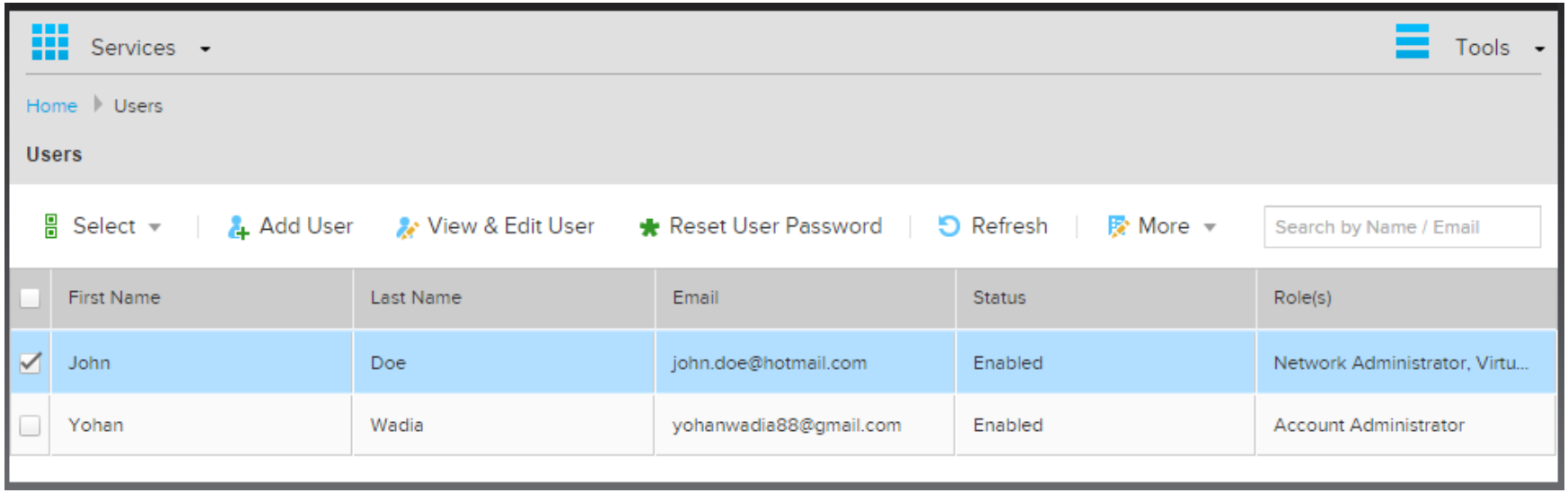
Learning VMware vCloud Air

Chapter 1 – Getting Started with VMware vCloud Air



Sign Up for VMware vCloud® Air™ OnDemand Services

1 LOG IN / CREATE ACCOUNT 2 ENTER ACCOUNT & BILLING INFO ✓ COMPLETE

To get started, log in with your existing My VMware account or create a new one. Learn more about My VMware.

Log in using your My VMware account

If you have an existing account, please enter your email address and password.

* Email Address

* Password

Log In > Forgot your password? >

Create a new My VMware account

Please complete the requested information below.

* Email Address

* Verify Email Address

* Password

* Verify Password

Create an Account >

You will be billed in: US Dollar

* Cardholder Name

Yohan Wadia

* Card Number

9999-9999-9999-9999-9999

* Expiration Date

1 ▾ 2028 ▾

* Security Code

999

When will I be billed?

Legal - Read the vCloud® Air™ OnDemand Services Terms of Services, Service Level Agreement, Privacy Policy, and more.

☐ Billing information is the same as account information

* First Name

* Last Name

Company Name

* Address Line 1

Address Line 2

* Zip/Postal Code

* City

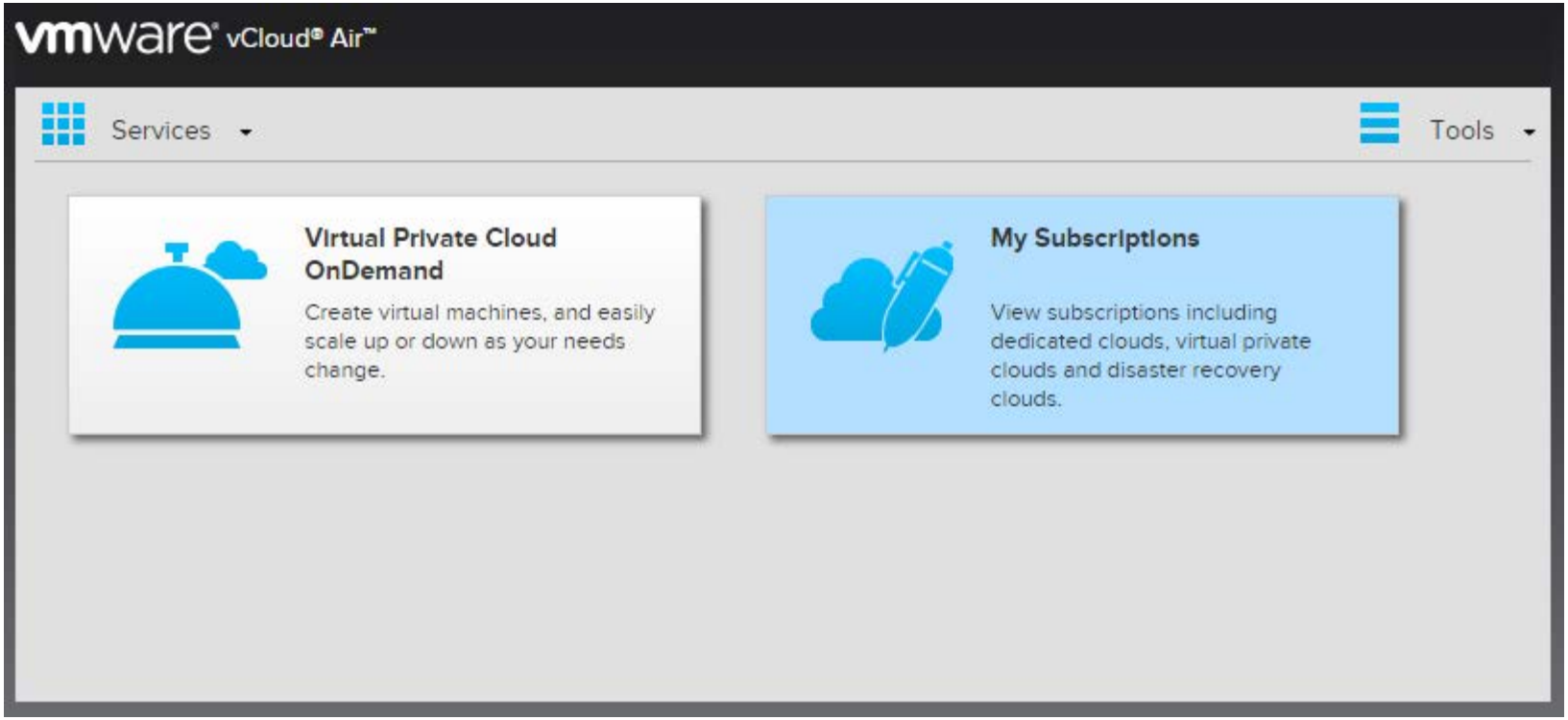
* Country

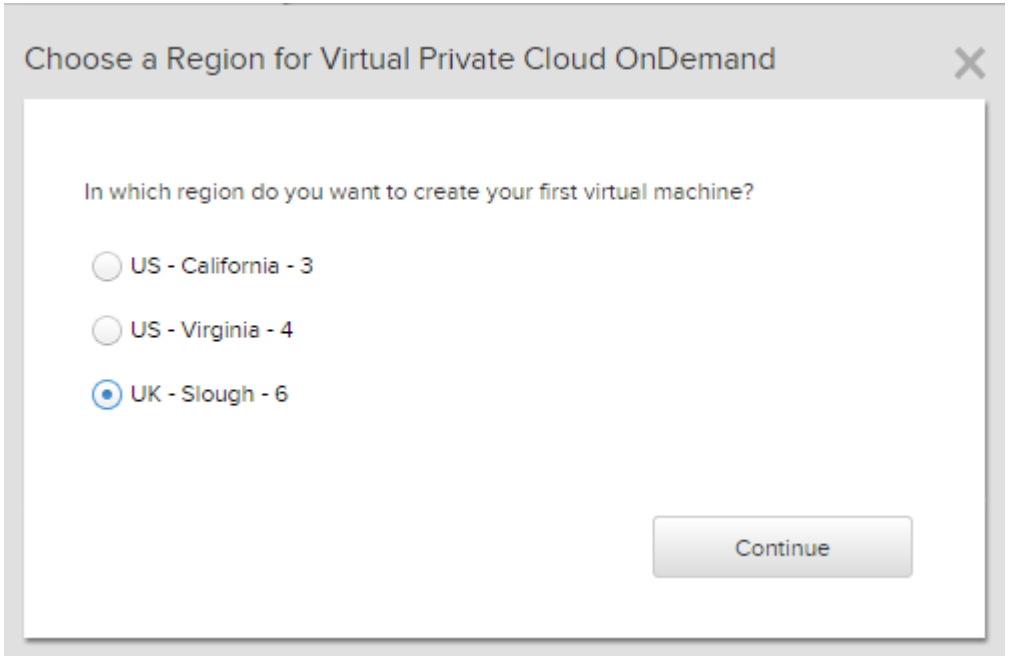
India ▾

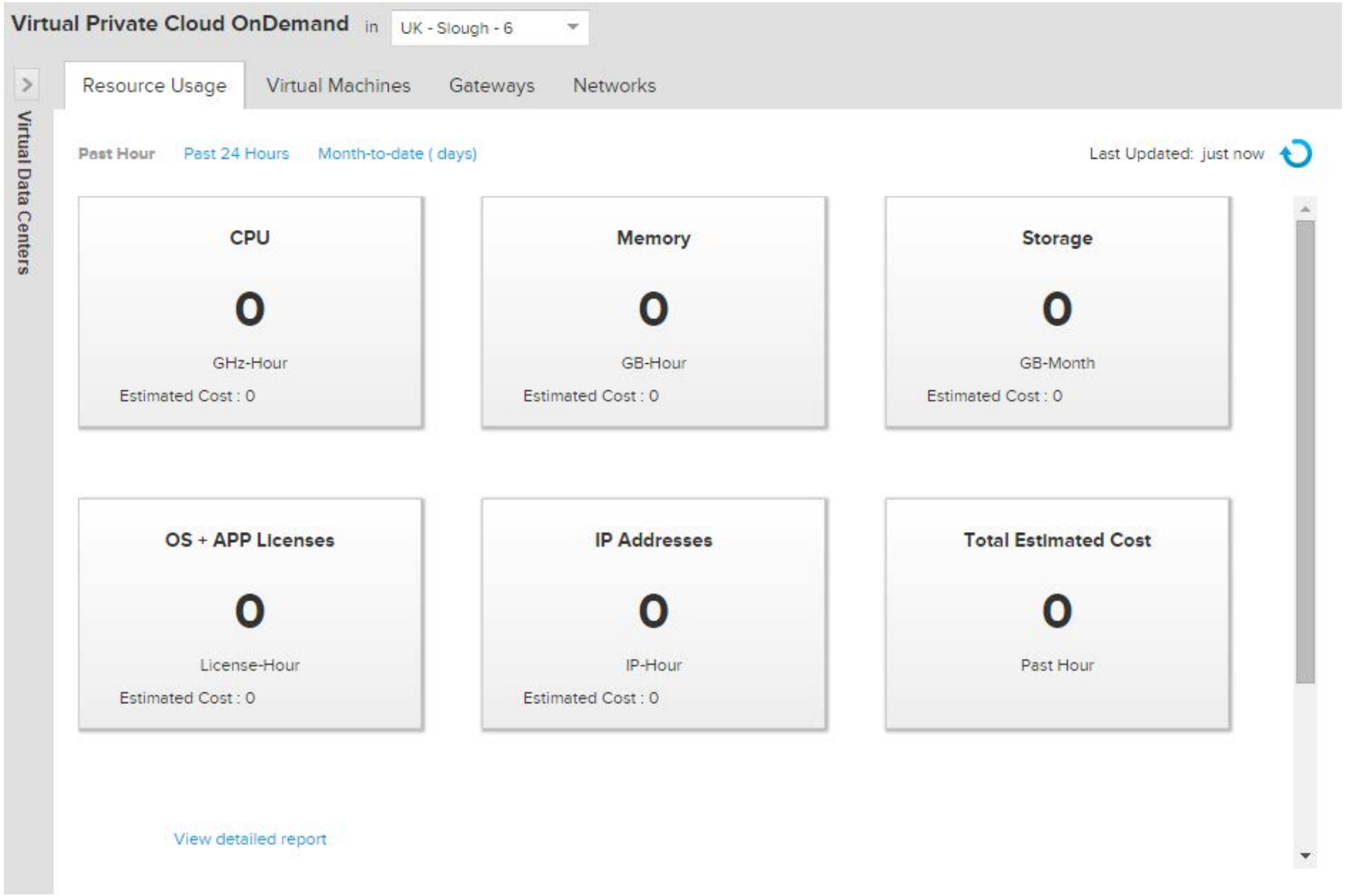
Phone Number

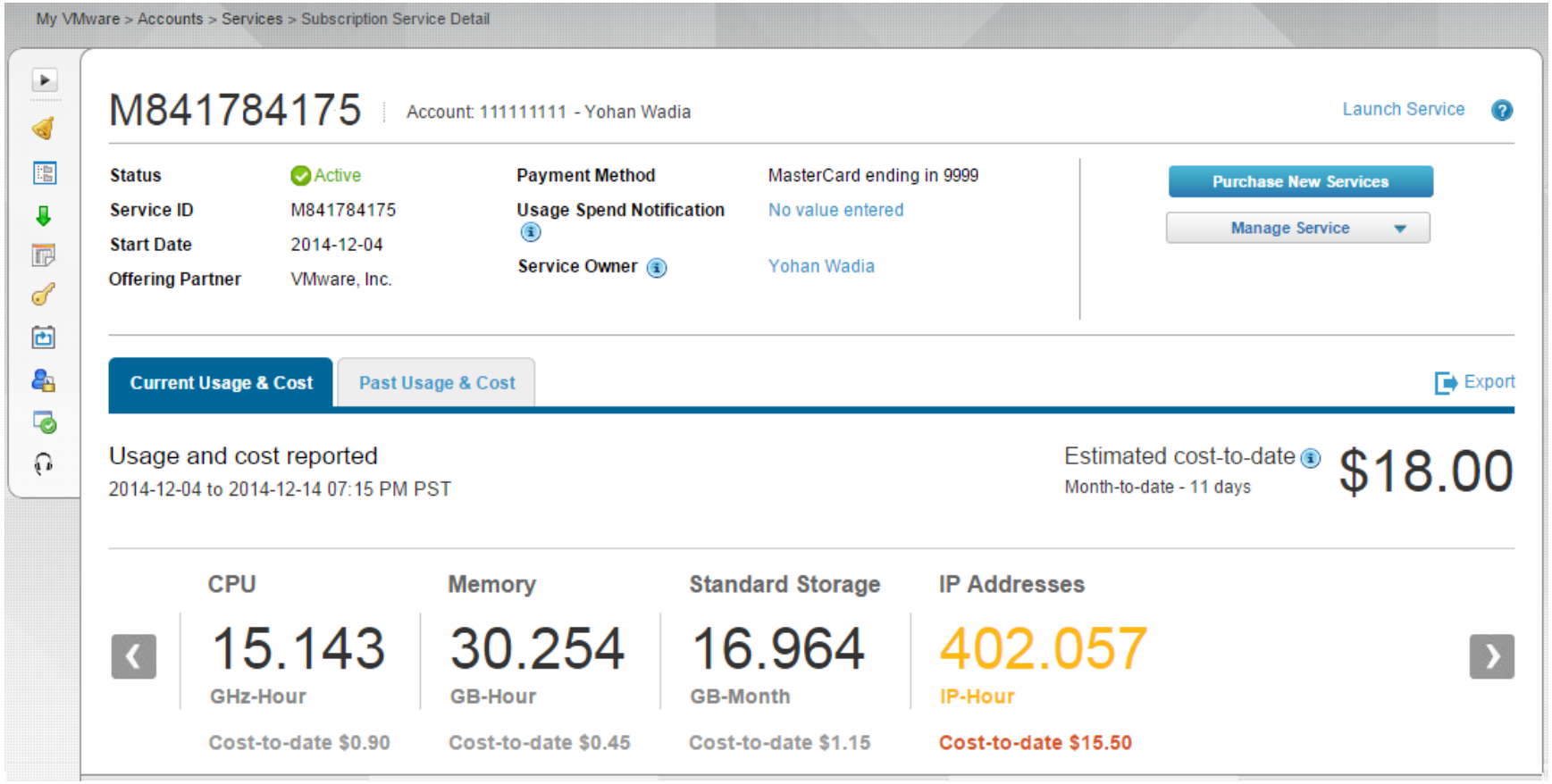
vmware vCloud® Air™
Hi Yohan, please finalize your account.
Guidelines
6 to 20 characters long
at least one uppercase character (A-Z)
at least one lowercase character (a-z)
at least one number (0-9)
at least one symbol (!, @, #, $, %, ^, &, *, ?, _ or ~)
By accessing or using the VMware vCloud® Air™ portal, the VMware vCloud® Air™, and any related software and documentation, you (as an individual and as the entity you represent) accept and agree to be bound by the Terms of Service and related provisions references in the terms of service.
I accept
Continue

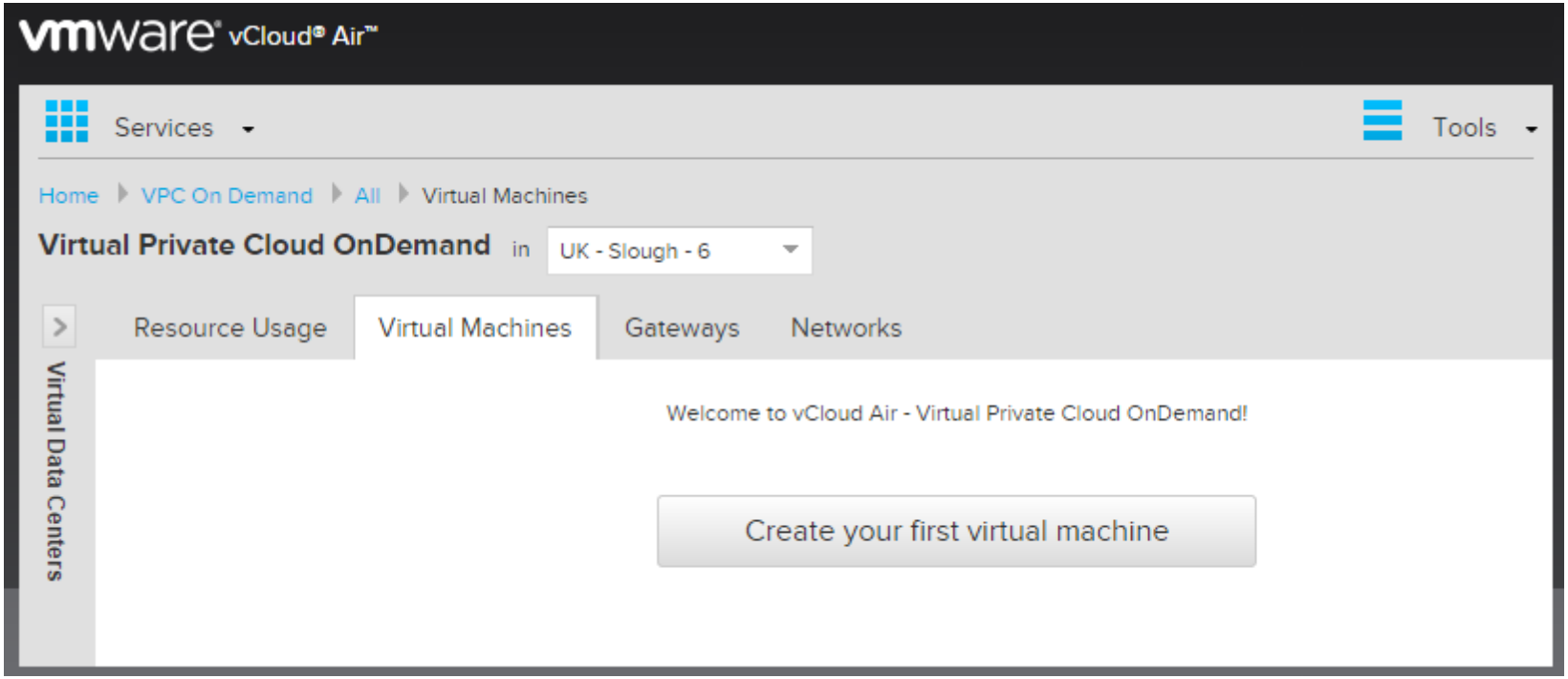
vmware vCloud® Air™
yohanwadia88@gmail.com
Sign in
Learn More | Forgot Password?

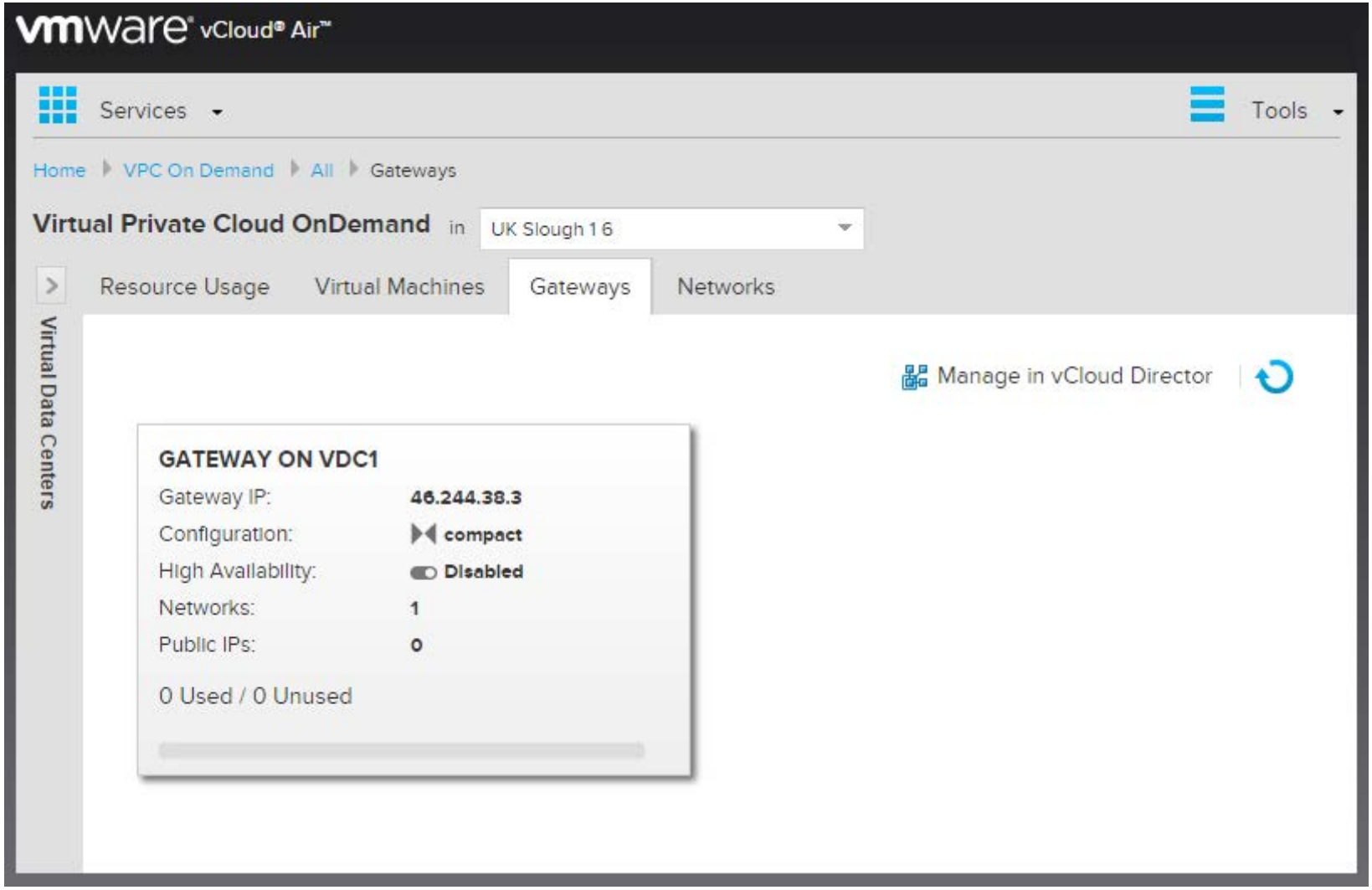

vmware vCloud® Air™
Services
Tools
Virtual Private Cloud OnDemand
Create virtual machines, and easily scale up or down as your needs change.
My Subscriptions
View subscriptions including dedicated clouds, virtual private clouds and disaster recovery clouds.

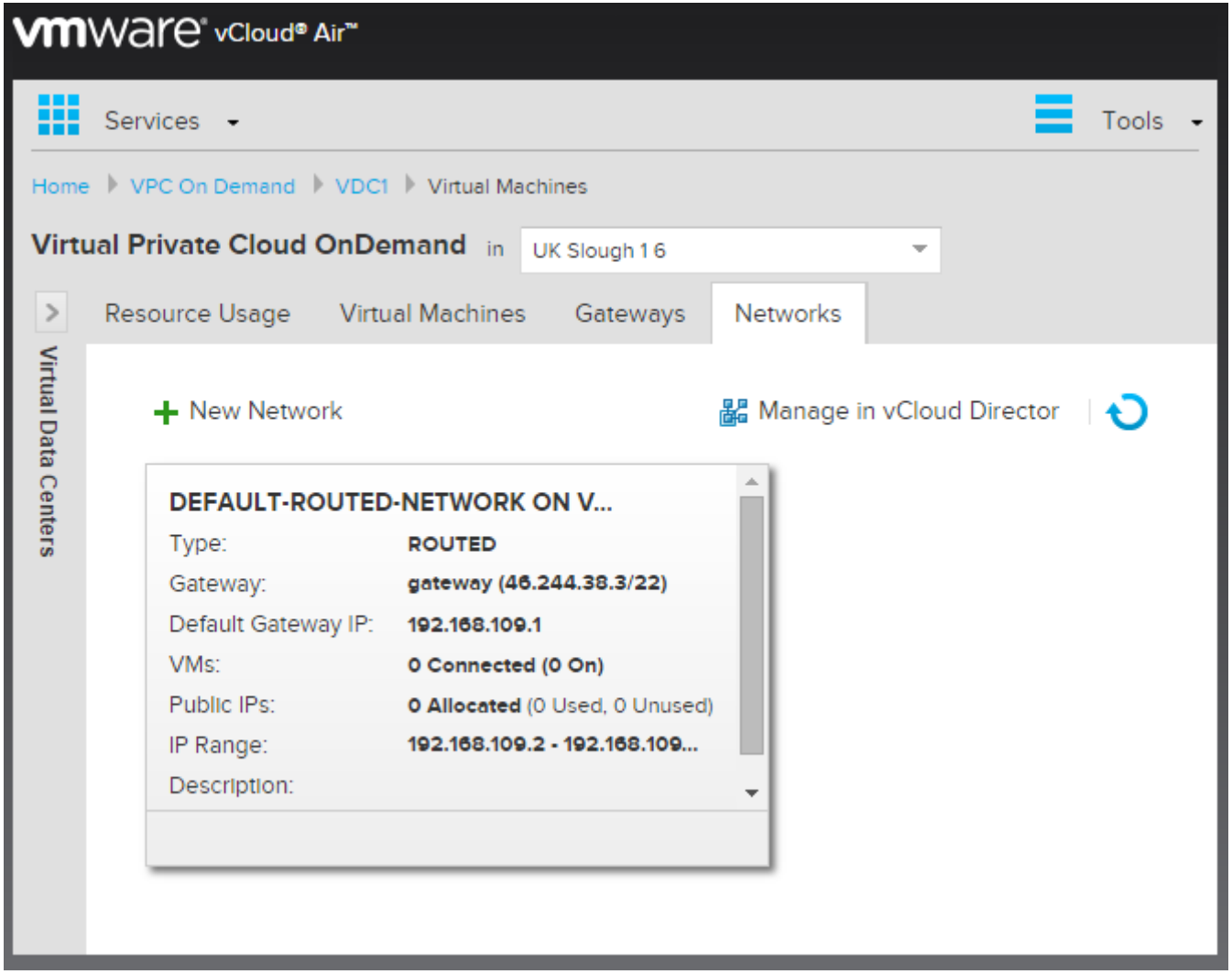

Choose a Region for Virtual Private Cloud OnDemand
In which region do you want to create your first virtual machine?
US - California - 3
US - Virginia - 4
UK - Slough - 6
Continue

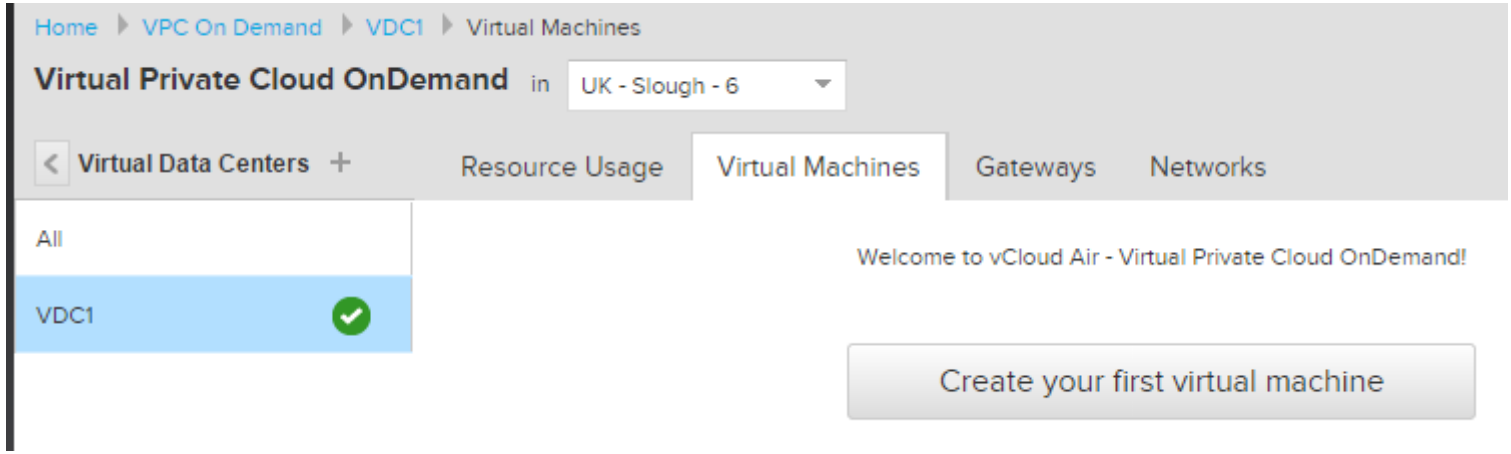

Virtual Private Cloud OnDemand in UK - Slough - 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
Past Hour
Past 24 Hours
Month-to-date (days)
Last Updated: just now
CPU
0
GHz-Hour
Estimated Cost : 0
Memory
0
GB-Hour
Estimated Cost : 0
Storage
0
GB-Month
Estimated Cost : 0
OS + APP Licenses
0
License-Hour
Estimated Cost : 0
IP Addresses
0
IP-Hour
Estimated Cost : 0
Total Estimated Cost
0
Past Hour
View detailed report

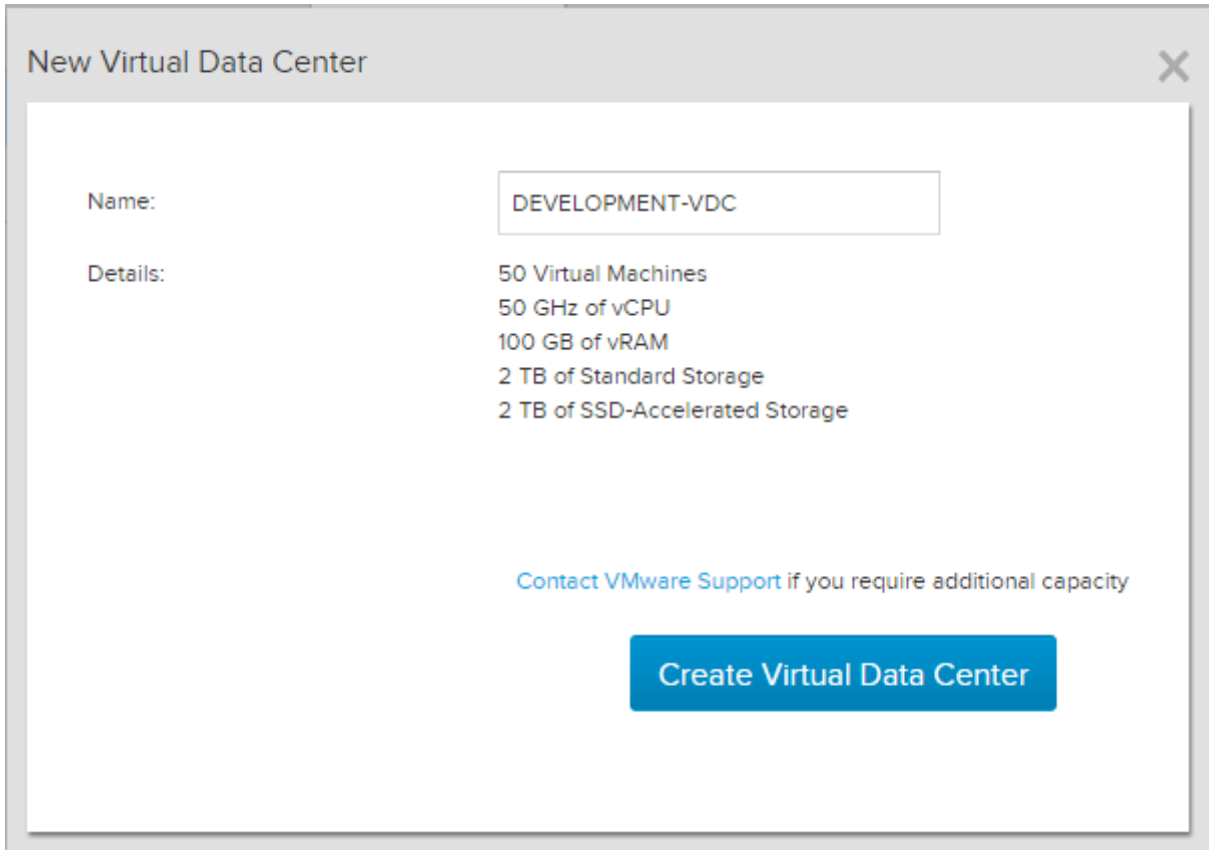

My VMware > Accounts > Services > Subscription Service Detail
M841784175
Account: 111111111 - Yohan Wadia
Launch Service
Status
Active
Service ID
M841784175
Start Date
2014-12-04
Offering Partner
VMware, Inc.
Payment Method
MasterCard ending in 9999
Usage Spend Notification
No value entered
Service Owner
Yohan Wadia
Purchase New Services
Manage Service
Current Usage & Cost
Past Usage & Cost
Export
Usage and cost reported
2014-12-04 to 2014-12-14 07:15 PM PST
Estimated cost-to-date
Month-to-date - 11 days
$18.00
CPU
15.143
GHz-Hour
Cost-to-date $0.90
Memory
30.254
GB-Hour
Cost-to-date $0.45
Standard Storage
16.964
GB-Month
Cost-to-date $1.15
IP Addresses
402.057
IP-Hour
Cost-to-date $15.50

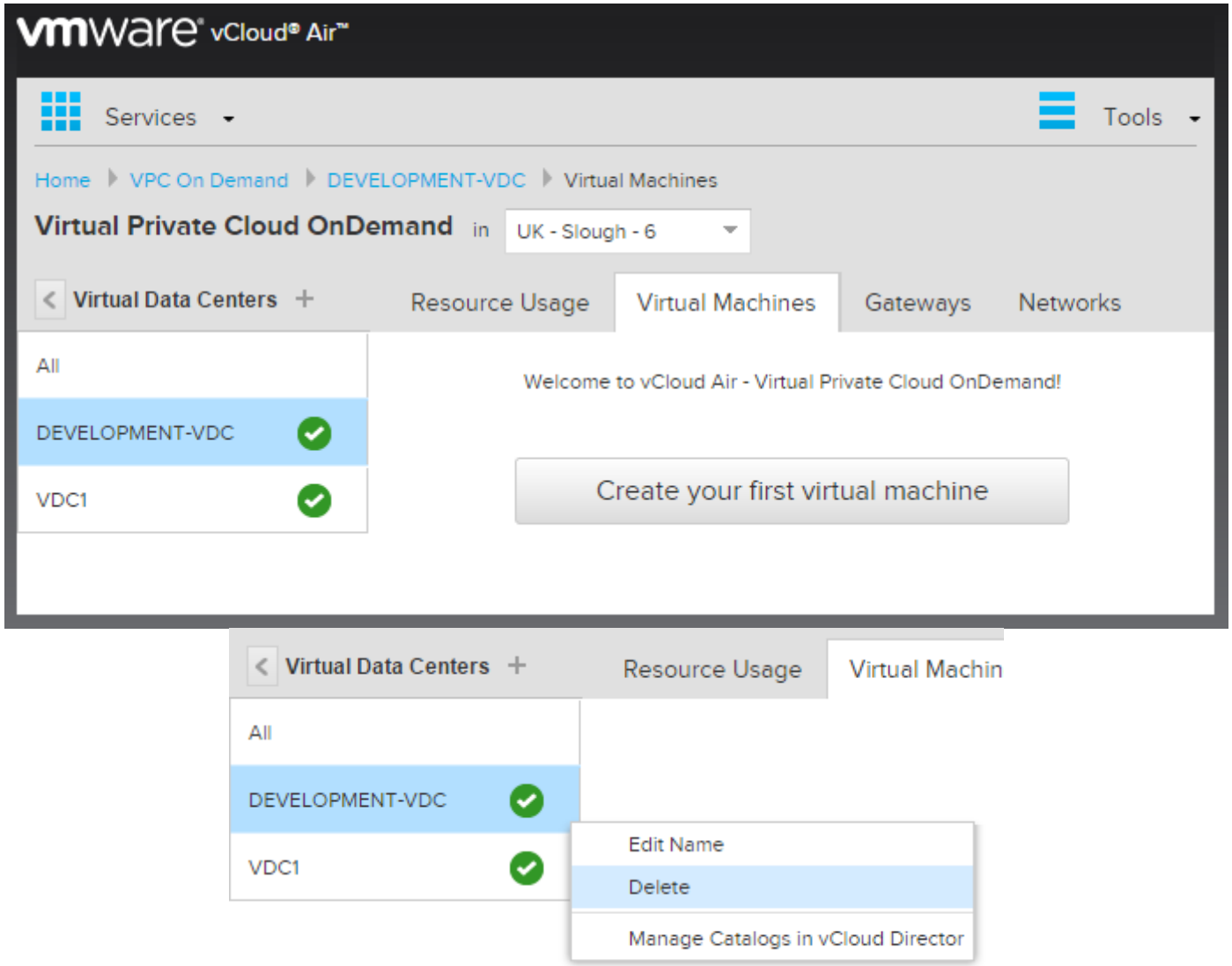

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
All
Virtual Machines
Virtual Private Cloud OnDemand
in
UK - Slough - 6
Resource Usage
Virtual Machines
Gateways
Networks
Virtual Data Centers
Welcome to vCloud Air - Virtual Private Cloud OnDemand!
Create your first virtual machine

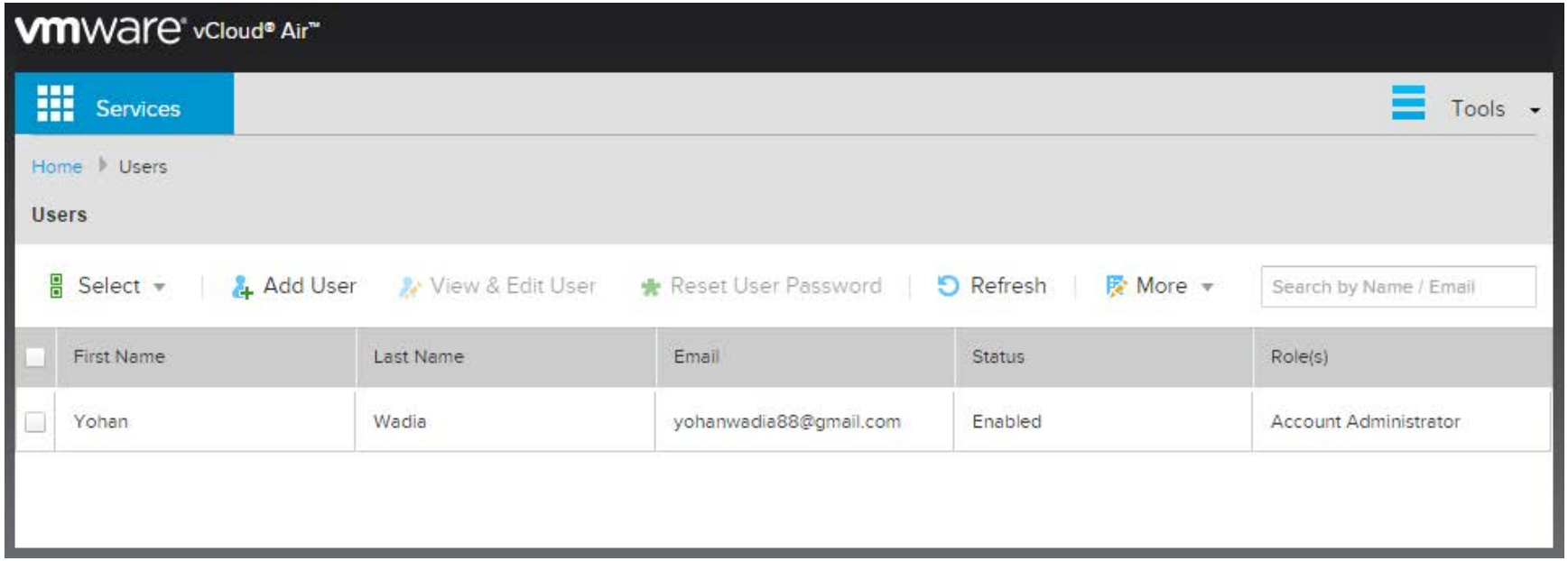

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
All
Gateways
Virtual Private Cloud OnDemand
in
UK Slough 1 6
Resource Usage
Virtual Machines
Gateways
Networks
Virtual Data Centers
Manage in vCloud Director
GATEWAY ON VDC1
Gateway IP:
46.244.38.3
Configuration:
compact
High Availability:
Disabled
Networks:
1
Public IPs:
0
0 Used / 0 Unused

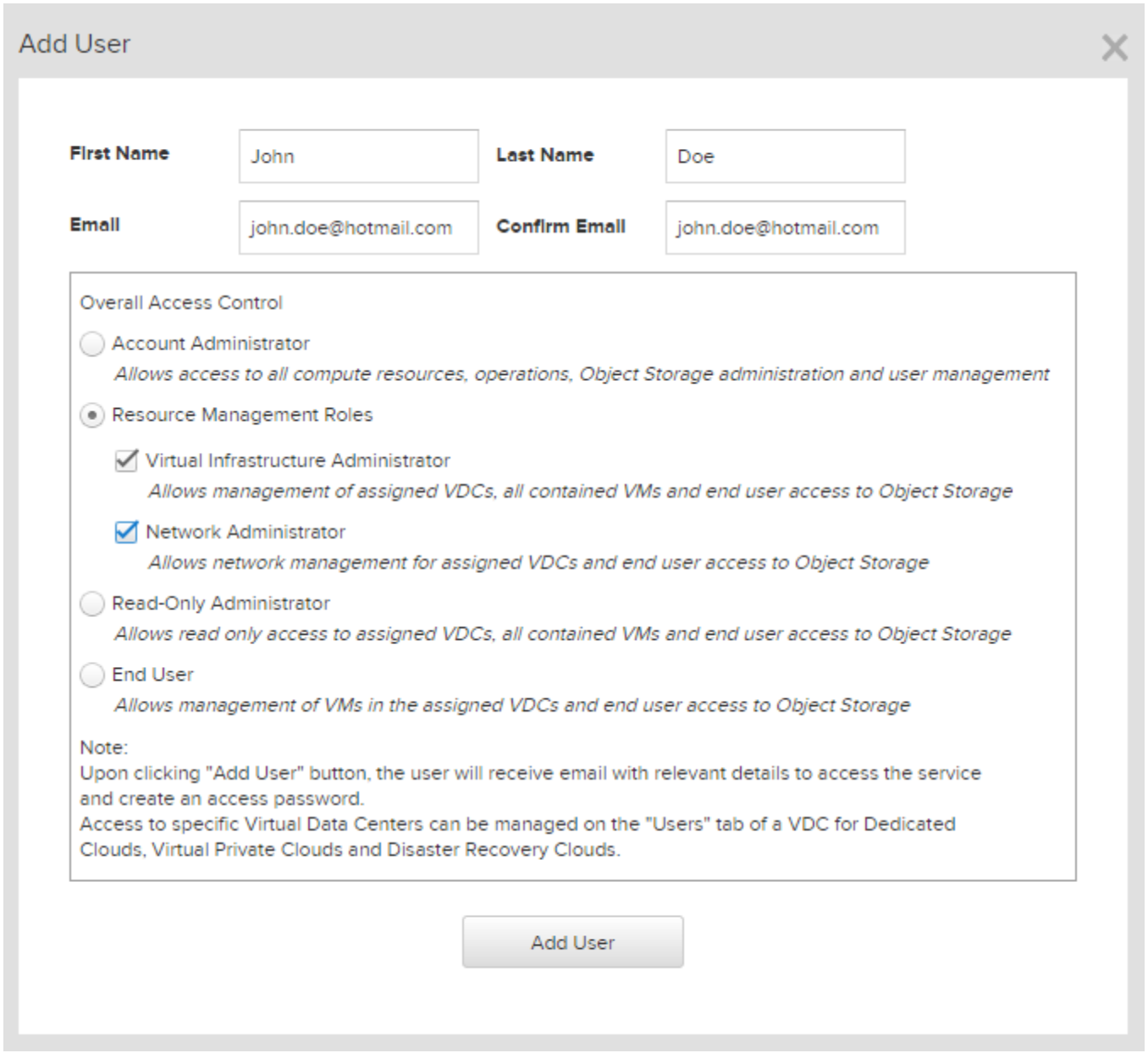

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
VDC1
Virtual Machines
Virtual Private Cloud OnDemand
in
UK Slough 1 6
Resource Usage
Virtual Machines
Gateways
Networks
Virtual Data Centers
New Network
Manage in vCloud Director
DEFAULT-ROUTED-NETWORK ON V...
Type:
ROUTED
Gateway:
gateway (46.244.38.3/22)
Default Gateway IP:
192.168.109.1
VMs:
0 Connected (0 On)
Public IPs:
0 Allocated (0 Used, 0 Unused)
IP Range:
192.168.109.2 - 192.168.109...
Description:

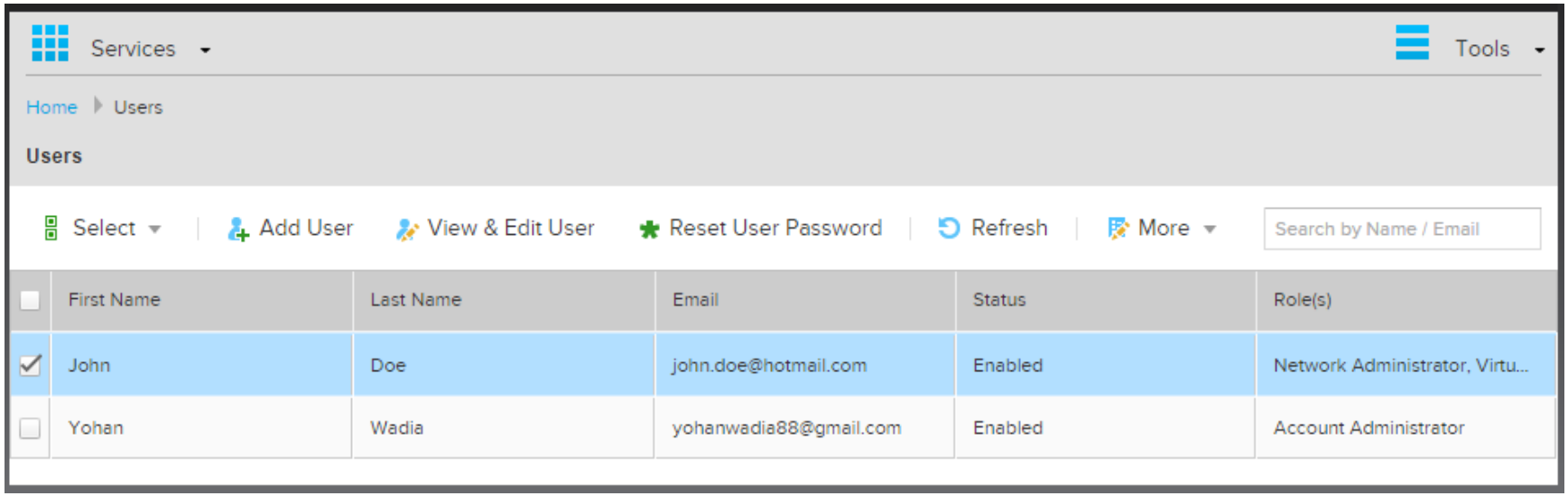

Home
VPC On Demand
VDC1
Virtual Machines
Virtual Private Cloud OnDemand
in
UK - Slough - 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
VDC1
Welcome to vCloud Air - Virtual Private Cloud OnDemand!
Create your first virtual machine


New Virtual Data Center
Name:
DEVELOPMENT-VDC
Details:
50 Virtual Machines
50 GHz of vCPU
100 GB of vRAM
2 TB of Standard Storage
2 TB of SSD-Accelerated Storage
Contact VMware Support if you require additional capacity
Create Virtual Data Center

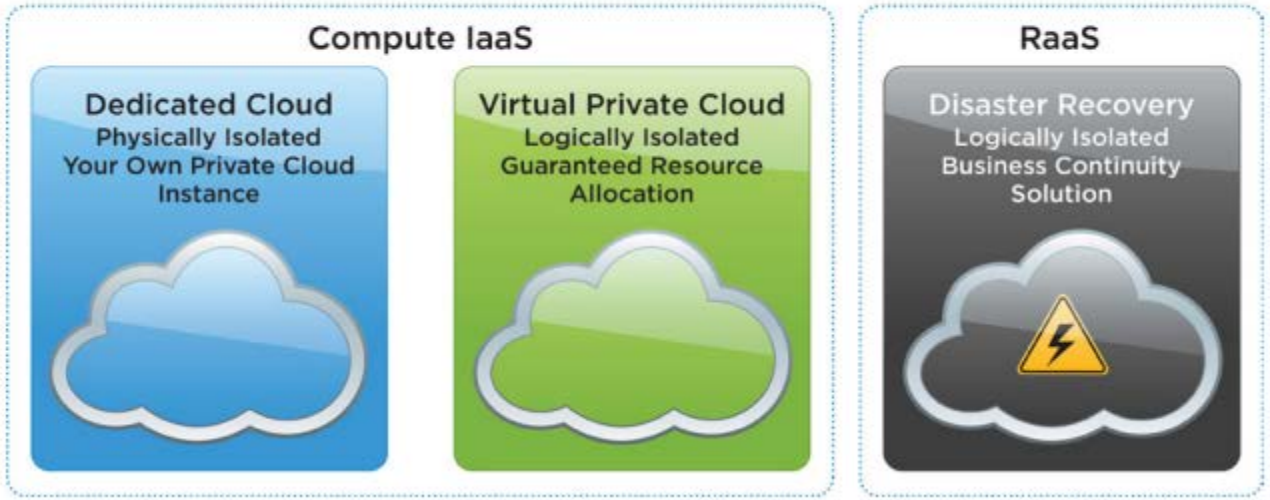

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
DEVELOPMENT-VDC
Virtual Machines
Virtual Private Cloud OnDemand
in
UK - Slough - 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
DEVELOPMENT-VDC
VDC1
Welcome to vCloud Air - Virtual Private Cloud OnDemand!
Create your first virtual machine
Virtual Data Centers
Resource Usage
Virtual Machin
All
DEVELOPMENT-VDC
VDC1
Edit Name
Delete
Manage Catalogs in vCloud Director


vmware vCloud® Air™
Services
Tools
Home
Users
Users
Select
Add User
View & Edit User
Reset User Password
Refresh
More
Search by Name / Email
First Name
Last Name
Email
Status
Role(s)
Yohan
Wadia
yohanwadia88@gmail.com
Enabled
Account Administrator


Add User
First Name
John
Last Name
Doe
Email
john.doe@hotmail.com
Confirm Email
john.doe@hotmail.com
Overall Access Control
Account Administrator
Allows access to all compute resources, operations, Object Storage administration and user management
Resource Management Roles
Virtual Infrastructure Administrator
Allows management of assigned VDCs, all contained VMs and end user access to Object Storage
Network Administrator
Allows network management for assigned VDCs and end user access to Object Storage
Read-Only Administrator
Allows read only access to assigned VDCs, all contained VMs and end user access to Object Storage
End User
Allows management of VMs in the assigned VDCs and end user access to Object Storage
Note:
Upon clicking "Add User" button, the user will receive email with relevant details to access the service and create an access password.
Access to specific Virtual Data Centers can be managed on the "Users" tab of a VDC for Dedicated Clouds, Virtual Private Clouds and Disaster Recovery Clouds.
Add User


Services
Tools
Home
Users
Users
Select
Add User
View & Edit User
Reset User Password
Refresh
More
Search by Name / Email
First Name
Last Name
Email
Status
Role(s)
John
Doe
john.doe@hotmail.com
Enabled
Network Administrator, Virtu...
Yohan
Wadia
yohanwadia88@gmail.com
Enabled
Account Administrator

vCloud Air Core Service Offering



Sign Up for VMware vCloud® Air™ OnDemand Services

1 LOG IN / CREATE ACCOUNT 2 ENTER ACCOUNT & BILLING INFO ✓ COMPLETE

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Log in using your My VMware account

If you have an existing account, please enter your email address and password.

* Email Address

* Password

Log In > Forgot your password? >

Create a new My VMware account

Please complete the requested information below.

* Email Address

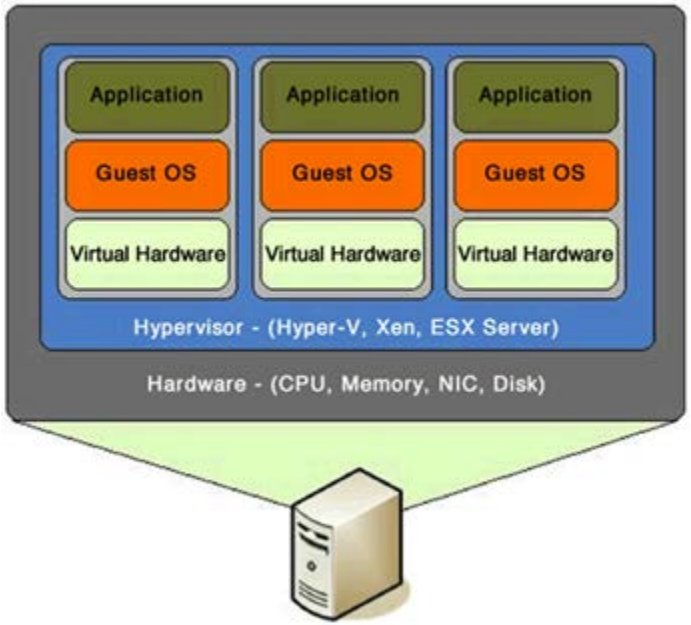
* Verify Email Address

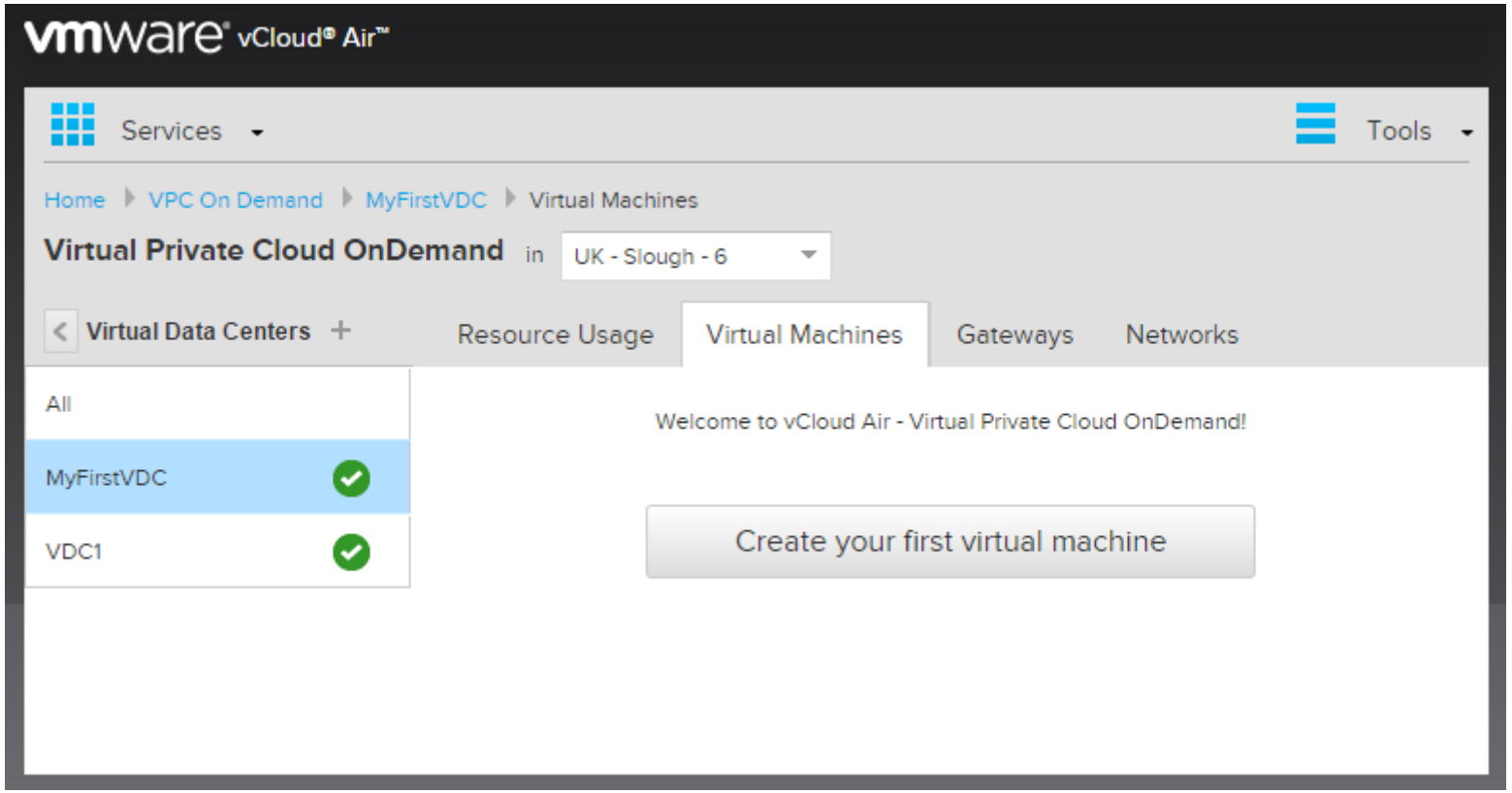
* Password

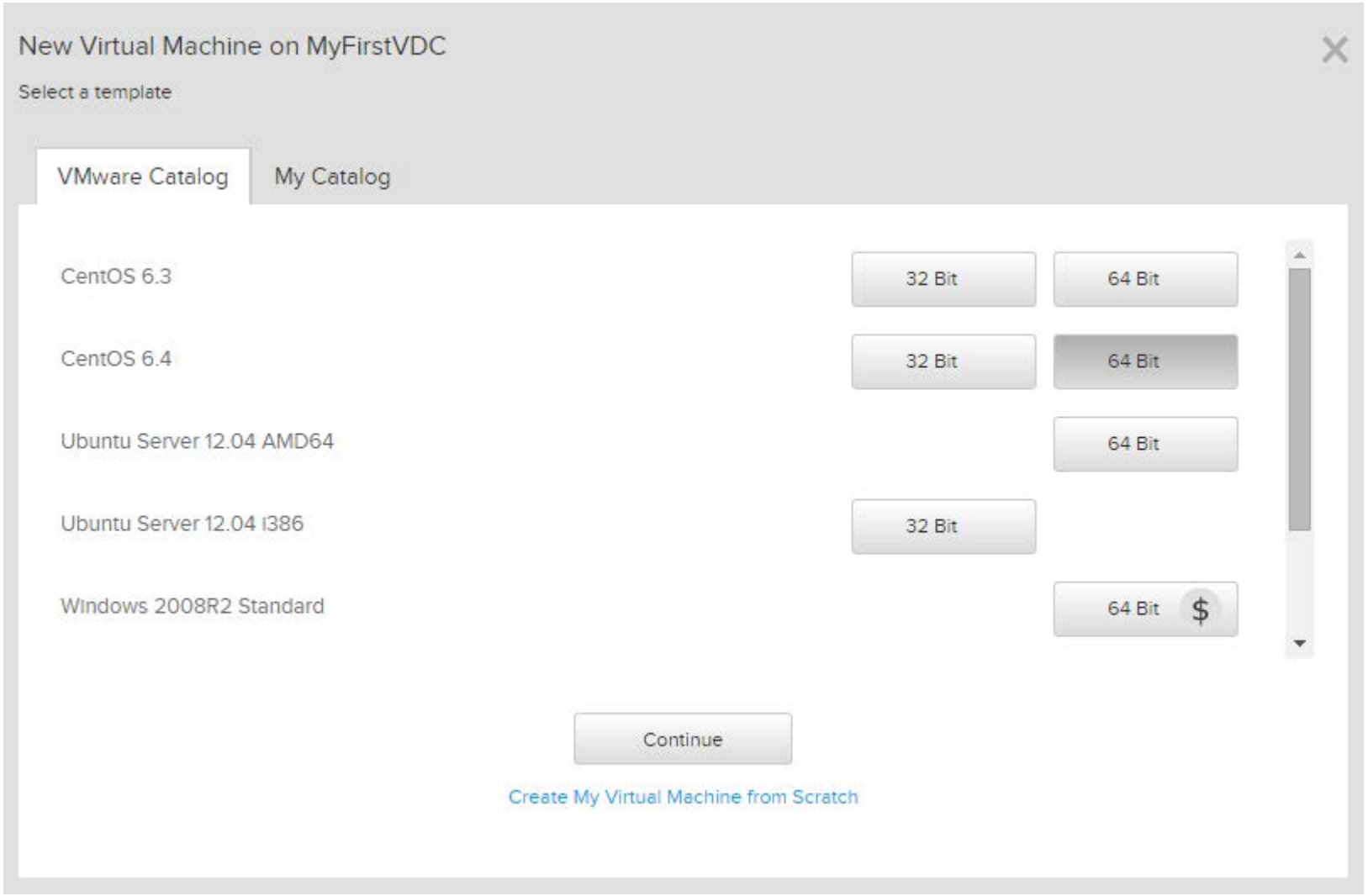
* Verify Password

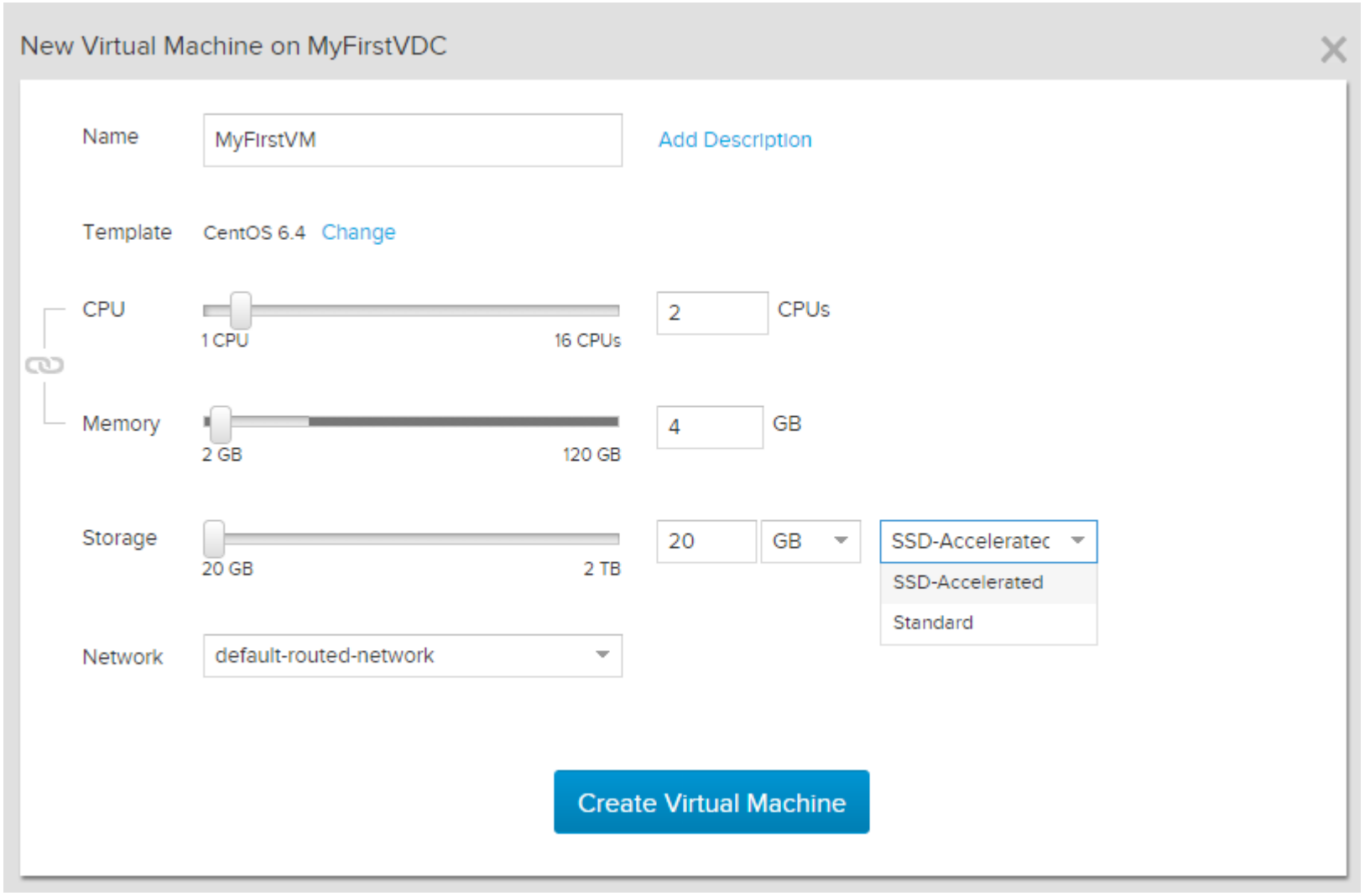
Create an Account >

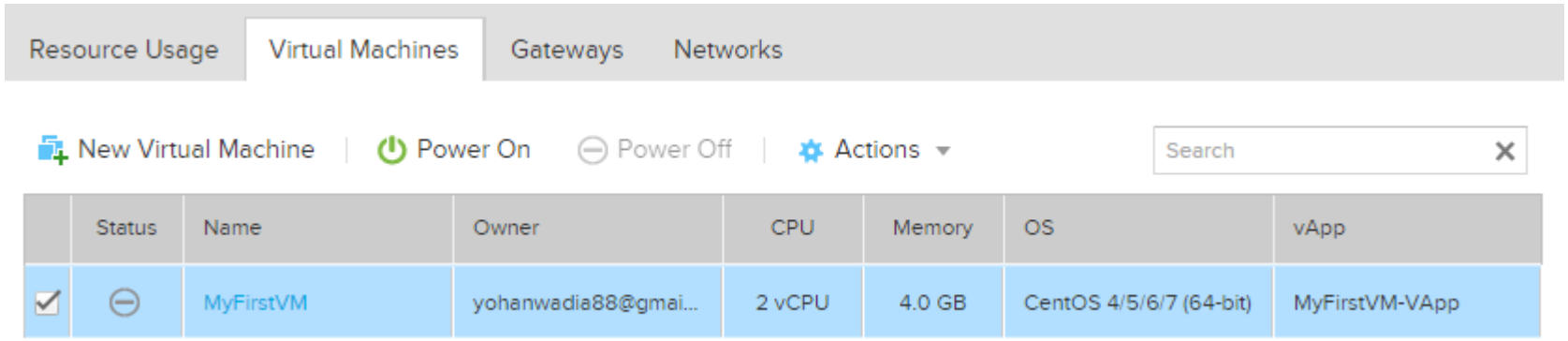
Chapter 2 – Working with Virtual Machines

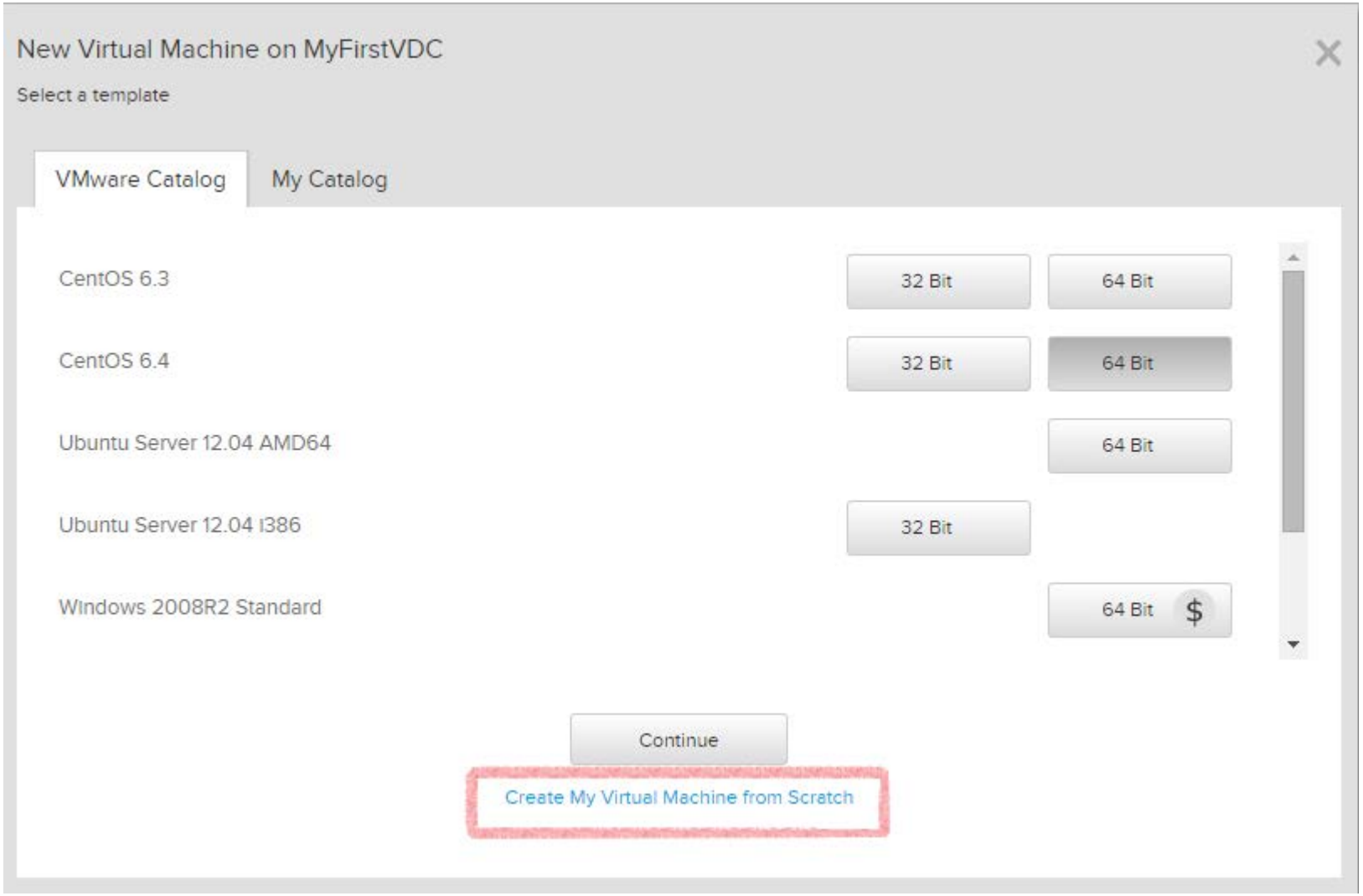


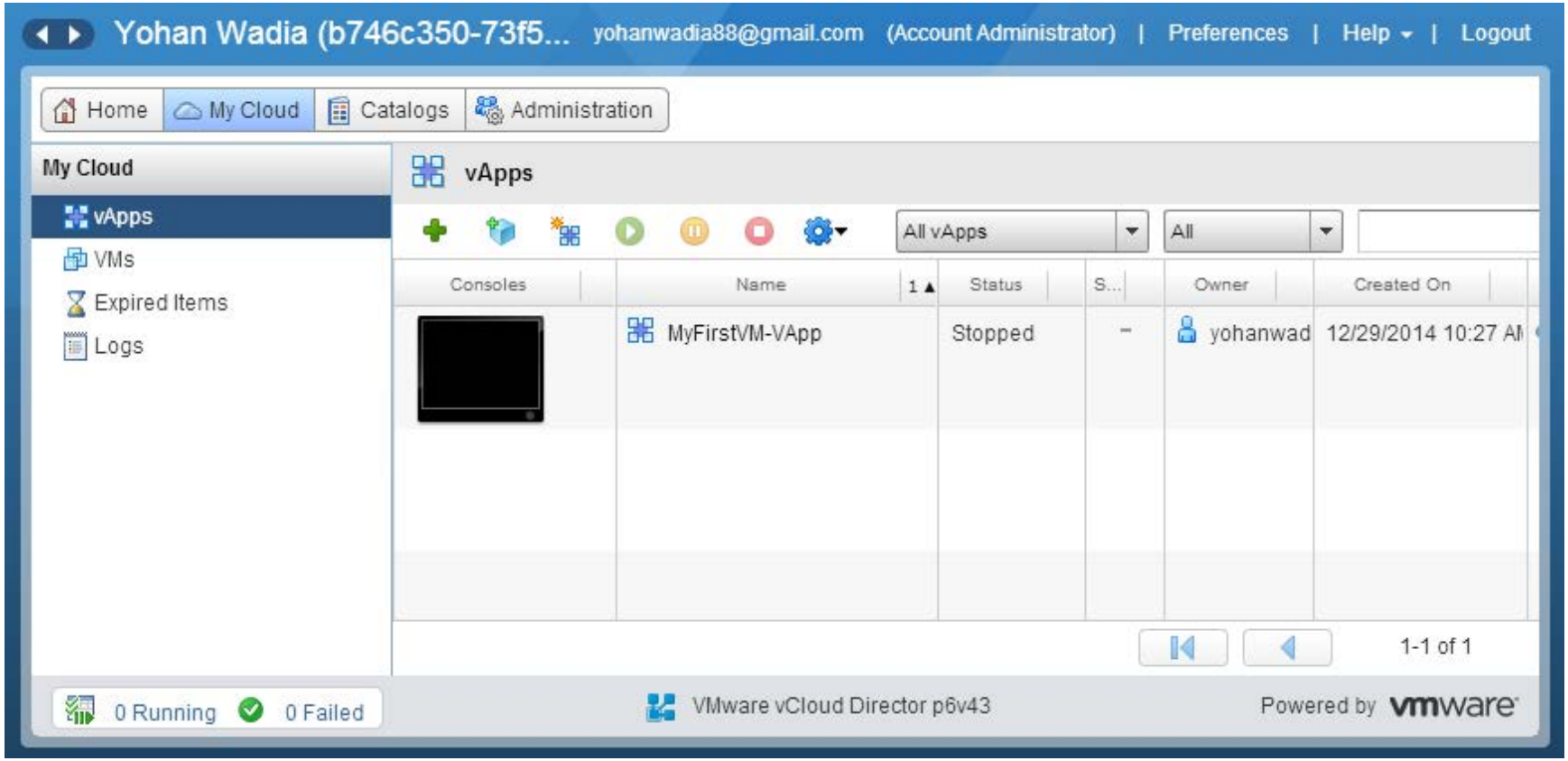

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
MyFirstVDC
Virtual Machines
Virtual Private Cloud OnDemand
in
UK - Slough - 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
MyFirstVDC
VDC1
Welcome to vCloud Air - Virtual Private Cloud OnDemand!
Create your first virtual machine

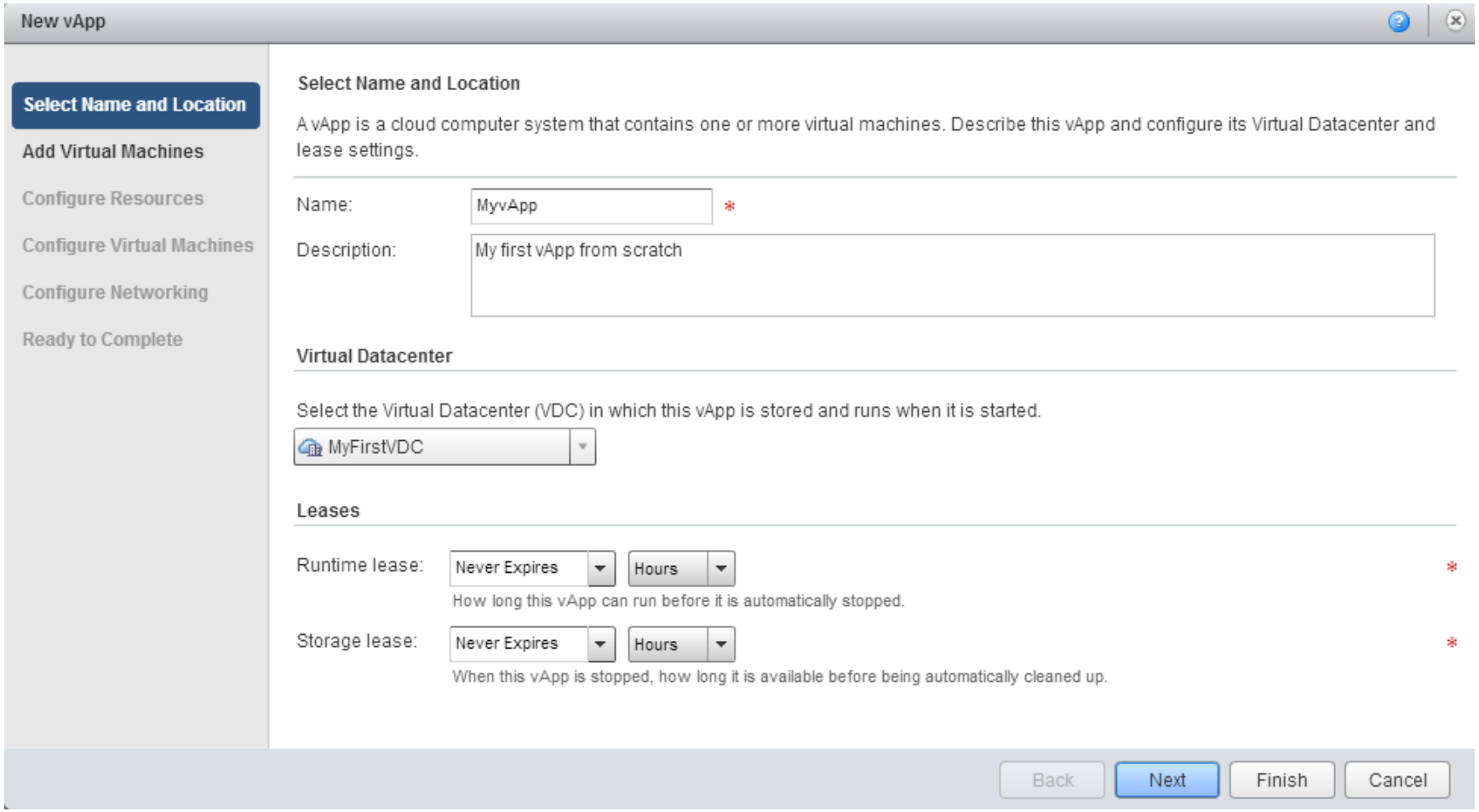

New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
CentOS 6.3
32 Bit
64 Bit
CentOS 6.4
32 Bit
64 Bit
Ubuntu Server 12.04 AMD64
64 Bit
Ubuntu Server 12.04 i386
32 Bit
Windows 2008R2 Standard
64 Bit $
Continue
Create My Virtual Machine from Scratch


New Virtual Machine on MyFirstVDC
Name
MyFirstVM
Add Description
Template
CentOS 6.4
Change
CPU
1 CPU
16 CPUs
2
CPUs
Memory
2 GB
120 GB
4
GB
Storage
20 GB
2 TB
20
GB
SSD-Acceleratec
SSD-Accelerated
Standard
Network
default-routed-network
Create Virtual Machine


Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
Memory
OS
vApp
MyFirstVM
yohanwadia88@gmai...
2 vCPU
4.0 GB
CentOS 4/5/6/7 (64-bit)
MyFirstVM-VApp

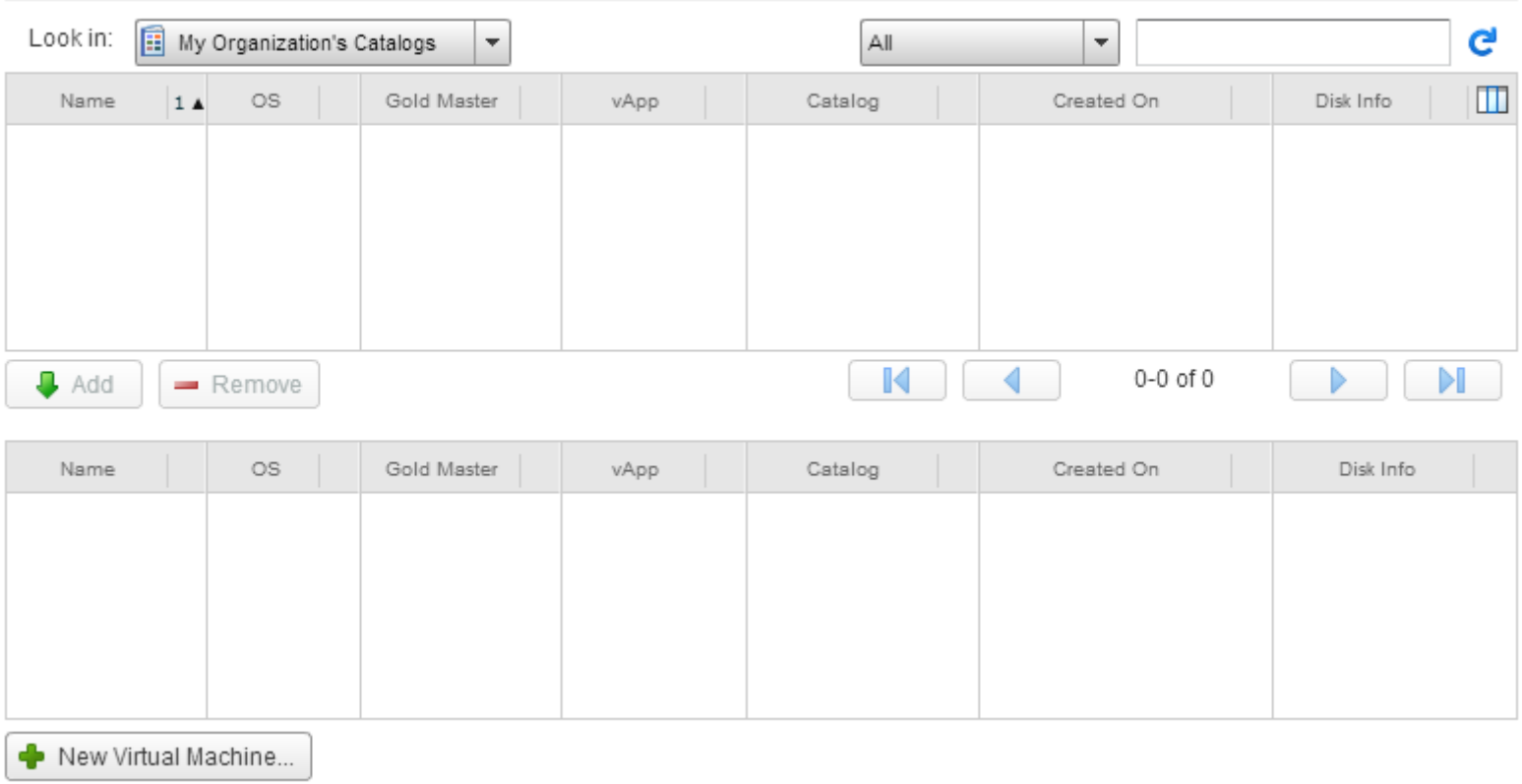

New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
CentOS 6.3
32 Bit
64 Bit
CentOS 6.4
32 Bit
64 Bit
Ubuntu Server 12.04 AMD64
64 Bit
Ubuntu Server 12.04 i386
32 Bit
Windows 2008R2 Standard
64 Bit $
Continue
Create My Virtual Machine from Scratch

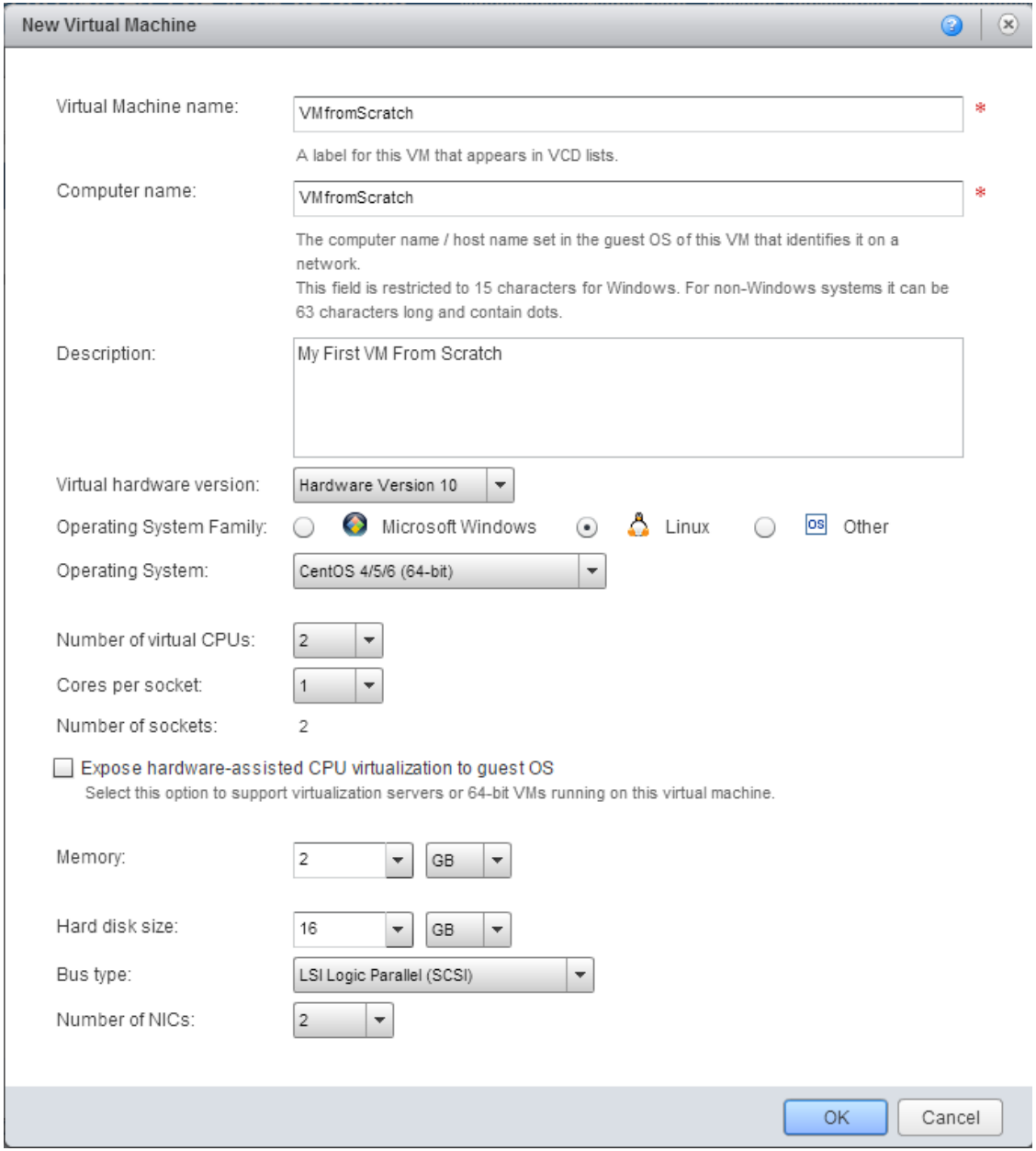

Yohan Wadia (b746c350-73f5...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
My Cloud
vApps
VMs
Expired Items
Logs
vApps
All vApps
All
Consoles
Name
Status
S...
Owner
Created On
MyFirstVM-VApp
Stopped
yohanwad
12/29/2014 10:27 AM
1-1 of 1
0 Running
0 Failed
VMware vCloud Director p6v43
Powered by vmware


New vApp
Select Name and Location
Add Virtual Machines
Configure Resources
Configure Virtual Machines
Configure Networking
Ready to Complete
Select Name and Location
A vApp is a cloud computer system that contains one or more virtual machines. Describe this vApp and configure its Virtual Datacenter and lease settings.
Name:
MyvApp
Description:
My first vApp from scratch
Virtual Datacenter
Select the Virtual Datacenter (VDC) in which this vApp is stored and runs when it is started.
MyFirstVDC
Leases
Runtime lease:
Never Expires
Hours
How long this vApp can run before it is automatically stopped.
Storage lease:
Never Expires
Hours
When this vApp is stopped, how long it is available before being automatically cleaned up.
Back
Next
Finish
Cancel

Add Virtual Machines

You can search the catalog for virtual machines to add to this vApp or add a new, blank VM. Once the vApp is created, you can power on the new VM and install an operating system.




New Virtual Machine
Virtual Machine name:
VMfromScratch
A label for this VM that appears in VCD lists.
Computer name:
VMfromScratch
The computer name / host name set in the guest OS of this VM that identifies it on a network.
This field is restricted to 15 characters for Windows. For non-Windows systems it can be 63 characters long and contain dots.
Description:
My First VM From Scratch
Virtual hardware version:
Hardware Version 10
Operating System Family:
Microsoft Windows
Linux
Other
Operating System:
CentOS 4/5/6 (64-bit)
Number of virtual CPUs:
2
Cores per socket:
1
Number of sockets:
2
Expose hardware-assisted CPU virtualization to guest OS
Select this option to support virtualization servers or 64-bit VMs running on this virtual machine.
Memory:
2
GB
Hard disk size:
16
GB
Bus type:
LSI Logic Parallel (SCSI)
Number of NICs:
2
OK
Cancel

Name	OS	Gold Master	vApp	Catalog	Created On	Disk Info
VMfromScratch	CentOS 4/5/6 (64-bit)	-				16.00 GB

New Virtual Machine...

Back | Next | Finish | Cancel

Virtual Machine	Storage Policy	Template VM Default Storage Policy
VMfromScratch *	Standard	

Configure Virtual Machines

Name each virtual machine and select the network to which you want it to connect. You can configure additional properties for virtual machines after you complete this wizard.

☐ Show network adapter type

Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapter support for various guest operating systems and hosts.

Virtual Machine	Computer Name	Primary NIC	Network	IP Assignment
VMfromSc...	VMfromScratch *	◉ NIC 0	default-routed-network	Static - IP Pool
		○ NIC 1	default-routed-network	DHCP

- Select Name and Location
- Add Virtual Machines
- Configure Resources
- Configure Virtual Machines
- Configure Networking
- **Ready to Complete**

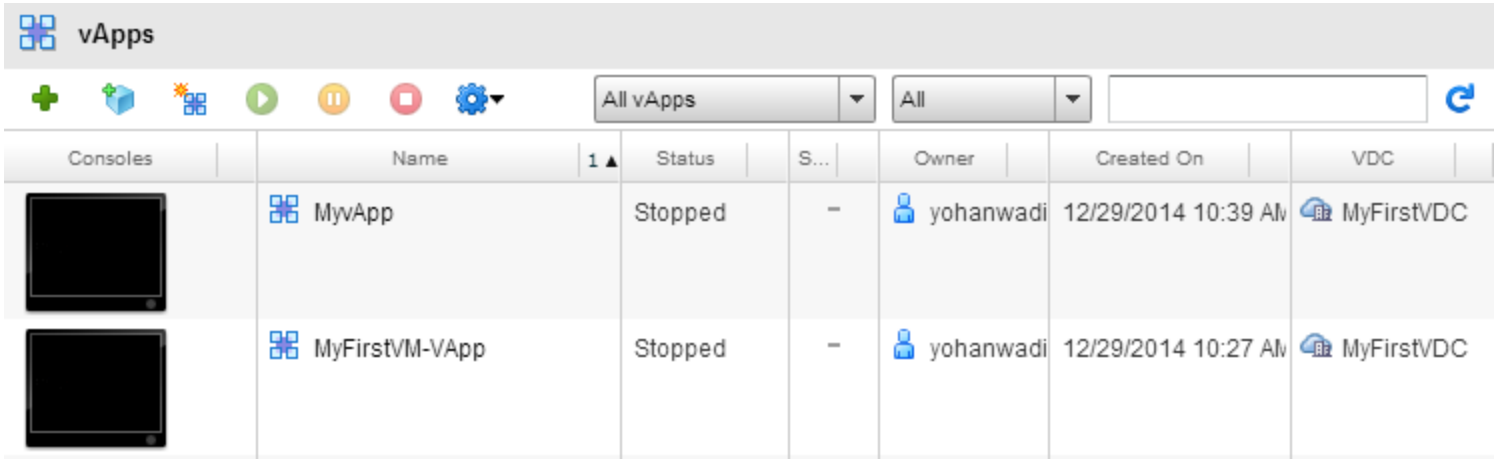
Ready to Complete

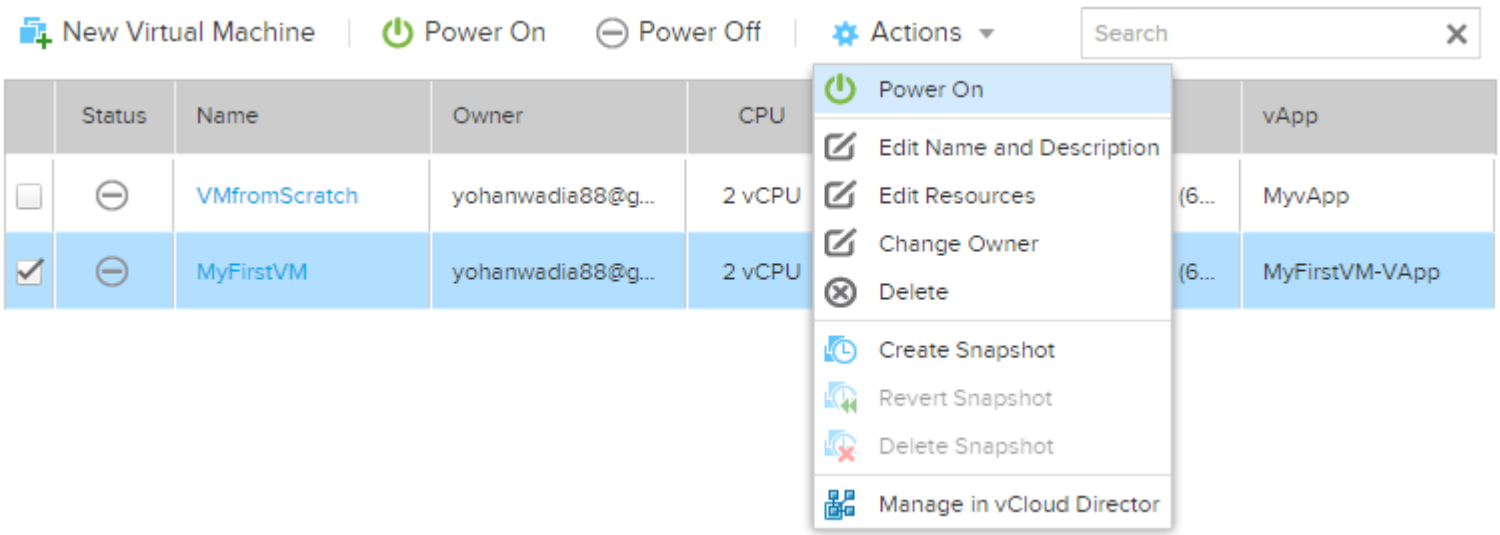
You are about to create a vApp with these specifications. Review the settings and click Finish.

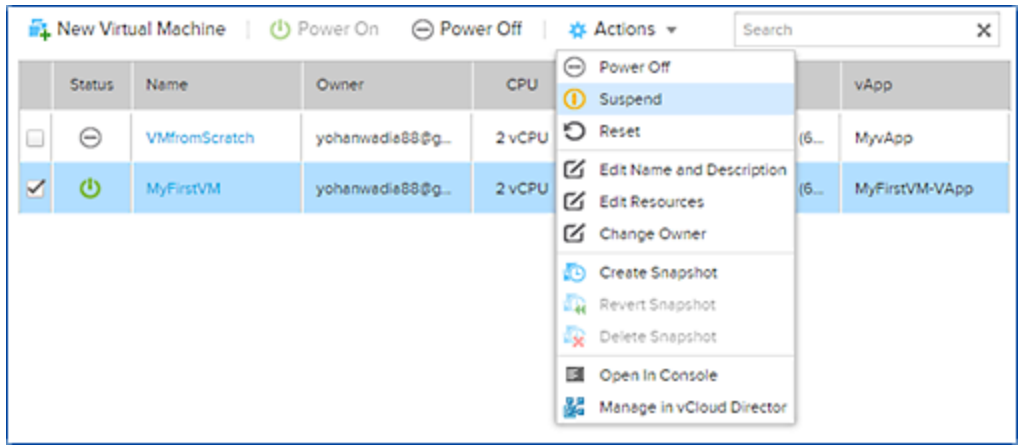
Name:	MyvApp
Description:	My first vApp from scratch
Owner:	yohanwadia88@gmail.com
Virtual datacenter:	MyFirstVDC
Runtime lease:	Never Expires
Runtime lease expiration:	Never
Storage lease:	Never Expires
Storage lease expiration:	Never
Networks - 1:	default-routed-network

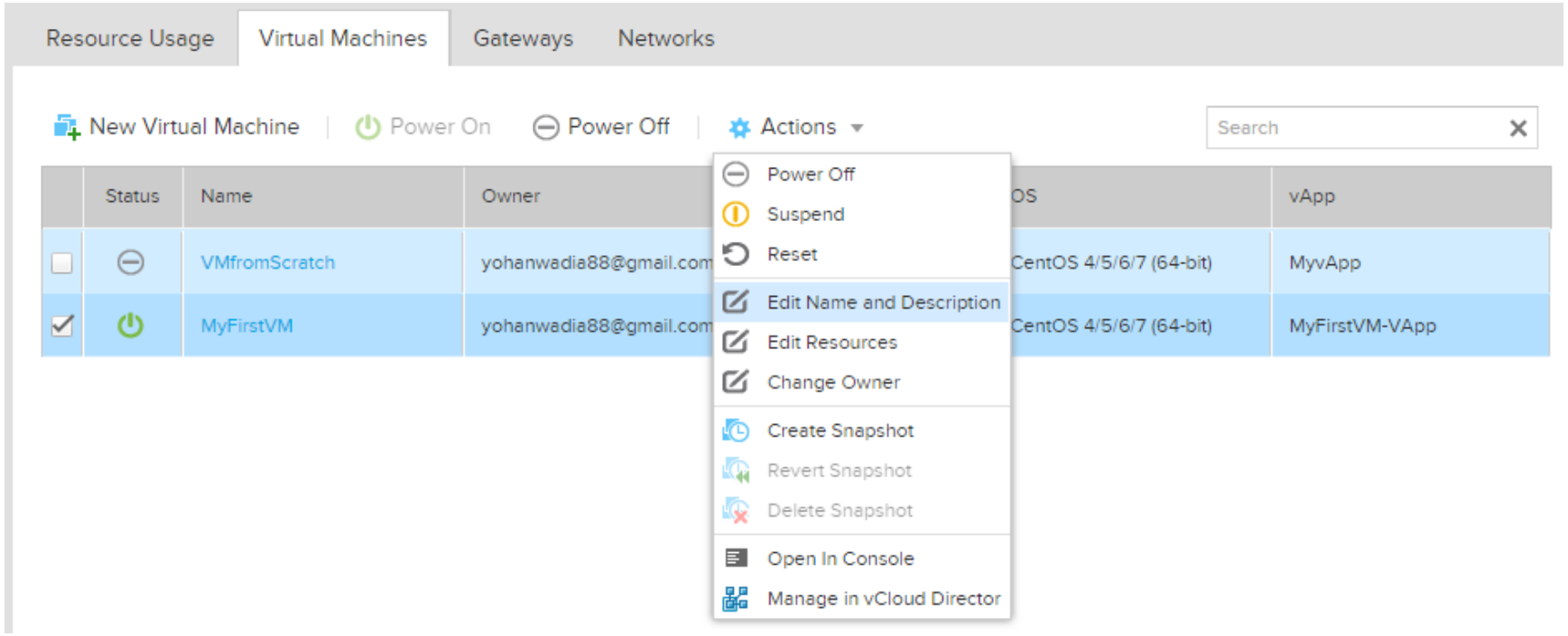
VMs - 1:

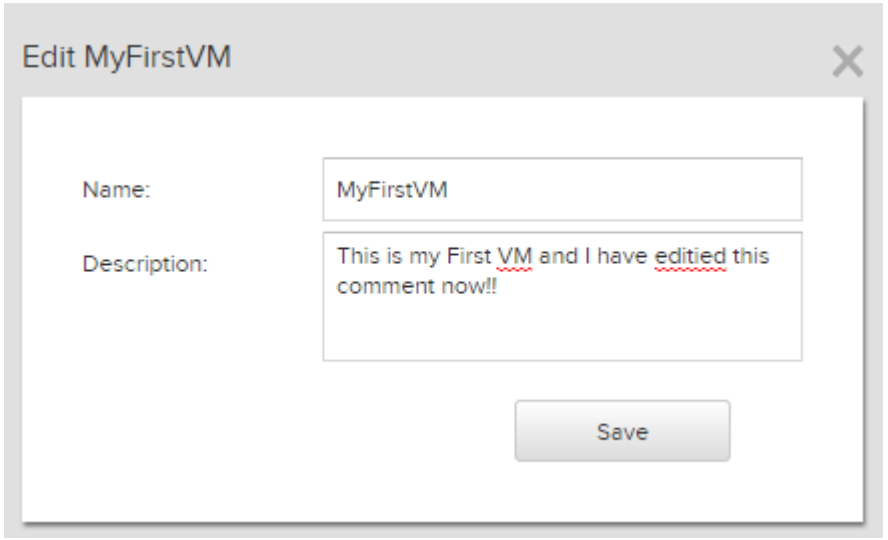
Virtual Machine	Guest OS	Storage Policy
VMfromScratch	CentOS 4/5/6 (64-bit)	Standard

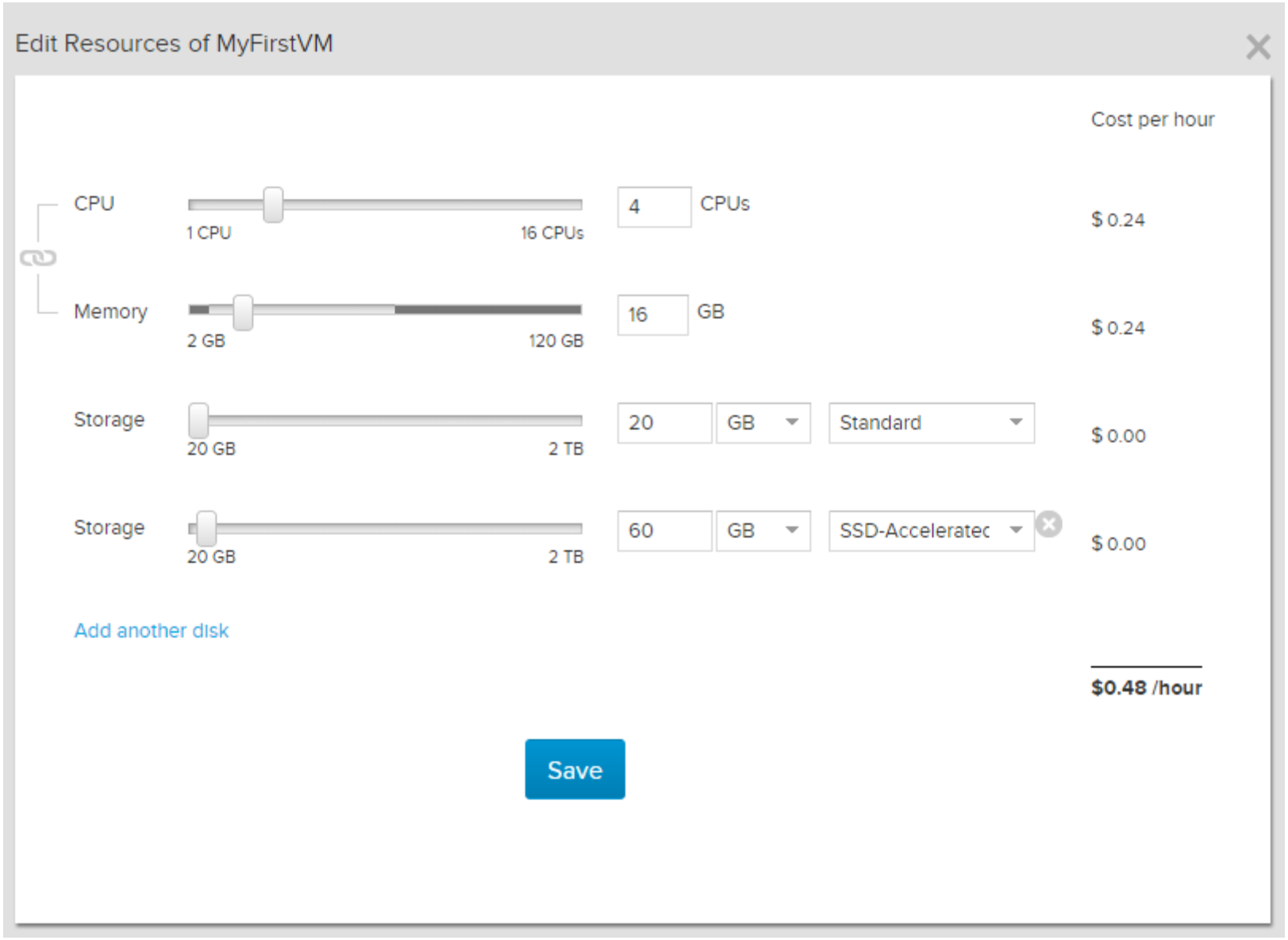

vApps
All vApps
All
Consoles
Name
1
Status
S...
Owner
Created On
VDC
MyvApp
Stopped
-
yohanwadi
12/29/2014 10:39 AM
MyFirstVDC
MyFirstVM-VApp
Stopped
-
yohanwadi
12/29/2014 10:27 AM
MyFirstVDC

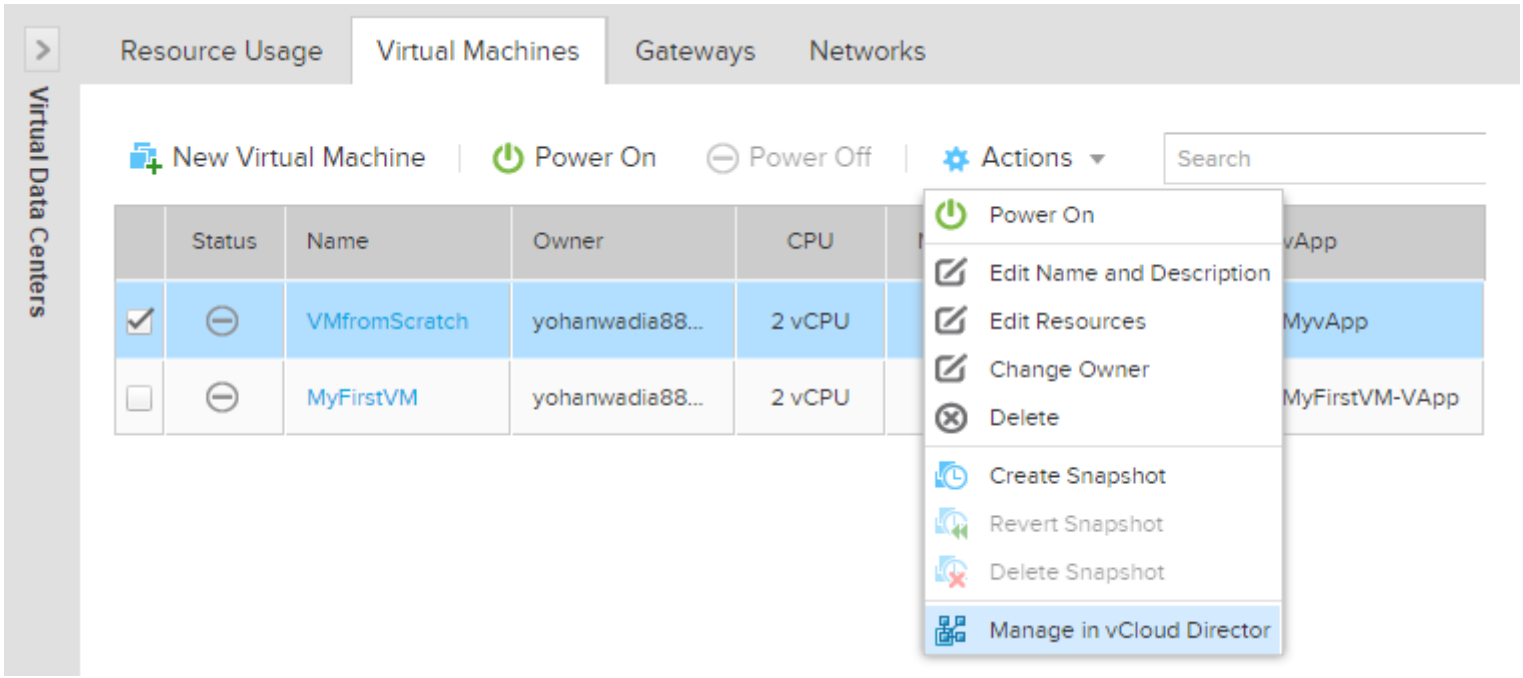

New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@g...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@g...
2 vCPU
MyFirstVM-VApp
Power On
Edit Name and Description
Edit Resources
Change Owner
Delete
Create Snapshot
Revert Snapshot
Delete Snapshot
Manage in vCloud Director

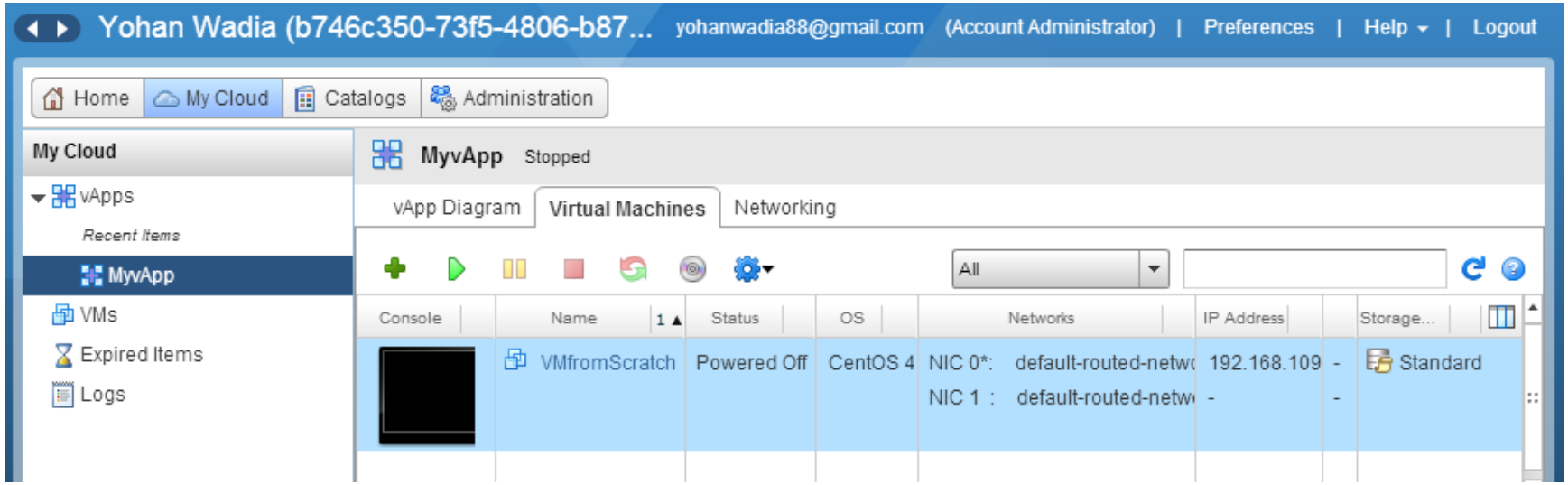

New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@g...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@g...
2 vCPU
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director

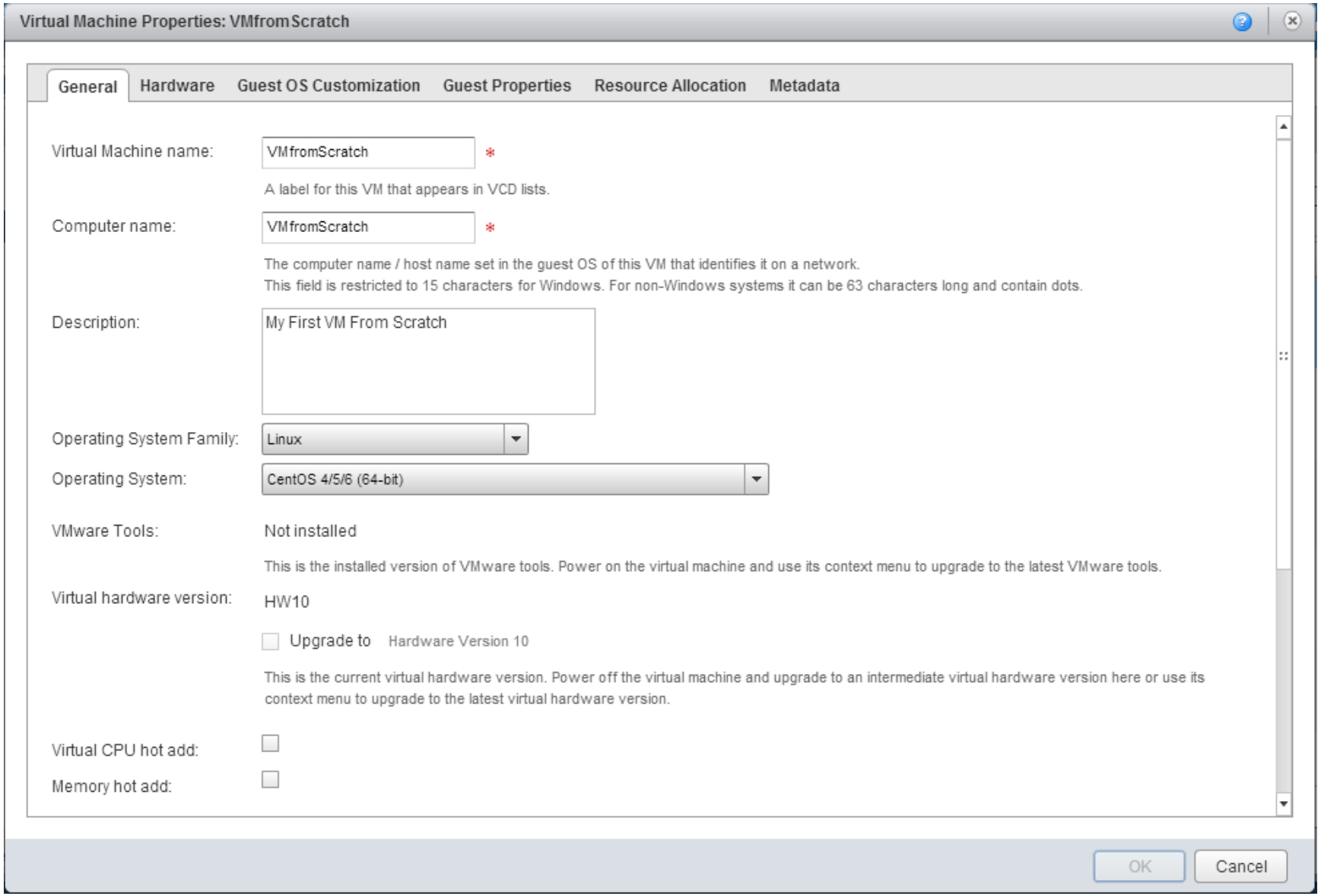

Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
OS
vApp
VMfromScratch
yohanwadia88@gmail.com
CentOS 4/5/6/7 (64-bit)
MyvApp
MyFirstVM
yohanwadia88@gmail.com
CentOS 4/5/6/7 (64-bit)
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director

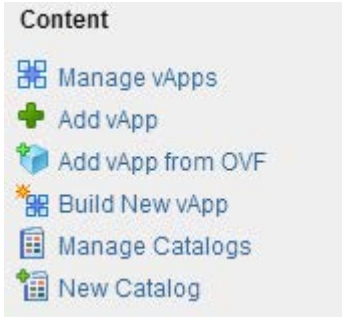

Edit MyFirstVM
Name:
MyFirstVM
Description:
This is my First VM and I have editied this comment now!!
Save

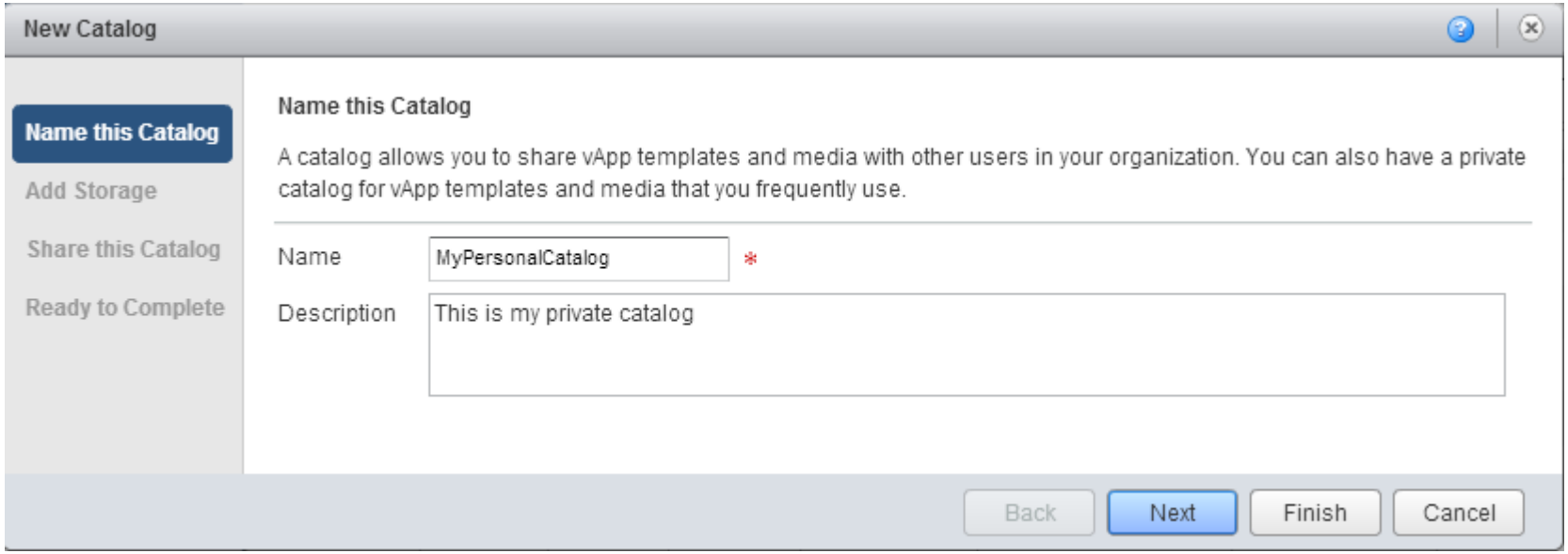

Edit Resources of MyFirstVM
Cost per hour
CPU
1 CPU
16 CPUs
4
CPUs
$ 0.24
Memory
2 GB
120 GB
16
GB
$ 0.24
Storage
20 GB
2 TB
20
GB
Standard
$ 0.00
Storage
20 GB
2 TB
60
GB
SSD-Acceleratec
$ 0.00
Add another disk
$0.48 /hour
Save


Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88...
2 vCPU
MyFirstVM-VApp
Power On
Edit Name and Description
Edit Resources
Change Owner
Delete
Create Snapshot
Revert Snapshot
Delete Snapshot
Manage in vCloud Director


Yohan Wadia (b746c350-73f5-4806-b87...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
My Cloud
vApps
Recent Items
MyvApp
VMs
Expired Items
Logs
MyvApp
Stopped
vApp Diagram
Virtual Machines
Networking
All
Console
Name
1
Status
OS
Networks
IP Address
Storage...
VMfromScratch
Powered Off
CentOS 4
NIC 0*: default-routed-netw
NIC 1 : default-routed-netw
192.168.109
-
-
-
Standard


Virtual Machine Properties: VMfromScratch
General
Hardware
Guest OS Customization
Guest Properties
Resource Allocation
Metadata
Virtual Machine name:
VMfromScratch
A label for this VM that appears in VCD lists.
Computer name:
VMfromScratch
The computer name / host name set in the guest OS of this VM that identifies it on a network.
This field is restricted to 15 characters for Windows. For non-Windows systems it can be 63 characters long and contain dots.
Description:
My First VM From Scratch
Operating System Family:
Linux
Operating System:
CentOS 4/5/6 (64-bit)
VMware Tools:
Not installed
This is the installed version of VMware tools. Power on the virtual machine and use its context menu to upgrade to the latest VMware tools.
Virtual hardware version:
HW10
Upgrade to
Hardware Version 10
This is the current virtual hardware version. Power off the virtual machine and upgrade to an intermediate virtual hardware version here or use its context menu to upgrade to the latest virtual hardware version.
Virtual CPU hot add:
Memory hot add:
OK
Cancel


Content
Manage vApps
Add vApp
Add vApp from OVF
Build New vApp
Manage Catalogs
New Catalog


New Catalog
Name this Catalog
Add Storage
Share this Catalog
Ready to Complete
Name this Catalog
A catalog allows you to share vApp templates and media with other users in your organization. You can also have a private catalog for vApp templates and media that you frequently use.
Name
MyPersonalCatalog
*
Description
This is my private catalog
Back
Next
Finish
Cancel

Select Storage Type

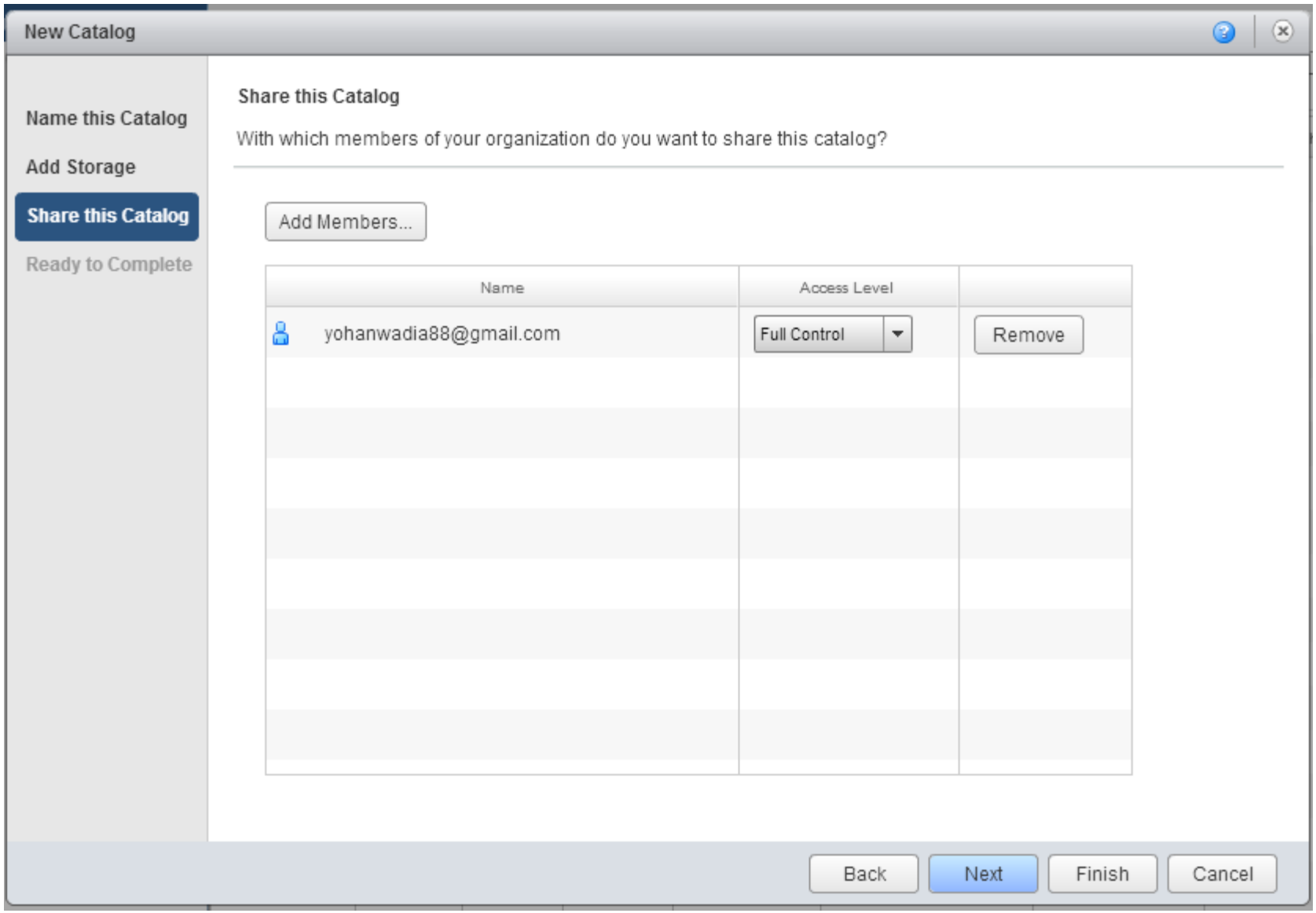
- ( ) Use any storage available in the organization

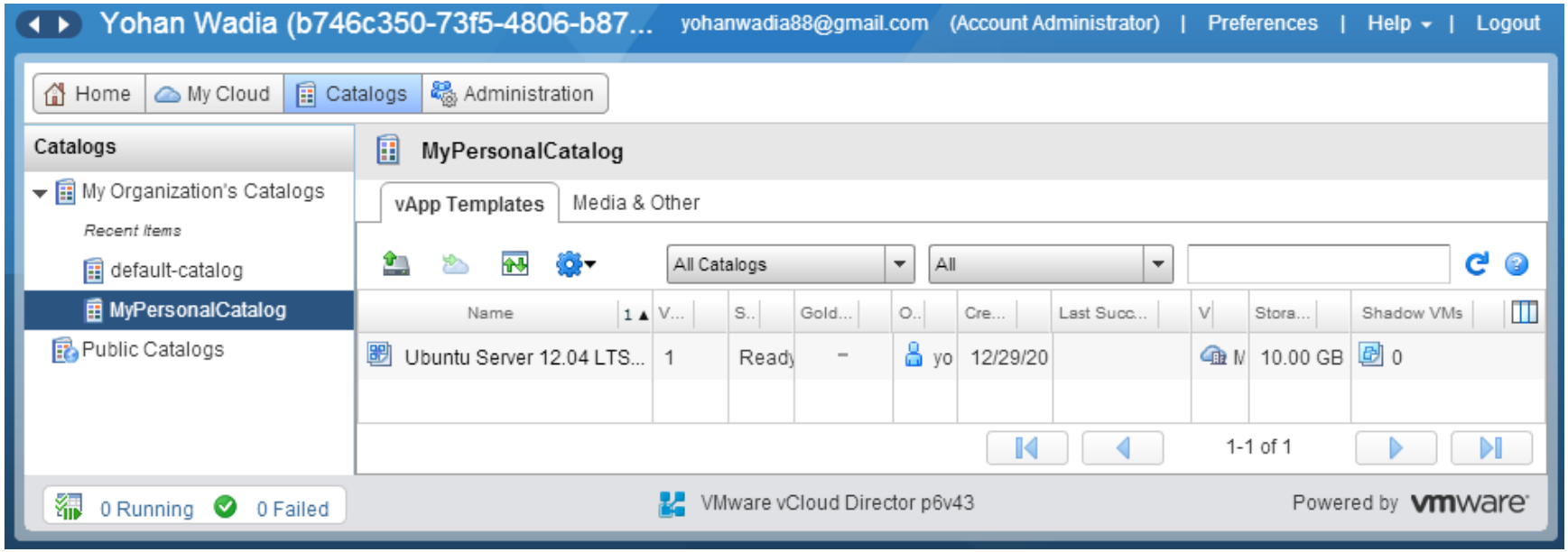
  Choose this option if you do not need to store catalog items on a specific storage.

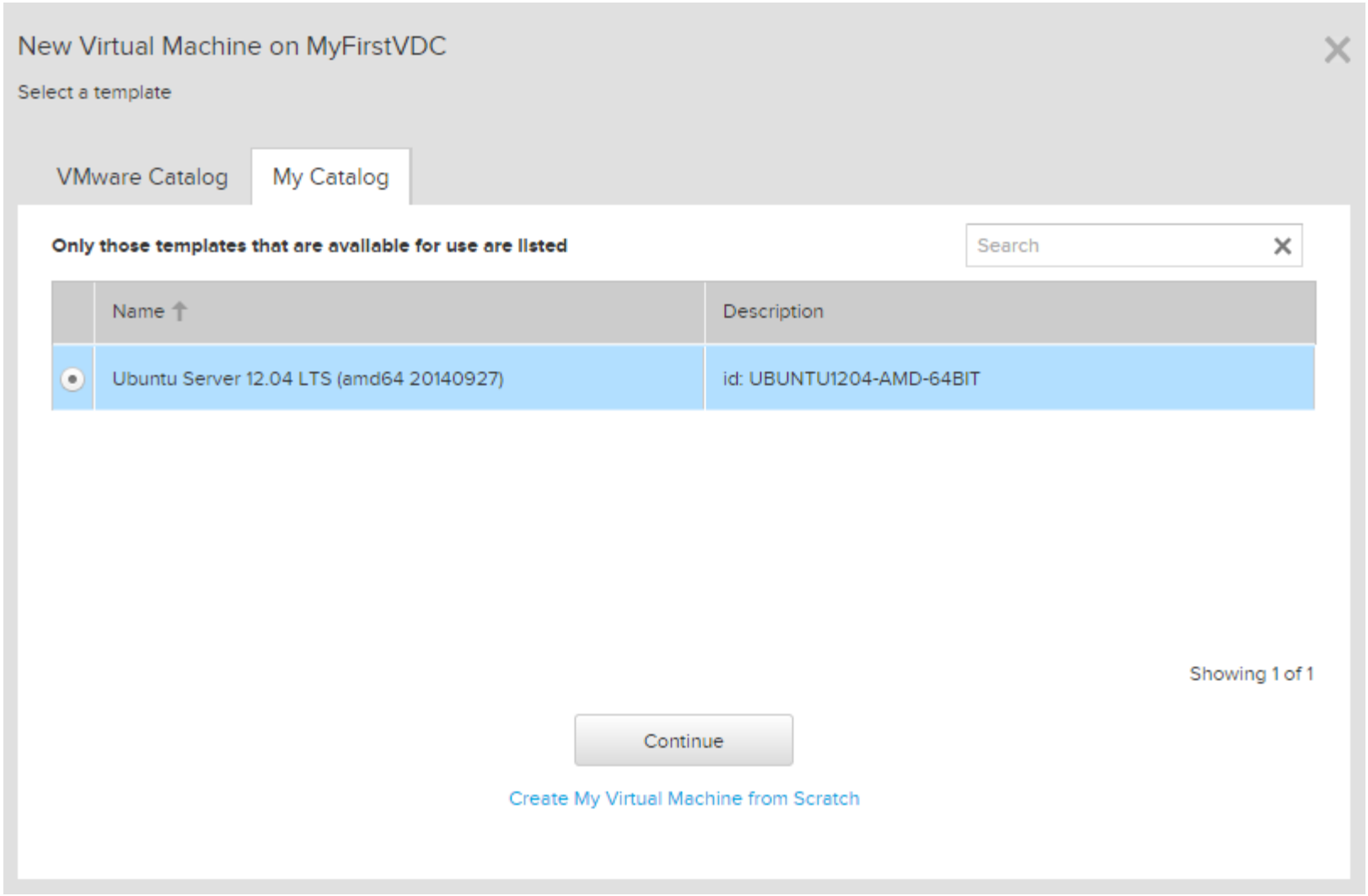
- (•) Pre-provision on specific storage policy

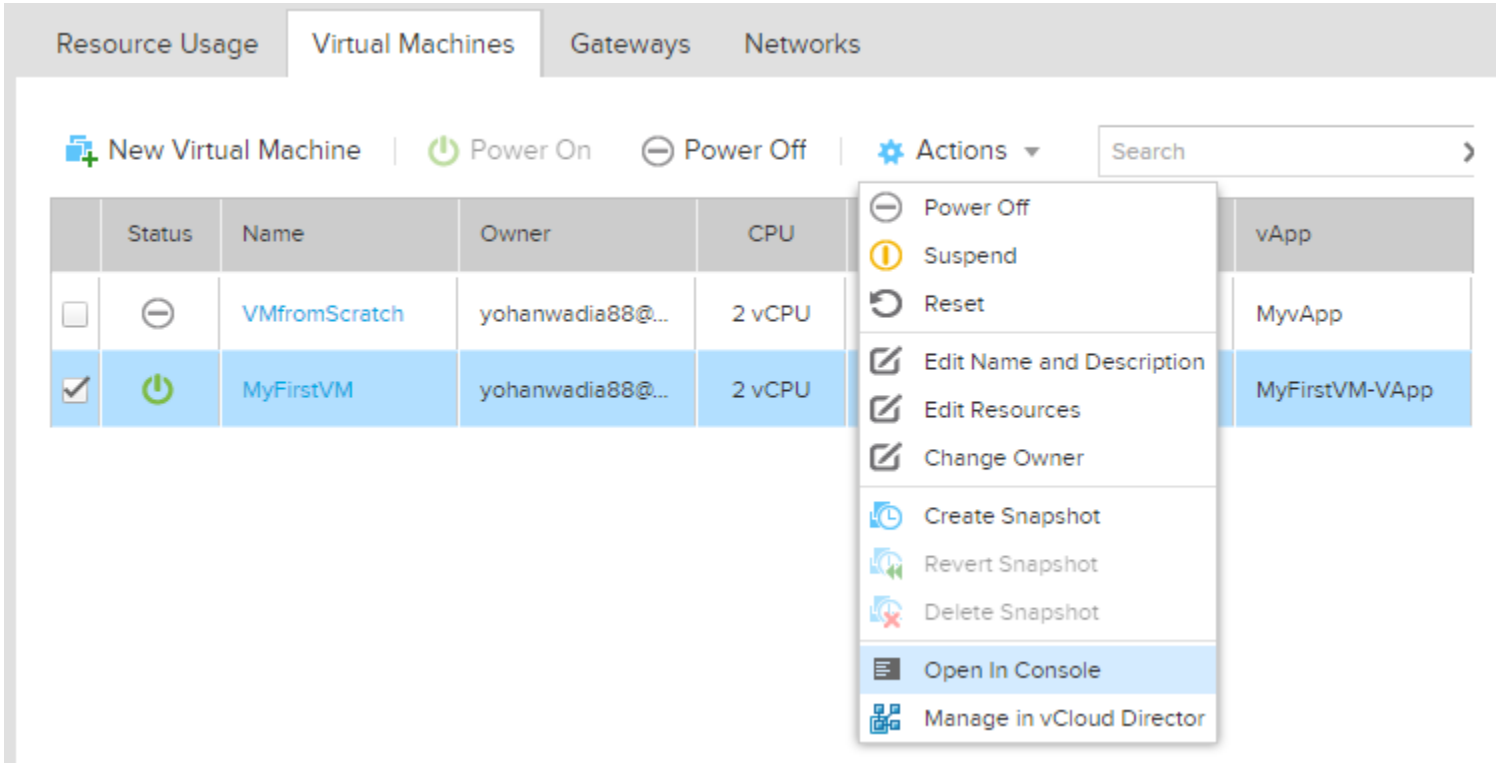
  Choose this option if you want to store catalog items on a specific VDC storage policy.
  - vApp templates in this catalog will be fast provisioned on selected VDC storage policy.
  - Instantiating a vApp from fast provisioned vApp template is faster.
  - A VDC storage policy selected will cause the vApp template size to count against your catalog storage quota.

  Standard/MyFirstVDC


New Catalog
Name this Catalog
Add Storage
Share this Catalog
Ready to Complete
Share this Catalog
With which members of your organization do you want to share this catalog?
Add Members...
Name
Access Level
yohanwadia88@gmail.com
Full Control
Remove
Back
Next
Finish
Cancel


Yohan Wadia (b746c350-73f5-4806-b87...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
Catalogs
My Organization's Catalogs
Recent Items
default-catalog
MyPersonalCatalog
Public Catalogs
MyPersonalCatalog
vApp Templates
Media & Other
All Catalogs
All
Name
Ubuntu Server 12.04 LTS...
1
Ready
12/29/20
10.00 GB
0
1-1 of 1
0 Running
0 Failed
VMware vCloud Director p6v43
Powered by vmware


New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
Only those templates that are available for use are listed
Search
Name
Description
Ubuntu Server 12.04 LTS (amd64 20140927)
id: UBUNTU1204-AMD-64BIT
Showing 1 of 1
Continue
Create My Virtual Machine from Scratch


Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@...
2 vCPU
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director

MyFirstVM

This is my First VM and I have editied this comment now!!

Resource Usage | Settings | Networks

Manage in vCloud Director | Open Virtual Machine

General

Status:	Powered On
Owner:	yohanwadia88@gmail.com change
vApp:	MyFirstVM-VApp
OS:	CentOS 4/5/6/7 (64-bit)
VMware Tools:	enabled

Resources edit

CPU:	2
Memory (GB):	4
Storage (GB):	20 (Standard)

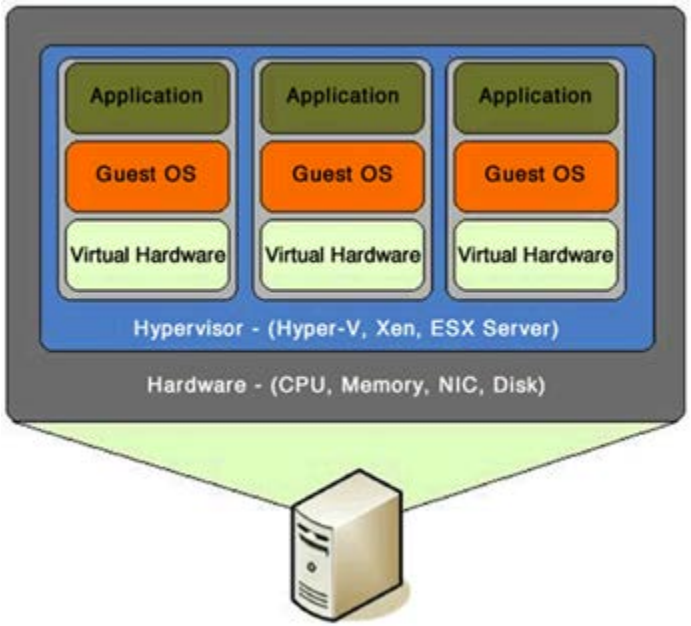
Guest OS

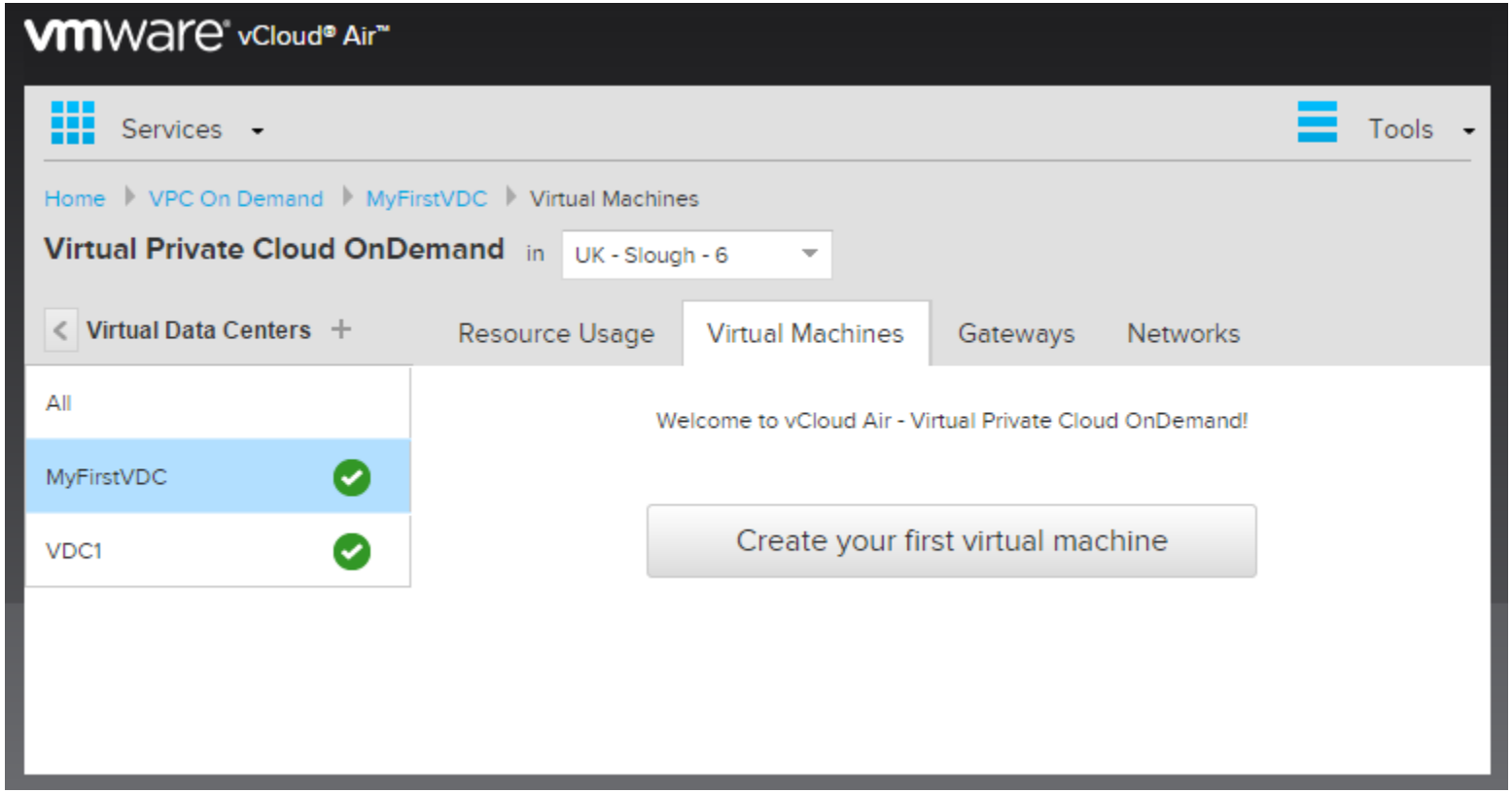
Guest OS Customization:	on
Guest OS Password:	4kE%#%oB

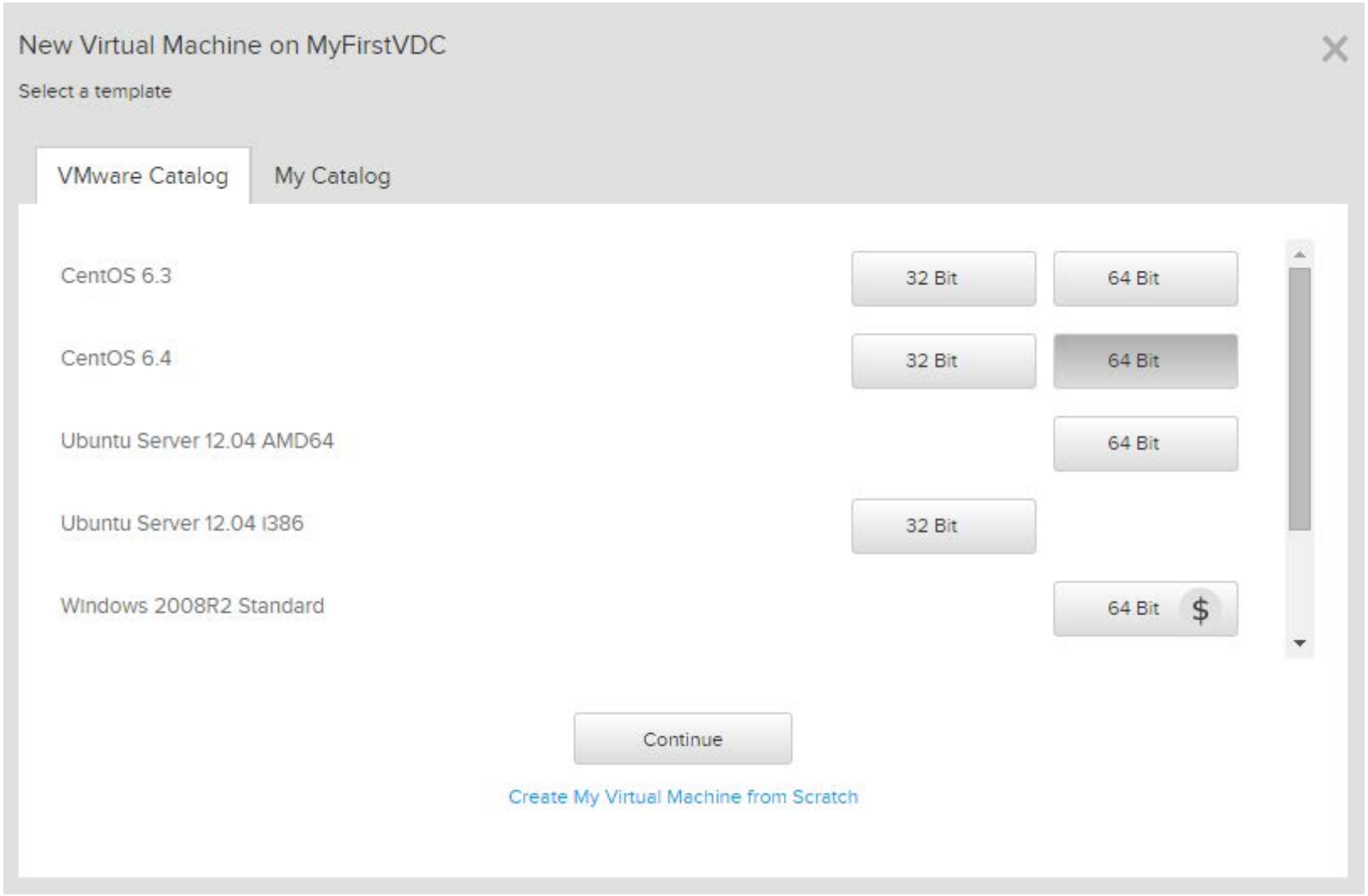
```
CentOS release 6.4 (Final)
Kernel 2.6.32-358.el6.x86_64 on an x86_64

VM-001 login: root
Password:
You are required to change your password immediately (root enforced)
Changing password for root.
(current) UNIX password:
New password:
Retype new password:
Last login: Wed Oct  8 11:14:25 on tty1
[root@VM-001 ~]#
[root@VM-001 ~]# _
```

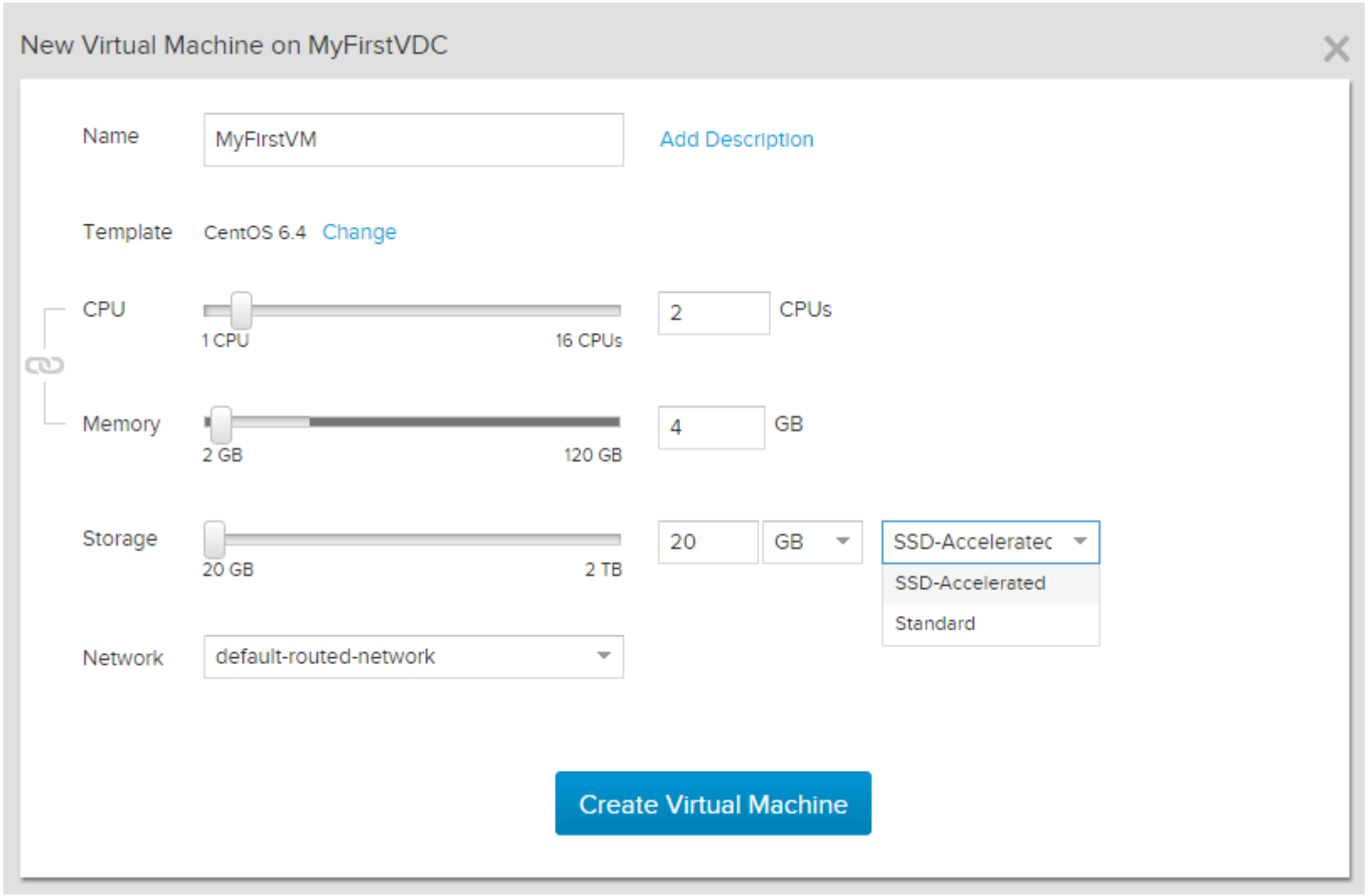
f

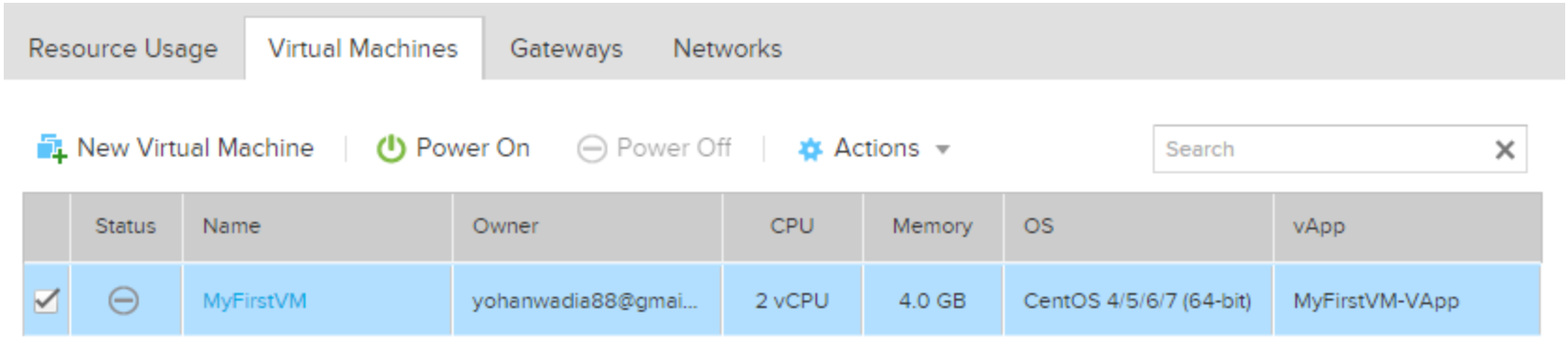
Chapter 3 – vCloud Air Networking and Security

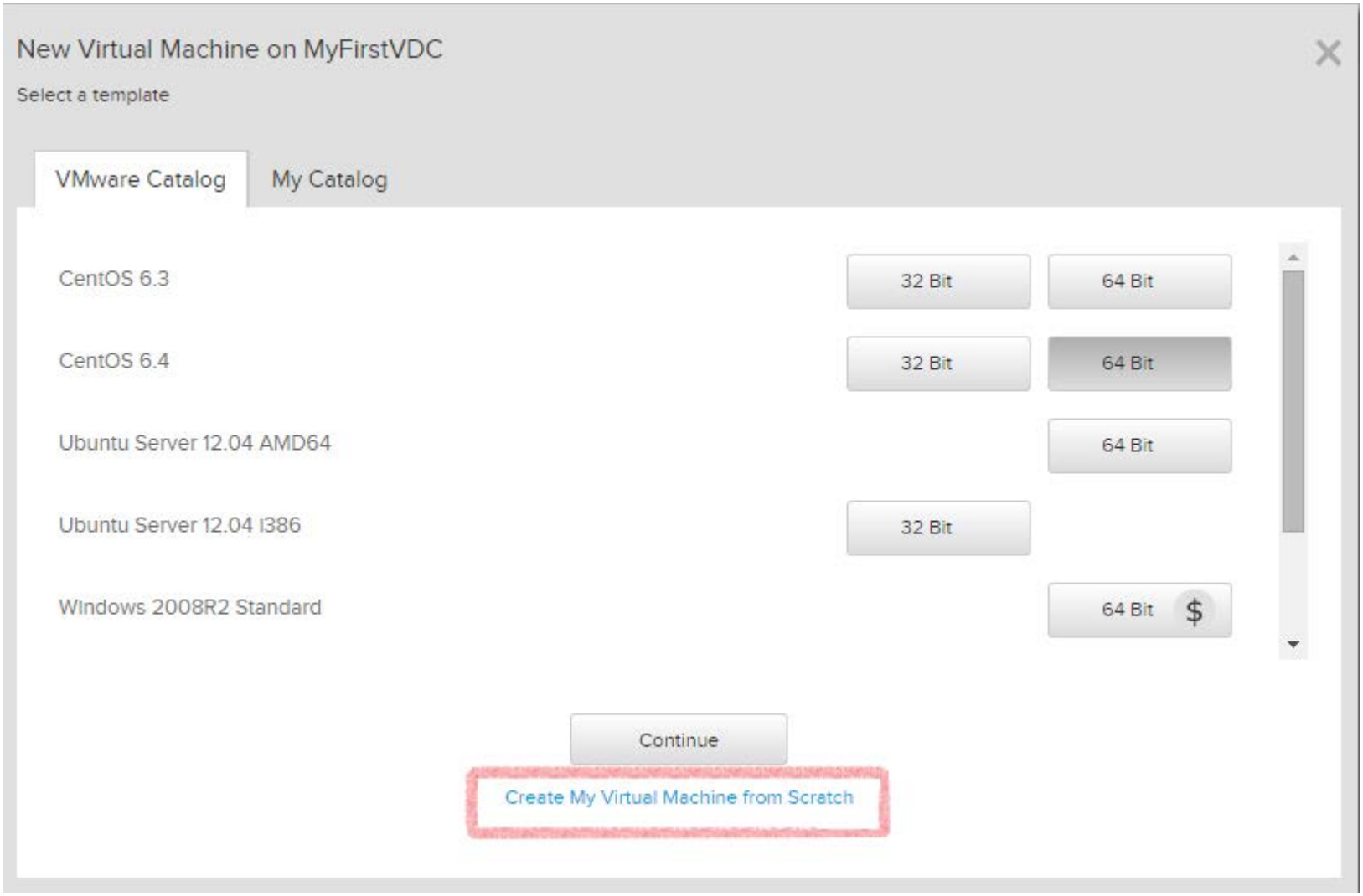

Application
Application
Application
Guest OS
Guest OS
Guest OS
Virtual Hardware
Virtual Hardware
Virtual Hardware
Hypervisor - (Hyper-V, Xen, ESX Server)
Hardware - (CPU, Memory, NIC, Disk)

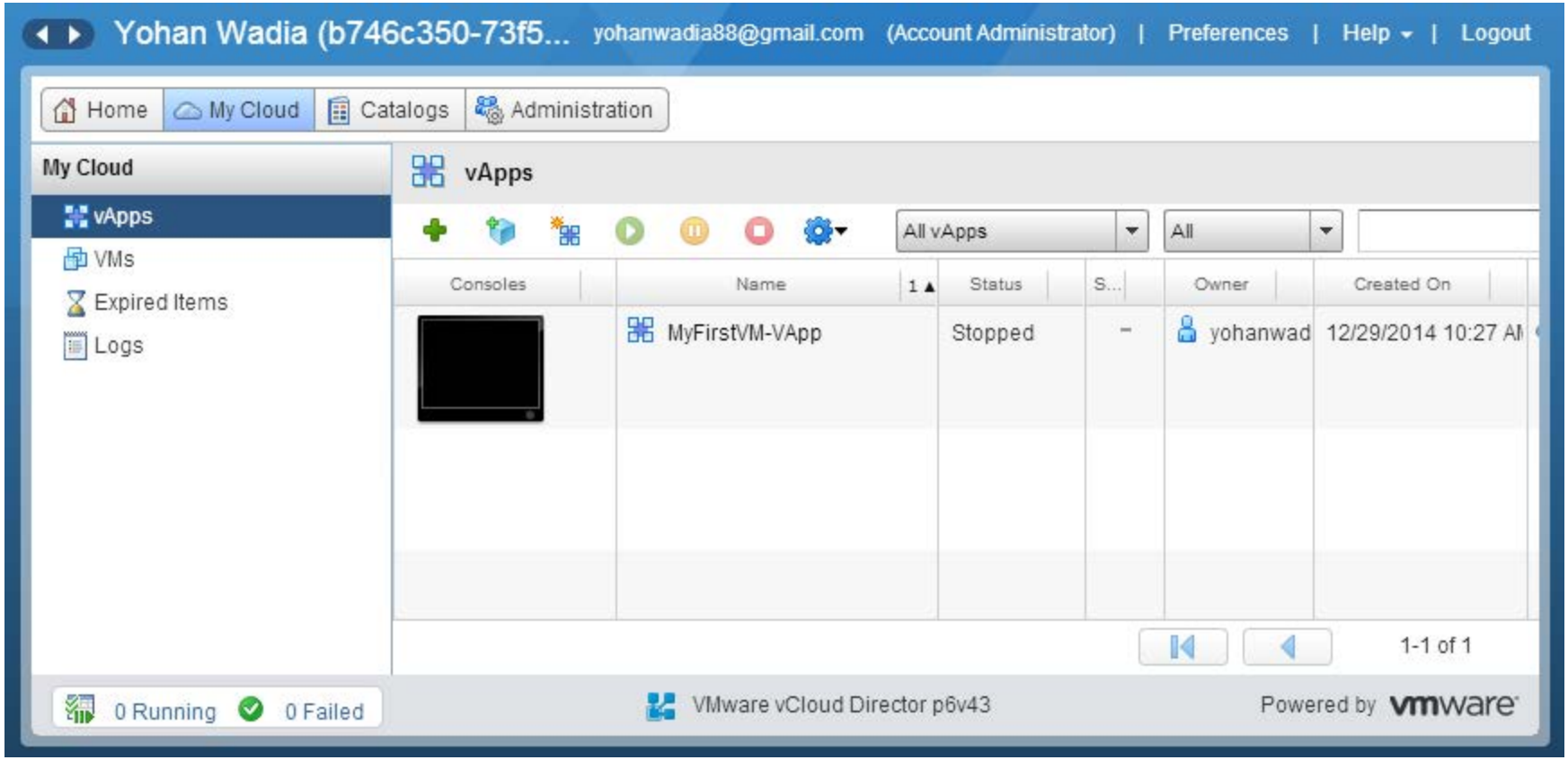

vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
MyFirstVDC
Virtual Machines
Virtual Private Cloud OnDemand
in
UK - Slough - 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
MyFirstVDC
VDC1
Welcome to vCloud Air - Virtual Private Cloud OnDemand!
Create your first virtual machine

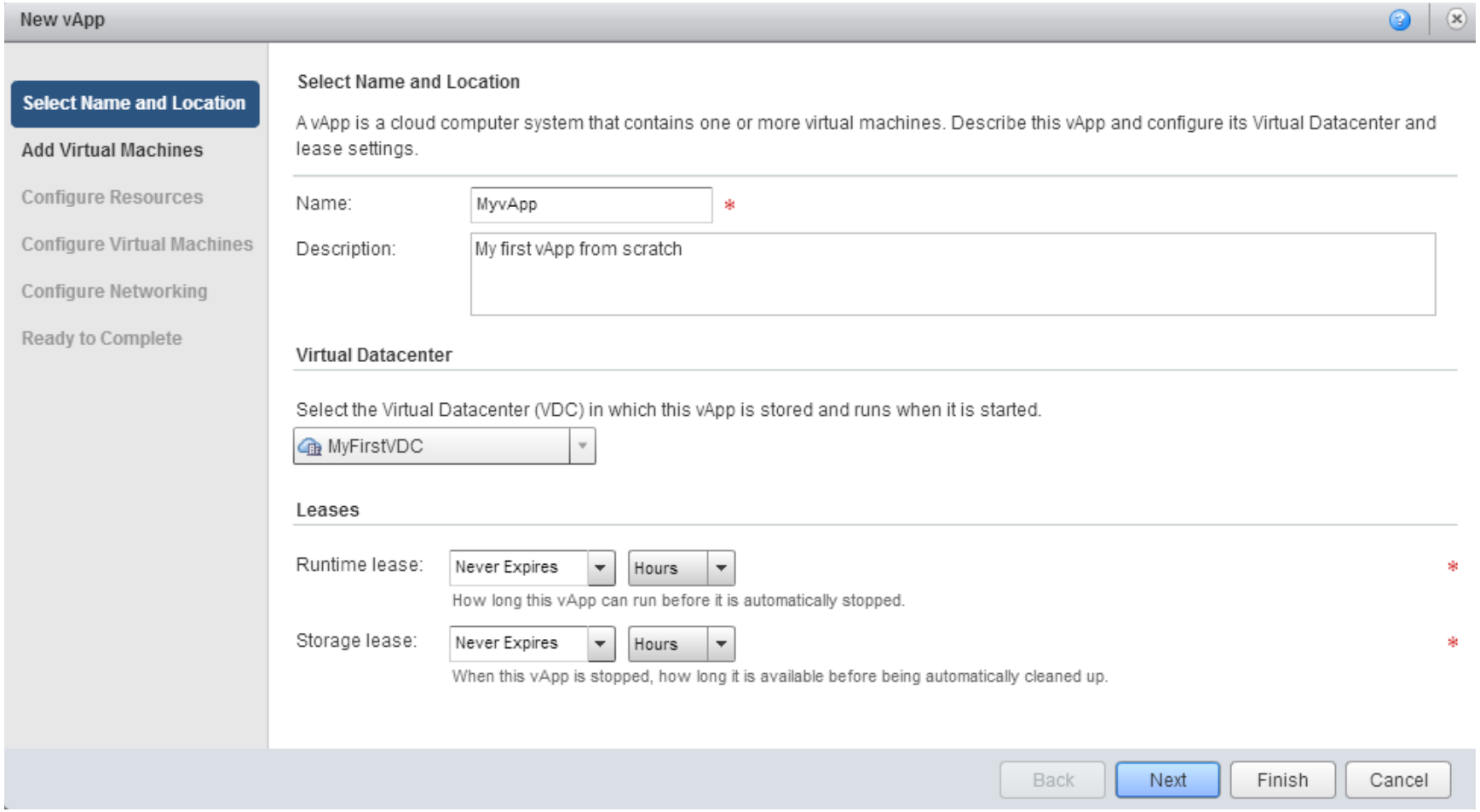

New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
CentOS 6.3
32 Bit
64 Bit
CentOS 6.4
32 Bit
64 Bit
Ubuntu Server 12.04 AMD64
64 Bit
Ubuntu Server 12.04 i386
32 Bit
Windows 2008R2 Standard
64 Bit $
Continue
Create My Virtual Machine from Scratch


New Virtual Machine on MyFirstVDC
Name
MyFirstVM
Add Description
Template
CentOS 6.4
Change
CPU
1 CPU
16 CPUs
2
CPUs
Memory
2 GB
120 GB
4
GB
Storage
20 GB
2 TB
20
GB
SSD-Acceleratec
SSD-Accelerated
Standard
Network
default-routed-network
Create Virtual Machine


Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
Memory
OS
vApp
MyFirstVM
yohanwadia88@gmai...
2 vCPU
4.0 GB
CentOS 4/5/6/7 (64-bit)
MyFirstVM-VApp

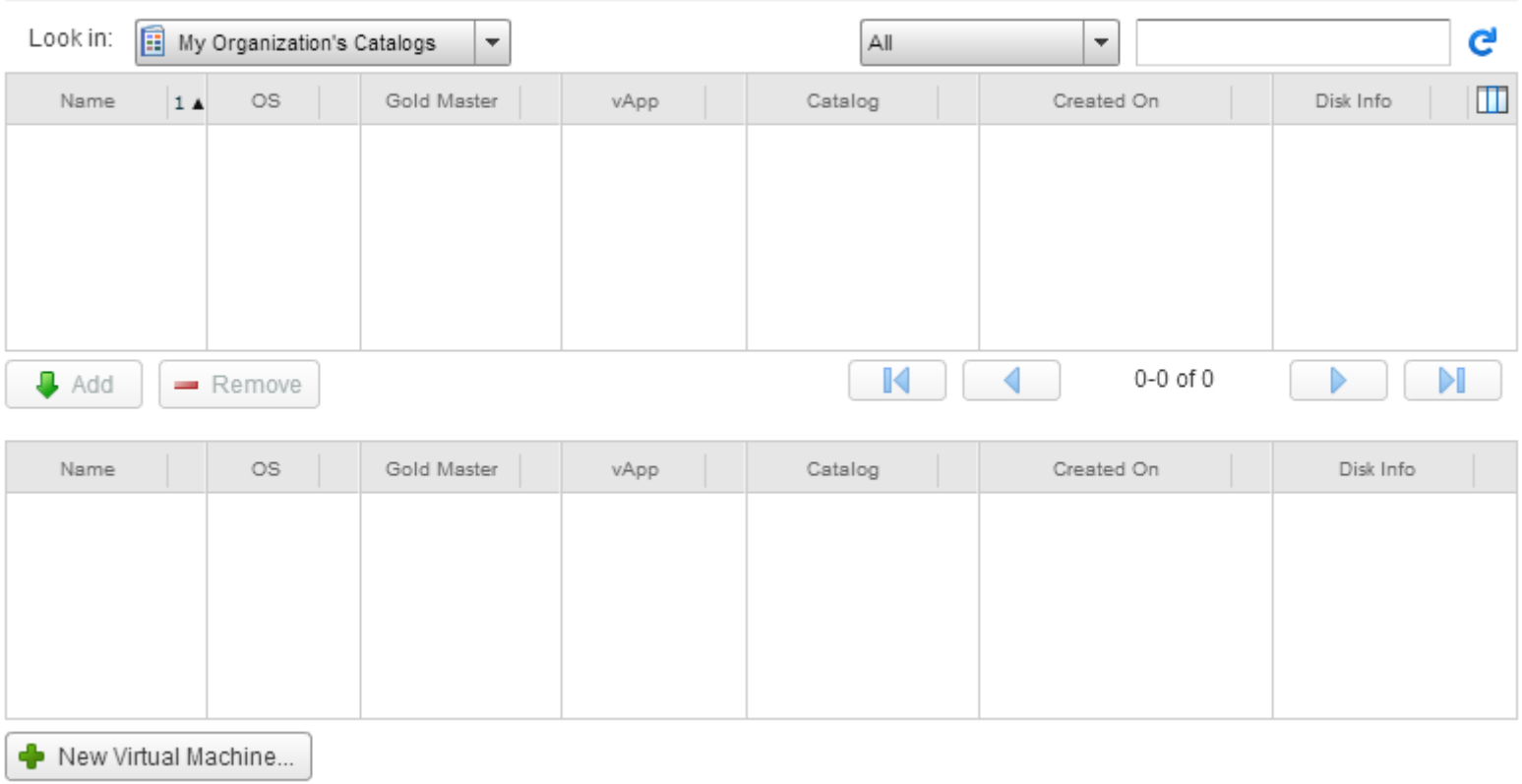

New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
CentOS 6.3
32 Bit
64 Bit
CentOS 6.4
32 Bit
64 Bit
Ubuntu Server 12.04 AMD64
64 Bit
Ubuntu Server 12.04 i386
32 Bit
Windows 2008R2 Standard
64 Bit $
Continue
Create My Virtual Machine from Scratch

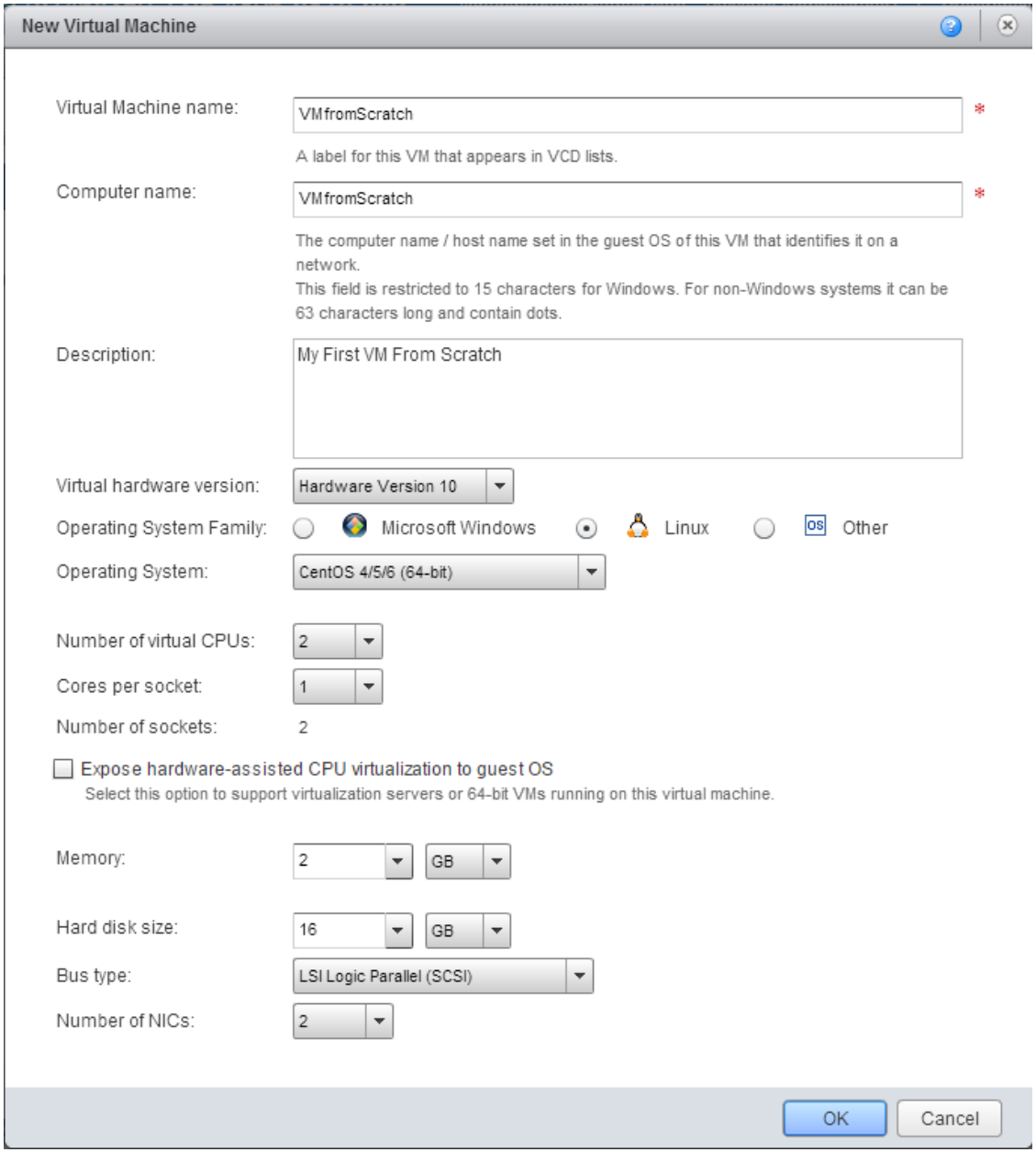

Yohan Wadia (b746c350-73f5...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
My Cloud
vApps
VMs
Expired Items
Logs
vApps
All vApps
All
Consoles
Name
1
Status
S...
Owner
Created On
MyFirstVM-VApp
Stopped
yohanwad
12/29/2014 10:27 AM
1-1 of 1
0 Running
0 Failed
VMware vCloud Director p6v43
Powered by vmware


New vApp
Select Name and Location
Add Virtual Machines
Configure Resources
Configure Virtual Machines
Configure Networking
Ready to Complete
Select Name and Location
A vApp is a cloud computer system that contains one or more virtual machines. Describe this vApp and configure its Virtual Datacenter and lease settings.
Name:
MyvApp
Description:
My first vApp from scratch
Virtual Datacenter
Select the Virtual Datacenter (VDC) in which this vApp is stored and runs when it is started.
MyFirstVDC
Leases
Runtime lease:
Never Expires
Hours
How long this vApp can run before it is automatically stopped.
Storage lease:
Never Expires
Hours
When this vApp is stopped, how long it is available before being automatically cleaned up.
Back
Next
Finish
Cancel

Add Virtual Machines

You can search the catalog for virtual machines to add to this vApp or add a new, blank VM. Once the vApp is created, you can power on the new VM and install an operating system.




New Virtual Machine
Virtual Machine name:
VMfromScratch
A label for this VM that appears in VCD lists.
Computer name:
VMfromScratch
The computer name / host name set in the guest OS of this VM that identifies it on a network.
This field is restricted to 15 characters for Windows. For non-Windows systems it can be 63 characters long and contain dots.
Description:
My First VM From Scratch
Virtual hardware version:
Hardware Version 10
Operating System Family:
Microsoft Windows
Linux
Other
Operating System:
CentOS 4/5/6 (64-bit)
Number of virtual CPUs:
2
Cores per socket:
1
Number of sockets:
2
Expose hardware-assisted CPU virtualization to guest OS
Select this option to support virtualization servers or 64-bit VMs running on this virtual machine.
Memory:
2
GB
Hard disk size:
16
GB
Bus type:
LSI Logic Parallel (SCSI)
Number of NICs:
2
OK
Cancel

Name	OS	Gold Master	vApp	Catalog	Created On	Disk Info
VMfromScratch	CentOS 4/5/6 (64-bit)	-				16.00 GB

New Virtual Machine...

Back | Next | Finish | Cancel

Virtual Machine	Storage Policy	Template VM Default Storage Policy
VMfromScratch *	Standard	

Configure Virtual Machines

Name each virtual machine and select the network to which you want it to connect. You can configure additional properties for virtual machines after you complete this wizard.

☐ Show network adapter type

Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapter support for various guest operating systems and hosts.

Virtual Machine	Computer Name	Primary NIC	Network	IP Assignment
VMfromSc...	VMfromScratch *	◉ NIC 0	default-routed-network	Static - IP Pool
		○ NIC 1	default-routed-network	DHCP

- Select Name and Location
- Add Virtual Machines
- Configure Resources
- Configure Virtual Machines
- Configure Networking
- **Ready to Complete**

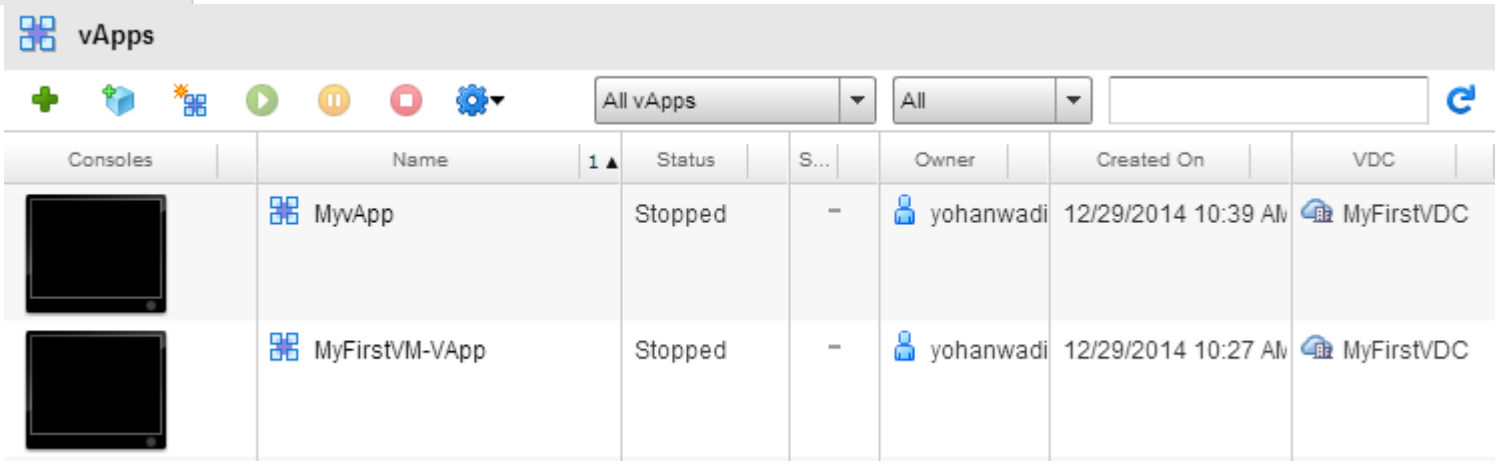
Ready to Complete

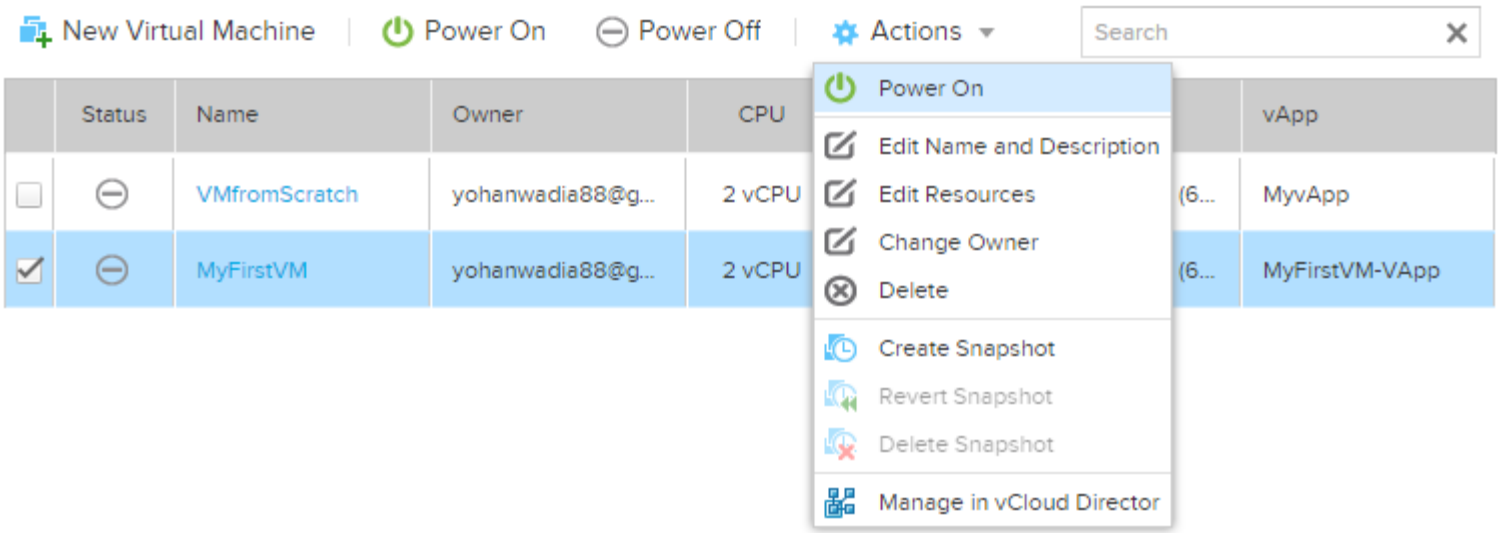
You are about to create a vApp with these specifications. Review the settings and click Finish.

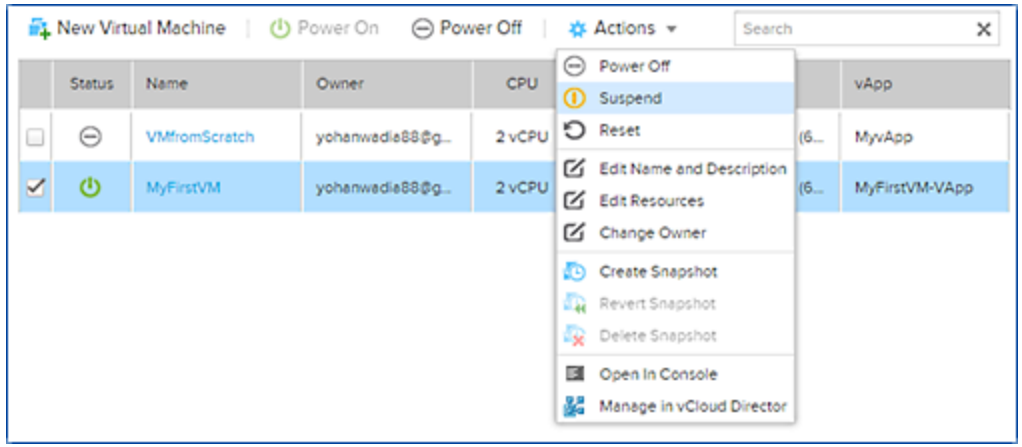
Name:	MyvApp
Description:	My first vApp from scratch
Owner:	yohanwadia88@gmail.com
Virtual datacenter:	MyFirstVDC
Runtime lease:	Never Expires
Runtime lease expiration:	Never
Storage lease:	Never Expires
Storage lease expiration:	Never
Networks - 1:	default-routed-network

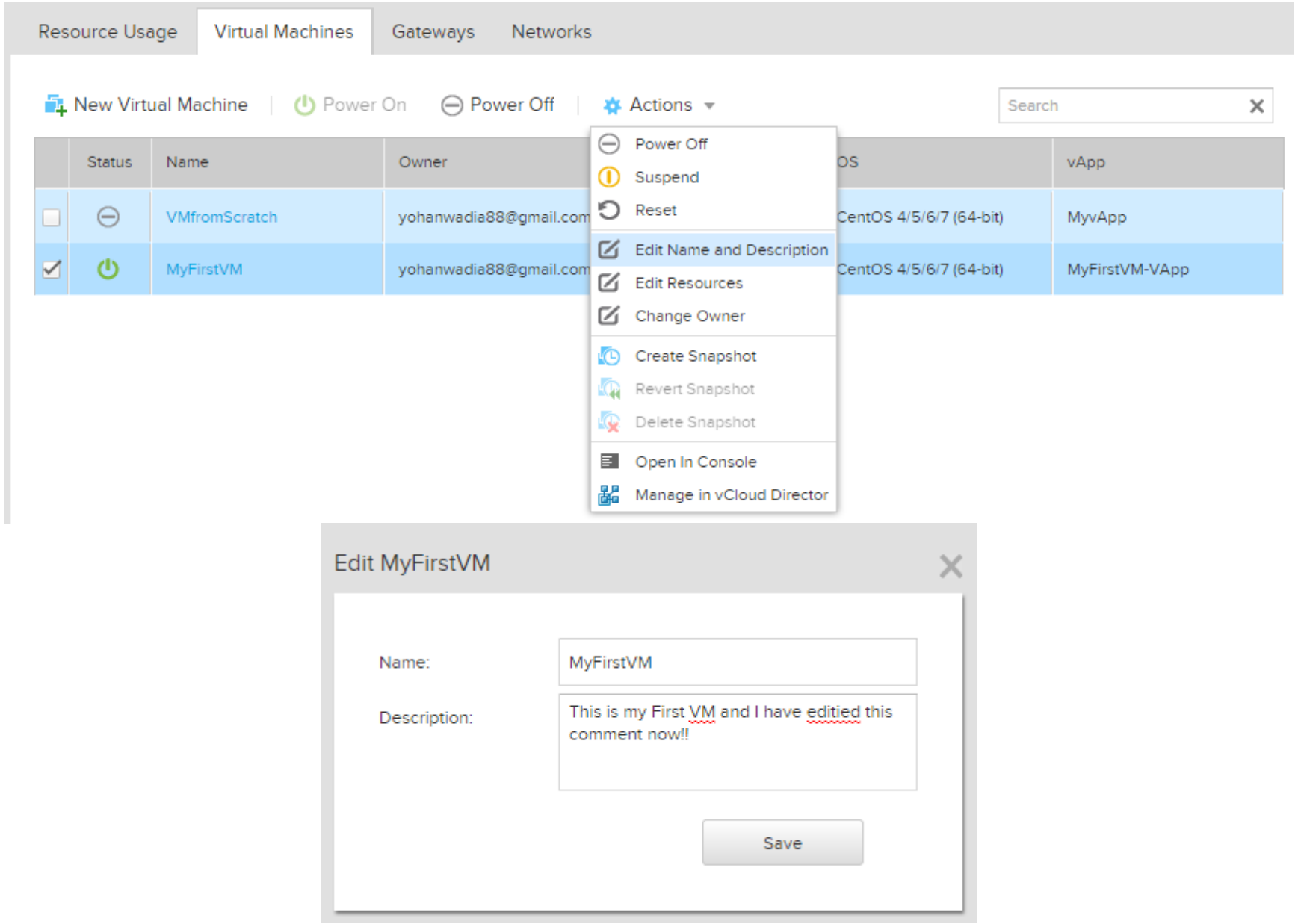
VMs - 1:

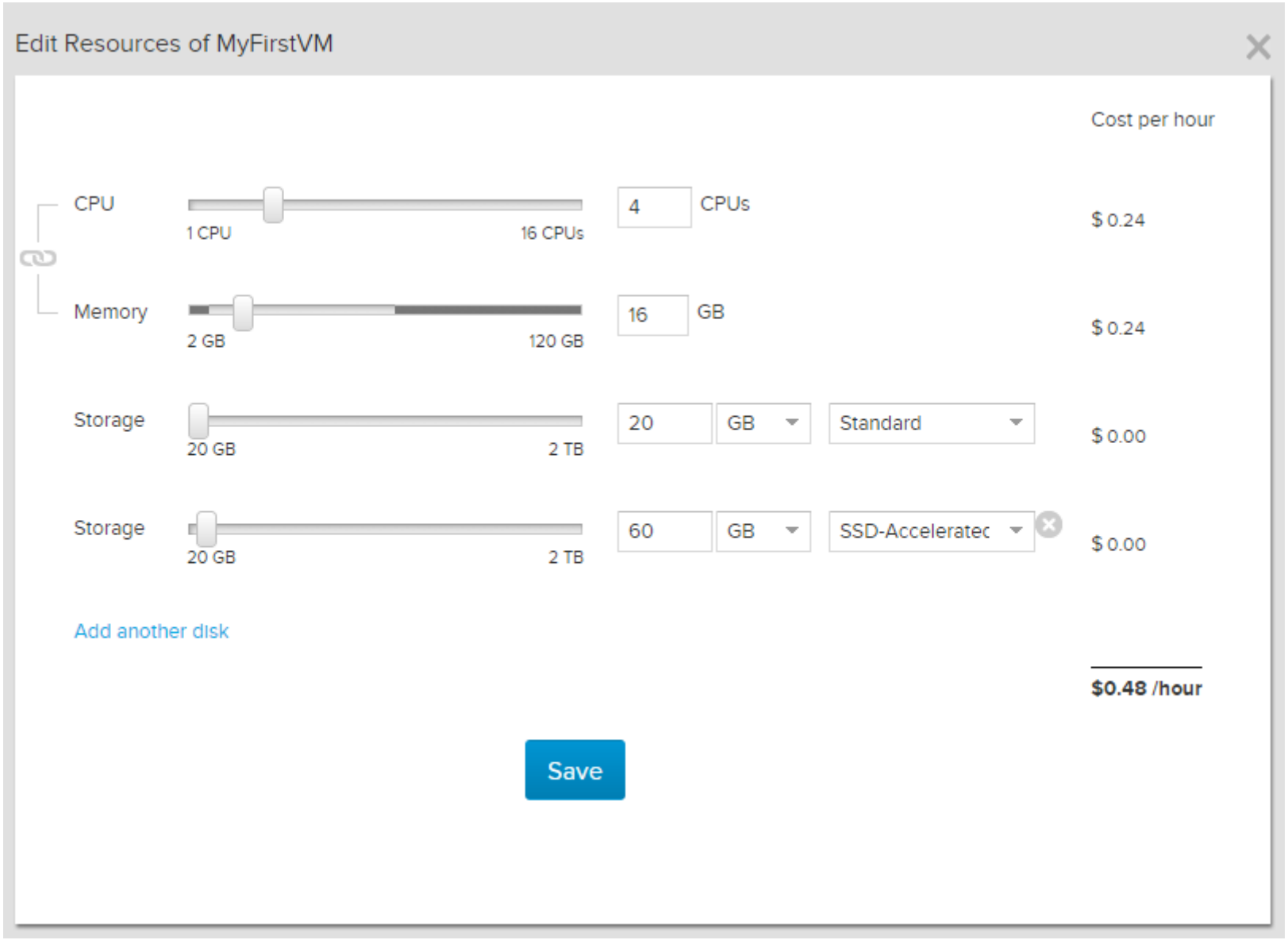
Virtual Machine	Guest OS	Storage Policy
VMfromScratch	CentOS 4/5/6 (64-bit)	Standard

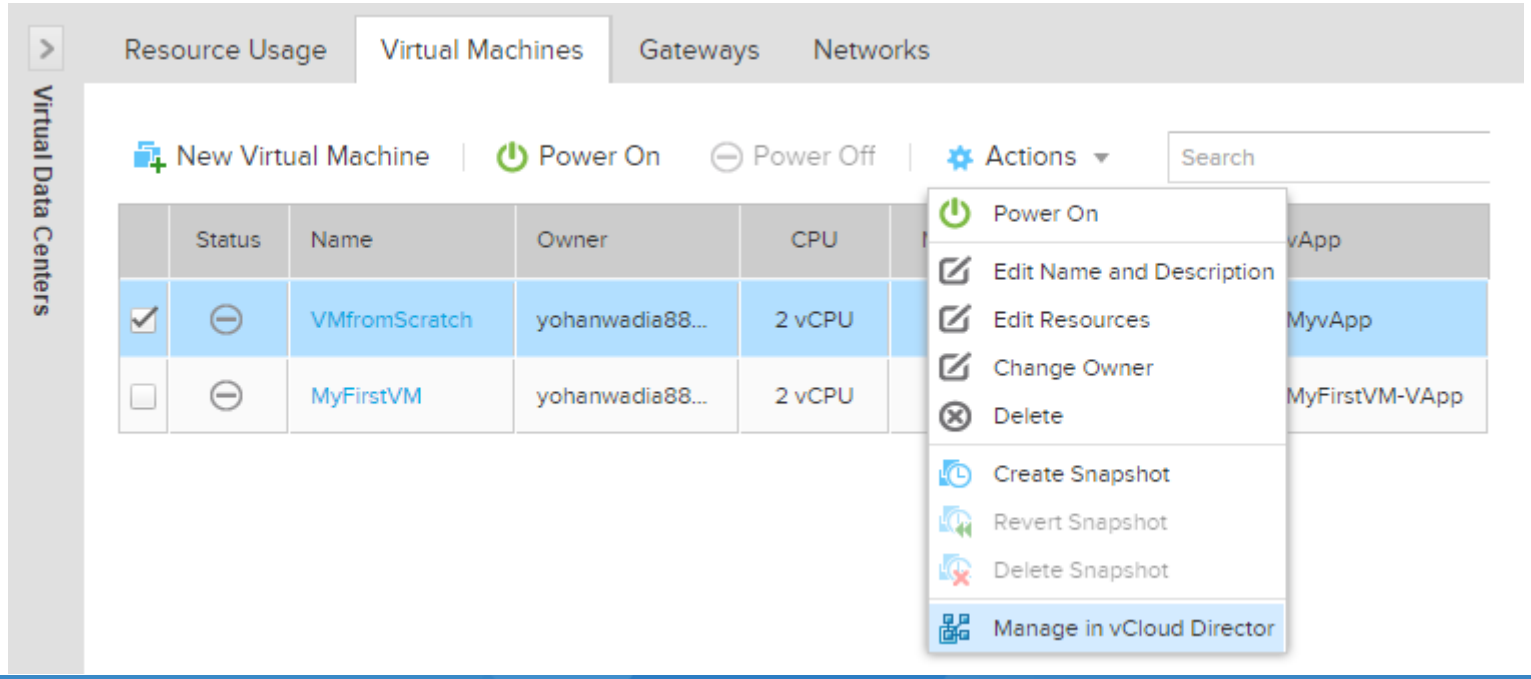


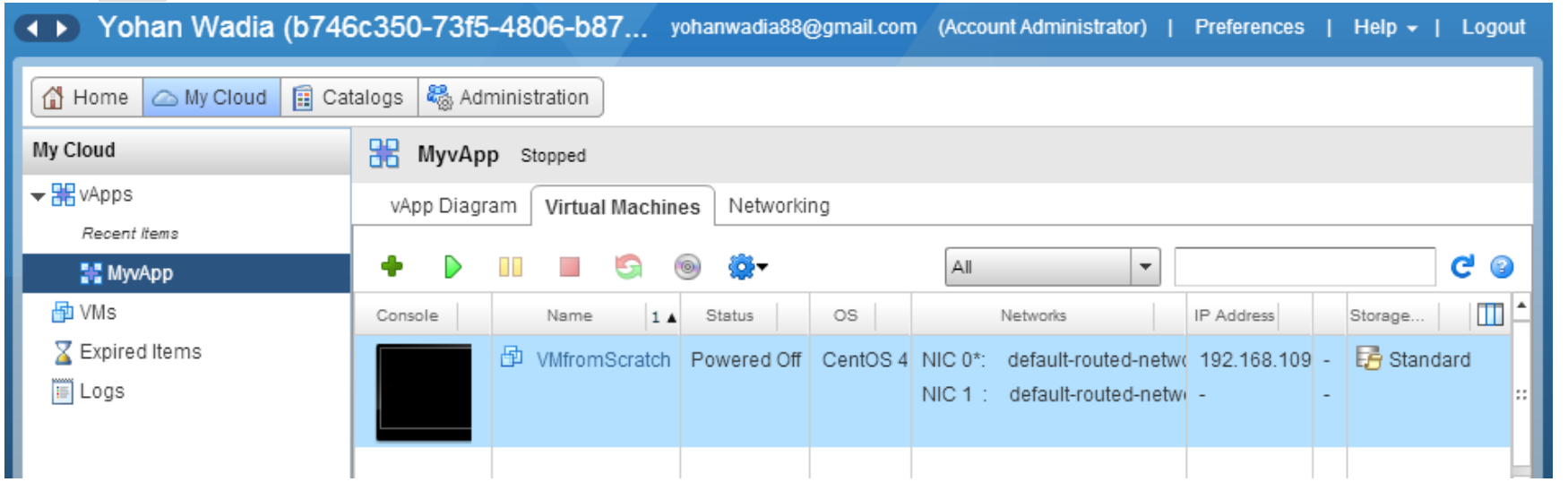

New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@g...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@g...
2 vCPU
MyFirstVM-VApp
Power On
Edit Name and Description
Edit Resources
Change Owner
Delete
Create Snapshot
Revert Snapshot
Delete Snapshot
Manage in vCloud Director

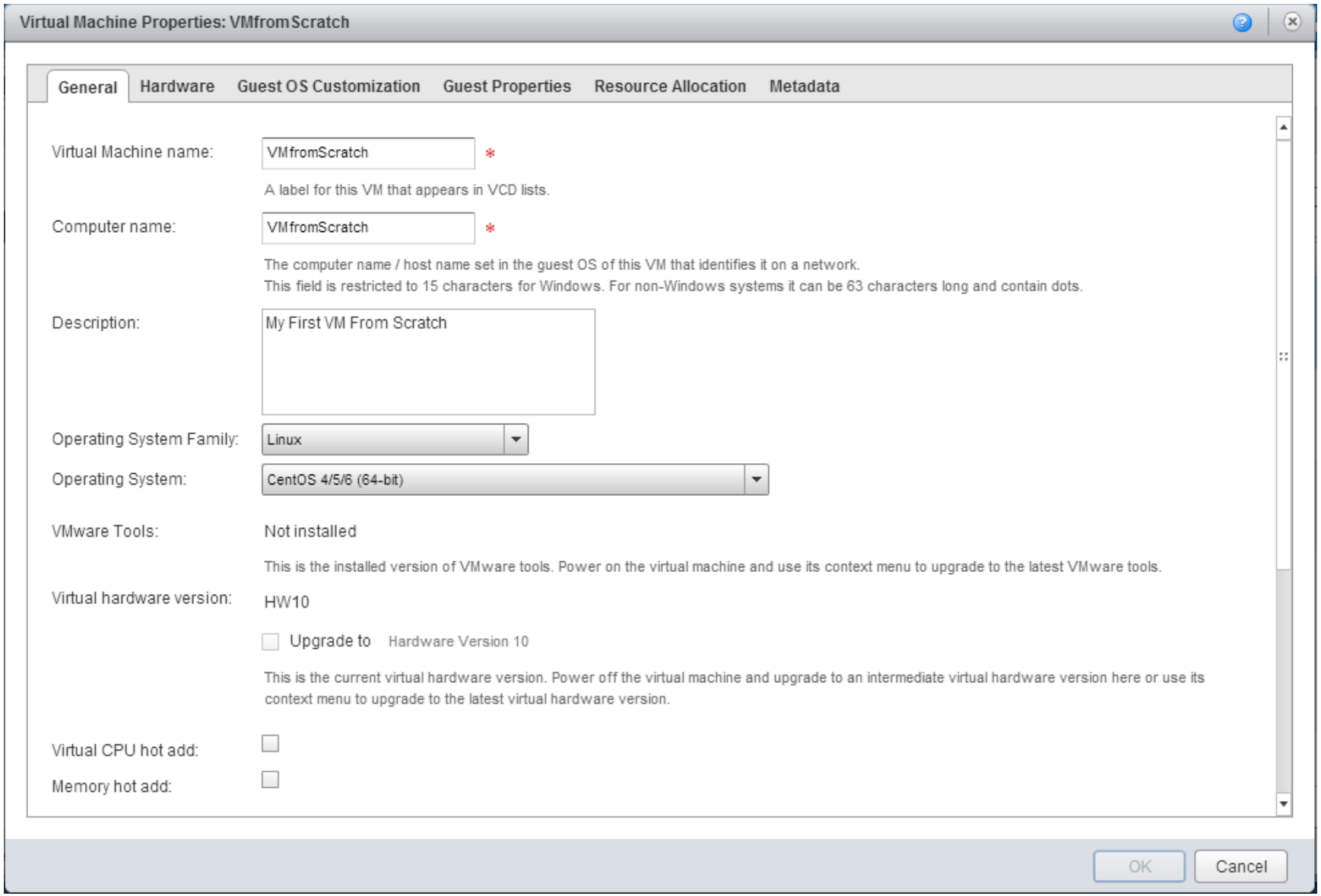

New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@g...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@g...
2 vCPU
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director

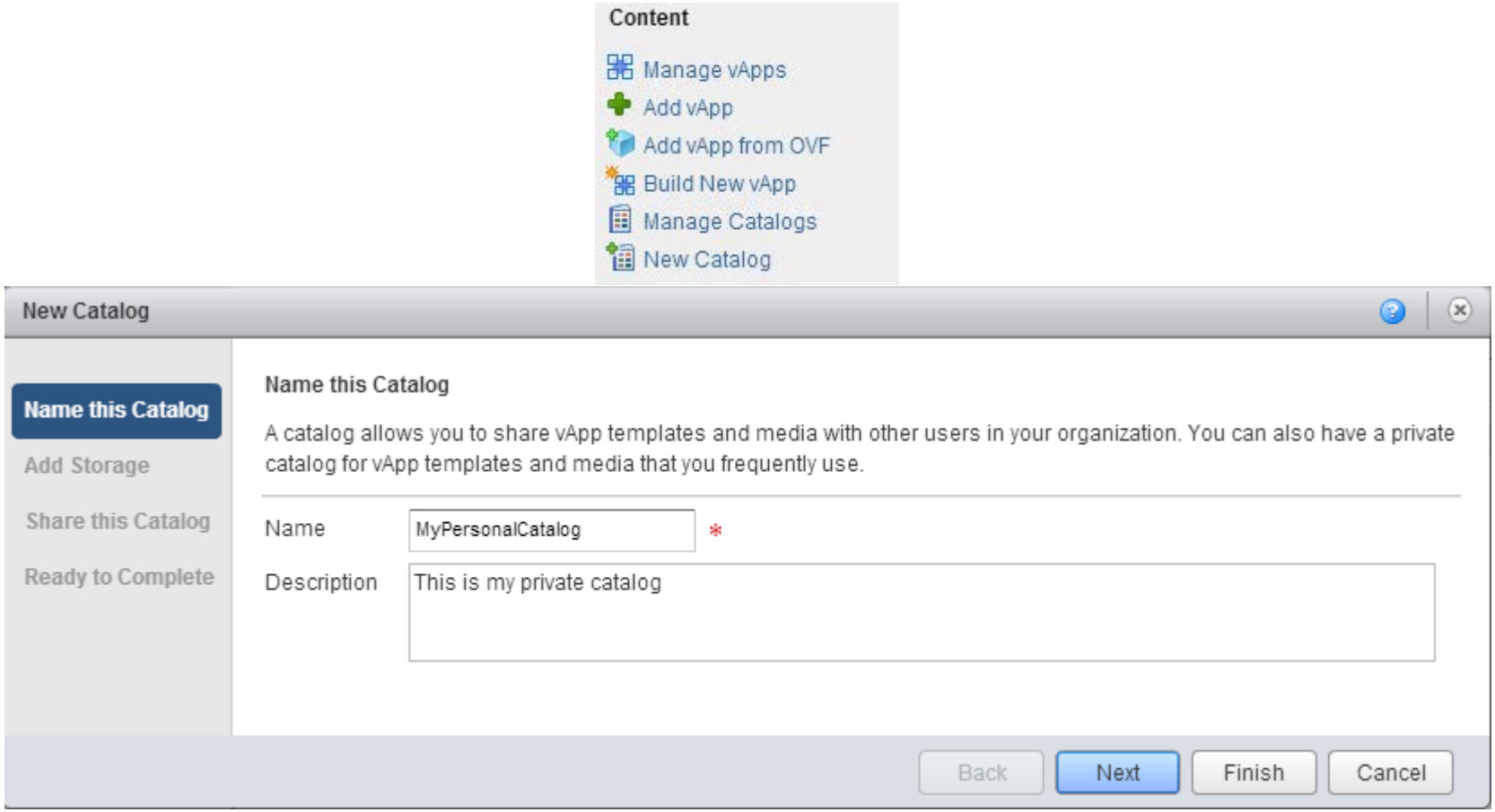

Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
OS
vApp
VMfromScratch
yohanwadia88@gmail.com
CentOS 4/5/6/7 (64-bit)
MyvApp
MyFirstVM
yohanwadia88@gmail.com
CentOS 4/5/6/7 (64-bit)
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director
Edit MyFirstVM
Name:
MyFirstVM
Description:
This is my First VM and I have editied this comment now!!
Save


Edit Resources of MyFirstVM
Cost per hour
CPU
1 CPU
16 CPUs
4
CPUs
$ 0.24
Memory
2 GB
120 GB
16
GB
$ 0.24
Storage
20 GB
2 TB
20
GB
Standard
$ 0.00
Storage
20 GB
2 TB
60
GB
SSD-Acceleratec
$ 0.00
Add another disk
$0.48 /hour
Save


Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88...
2 vCPU
MyFirstVM-VApp
Power On
Edit Name and Description
Edit Resources
Change Owner
Delete
Create Snapshot
Revert Snapshot
Delete Snapshot
Manage in vCloud Director


Yohan Wadia (b746c350-73f5-4806-b87...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
My Cloud
vApps
Recent Items
MyvApp
VMs
Expired Items
Logs
MyvApp
Stopped
vApp Diagram
Virtual Machines
Networking
All
Console
Name
Status
OS
Networks
IP Address
Storage...
VMfromScratch
Powered Off
CentOS 4
NIC 0*: default-routed-netw
NIC 1 : default-routed-netw
192.168.109
Standard


Virtual Machine Properties: VMfromScratch
General
Hardware
Guest OS Customization
Guest Properties
Resource Allocation
Metadata
Virtual Machine name:
VMfromScratch
A label for this VM that appears in VCD lists.
Computer name:
VMfromScratch
The computer name / host name set in the guest OS of this VM that identifies it on a network.
This field is restricted to 15 characters for Windows. For non-Windows systems it can be 63 characters long and contain dots.
Description:
My First VM From Scratch
Operating System Family:
Linux
Operating System:
CentOS 4/5/6 (64-bit)
VMware Tools:
Not installed
This is the installed version of VMware tools. Power on the virtual machine and use its context menu to upgrade to the latest VMware tools.
Virtual hardware version:
HW10
Upgrade to
Hardware Version 10
This is the current virtual hardware version. Power off the virtual machine and upgrade to an intermediate virtual hardware version here or use its context menu to upgrade to the latest virtual hardware version.
Virtual CPU hot add:
Memory hot add:
OK
Cancel


Content
Manage vApps
Add vApp
Add vApp from OVF
Build New vApp
Manage Catalogs
New Catalog
New Catalog
Name this Catalog
Add Storage
Share this Catalog
Ready to Complete
Name this Catalog
A catalog allows you to share vApp templates and media with other users in your organization. You can also have a private catalog for vApp templates and media that you frequently use.
Name
MyPersonalCatalog
*
Description
This is my private catalog
Back
Next
Finish
Cancel

Select Storage Type

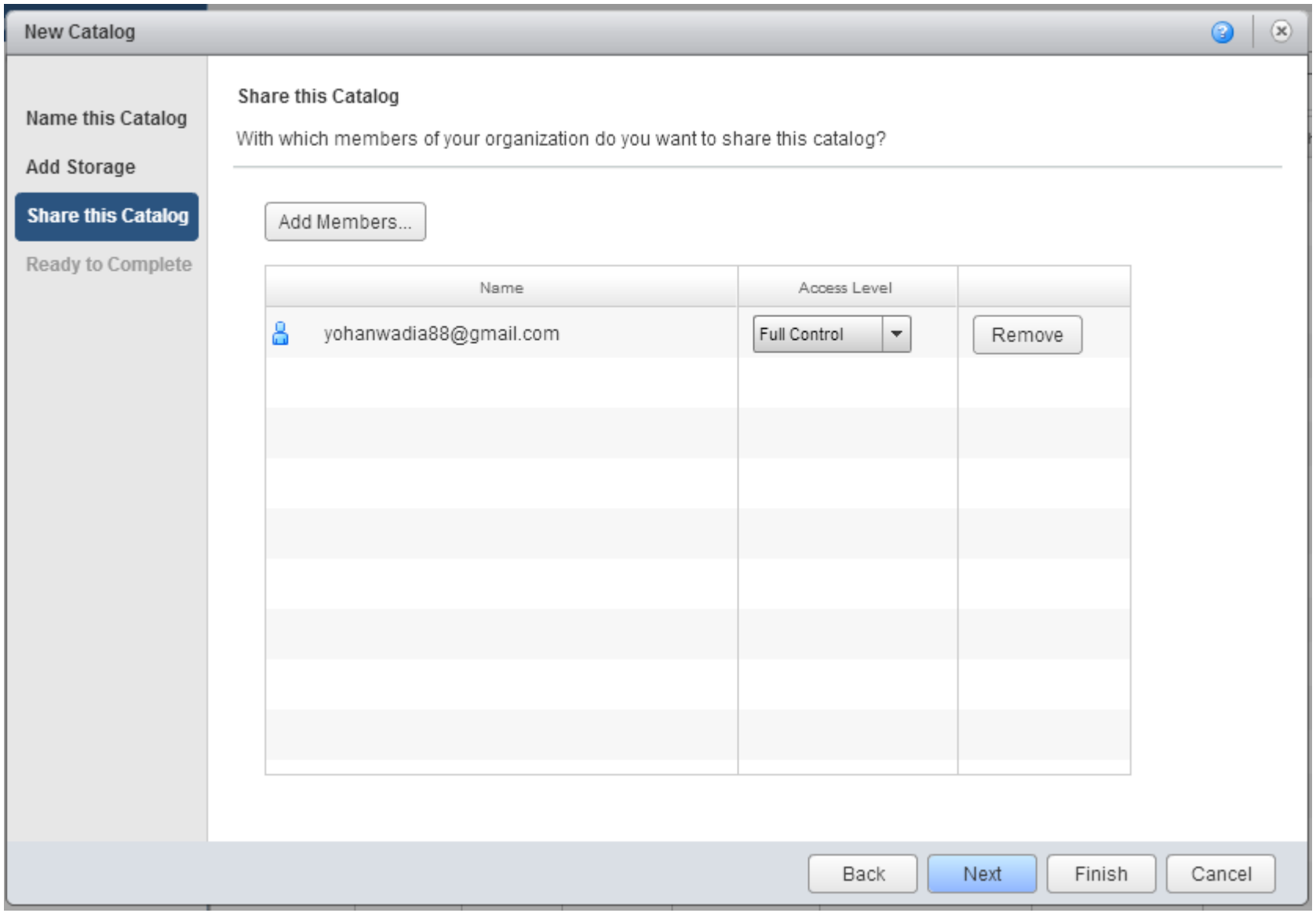
Use any storage available in the organization

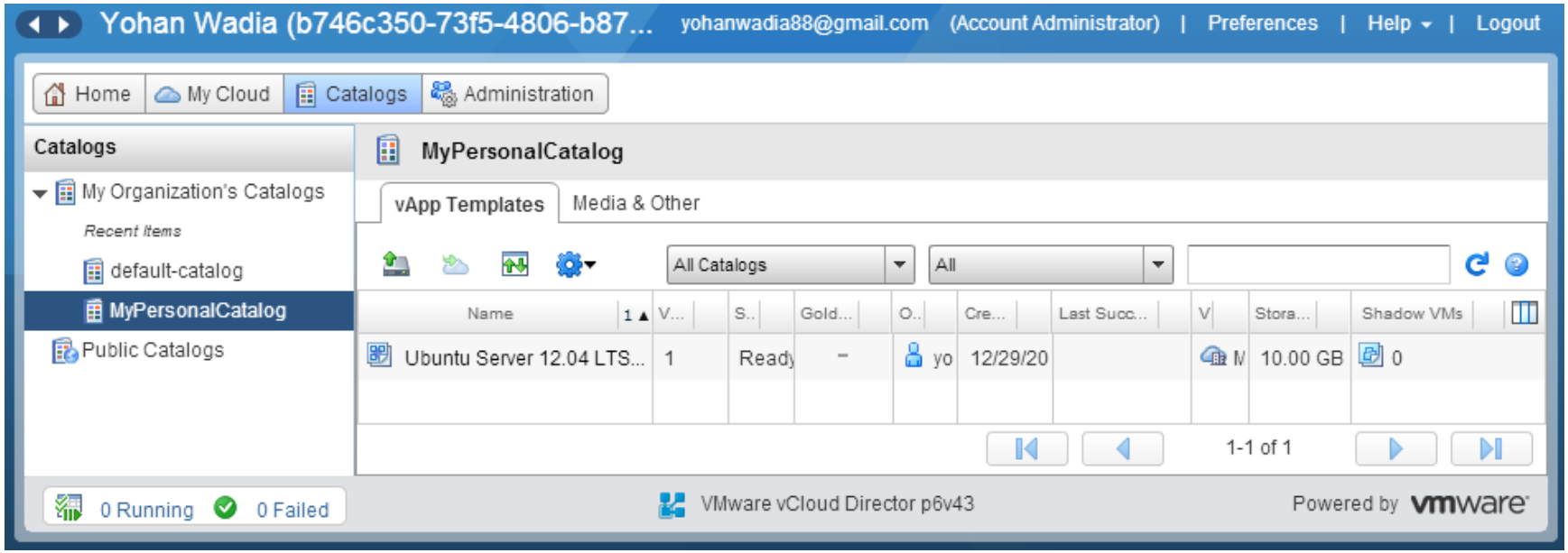
Choose this option if you do not need to store catalog items on a specific storage.

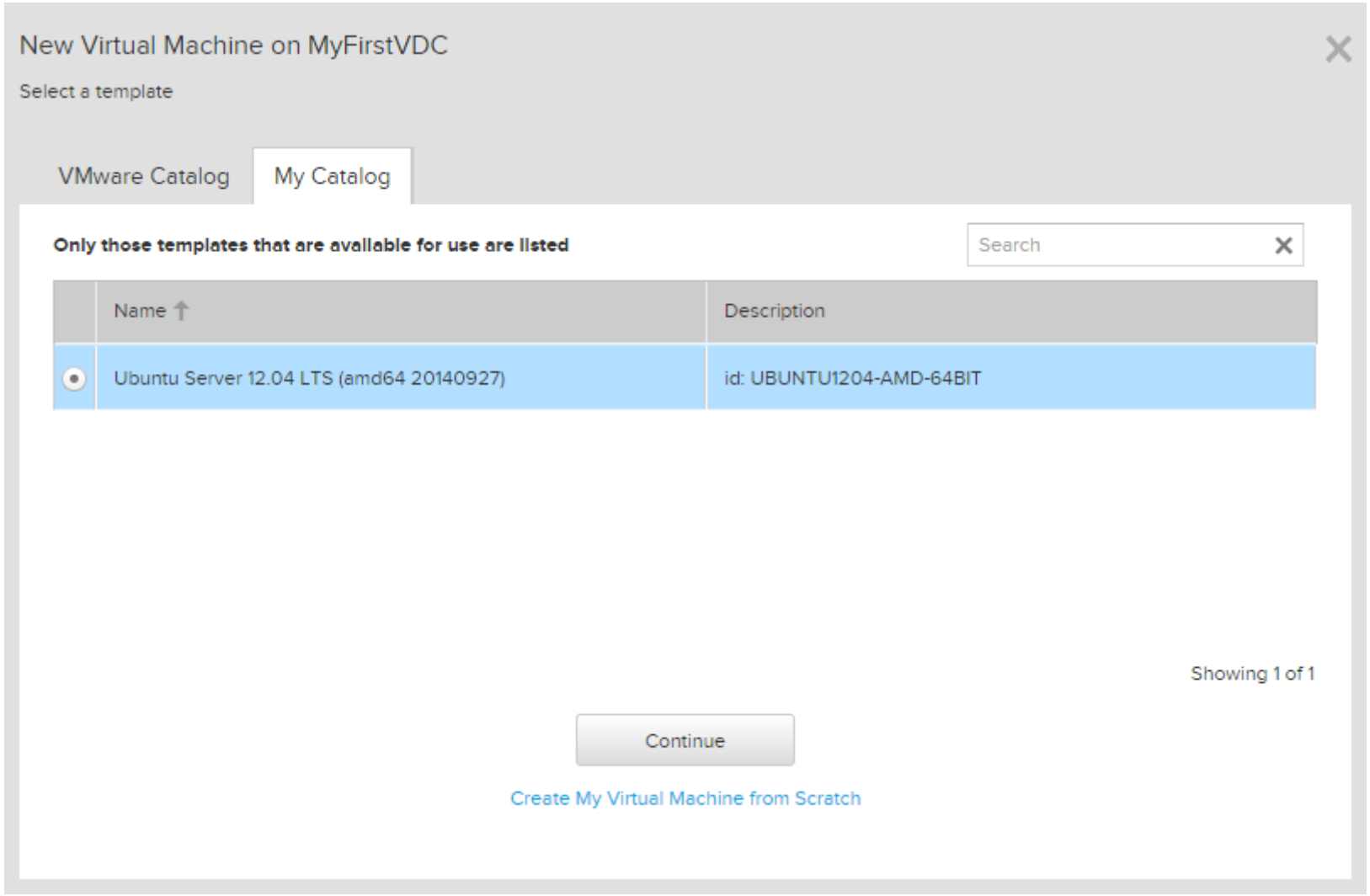
Pre-provision on specific storage policy

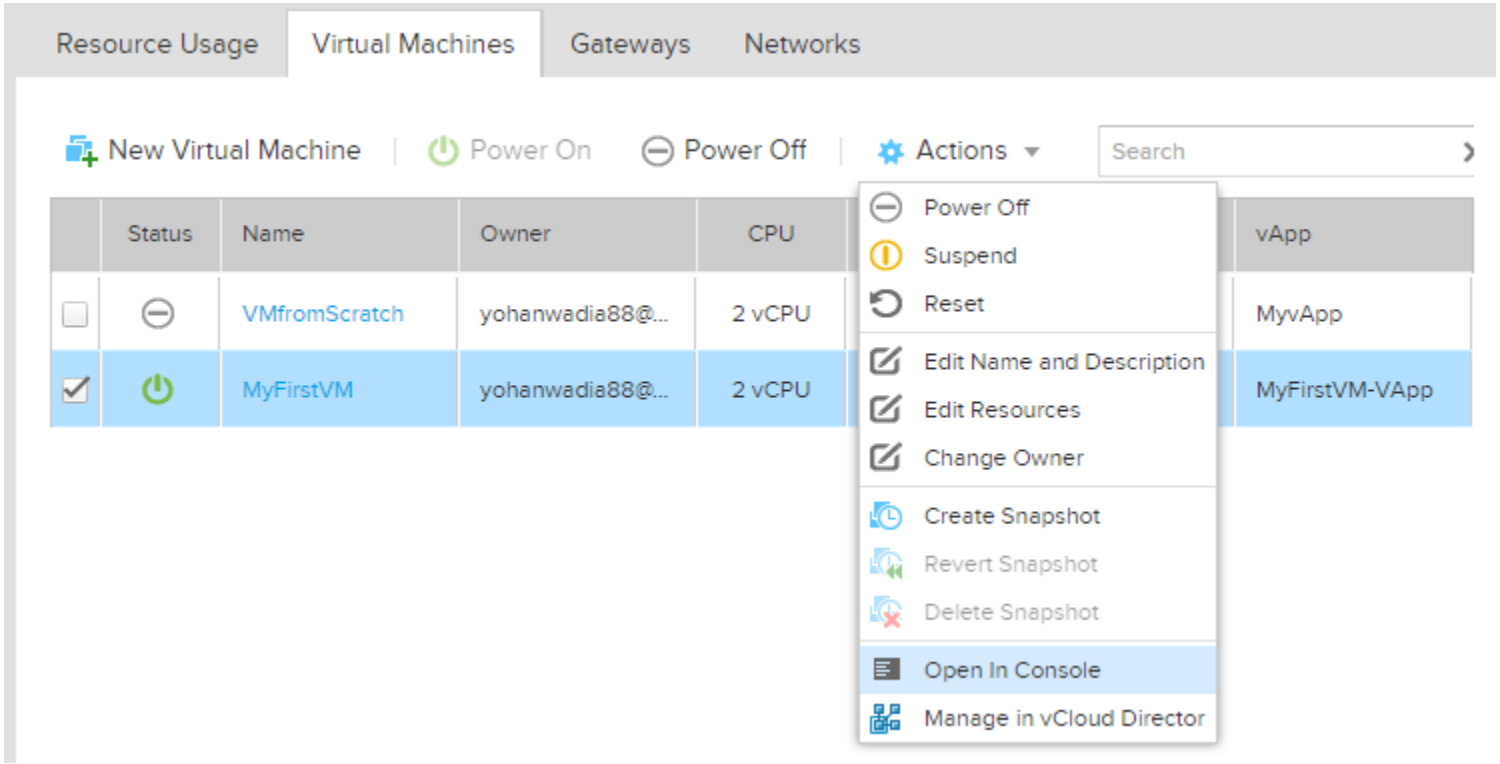
Choose this option if you want to store catalog items on a specific VDC storage policy.
- vApp templates in this catalog will be fast provisioned on selected VDC storage policy.
- Instantiating a vApp from fast provisioned vApp template is faster.
- A VDC storage policy selected will cause the vApp template size to count against your catalog storage quota.

Standard/MyFirstVDC


New Catalog
Name this Catalog
Add Storage
Share this Catalog
Ready to Complete
Share this Catalog
With which members of your organization do you want to share this catalog?
Add Members...
Name
Access Level
yohanwadia88@gmail.com
Full Control
Remove
Back
Next
Finish
Cancel


Yohan Wadia (b746c350-73f5-4806-b87...
yohanwadia88@gmail.com
(Account Administrator)
Preferences
Help
Logout
Home
My Cloud
Catalogs
Administration
Catalogs
My Organization's Catalogs
Recent Items
default-catalog
MyPersonalCatalog
Public Catalogs
MyPersonalCatalog
vApp Templates
Media & Other
All Catalogs
All
Name
Ubuntu Server 12.04 LTS...
1
Ready
12/29/20
10.00 GB
0
1-1 of 1
0 Running
0 Failed
VMware vCloud Director p6v43
Powered by vmware


New Virtual Machine on MyFirstVDC
Select a template
VMware Catalog
My Catalog
Only those templates that are available for use are listed
Search
Name
Description
Ubuntu Server 12.04 LTS (amd64 20140927)
id: UBUNTU1204-AMD-64BIT
Showing 1 of 1
Continue
Create My Virtual Machine from Scratch


Resource Usage
Virtual Machines
Gateways
Networks
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
vApp
VMfromScratch
yohanwadia88@...
2 vCPU
MyvApp
MyFirstVM
yohanwadia88@...
2 vCPU
MyFirstVM-VApp
Power Off
Suspend
Reset
Edit Name and Description
Edit Resources
Change Owner
Create Snapshot
Revert Snapshot
Delete Snapshot
Open In Console
Manage in vCloud Director

MyFirstVM

This is my First VM and I have editied this comment now!!

Resource Usage | Settings | Networks

Manage in vCloud Director | Open Virtual Machine

General

Status:	Powered On
Owner:	yohanwadia88@gmail.com change
vApp:	MyFirstVM-VApp
OS:	CentOS 4/5/6/7 (64-bit)
VMware Tools:	enabled

Resources edit

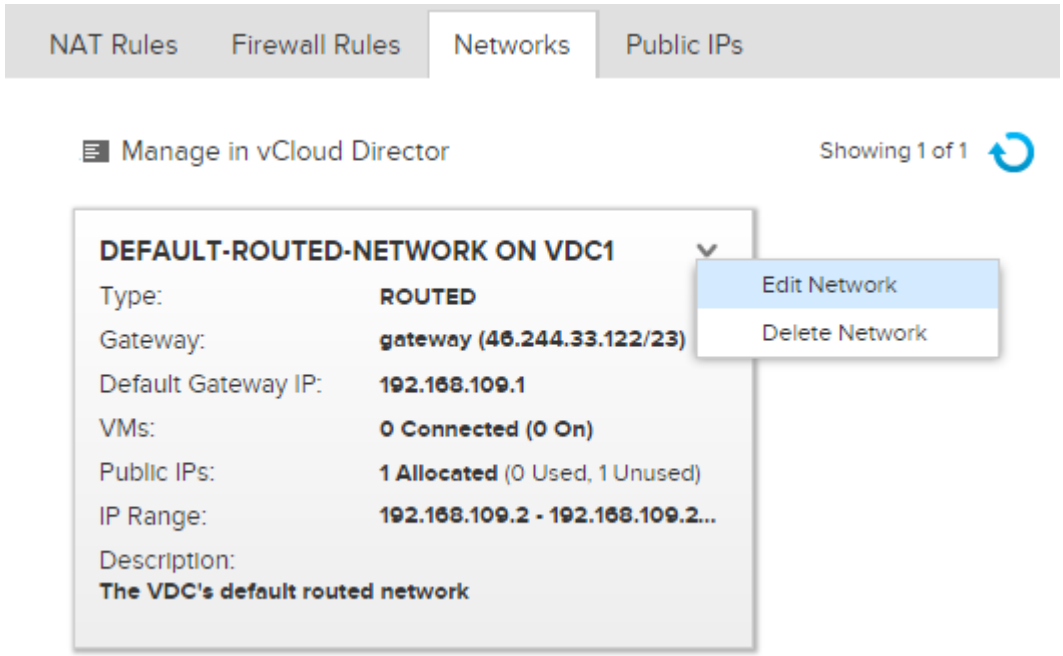
CPU:	2
Memory (GB):	4
Storage (GB):	20 (Standard)

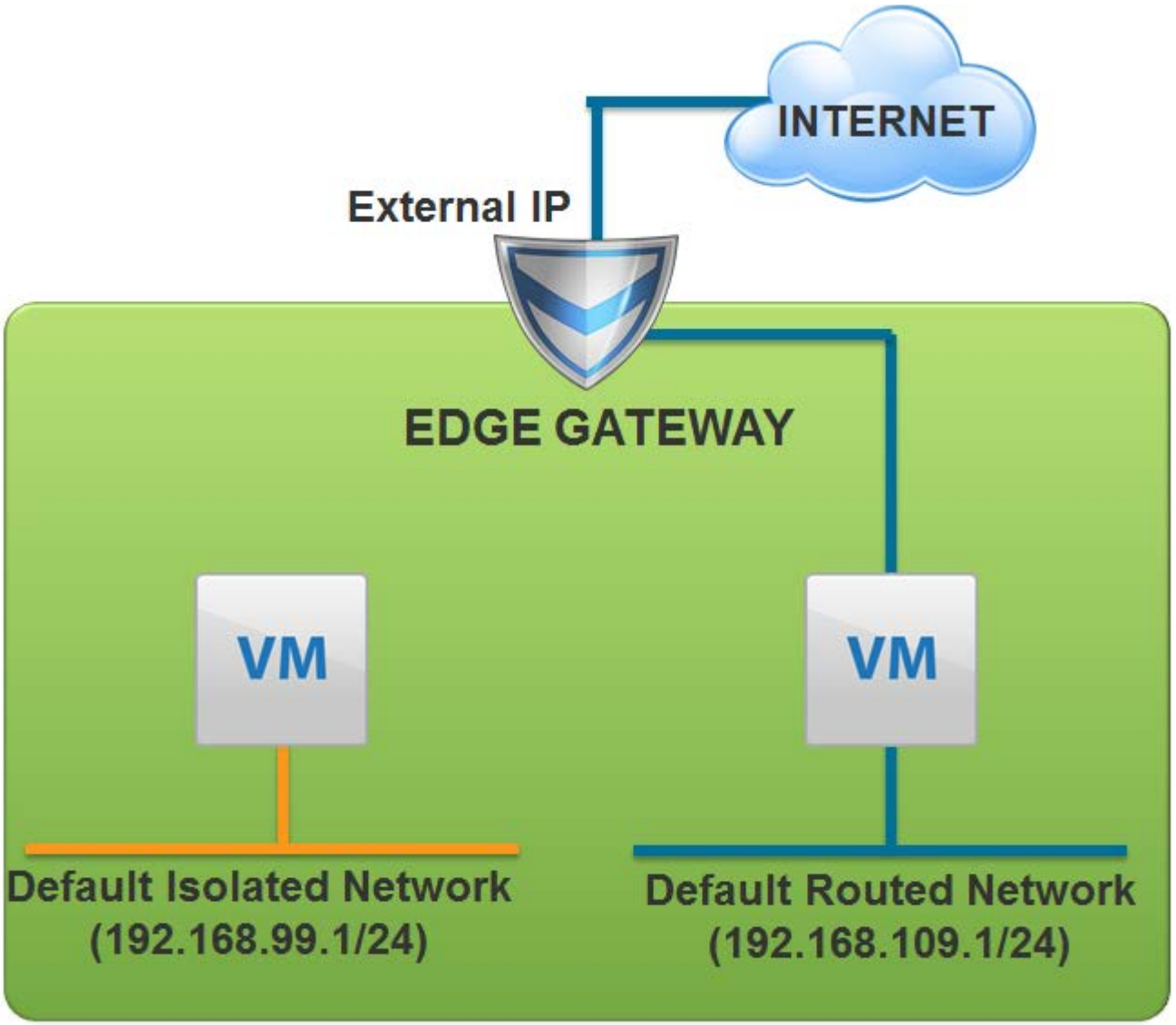
Guest OS

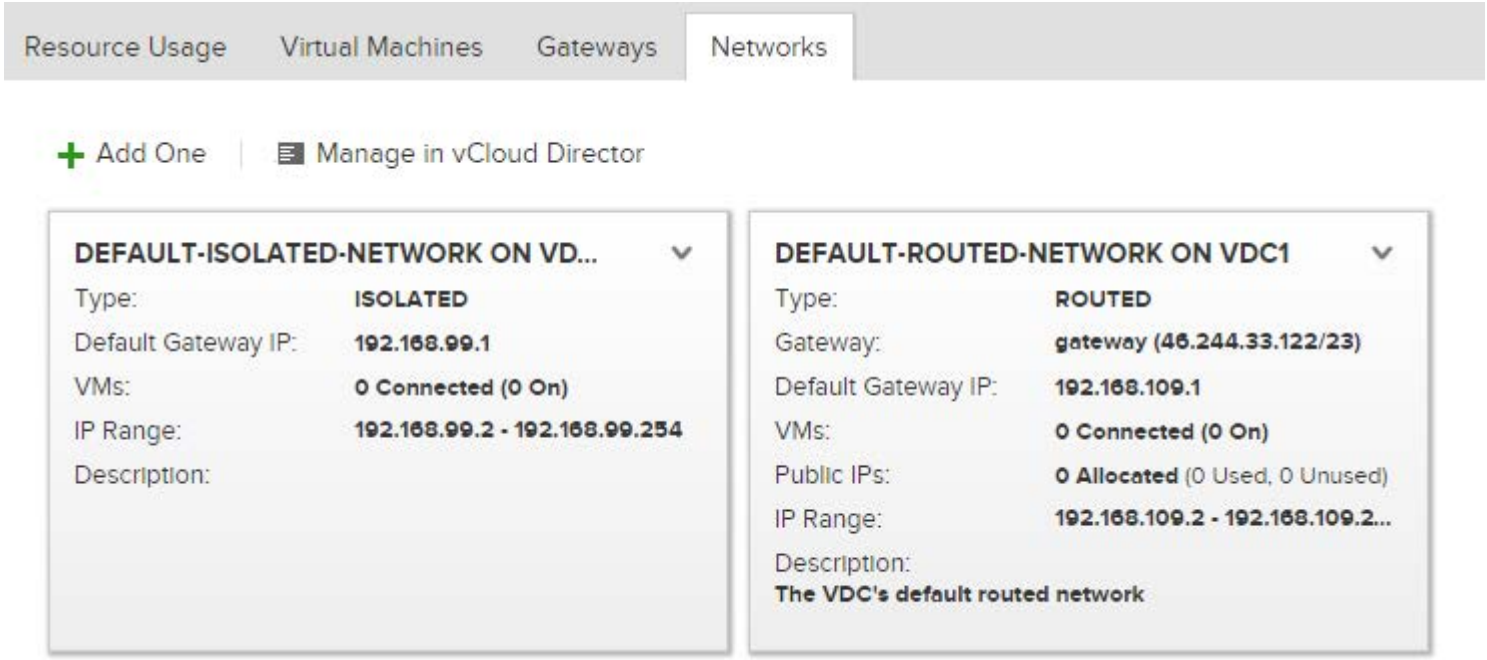
Guest OS Customization:	on
Guest OS Password:	4kE%#%oB

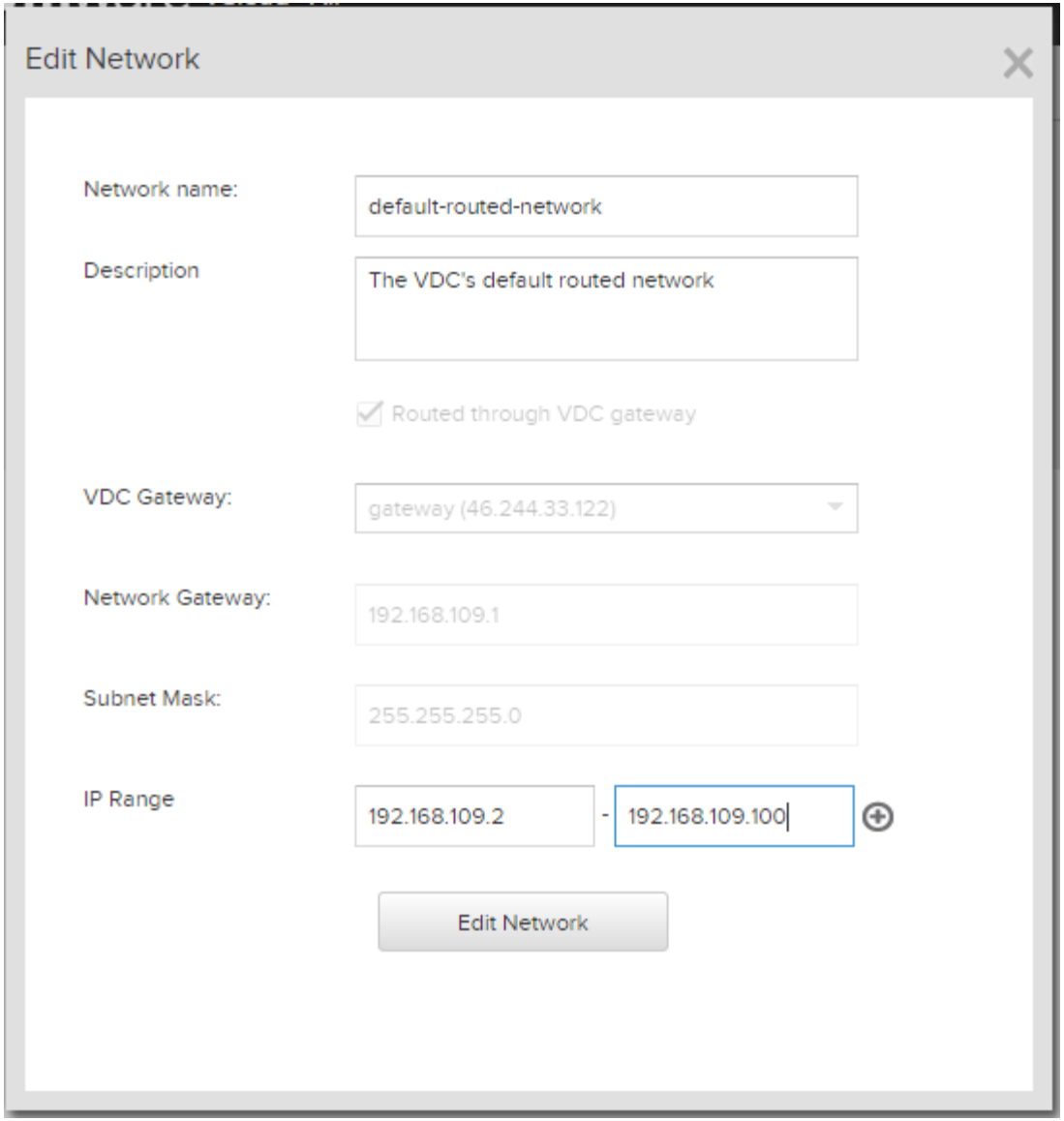
```
CentOS release 6.4 (Final)
Kernel 2.6.32-358.el6.x86_64 on an x86_64

VM-001 login: root
Password:
You are required to change your password immediately (root enforced)
Changing password for root.
(current) UNIX password:
New password:
Retype new password:
Last login: Wed Oct  8 11:14:25 on tty1
[root@VM-001 ~]#
[root@VM-001 ~]# _
```

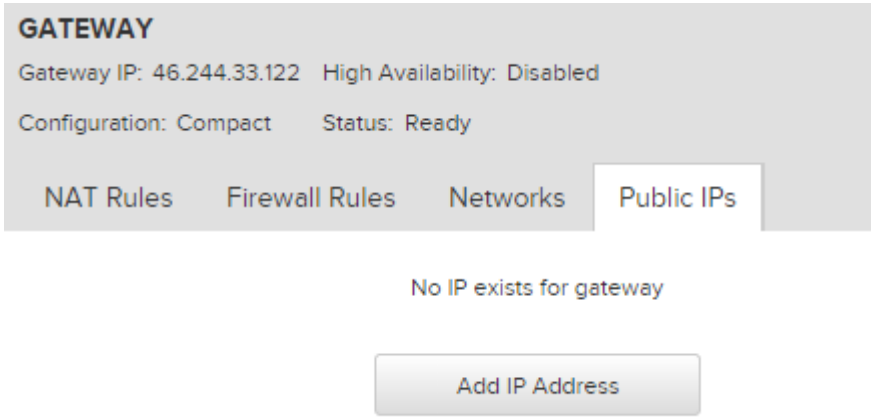
Chapter 3 – vCloud Air Networking and Security

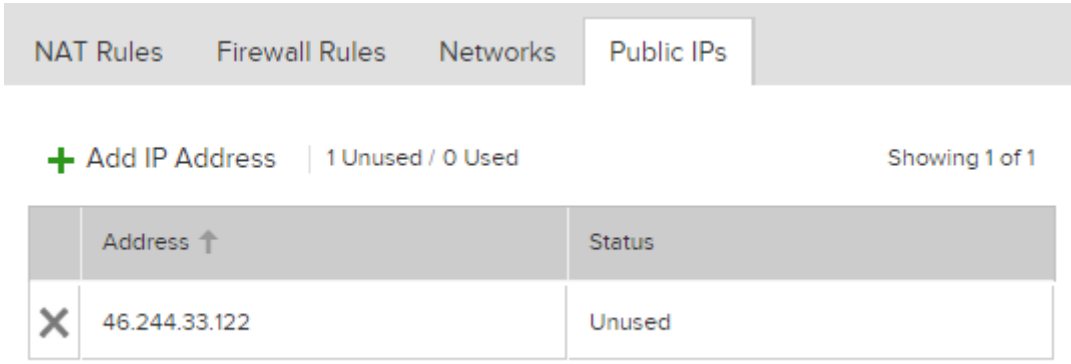


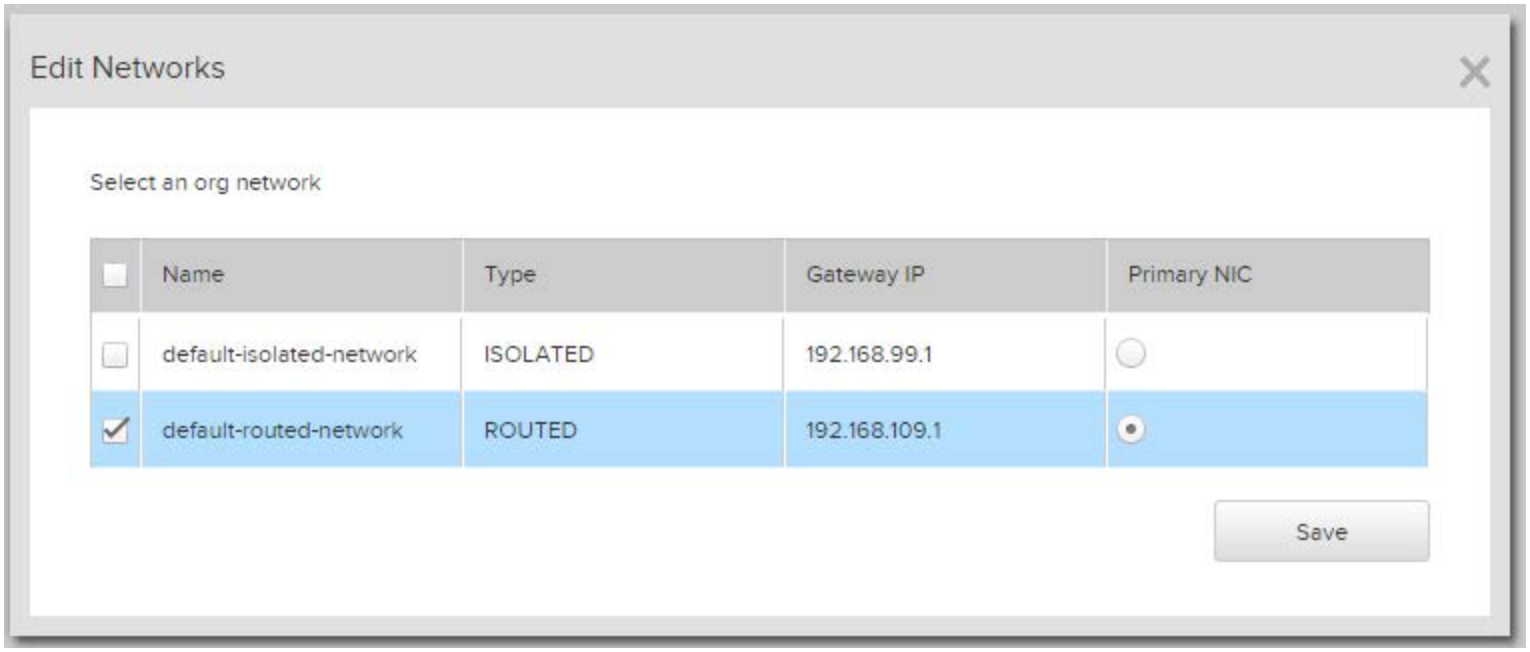

INTERNET
External IP
EDGE GATEWAY
VM
VM
Default Isolated Network
(192.168.99.1/24)
Default Routed Network
(192.168.109.1/24)

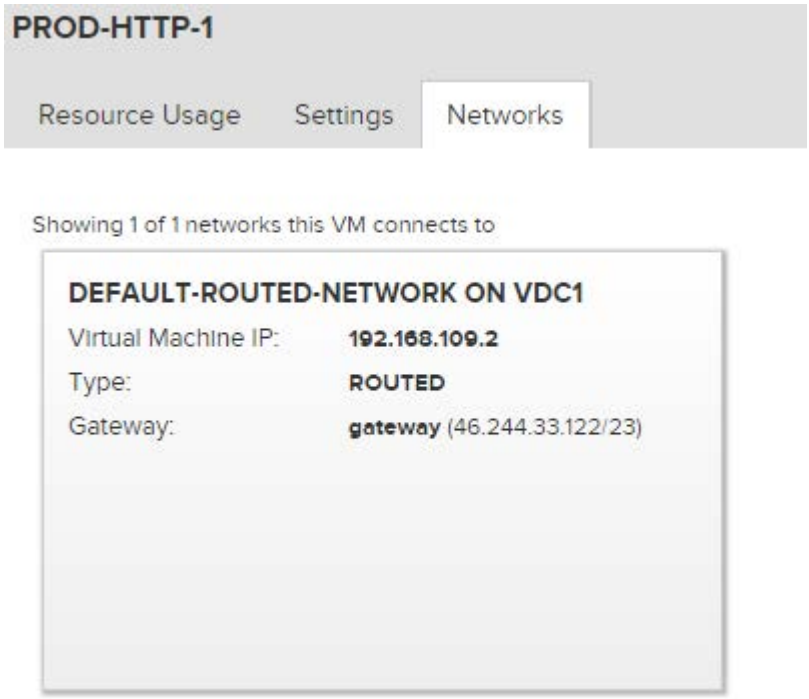

Resource Usage
Virtual Machines
Gateways
Networks
Add One
Manage in vCloud Director
DEFAULT-ISOLATED-NETWORK ON VD...
Type: ISOLATED
Default Gateway IP: 192.168.99.1
VMs: 0 Connected (0 On)
IP Range: 192.168.99.2 - 192.168.99.254
Description:
DEFAULT-ROUTED-NETWORK ON VDC1
Type: ROUTED
Gateway: gateway (46.244.33.122/23)
Default Gateway IP: 192.168.109.1
VMs: 0 Connected (0 On)
Public IPs: 0 Allocated (0 Used, 0 Unused)
IP Range: 192.168.109.2 - 192.168.109.2...
Description:
The VDC's default routed network

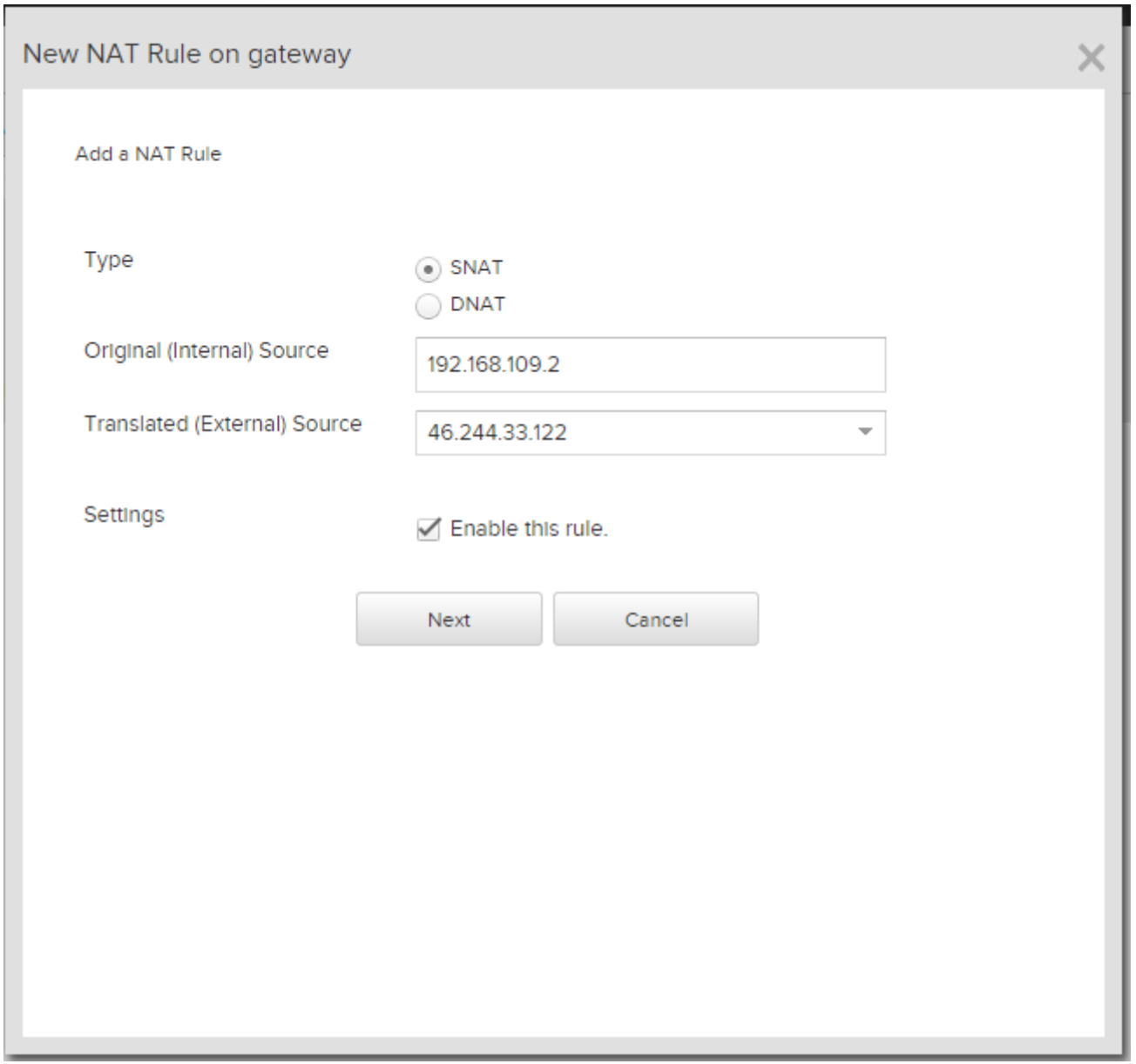

Edit Network
Network name:
default-routed-network
Description
The VDC's default routed network
Routed through VDC gateway
VDC Gateway:
gateway (46.244.33.122)
Network Gateway:
192.168.109.1
Subnet Mask:
255.255.255.0
IP Range
192.168.109.2
-
192.168.109.100
Edit Network

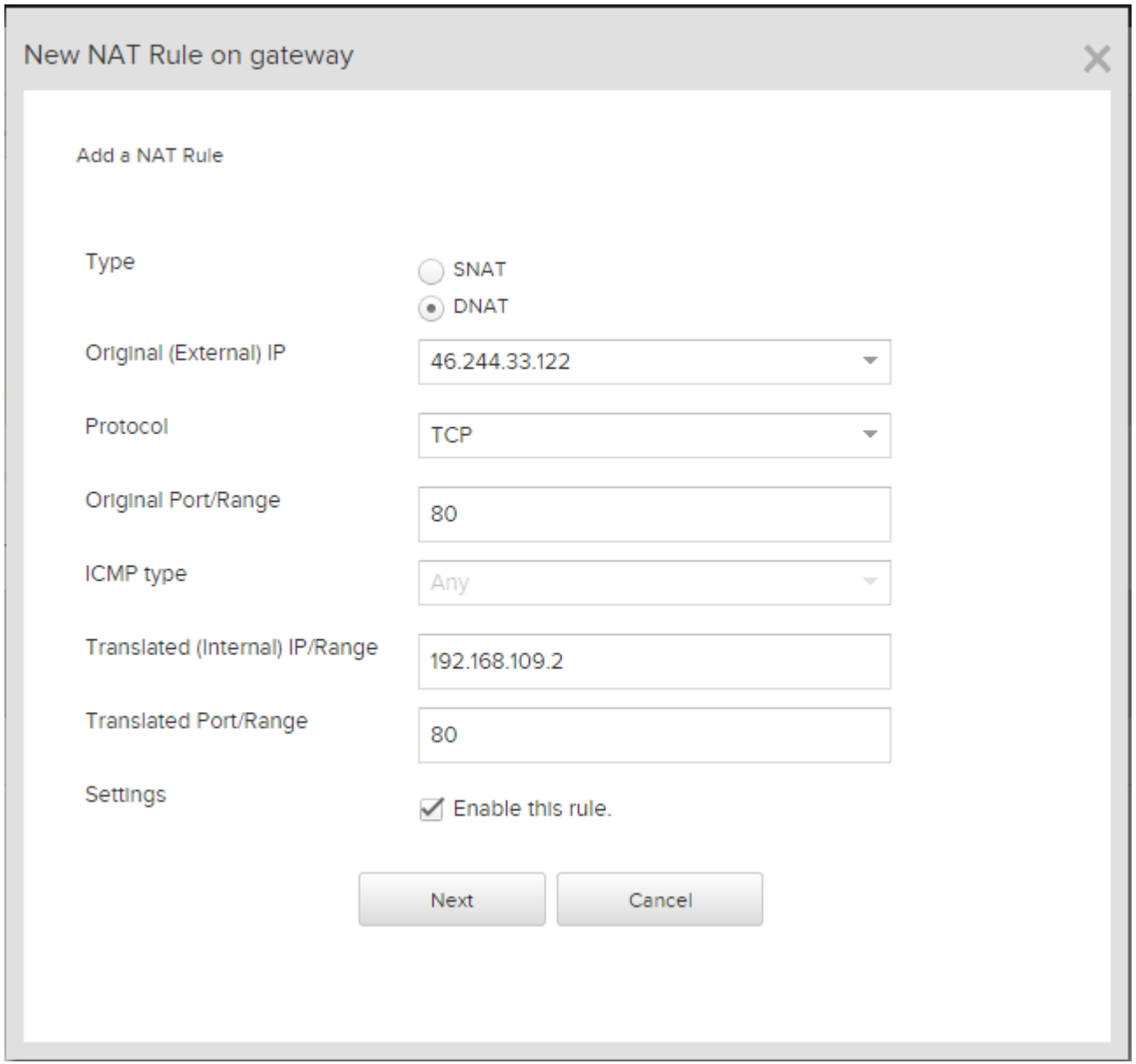

GATEWAY
Gateway IP: 46.244.33.122 High Availability: Disabled
Configuration: Compact Status: Ready
NAT Rules
Firewall Rules
Networks
Public IPs
No IP exists for gateway
Add IP Address

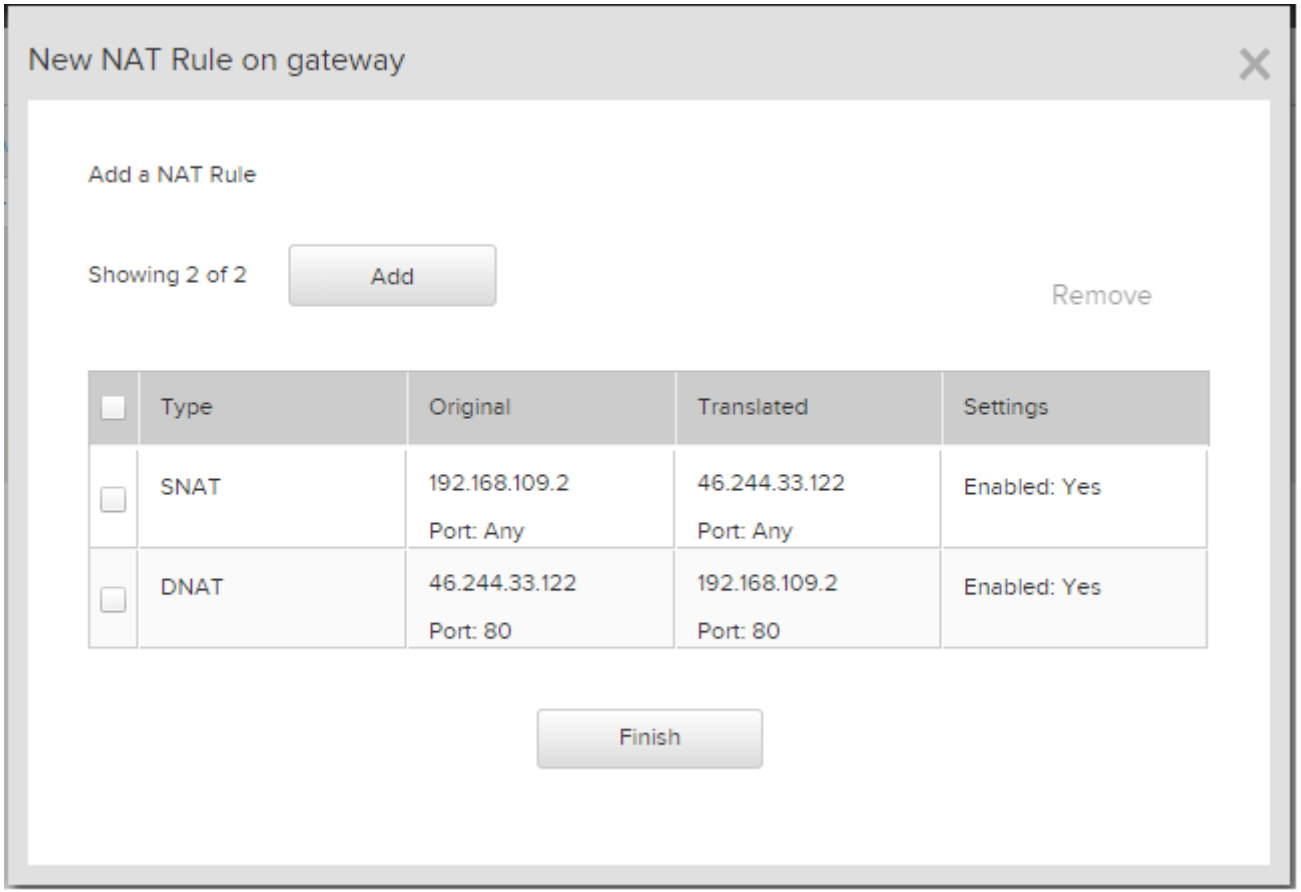

NAT Rules
Firewall Rules
Networks
Public IPs
Add IP Address
1 Unused / 0 Used
Showing 1 of 1
Address
Status
46.244.33.122
Unused


Edit Networks
Select an org network
Name
Type
Gateway IP
Primary NIC
default-isolated-network
ISOLATED
192.168.99.1
default-routed-network
ROUTED
192.168.109.1
Save


PROD-HTTP-1
Resource Usage
Settings
Networks
Showing 1 of 1 networks this VM connects to
DEFAULT-ROUTED-NETWORK ON VDC1
Virtual Machine IP:
192.168.109.2
Type:
ROUTED
Gateway:
gateway (46.244.33.122/23)


New NAT Rule on gateway
Add a NAT Rule
Type
SNAT
DNAT
Original (Internal) Source
192.168.109.2
Translated (External) Source
46.244.33.122
Settings
Enable this rule.
Next
Cancel


New NAT Rule on gateway
Add a NAT Rule
Type
SNAT
DNAT
Original (External) IP
46.244.33.122
Protocol
TCP
Original Port/Range
80
ICMP type
Any
Translated (Internal) IP/Range
192.168.109.2
Translated Port/Range
80
Settings
Enable this rule.
Next
Cancel

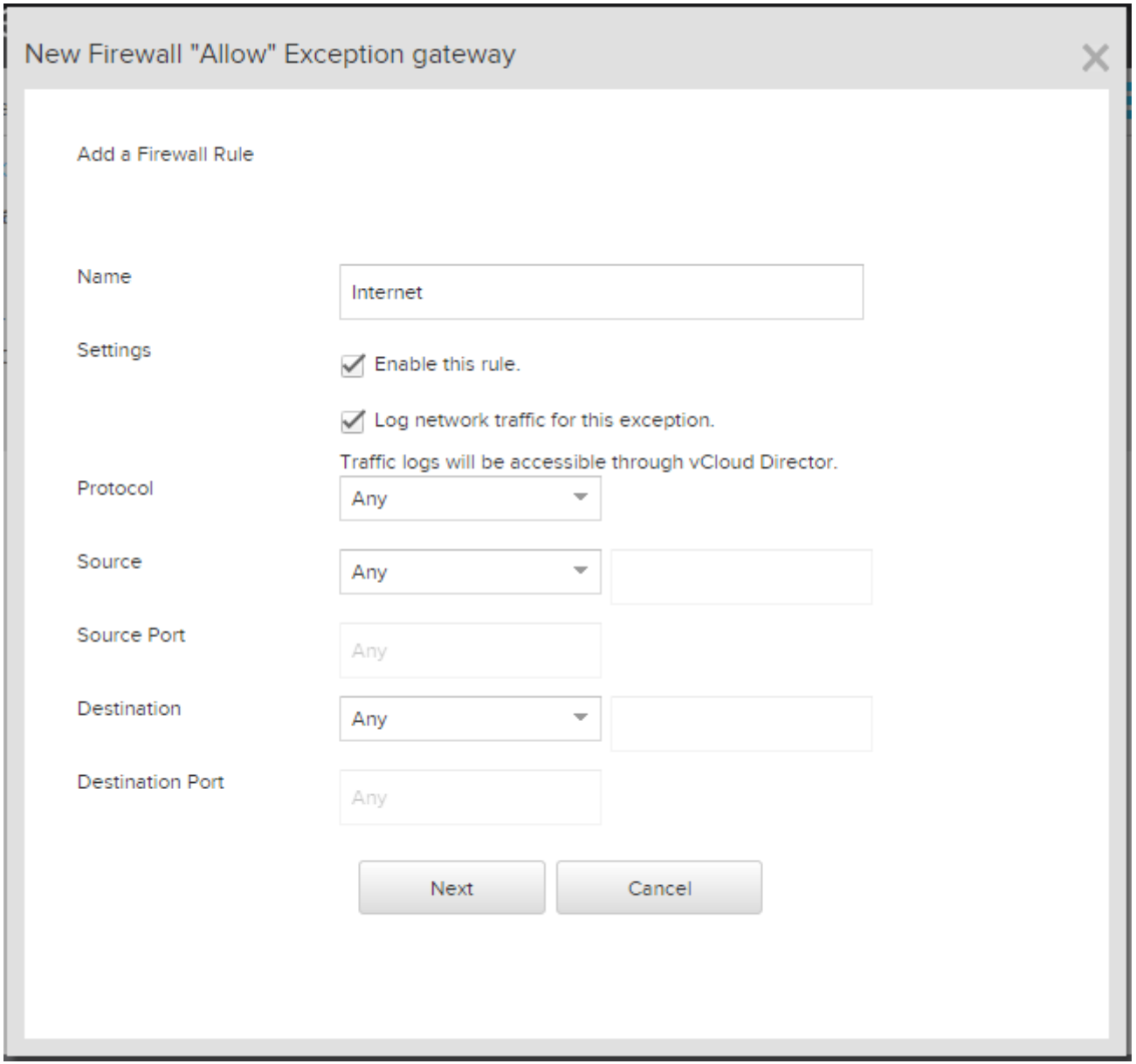

New NAT Rule on gateway
Add a NAT Rule
Showing 2 of 2
Add
Remove
Type
Original
Translated
Settings
SNAT
192.168.109.2
Port: Any
46.244.33.122
Port: Any
Enabled: Yes
DNAT
46.244.33.122
Port: 80
192.168.109.2
Port: 80
Enabled: Yes
Finish

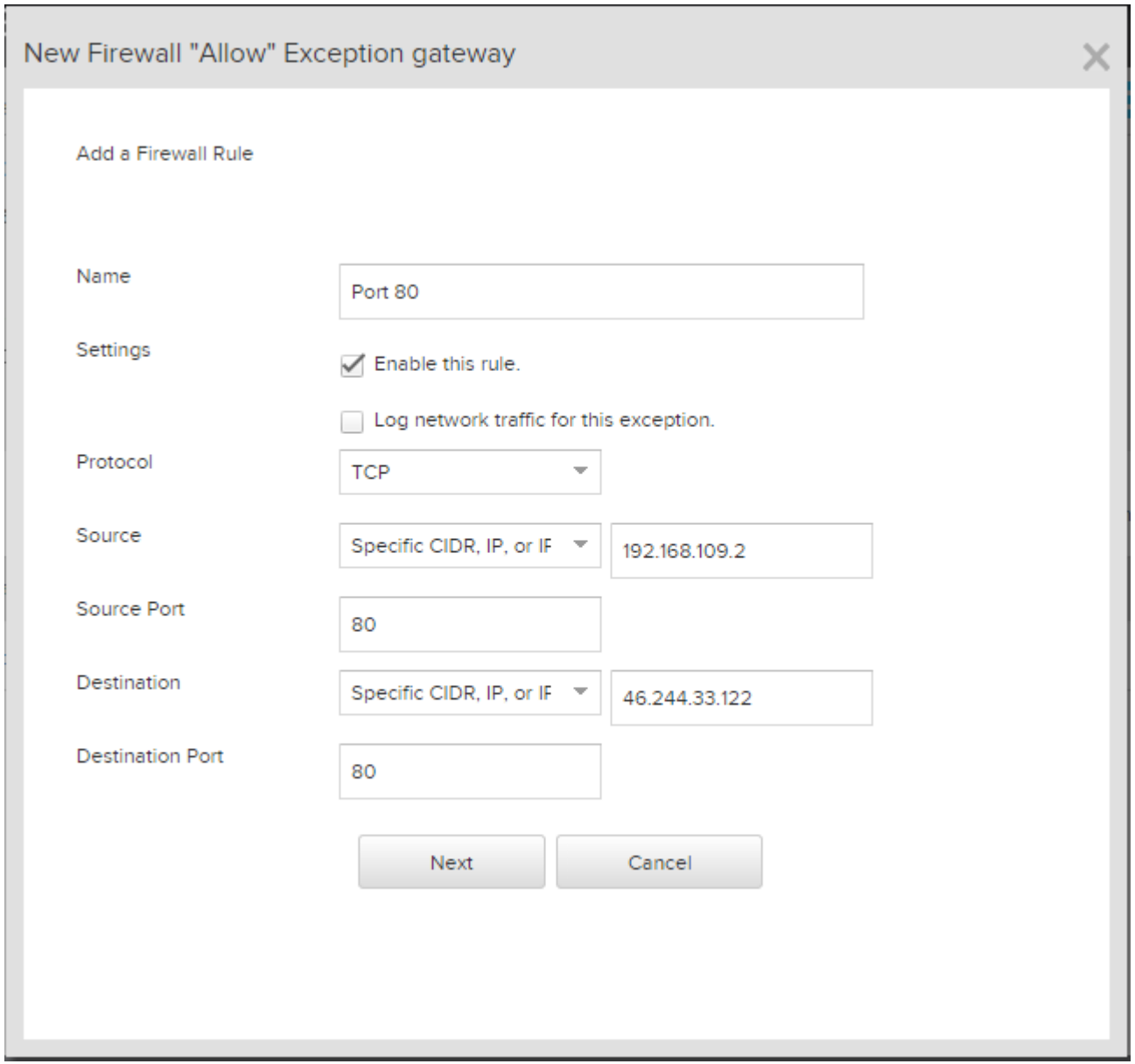
Network Address Translation (NAT) modifies the source/destination IP addresses or packets arriving to or leaving from this edge gateway

+ Add | Enable | Disable | Actions

Showing 2 of 2

		Type	Original		Translated		Protocol	Applied On
			IP Address	Port	IP Address	Port		
☐		SNAT	192.168.109.2	Any	46.244.33.122	Any	Any	d5p6v43-ext
☐		DNAT	46.244.33.122	80	192.168.109.2	80	TCP	d5p6v43-ext


New Firewall "Allow" Exception gateway
Add a Firewall Rule
Name
Internet
Settings
Enable this rule.
Log network traffic for this exception.
Traffic logs will be accessible through vCloud Director.
Protocol
Any
Source
Any
Source Port
Any
Destination
Any
Destination Port
Any
Next
Cancel

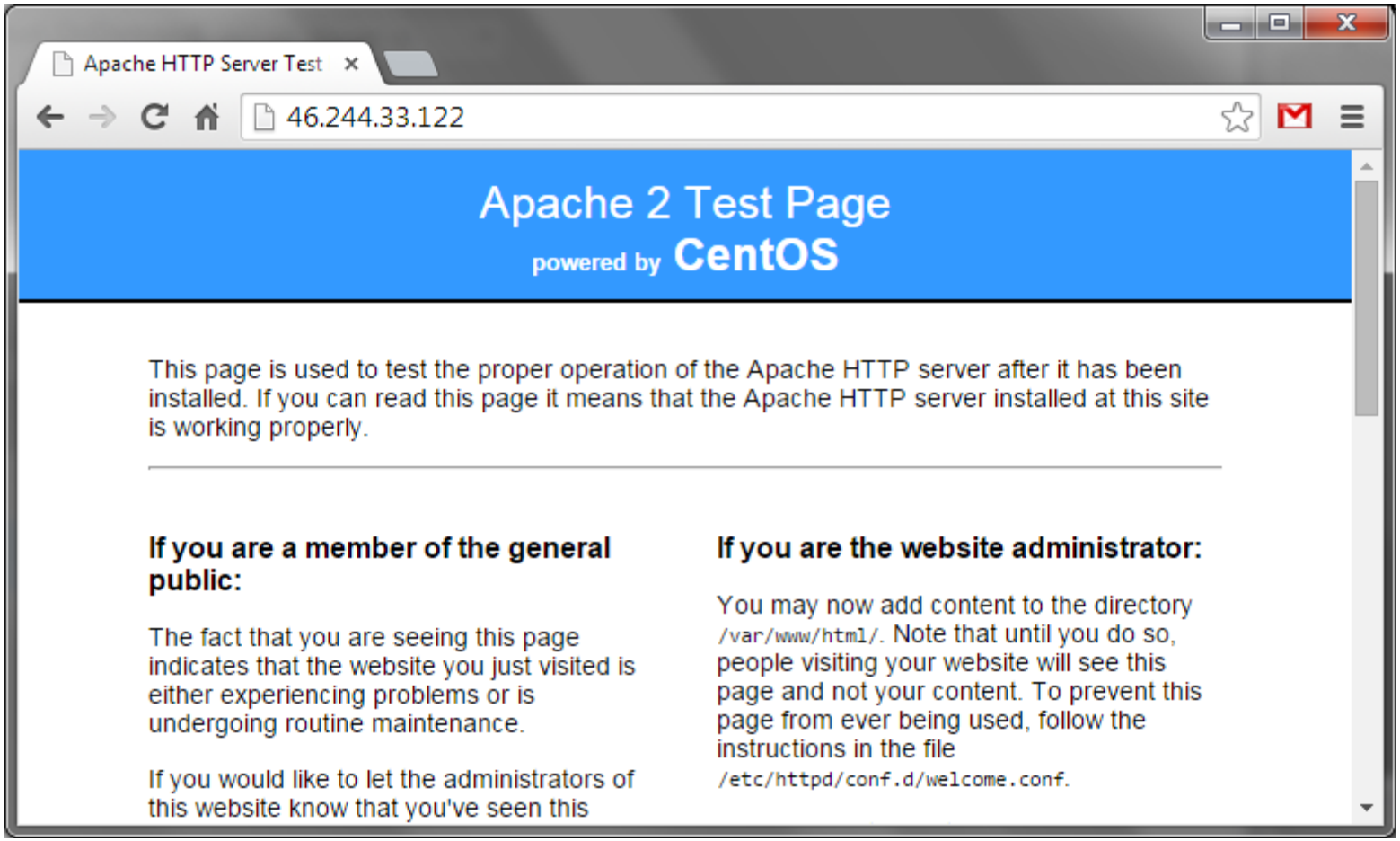

New Firewall "Allow" Exception gateway
Add a Firewall Rule
Name
Port 80
Settings
Enable this rule.
Log network traffic for this exception.
Protocol
TCP
Source
Specific CIDR, IP, or IF
192.168.109.2
Source Port
80
Destination
Specific CIDR, IP, or IF
46.244.33.122
Destination Port
80
Next
Cancel

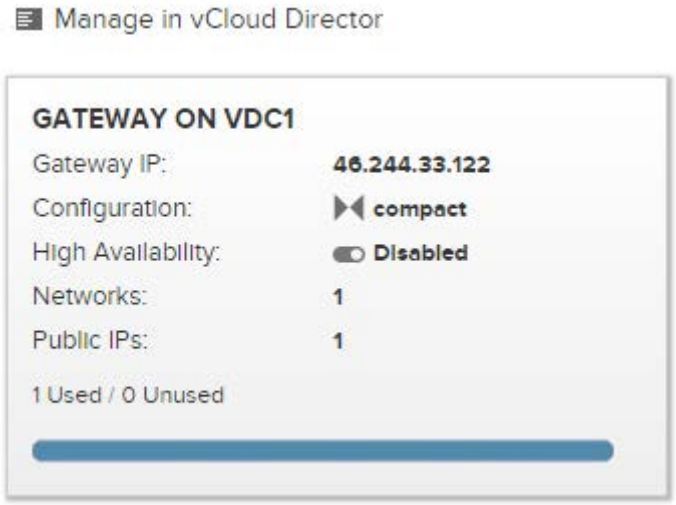
NAT Rules | Firewall Rules | Networks | Public IPs

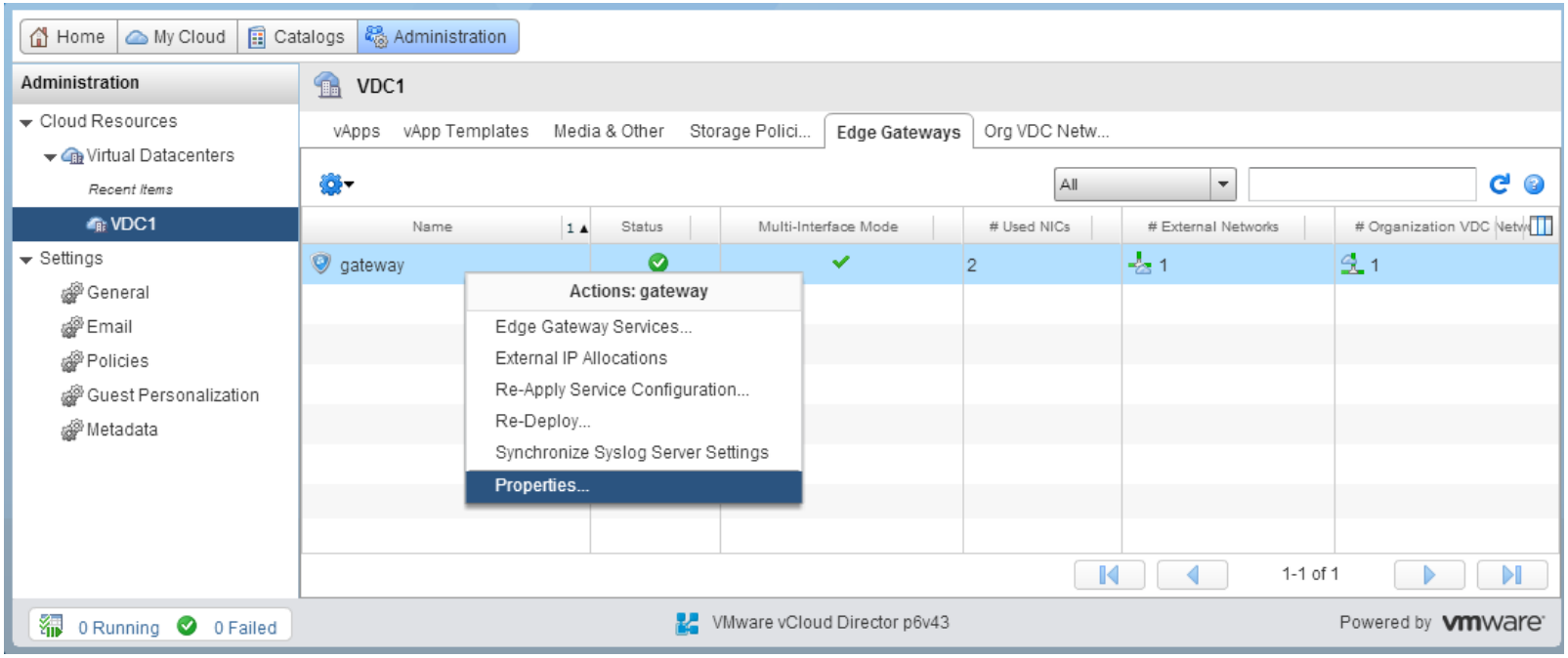
+ Add | Enable | Disable | Actions

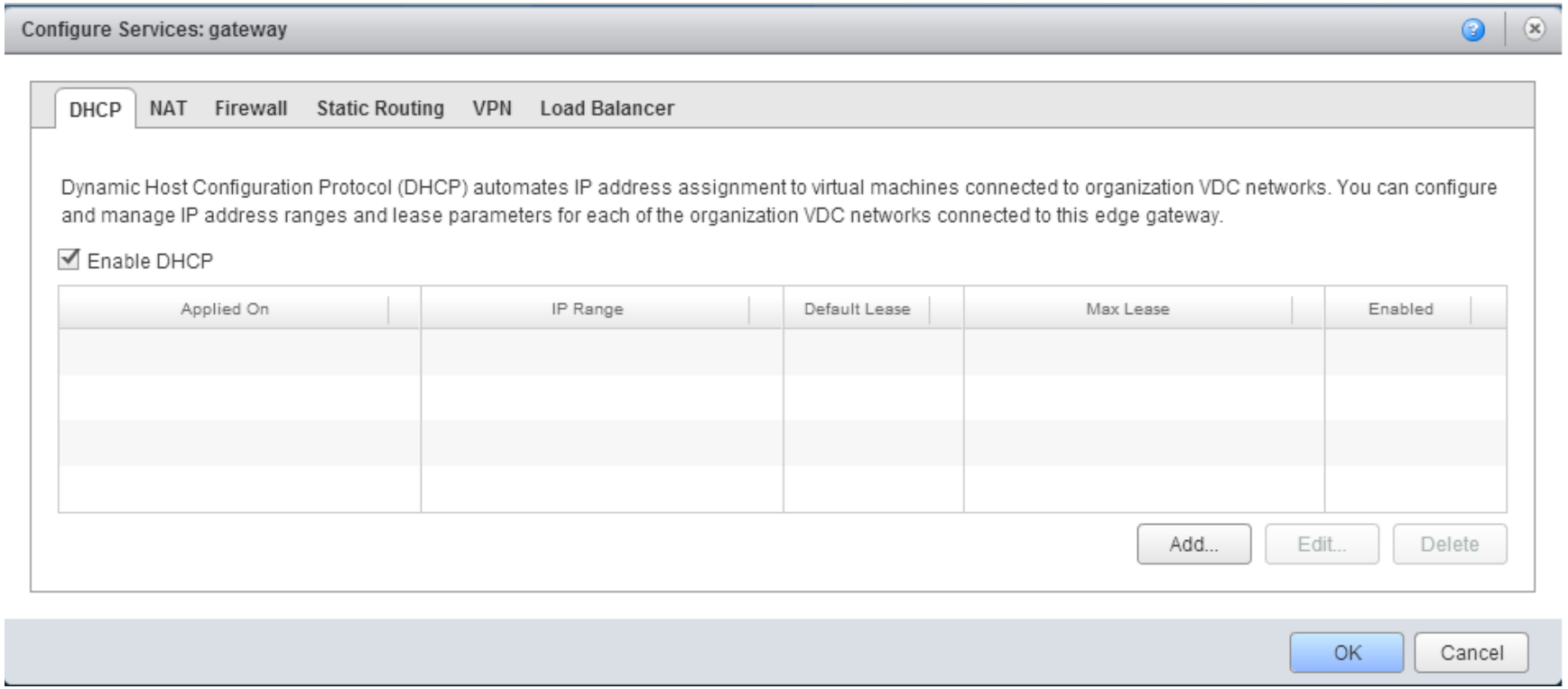
Showing 2 of 2

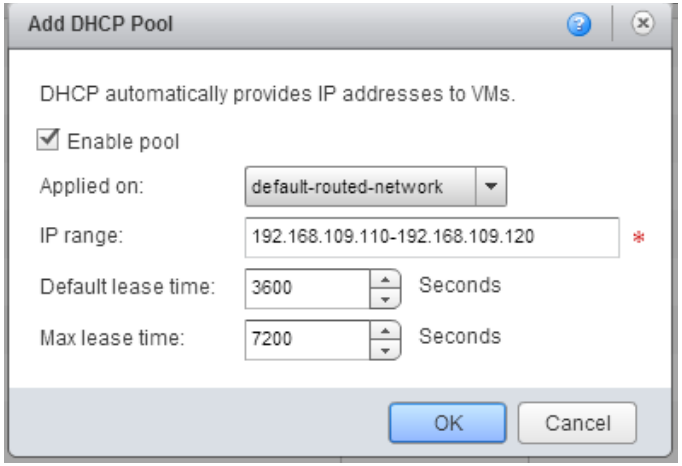
		Name	Source	Destination	Protocol	Log
☐		Internet	Any : Any	Any : Any	Any	Enabled
☐		Port 80	192.168.109.2 : 80	46.244.33.122 : 80	TCP	Disabled


Apache HTTP Server Test
46.244.33.122
Apache 2 Test Page
powered by CentOS
This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page it means that the Apache HTTP server installed at this site is working properly.
If you are a member of the general public:
The fact that you are seeing this page indicates that the website you just visited is either experiencing problems or is undergoing routine maintenance.
If you would like to let the administrators of this website know that you've seen this
If you are the website administrator:
You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.


Manage in vCloud Director
GATEWAY ON VDC1
Gateway IP:
46.244.33.122
Configuration:
compact
High Availability:
Disabled
Networks:
1
Public IPs:
1
1 Used / 0 Unused


Home
My Cloud
Catalogs
Administration
Administration
Cloud Resources
Virtual Datacenters
Recent Items
VDC1
Settings
General
Email
Policies
Guest Personalization
Metadata
VDC1
vApps
vApp Templates
Media & Other
Storage Polici...
Edge Gateways
Org VDC Netw...
All
Name
Status
Multi-Interface Mode
Used NICs
External Networks
Organization VDC
gateway
2
1
1
Actions: gateway
Edge Gateway Services...
External IP Allocations
Re-Apply Service Configuration...
Re-Deploy...
Synchronize Syslog Server Settings
Properties...
1-1 of 1
0 Running
0 Failed
VMware vCloud Director p6v43
Powered by vmware


Configure Services: gateway
DHCP
NAT
Firewall
Static Routing
VPN
Load Balancer
Dynamic Host Configuration Protocol (DHCP) automates IP address assignment to virtual machines connected to organization VDC networks. You can configure and manage IP address ranges and lease parameters for each of the organization VDC networks connected to this edge gateway.
Enable DHCP
Applied On
IP Range
Default Lease
Max Lease
Enabled
Add...
Edit...
Delete
OK
Cancel

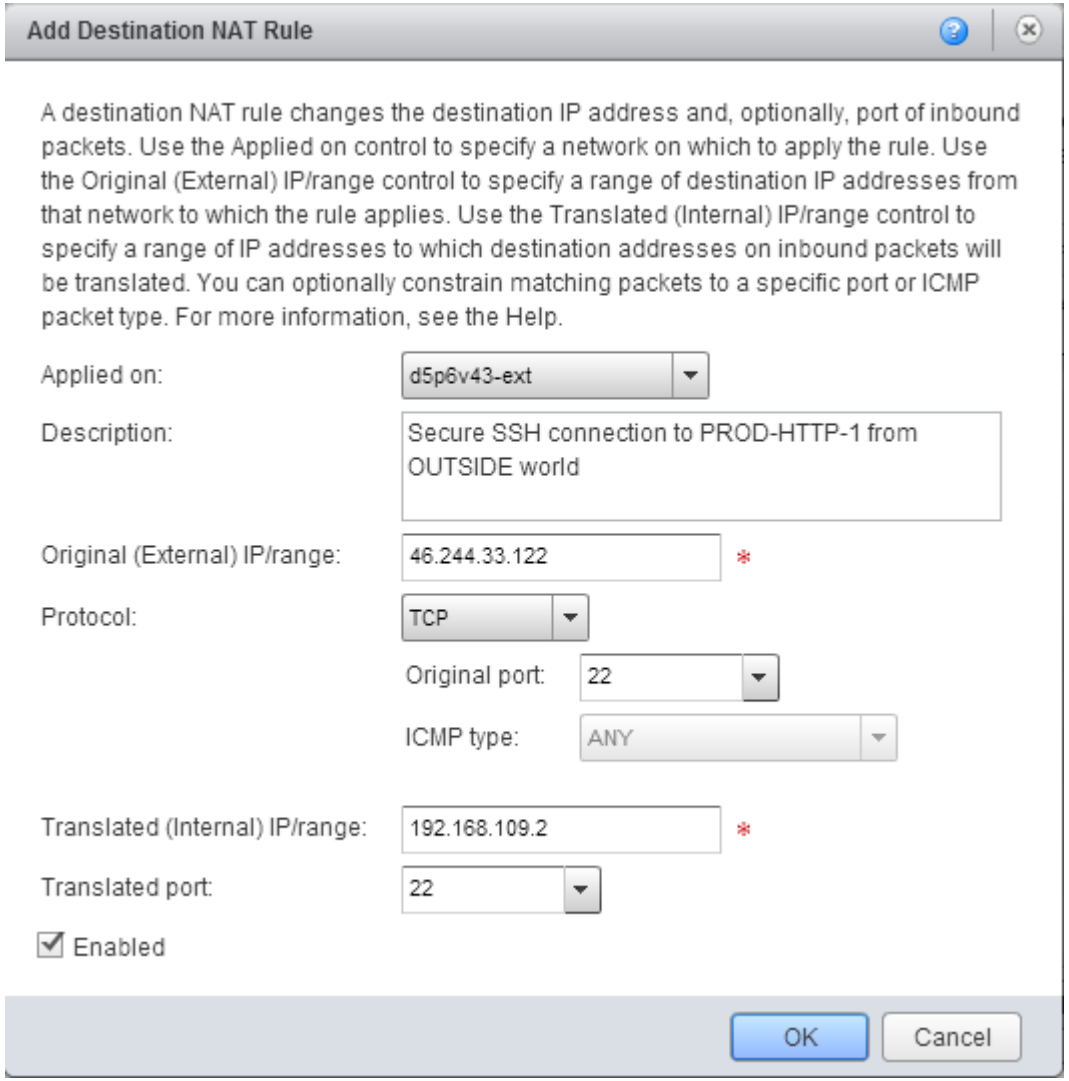


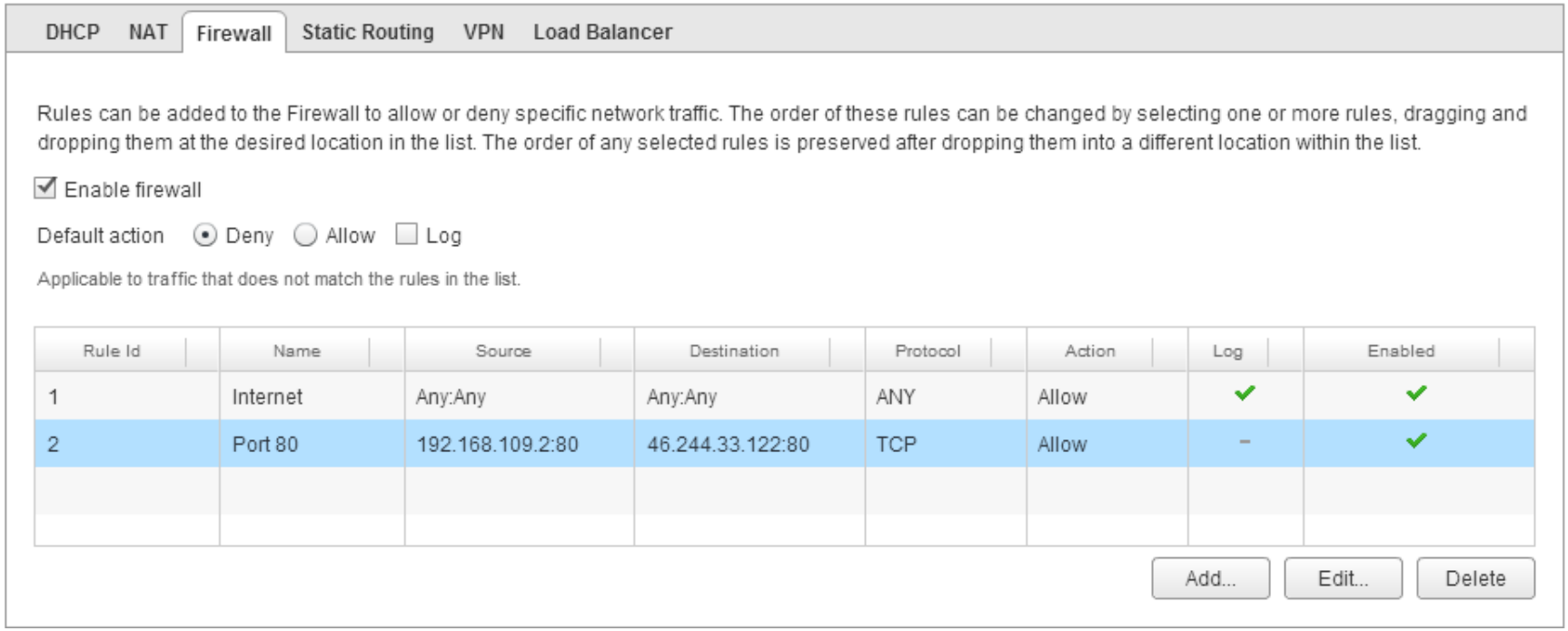
DHCP | NAT | Firewall | Static Routing | VPN | Load Balancer

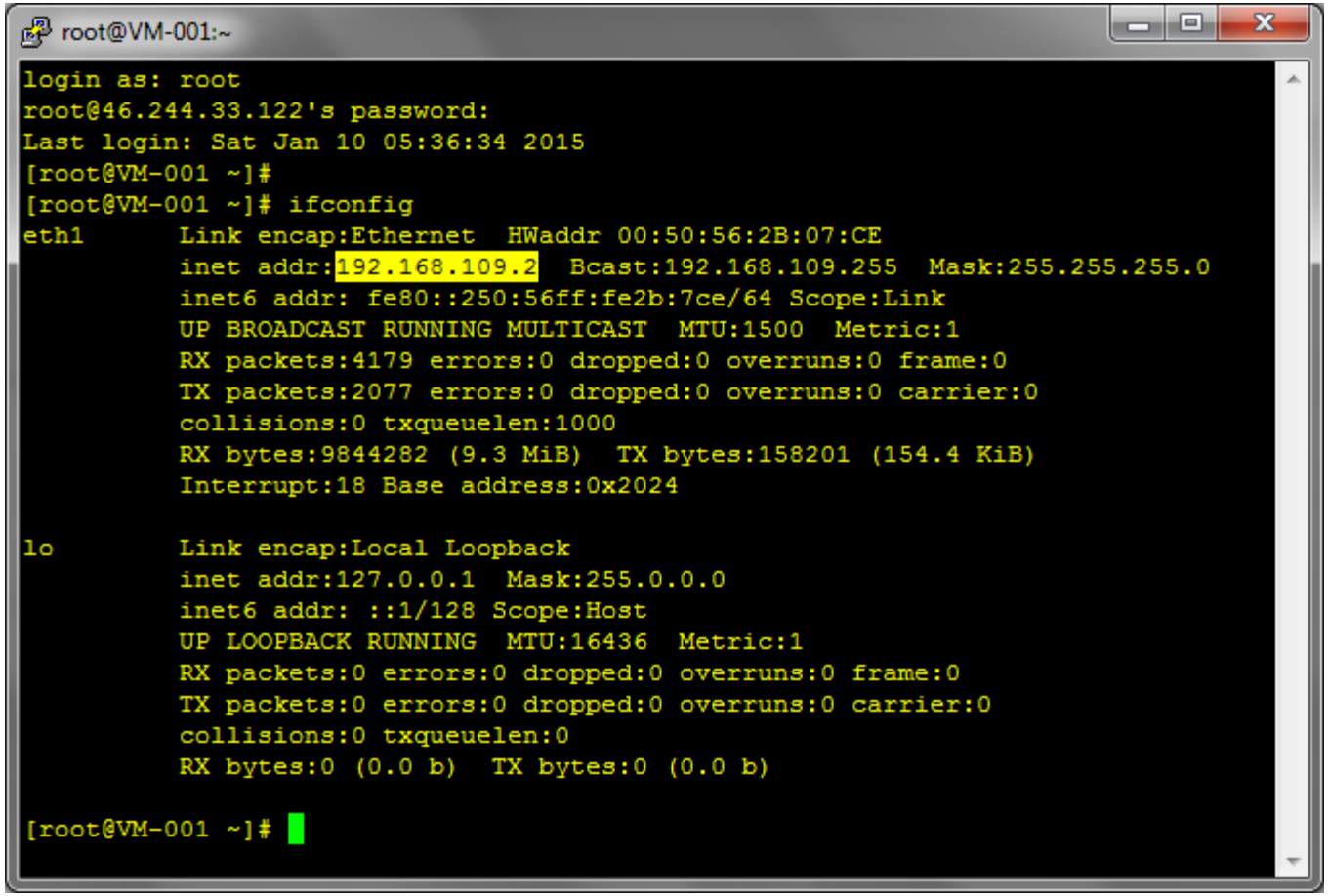
Network Address Translation (NAT) modifies the source/destination IP addresses of packets arriving to and leaving from this Edge Gateway.
Source NAT (SNAT) translates the source address of a packet before leaving this gateway, whereas Destination NAT(DNAT) translates the destination IP address/port of a packet received by this gateway.

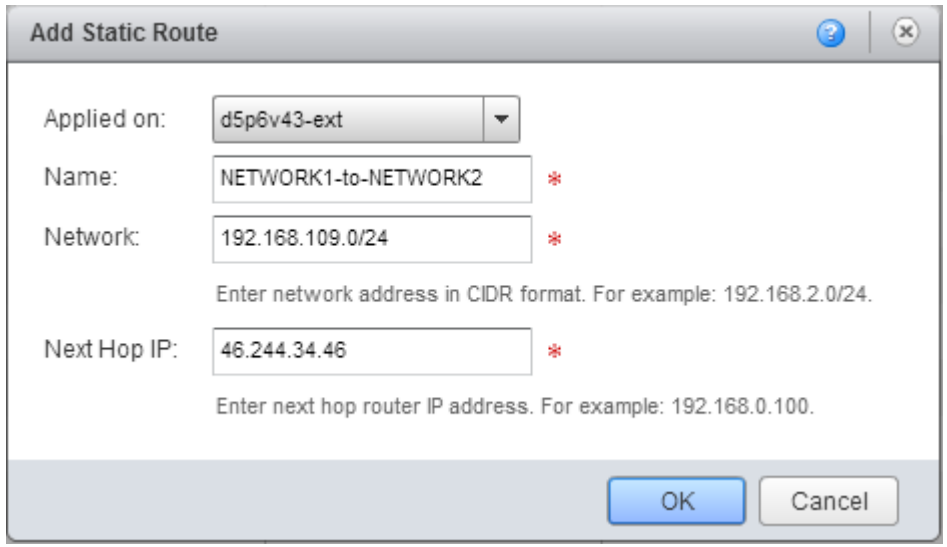
Applied On	Description	Type	Original IP	Original Port	Translated IP	Translated Port	Protocol	Enabled
d5p6v43-ext		SNAT	192.168.109.2	any	46.244.33.122	any	ANY	✔
d5p6v43-ext		DNAT	46.244.33.122	80	192.168.109.2	80	TCP	✔

Add SNAT... | Add DNAT... | Edit... | Delete


Add Destination NAT Rule
A destination NAT rule changes the destination IP address and, optionally, port of inbound packets. Use the Applied on control to specify a network on which to apply the rule. Use the Original (External) IP/range control to specify a range of destination IP addresses from that network to which the rule applies. Use the Translated (Internal) IP/range control to specify a range of IP addresses to which destination addresses on inbound packets will be translated. You can optionally constrain matching packets to a specific port or ICMP packet type. For more information, see the Help.
Applied on:
d5p6v43-ext
Description:
Secure SSH connection to PROD-HTTP-1 from OUTSIDE world
Original (External) IP/range:
46.244.33.122
Protocol:
TCP
Original port:
22
ICMP type:
ANY
Translated (Internal) IP/range:
192.168.109.2
Translated port:
22
Enabled
OK
Cancel

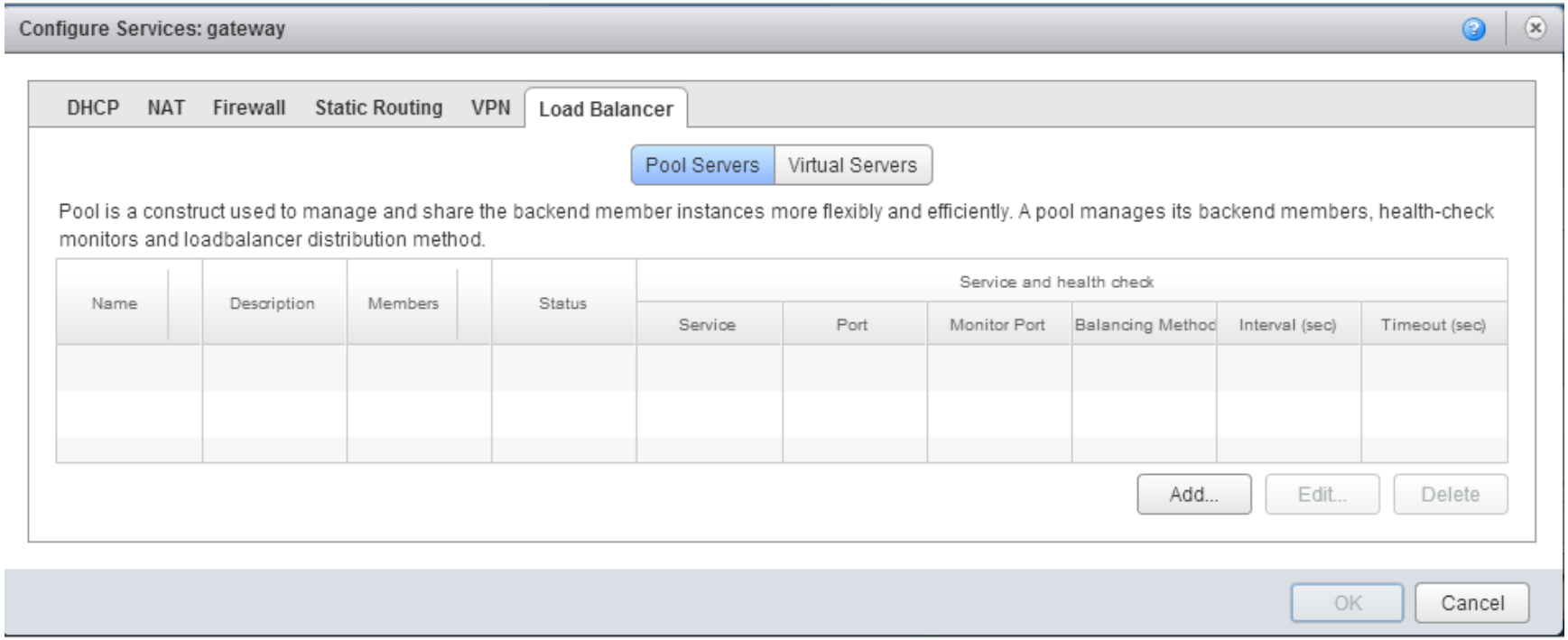

DHCP
NAT
Firewall
Static Routing
VPN
Load Balancer
Rules can be added to the Firewall to allow or deny specific network traffic. The order of these rules can be changed by selecting one or more rules, dragging and dropping them at the desired location in the list. The order of any selected rules is preserved after dropping them into a different location within the list.
Enable firewall
Default action
Deny
Allow
Log
Applicable to traffic that does not match the rules in the list.
Rule Id
Name
Source
Destination
Protocol
Action
Log
Enabled
1
Internet
Any:Any
Any:Any
ANY
Allow
2
Port 80
192.168.109.2:80
46.244.33.122:80
TCP
Allow
Add...
Edit...
Delete


root@VM-001:~
login as: root
root@46.244.33.122's password:
Last login: Sat Jan 10 05:36:34 2015
[root@VM-001 ~]#
[root@VM-001 ~]# ifconfig
eth1 Link encap:Ethernet HWaddr 00:50:56:2B:07:CE
inet addr:192.168.109.2 Bcast:192.168.109.255 Mask:255.255.255.0
inet6 addr: fe80::250:56ff:fe2b:7ce/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:4179 errors:0 dropped:0 overruns:0 frame:0
TX packets:2077 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:9844282 (9.3 MiB) TX bytes:158201 (154.4 KiB)
Interrupt:18 Base address:0x2024
lo Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:0 (0.0 b) TX bytes:0 (0.0 b)
[root@VM-001 ~]#



New Virtual Machine | Power On | Power Off | Actions | Search

	Status	Name	Owner	CPU	Memory	OS	vApp
☐	⊖	PROD-MYSQL-1	yohanwadia88@gmai...	2 vCPU	4.0 GB	CentOS 4/5/6/7 (64-bit)	PROD-MYSQL-1-VApp
☑	⏻	PROD-HTTP-1	yohanwadia88@gmai...	2 vCPU	4.0 GB	CentOS 4/5/6/7 (64-bit)	PROD-HTTP-1-VApp
☑	⏻	PROD-HTTP-2	yohanwadia88@gmai...	2 vCPU	4.0 GB	CentOS 4/5/6/7 (64-bit)	PROD-HTTP-2-VApp

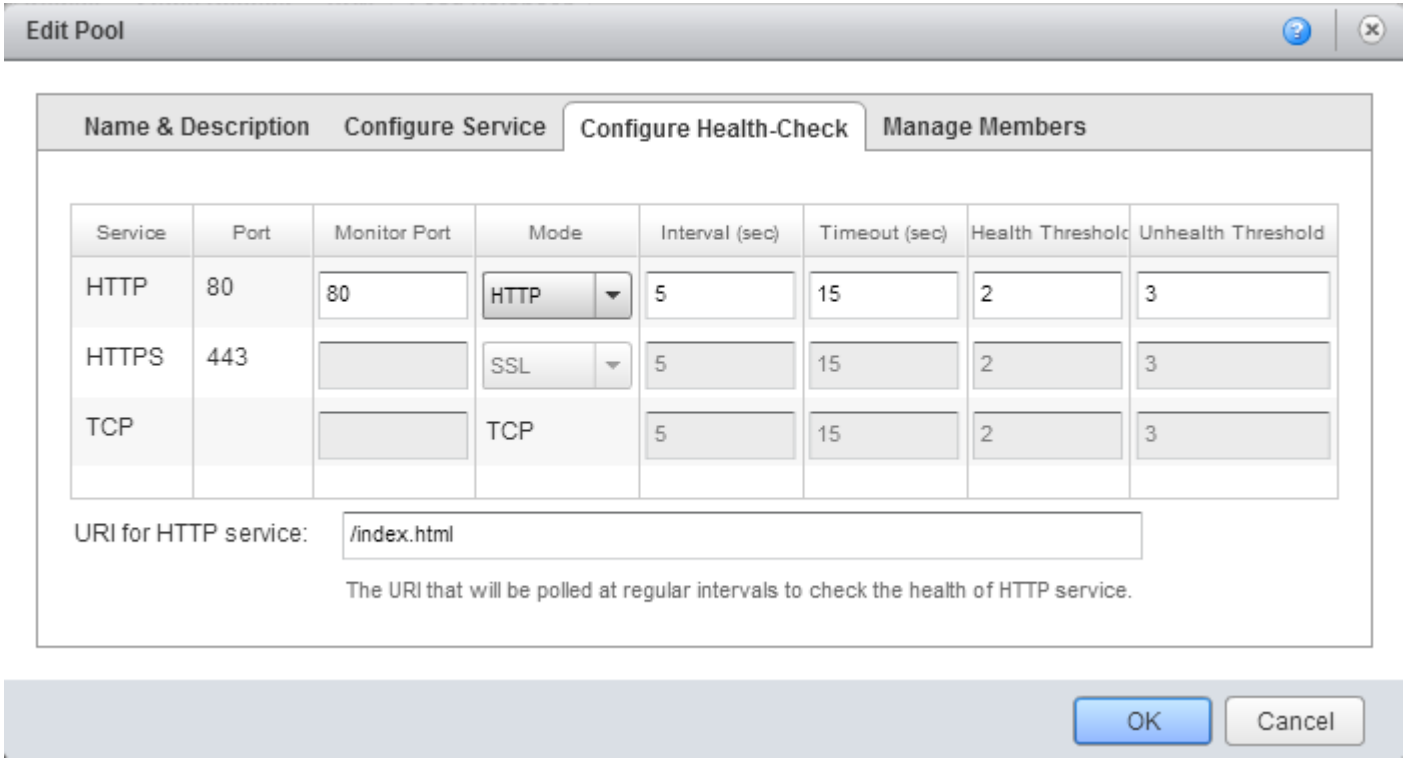

Configure Services: gateway
DHCP
NAT
Firewall
Static Routing
VPN
Load Balancer
Pool Servers
Virtual Servers
Pool is a construct used to manage and share the backend member instances more flexibly and efficiently. A pool manages its backend members, health-check monitors and loadbalancer distribution method.
Name
Description
Members
Status
Service and health check
Service
Port
Monitor Port
Balancing Method
Interval (sec)
Timeout (sec)
Add...
Edit...
Delete
OK
Cancel

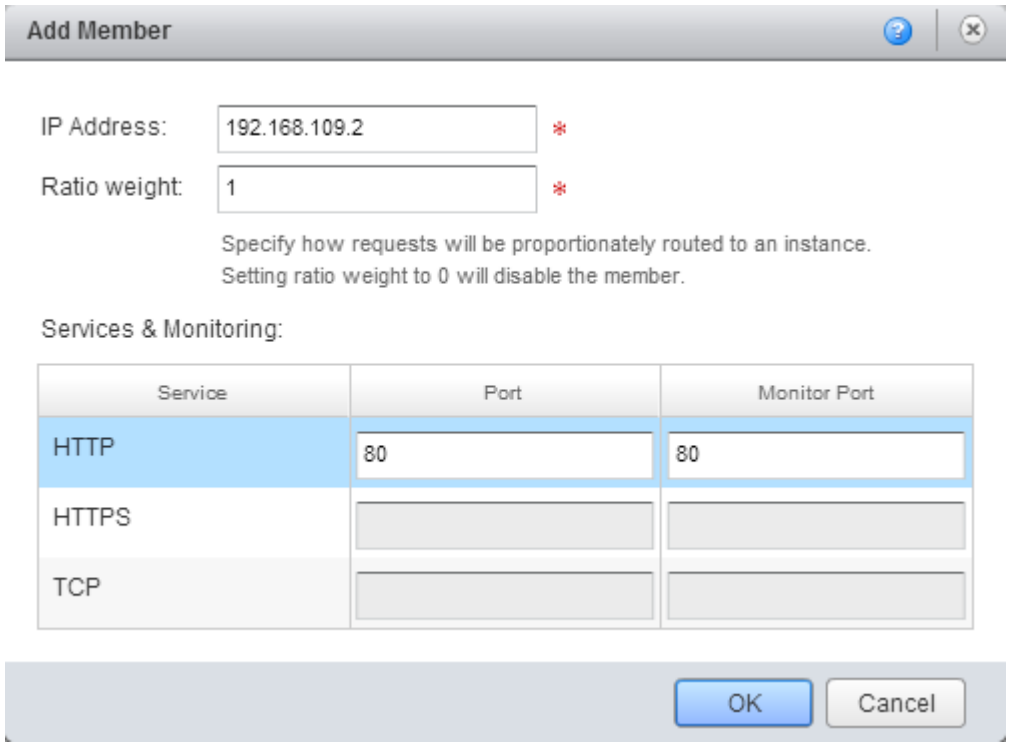
Configure Service

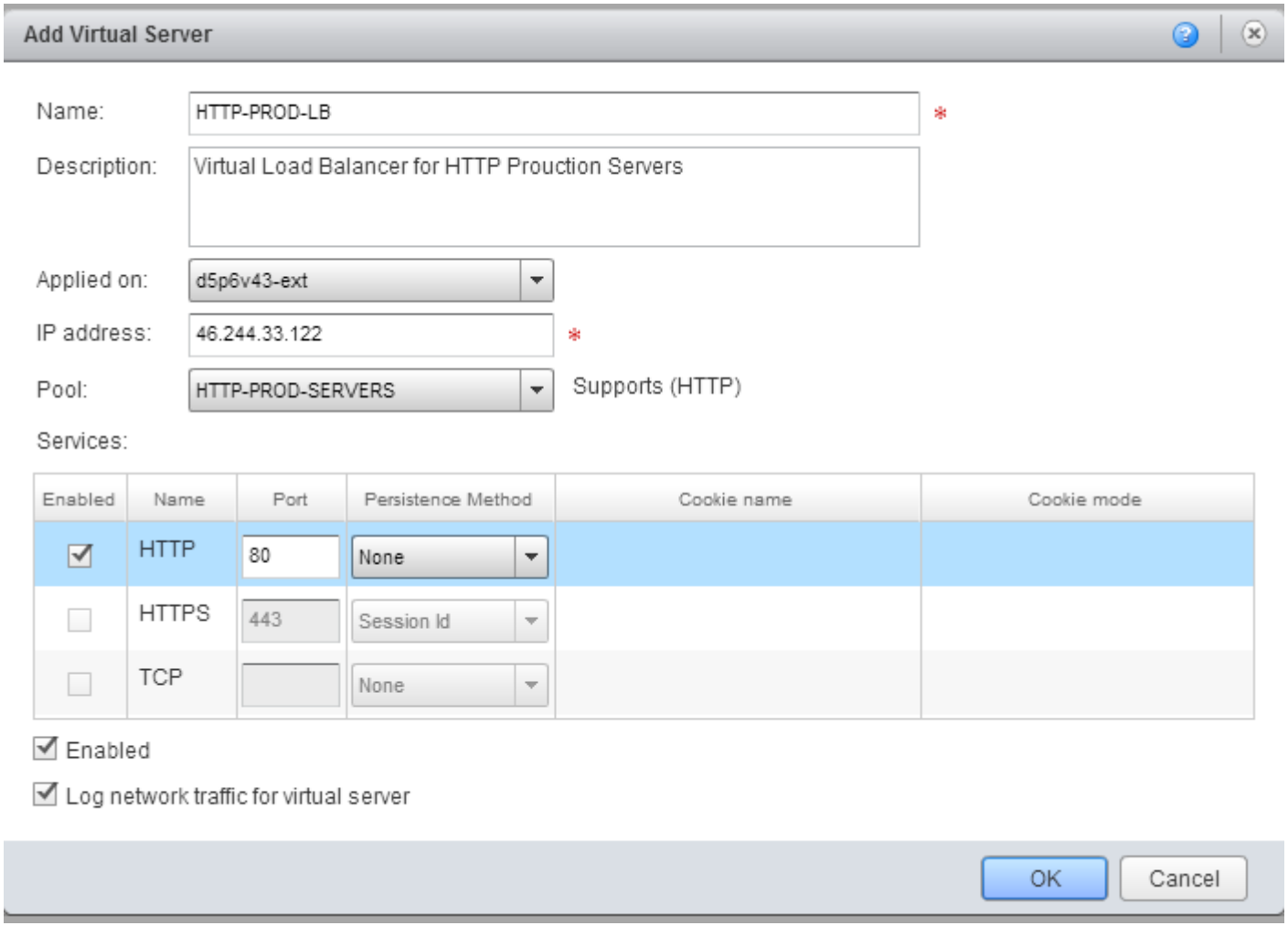
Select the services supported by this pool.

Enable	Service	Balancing Method	Port
☑	HTTP	Round Robin	80
☐	HTTPS	Round Robin	443
☐	TCP	Round Robin	

Load balancing algorithms determine how traffic is distributed across pool members. Supported balancing algorithms are IP Hash, Round Robin, URI, and Least Connected.


Edit Pool
Name & Description
Configure Service
Configure Health-Check
Manage Members
Service
Port
Monitor Port
Mode
Interval (sec)
Timeout (sec)
Health Threshold
Unhealth Threshold
HTTP
80
80
HTTP
5
15
2
3
HTTPS
443
SSL
5
15
2
3
TCP
TCP
5
15
2
3
URI for HTTP service:
/index.html
The URI that will be polled at regular intervals to check the health of HTTP service.
OK
Cancel

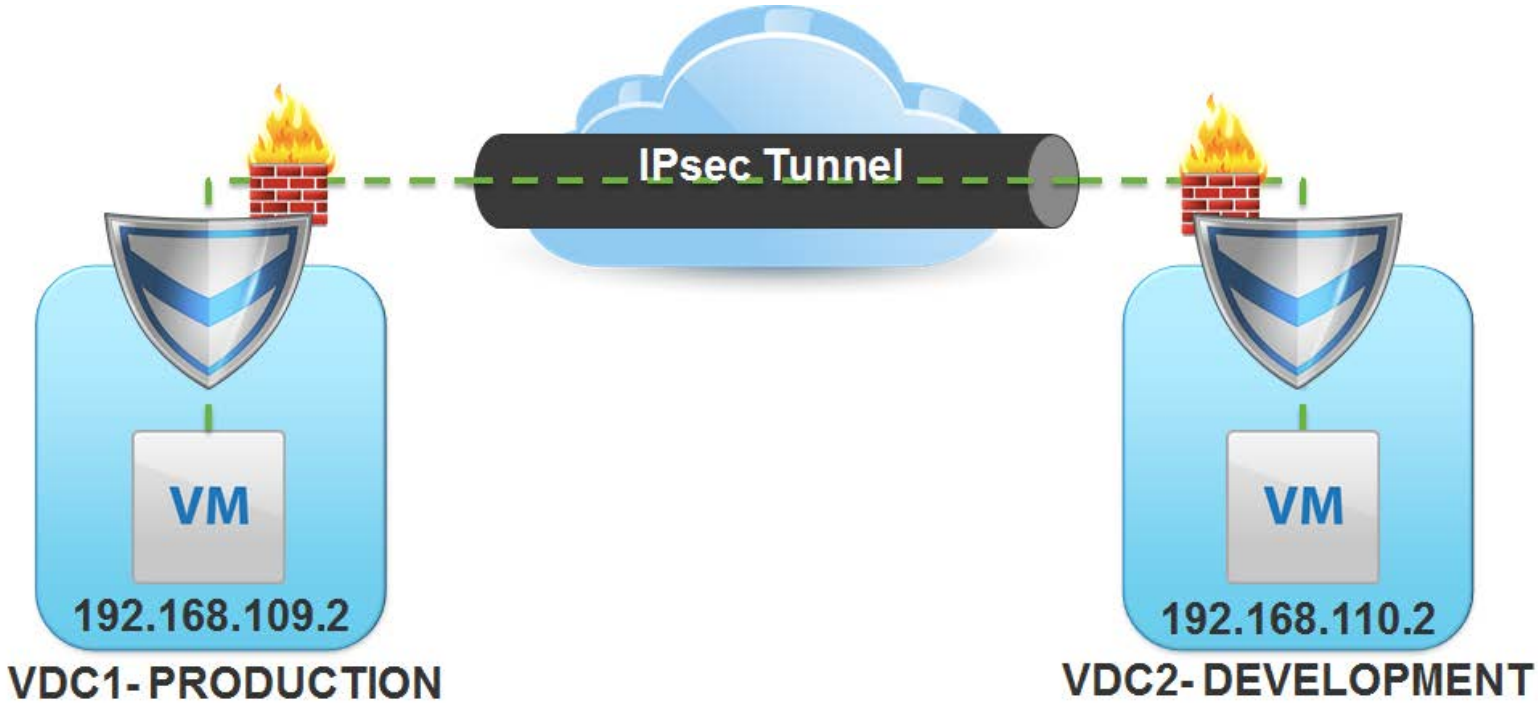

Add Member
IP Address:
192.168.109.2
Ratio weight:
1
Specify how requests will be proportionately routed to an instance.
Setting ratio weight to 0 will disable the member.
Services & Monitoring:
Service
Port
Monitor Port
HTTP
80
80
HTTPS
TCP
OK
Cancel

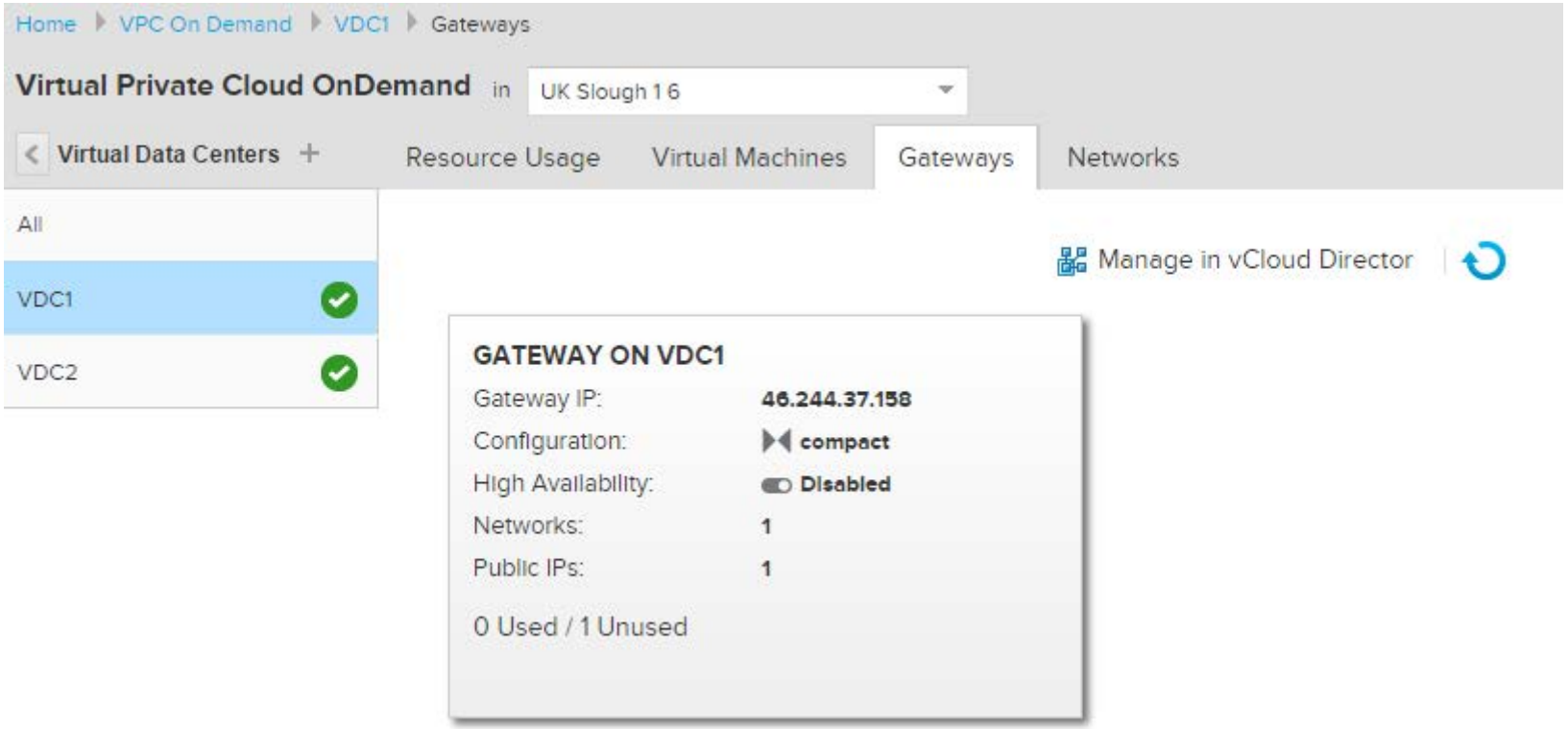

Add Virtual Server
Name:
HTTP-PROD-LB
Description:
Virtual Load Balancer for HTTP Prouction Servers
Applied on:
d5p6v43-ext
IP address:
46.244.33.122
Pool:
HTTP-PROD-SERVERS
Supports (HTTP)
Services:
Enabled
Name
Port
Persistence Method
Cookie name
Cookie mode
HTTP
80
None
HTTPS
443
Session Id
TCP
None
Enabled
Log network traffic for virtual server
OK
Cancel

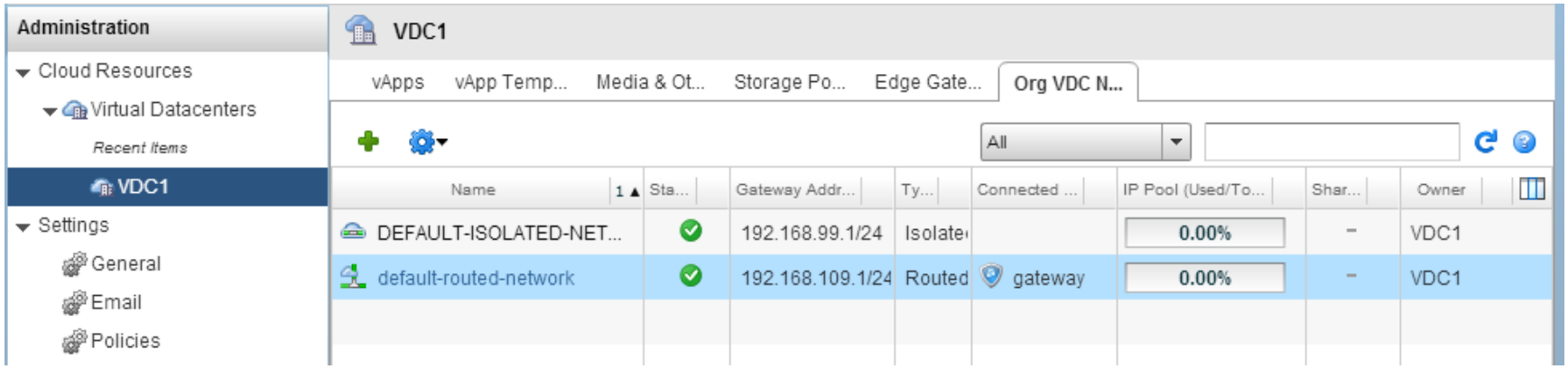
		Name	Source	Destination	Protocol	Log
☐	●	Internet	Any : Any	Any : Any	Any	Enabled
☐	●	Port 80	192.168.109.2 : 80	46.244.33.122 : 80	TCP	Disabled
☐	●	SECURE22	192.168.99.2 : 22	192.168.109.2 : 22	TCP	Disabled
☐	●	Port 80	192.168.109.3 : 80	46.244.33.122 : 80	TCP	Disabled

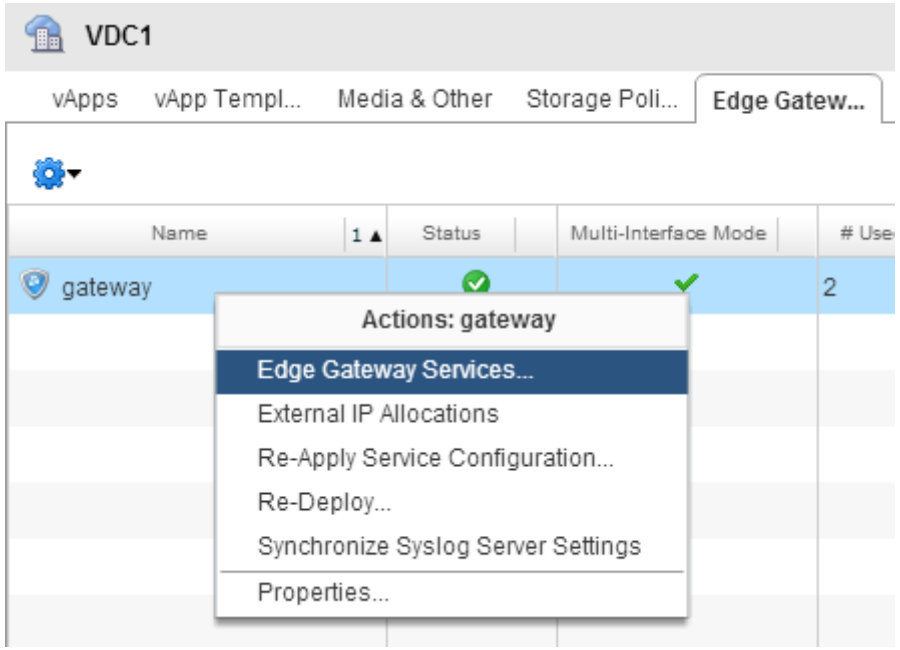
		Type	Original		Translated		Protocol	Applied On
			IP Address	Port	IP Address	Port		
☐	●	SNAT	192.168.109.2	Any	46.244.33.122	Any	Any	d5p6v43-ext
☐	●	DNAT	46.244.33.122	80	192.168.109.2	80	TCP	d5p6v43-ext
☐	●	DNAT	46.244.33.122	22	192.168.109.2	22	TCP	d5p6v43-ext
☐	●	SNAT	192.168.109.3	Any	46.244.33.122	Any	Any	d5p6v43-ext
☐	●	DNAT	46.244.33.122	80	192.168.109.3	80	TCP	d5p6v43-ext

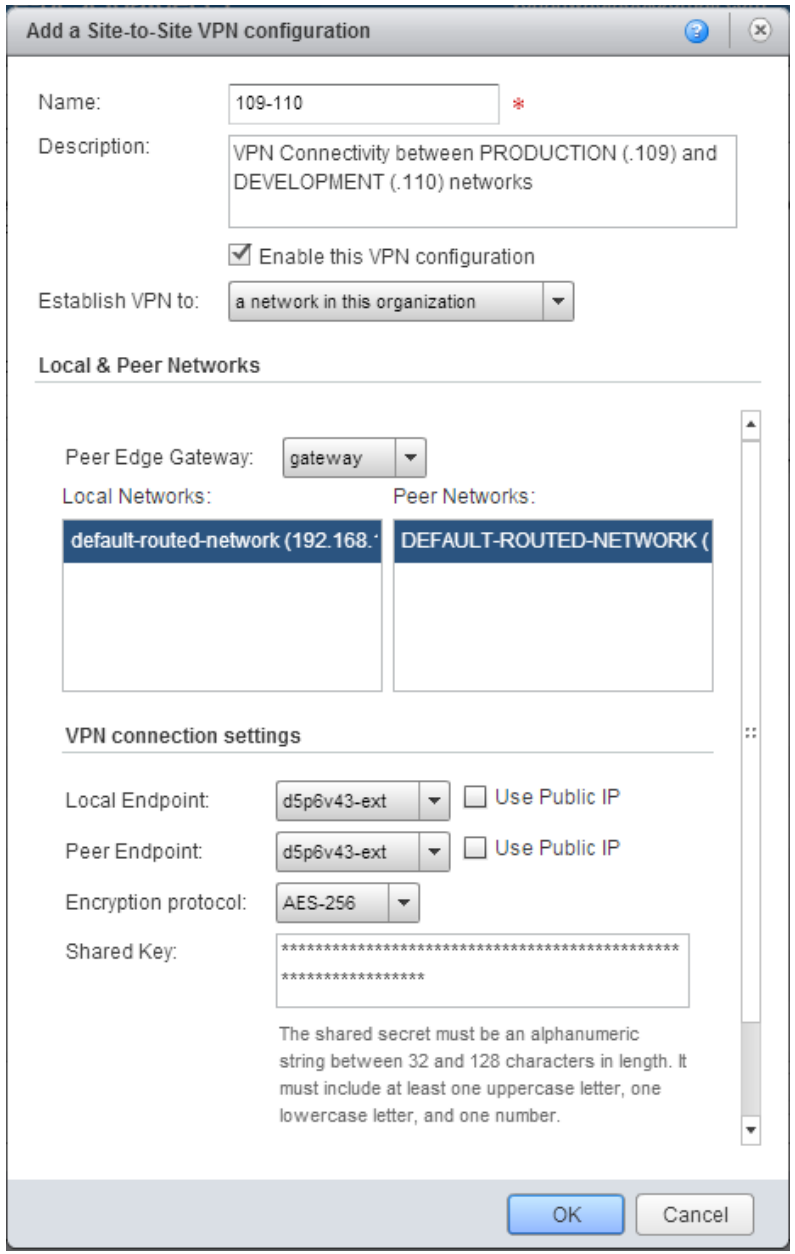
Chapter 4 – Extending vCloud Air

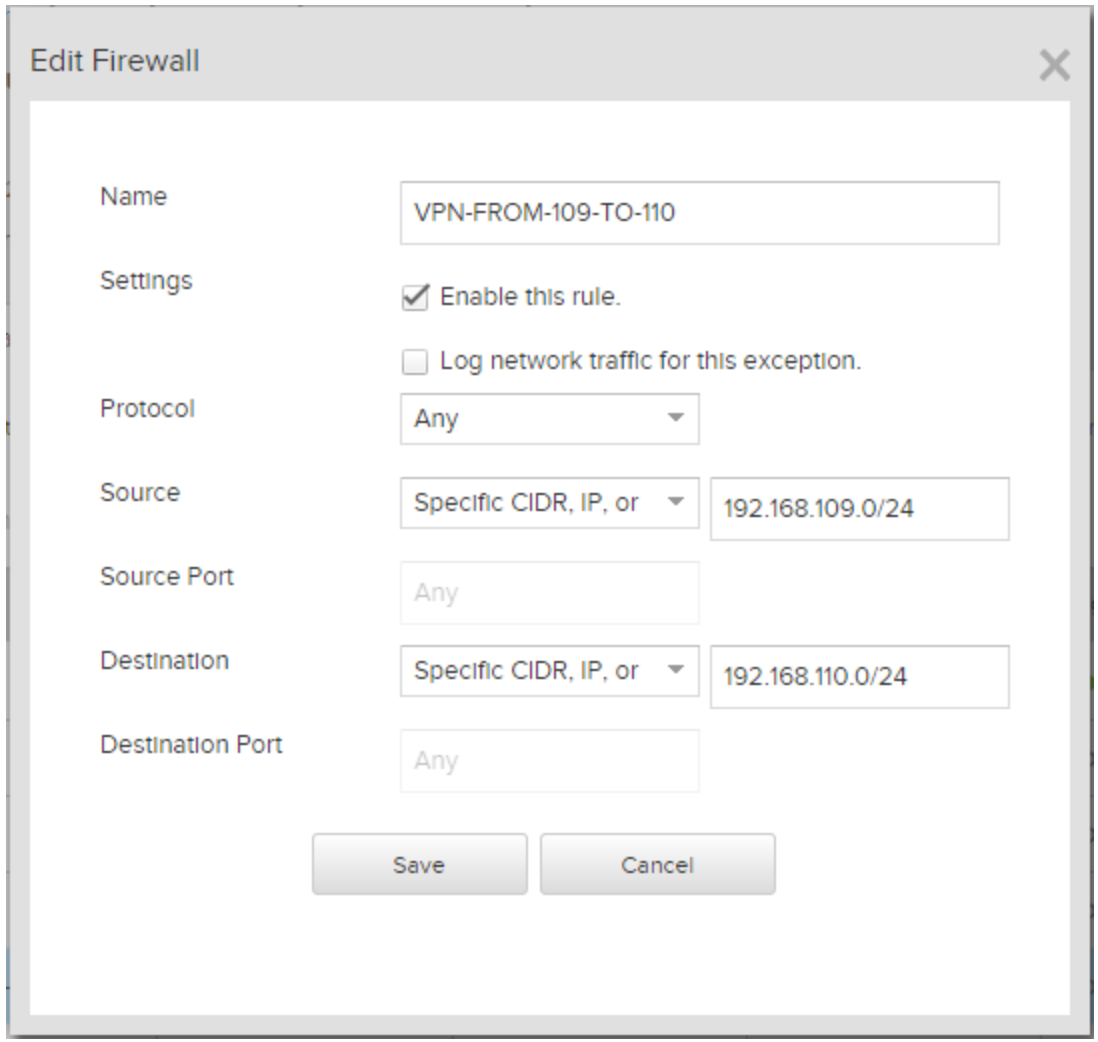


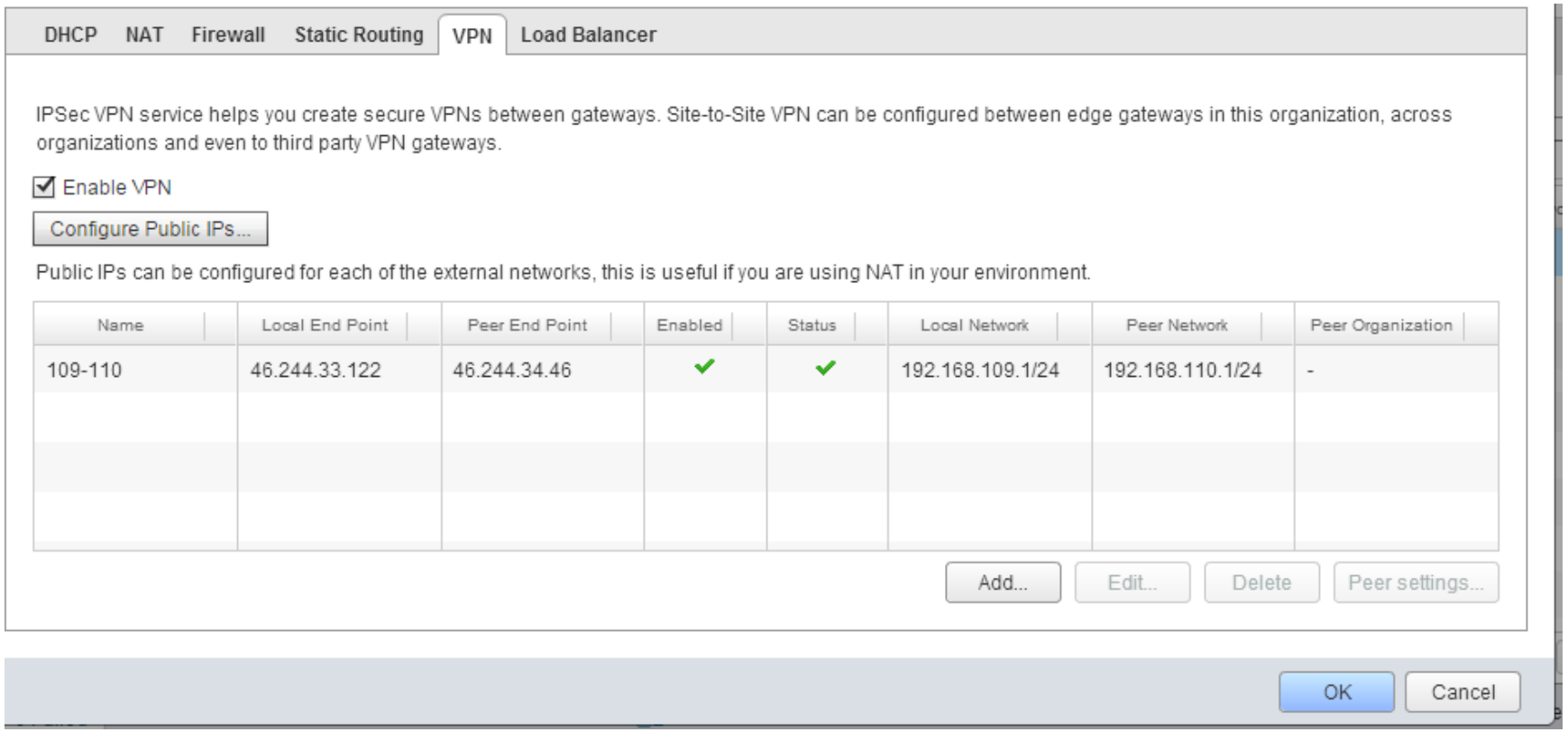

Home
VPC On Demand
VDC1
Gateways
Virtual Private Cloud OnDemand
in
UK Slough 1 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
VDC1
VDC2
Manage in vCloud Director
GATEWAY ON VDC1
Gateway IP:
46.244.37.158
Configuration:
compact
High Availability:
Disabled
Networks:
1
Public IPs:
1
0 Used / 1 Unused


Administration
Cloud Resources
Virtual Datacenters
Recent Items
VDC1
Settings
General
Email
Policies
VDC1
vApps
vApp Temp...
Media & Ot...
Storage Po...
Edge Gate...
Org VDC N...
All
Name
1
Sta...
Gateway Addr...
Ty...
Connected ...
IP Pool (Used/To...
Shar...
Owner
DEFAULT-ISOLATED-NET...
192.168.99.1/24
Isolate
0.00%
VDC1
default-routed-network
192.168.109.1/24
Routed
gateway
0.00%
VDC1

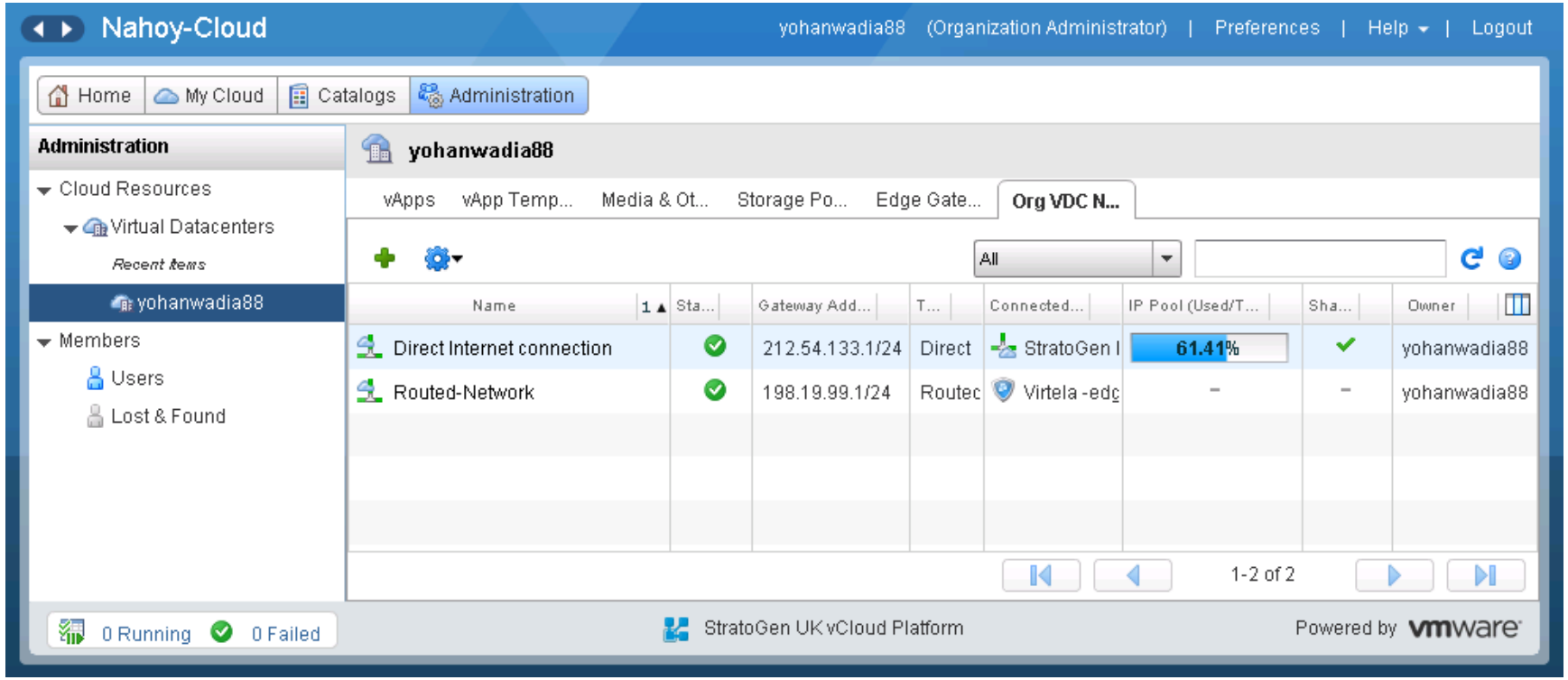

VDC1
vApps
vApp Templ...
Media & Other
Storage Poli...
Edge Gatew...
Name
1
Status
Multi-Interface Mode
Use
gateway
2
Actions: gateway
Edge Gateway Services...
External IP Allocations
Re-Apply Service Configuration...
Re-Deploy...
Synchronize Syslog Server Settings
Properties...

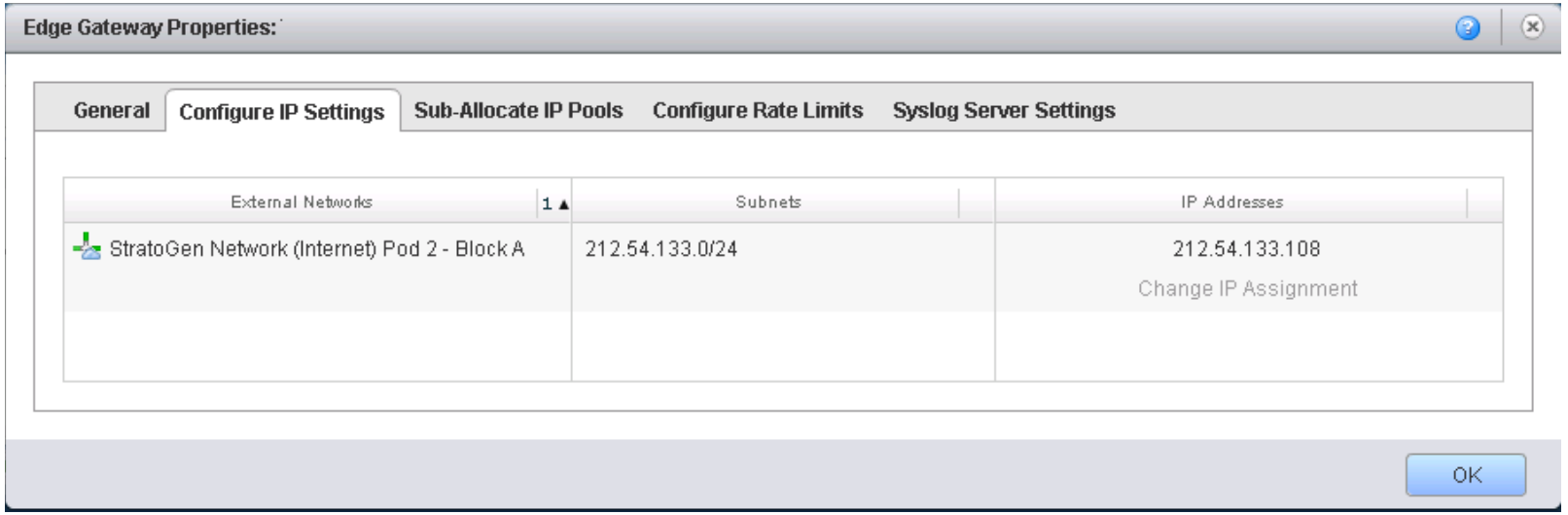

Add a Site-to-Site VPN configuration
Name:
109-110
*
Description:
VPN Connectivity between PRODUCTION (.109) and DEVELOPMENT (.110) networks
Enable this VPN configuration
Establish VPN to:
a network in this organization
Local & Peer Networks
Peer Edge Gateway:
gateway
Local Networks:
Peer Networks:
default-routed-network (192.168.
DEFAULT-ROUTED-NETWORK (
VPN connection settings
Local Endpoint:
d5p6v43-ext
Use Public IP
Peer Endpoint:
d5p6v43-ext
Use Public IP
Encryption protocol:
AES-256
Shared Key:
****
The shared secret must be an alphanumeric string between 32 and 128 characters in length. It must include at least one uppercase letter, one lowercase letter, and one number.
OK
Cancel

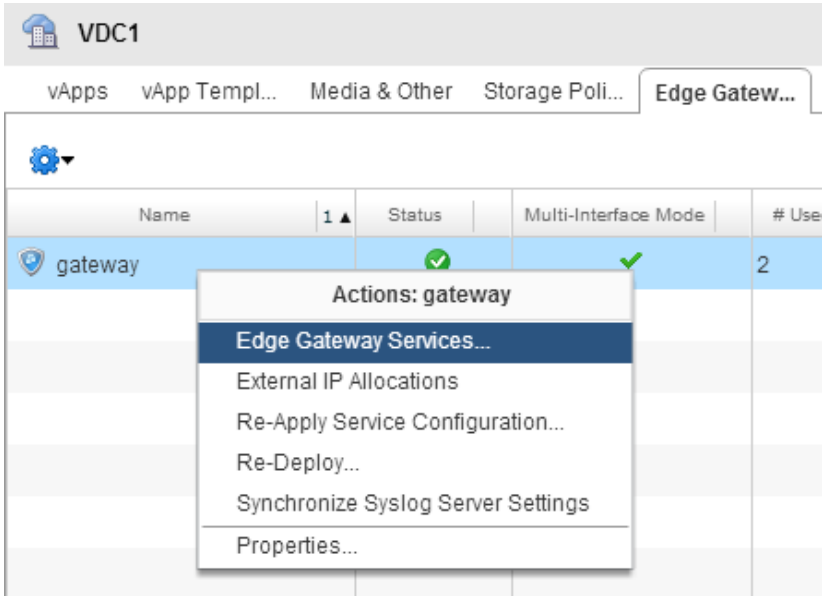

Edit Firewall
Name
VPN-FROM-109-TO-110
Settings
Enable this rule.
Log network traffic for this exception.
Protocol
Any
Source
Specific CIDR, IP, or
192.168.109.0/24
Source Port
Any
Destination
Specific CIDR, IP, or
192.168.110.0/24
Destination Port
Any
Save
Cancel

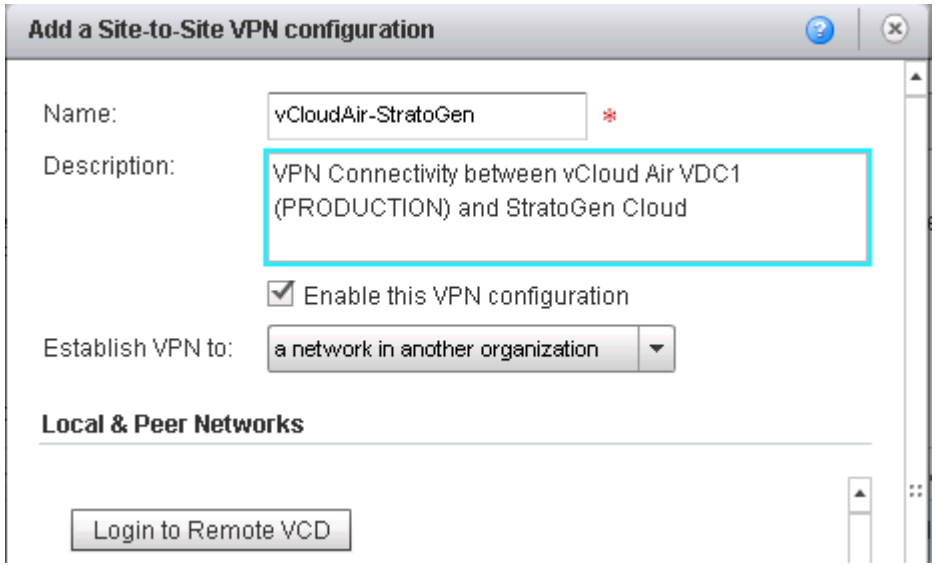

DHCP
NAT
Firewall
Static Routing
VPN
Load Balancer
IPSec VPN service helps you create secure VPNs between gateways. Site-to-Site VPN can be configured between edge gateways in this organization, across organizations and even to third party VPN gateways.
Enable VPN
Configure Public IPs...
Public IPs can be configured for each of the external networks, this is useful if you are using NAT in your environment.
Name
Local End Point
Peer End Point
Enabled
Status
Local Network
Peer Network
Peer Organization
109-110
46.244.33.122
46.244.34.46
192.168.109.1/24
192.168.110.1/24
-
Add...
Edit...
Delete
Peer settings...
OK
Cancel

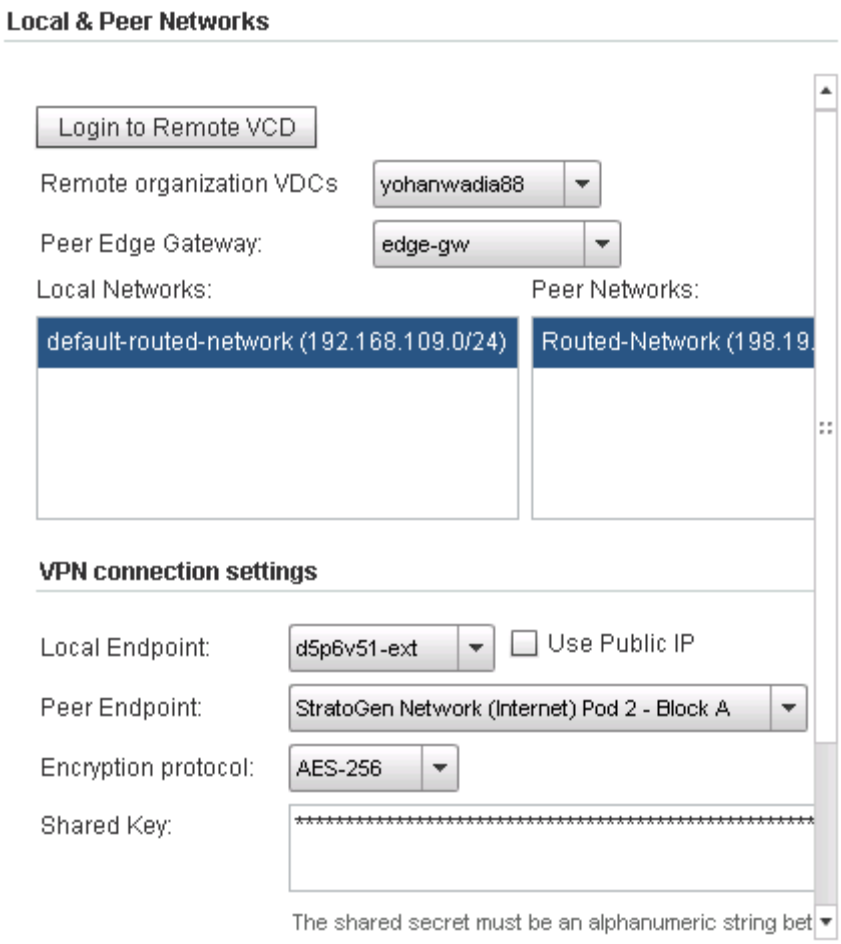
IPsec Tunnel
VM
192.168.109.110
VDC1- PRODUCTION
VMware vCloud Air
VM
198.19.99.10
VDC2
StratoGen Cloud

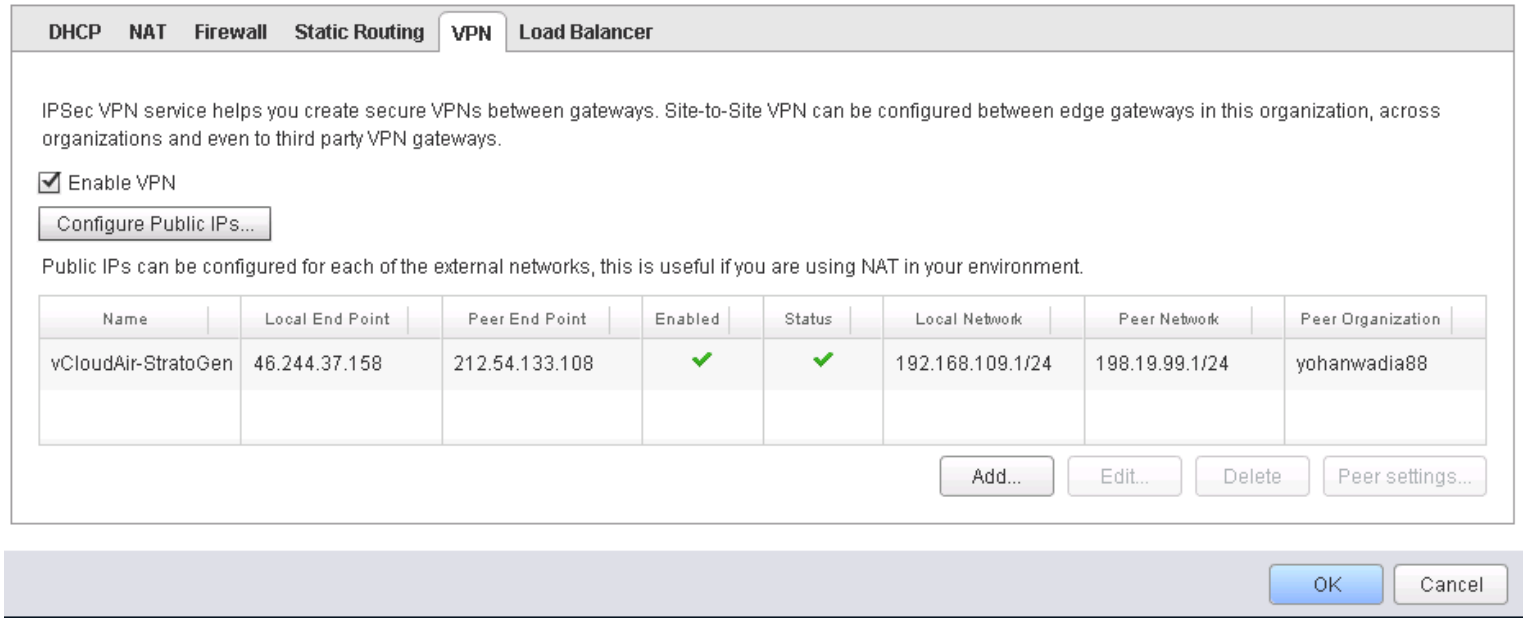

Nahoy-Cloud
yohanwadia88 (Organization Administrator) | Preferences | Help | Logout
Home
My Cloud
Catalogs
Administration
Administration
Cloud Resources
Virtual Datacenters
Recent Items
yohanwadia88
Members
Users
Lost & Found
yohanwadia88
vApps
vApp Temp...
Media & Ot...
Storage Po...
Edge Gate...
Org VDC N...
All
Name
Sta...
Gateway Add...
T...
Connected...
IP Pool (Used/T...
Sha...
Owner
Direct Internet connection
212.54.133.1/24
Direct
StratoGen I
61.41%
yohanwadia88
Routed-Network
198.19.99.1/24
Routec
Virtela -edg
-
-
yohanwadia88
1-2 of 2
0 Running
0 Failed
StratoGen UK vCloud Platform
Powered by vmware


Edge Gateway Properties:
General
Configure IP Settings
Sub-Allocate IP Pools
Configure Rate Limits
Syslog Server Settings
External Networks
1
Subnets
IP Addresses
StratoGen Network (Internet) Pod 2 - Block A
212.54.133.0/24
212.54.133.108
Change IP Assignment
OK

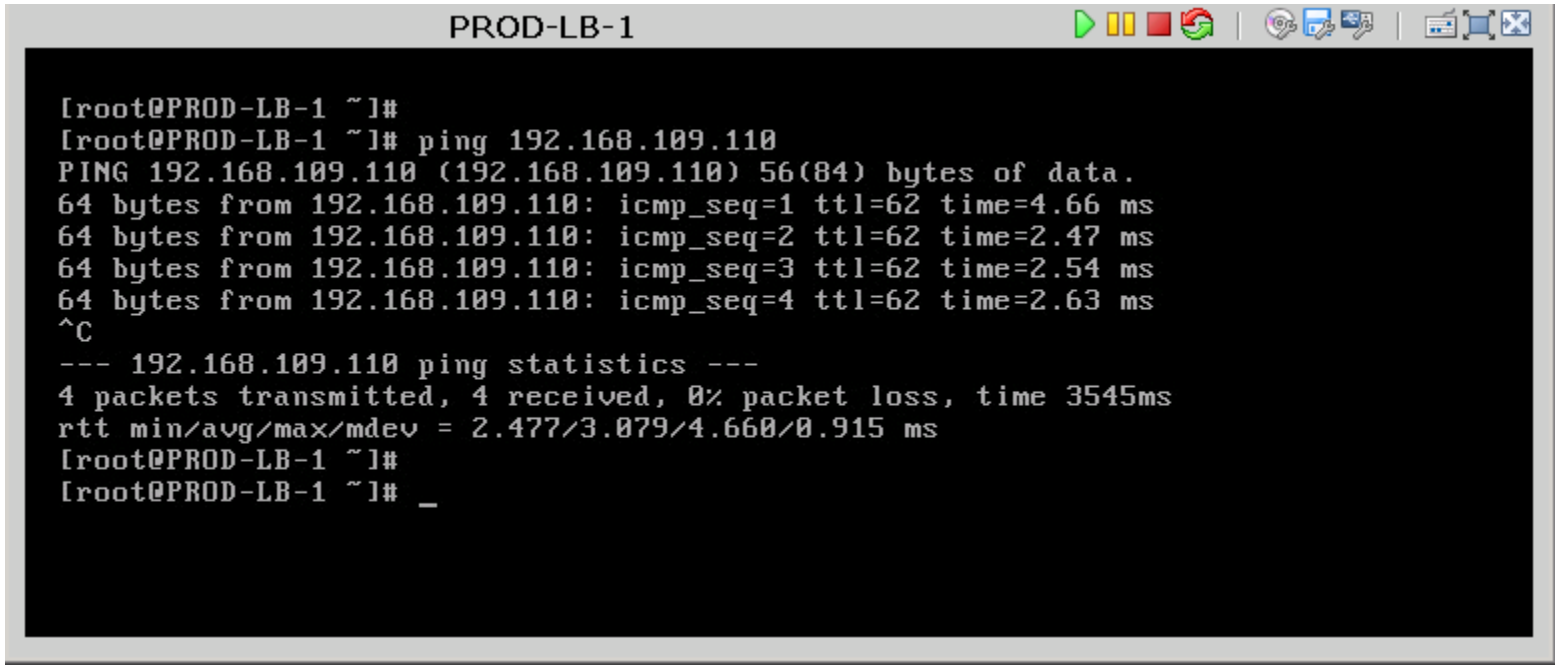

VDC1
vApps
vApp Templ...
Media & Other
Storage Poli...
Edge Gatew...
Name
1
Status
Multi-Interface Mode
Use
gateway
2
Actions: gateway
Edge Gateway Services...
External IP Allocations
Re-Apply Service Configuration...
Re-Deploy...
Synchronize Syslog Server Settings
Properties...

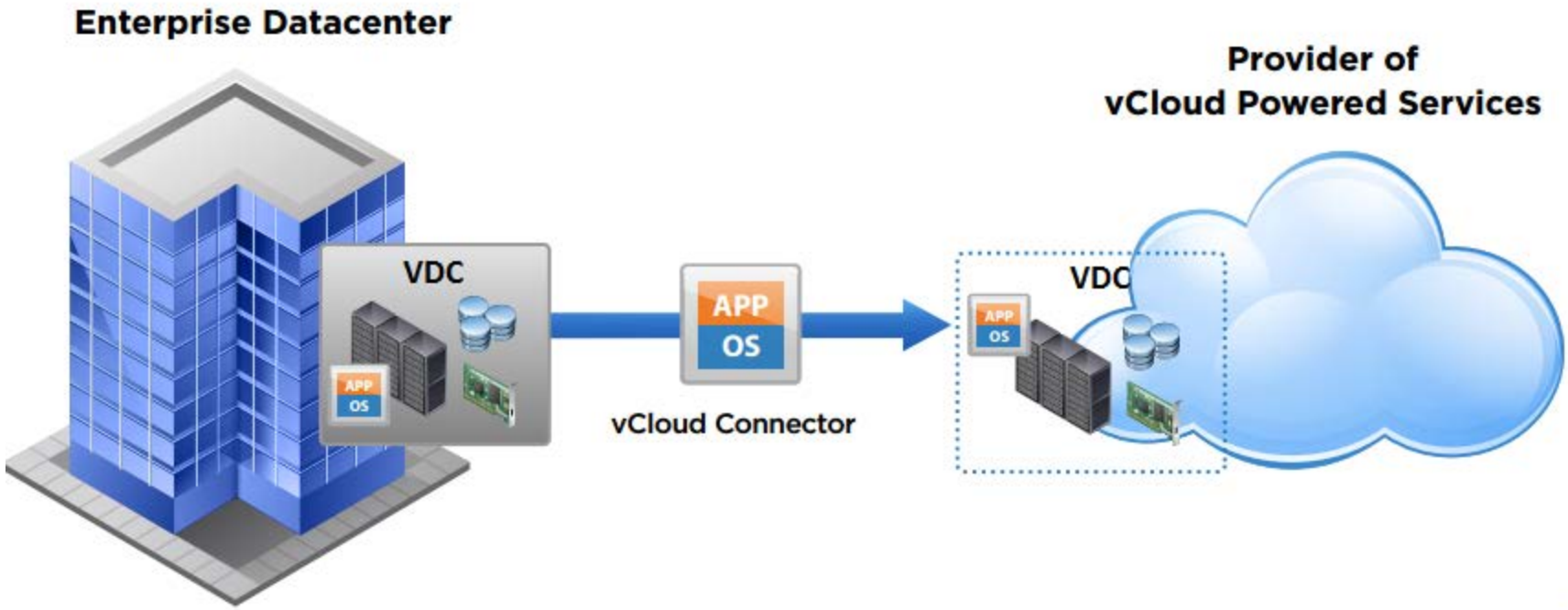

Add a Site-to-Site VPN configuration
Name:
vCloudAir-StratoGen
Description:
VPN Connectivity between vCloud Air VDC1 (PRODUCTION) and StratoGen Cloud
Enable this VPN configuration
Establish VPN to:
a network in another organization
Local & Peer Networks
Login to Remote VCD

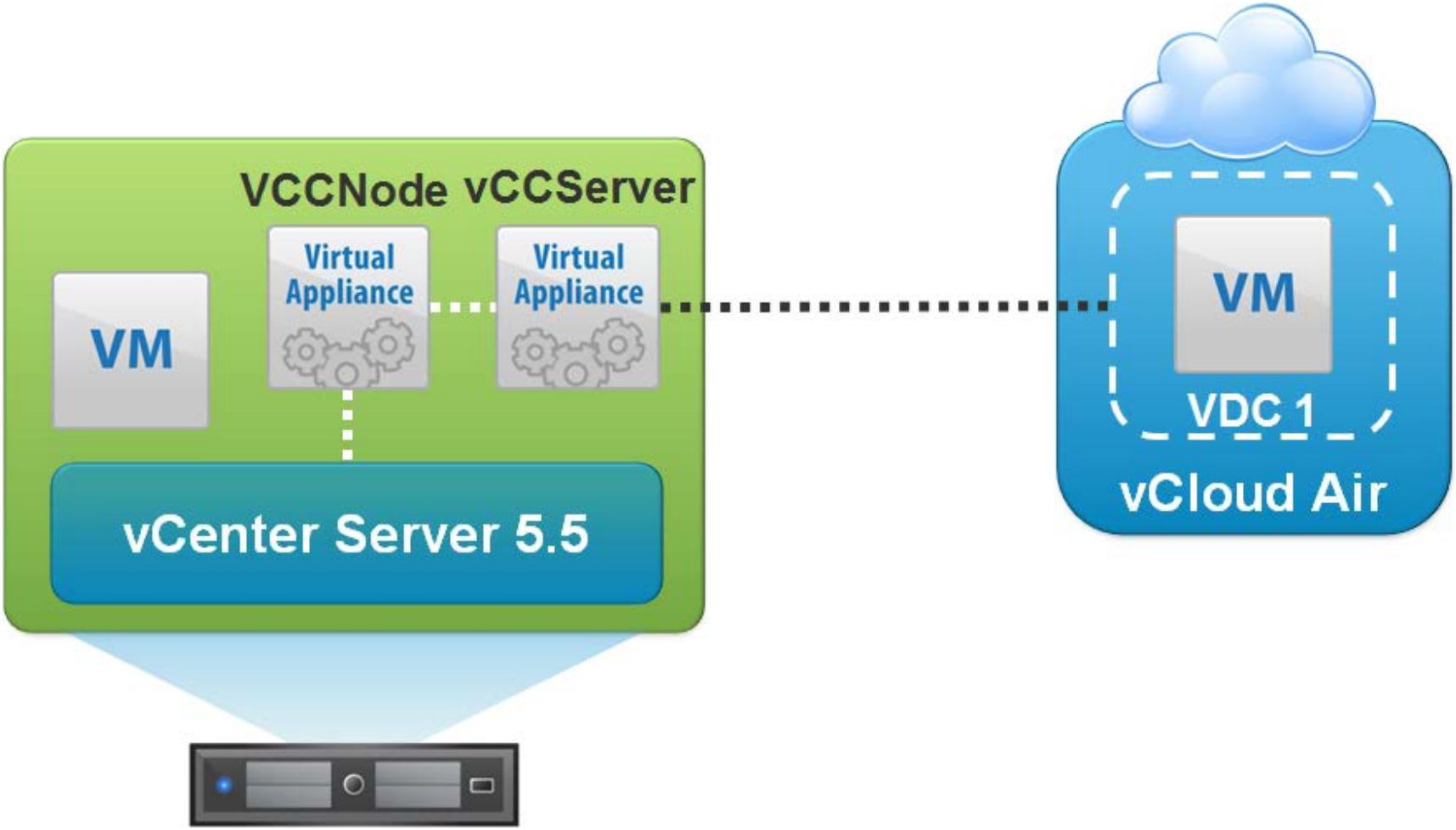

Local & Peer Networks
Login to Remote VCD
Remote organization VDCs
yohanwadia88
Peer Edge Gateway:
edge-gw
Local Networks:
Peer Networks:
default-routed-network (192.168.109.0/24)
Routed-Network (198.19
VPN connection settings
Local Endpoint:
d5p6v51-ext
Use Public IP
Peer Endpoint:
StratoGen Network (Internet) Pod 2 - Block A
Encryption protocol:
AES-256
Shared Key:
The shared secret must be an alphanumeric string bet



Rule Id	Name	Source	Destination	Protocol	Action	Log	Enabled
1	HTTP-PROD-DB-2	198.19.99.10:80	external:80	TCP	Allow	-	✔
2	SSH-PROD-DB-2	198.19.99.10:22	external:22	TCP	Allow	-	✔
5	StratorGen-vCloud	198.19.99.0/24:Any	192.168.109.0/24:Any	ANY	Allow	-	✔
6	vCloudAir-StratoGe	192.168.109.0/24:Any	198.19.99.0/24:Any	ANY	Allow	-	✔


PROD-LB-1
[root@PROD-LB-1 ~]#
[root@PROD-LB-1 ~]# ping 192.168.109.110
PING 192.168.109.110 (192.168.109.110) 56(84) bytes of data.
64 bytes from 192.168.109.110: icmp_seq=1 ttl=62 time=4.66 ms
64 bytes from 192.168.109.110: icmp_seq=2 ttl=62 time=2.47 ms
64 bytes from 192.168.109.110: icmp_seq=3 ttl=62 time=2.54 ms
64 bytes from 192.168.109.110: icmp_seq=4 ttl=62 time=2.63 ms
^C
--- 192.168.109.110 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3545ms
rtt min/avg/max/mdev = 2.477/3.079/4.660/0.915 ms
[root@PROD-LB-1 ~]#
[root@PROD-LB-1 ~]# _


Enterprise Datacenter
VDC
APP
OS
APP
OS
vCloud Connector
Provider of
vCloud Powered Services
VDC
APP
OS


VCCNode vCCServer
VM
Virtual Appliance
Virtual Appliance
vCenter Server 5.5
VM
VDC 1
vCloud Air

Networking Properties

Default Gateway

The default gateway address for this VM. Leave blank if DHCP is desired.

198.19.99.1

DNS

The domain name servers for this VM (comma separated). Leave blank if DHCP is desired.

8.8.8.8

Network 1 IP Address

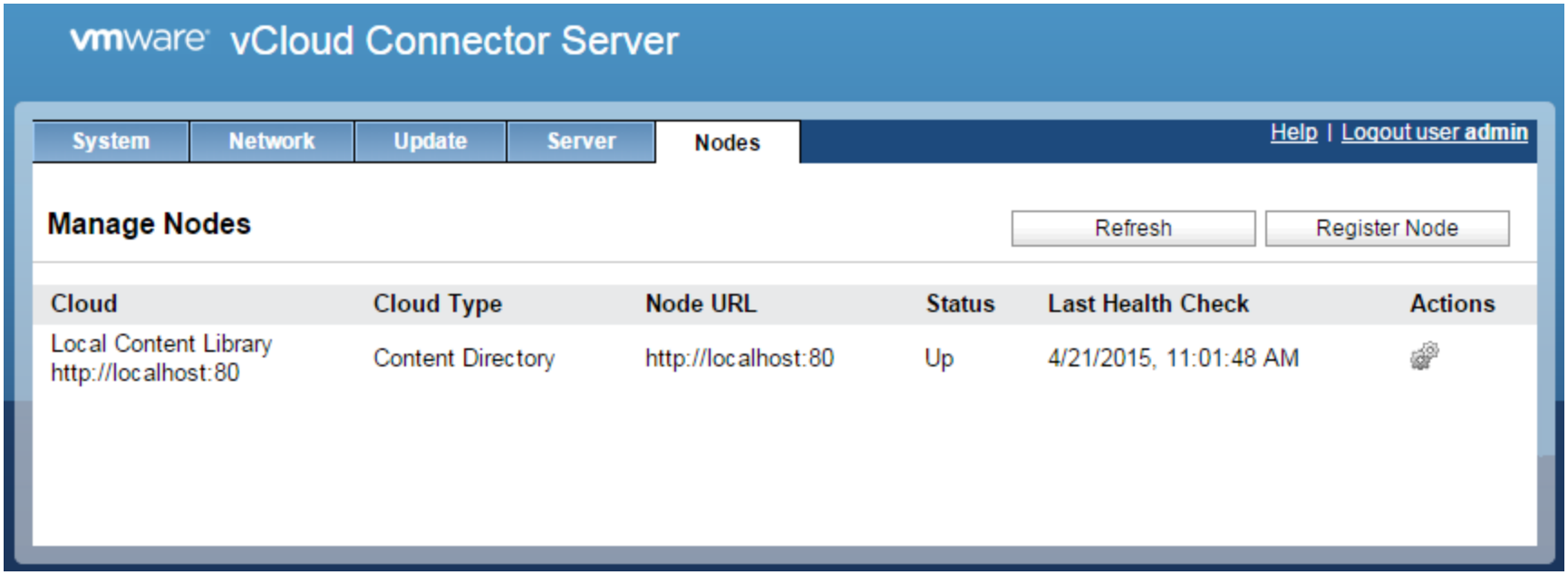
The IP address for this interface. Leave blank if DHCP is desired.

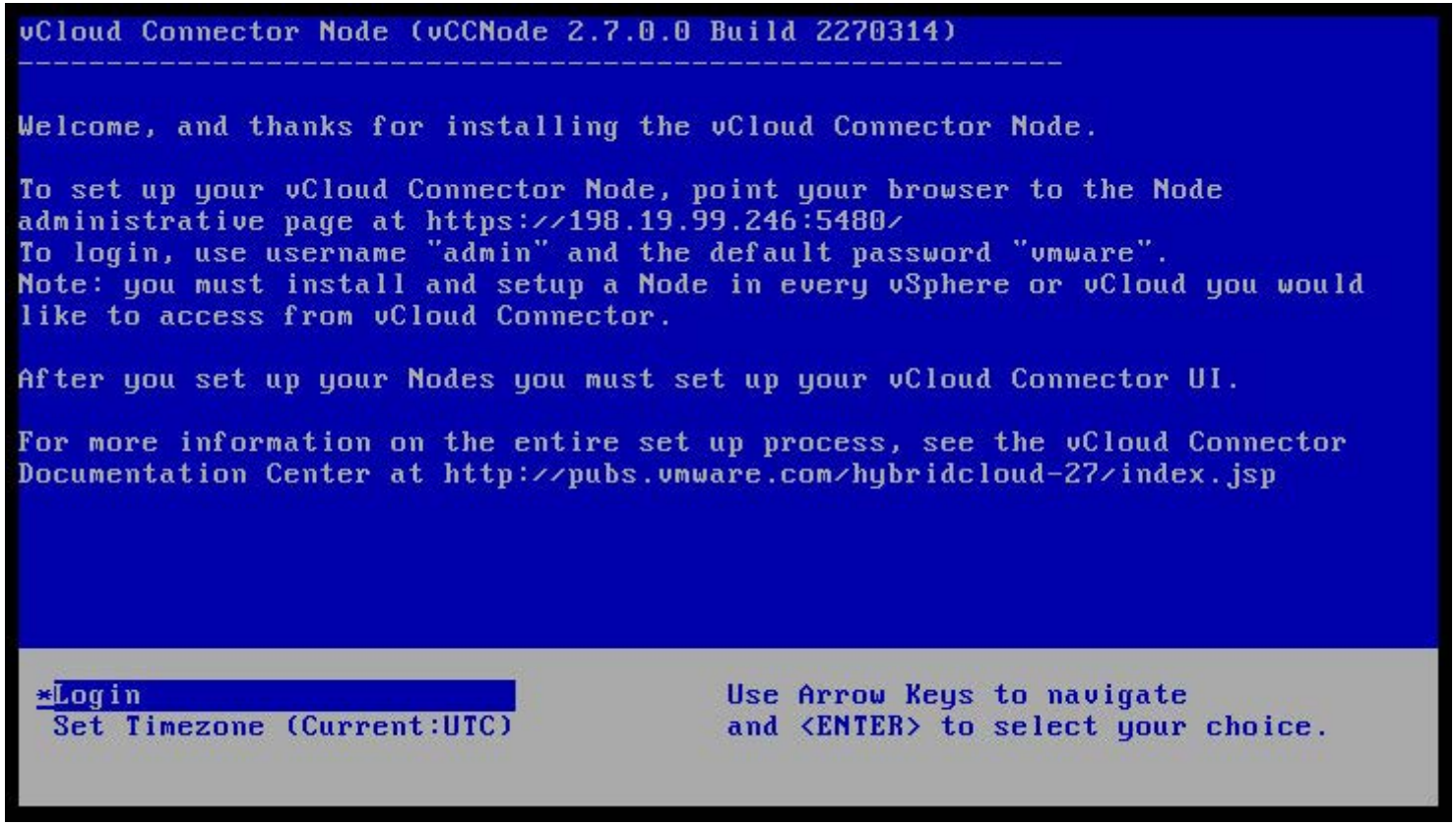
198.19.99.245

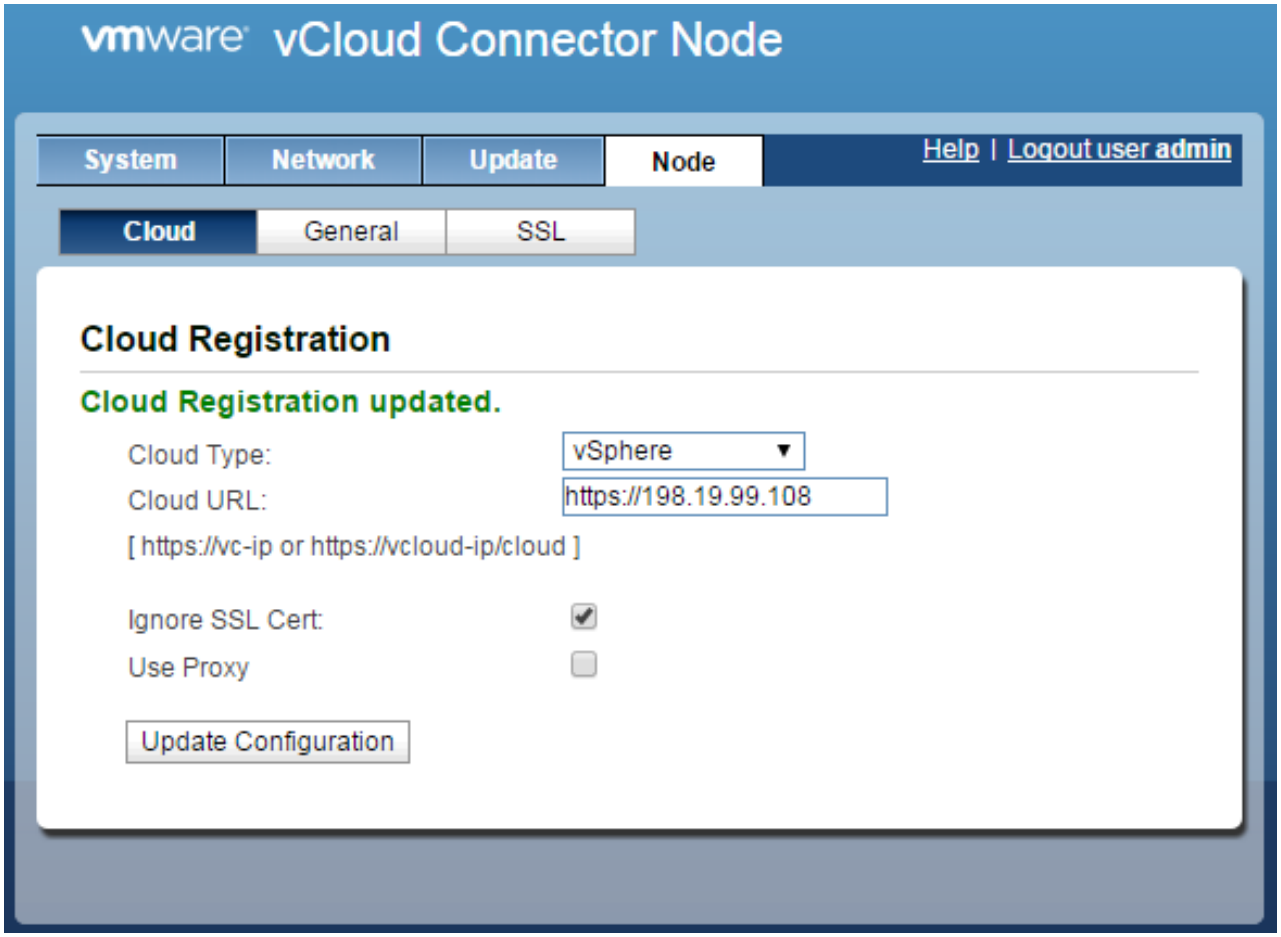
Network 1 Netmask

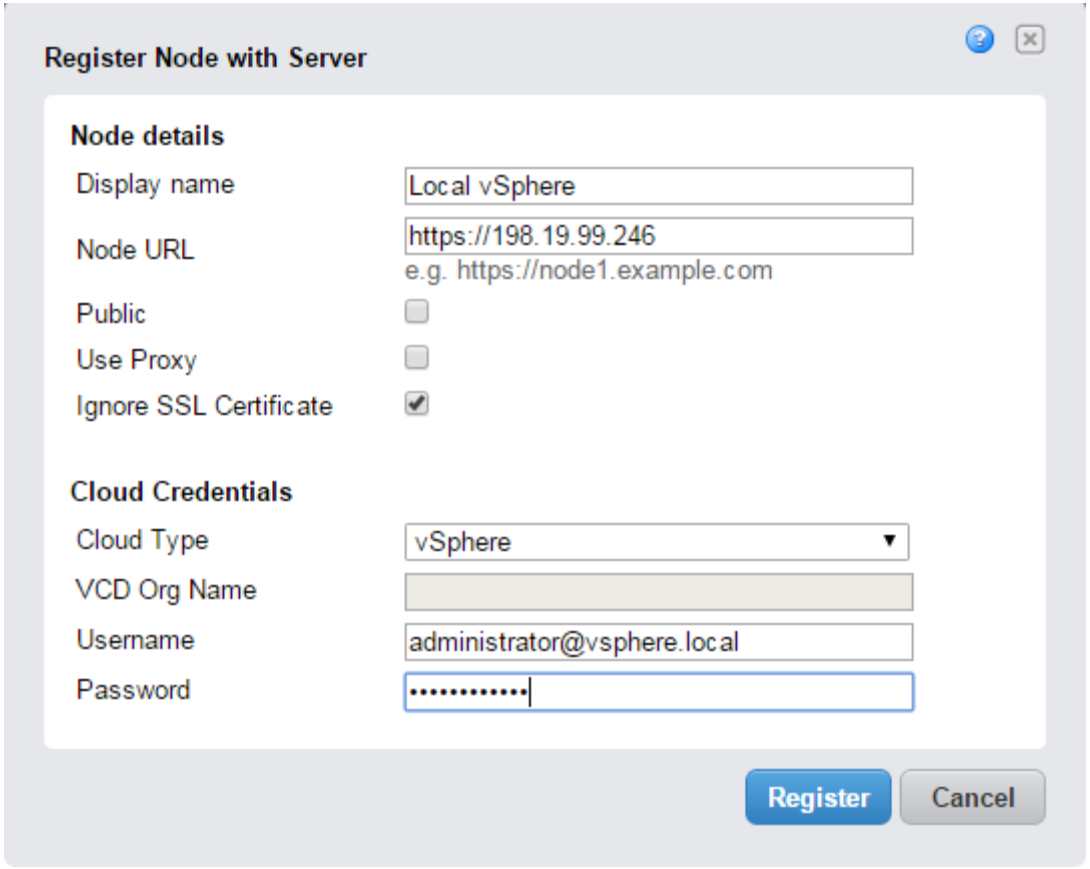
The netmask or prefix for this interface. Leave blank if DHCP is desired.

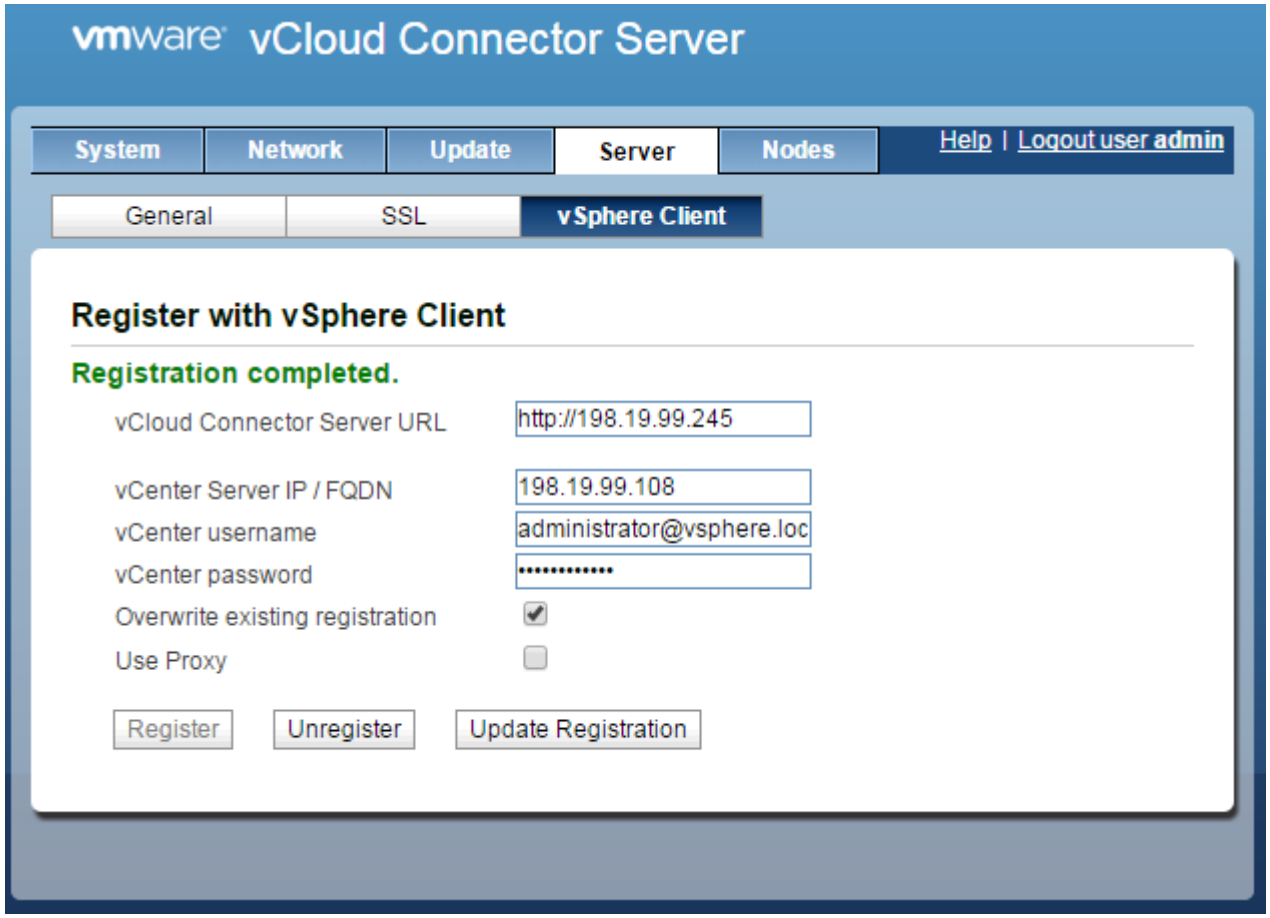
255.255.255.0

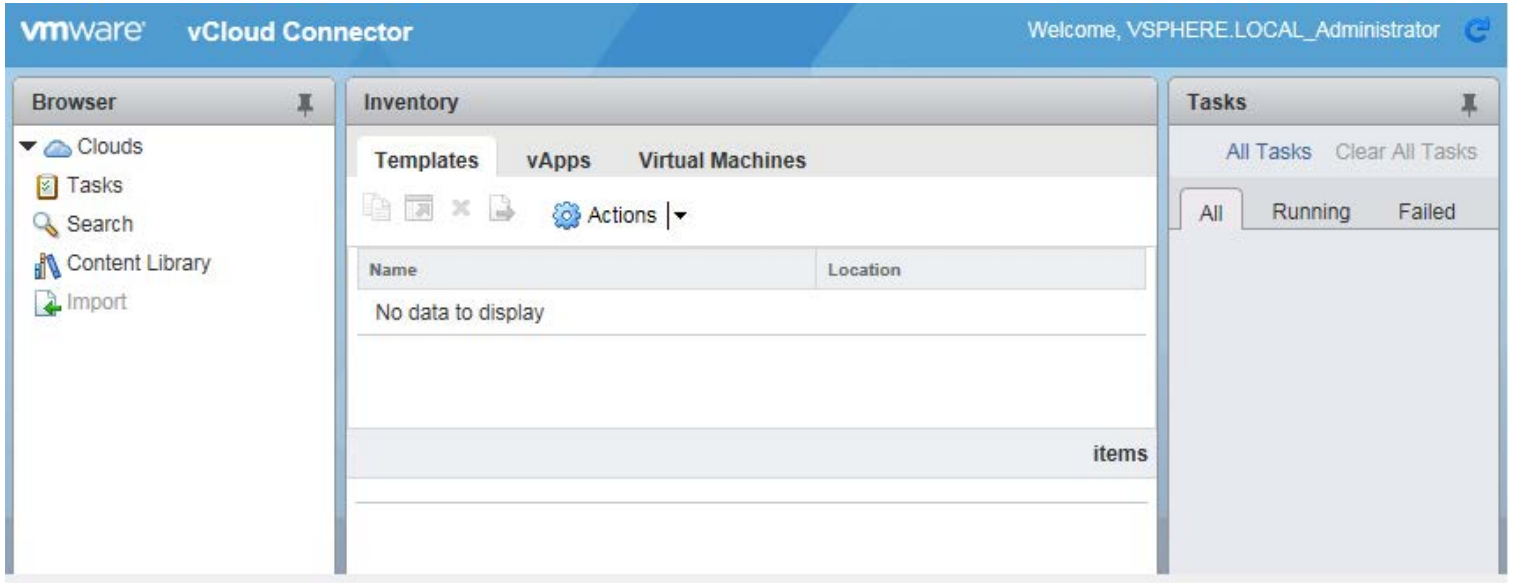

vmware vCloud Connector Server
System
Network
Update
Server
Nodes
Help | Logout user admin
Manage Nodes
Refresh
Register Node
Cloud
Cloud Type
Node URL
Status
Last Health Check
Actions
Local Content Library
http://localhost:80
Content Directory
http://localhost:80
Up
4/21/2015, 11:01:48 AM

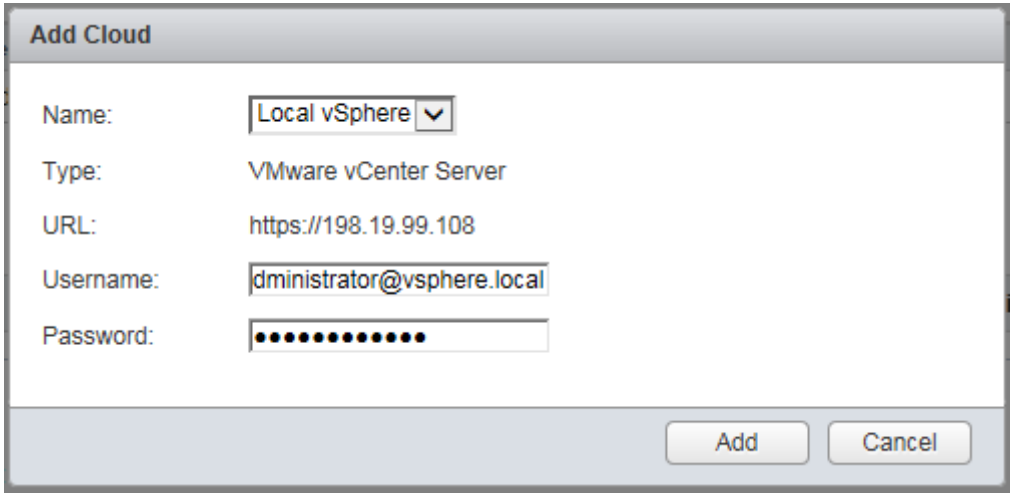

vCloud Connector Node (vCCNode 2.7.0.0 Build 2270314)
Welcome, and thanks for installing the vCloud Connector Node.
To set up your vCloud Connector Node, point your browser to the Node administrative page at https://198.19.99.246:5480/
To login, use username "admin" and the default password "vmware".
Note: you must install and setup a Node in every vSphere or vCloud you would like to access from vCloud Connector.
After you set up your Nodes you must set up your vCloud Connector UI.
For more information on the entire set up process, see the vCloud Connector Documentation Center at http://pubs.vmware.com/hybridcloud-27/index.jsp
*Login
Set Timezone (Current:UTC)
Use Arrow Keys to navigate
and <ENTER> to select your choice.

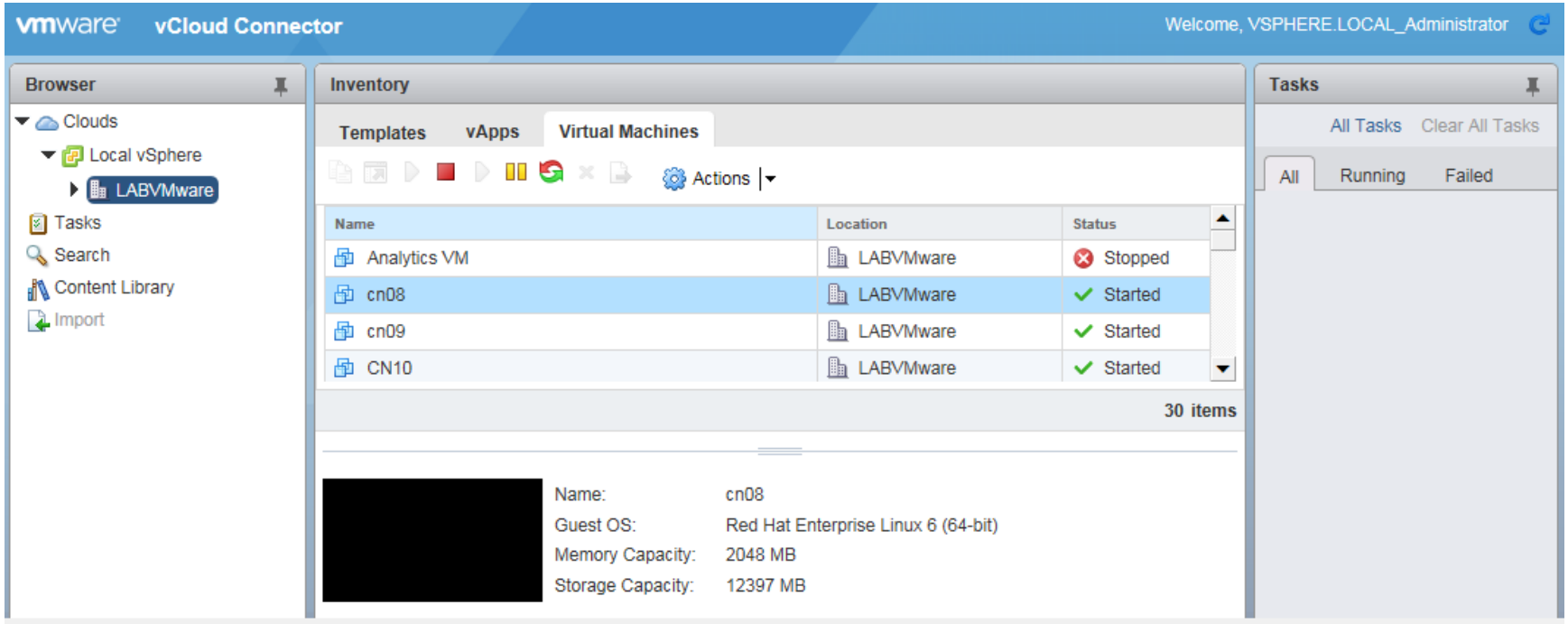

vmware vCloud Connector Node
System
Network
Update
Node
Help | Logout user admin
Cloud
General
SSL
Cloud Registration
Cloud Registration updated.
Cloud Type:
vSphere
Cloud URL:
https://198.19.99.108
[https://vc-ip or https://vcloud-ip/cloud]
Ignore SSL Cert:
Use Proxy
Update Configuration

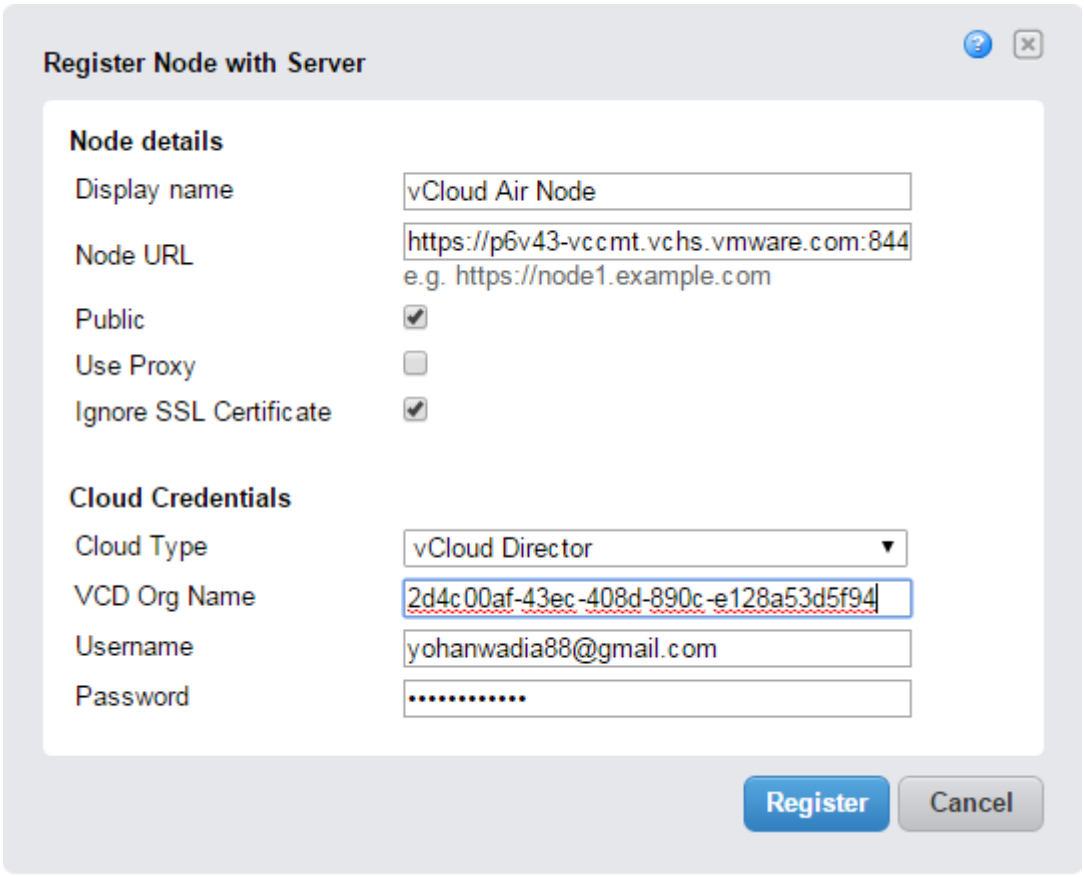

Register Node with Server
Node details
Display name
Local vSphere
Node URL
https://198.19.99.246
e.g. https://node1.example.com
Public
Use Proxy
Ignore SSL Certificate
Cloud Credentials
Cloud Type
vSphere
VCD Org Name
Username
administrator@vsphere.local
Password
Register
Cancel

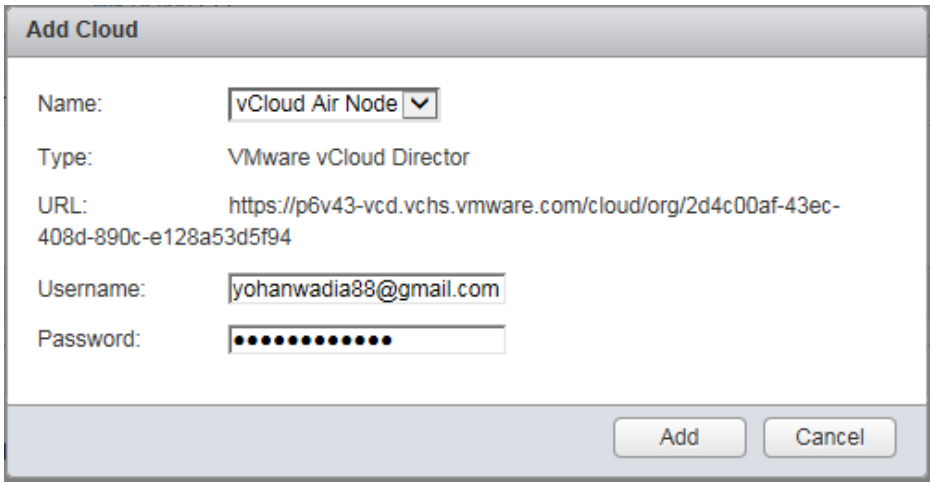

vmware vCloud Connector Server
System
Network
Update
Server
Nodes
Help | Logout user admin
General
SSL
vSphere Client
Register with vSphere Client
Registration completed.
vCloud Connector Server URL
http://198.19.99.245
vCenter Server IP / FQDN
198.19.99.108
vCenter username
administrator@vsphere.loc
vCenter password
Overwrite existing registration
Use Proxy
Register
Unregister
Update Registration

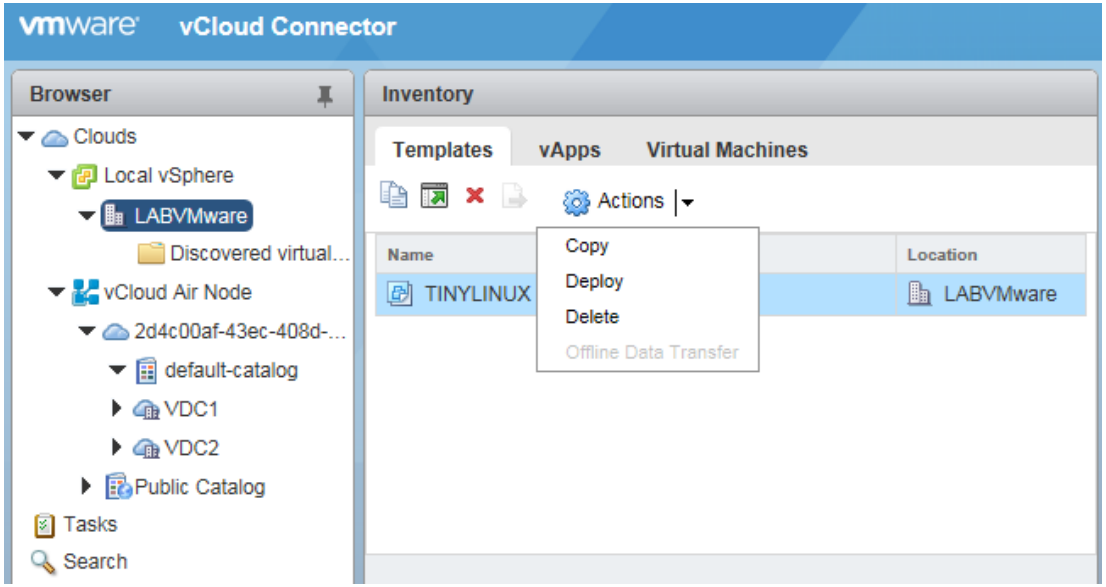

vmware vCloud Connector
Welcome, VSPHERE.LOCAL_Administrator
Browser
Clouds
Tasks
Search
Content Library
Import
Inventory
Templates
vApps
Virtual Machines
Actions
Name
Location
No data to display
items
Tasks
All Tasks
Clear All Tasks
All
Running
Failed

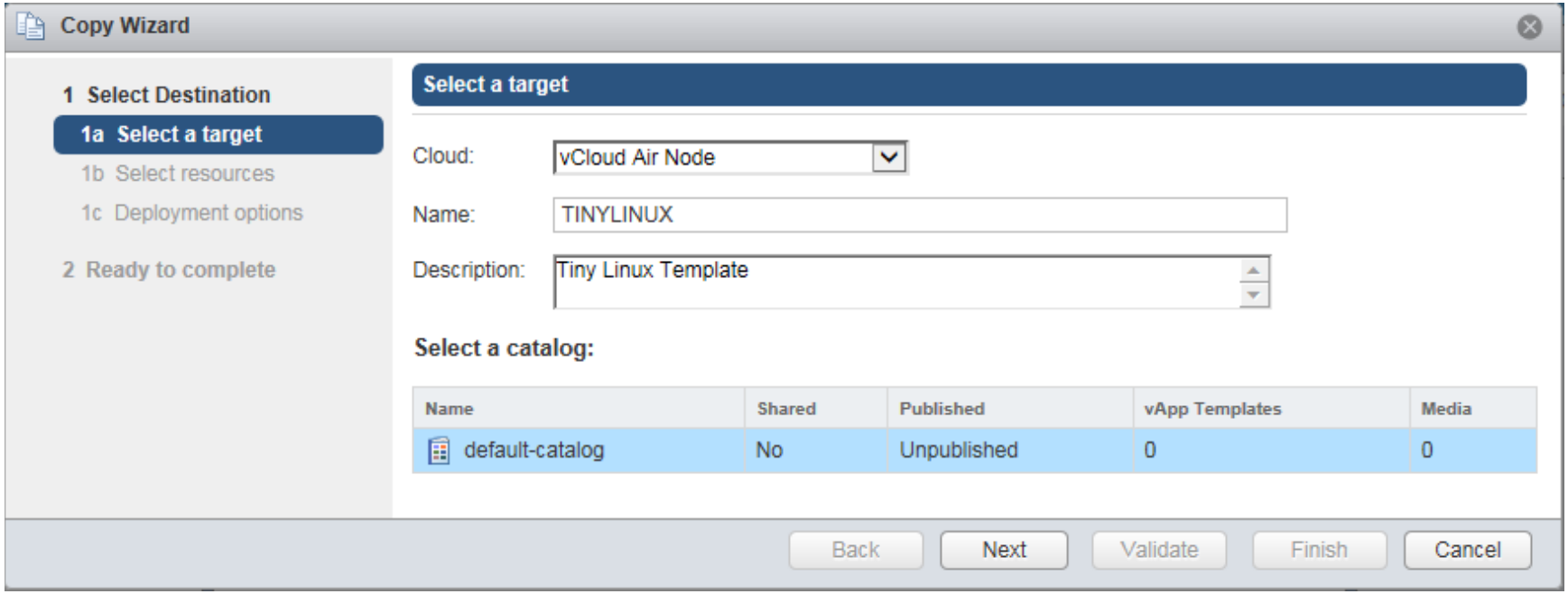

Add Cloud
Name:
Local vSphere
Type:
VMware vCenter Server
URL:
https://198.19.99.108
Username:
dministrator@vsphere.local
Password:
Add
Cancel

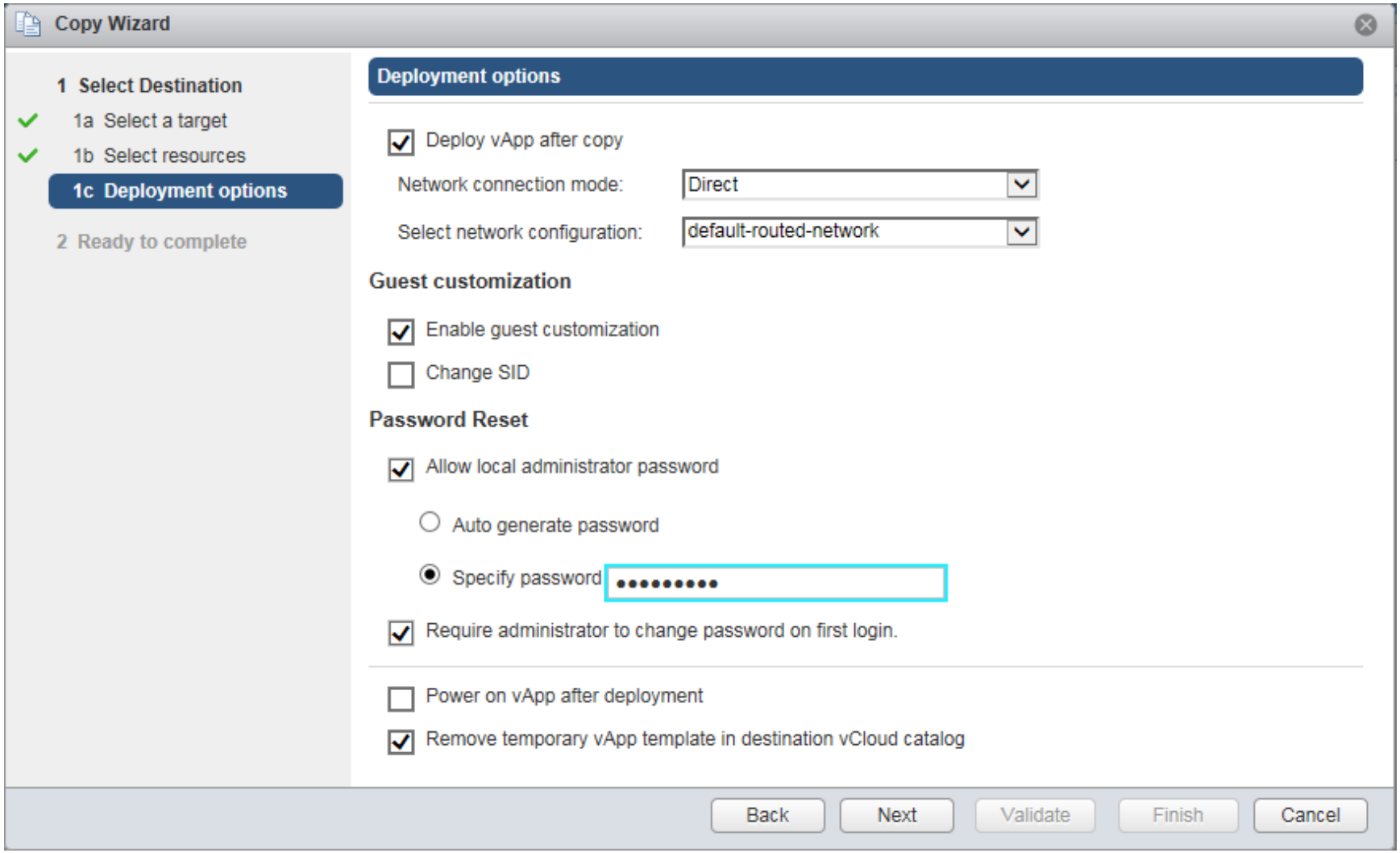

vmware vCloud Connector
Welcome, VSPHERE.LOCAL_Administrator
Browser
Clouds
Local vSphere
LABVMware
Tasks
Search
Content Library
Import
Inventory
Templates
vApps
Virtual Machines
Actions
Name
Location
Status
Analytics VM
LABVMware
Stopped
cn08
LABVMware
Started
cn09
LABVMware
Started
CN10
LABVMware
Started
30 items
Name: cn08
Guest OS: Red Hat Enterprise Linux 6 (64-bit)
Memory Capacity: 2048 MB
Storage Capacity: 12397 MB
Tasks
All Tasks
Clear All Tasks
All
Running
Failed

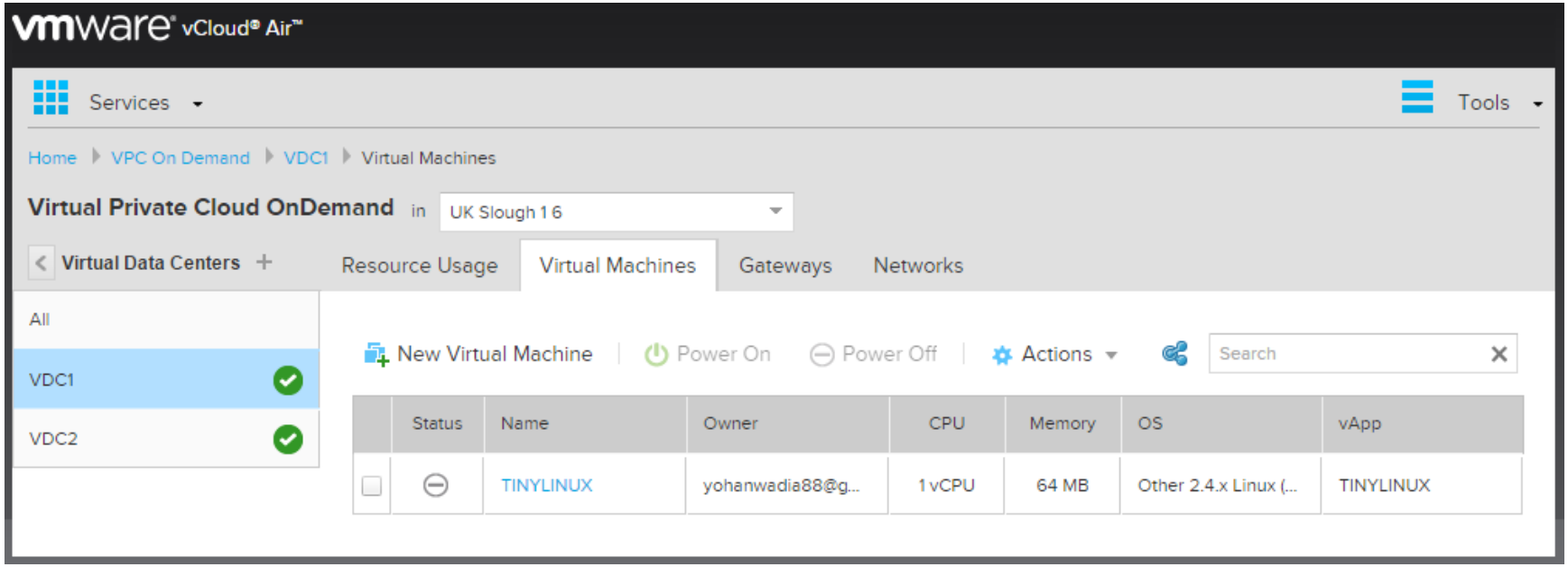

Register Node with Server
Node details
Display name
vCloud Air Node
Node URL
https://p6v43-vccmt.vchs.vmware.com:844
e.g. https://node1.example.com
Public
Use Proxy
Ignore SSL Certificate
Cloud Credentials
Cloud Type
vCloud Director
VCD Org Name
2d4c00af-43ec-408d-890c-e128a53d5f94
Username
yohanwadia88@gmail.com
Password
Register
Cancel


Add Cloud
Name:
vCloud Air Node
Type:
VMware vCloud Director
URL:
https://p6v43-vcd.vchs.vmware.com/cloud/org/2d4c00af-43ec-408d-890c-e128a53d5f94
Username:
yohanwadia88@gmail.com
Password:
Add
Cancel

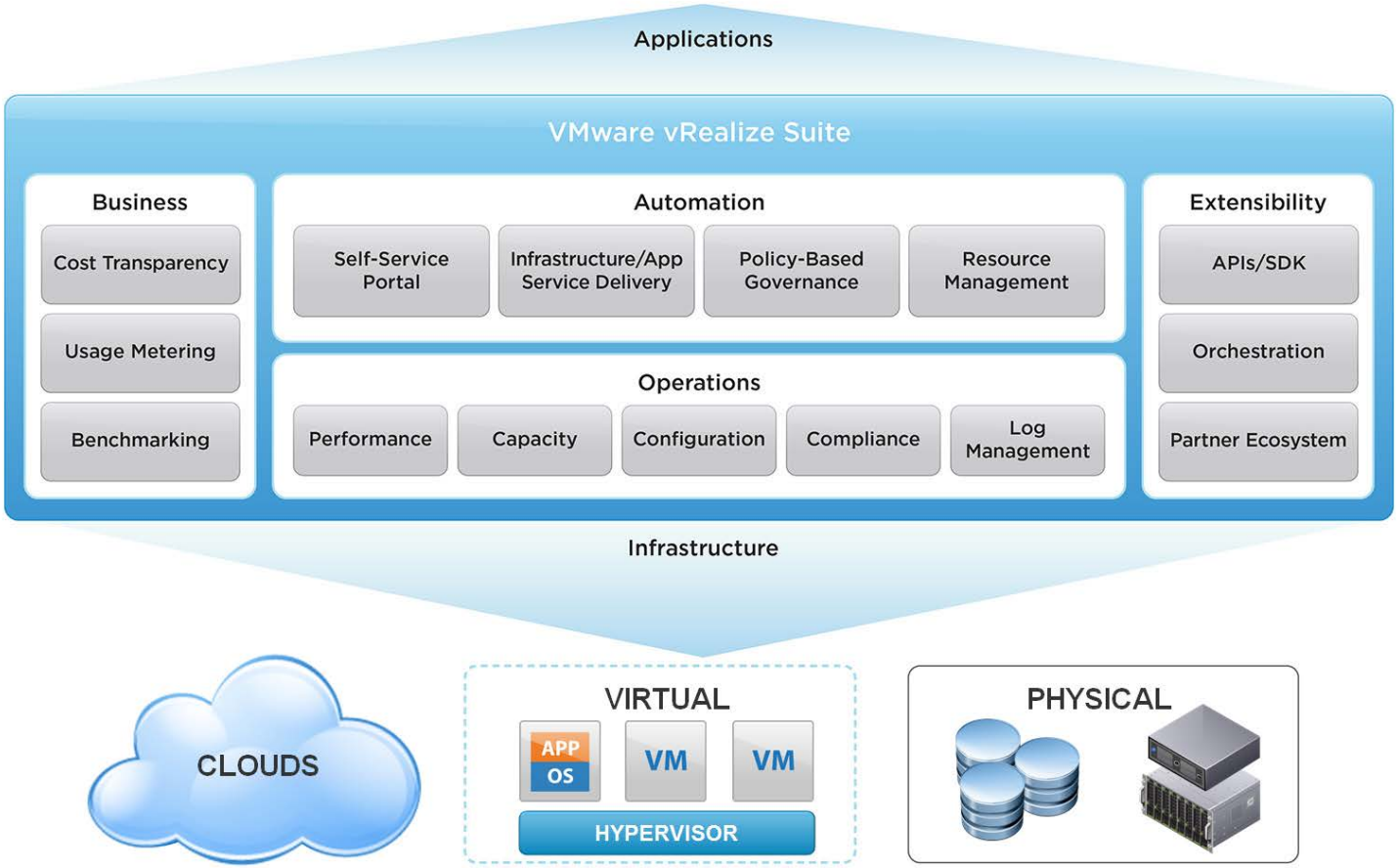

vmware
vCloud Connector
Browser
Clouds
Local vSphere
LABVMware
Discovered virtual...
vCloud Air Node
2d4c00af-43ec-408d-...
default-catalog
VDC1
VDC2
Public Catalog
Tasks
Search
Inventory
Templates
vApps
Virtual Machines
Actions
Copy
Deploy
Delete
Offline Data Transfer
Name
Location
TINYLINUX
LABVMware

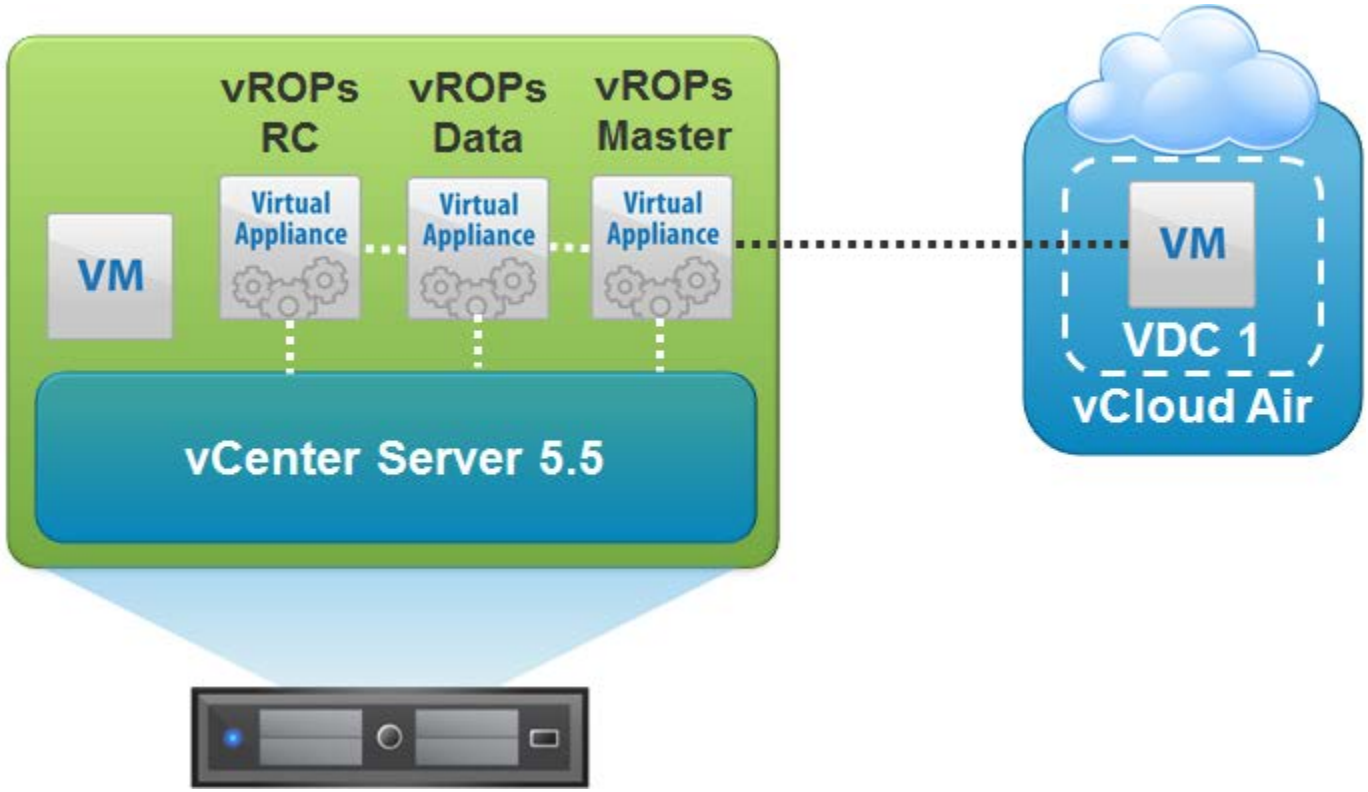

Copy Wizard
1 Select Destination
1a Select a target
1b Select resources
1c Deployment options
2 Ready to complete
Select a target
Cloud:
vCloud Air Node
Name:
TINYLINUX
Description:
Tiny Linux Template
Select a catalog:
Name
Shared
Published
vApp Templates
Media
default-catalog
No
Unpublished
0
0
Back
Next
Validate
Finish
Cancel


Copy Wizard
1 Select Destination
1a Select a target
1b Select resources
1c Deployment options
2 Ready to complete
Deployment options
Deploy vApp after copy
Network connection mode:
Direct
Select network configuration:
default-routed-network
Guest customization
Enable guest customization
Change SID
Password Reset
Allow local administrator password
Auto generate password
Specify password
Require administrator to change password on first login.
Power on vApp after deployment
Remove temporary vApp template in destination vCloud catalog
Back
Next
Validate
Finish
Cancel


vmware vCloud® Air™
Services
Tools
Home
VPC On Demand
VDC1
Virtual Machines
Virtual Private Cloud OnDemand
in
UK Slough 1 6
Virtual Data Centers
Resource Usage
Virtual Machines
Gateways
Networks
All
VDC1
VDC2
New Virtual Machine
Power On
Power Off
Actions
Search
Status
Name
Owner
CPU
Memory
OS
vApp
TINYLINUX
yohanwadia88@g...
1 vCPU
64 MB
Other 2.4.x Linux (...
TINYLINUX

Chapter 4 – Monitoring Workloads on vCloud Air




vROPs
RC
vROPs
Data
vROPs
Master
Virtual
Appliance
Virtual
Appliance
Virtual
Appliance
VM
vCenter Server 5.5
VM
VDC 1
vCloud Air

Please add the amount of disk space required before powering up the node.

Application

Timezone setting

Select the proper timezone setting for this VM or leave default Etc/UTC.

America/Denver

Networking Properties

Default Gateway

The default gateway address for this VM. Leave blank if DHCP is desired.

198.19.99.254

DNS

The domain name servers for this VM (comma separated). Leave blank if DHCP is desired.

8.8.8.8

Network 1 IP Address

The IP address for this interface. Leave blank if DHCP is desired.

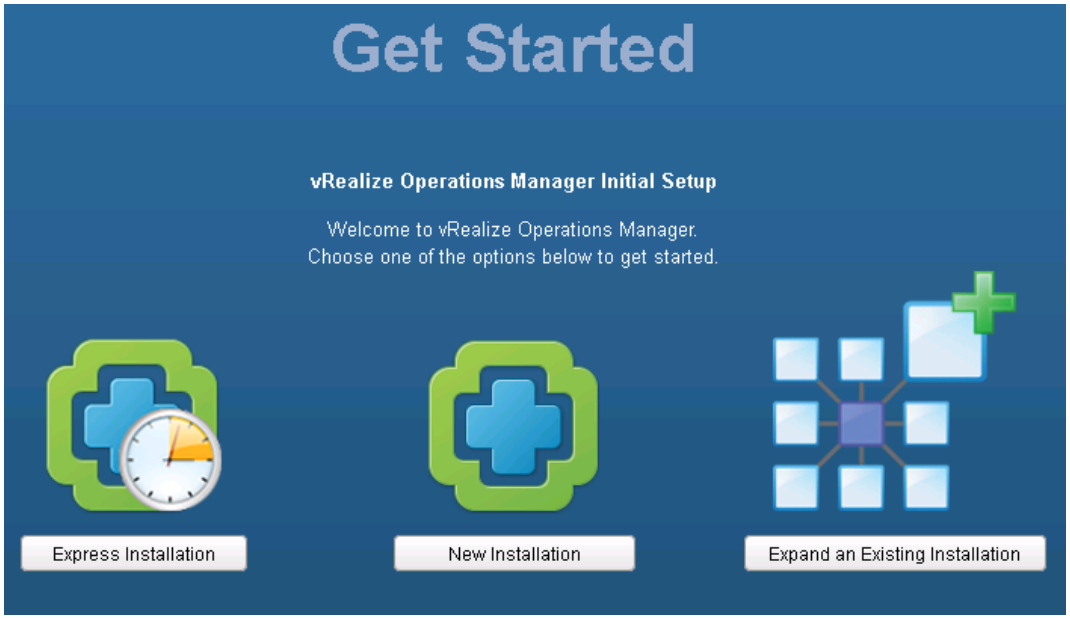
198.19.99.245

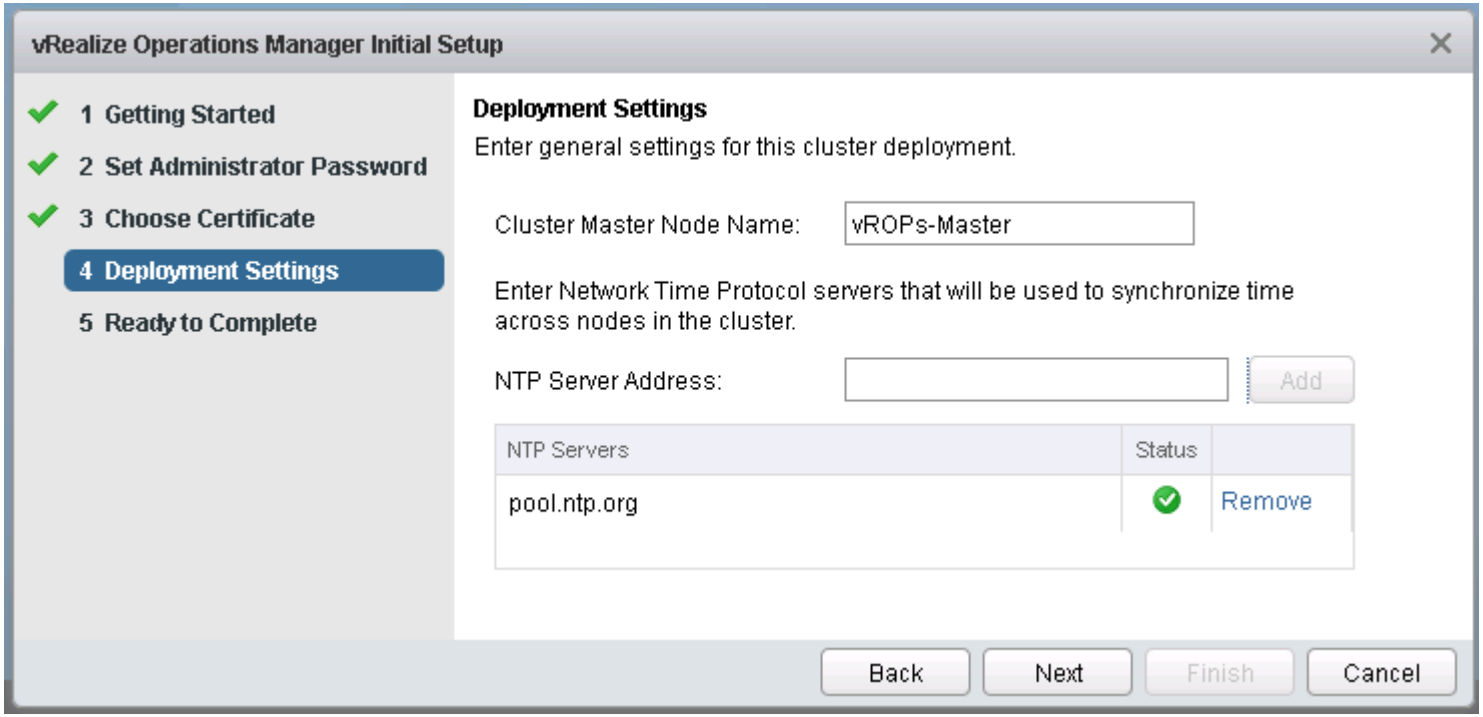
Network 1 Netmask

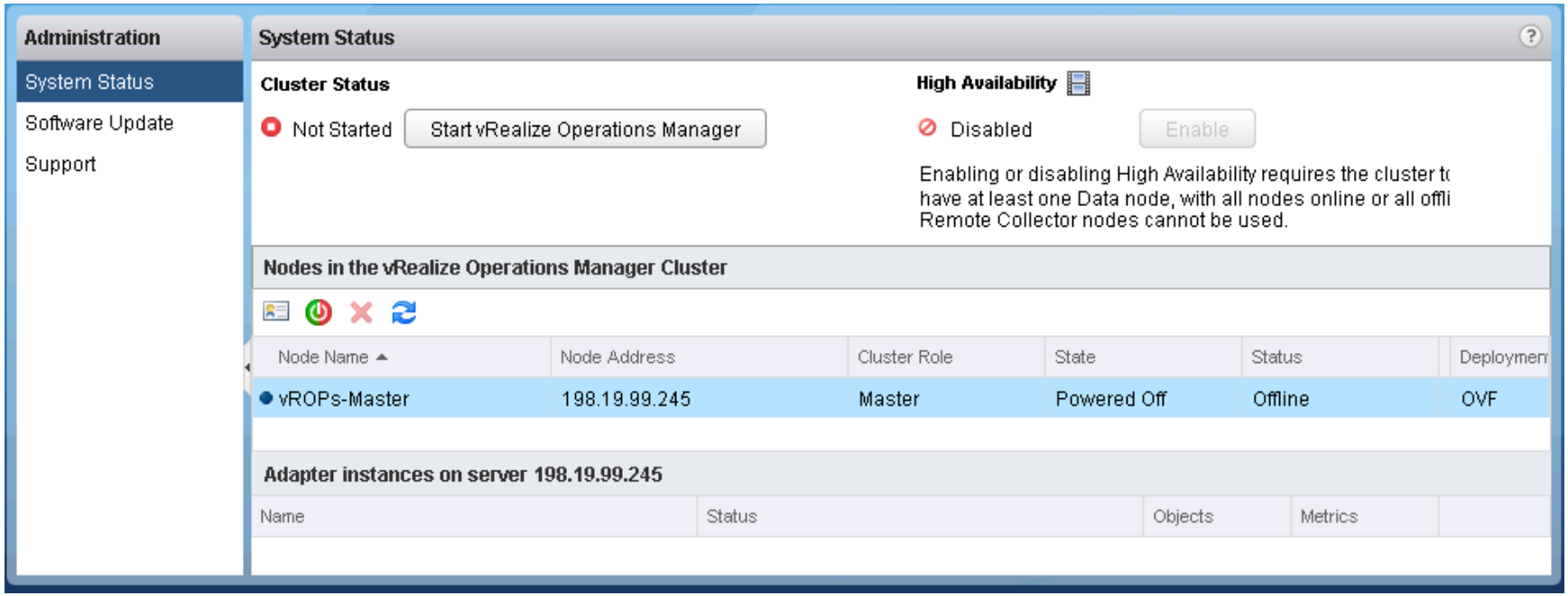
The netmask or prefix for this interface. Leave blank if DHCP is desired.

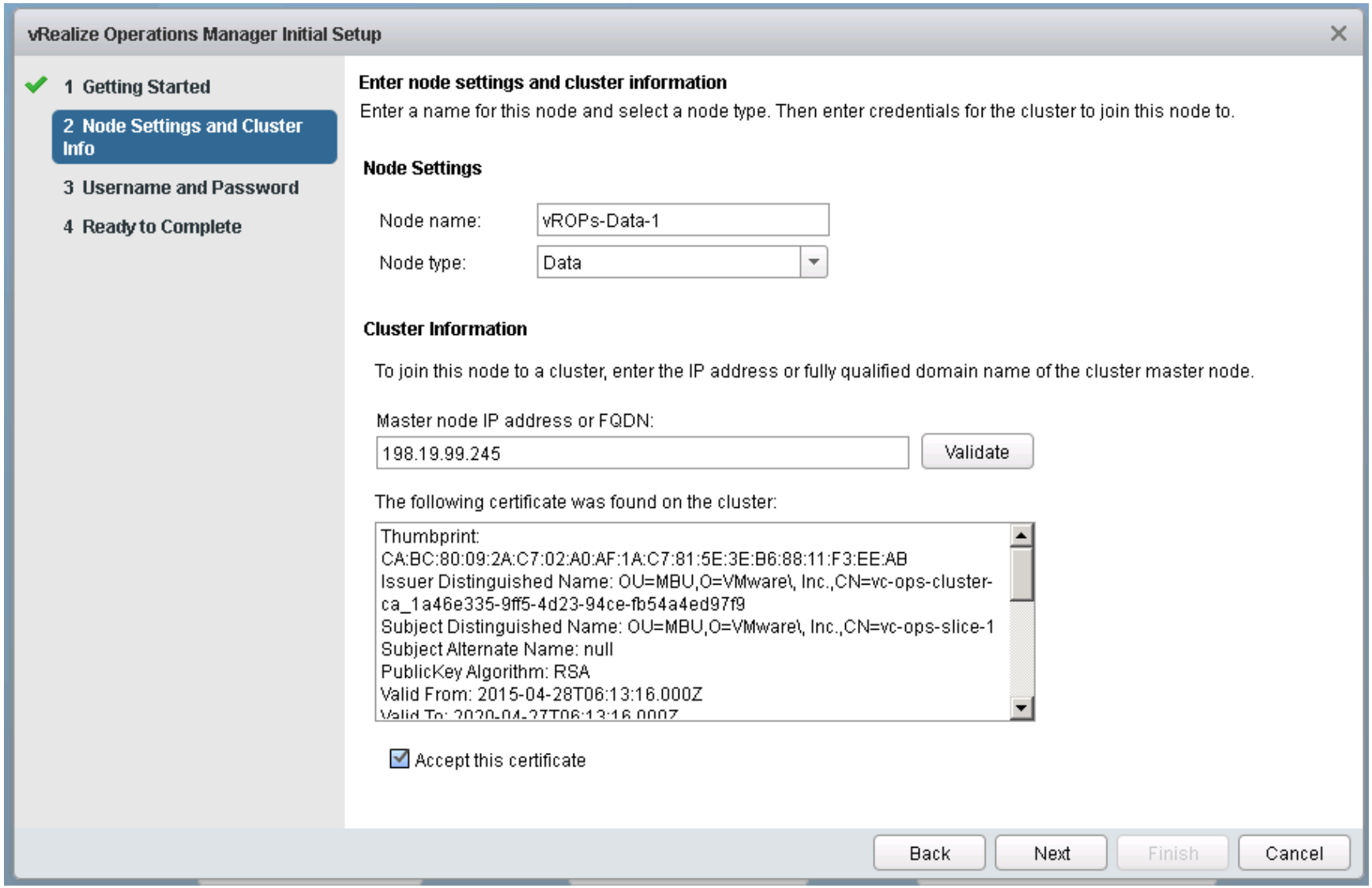
255.255.255.0

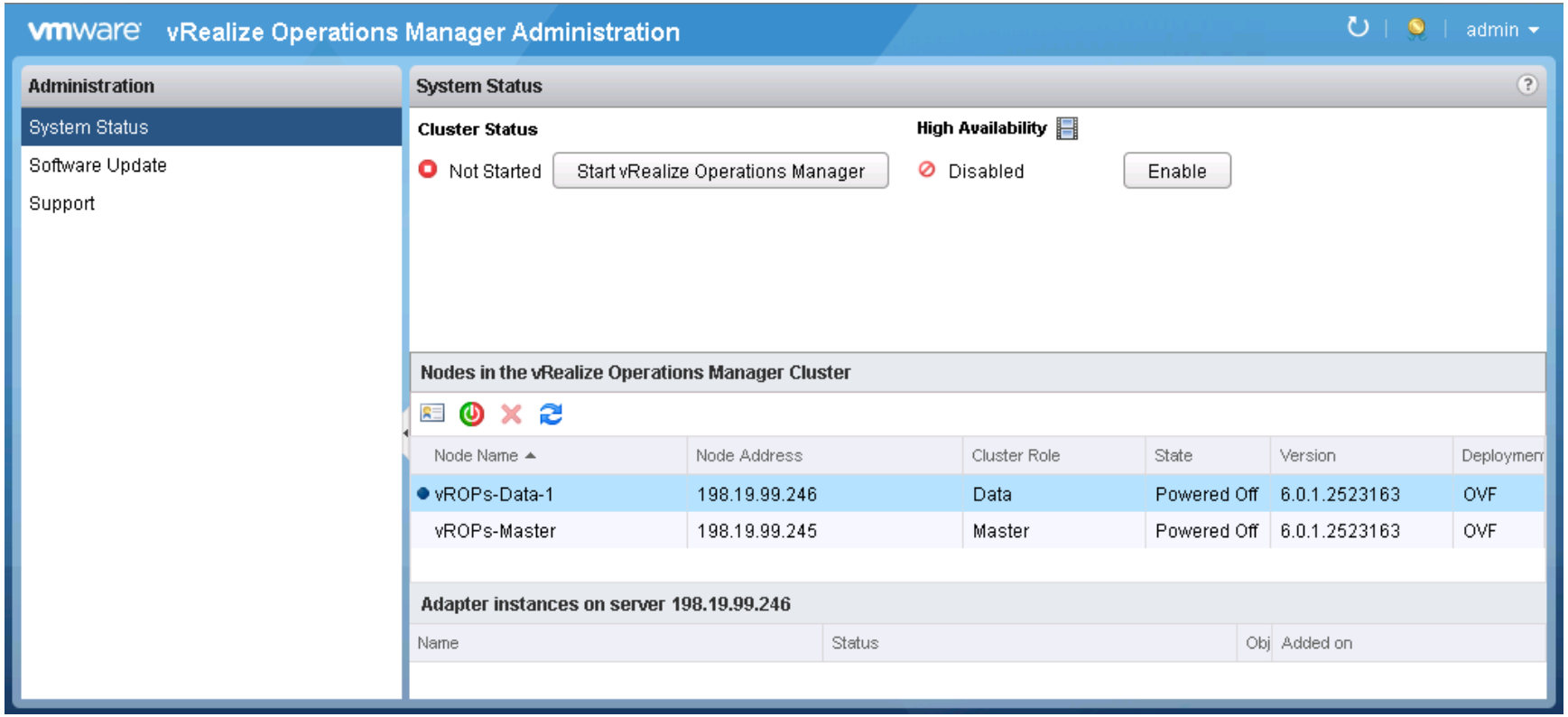
```
Welcome to the vRealize Operations Manager Appliance
To set up your environment, browse to one of the URLs provided below
and verify that the certificate's SHA1 thumbprint is:
CA:BC:80:09:2A:C7:02:A0:AF:1A:C7:81:5E:3E:B6:88:11:F3:EE:AB

https://localhost.localdom/
https://198.19.99.245/
```

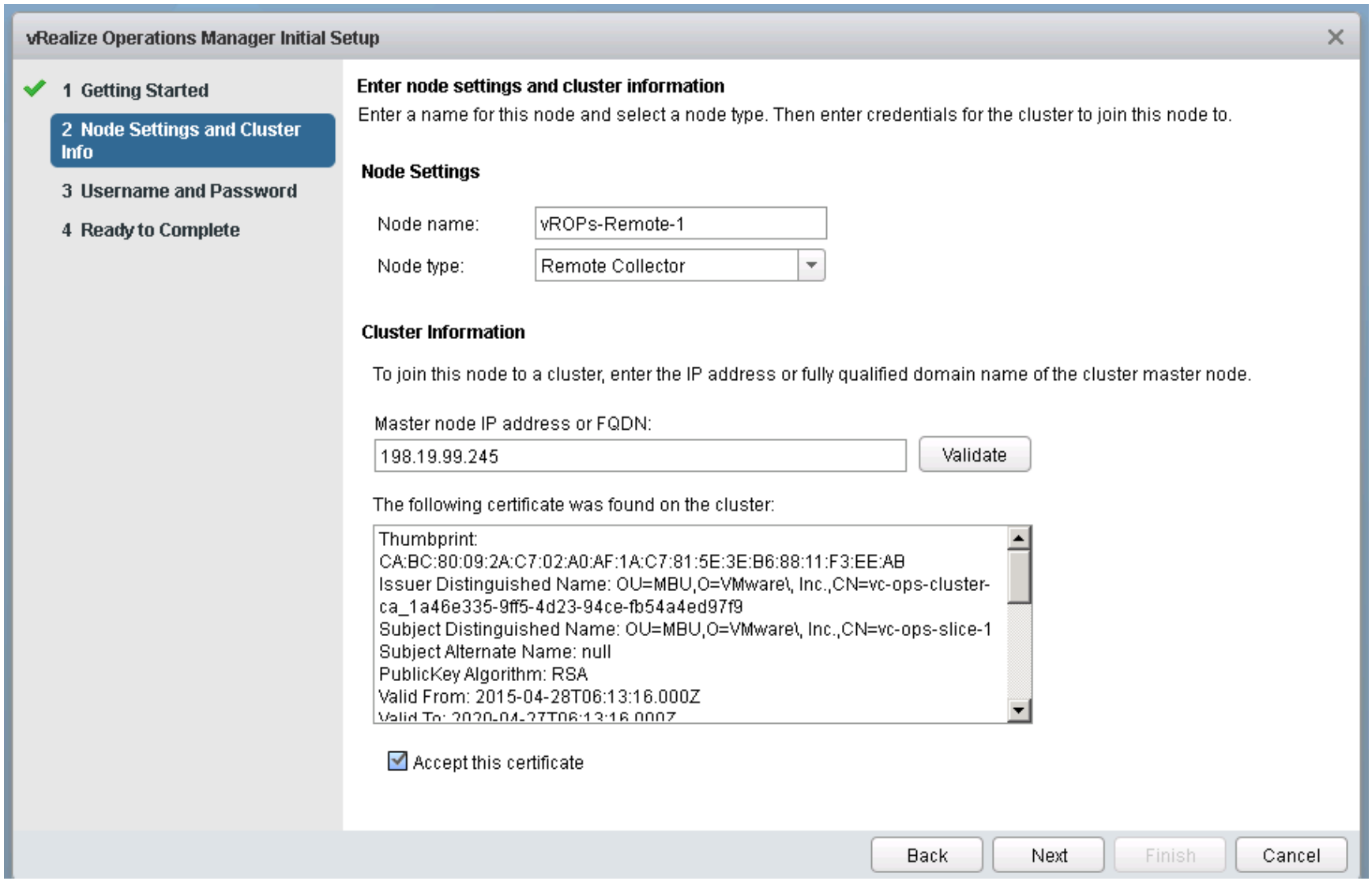


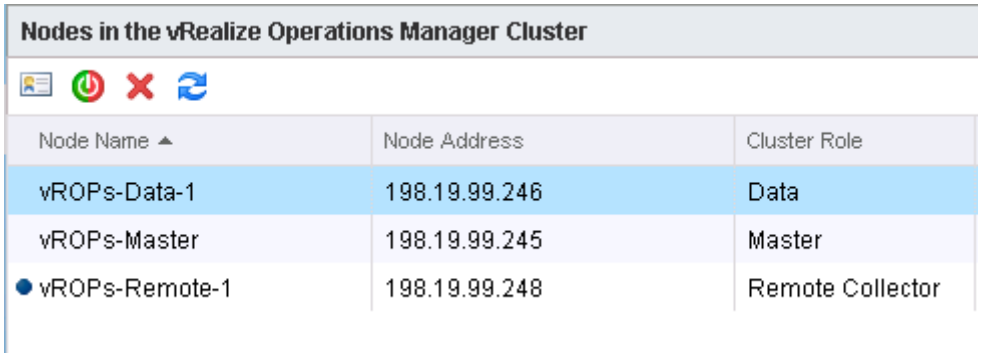

vRealize Operations Manager Initial Setup
1 Getting Started
2 Set Administrator Password
3 Choose Certificate
4 Deployment Settings
5 Ready to Complete
Deployment Settings
Enter general settings for this cluster deployment.
Cluster Master Node Name:
vROPs-Master
Enter Network Time Protocol servers that will be used to synchronize time across nodes in the cluster.
NTP Server Address:
Add
NTP Servers
Status
pool.ntp.org
Remove
Back
Next
Finish
Cancel

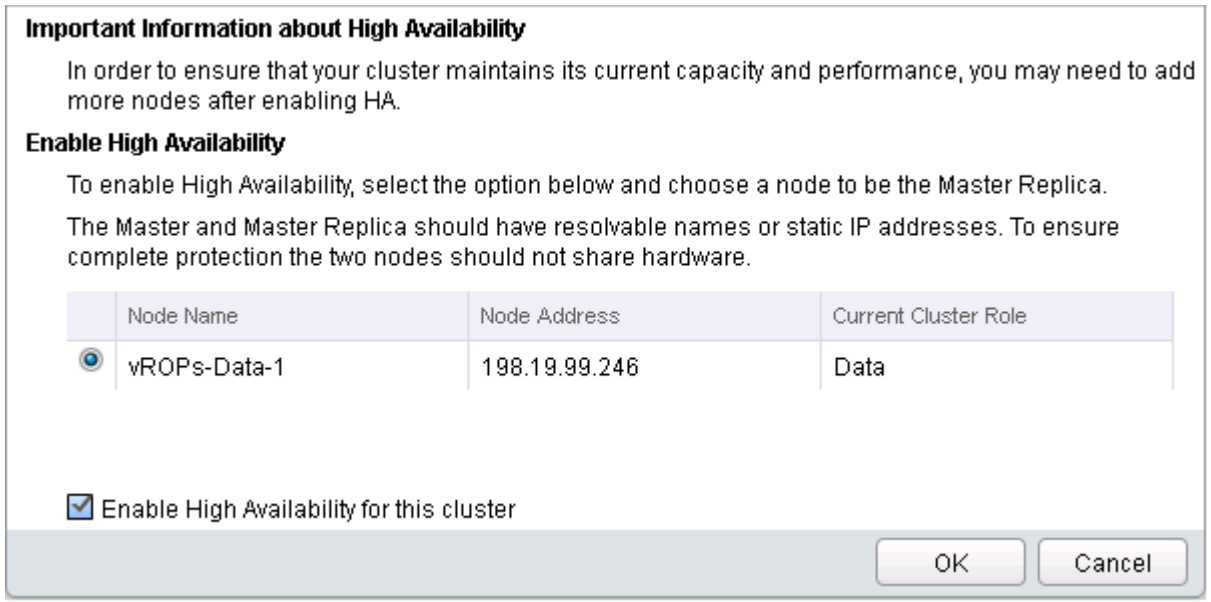

Administration
System Status
Software Update
Support
System Status
Cluster Status
Not Started
Start vRealize Operations Manager
High Availability
Disabled
Enable
Enabling or disabling High Availability requires the cluster t
have at least one Data node, with all nodes online or all offli
Remote Collector nodes cannot be used.
Nodes in the vRealize Operations Manager Cluster
Node Name
Node Address
Cluster Role
State
Status
Deploymen
vROPs-Master
198.19.99.245
Master
Powered Off
Offline
OVF
Adapter instances on server 198.19.99.245
Name
Status
Objects
Metrics

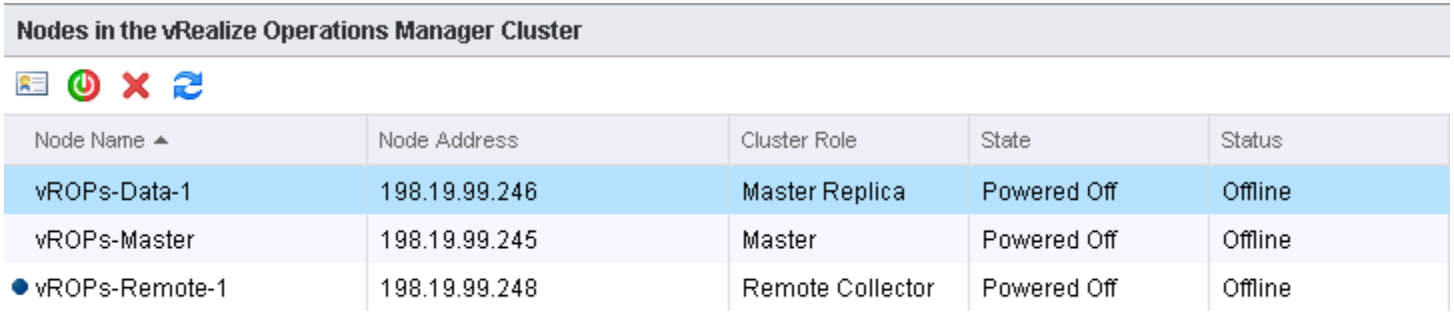

vRealize Operations Manager Initial Setup
1 Getting Started
2 Node Settings and Cluster Info
3 Username and Password
4 Ready to Complete
Enter node settings and cluster information
Enter a name for this node and select a node type. Then enter credentials for the cluster to join this node to.
Node Settings
Node name:
vROPs-Data-1
Node type:
Data
Cluster Information
To join this node to a cluster, enter the IP address or fully qualified domain name of the cluster master node.
Master node IP address or FQDN:
198.19.99.245
Validate
The following certificate was found on the cluster:
Thumbprint:
CA:BC:80:09:2A:C7:02:A0:AF:1A:C7:81:5E:3E:B6:88:11:F3:EE:AB
Issuer Distinguished Name: OU=MBU,O=VMware\, Inc.,CN=vc-ops-cluster-ca_1a46e335-9ff5-4d23-94ce-fb54a4ed97f9
Subject Distinguished Name: OU=MBU,O=VMware\, Inc.,CN=vc-ops-slice-1
Subject Alternate Name: null
PublicKey Algorithm: RSA
Valid From: 2015-04-28T06:13:16.000Z
Accept this certificate
Back
Next
Finish
Cancel


vmware vRealize Operations Manager Administration
admin
Administration
System Status
Software Update
Support
System Status
Cluster Status
Not Started
Start vRealize Operations Manager
High Availability
Disabled
Enable
Nodes in the vRealize Operations Manager Cluster
Node Name
Node Address
Cluster Role
State
Version
Deploymen
vROPs-Data-1
198.19.99.246
Data
Powered Off
6.0.1.2523163
OVF
vROPs-Master
198.19.99.245
Master
Powered Off
6.0.1.2523163
OVF
Adapter instances on server 198.19.99.246
Name
Status
Obj
Added on


vRealize Operations Manager Initial Setup
1 Getting Started
2 Node Settings and Cluster Info
3 Username and Password
4 Ready to Complete
Enter node settings and cluster information
Enter a name for this node and select a node type. Then enter credentials for the cluster to join this node to.
Node Settings
Node name:
vROPs-Remote-1
Node type:
Remote Collector
Cluster Information
To join this node to a cluster, enter the IP address or fully qualified domain name of the cluster master node.
Master node IP address or FQDN:
198.19.99.245
Validate
The following certificate was found on the cluster:
Thumbprint:
CA:BC:80:09:2A:C7:02:A0:AF:1A:C7:81:5E:3E:B6:88:11:F3:EE:AB
Issuer Distinguished Name: OU=MBU,O=VMware\, Inc.,CN=vc-ops-cluster-ca_1a46e335-9ff5-4d23-94ce-fb54a4ed97f9
Subject Distinguished Name: OU=MBU,O=VMware\, Inc.,CN=vc-ops-slice-1
Subject Alternate Name: null
PublicKey Algorithm: RSA
Valid From: 2015-04-28T06:13:16.000Z
Accept this certificate
Back
Next
Finish
Cancel

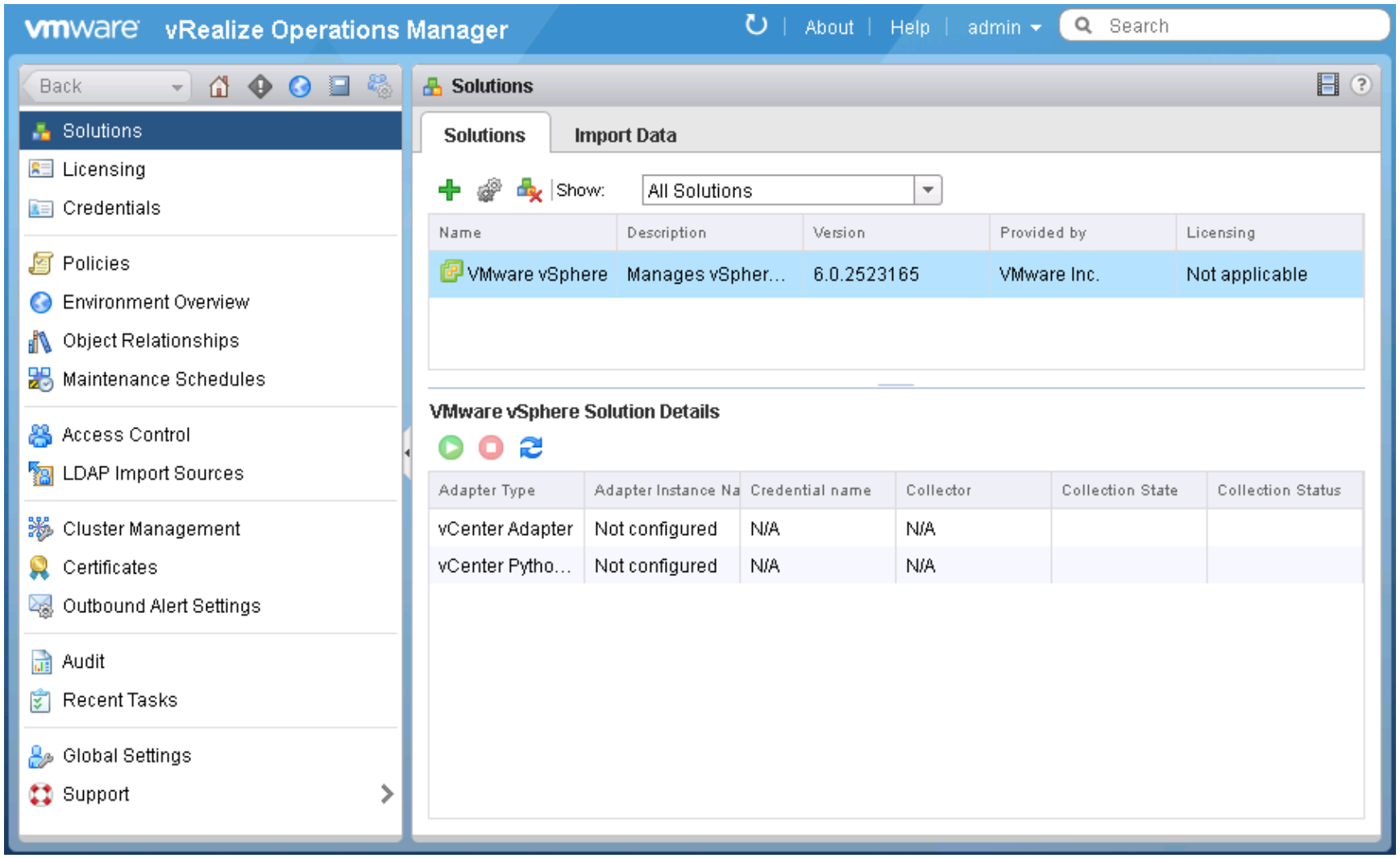

Nodes in the vRealize Operations Manager Cluster
Node Name
Node Address
Cluster Role
vROPs-Data-1
198.19.99.246
Data
vROPs-Master
198.19.99.245
Master
vROPs-Remote-1
198.19.99.248
Remote Collector

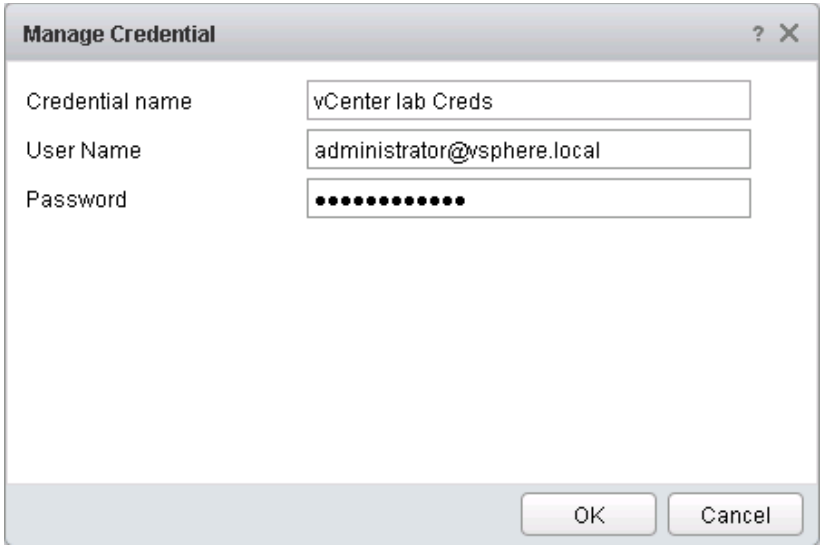

Important Information about High Availability
In order to ensure that your cluster maintains its current capacity and performance, you may need to add more nodes after enabling HA.
Enable High Availability
To enable High Availability, select the option below and choose a node to be the Master Replica.
The Master and Master Replica should have resolvable names or static IP addresses. To ensure complete protection the two nodes should not share hardware.
Node Name
Node Address
Current Cluster Role
vROPs-Data-1
198.19.99.246
Data
Enable High Availability for this cluster
OK
Cancel

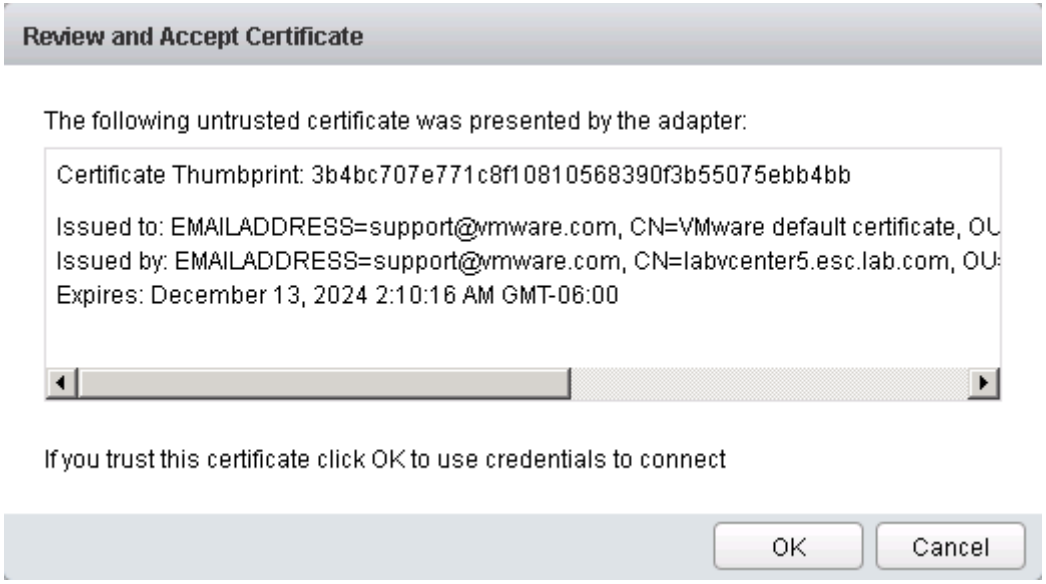

Nodes in the vRealize Operations Manager Cluster
Node Name
Node Address
Cluster Role
State
Status
vROPs-Data-1
198.19.99.246
Master Replica
Powered Off
Offline
vROPs-Master
198.19.99.245
Master
Powered Off
Offline
vROPs-Remote-1
198.19.99.248
Remote Collector
Powered Off
Offline

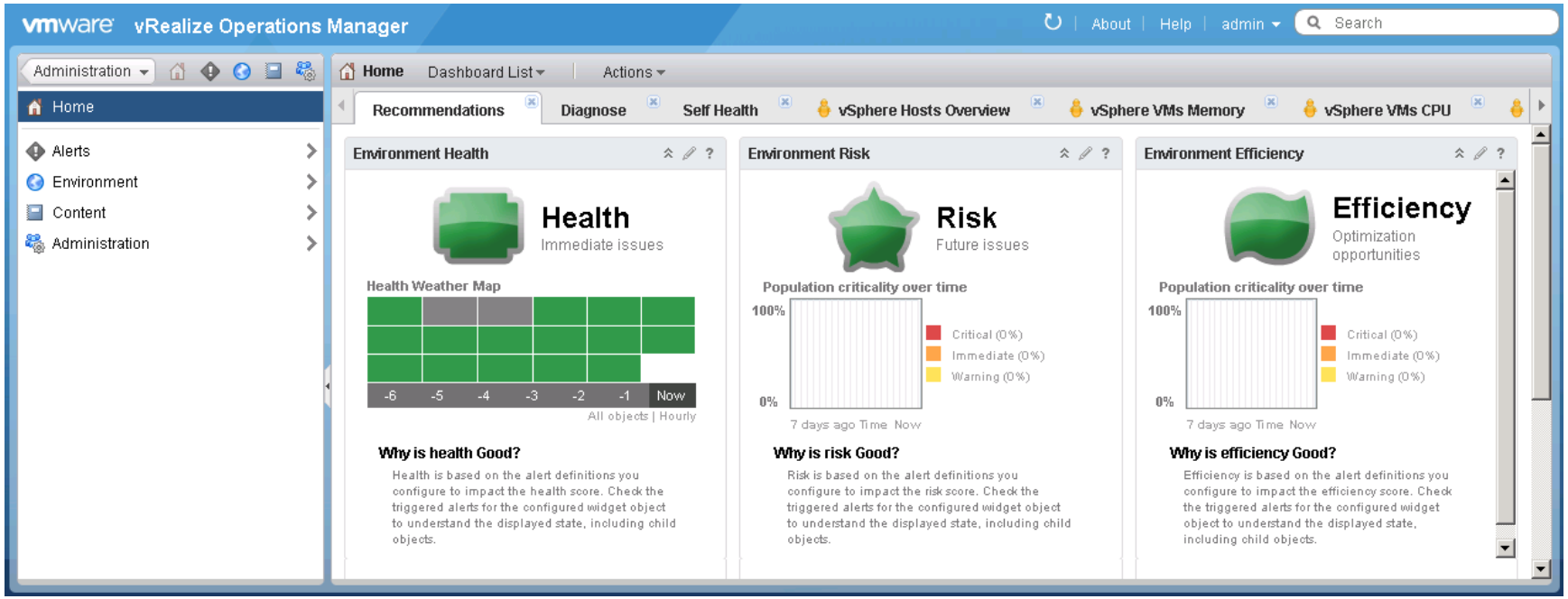
System Status
Cluster Status
Not Started
Start vRealize Operations Manager
High Availability
Enabled
Disable

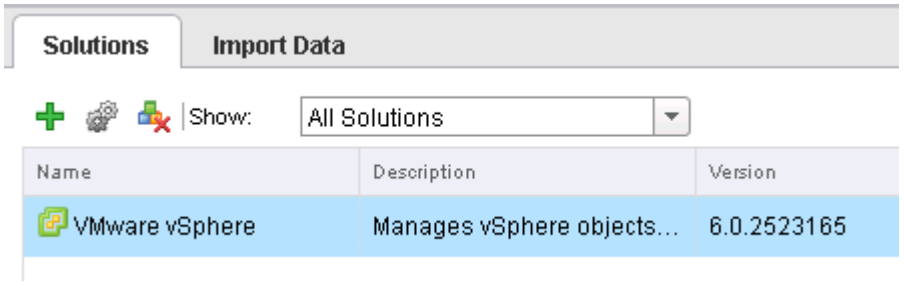
Congratulations on setting up vRealize Operations Manager.
Log in to import data from existing vCenter Operations Manager instances or to configure Solutions to begin collecting data from your environment.
Authentication Source:
Local Users
User name:
admin
Password:
Login
VMware vRealize™ Operations Manager™

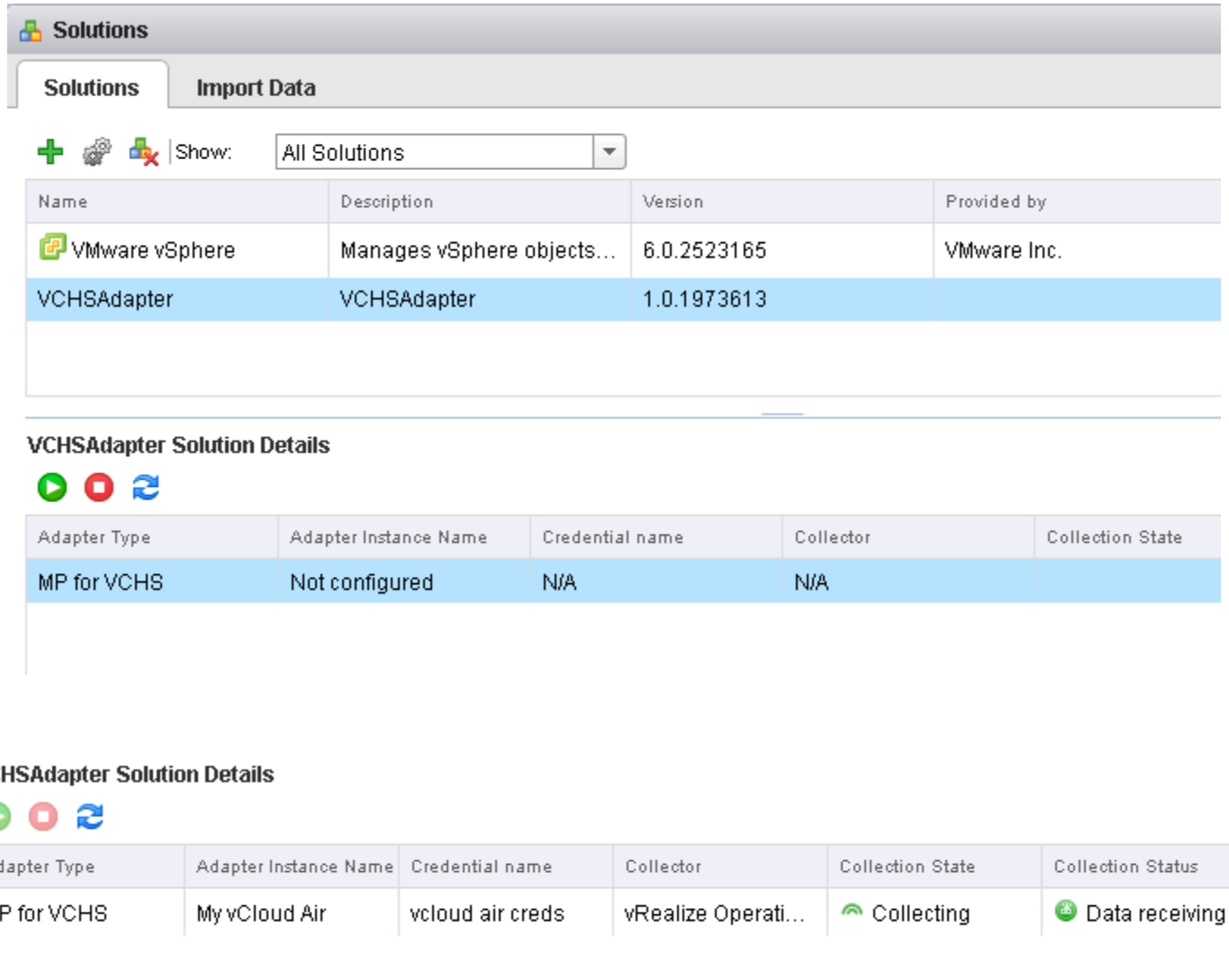

vmware vRealize Operations Manager
About
Help
admin
Search
Back
Solutions
Licensing
Credentials
Policies
Environment Overview
Object Relationships
Maintenance Schedules
Access Control
LDAP Import Sources
Cluster Management
Certificates
Outbound Alert Settings
Audit
Recent Tasks
Global Settings
Support
Solutions
Solutions
Import Data
Show:
All Solutions
Name
Description
Version
Provided by
Licensing
VMware vSphere
Manages vSpher...
6.0.2523165
VMware Inc.
Not applicable
VMware vSphere Solution Details
Adapter Type
Adapter Instance Na
Credential name
Collector
Collection State
Collection Status
vCenter Adapter
Not configured
N/A
N/A
vCenter Pytho...
Not configured
N/A
N/A


Manage Credential
Credential name
vCenter lab Creds
User Name
administrator@vsphere.local
Password
OK
Cancel


Review and Accept Certificate
The following untrusted certificate was presented by the adapter:
Certificate Thumbprint: 3b4bc707e771c8f10810568390f3b55075ebb4bb
Issued to: EMAILADDRESS=support@vmware.com, CN=VMware default certificate, OU
Issued by: EMAILADDRESS=support@vmware.com, CN=labvcenter5.esc.lab.com, OU
Expires: December 13, 2024 2:10:16 AM GMT-06:00
If you trust this certificate click OK to use credentials to connect
OK
Cancel

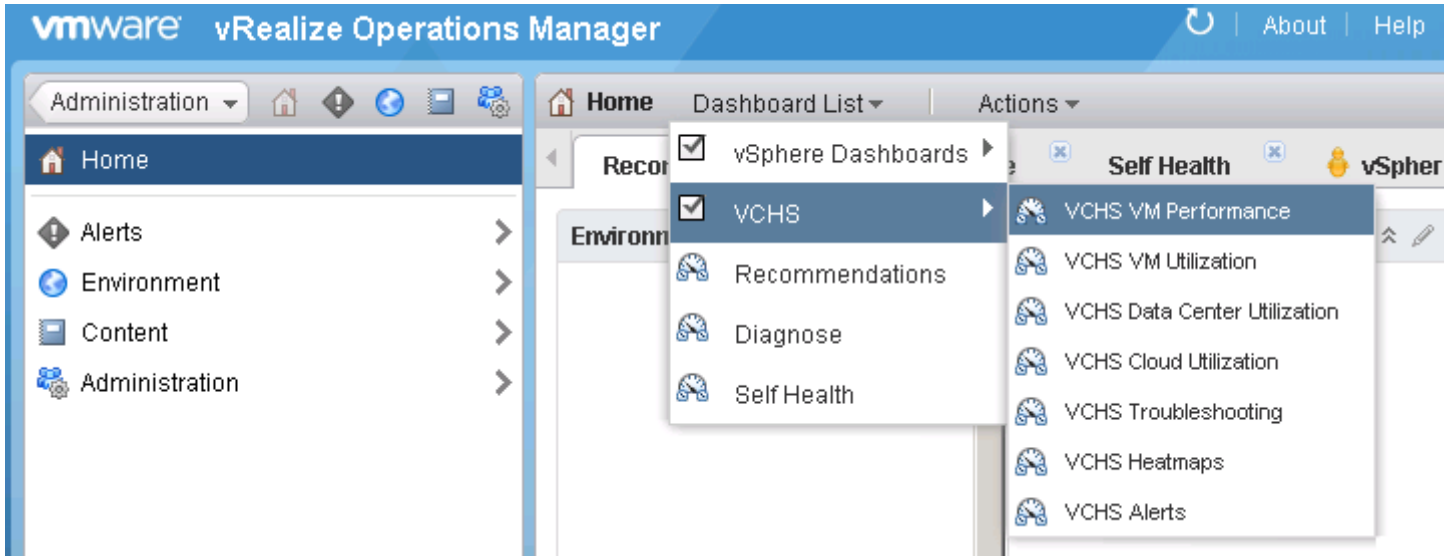

vmware vRealize Operations Manager
About | Help | admin
Search
Administration
Home
Dashboard List
Actions
Home
Alerts
Environment
Content
Administration
Recommendations
Diagnose
Self Health
vSphere Hosts Overview
vSphere VMs Memory
vSphere VMs CPU
Environment Health
Health
Immediate issues
Health Weather Map
-6 -5 -4 -3 -2 -1 Now
All objects | Hourly
Why is health Good?
Health is based on the alert definitions you configure to impact the health score. Check the triggered alerts for the configured widget object to understand the displayed state, including child objects.
Environment Risk
Risk
Future issues
Population criticality over time
100%
0%
Critical (0%)
Immediate (0%)
Warning (0%)
7 days ago Time Now
Why is risk Good?
Risk is based on the alert definitions you configure to impact the risk score. Check the triggered alerts for the configured widget object to understand the displayed state, including child objects.
Environment Efficiency
Efficiency
Optimization opportunities
Population criticality over time
100%
0%
Critical (0%)
Immediate (0%)
Warning (0%)
7 days ago Time Now
Why is efficiency Good?
Efficiency is based on the alert definitions you configure to impact the efficiency score. Check the triggered alerts for the configured widget object to understand the displayed state, including child objects.


Solutions
Import Data
Show:
All Solutions
Name
Description
Version
VMware vSphere
Manages vSphere objects...
6.0.2523165

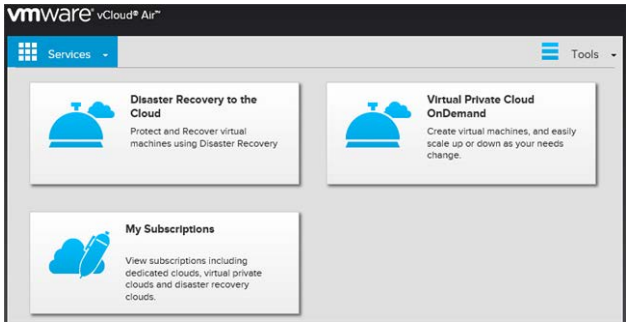


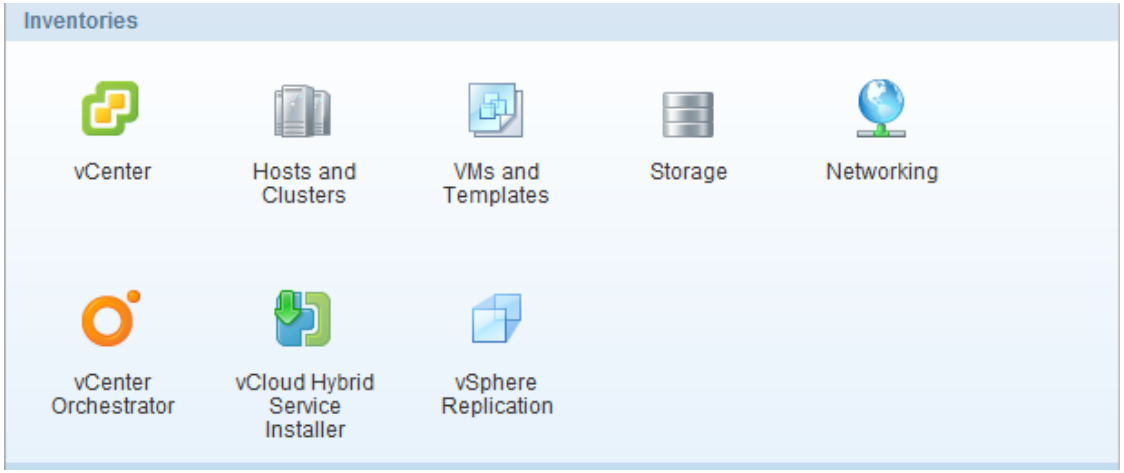
VCHSAdapter Solution Details

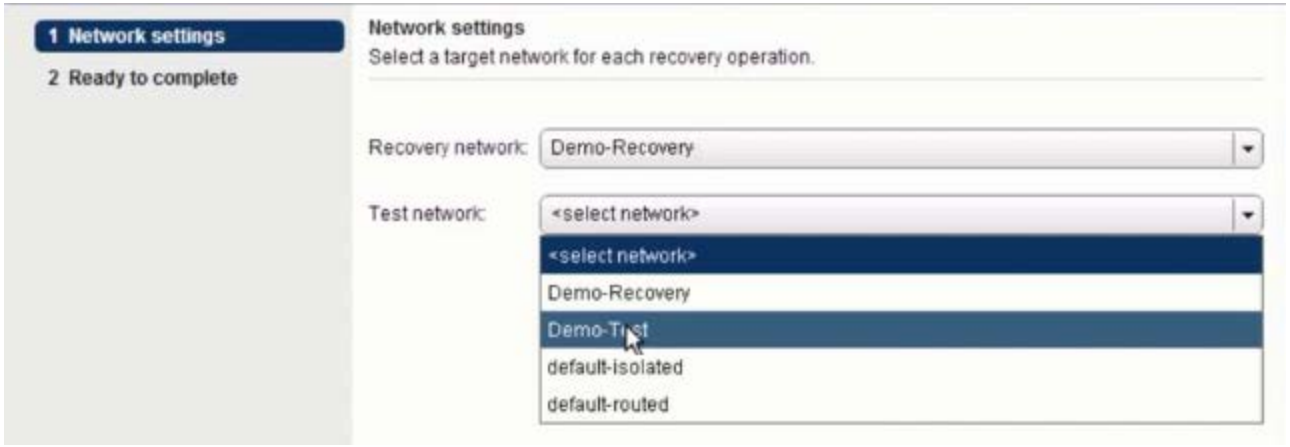
Adapter Type	Adapter Instance Name	Credential name	Collector	Collection State	Collection Status
MP for VCHS	My vCloud Air	vcloud air creds	vRealize Operati...	Collecting	Data receiving

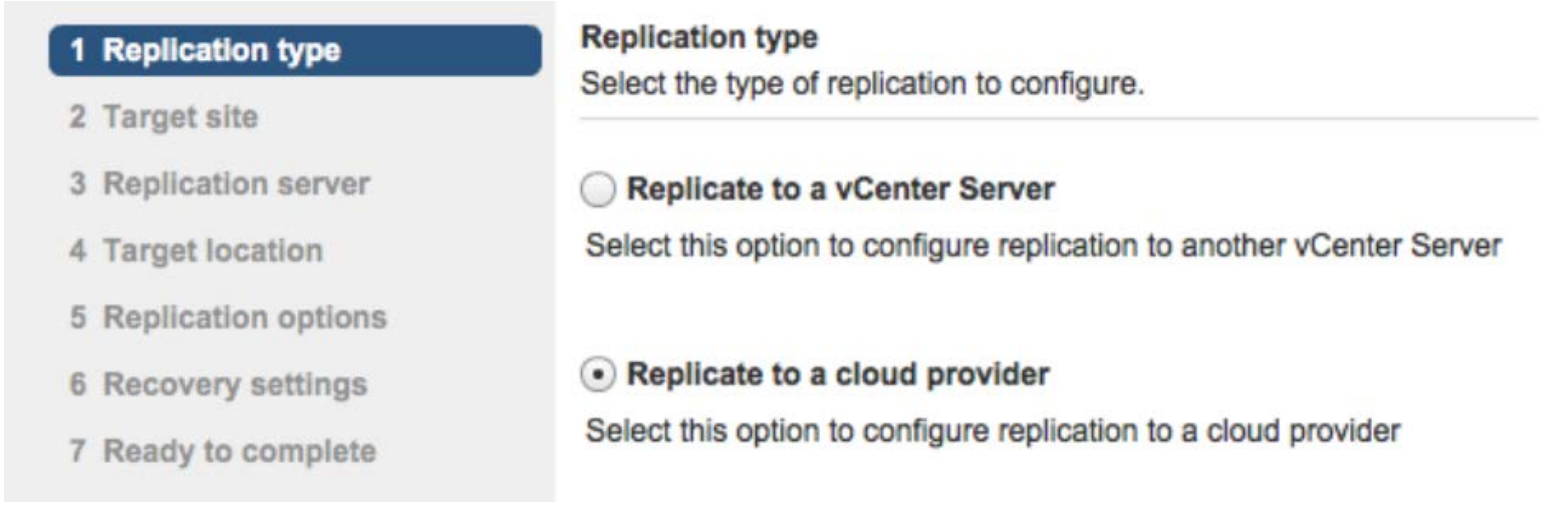

vmware vRealize Operations Manager
About
Help
Administration
Home
Alerts
Environment
Content
Administration
Home
Dashboard List
Actions
vSphere Dashboards
VCHS
Recommendations
Diagnose
Self Health
Self Health
VCHS VM Performance
VCHS VM Utilization
VCHS Data Center Utilization
VCHS Cloud Utilization
VCHS Troubleshooting
VCHS Heatmaps
VCHS Alerts

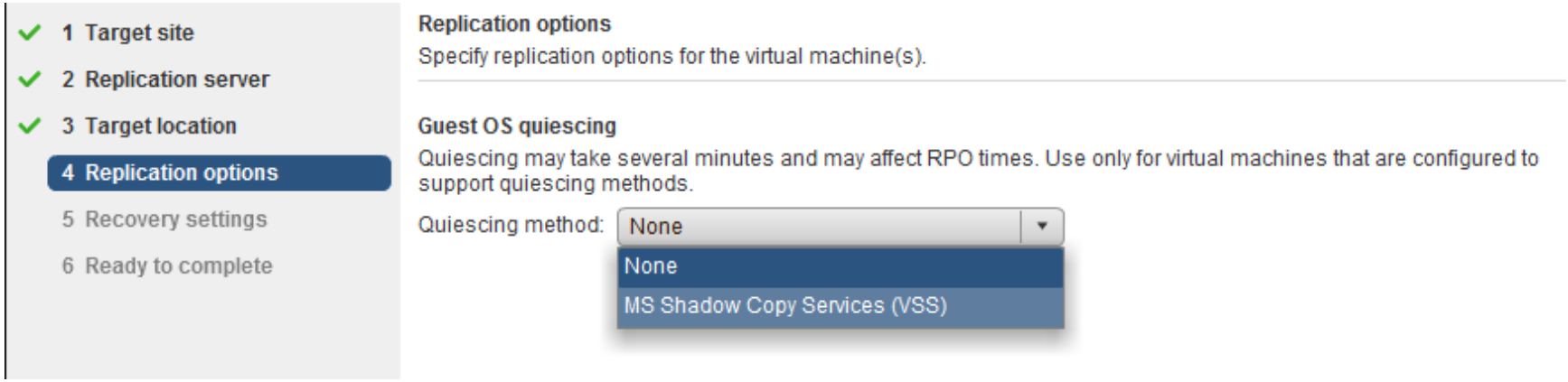
Chapter 6 – Business Continuity and Disaster Recovery Using vCloud Air

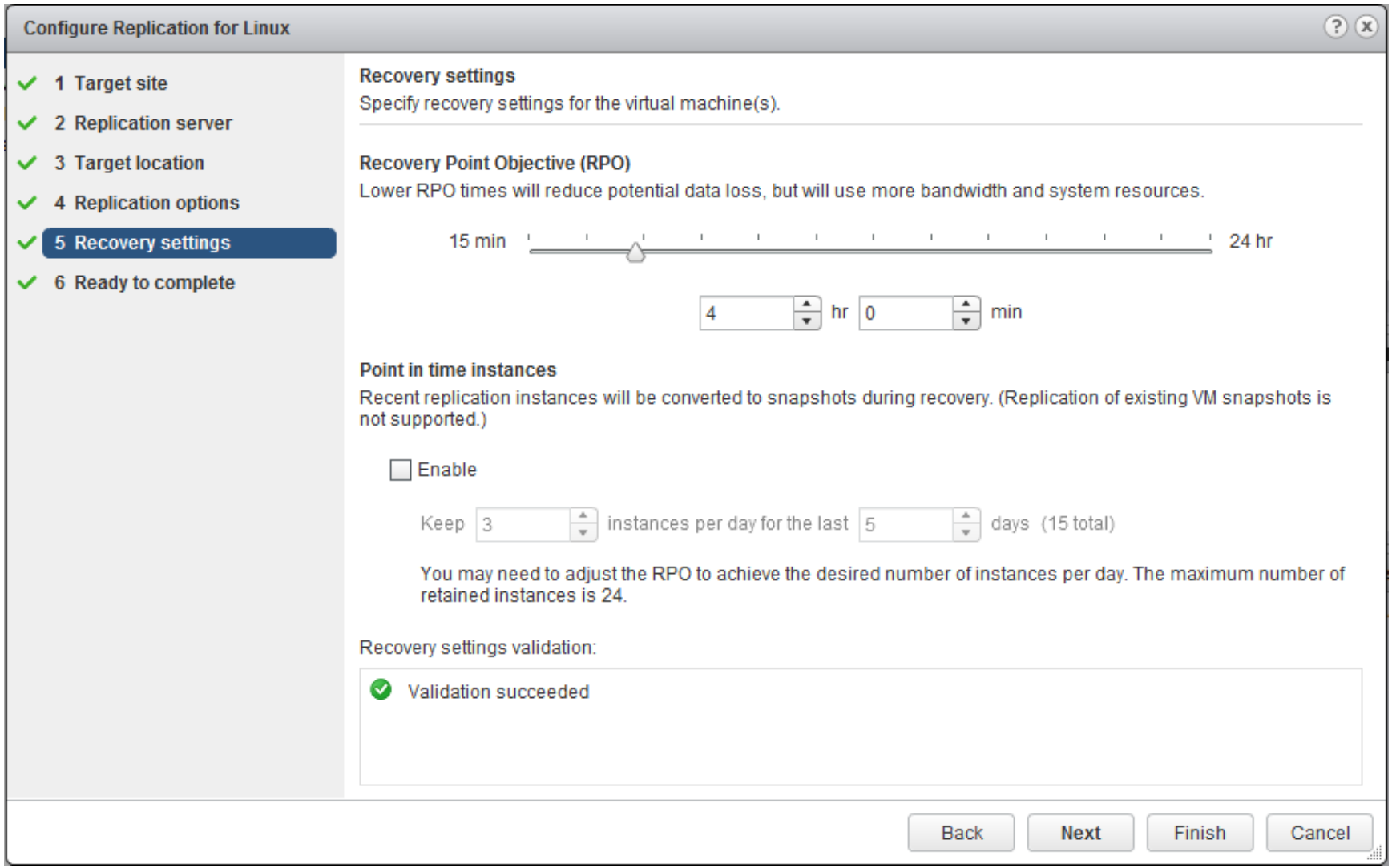





1 Network settings
2 Ready to complete
Network settings
Select a target network for each recovery operation.
Recovery network:
Demo-Recovery
Test network:
<select network>
<select network>
Demo-Recovery
Demo-Test
default-isolated
default-routed

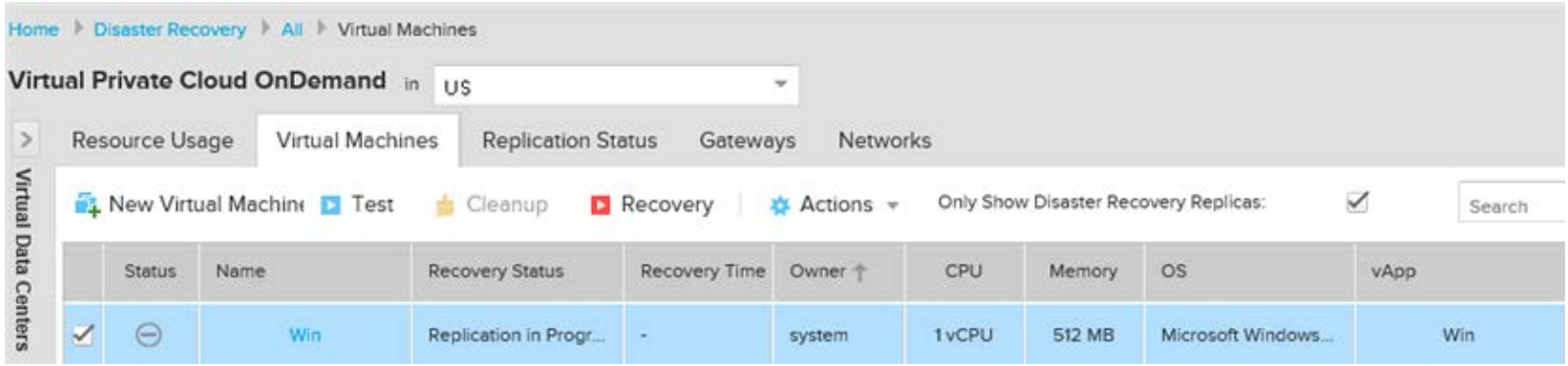

1 Replication type
2 Target site
3 Replication server
4 Target location
5 Replication options
6 Recovery settings
7 Ready to complete
Replication type
Select the type of replication to configure.
Replicate to a vCenter Server
Select this option to configure replication to another vCenter Server
Replicate to a cloud provider
Select this option to configure replication to a cloud provider


1 Target site
2 Replication server
3 Target location
4 Replication options
5 Recovery settings
6 Ready to complete
Replication options
Specify replication options for the virtual machine(s).
Guest OS quiescing
Quiescing may take several minutes and may affect RPO times. Use only for virtual machines that are configured to support quiescing methods.
Quiescing method:
None
None
MS Shadow Copy Services (VSS)


Configure Replication for Linux
1 Target site
2 Replication server
3 Target location
4 Replication options
5 Recovery settings
6 Ready to complete
Recovery settings
Specify recovery settings for the virtual machine(s).
Recovery Point Objective (RPO)
Lower RPO times will reduce potential data loss, but will use more bandwidth and system resources.
15 min
24 hr
4
hr
0
min
Point in time instances
Recent replication instances will be converted to snapshots during recovery. (Replication of existing VM snapshots is not supported.)
Enable
Keep 3 instances per day for the last 5 days (15 total)
You may need to adjust the RPO to achieve the desired number of instances per day. The maximum number of retained instances is 24.
Recovery settings validation:
Validation succeeded
Back
Next
Finish
Cancel

Recovery options

Select the option to use during recovery.

- ○ **Synchronize recent changes**
  Perform synchronization with the latest data from the source machine.
  Use this option if the source virtual machine is accessible.

- ◉ **Use latest available data**
  Skip data synchronization and use latest replication data on the target site.
  Use this option if the source site is not available or the disks of the source virtual machine are corrupted.