

# OpenStack Provider's Guide

For Parallels Automation

Revision 1.0 (November 26, 2014)

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# Preface

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## 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.
<i>Italics</i>	Used to emphasize the importance of a point, to introduce a term or to designate a command line placeholder, which is to be replaced with a real name or value.	These are the so-called <i>shared VEs</i> . To destroy a VE, type <code>vzctl destroy VEid</code> .
<b>Important</b>	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.	<b>Important:</b> 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.

<b>Note</b>	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.	<b>Note:</b> 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 <code>vzctl start</code> 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
<b>Preformatted Bold</b>	What you type, contrasted with on-screen computer output.	<b># rpm -V virtuoizzo-release</b>
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 as 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](mailto: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 26, 2014	Initial version	Cristina Pérez

# Introduction

## In This Chapter

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## About This Guide

This guide describes the integration of Parallels Automation with OpenStack Services.

This document was developed by The Mamasú Agency. For additional information, please contact [support@mamasu.es](mailto:support@mamasu.es).

## Audience

This guide is intended for:

- Providers that use Parallels Automation and want to sell OpenStack services to customers.

## Terms and Abbreviations

API	Application Program Interface.
APS	Application Packaging Standard, an open standard that was designed to simplify the delivery of SaaS applications in the cloud-computing industry.
IaaS	Infrastructure as a Service.
PA	Parallels Automation, which includes both POA and PBA.
PBA	Parallels Business Automation.
POA	Parallels Operations Automation.
SaaS	Software as a Service.

# Business Model Overview

This chapter contains an outline of how the integration of OpenStack and PA is used by the end customer and the list of OpenStack features that are supported within the integration package.

## In This Chapter

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## About OpenStack

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 information about resource usage and manage virtual environments directly from Parallels Automation panels.

## OpenStack Services Provided

There are two different business models related to this product.

### Pay as you go

Resource Name	Resource Class	Limit	Auto-Provide
Application	Application Service Reference	1	N/A
Datacenter	Application Service Reference	1	N/A
IPPool	Application Service Reference	Unlimited	N/A
Image	Application Service Reference	Unlimited	N/A

Organization	Application Service	1	Yes
UnmanagedVE	Application Service	Unlimited	N/A
FloatingIP	Application Counter (unit-hours)	Unlimited	N/A
CPU	Application Counter (unit-hours)	Unlimited	N/A
ISO counter (Slot X)	Application Counter (unit-hours)	Unlimited	N/A
DiskSize	Application Counter (MB-hours)	Unlimited	N/A
Memory	Application Counter (MB-hours)	Unlimited	N/A
TrafficOUT	Application Counter (MB-hours)	Unlimited	N/A

## Flat

Resource Name	Resource Class	Limit	Auto-Provide
Application	Application Service Reference	1	N/A
Datacenter	Application Service Reference	1	N/A
IPPool	Application Service Reference	Unlimited	N/A
Image	Application Service Reference	Unlimited	N/A
Organization	Application Service	1	Yes
UnmanagedVE	Application Service	Unlimited	N/A
FloatingIP	Application Counter (unit)	Unlimited	N/A
CPU	Application Counter (unit)	Unlimited	N/A
DiskSize	Application Counter (KB)	Unlimited	N/A
Memory	Application Counter (KB)	Unlimited	N/A
TrafficOUT	Application Counter (KB)	Unlimited	N/A



## Service Hierarchy Exposed by OpenStack

- App
  - DC
    - Heat template
    - Images
    - IPPools
      - IP
- Organization
  - UnmanagedVE
    - IPAssigned
  - HeatStack
    - IPAssigned

# Integration Workflow

The integration workflow looks as follows:

## *DEPLOYMENT*

Please refer to the Deployment Guide for more detailed information. This action is performed once and consists of:

1. Deploying OpenStack application endpoint.
2. Importing OpenStack application package.
3. Creating service instance in the Provider Control Panel.

## *PA INTEGRATION*

1. Creating the required resource types. For further details, please refer to the Resource Creation section of this guide.
2. Creating the service templates. For further details, please refer to the Service Template Creation section of this guide.

# Localization List

OpenStack has been localized in the following languages for each category:

1. Customer interface  
English
2. PA task manager error logging:  
English
3. OpenStack API error messaging:  
English

## Revision History

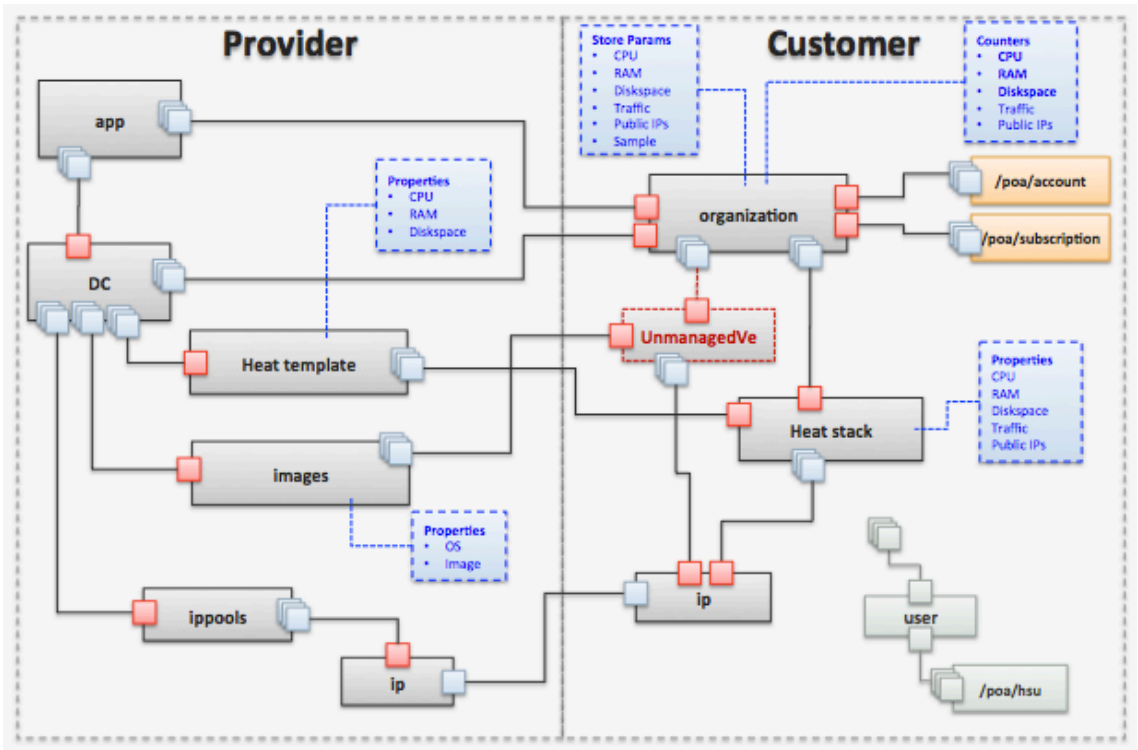
1.0 Build 53	Initial APS package
--------------	---------------------

# Technical Overview

This chapter contains an outline of how the integration of OpenStack and PA is performed and the list of OpenStack features that are supported within the integration package.

## General Architecture

The following scheme represents the architecture of POA and OpenStack integration:



## Components

Parallels Admin	Parallels Customer Manager
Imports APS package	Provisions new subscriptions
Configures package settings	Manages OpenStack instances
Configures service types for package	Checks OpenStack projects' resource usage

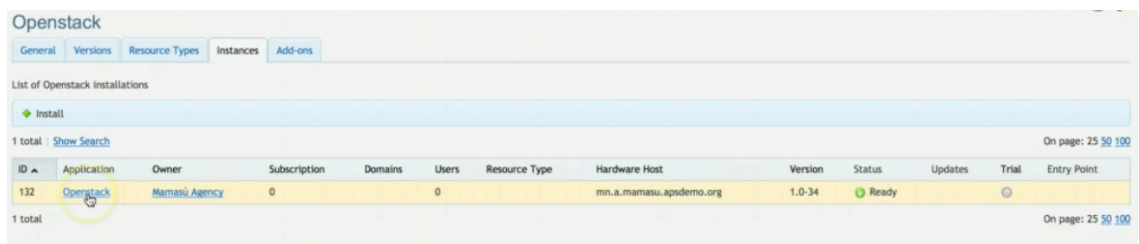
# PA Integration

## Configuring Services for Selling - POA

Learn about how to configure the service templates that are necessary to create OpenStack APS subscriptions for sale.

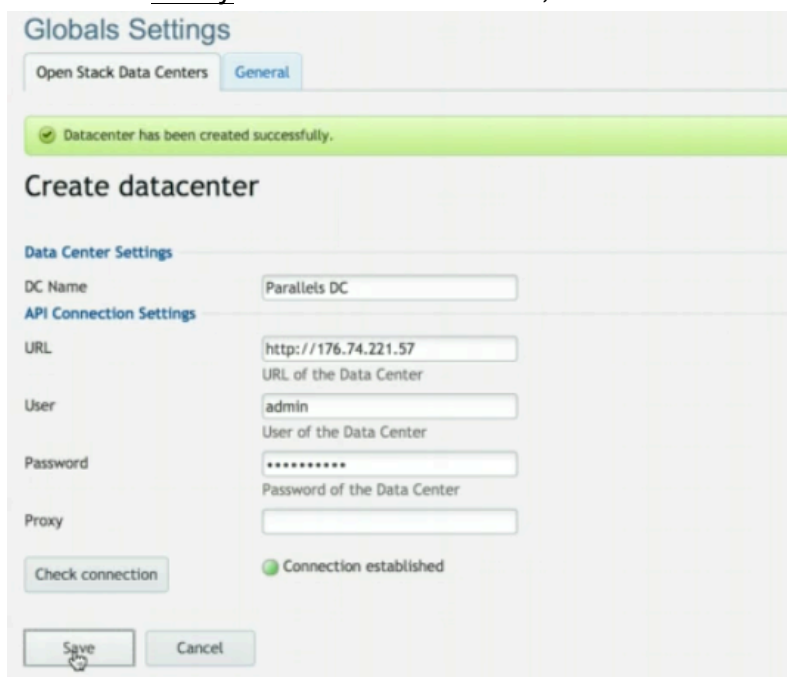
### Instance Configuration

- In the POA Provider Control Panel, navigate to **Services>Applications**.
- Select “OpenStack”, then go to the **Instances** tab. Click on **OpenStack** again.



ID	Application	Owner	Subscription	Domains	Users	Resource Type	Hardware Host	Version	Status	Updates	Trial	Entry Point
132	OpenStack	Mamassu Agency	0	0		mn.a.mamassu.apsdemo.org		1.0-34	Ready			

- Click on **Add New Data Center**.
- Specify the settings of the new data center, then click on **Save**:
  - DC Name: name of the data center.
  - URL: URL of the data center.
  - User: user of the data center.
  - Password: password of the data center.
  - Proxy: leave this field blank, as it is not used.



**Globals Settings**

Open Stack Data Centers **General**

✓ Datacenter has been created successfully.

**Create datacenter**

**Data Center Settings**

DC Name: Parallels DC

**API Connection Settings**

URL: http://176.74.221.57  
URL of the Data Center

User: admin  
User of the Data Center

Password: \*\*\*\*\*  
Password of the Data Center

Proxy:

Check connection: Connection established

Save Cancel

- Now you are in the OpenStack data center's list. From here, you can edit the data center's details by clicking on **Edit**.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers

Screen ID: datacenters

### Open Stack Data Centers

Data Centers

[Add New Data Center](#) [Delete](#) [Refresh](#)

10 item(s) total Number of entries per page: 10 [25](#) [100](#) [All](#)

	Name	N° Organizations	N° Profiles	N° Images	N° Ippools	Actions
<input type="checkbox"/>	<a href="#">Parallels DC</a>	21	0	3	14	<a href="#">Edit</a>

10 item(s) total Number of entries per page: 10 [25](#) [100](#) [All](#)

- By clicking on the data center's name, you can see all the information related to this data center.

## Settings

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers >

### Globals Settings

#### Parallels DC

[Settings](#)
[Roles assignment](#)
[IP Pools](#)
[Glance Images](#)
[Slot management](#)
[Statistics](#)
[Synchronize](#)

##### Data Center Settings

DC Name: Parallels DC

##### API Connection Settings

URL: http://176.74.221.57  
 User: admin  
 Password: \*\*\*\*\*  
 Proxy:

[Back to data centers](#)

## Roles Assignment

- From this tab you can configure the roles that will be used from the API to manage user permissions.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers >

### Globals Settings

#### Parallels DC

[Settings](#)
[Roles assignment](#)
[IP Pools](#)
[Glance Images](#)
[Slot management](#)
[Statistics](#)
[Synchronize](#)

##### Roles assignment

Admin role: admin [ID: 19161422093d482fb6540bcecd60f89]  
 Member role: Member [ID: f3ffbe27d94741e9baeada7086a3b159]

[Edit](#)
[Back to data centers](#)

- You can select the role by clicking on the dropdown list.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers >

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

**Roles assignment**

Admin role

Member role

Save Cancel

## IP Pools

- In the **IP Pools** tab you can retrieve the pools from the API.
- Once you are in this tab, IP Pools will be automatically retrieved and created on PA.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: ippool

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

**Ippool List**

14 item(s) total Pages: First << 1 2 >> Last Number of entries per page: 10 25 100 All

Ippool	IP	Actions
ghjk	192.168.123.0/24	<input type="button" value="IP List"/>
sdinfiosdf	192.168.3.0/24	<input type="button" value="IP List"/>
CR-RD Subnet 777-01	192.168.22.0/24	<input type="button" value="IP List"/>
Mamasu Network	192.168.111.0/24	<input type="button" value="IP List"/>
net04_ext__subnet	192.168.203.0/24	<input type="button" value="IP List"/>
New Test Network 777	192.168.11.0/24	<input type="button" value="IP List"/>
demo net 120	192.19.0.0/21	<input type="button" value="IP List"/>
mam_qa_1	192.159.15.0/30	<input type="button" value="IP List"/>
yutghvbn	192.192.192.0/24	<input type="button" value="IP List"/>
asdf	192.77.0.0/22	<input type="button" value="IP List"/>

14 item(s) total Pages: First << 1 2 >> Last Number of entries per page: 10 25 100 All

- By clicking on the **IP List** button, you can see the whole list of available IP inside this subnet.



Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: ip-list

## Globals Settings

### Mamasu Network

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

#### IP List

253 item(s) total Pages: First << 1 2 3 4 5 6 7 8 9 >> Last Number of entries per page: 10 25 100 All

IP	Gateway
192.168.111.128	192.168.111.1
192.168.111.2	192.168.111.1
192.168.111.4	192.168.111.1
192.168.111.5	192.168.111.1
192.168.111.6	192.168.111.1
192.168.111.7	192.168.111.1
192.168.111.8	192.168.111.1
192.168.111.9	192.168.111.1
192.168.111.10	192.168.111.1
192.168.111.11	192.168.111.1

253 item(s) total Pages: First << 1 2 3 4 5 6 7 8 9 >> Last Number of entries per page: 10 25 100 All

Return

## Glance Images

- From the **Glance Images** tab you can manage images based on OpenStack ISO.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: iso

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

#### Glance Images

3 item(s) total Number of entries per page: 10 25 100 All

Name	OS	Glance Image	Status	Actions
<input type="checkbox"/> Image 3	OS3	/v2/images/1ef78068-e94d-4e96-a3ae-c4fb3d0b8119/file	active	<input type="button" value="Edit"/>
<input type="checkbox"/> Image1	Win OS	/v2/images/c274dd2a-823c-46b9-bc36-ebe97c324d7c/file	active	<input type="button" value="Edit"/>
<input type="checkbox"/> image 2	Os 2	/v2/images/c274dd2a-823c-46b9-bc36-ebe97c324d7c/file	active	<input type="button" value="Edit"/>

3 item(s) total Number of entries per page: 10 25 100 All

- To create a new image, click **Register New Glance Image** and specify the settings, then click **Save**:
  - ISO name: name of the ISO.
  - OS: operating system.
  - OpenStack ISO: select image from the dropdown list. This list is retrieved from the API.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: iso-new

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

### Register new Glance Image

Glance Image Settings

Image name

OS

Open Stack Image

Save Cancel

## Slot Management

There is a mapping system that allows the provider to count the number of hours an instance has been working and then bill the customer for the usage of an image. This system is based on a slot mechanism that relates each slot defined in this tab with a counter in the customer's resource.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: slots

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

### Slots

Slot	OS	Status	Actions
New name Slot eeeddd	Image 3, 2 more	Active	<button>Edit</button>
ISO Slot 2	None	Not registered	<button>Edit</button>
ISO Slot 3	None	Not registered	<button>Edit</button>
ISO Slot 4	None	Not registered	<button>Edit</button>

- By clicking on **Edit**, you can edit the name of each slot and specify which images are billed through this slot.

Services > Cloud Infrastructure > Mirantis Open Stack > Open Stack Data Centers > Screen ID: slot-edit

## Globals Settings

### Parallels DC

Settings Roles assignment IP Pools Glance Images Slot management Statistics Synchronize

### Edit Slot 1

Slot name

Glance images New name Slot eeeddd

<input type="checkbox"/>	Name	OS	Glance Image	Status
<input checked="" type="checkbox"/>	Image 3	OS3	/v2/images/1ef78068-e94d-4e96-a3ae-c4fb3d0b8119/file	active
<input checked="" type="checkbox"/>	Image1	Win OS	/v2/images/c274dd2a-823c-46b9-bc36-eb97c324d7c/file	active
<input checked="" type="checkbox"/>	image 2	Os 2	/v2/images/c274dd2a-823c-46b9-bc36-eb97c324d7c/file	active

Cancel Next Finish

## Statistics

From this tab you can check the summary of resource usage of the current data center.



## Resource Creation

### Application Service Reference

- In the POA Provider Control Panel, navigate **Services>Applications**.
- Click **OpenStack** in the **APS Packages** tab.
- Go to the **Resource Types** tab.

### Creating an APS Application Resource

- Click on **Create**, then on **Application Service Reference**.
  - **Name:** enter the name of the application and the type of resource. In this case, *OpenStack Application*.
  - **Description:** this field is used to describe the type of resource. You can leave it blank or enter the information you wish.

The screenshot shows the 'Add New Resource Type' form. The title is 'Add New Resource Type'. Below it, a subtitle reads 'Enter general parameters for new resource type based on resource class "Application Service Reference"'. The form has two fields: 'Name' and 'Description'. The 'Name' field contains the text 'OpenStack Application'. The 'Description' field is empty. At the bottom, there are two buttons: 'Next >>' and 'Cancel'. The 'Next >>' button is highlighted with a yellow circle.

- Click **Next**, then **OpenStack Application** and then select the instance.

Add New Resource Type

Select instance of "OpenStack Application v1.4"

Resource	Subscription	Application Instance
775827a4-3fe8-4ef6-a906-cc67826e5923	<None>	Openstack

<< Back Cancel

- Click **Finish**. The resource has been created.

## Creating a Data Center Resource

- Click on **Create**, then on **Application Service Reference**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Data Center*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **OpenStack Data Center** and then select the instance.

Add New Resource Type

Select instance of "OpenStack DC v1.11"

Resource	Subscription	Application Instance	API Connection	Tenant name	User name	Password
a5922f1f-04b8-4683-af94-2dee0dfb6260	<None>	Openstack	http://176.74.221.57	Parallels DC	admin	SAES-128-CBCScqlnx0QoFqLIBYTvZ2/48w==516r9Q6v3Gie+naK2jzZqYg==

<< Back Cancel

- Click **Finish**. The resource has been created.

## Creating an IP Pool Resource

- Click on **Create**, then on **Application Service Reference**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack IP Pool*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **OpenStack IP Pool**.

Add New Resource Type

Select APS Type

4 total

APS Type ^	Type version	Instances	Description
OpenStack Image	1.4	1	OpenStack Image
OpenStack Application	1.4	1	OpenStack application global service
OpenStack IP Pool	1.3	9	OpenStack IP Pool
OpenStack DC	1.11	1	OpenStack DC

4 total

- Select the instance.
- Click **Finish**. The resource has been created.

## Creating an Image Linux Resource

- Click on **Create**, then on **Application Service Reference**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Image Linux*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**.

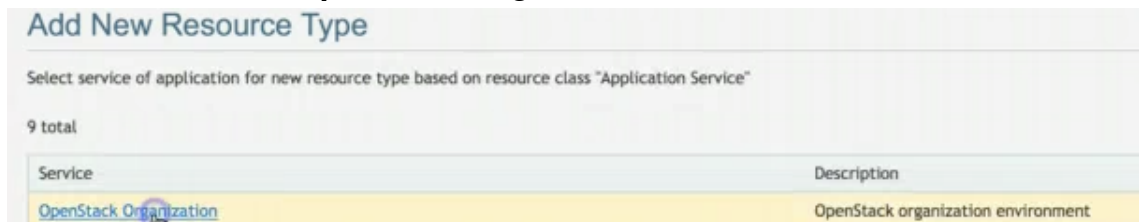


- Click **OpenStack Image** and then select the instance.
- Click **Finish**. The resource has been created.

## Application Service

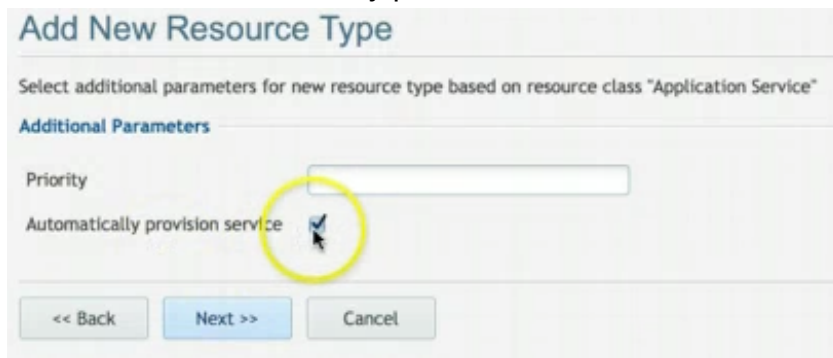
### Creating an Organization resource

- Click on **Create**, then on **Application Service**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Organization*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **OpenStack Organization**.



Service	Description
OpenStack Organization	OpenStack organization environment

- Tick the “Automatically provision service” checkbox.



**Add New Resource Type**

Select additional parameters for new resource type based on resource class "Application Service"

**Additional Parameters**

Priority

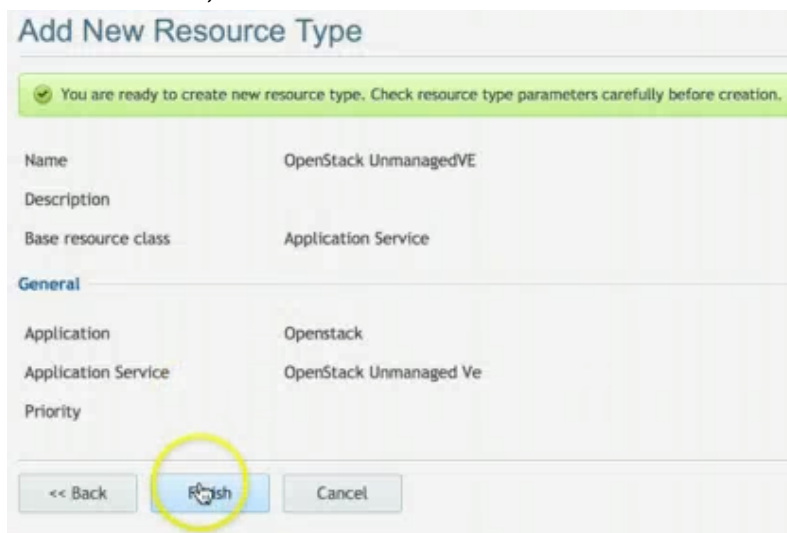
Automatically provision service ☒

<< Back **Next >>** Cancel

- Click **Next**, then **Finish**. The resource has been added.

### Creating an Unmanaged Virtual Environment resource

- Click on **Create**, then on **Application Service**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Unmanaged VE*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **OpenStack Unmanaged VE**.
- Leave the “Automatically provision service” box unchecked.
- Click **Next**, then **Finish**. The resource has been added.



**Add New Resource Type**

✓ You are ready to create new resource type. Check resource type parameters carefully before creation.

Name	OpenStack UnmanagedVE
Description	
Base resource class	Application Service

**General**

Application	Openstack
Application Service	OpenStack Unmanaged Ve
Priority	

<< Back **Finish** Cancel

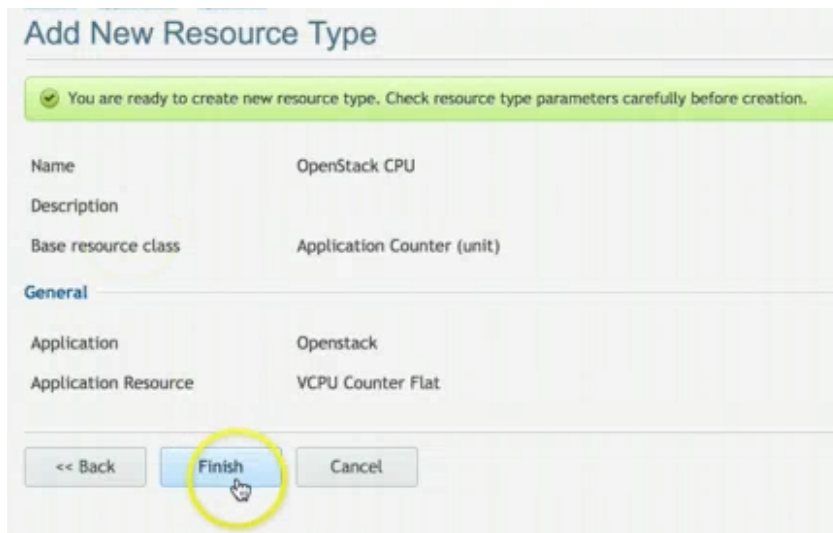
## Important

The next step is to create the application counters for the Flat service type.

### Application Counter (unit)

#### Creating a CPU resource

- Click on **Create**, then on **Application Counter (unit)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack CPU*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **VCPU Counter Flat**.
- Click **Finish**. The resource has been added.



The screenshot shows a web form titled "Add New Resource Type". At the top, a green message bar states: "You are ready to create new resource type. Check resource type parameters carefully before creation." Below this, the form contains several input fields. The "Name" field is filled with "OpenStack CPU". The "Description" field is empty. The "Base resource class" field is filled with "Application Counter (unit)". Below these fields is a section titled "General" which contains two more fields: "Application" filled with "Openstack" and "Application Resource" filled with "VCPU Counter Flat". At the bottom of the form, there are three buttons: "<< Back", "Finish", and "Cancel". The "Finish" button is highlighted with a yellow circle and a mouse cursor icon pointing at it.

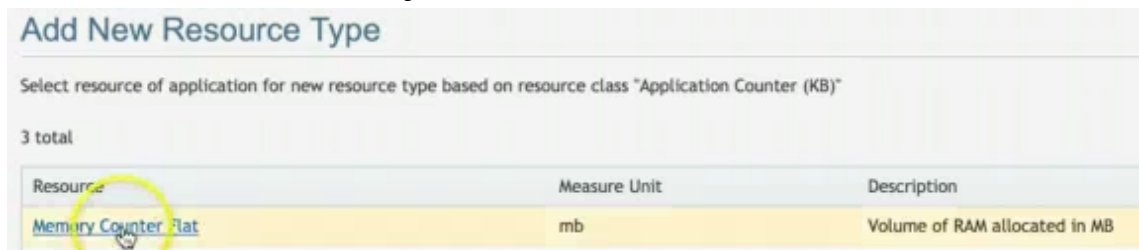
#### Creating a floating IP resource

- Click on **Create**, then on **Application Counter (unit)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Floating IP*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **IPs Counter Flat**.
- Click **Finish**. The resource has been added.

## Application Counter (KB)

### Creating a memory resource

- Click on **Create**, then on **Application Counter (KB)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack RAM*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Memory Counter Flat**.



- Click **Finish**. The resource has been added.

### Creating a disk size resource

- Click on **Create**, then on **Application Counter (KB)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack DiskSize*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Disk Size Counter Flat**.
- Click **Finish**. The resource has been added.

### Creating a traffic out resource

- Click on **Create**, then on **Application Counter (KB)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Traffic*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Traffic Out Counter Flat**.
- Click **Finish**. The resource has been added.



## Important

To create application counters for the Pay as you go service type, you must select Unit-hours or Megabyte-hours.

## Application Counter (unit-hours)

### Creating a CPU resource

- Click on **Create**, then on **Application Counter (unit-hours)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack CPU PAYG*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **IPs Usage PAYG**.
- Click **Finish**. The resource has been added.

**Add New Resource Type**

✓ You are ready to create new resource type. Check resource type parameters carefully before creation.

Name	OpenStack CPU payg
Description	
Base resource class	Application Counter (unit-hours)

**General**

Application	Openstack
Application Resource	VCPU Usage PAYG

<< Back Finish Cancel

### Creating a floating IP resource

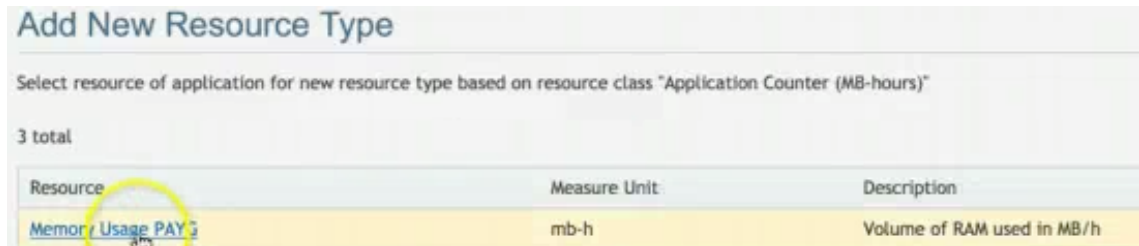
- Click on **Create**, then on **Application Counter (unit-hours)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Floating IP PAYG*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **IPs Usage PAYG**.
- Click **Finish**. The resource has been added.

## Application Counter (MB-hours)

### Creating a memory resource

- Click on **Create**, then on **Application Counter (MB-hours)**.

- Name: enter the name of the application and the type of resource. In this case, *OpenStack RAM PAYG*.
- Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Memory Usage PAYG**.



- Click **Finish**. The resource has been added.

### Creating a disk size resource

- Click on **Create**, then on **Application Counter (MB-hours)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack DiskSize PAYG*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Disk Size Usage PAYG**.
- Click **Finish**. The resource has been added.

### Creating a traffic out resource

- Click on **Create**, then on **Application Counter (MB-hours)**.
  - Name: enter the name of the application and the type of resource. In this case, *OpenStack Traffic PAYG*.
  - Description: this field is used to describe the type of resource. You can leave it blank or enter the information you wish.
- Click **Next**, then **Traffic Out Usage PAYG**.
- Click **Finish**. The resource has been added.

## Service Template Creation

### Flat Service Template

- In the POA Control Panel, navigate to **Products>Service Templates**.
- Click **Add New Service Template**.
- Configure the service template's general parameters:
  - Name: enter the name, for example: *OpenStack Flat*.

- Description: this field is used to describe the template. Leave it blank or enter the information you wish.
- Tick the “Autoprovisioning” checkbox.
- Type: set the type as “Custom”.

### Add New Service Template

Enter service template general parameters

Name

Description

Autoprovisioning ☒

Type

**Next >>**

- Click **Next**. The template has been created.
- Select the resources created earlier except for the Pay as you go subscription resources, then click **Next**.

### Add New Service Template

Select resources to be included into the service template

Resource  Subscription

16 total [Hide Search](#)

Resource	Subscription
<input checked="" type="checkbox"/> OpenStack Application	1 - License key
<input checked="" type="checkbox"/> OpenStack CPU	1 - License key
<input type="checkbox"/> OpenStack CPU payg	1 - License key
<input checked="" type="checkbox"/> OpenStack DC	1 - License key
<input checked="" type="checkbox"/> OpenStack DiskSize	1 - License key
<input type="checkbox"/> OpenStack DiskSize payg	1 - License key
<input checked="" type="checkbox"/> OpenStack FloatingIP	1 - License key
<input type="checkbox"/> OpenStack FloatingIP payg	1 - License key
<input checked="" type="checkbox"/> OpenStack Image Linux	1 - License key
<input checked="" type="checkbox"/> OpenStack IPPool	1 - License key
<input checked="" type="checkbox"/> OpenStack Organization	1 - License key
<input checked="" type="checkbox"/> OpenStack RAM	1 - License key
<input type="checkbox"/> OpenStack RAM payg	1 - License key
<input checked="" type="checkbox"/> OpenStack Traffic	1 - License key
<input type="checkbox"/> OpenStack Traffic payg	1 - License key
<input checked="" type="checkbox"/> OpenStack UnmanagedVE	1 - License key

16 total

**Next >>**

- Set the limits for the resource types included in the service template.
  - For Application and Organization, uncheck the Unlimited checkbox and set the limit as 1.
  - For the rest, leave the Unlimited checkbox marked.

**Add New Service Template**

Set limits for resources included into the service template

Resource	Provisioning attributes	Subscription ID	Subscription	Unlimited	Limit	Unit	Home Visibility
OpenStack Application		1	License key	<input type="checkbox"/>	1	unit	<input type="checkbox"/>
OpenStack CPU		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack DC		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack DiskSize		1	License key	<input checked="" type="checkbox"/>		KB	<input type="checkbox"/>
OpenStack FloatingIP		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack IPPool		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack Image Linux		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack Organization		1	License key	<input type="checkbox"/>	1	unit	<input type="checkbox"/>
OpenStack RAM		1	License key	<input checked="" type="checkbox"/>		KB	<input type="checkbox"/>
OpenStack Traffic		1	License key	<input checked="" type="checkbox"/>		KB	<input type="checkbox"/>
OpenStack UnmanagedVE		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>

<< Back **Next** Cancel

- Click **Next**, then **Finish**.
- To activate the service template:
  - Open the newly created service template (OpenStack Flat).
  - In the **General** section, click **Activate**.

**OpenStack Flat**

General Resources Subscriptions Parameters

**General**

Edit **Activate** Create a Copy Delete

ID 28

Name OpenStack Flat

Description

Account [Mamasú Agency](#)

Active ☐ No

Limits defined ☒ Yes

Autoprovisioning ☒ Yes

Subscriptions visibility Automatic

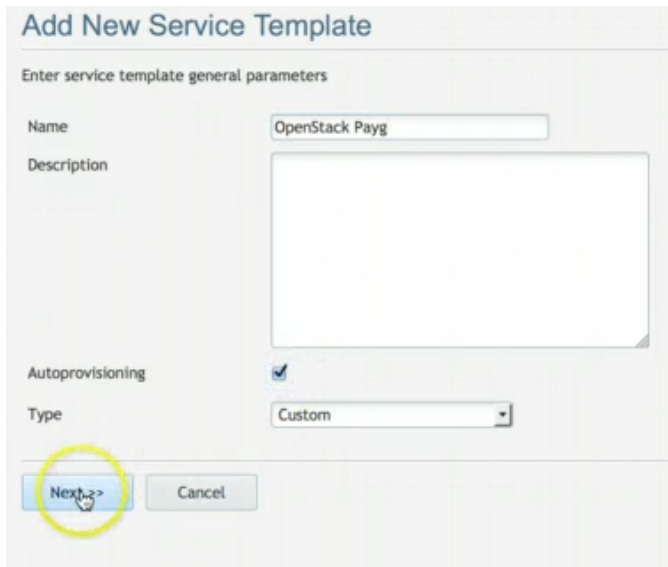
**Subscriptions**

Number of active subscriptions 0

Number of disabled subscriptions 0

## Pay as you go Service Template

- In the POA Control Panel, navigate to **Products>Service Templates**.
- Click **Add New Service Template**.
- Configure the service template's general parameters:
  - Name: enter the name, for example: *OpenStack PAYG*.
  - Description: this field is used to describe the template. Leave it blank or enter the information you wish.
  - Tick the “Autoprovisioning” checkbox.
  - Type: set the type as “Custom”.

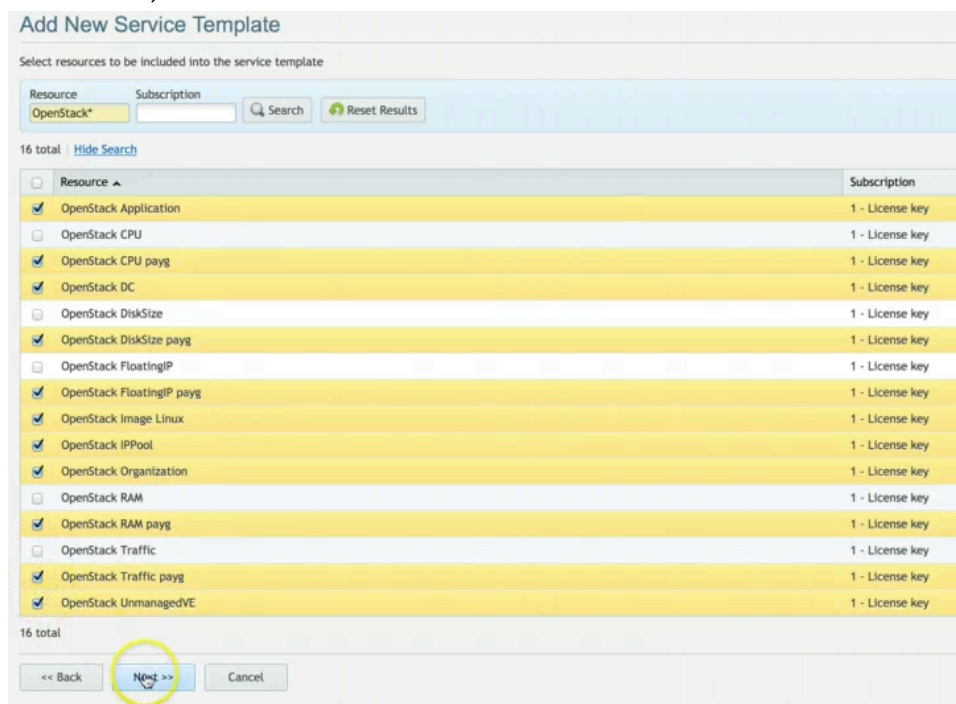


The screenshot shows the 'Add New Service Template' form with the following fields and values:

- Name**: OpenStack Payg
- Description**: (Empty text area)
- Autoprovisioning**: ☒
- Type**: Custom

At the bottom, there are two buttons: 'Next >' (highlighted with a yellow circle) and 'Cancel'.

- Click **Next**. The template has been created.
- Select the resources created earlier except for the Flat subscription resources, then click **Next**.



The screenshot shows the 'Add New Service Template' form with the 'Select resources to be included into the service template' section. The 'Resource' dropdown is set to 'OpenStack\*'. The 'Subscription' dropdown is empty. The 'Search' button is highlighted. The 'Reset Results' button is also visible.

Below the search bar, there is a table with 16 total resources. The table has two columns: 'Resource' and 'Subscription'. The 'Subscription' column shows '1 - License key' for all resources.

Resource	Subscription
<input checked="" type="checkbox"/> OpenStack Application	1 - License key
<input type="checkbox"/> OpenStack CPU	1 - License key
<input checked="" type="checkbox"/> OpenStack CPU payg	1 - License key
<input checked="" type="checkbox"/> OpenStack DC	1 - License key
<input type="checkbox"/> OpenStack DiskSize	1 - License key
<input checked="" type="checkbox"/> OpenStack DiskSize payg	1 - License key
<input type="checkbox"/> OpenStack FloatingIP	1 - License key
<input checked="" type="checkbox"/> OpenStack FloatingIP payg	1 - License key
<input checked="" type="checkbox"/> OpenStack Image Linux	1 - License key
<input checked="" type="checkbox"/> OpenStack IPPool	1 - License key
<input checked="" type="checkbox"/> OpenStack Organization	1 - License key
<input type="checkbox"/> OpenStack RAM	1 - License key
<input checked="" type="checkbox"/> OpenStack RAM payg	1 - License key
<input type="checkbox"/> OpenStack Traffic	1 - License key
<input checked="" type="checkbox"/> OpenStack Traffic payg	1 - License key
<input checked="" type="checkbox"/> OpenStack UnmanagedVE	1 - License key

At the bottom, there are three buttons: '<< Back' (disabled), 'Next >>' (highlighted with a yellow circle), and 'Cancel'.

- Set the limits for the resource types included in the service template.
  - For Application and Organization, uncheck the Unlimited checkbox and set the limit as 1.
  - For the rest, leave the Unlimited checkbox marked.

**Add New Service Template**

Set limits for resources included into the service template

Resource	Provisioning attributes	Subscription ID	Subscription	Unlimited	Limit	Unit	Home Visibility
OpenStack Application		1	License key	<input type="checkbox"/>	1	unit	<input type="checkbox"/>
OpenStack DC		1	License key	<input checked="" type="checkbox"/>	1	unit	<input type="checkbox"/>
OpenStack DiskSize payg		1	License key	<input checked="" type="checkbox"/>		MBh	<input type="checkbox"/>
OpenStack IPPool		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack Image Linux		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>
OpenStack Organization		1	License key	<input type="checkbox"/>	1	unit	<input type="checkbox"/>
OpenStack RAM payg		1	License key	<input checked="" type="checkbox"/>		MBh	<input type="checkbox"/>
OpenStack Traffic payg		1	License key	<input checked="" type="checkbox"/>		MBh	<input type="checkbox"/>
OpenStack UnmanagedVE		1	License key	<input checked="" type="checkbox"/>		unit	<input type="checkbox"/>

<< Back **Next >>** Cancel

- Click **Next**, then **Finish**.
- To activate the service template:
  - Open the newly created service template (OpenStack Pay as you go).
  - In the **General** section, click **Activate**.

**OpenStack Payg**

General Resources Subscriptions Parameters

**General**

Edit **Activate** Create a Copy Delete

ID 29

Name OpenStack Payg

Description

Account [Mamasu Agency](#)

Active ☐ No

Limits defined ☒ Yes

Autoprovisioning ☒ Yes

Subscriptions visibility Automatic

**Subscriptions**

Number of active subscriptions 0

Number of disabled subscriptions 0