra.default/
Apache 2.2: /hsphere/pkg/scripts/templates/hs-31/apache/extra2.default/

After Parallels H-Sphere 3.2 update, the respective custom .tmpl.custom files will be created in the following directories:

Apache 1.3: /hsphere/local/config/httpd/extra/
Apache 2.2: /hsphere/local/config/httpd2/extra/

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/U36.0P2/U36.0P2
      ```

   2. Run the update script:

      ```
      # sh ./U36.0P2
      ```

   3. Execute the hspackages wrapper with the ctemplates=httpd_extra option:

      ```
      hspackages ctemplates=httpd_extra [OPTIONS]
      ```

      After that, custom templates *.tmpl.custom will be created in respective directories.

Edit the *.tmpl.custom files according to your needs:
Apache 1.3: /hsphere/local/config/httpd/extra/*.tmpl.custom
Apache 2.2: /hsphere/local/config/httpd2/extra/*.tmpl.custom

To immediately apply changes, restart Apache:

```
/hsphere/shared/scripts/apache-restart
```

PHP 4

PHP 4 configuration files are located:

/hsphere/local/config/httpd/php4/php.ini.tmpl.custom *(when PHP4 uses fastcgi, for all Apache versions)*

/hsphere/local/config/httpd/php4/php.ini.tmpl.custom *(when libphp4 is used, for Apache 1.x)*

/hsphere/local/config/httpd2/php4/php.ini.tmpl.custom *(when libphp4 is used, for Apache 2.x)*

➢ *To customize PHP 4 configuration files:*

1. Create custom configuration template if required. Otherwise, skip this step.

1. Download H-Sphere updater:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0P2/U36.0P2
```

2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the `hspackages` wrapper with the `ctemplates=php` option:

```
hspackages ctemplates=php [OPTIONS]
```

Custom templates will be placed into the following location:
`/hsphere/local/config/httpd2/php4/php.ini.tmpl.custom`

`/hsphere/local/config/httpd/php4/php.ini.tmpl.custom`

```
Edit the above mentioned tmpl.custom files according to your
needs.
To immediately apply changes, restart Apache service:
```

```
/hsphere/shared/scripts/apache-restart
```

PHP 5

PHP 5 configuration files are located:

`/hsphere/local/config/httpd/php5/php.ini.tmpl.custom` *(when PHP5 uses fastcgi, for all Apache versions)*

`/hsphere/local/config/httpd/php5/php.ini.tmpl.custom` *(when libphp5 is used, for Apache 1.x)*

`/hsphere/local/config/httpd2/php5/php.ini.tmpl.custom` *(when libphp5 is used, for Apache 2.x)*

➢ *To customize PHP 5 configuration files:*

1. Create custom configuration template if required. Otherwise, skip this step.

1. Download H-Sphere updater:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0P2/U36.0P2
```

2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the `hspackages` wrapper with the `ctemplates=php` option:

```
hspackages ctemplates=php [OPTIONS]
```

Custom templates will be placed into the following location:

`/hsphere/local/config/httpd/php5/php.ini.tmpl.custom`
`/hsphere/local/config/httpd2/php5/php.ini.tmpl.custom`

```
Edit the above mentioned tmpl.custom files according to your
needs.
To immediately apply changes, restart Apache service:
```

```
/hsphere/shared/scripts/apache-restart
```

PHP 5.3

PHP 5.3 configuration files are located:

`/hsphere/local/config/httpd2/php53_ts/php.ini.tmpl.custom` *(when libphp5 is used, for Apache 2.x and mpm_worker)*

`/hsphere/local/config/httpd2/php53/php.ini.tmpl.custom` *(all other cases)*

➢ *To customize PHP 5.3 configuration files:*

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
      U36.0P2/U36.0P2
      ```

   2. Run the update script:

      ```
      # sh ./U36.0P2
      ```

   3. Execute the `hspackages` wrapper with the `ctemplates=php` option:

      ```
      hspackages ctemplates=php [OPTIONS]
      ```

Edit the above mentioned tmpl.custom files according to your needs.
To immediately apply changes, restart Apache service:

```
/hsphere/shared/scripts/apache-restart
```

PHP 5.4

PHP 5.4 configuration files are located:

`/hsphere/local/config/httpd2/php54_ts/php.ini.tmpl.custom` *(when libphp5 is used, for Apache 2.x and mpm_worker)*

`/hsphere/local/config/httpd2/php54/php.ini.tmpl.custom` *(all other cases)*

➢ *To customize PHP 5.4 configuration files:*

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
      U36.0P2/U36.0P2
      ```

   2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the `hspackages` wrapper with the `ctemplates=php` option:

```
hspackages ctemplates=php [OPTIONS]
```

```
Edit the above mentioned tmpl.custom files according to your
needs.
To immediately apply changes, restart Apache service:
   /hsphere/shared/scripts/apache-restart
```

Standardized PHP

Standardized PHP configuration files is located:

```
/hsphere/shared/php-internal/conf/php.ini.tmpl.custom
```

➢ *To customize standardized PHP configuration files:*

2. Create custom configuration template if required. Otherwise, skip this step.

4. Download H-Sphere updater:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0P2/U36.0P2
```

5. Run the update script:

```
# sh ./U36.0P2
```

6. Execute the `hspackages` wrapper with the `ctemplates=php` option:

```
hspackages ctemplates=php [OPTIONS]
```

```
Edit the above mentioned tmpl.custom files according to your
needs.
To immediately apply changes, restart Apache service:
   /hsphere/shared/scripts/apache-restart
```

FTP

FTP configuration file templates are included into the hsphere-update package and installed in the following locations:

```
/hsphere/pkg/scripts/templates/proftpd/shared.proftpd.conf.tmpl.d
efault
/hsphere/pkg/scripts/templates/proftpd/local.proftpd.conf.tmpl.d
efault
```

➢ *To customize these templates, perform:*

1. Create custom configuration template if required. Otherwise, skip this step.

1. Download H-Sphere updater:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0P2/U36.0P2
```

2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the `hspackages` wrapper with the `ctemplates=ftpd` option:

```
hspackages ctemplates=ftpd [OPTIONS]
```

Custom templates will be placed into the following locations:

```
/hsphere/local/config/ftpd/proftpd.conf.tmpl.custom
/hsphere/shared/config/ftpd/proftpd.conf.tmpl.custom
```

```
Edit the .custom files according to your needs:
   /hsphere/local/config/ftpd/proftpd.conf.tmpl.custom
   /hsphere/shared/config/ftpd/proftpd.conf.tmpl.custom
To immediately apply changes, run:
   /hsphere/shared/config/ftpd/configure-proftpd.sh
Restart FTP service.
```

MySQL

MySQL configuration file templates are included into the hsphere-update package and installed in the following locations:

Linux: /hsphere/pkg/scripts/templates/FreeBSD/my.cnf_tmpl.default
FreeBSD: /hsphere/pkg/scripts/templates/Linux/my.cnf_tmpl.default

➢ *To customize these templates, perform:*

1. Create custom configuration template if required. Otherwise, skip this step.
   1. Download H-Sphere updater:

      ```
      # wget
      http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
      U36.0P2/U36.0P2
      ```

   2. Run the update script:

      ```
      # sh ./U36.0P2
      ```

   3. Execute the hspackages wrapper with the ctemplates=mysql option:

      ```
      hspackages ctemplates=mysql [OPTIONS]
      ```

      Custom templates will be placed into the following location:

      /hsphere/local/config/mysql/my.cnf_tmpl.custom

Edit the /hsphere/local/config/mysql/my.cnf_tmpl.custom file according to your needs.
To immediately apply changes, run the conf file generating script which is as a rule executed in the package postinstall section:

```
/hsphere/local/config/mysql/scripts/config_mysql
```

PostgreSQL

PostgreSQL configuration file templates are included into the hsphere-update package and installed in the following locations:

Linux:
/hsphere/pkg/scripts/templates/FreeBSD/postgresql.conf_tmpl.default
FreeBSD:
/hsphere/pkg/scripts/templates/Linux/postgresql.conf_tmpl.default

➢ *To customize these templates, perform:*

1. Create custom configuration template if required. Otherwise, skip this step.

1. Download H-Sphere updater:

```
# wget
http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
U36.0P2/U36.0P2
```

2. Run the update script:

```
# sh ./U36.0P2
```

3. Execute the `hspackages` wrapper with the `ctemplates=pgsql` option:

```
hspackages ctemplates=pgsql [OPTIONS]
```

Custom templates will be placed into the following location:

`/hsphere/local/config/pgsql/postgresql.conf_tmpl.custom`

Edit the /hsphere/local/config/pgsql/postgresql.conf_tmpl.custom file according to your needs.

Important: By default, PostgreSQL listens on localhost (parameter virtual_host=127.0.0.1 in configuration file). Change this parameter if required.

To immediately apply changes, run the conf file generating script which is as a rule executed in the package postinstall section:

```
/hsphere/local/config/pgsql/scripts/config_pgsql
```

DNS

/etc/named.conf

Default template is located at
`/hsphere/pkg/scripts/templates/named/named.conf.tmpl.default`

1. Create custom configuration template if required. Otherwise, skip this step.

   1. Download H-Sphere updater:

   ```
   # wget
   http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/
   U36.0P2/U36.0P2
   ```

   2. Run the update script:

   ```
   # sh ./U36.0P2
   ```

   3. Execute the `hspackages` wrapper with the `ctemplates=named` option:

   ```
   hspackages ctemplates=named [OPTIONS]
   ```

   Custom template will be placed into the following location:

   /etc/named.conf.tmpl.custom

Edit the /etc/named.conf.tmpl.custom file according to your needs.
To immediately apply changes, run the configuration file generating script which is as a rule executed in the postinstall section of the package:

```
/hsphere/local/config/bind/scripts/config_bind
```

/etc/resolv.conf

To leave `/etc/resolv.conf` unchanged during the update (e.g., when MyDNS is used), perform:

```
touch /etc/resolv.conf.custom
```

If the latter file exists, then you can customize your `/etc/resolv.conf` file without the risk of its being overwritten.

Other Files Included into Parallels H-Sphere Packages

Warning: It is not recommended that you customize the files included into Parallels H-Sphere packages by yourself. Any alterations made to them are at your own risk!

Besides customization of some major service configuration files (for Web, mail, DNS, databases, etc.), we have implemented for your convenience a possibility to customize other files included into Parallels H-Sphere packages. For this, we have created a configuration file `/hsphere/local/config/customs/customs.conf` and a special template `/hsphere/local/config/customs/customs.conf.tmpl` that will help you to save customized Parallels H-Sphere packages files during future updates.

➢ *To customize a file included into Parallels H-Sphere Package and save the changes:*

1. Make necessary changes to the file you want to customize.
Copy a template of custom files to a configuration file:

```
cp -p /hsphere/local/config/customs/customs.conf.tmpl
/hsphere/local/config/customs/customs.conf
```

Go to the customs.conf file
Add the full path to the customized file(-s) under the mask of the relevant package, e.g.:

```
[hsphere-imap-h2.5]
/etc/rc.d/init.d/courier-imapd
/etc/rc.d/init.d/courier-imapd-ssl
/hsphere/local/config/mail/imap/etc/imapd
/hsphere/local/config/mail/imap/etc/imapd-ssl
```

Please note that during the package updates all custom files will be saved in the `/hsphere/local/config/customs/$package_mask/` directory. The default files of Parallels H-Sphere packages, in their turn, will be stored at `/hsphere/local/config/customs/default/$package_mask/`. The above mentioned locations store the latest versions of both custom and default files, no matter custom or default file is being used.

CHAPTER 8

Appendix D. Download Locations

This table contains codes for all Linux/FreeBSD operating systems supported by Parallels H-Sphere and links to the directories on the http://download.hsphere.parallels.com website where you can download packages required by Parallels H-Sphere.

Operating System	OSCODE	Download Location
RedHat EL 4, CentOS 4.x, White Box EL 4.x	RHES4	http://download.hsphere.parallels.com/shiv/HS/RHES4
RedHat EL 4, CentOS 4.x, White Box EL 4.x (x86_64)	RHES4_64	http://download.hsphere.parallels.com/shiv/HS/RHES4_64
RedHat EL 5, CentOS 5.x, CloudLinux 5.5	RHES5	http://download.hsphere.parallels.com/shiv/HS/RHES5
RedHat EL 5, CentOS 5.x (x86_64)	RHES5_64	http://download.hsphere.parallels.com/shiv/HS/RHES5_64
RedHat EL 6, CentOS 6.x	RHES6	http://download.hsphere.parallels.com/shiv/HS/RHES6
RedHat EL 6, CentOS 6.x (x86_64)	RHES6_64	http://download.hsphere.parallels.com/shiv/HS/RHES6_64
FreeBSD 7.3	FBSD73	http://download.hsphere.parallels.com/shiv/HS/FBSD73
FreeBSD 7.3 (amd64)	FBSD73_64	http://download.hsphere.parallels.com/shiv/HS/FBSD73_64
FreeBSD 7.4	FBSD74	http://download.hsphere.parallels.com/shiv/HS/FBSD74
FreeBSD 7.4 (amd64)	FBSD74_64	http://download.hsphere.parallels.com/shiv/HS/FBSD74_64

In this chapter:

Mirror Server for Updating Parallels H-Sphere

If you have 2 and more boxes with the same operating system and you want to speed up package downloads, you can create a mirror server and in the updater set an alternative URL for package downloads.

➢ *To create a mirror:*

1. Set up a web server (or just an IP-based virtual host in existing web server).

In the web server's (or appropriate virtual host's) document root directory, create directory shiv/HS/releases/U36.0/, e.g.

```
mkdir -p /var/www/html/shiv/HS/releases/U36.0/
```

Download all contents of http://download.hsphere.parallels.com/shiv/HS/releases/U36.0/ into your shiv/HS/releases/U36.0/ directory.
Download the script http://download.hsphere.parallels.com/shiv/HS/releases/sync360fromPublic.sh, adjust it for your paths, and run:

```
sh sync360fromPublic.sh
```

This will download you H-Sphere packages according to the package lists in shiv/HS/releases/U36.0/.

Now you can specify this mirror server to be used by the Parallels H-Sphere install/update script by setting the `mirror` parameter.

CHAPTER 9

Appendix E. Miscellaneous

In this chapter:

Restarting Parallels H-Sphere

When restarting the Control Panel, make sure that you are logged into the Control Panel server as root.

For Linux:

```
/etc/rc.d/init.d/httpdcp stop
killall -9 java
sleep 10
/etc/rc.d/init.d/httpdcp start
```

For FreeBSD:

```
/usr/local/etc/rc.d/apachecp.sh stop
killall -9 java
sleep 10
/usr/local/etc/rc.d/apachecp.sh start
```

CHAPTER 10

Network Address Translation (NAT)

Parallels H-Sphere supports NAT (Network Address Translation) which allows you to use internal IPs in your local area network. When configuring Parallels H-Sphere, use internal IPs in all instances, and Parallels H-Sphere will convert them into external IPs for the DNS settings and control panel web interface.

➢ *To enable NAT support in Parallels H-Sphere:*

1. Log into Control Panel server as cpanel user:

   1. Log in as root first:

   ```
   $ su -
   ```

   2. Log in as the cpanel user:

   ```
   # su -l cpanel
   ```

Create the ips-map.xml file in the ~cpanel/shiva/psoft_config/ directory in the following format:

```
<ips>
   <ip ext="external_ip" int="internal_ip"/>
   . . .
</ips>
```

Example:

```
<ips>
<ip ext="65.219.197.236" int="192.168.1.27"/>
<ip ext="65.219.197.237" int="192.168.1.28"/>
<ip ext="65.219.197.238" int="192.168.1.29"/>
<ip ext="65.219.197.239" int="192.168.1.30"/>
<ip ext="65.219.197.242" int="192.168.1.31"/>
<ip ext="65.219.197.243" int="192.168.1.32"/>
<ip ext="65.219.197.244" int="192.168.1.33"/>
</ips>
```

Set the following record in ~cpanel/shiva/psoft_config/hsphere.properties:

```
IPS-XML-FILENAME =
/hsphere/local/home/cpanel/shiva/psoft_config/ips-map.xml
```

Restart Parallels H-Sphere to apply changes. To do this, run under root:

For Linux:

```
/etc/rc.d/init.d/httpdcp stop
killall -9 java
sleep 10
/etc/rc.d/init.d/httpdcp start
```

For FreeBSD:

```
/usr/local/etc/rc.d/apachecp.sh stop
killall -9 java
```

```
sleep 10
/usr/local/etc/rc.d/apachecp.sh start
```

➢ *To disable NAT support*

1. Remove the line mentioned in step 3 above from hsphere.properties.

Restart Parallels H-Sphere.

See below for particular cases of configuring NAT in your Parallels H-Sphere cluster.