OpenStack Deployment Guide

For Parallels Automation

Revision 1.0 (November 20, 2014)

Table of Contents

Preface

Documentation Conventions

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

Typographical Conventions

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.	Navigate to the QoS tab.
	Titles of modules, sections, and subsections.	Read the Basic Administration module.
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.	These are the so-called *shared VEs*. To destroy a VE, type `vzctl destroy VEid`.
Important	An important note provides information that is essential to the completion of a task. Users can disregard information in a note and still complete a task, but they should not disregard an important note.	**Important**: The device drivers installed automatically during Setup are required by your system. If you remove one of these drivers, your system may not work properly.

Note	A note with the heading "Note" indicates neutral or positive information that emphasizes or supplements important points of the main text. A note supplies information that may apply only in special cases—for example, memory limitations, equipment configurations, or details that apply to specific versions of a program.	**Note**: If Windows prompts you for a network password at startup, your network is already set up and you can skip this section.
`Monospace`	The names of commands, files, and directories.	Use `vzctl start` to start a VE.
Preformatted	On-screen computer output in your command-line sessions; source code in XML, C++, or other programming languages.	Saved parameters for VE 101
Preformatted Bold	What you type, contrasted with on-screen computer output.	**# rpm –V virtuozzo-release**
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

General Conventions

Be aware of the following conventions used in this book.

- Modules in this guide are divided into sections, which, in turn, are subdivided into subsections. For example, Documentation Conventions is a section, and General Conventions is a subsection.

- When following steps or using examples, be sure to type double-quotes ("), left single-quotes (), and right single-quotes (') exactly as shown.

- The key referred to as RETURN is labeled ENTER on some keyboards.

- Commands in the directories included into the PATH variable are used without absolute path names. Steps that use commands in other, less common, directories show the absolute paths in the examples.

Feedback

If you have found a mistake in this guide, or if you have suggestions or ideas on how to improve it, please send your feedback using support@mamasu.es. 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.

Change Log

Version	Date	Description	Author
1.0	November 20, 2014	Initial version	Cristina Pérez

Introduction

In This Chapter

About This Guide

This guide describes all the deployment steps of this APS in the PA environment, from endpoint file installation to the APS instance creation. The purpose is to carry out all the technical tasks required to allow the provider to configure the in-PA.

This document was developed by The Mamasú Agency. For additional information, please contact support@mamasu.es.

Audience

This guide is intended for:

- Technical support engineers that deploy and configure OpenStack services.

Terms and Abbreviations

- *APS* – Application Packaging Standard, an open standard that was designed to simplify the delivery of SaaS applications in the cloud-computing industry.
- *OpenStack-xx-xx.app.zip Package* – OpenStack is the name of the package and xx-xx is the place-holder for a specific version of the APS.
- *Folder name* - Name of the folder where a specific file is located. In this case, OpenStack.
- *PA* – Parallels Automation, which includes both POA and PBA.
- *PBA* – Parallels Business Automation.
- *POA* – Parallels Operations Automation.

OpenStack APS Introduction

OpenStack is a global collaboration of developers and cloud computing technologists producing the ubiquitous open source cloud-computing platform for public and private clouds.

This APS allows providers to manage OpenStack resources and offer them to their customers as an IaaS solution.

With each subscription the customer will be able to know detailed resource consumption and manage virtual environments directly from Parallels Automation panels.

Integration Prerequisites

Before you start integrating OpenStack into PA, learn about the necessary preparations for the process.

In This Chapter

Prerequisites for the PA Platform

POA	>=5.5.7
UI Runtime	>=2.0-329

Prerequisites for the Endpoint

Server Names	Endpoint-aps
Description	Specific node with Apache and PHP used to provide aps endpoint
Density	
Quantity	
OS	• Centos 6.0
Software	• Apache >= 2.2 with mod_ssl • PHP >= 5.3 • aps_php_runtime >= 2.0.317
Supported Virtualization	
Provisioning System	
CPU	
RAM	
Disk	

Disk Partitioning	
NICs	

Preparing the Endpoint Host Server

OpenStack APS Package requires an application host server to be set up before it can be successfully imported and used in PA. This endpoint server can be provisioned as a VPS or a VM in the same infrastructure as PA systems. Please make sure you have PA (POA + PBA) infrastructure set up properly before continuing. The Provider's guide for setting up PA can be found at http://download.pa.parallels.com/poa/5.5/.

Please verify if the endpoint is compliant with the above-mentioned prerequisites.

These deployment instructions are based on the fresh installation of CentOS 6. All required packages are installed and managed by its yum package manager.

1. Install PHP interpreter via **yum install php** and Apache HTTP server via **yum install httpd** if your Linux distribution does not include them. Please check your installed version of PHP via:

```
[root@endpoint ~]# php –version
```

And ensure your Apache HTTP server is up and running:

```
[root@endpoint ~]# service httpd status
httpd (pid 5749) is running...
```

The default document root directory for Apache HTTP Server is located at `/var/www/html/`.

2. The application host server requires the APS PHP Runtime library. The PHP runtime library can be downloaded from *http://doc.apsstandard.org/tools/php_lib/.* To install PHP runtime on your server, do the following:

```
[root@endpoint~]# rpm -ivh aps-php-runtime-{version}.noarch.rpm
```

Where *aps-php-runtime-{version}.noarch.rpm* is the name of the PHP runtime library, and {version} is the version number you download from the above link. After the installation, the `/usr/share/aps/php` directory will be added to the system `php.ini` file automatically.

3. Upload the APS package zip file on your application host server. This guide assumes you place it under `/root/OpenStack-[x.x-x].app.zip`.

4. Copy the script folder to the folder where Apache is set up as Virtual Host:

9

```
/var/www/html/foldername
```

5. Access /var/www/html/**foldername.**

6. Check that the .htaccess file leads to the /**foldername** subfolder.

7. Set the user to Apache:

```
chown -R apache:apache /var/www/html/foldername
```

8. Set the rights to read/write/execute:

```
chmod -R a+w /var/www/html/foldername
```

9. Check that the end-point has been installed successfully by visiting the endpoint's URL in your browser: *http://endpoint-ip-or-dns/**foldername**/globals*.

   For security reasons, the server must reject it. You should get this type of message:

```
{
  "code": 404,
  "type": "RuntimeException",
  "message": "Not Found: No appropriate method found for url…"
}
```

OpenStack APS Package

To deploy the OpenStack APS package on the Provisioning Host, you need to prepare the host and then import your OpenStack APS package in PA. Find information about how to do it in this chapter.

In This Chapter

Preparing Provisioning Host

An additional step that is needed for the application to be functional from the PA perspective is setting the application endpoint. The instructions for this can be found here:

http://doc.apsstandard.org/pa/pa-deployment/index.html#setting-application-endpoint

As you can see in the instructions, php and php-runtime libraries must be installed on our endpoint.

- Create the folder.
- Copy the scripts to the folder.
- Set redirect by creating the .htaccess file inside the folder:

```
Options +FollowSymLinks +ExecCGI
<IfModule mod_rewrite.c>
    RewriteEngine On
    RewriteBase /foldername
    RewriteCond %{REQUEST_FILENAME} !-f
    RewriteCond %{REQUEST_URI} !=/favicon.ico
    RewriteRule ^app(|/.*)$ app.php?q=$1 [L,QSA]
    RewriteRule ^dc(|/.*)$ dc.php?q=$1 [L,QSA]
    RewriteRule ^heatstack(|/.*)$ heatstack.php?q=$1 [L,QSA]
    RewriteRule ^image(|/.*)$ image.php?q=$1 [L,QSA]
    RewriteRule ^ip(|/.*)$ ip.php?q=$1 [L,QSA]
     RewriteRule ^ipassigned(|/.*)$ ipassigned.php?q=$1 [L,QSA]
```

```
      RewriteRule ^ippool(|/.*)$ ippool.php?q=$1 [L,QSA]

      RewriteRule ^organization(|/.*)$ organization.php?q=$1 [L,QSA]

      RewriteRule ^profile(|/.*)$ profile.php?q=$1 [L,QSA]

      RewriteRule ^unmanagedve(|/.*)$ unmanagedve.php?q=$1 [L,QSA]

</IfModule>
```

- Set the AllowOverride All option for the endpoint parent folder (directory).
- Restart the Apache service with the following command: *service httpd restart*.

Importing OpenStack Application

To import the OpenStack application to POA:

1. Log in as a service provider administrator.

2. In the POA Control Panel, navigate to **Services>Applications**.

3. Click **Import Package**, in the **APS Packages** tab.
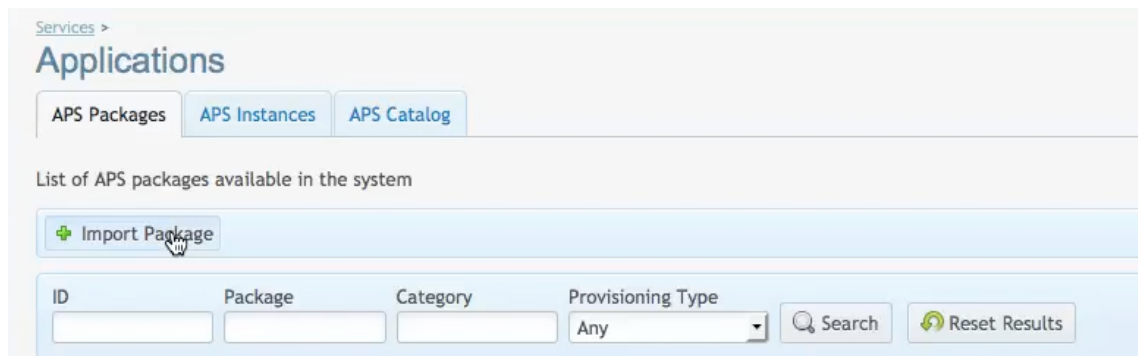
4. Upload the package zip file from your local workstation to your application host server. Select **local file** and browse for the correct application file. In this case *Openstack-[x.x-x].app.zip*.
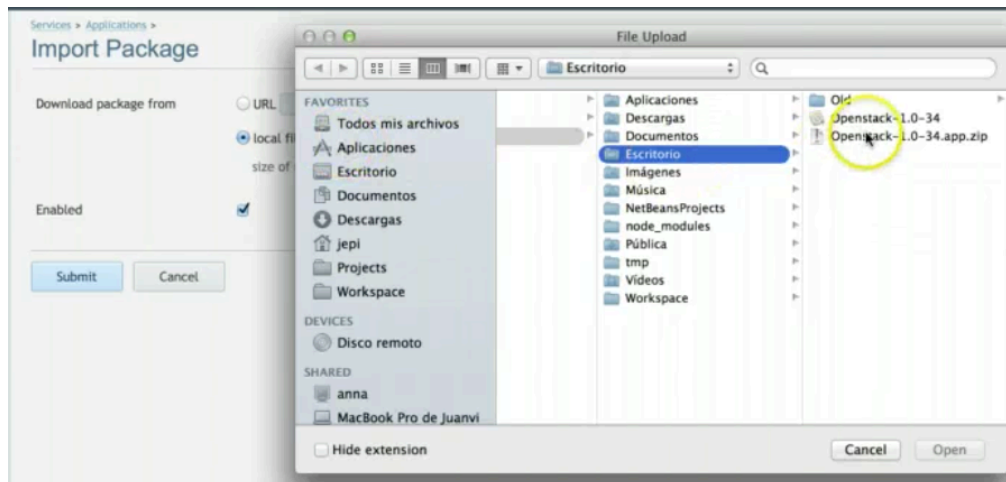
5. Click on **Submit** to upload the file.

6. Click the **Refresh** icon, in the upper right corner, to check that the package has been uploaded. The package will be successfully uploaded once you see the icon next to the package name.

7. Click **OpenStack** to create a new instance.

8. Go to the **Instances** tab.

9. Click **Install**.

10. Type the Application API end-point URI: *http://endpoint-ip-or-dns/**foldername***.

11. Click on **Next**.
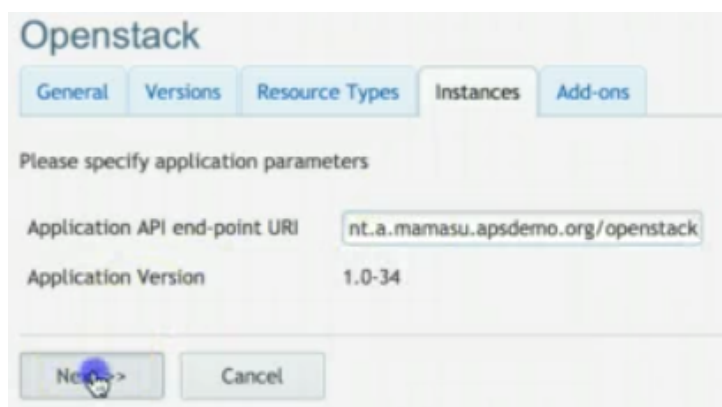
12. Click **Finish** to confirm the creation of a new instance.

13. The instance will be well configured when the status shows as Ready.

Important

Please refer to the Provider's Guide in order to continue with the installation of this APS.