OpenNebula.org

OpenNebula 4.14 Quickstart Create Your First VDC

Release 4.13.80

OpenNebula Project

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CONTENTS

This guide will provide a quick example of how to partition your cloud for a VDC. In short, a VDC is a group of users with part of the physical resources assigned to them. The Understanding OpenNebula guide explains the OpenNebula provisioning model in detail.

CHAPTER

ONE

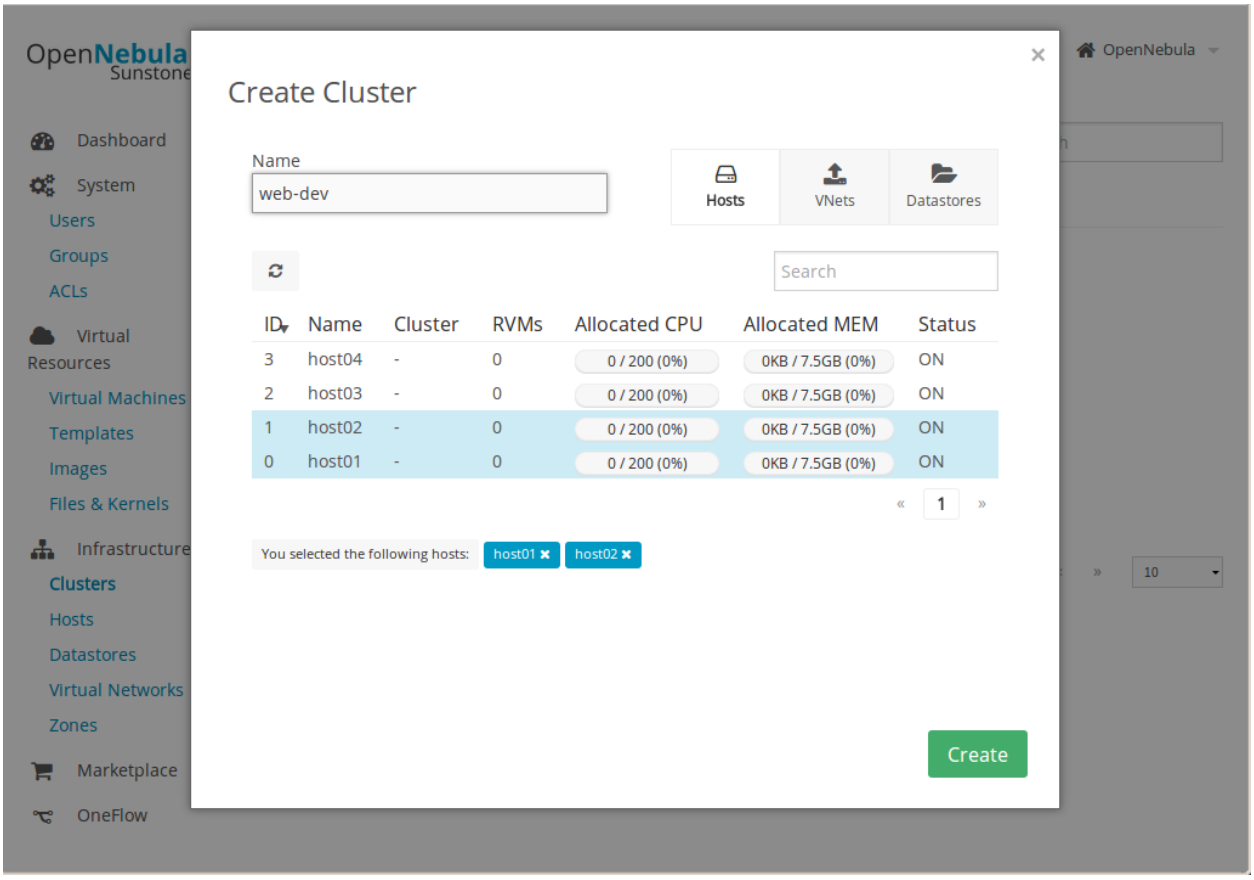
CREATE A CLUSTER

We will first create a cluster, 'web-dev', where we can group hosts, datastores and virtual networks for the new VDC.

```
$ onehost list
  ID NAME            CLUSTER   RVM      ALLOCATED_CPU      ALLOCATED_MEM STAT
   0 host01          web-dev     0       0 / 200 (0%)     0K / 7.5G (0%) on
   1 host02          web-dev     0       0 / 200 (0%)     0K / 7.5G (0%) on
   2 host03          -           0       0 / 200 (0%)     0K / 7.5G (0%) on
   3 host04          -           0       0 / 200 (0%)     0K / 7.5G (0%) on

$ onedatastore list
  ID NAME                SIZE AVAIL CLUSTER      IMAGES TYPE DS       TM
   0 system            113.3G 25%   web-dev           0 sys  -        shared
   1 default           113.3G 25%   web-dev           1 img  fs       shared
   2 files             113.3G 25%   -                 0 fil  fs       ssh

$ onevnet list
  ID USER         GROUP        NAME            CLUSTER      TYPE BRIDGE   LEASES
   0 oneadmin     oneadmin     private         web-dev         R virbr0        0
```


OpenNebula
Sunstone
OpenNebula
Dashboard
System
Users
Groups
ACLs
Virtual Resources
Virtual Machines
Templates
Images
Files & Kernels
Infrastructure
Clusters
Hosts
Datastores
Virtual Networks
Zones
Marketplace
OneFlow
Create Cluster
Name
web-dev
Hosts
VNets
Datastores
Search
ID
Name
Cluster
RVMs
Allocated CPU
Allocated MEM
Status
3 host04 - 0 0 / 200 (0%) 0KB / 7.5GB (0%) ON
2 host03 - 0 0 / 200 (0%) 0KB / 7.5GB (0%) ON
1 host02 - 0 0 / 200 (0%) 0KB / 7.5GB (0%) ON
0 host01 - 0 0 / 200 (0%) 0KB / 7.5GB (0%) ON
1
You selected the following hosts:
host01
host02
Create

CHAPTER

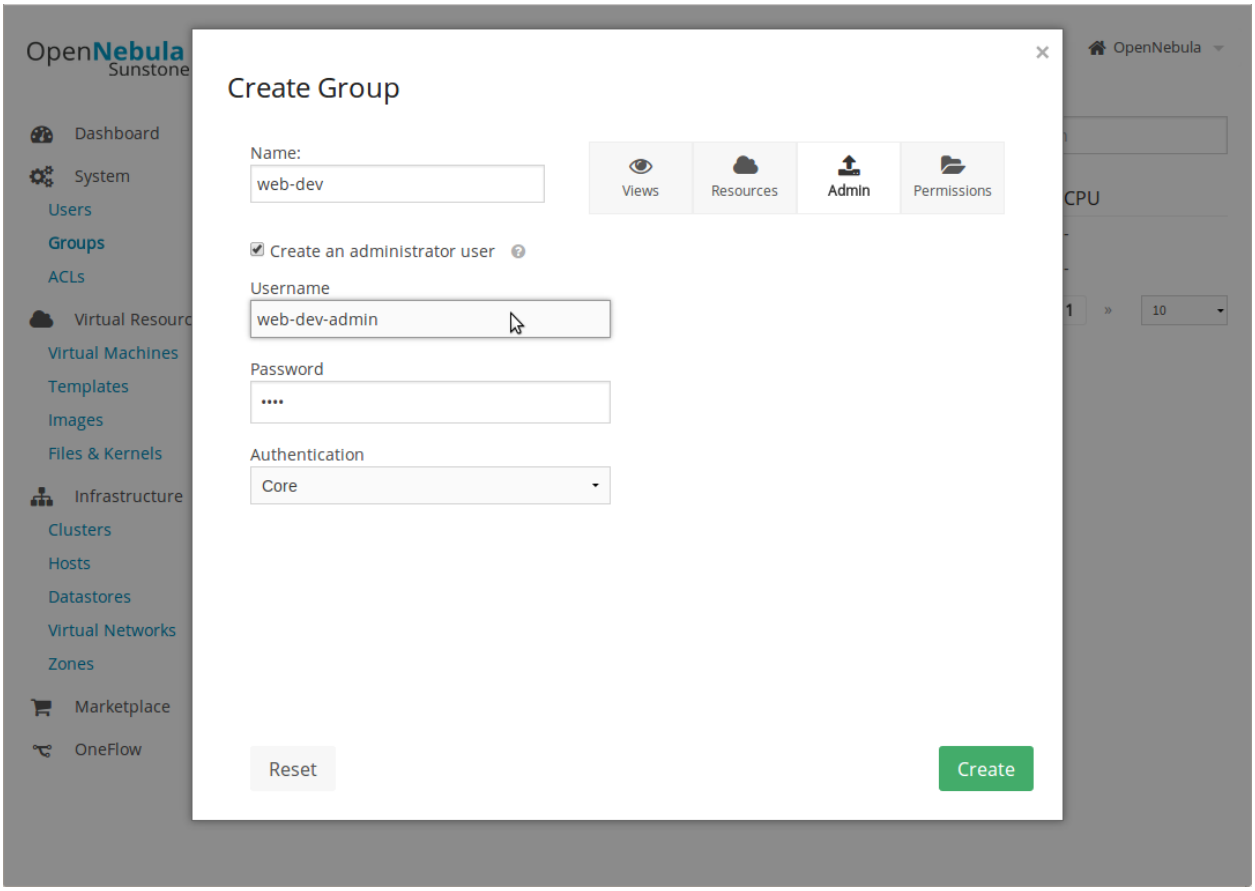
TWO

CREATE A GROUP

We can now create the new group, named also ‘web-dev’. This group will have a special admin user, ‘web-dev-admin’. This admin user will be able to create new users inside the group.

When a new group is created, you will also have the opportunity to configure different options, like the available Sunstone views. Another thing that can be configured is if the virtual resources will be shared for all the users of the group, or private.

```
$ onegroup create --name web-dev --admin_user web-dev-admin --admin_password abcd
ID: 100
```



CHAPTER

THREE

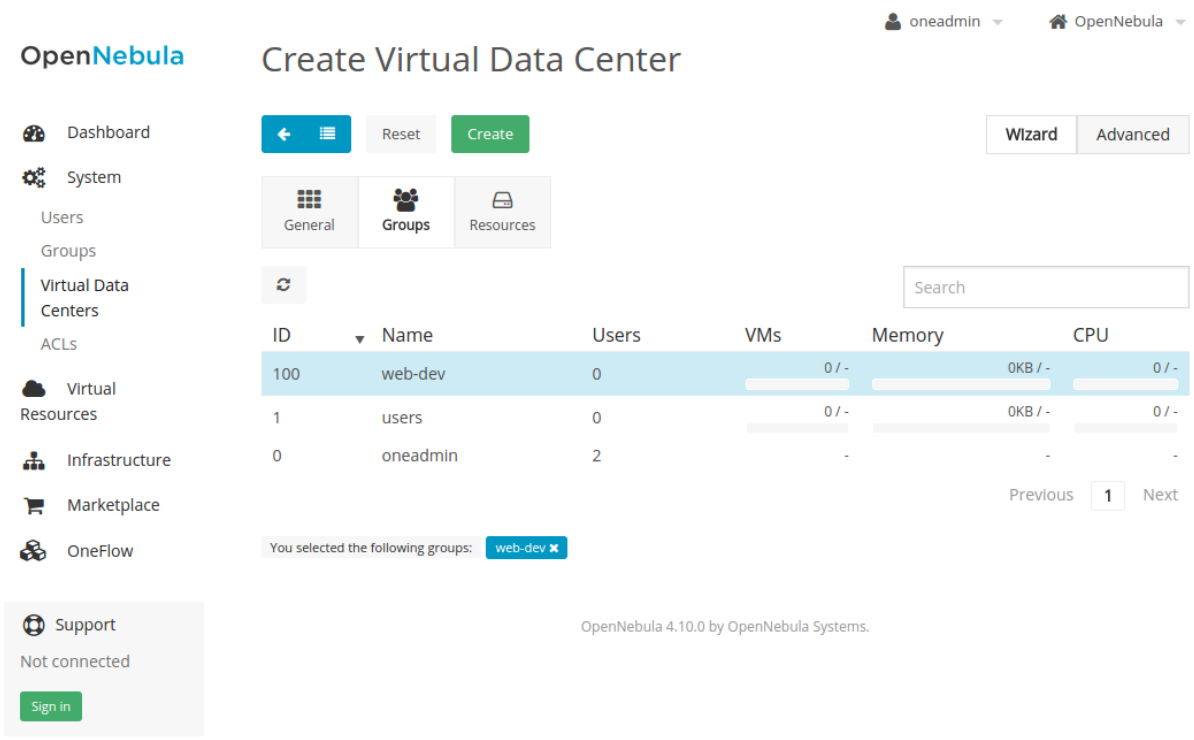
CREATE THE VDC

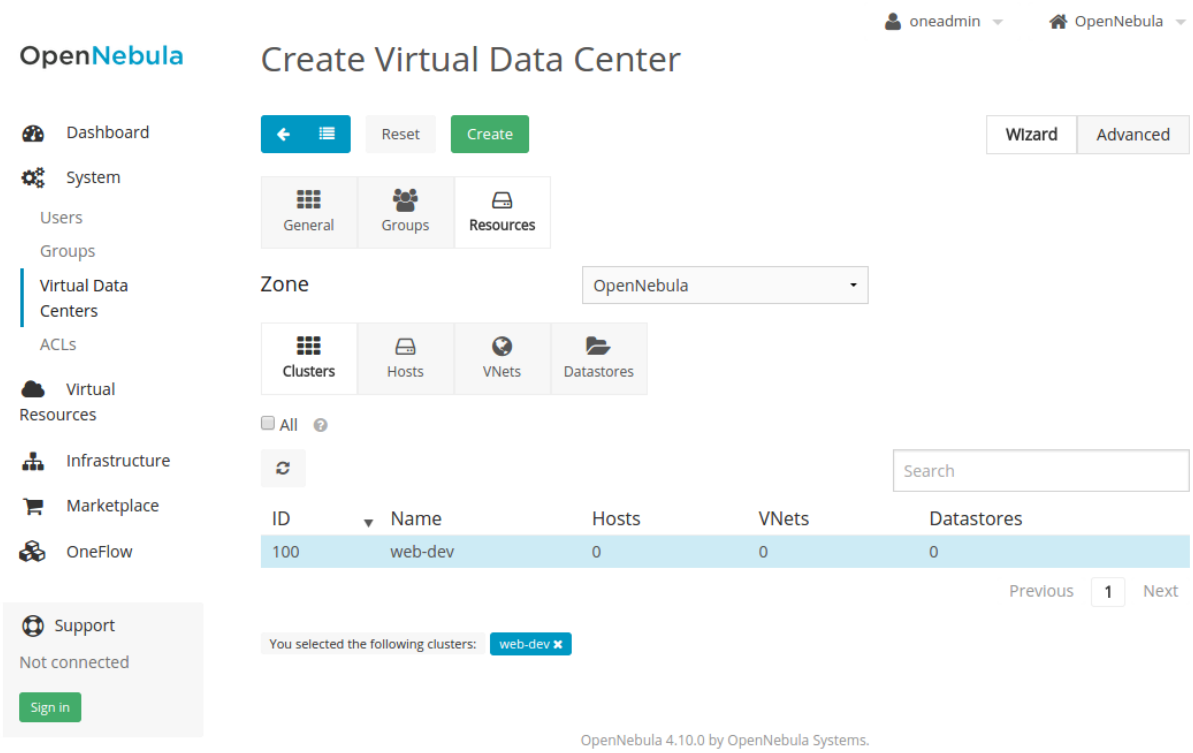
New groups are added to the 'default' VDC. If you didn't modify this VDC, it will allow the users in the new group to access all physical resources. So the first step is to remove this group from its current VDC:

```
$ onevdc delgroup default web-dev
```

The new VDC will be called 'web-dev'. In the creation wizard, select the group and the cluster created in the previous steps.

```
$ onevdc addgroup 100 web-dev
$ onevdc addcluster 100 0 web-dev
```




oneadmin
OpenNebula
OpenNebula
Create Virtual Data Center
Dashboard
System
Users
Groups
Virtual Data Centers
ACLs
Virtual Resources
Infrastructure
Marketplace
OneFlow
Support
Not connected
Sign in
Reset
Create
Wizard
Advanced
General
Groups
Resources
Zone
OpenNebula
Clusters
Hosts
VNets
Datastores
All
Search
ID
Name
Hosts
VNets
Datastores
100
web-dev
0
0
0
Previous
1
Next
You selected the following clusters:
web-dev
OpenNebula 4.10.0 by OpenNebula Systems.

CHAPTER

FOUR

OPTIONALLY, SET QUOTAS

The cloud administrator can set usage quotas for the group. In this case, we will put a limit of 10 VMs.

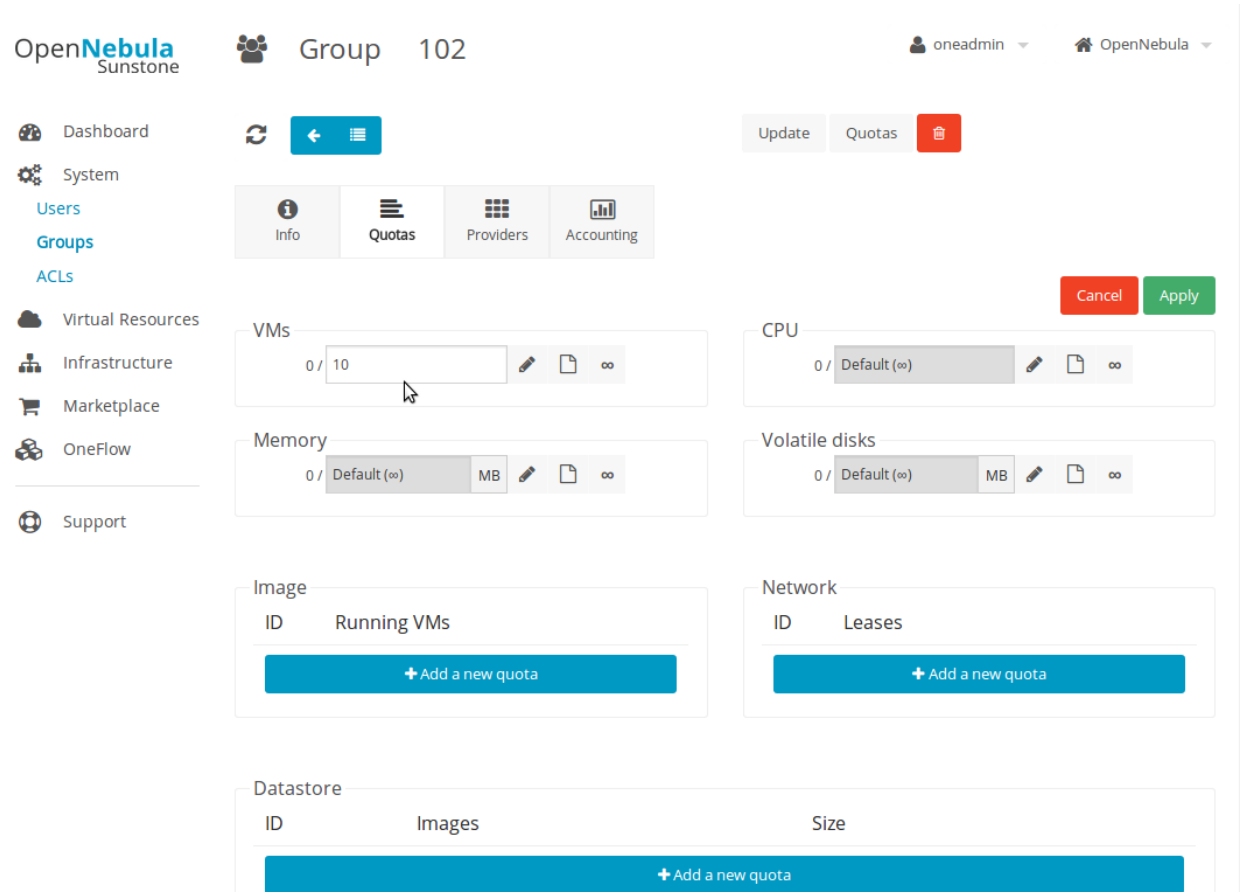
```
$ onegroup show web-dev
GROUP 100 INFORMATION
ID              : 100
NAME            : web-dev

GROUP TEMPLATE
GROUP_ADMINS="web-dev-admin"
GROUP_ADMIN_VIEWS="vdcadmin"
SUNSTONE_VIEWS="cloud"

USERS
ID
2

RESOURCE USAGE & QUOTAS

    NUMBER OF VMS                MEMORY                   CPU        VOLATILE_SIZE
      0 /      10        0M /       0M      0.00 /     0.00        0M /       0M
```

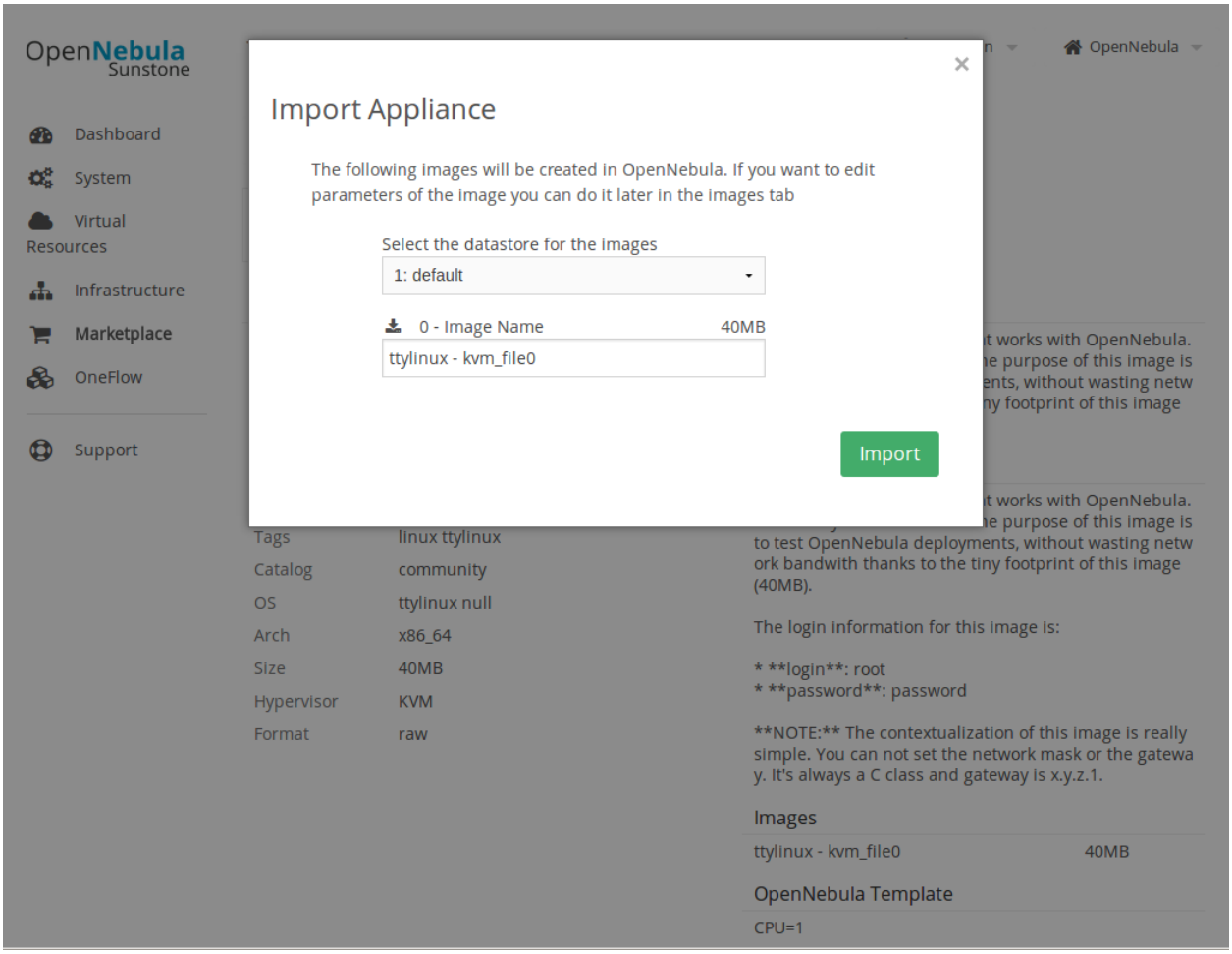

OpenNebula Sunstone
Group 102
oneadmin
OpenNebula
Dashboard
System
Users
Groups
ACLs
Virtual Resources
Infrastructure
Marketplace
OneFlow
Support
Update
Quotas
Info
Quotas
Providers
Accounting
Cancel
Apply
VMs
0 / 10
CPU
0 / Default (∞)
Memory
0 / Default (∞) MB
Volatile disks
0 / Default (∞) MB
Image
ID Running VMs
+ Add a new quota
Network
ID Leases
+ Add a new quota
Datastore
ID Images Size
+ Add a new quota

CHAPTER

FIVE

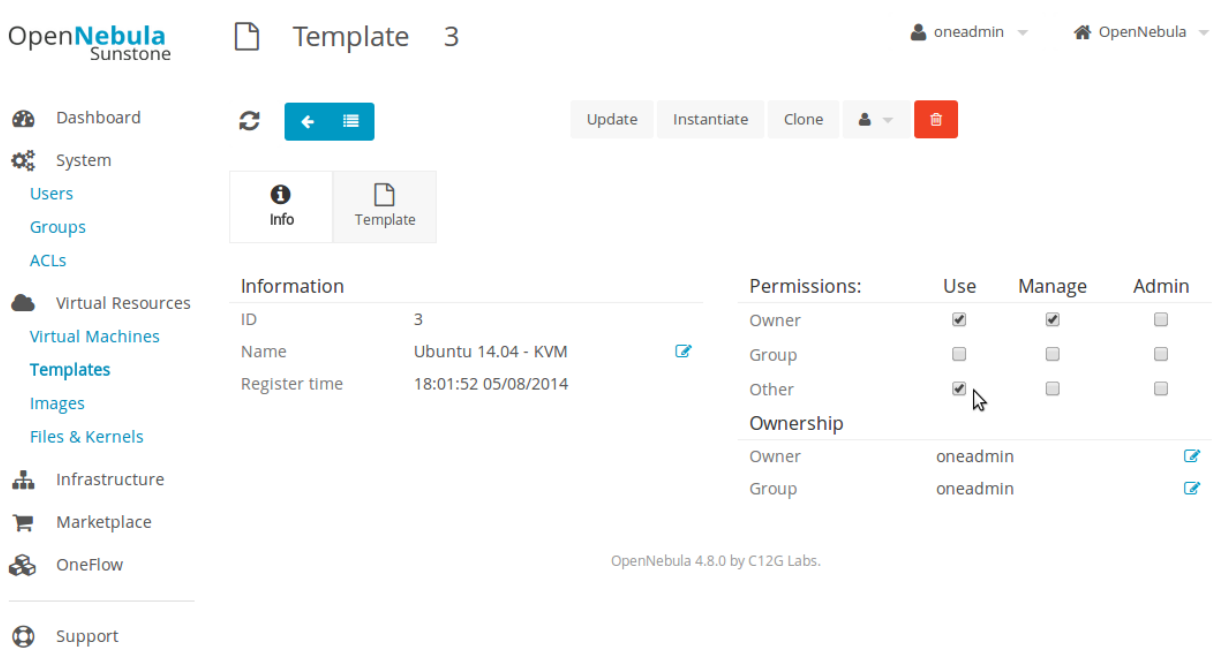
PREPARE VIRTUAL RESOURCES FOR THE USERS

The cloud administrator has to create the Virtual Machine Templates and Images that the users will instantiate. If you don't have any working Image yet, import the ttylinux testing appliance from the marketplace.



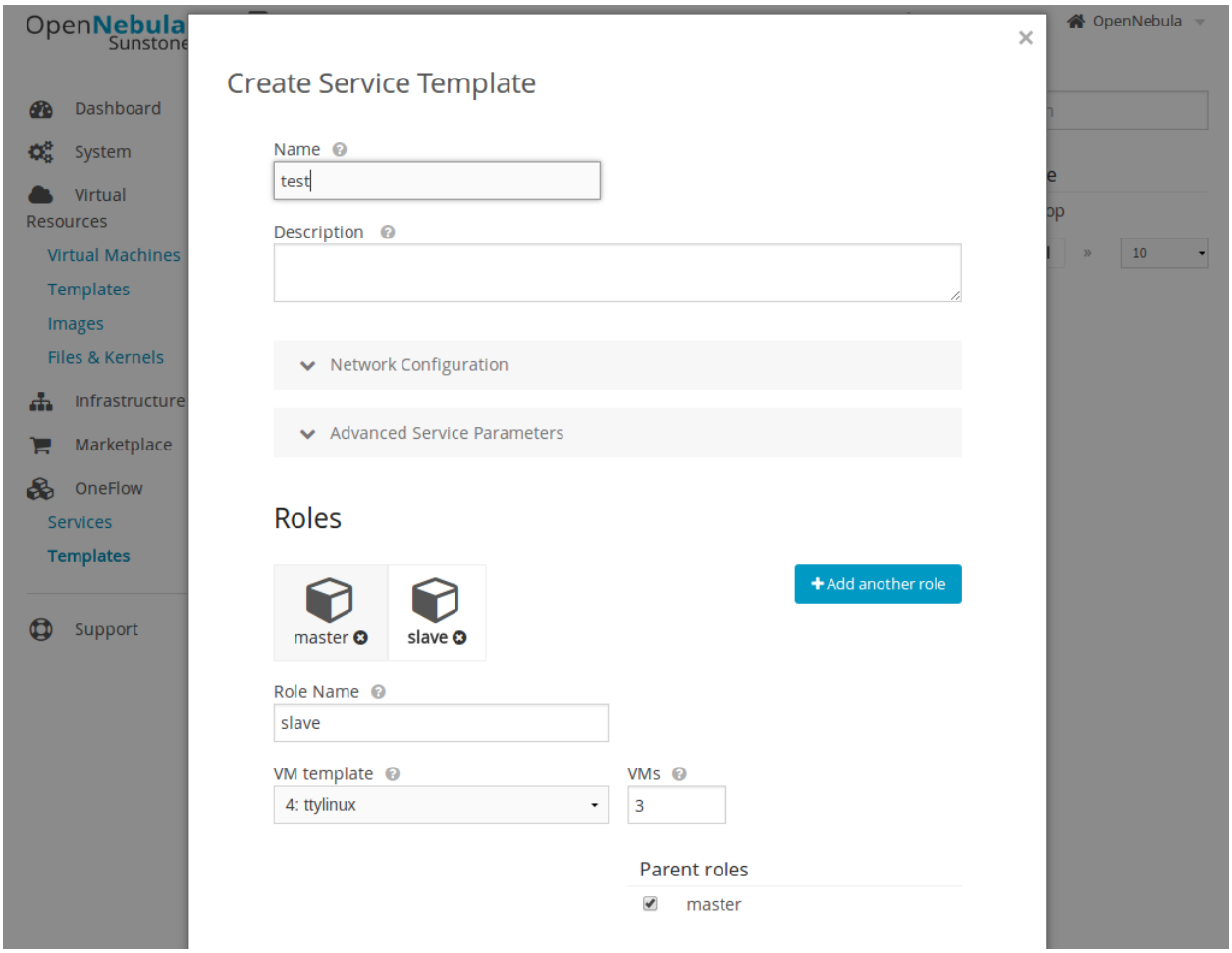
Now you need to create a VM Template that uses the new Image. Make sure you set the features mentioned in the Cloud View guide, specifically the logo, description, ssh key, and user inputs.

The new Template will be owned by oneadmin. To make it available to all users (including the ones of the new group), check the `OTHER USE` permission **for both the Template and the Image**. Read more about assigning virtual resources to a group in the Managing Groups & VDC guide.



You can also prepare a Service Template. A Service is a group of interconnected Virtual Machines with deployment dependencies between them.

Create a basic Service with two roles: master (x1) and slave (x2). Check 'master' as the parent role of 'slave'. For testing purposes, both can use the ttylinux VM Template. This Service Template also needs to be shared with other users, changing the `OTHER USE` permission.

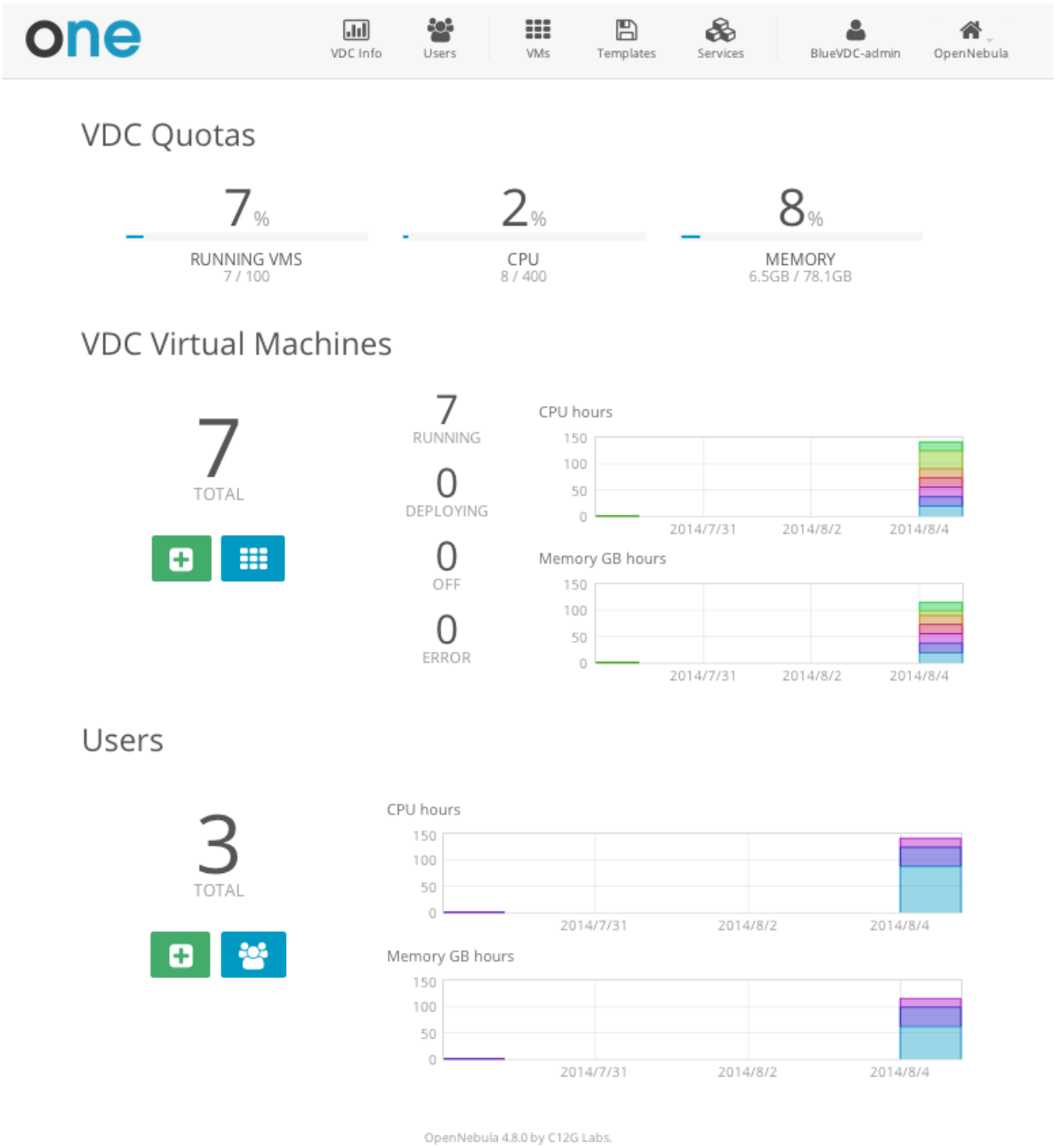

OpenNebula
Sunstone
Dashboard
System
Virtual Resources
Virtual Machines
Templates
Images
Files & Kernels
Infrastructure
Marketplace
OneFlow
Services
Templates
Support
OpenNebula
Create Service Template
Name
test
Description
Network Configuration
Advanced Service Parameters
Roles
master
slave
+ Add another role
Role Name
slave
VM template
4: ttylinux
VMs
3
Parent roles
master

CHAPTER

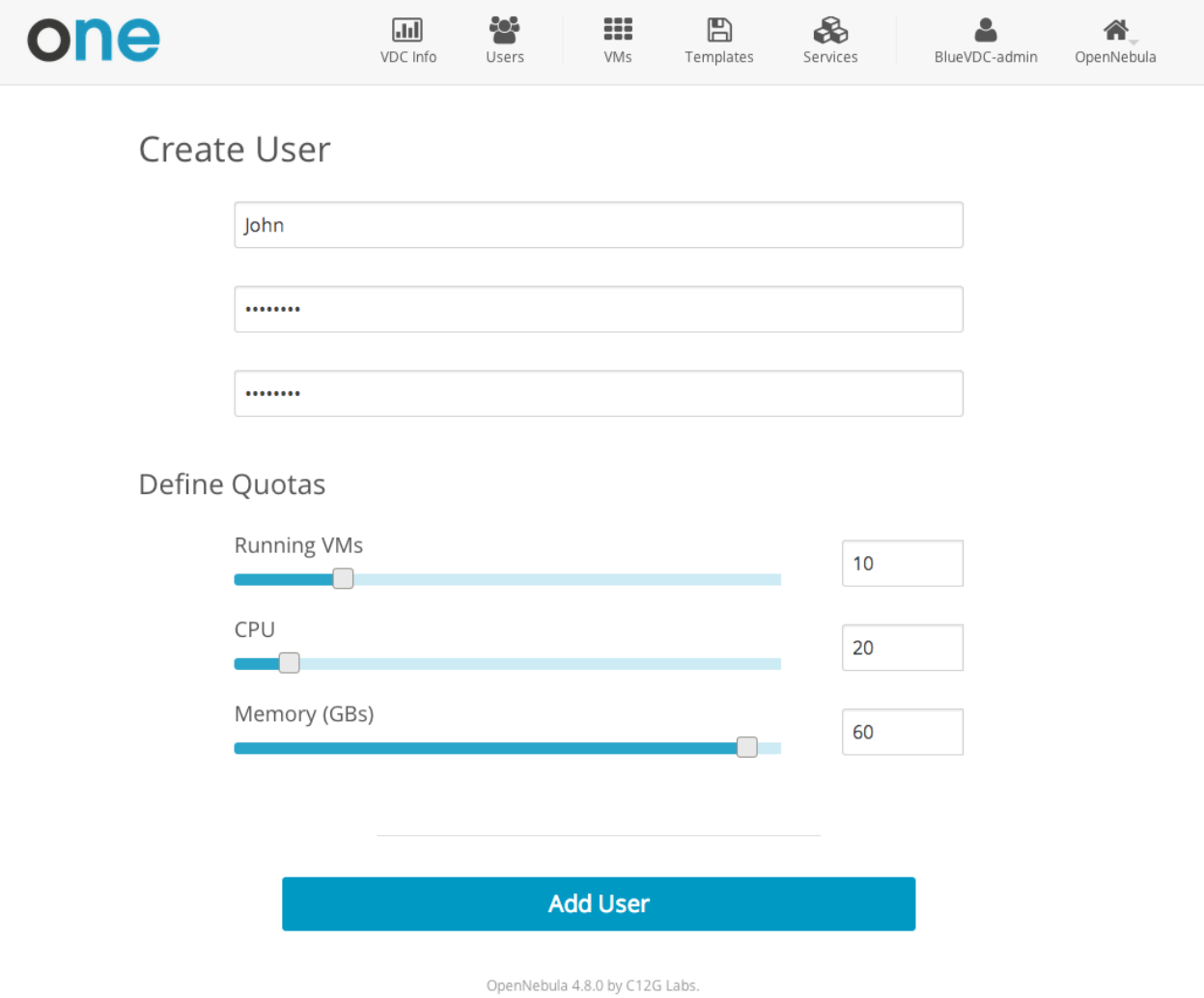
SIX

USING THE CLOUD AS A GROUP ADMIN

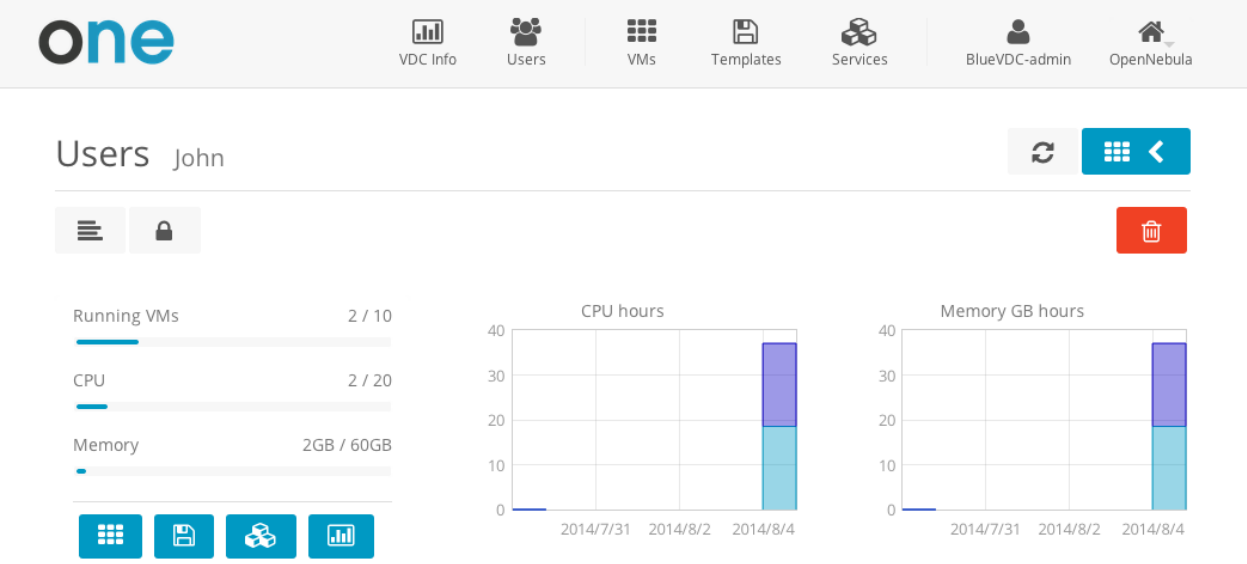
If you login as the ‘web-dev-admin’, you will see a simplified interface, the Group admin view. This view hides the physical infrastructure, but allows some administration tasks to be performed.



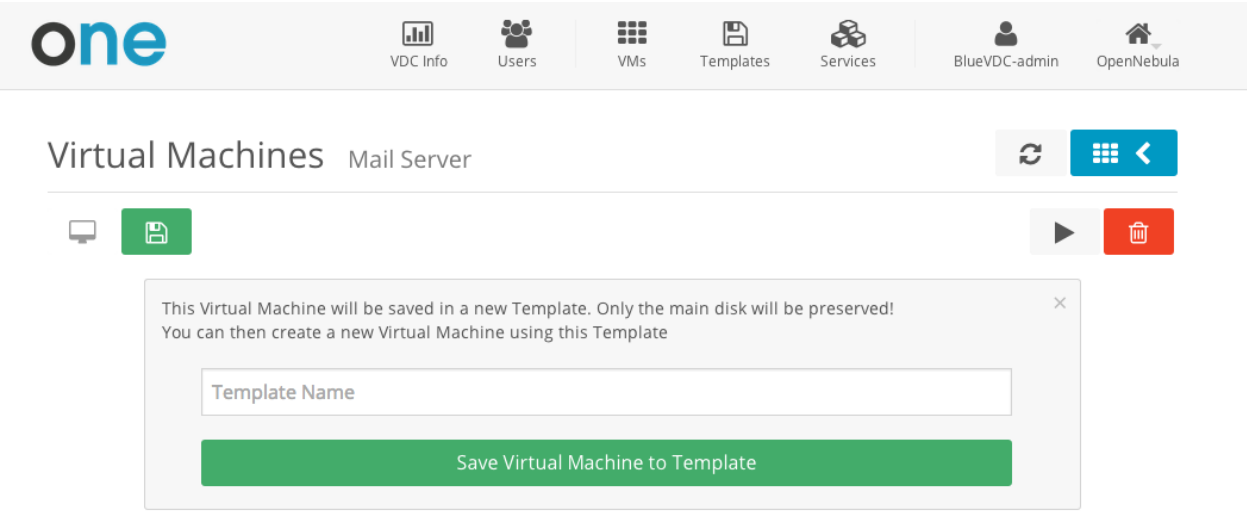
The group admin can create new user accounts, that will belong to the same group. They can also see the current resource usage of all the group users, and set quota limits for each one of them.



The group admin can manage the Services, VMs and Templates of other users in the group. The resources of a specific user can be filtered in the list views for each resource type or can be listed in the detailed view of the user.



Although the cloud administrator is the only one that can create new base Images and Templates, the group admin can customize existing Templates, and share them with the rest of the group users.



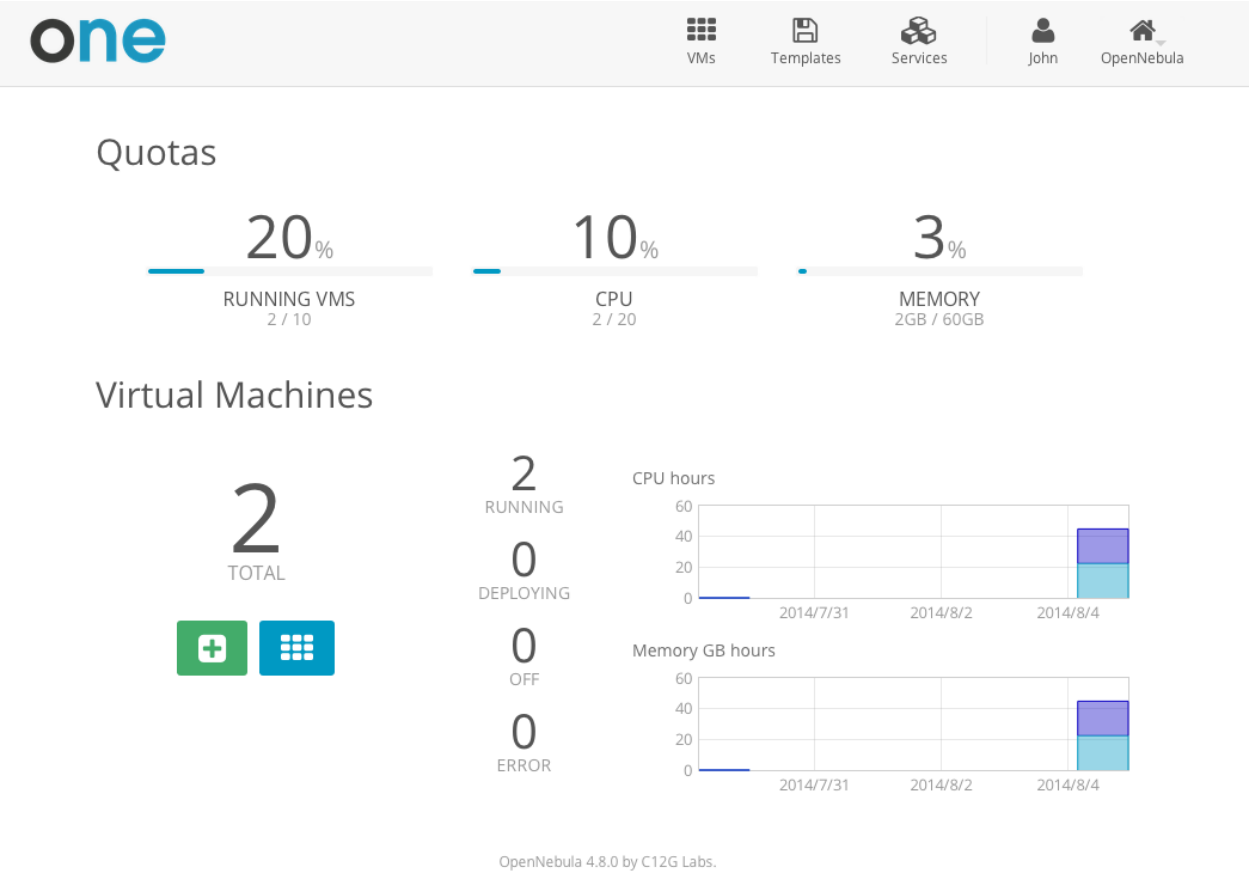
Create a new user, and login again.

CHAPTER

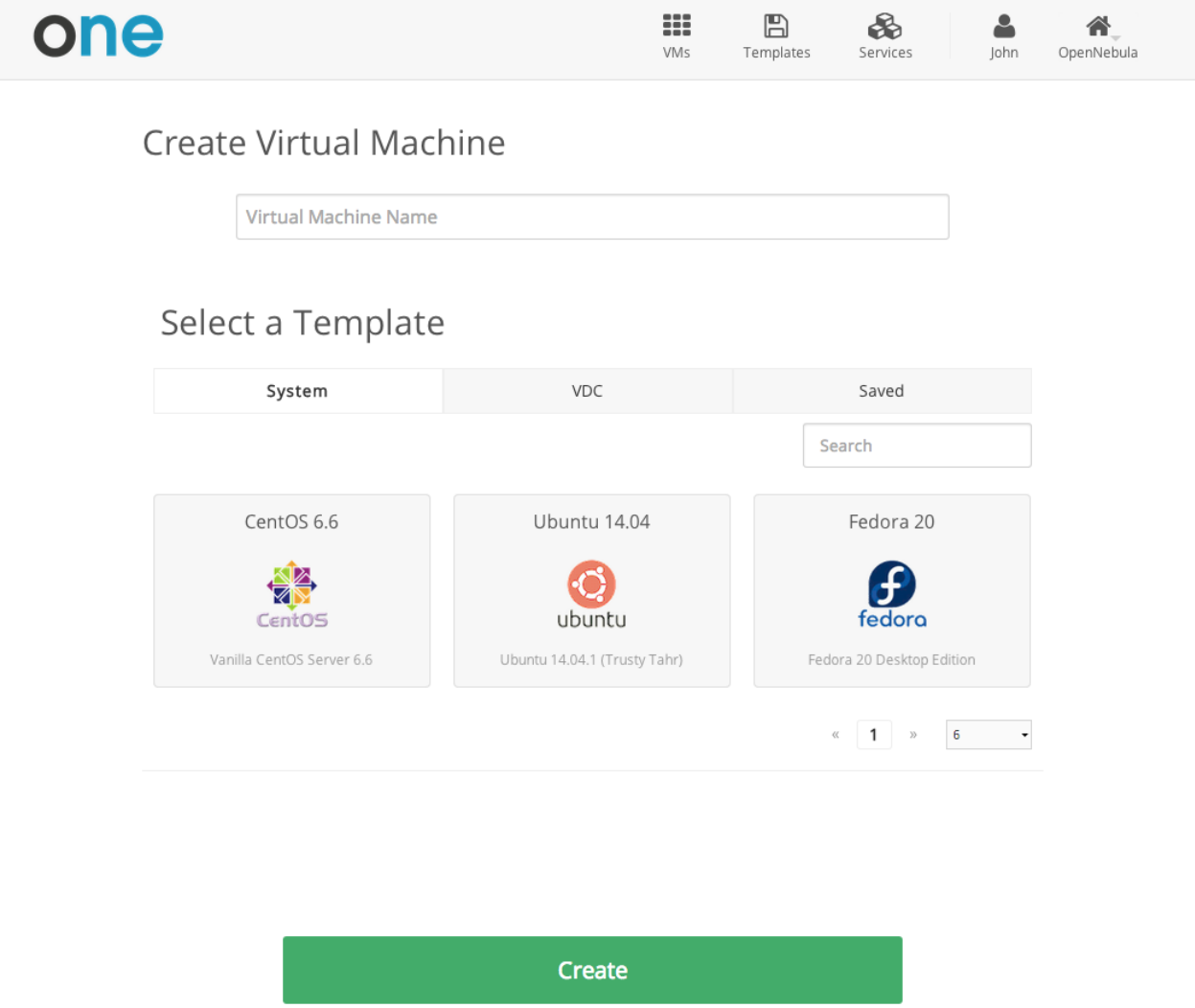
SEVEN

USING THE CLOUD AS A REGULAR USER

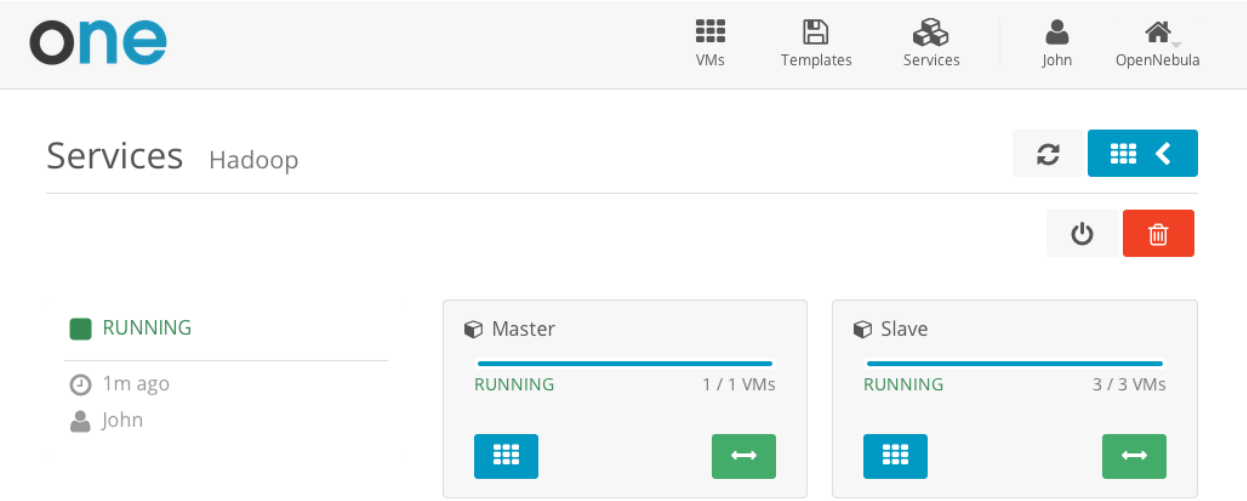
The regular users access the Cloud View, an even more simplified view of their virtual resources.

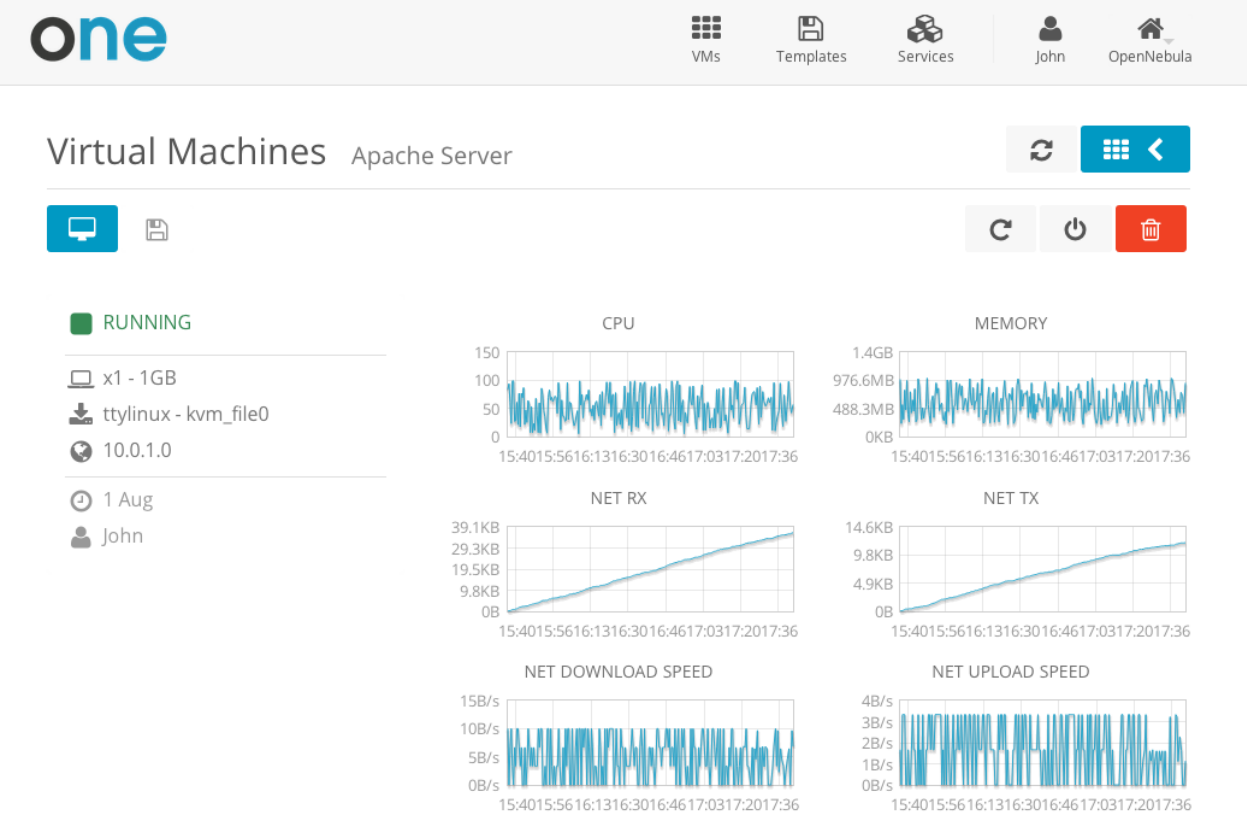


The end users can provision new VMs and Services from the templates prepared by the administrators.

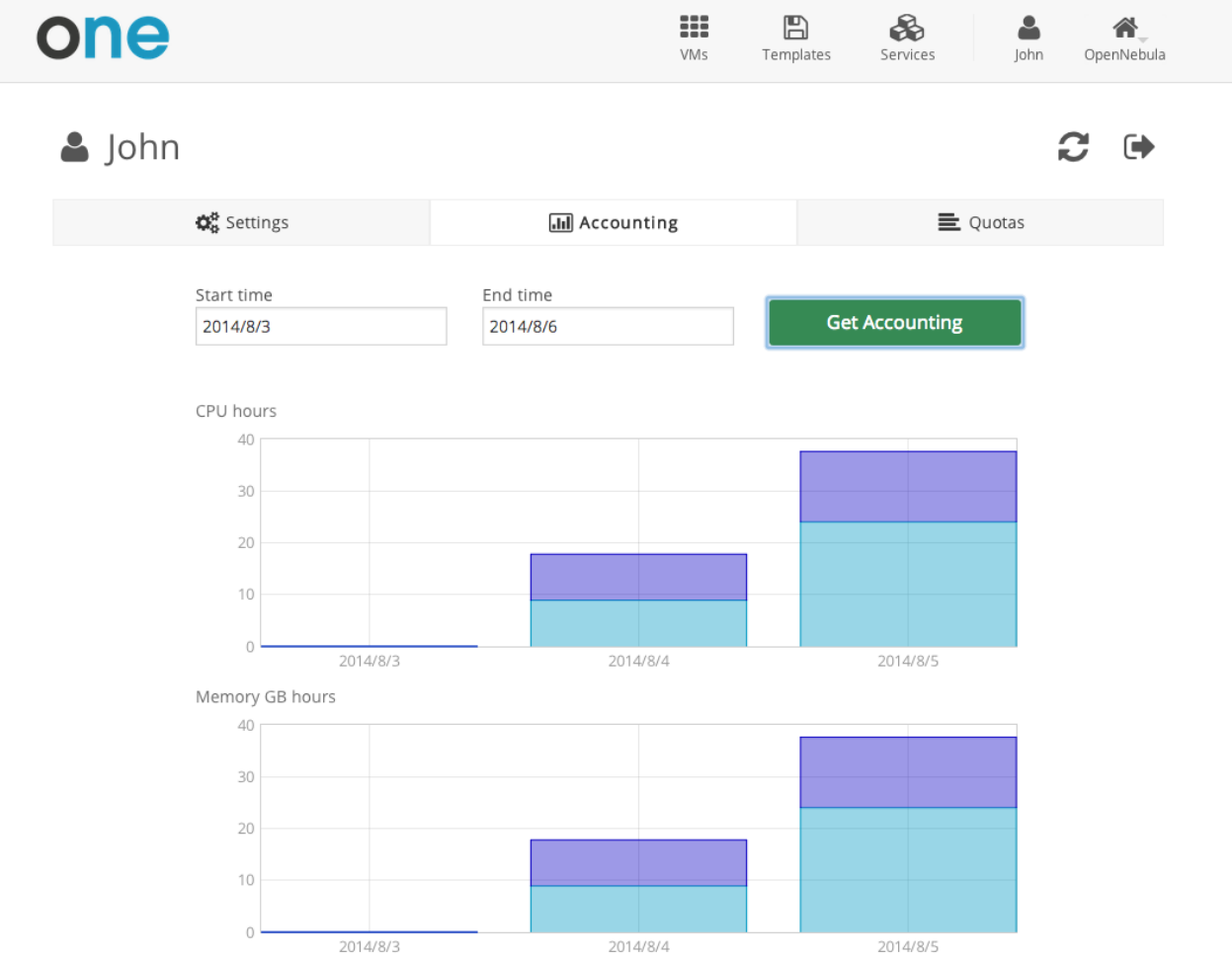


They can also manage their own VMs and Services: see their monitorization, shutdown them, and save the changes made.

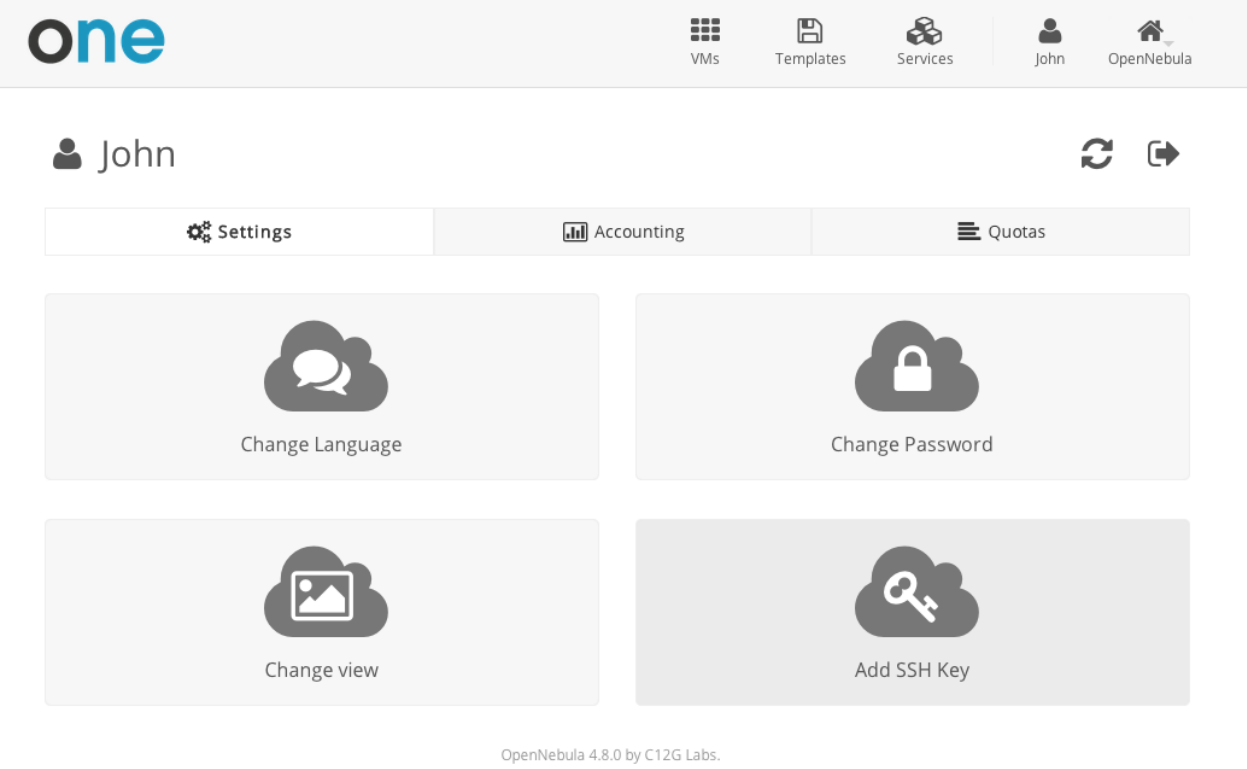




The users can perform basic administration on their account. They can check his current usage and quotas, or generate accounting reports.



From the user settings tab, the users can also change their password, language, and ssh key.


one
VMs
Templates
Services
John
OpenNebula
John
Settings
Accounting
Quotas
Change Language
Change Password
Change view
Add SSH Key
OpenNebula 4.8.0 by C12G Labs.