OpenNebula.org

OpenNebula 4.10 Quickstart Create Your First VDC

Release 4.10

OpenNebula Project

November 03, 2014

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.

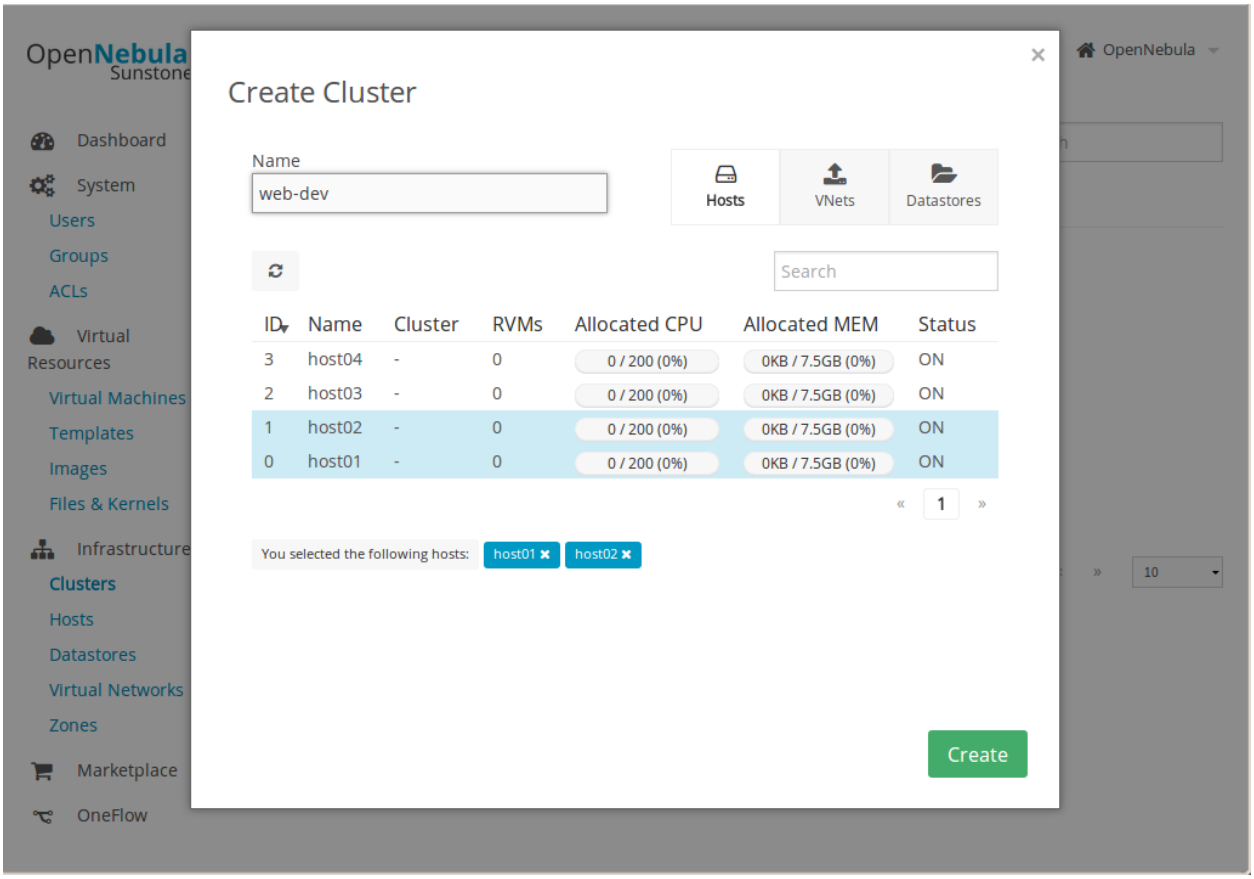
CHAPTER

ONE

STEP 1. 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

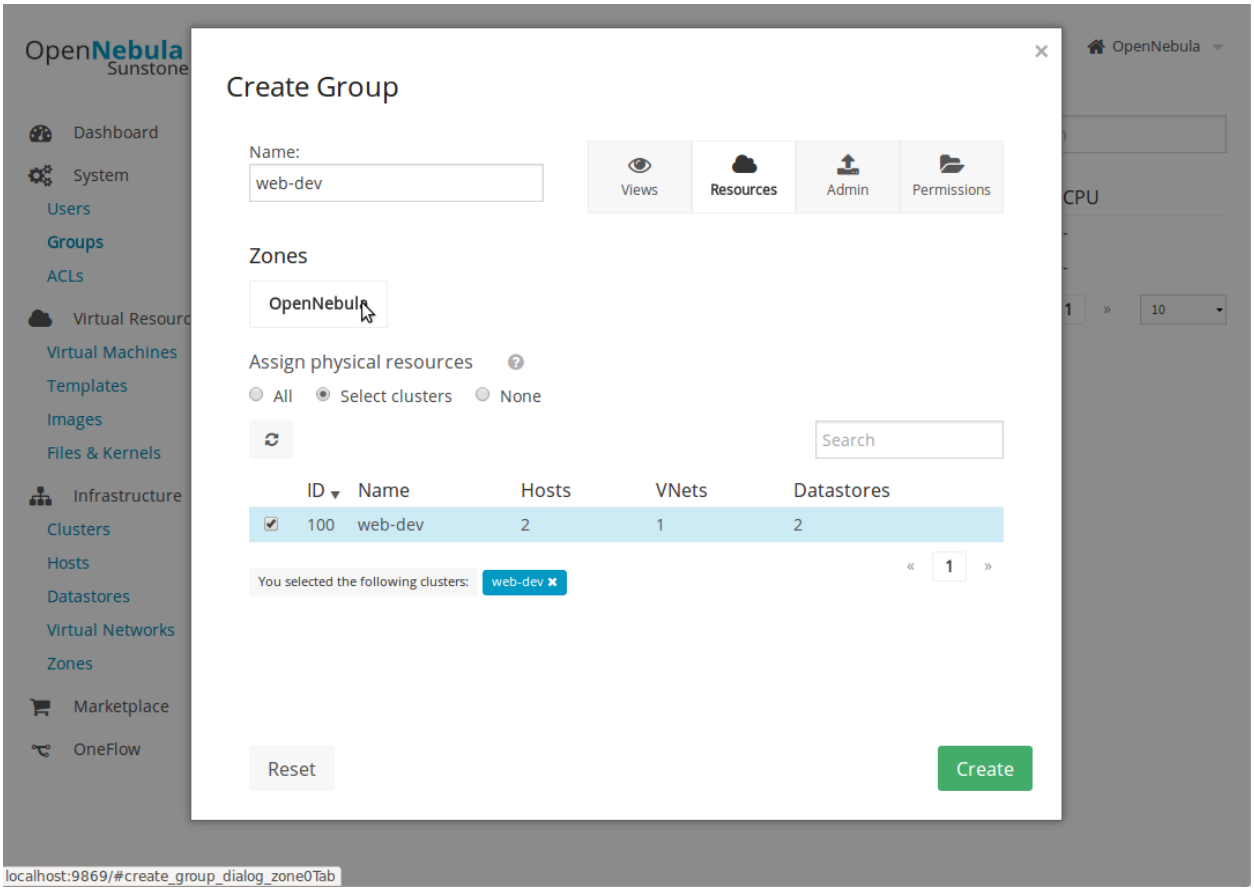
TWO

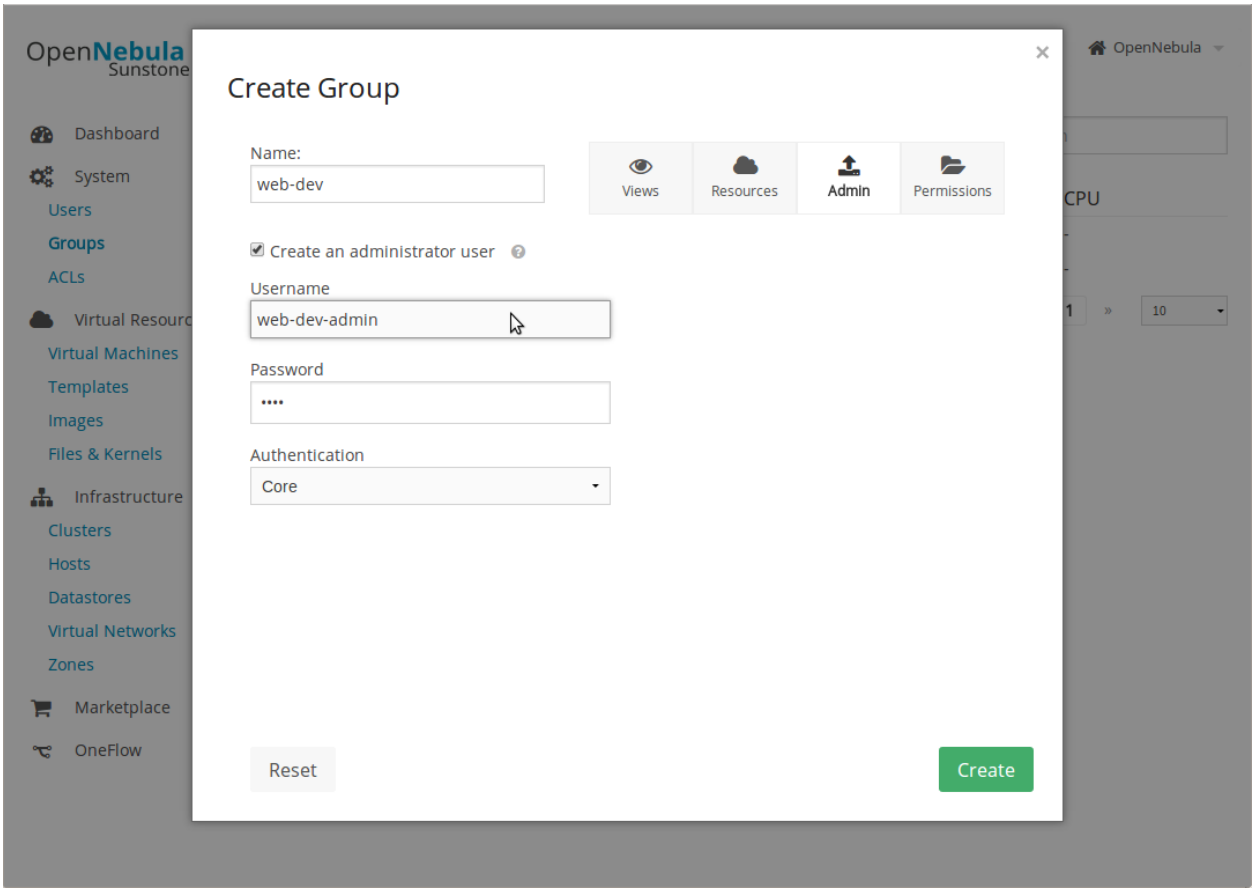
STEP 2. CREATE A VDC GROUP

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

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 VDC, or private.

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

$ onegroup add_provider 100 0 web-dev
```




OpenNebula
Sunstone
Dashboard
System
Users
Groups
ACLs
Virtual Resourc
Virtual Machines
Templates
Images
Files & Kernels
Infrastructure
Clusters
Hosts
Datastores
Virtual Networks
Zones
Marketplace
OneFlow
OpenNebula
CPU
Create Group
Name:
web-dev
Views
Resources
Admin
Permissions
Create an administrator user
Username
web-dev-admin
Password
Authentication
Core
Reset
Create

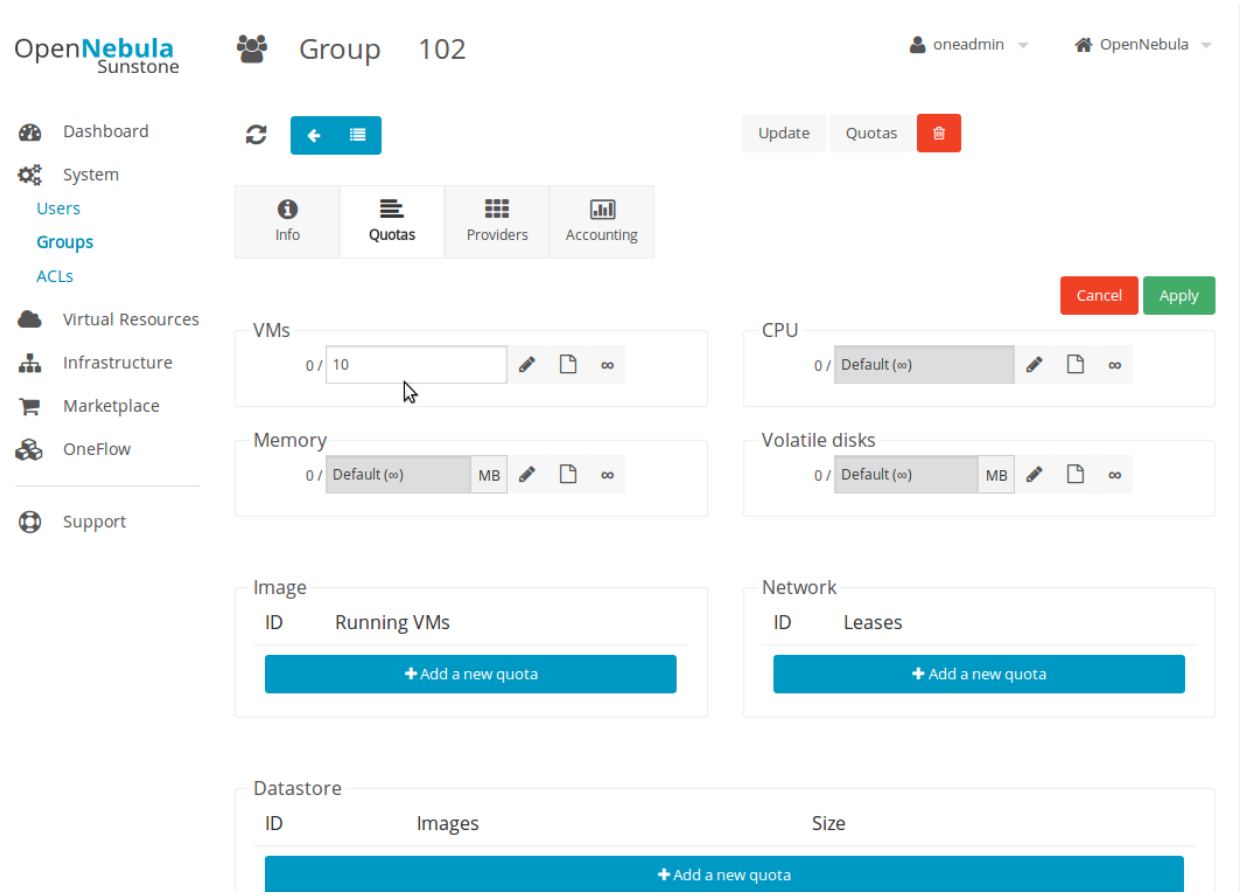
CHAPTER

THREE

STEP 3. OPTIONALLY, SET QUOTAS

The cloud administrator can set *usage quotas* for the VDC. 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 PROVIDERS
   ZONE CLUSTER
      0     100

RESOURCE USAGE & QUOTAS

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

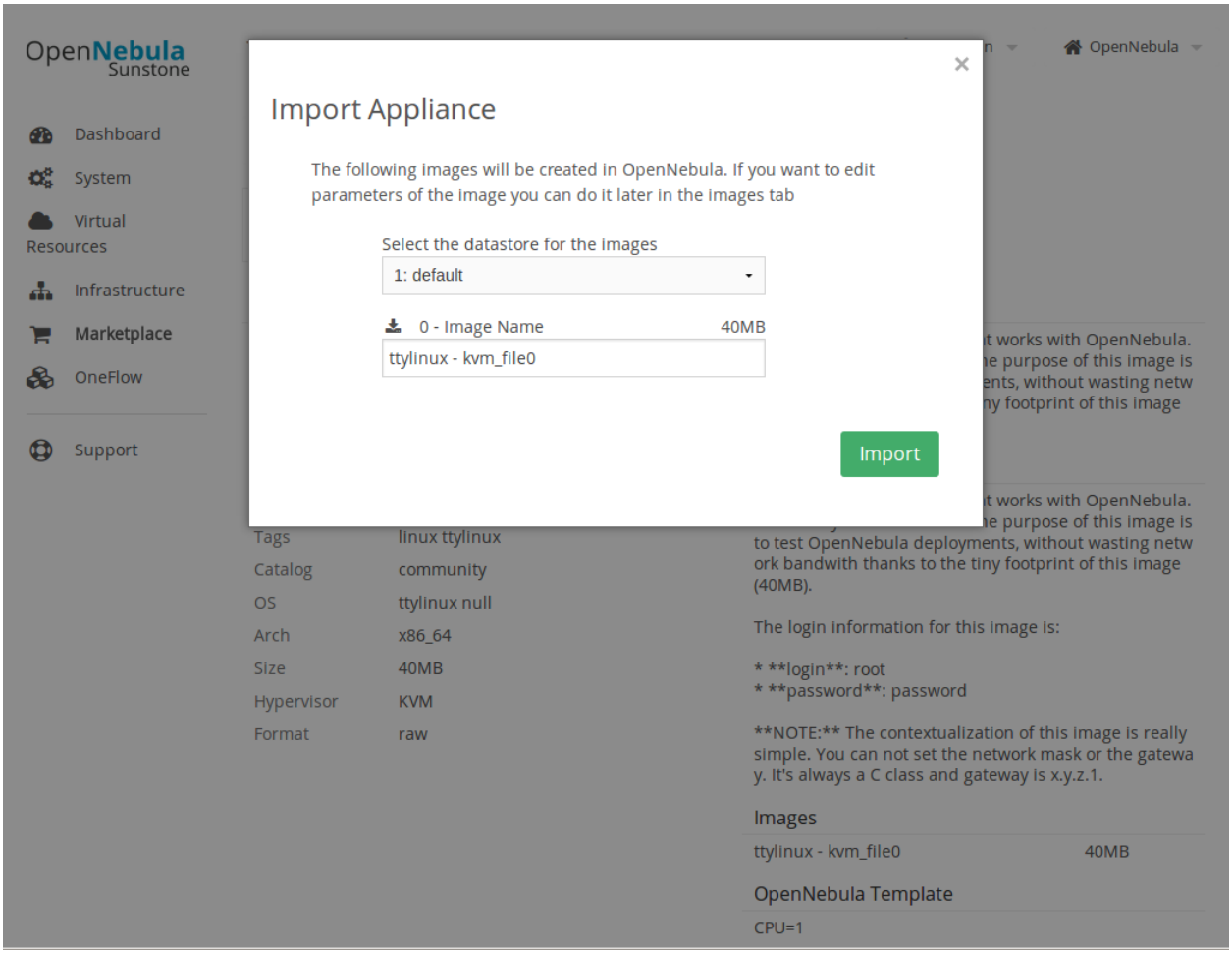

OpenNebula Sunstone
Group 102
oneadmin
OpenNebula
Dashboard
System
Users
Groups
ACLs
Virtual Resources
Infrastructure
Marketplace
OneFlow
Support
Update
Quotas
Info
Quotas
Providers
Accounting
Cancel
Apply
VMs
0 / 10
CPU
0 / Default (∞)
Memory
0 / Default (∞) MB
Volatile disks
0 / Default (∞) MB
Image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

CHAPTER

FOUR

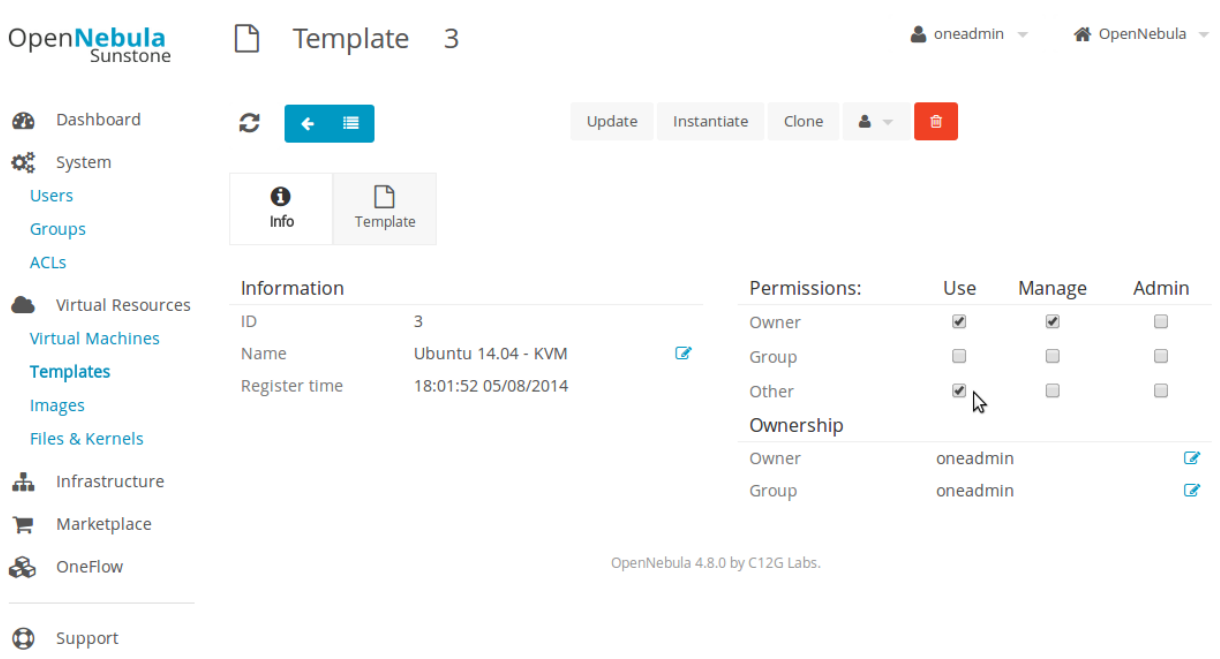
STEP 4. PREPARE VIRTUAL RESOURCES FOR THE USERS

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



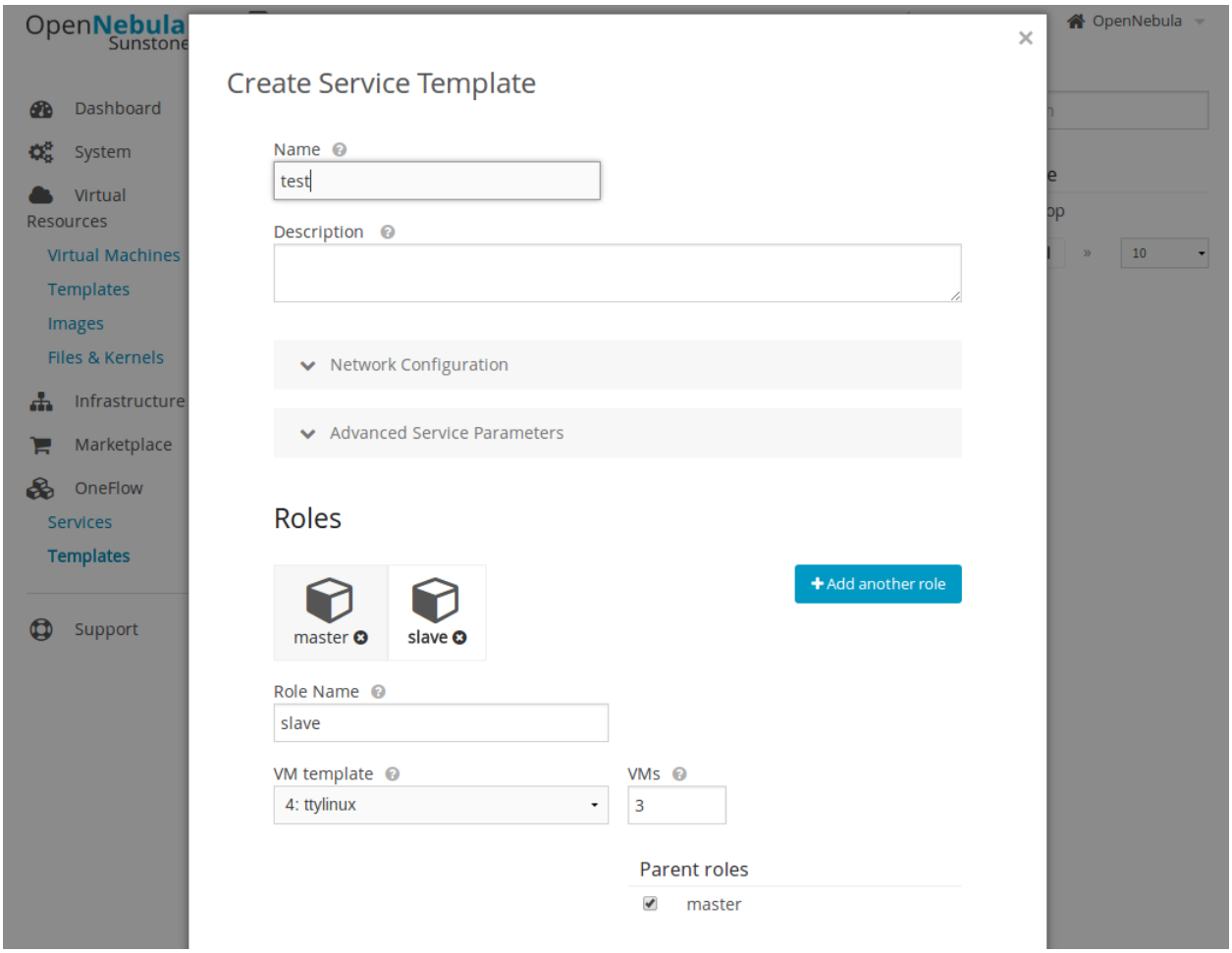
Now you need to create a VM Template that uses the new Image. Make sure you set the features mentioned in the *Cloud View guide*, specifically the logo, description, ssh key, and user inputs.

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

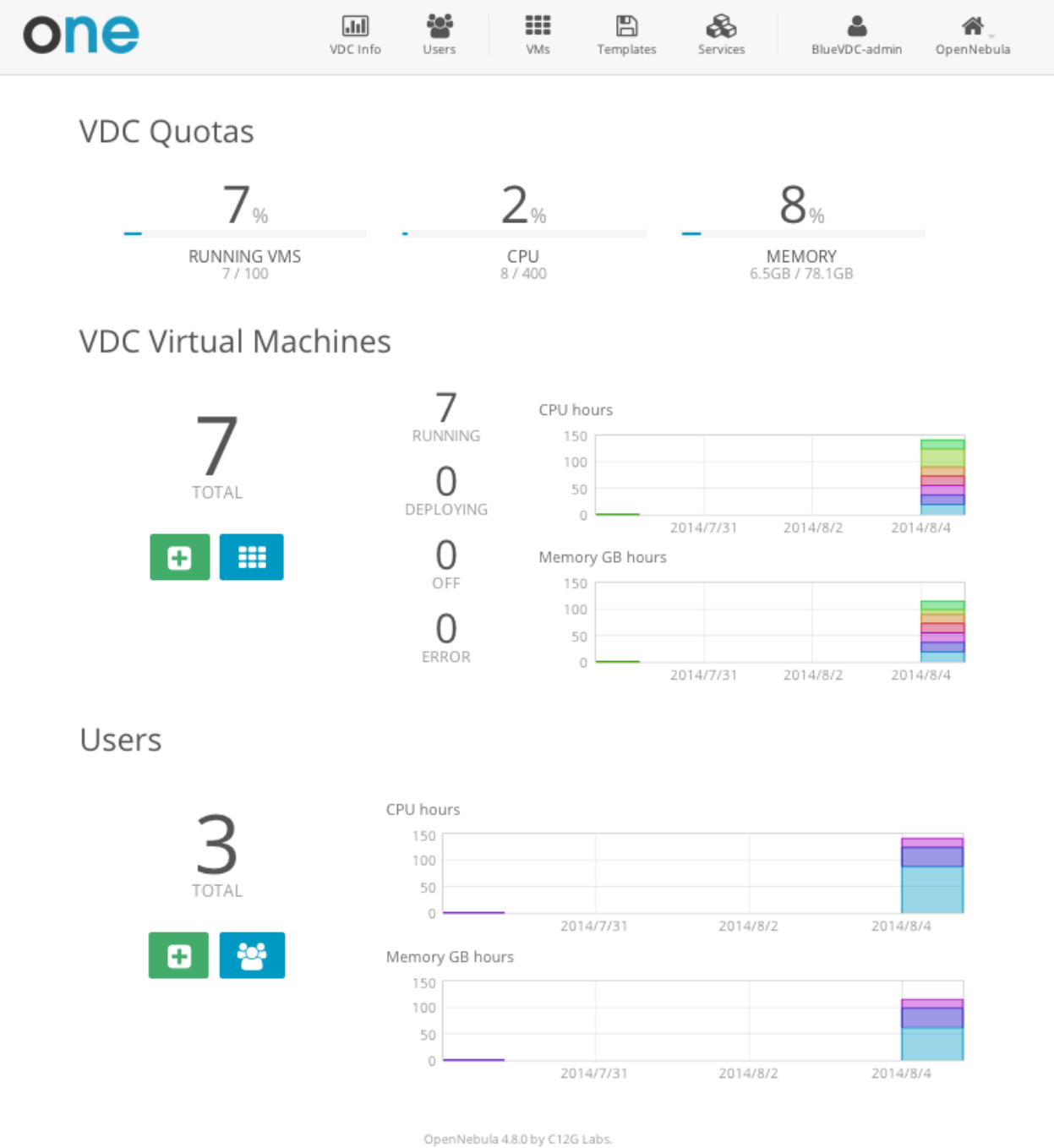

OpenNebula
Sunstone
Dashboard
System
Virtual Resources
Virtual Machines
Templates
Images
Files & Kernels
Infrastructure
Marketplace
OneFlow
Services
Templates
Support
OpenNebula
Create Service Template
Name
test
Description
Network Configuration
Advanced Service Parameters
Roles
master
slave
+ Add another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

CHAPTER

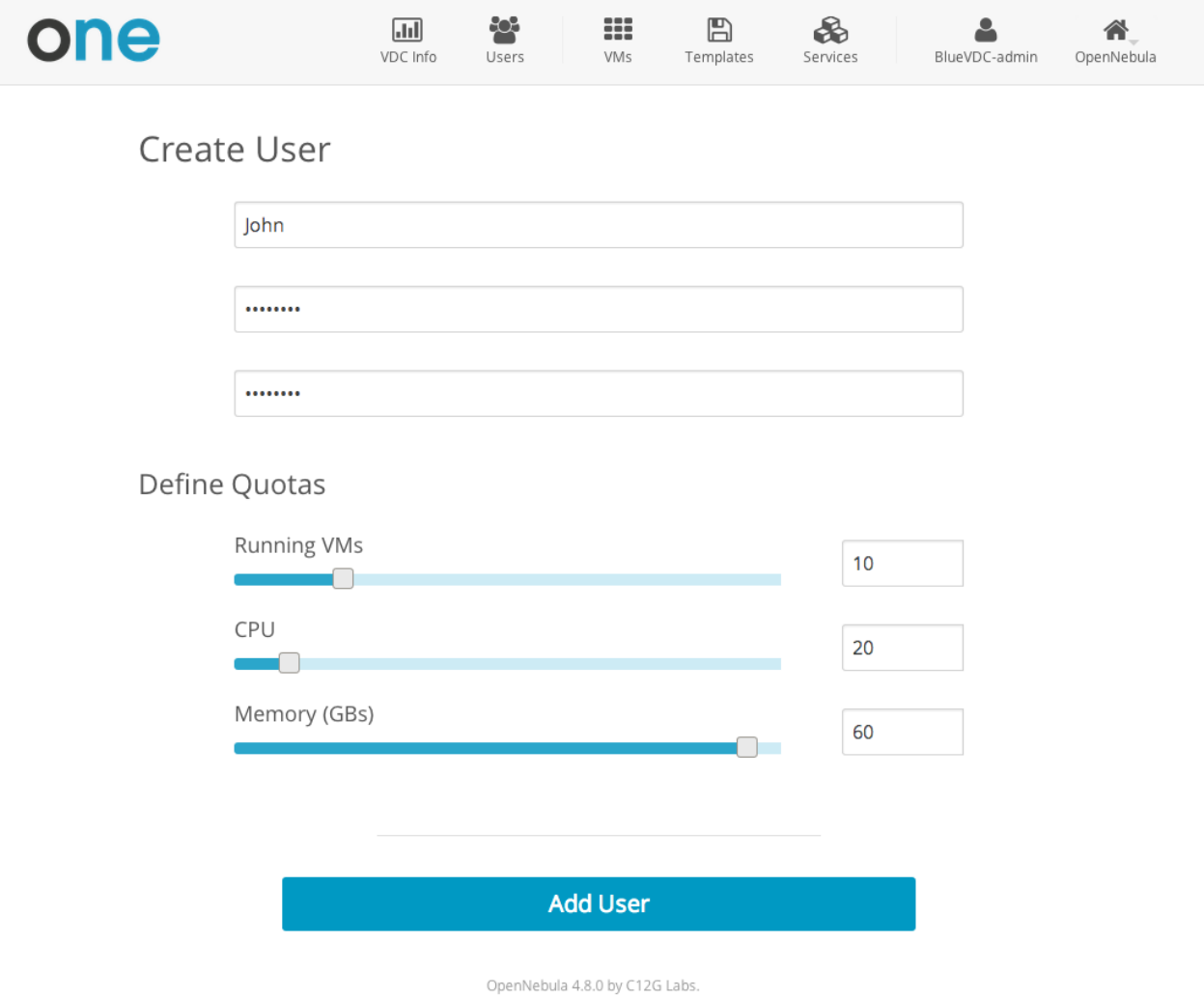
FIVE

STEP 5. USING THE CLOUD AS A VDC ADMIN

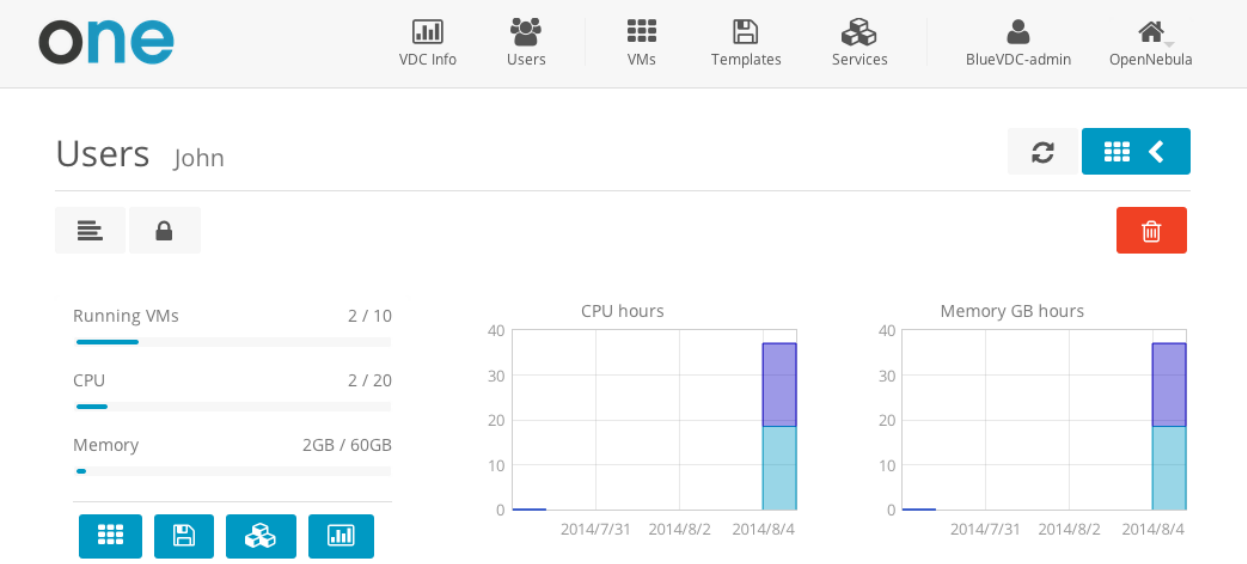
If you login as the ‘web-dev-admin’, you will see a simplified interface, the *VDC admin view*. This view hides the physical infrastructure, but allows some administration tasks to be performed.



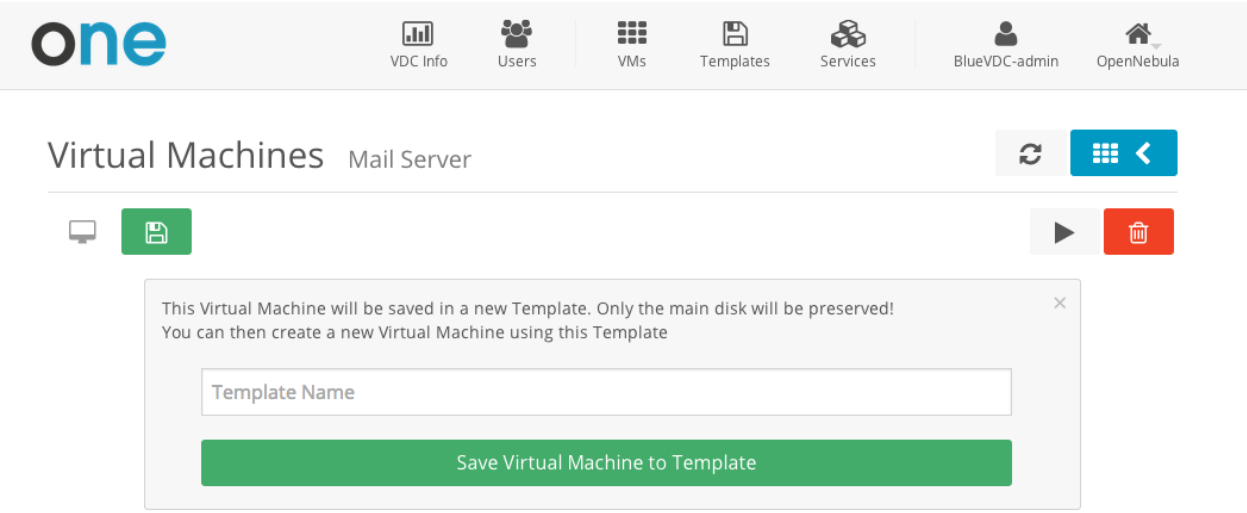
The VDC admin can create new user accounts, that will belong to the same VDC group. They can also see the current resource usage of all the VDC users, and set quota limits for each one of them.



The VDC admin can manage the Services, VMs and Templates of other users in the VDC. 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 VDC admin can customize existing Templates, and share them with the rest of the VDC users.



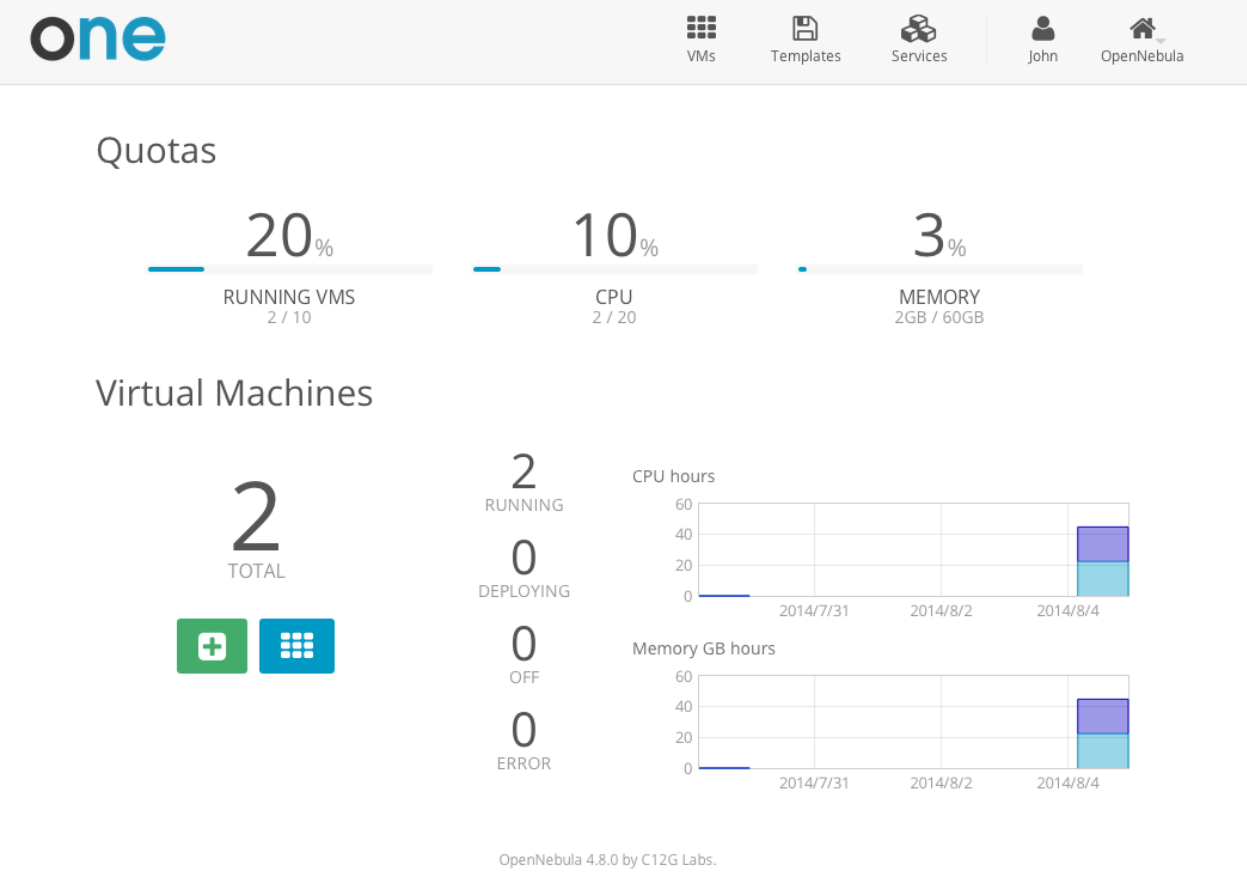
Create a new user, and login again.

CHAPTER

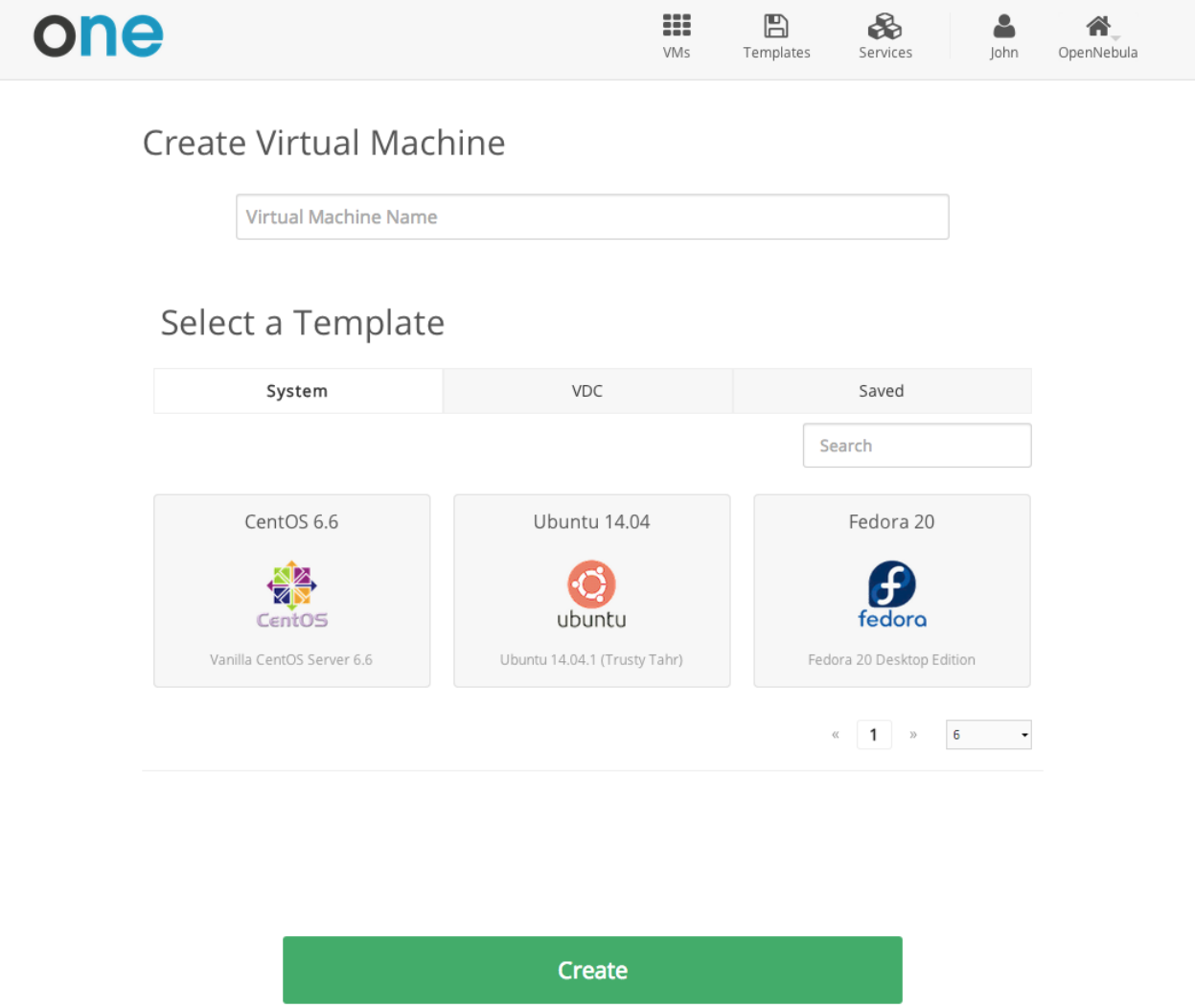
SIX

STEP 6. USING THE CLOUD AS A REGULAR USER

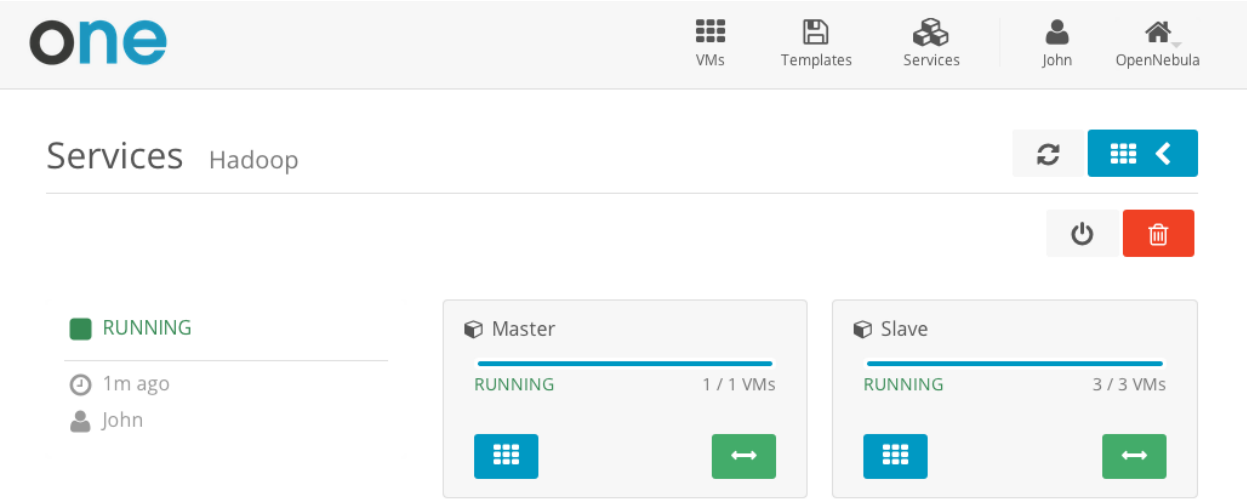
The regular users of the VDC use the *Cloud View*, an even more simplified view of their virtual resources.

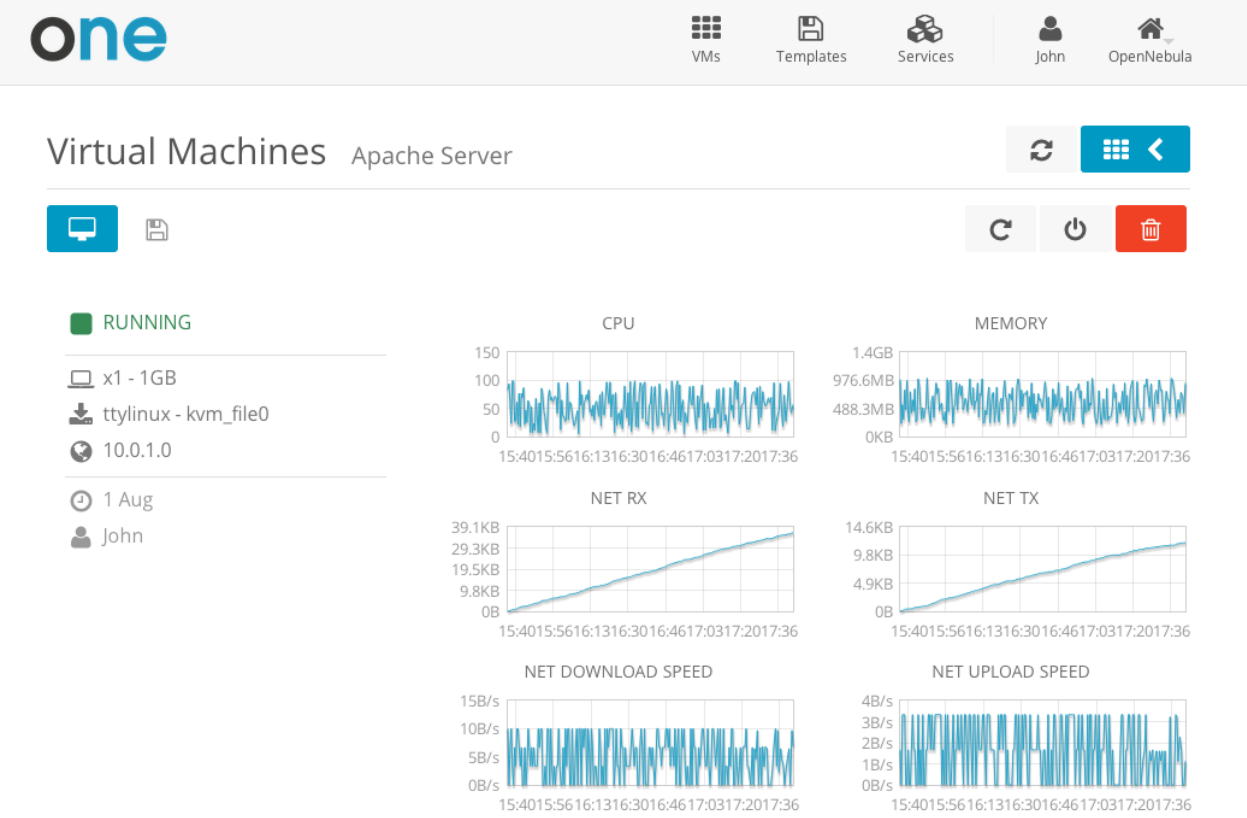


The end users can provision new VMs and Services from the templates prepared by the administrators.

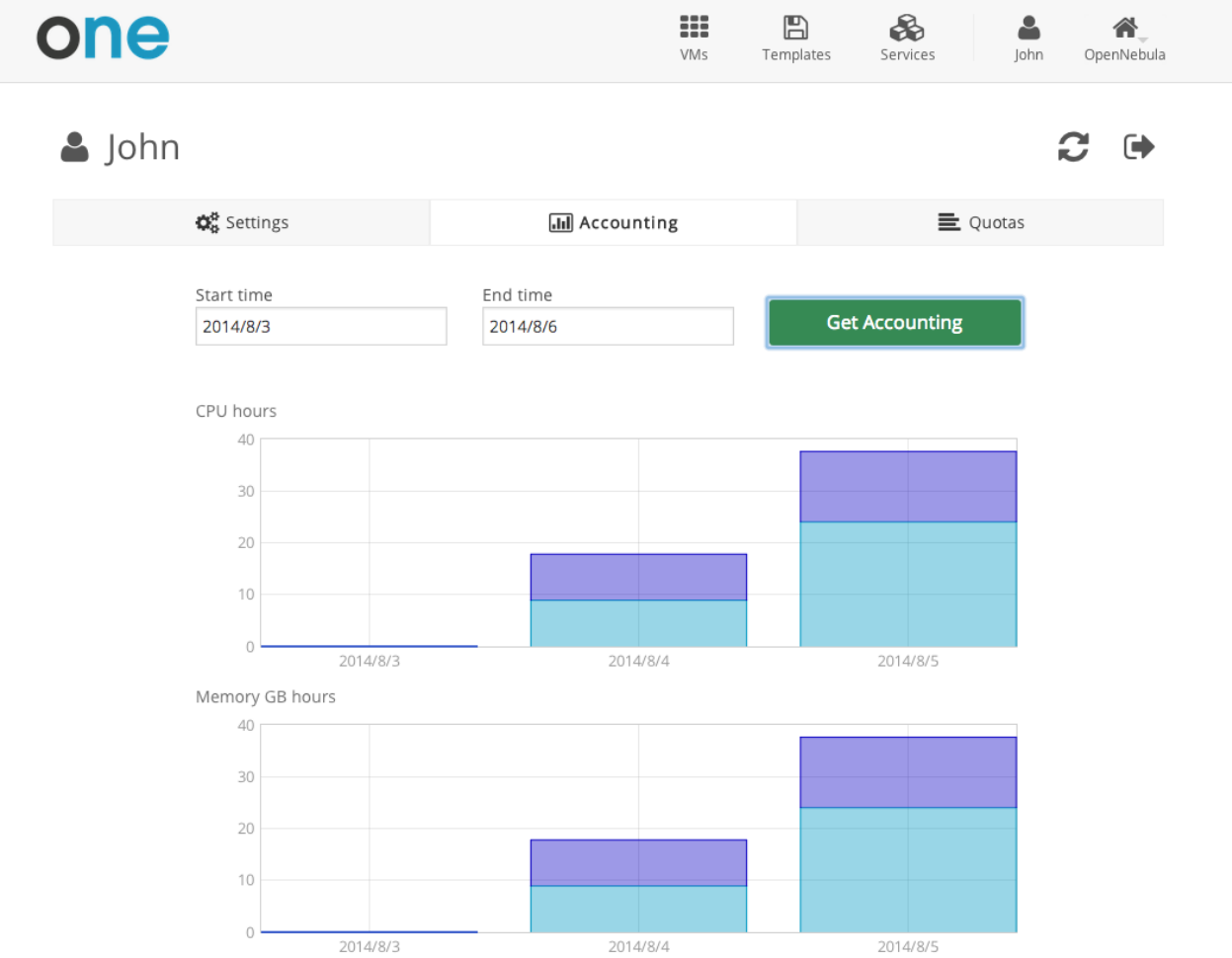


They can also manage their own VMs and Services: see their monitorization, shutdown them, and save the changes made.

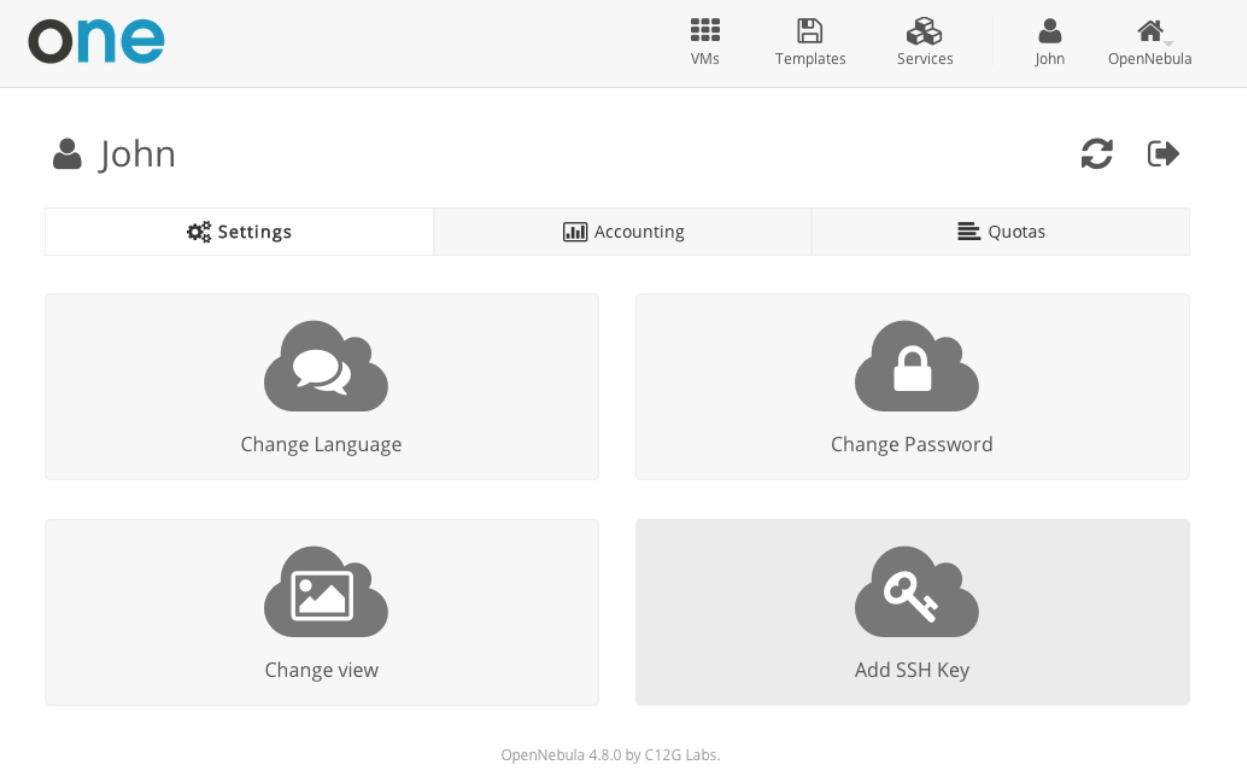




The users can perform basic administration on their account. They can check his current usage and quotas, or generate accounting reports.



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.