



Deployment Guide

# Infoblox IPAM Plugin for VMware vRA 8



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## Introduction

The Infoblox IPAM plugin for vRealize Automation 8.1 integrates IP address allocation and DNS record creation into your Cloud Assembly deployments. The Plugin also lets you create On-demand networks which can be used for IPAM and DNS functionality, making delivery/deployment of Enterprise IT applications completely seamless. The plugin is available on the VMware Solution Exchange and uses extensibility actions to retrieve IP data from the Infoblox grid as well as update the grid with host records and other data for deployed virtual machines (VM) and networks.

## Prerequisites

The Following prerequisites need to be met as part of this document to use Infoblox Plugin for vRA 8:

- A VMware private cloud with vSphere suite. The environment used for this document consists of 2 ESXi 6.5 servers, with vCenter running as a virtual machine.
- A fully configured network setup in vCenter.
- Fully installed vRealize Suite Lifecycle Manager (LCM), VMware Identity Manager (IDM), and vRealize Automation 8. It is recommended to use vRealize Easy Installer to deploy these in a few simple steps. Refer to VMware documentation for further information.
- At least one Infoblox NIOS or vNIOS appliance that supports a minimum wapi version of 2.7.
- Infoblox grid configured for IPAM and DNS.

## Workflow

The following outline describes the basic steps needed to install, configure, and use the Infoblox IPAM plugin for vRA 8.1.


1. Configure the Infoblox grid.
2. Install the Infoblox plugin in vRA 8.
3. Create templates and customization specs in vCenter.
4. Add resources in vRA Cloud Assembly
5. Create blueprints in vRA Cloud Assembly.
6. Create a deployment from a blueprint.
7. Delete the deployment.

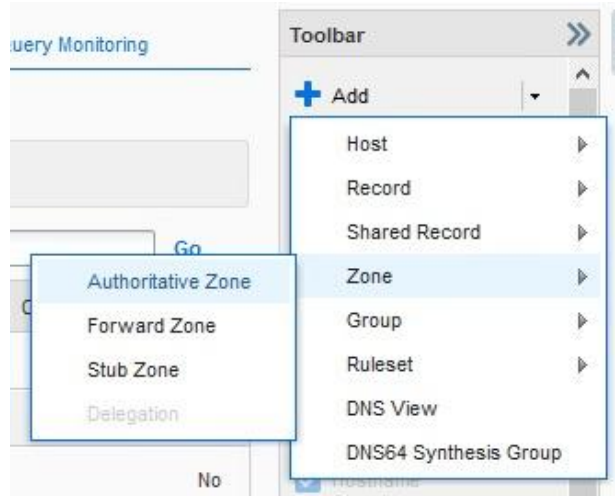
## NIOS Setup

This section covers the steps to set up your Infoblox grid prior to installing and using the Infoblox plugin for vRA 8.1. This will cover five steps: create a DNS zone, create a network, create a network container, create a cloud API account, and add extensible attributes.

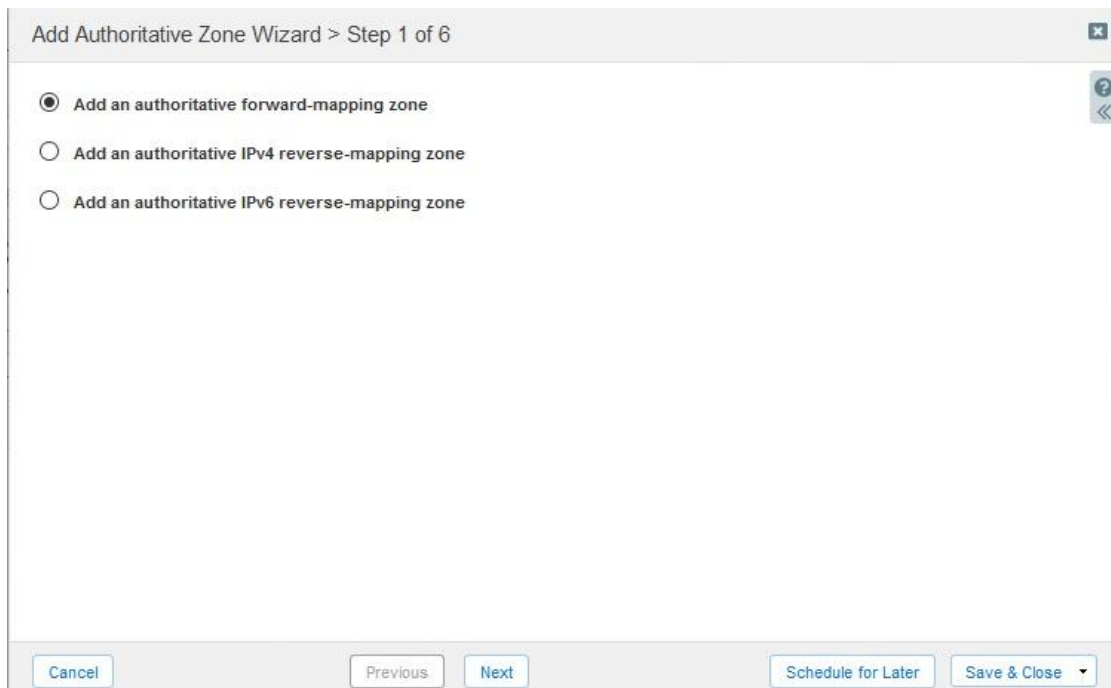
### Create DNS Zone

In order to automatically assign DNS records to new virtual machines created through vRA deployments, we need to create an authoritative DNS zone to use for this. When we create a network, we will set this zone as the default domain for its DHCP options.

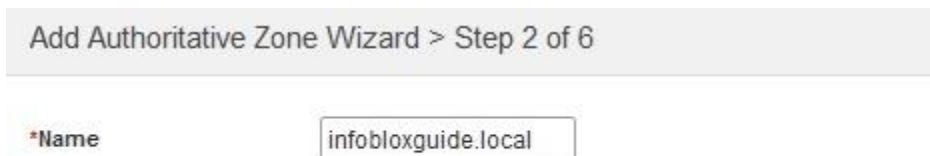
1. Login to Infoblox Grid Manager.
2. Navigate to the **Data Management** -> **DNS** tab.
3. Click the  **Add** dropdown, select -> **Zone** -> **Authoritative Zone**.



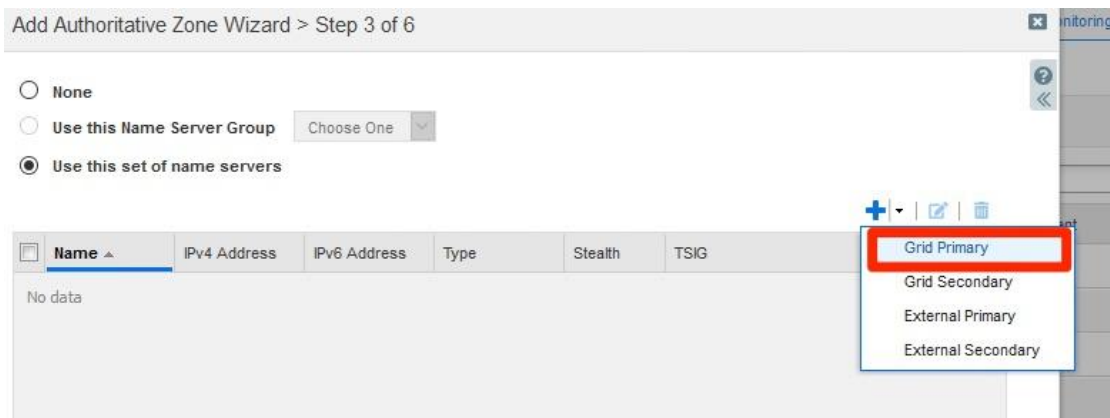
- On Step 1 of the wizard, select **Add an authoritative forward-mapping zone**, click **Next**.



- On Step 2, enter a name for the zone, such as *infobloxguide.local*. Click **Next**.



- On Step 3 of the wizard, select **Use this set of name servers**.
- Click the **+** dropdown and select **Grid Primary**.



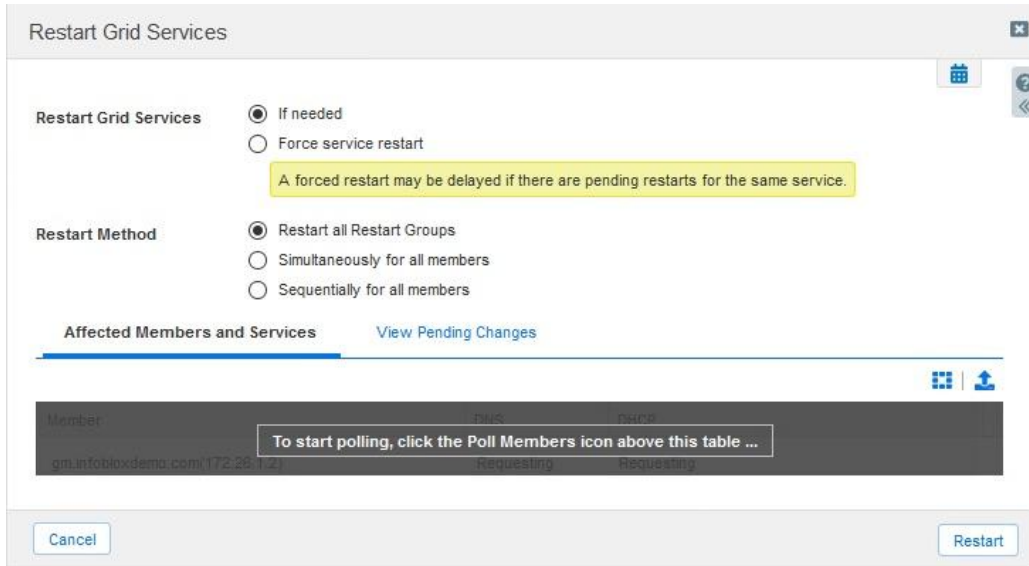
- Click **Select**. If you have multiple members in the grid, select one from the popup window. If you have only one member, it will be selected automatically.
- Click **Add**.



- Click **Save & Close**.
- In the warning bar at the top of Grid Manger, click **Restart**.



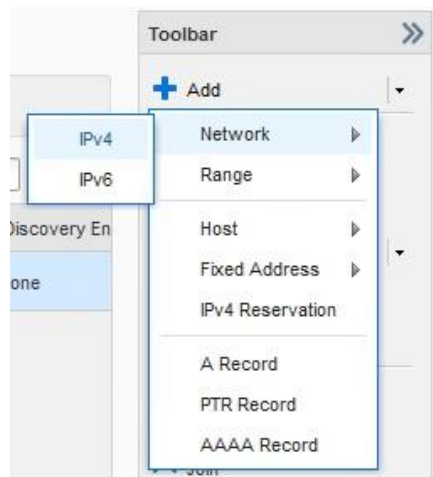
- In the Restart Grid Services window, click **Restart**.



## Create Network

Next, we will create a network in the Infoblox grid to use for allocating IP addresses to VMs deployed through vRA 8.

1. Navigate to the **Data Management** -> **IPAM** tab.
2. Click the **+** **Add** dropdown, select -> **Network** -> **IPv4**.



3. On Step 1 of the wizard, select **Add Network** -> **Manually**, and click **Next**.

Add IPv4 Network Wizard > Step 1 of 7

Add Network
   
 Manually
   
 Using a network template Select Template
  
 Add Network Container

Cancel
Previous
Next
Schedule for Later
Save & Close

4. Enter in your desired Netmask, such as **24**.
5. Click the **+** to add a new network ID, such as **172.27.1.0**.
6. Select the checkbox for **Automatically Create Reverse-Mapping Zone**.

Add IPv4 Network Wizard > Step 2 of 7

\*Netmask  255.255.255.0

1 4 8 12 16 20 24 28 32

\* Networks + + 🗑️

<input type="checkbox"/>	Network
<input checked="" type="checkbox"/>	172.27.1.0

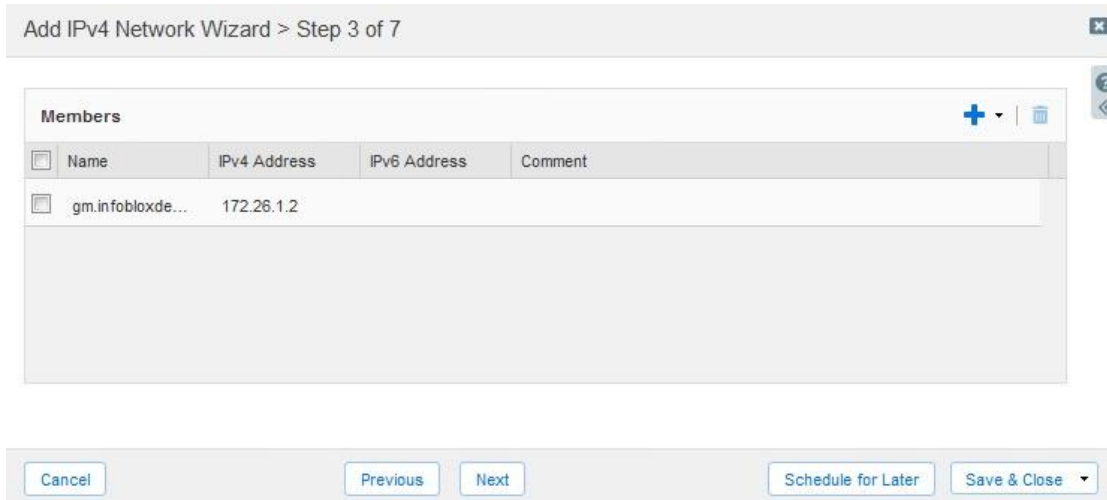
Comment:

Automatically Create Reverse-Mapping Zone

Cancel
Previous
Next
Schedule for Later
Save & Close

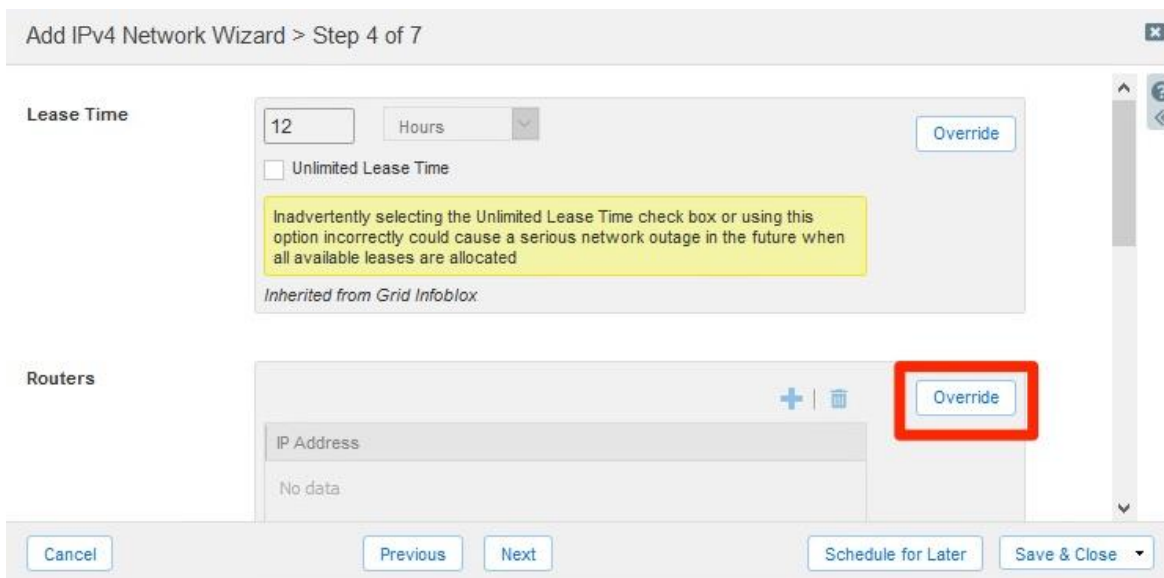
7. Click **Next**.
8. On Step 3, click the **+** to add an Infoblox member to manage the network.
9. If you have multiple members in the grid, select one from the popup window. If you have only one member, it will be selected automatically.





10. Click **Next**.

11. On Step 4, first set the default router for the network by clicking **Override** in the Routers box.



12. Under IP Address, enter the default gateway for your network.



13. Scroll down and click **Override** in the Domain Name box.

**The plugin will not be able to read inherited options. The Domain Name option must be overridden and set at the network and/or range levels; otherwise, updates from the plugin will fail.**

14. Enter the domain name from the zone you created earlier, for example **infobloxguide.local**.
15. Click **Override** in the DNS Servers box.
16. Enter the IP address of your Infoblox DNS server.

Domain Name: infobloxguide.local [Inherit]

DNS Servers: [+] [x] [Inherit]

IP Address
172.27.1.2

17. Click **Save & Close**.
18. In the warning bar at the top of Grid Manger, click **Restart**.
19. In the Restart Grid Services window, click **Restart**.

Restart Grid Services

Restart Grid Services:  If needed,  Force service restart

Restart Method:  Restart all Restart Groups,  Simultaneously for all members,  Sequentially for all members

Affected Members and Services [View Pending Changes]

Member	DNS	Service
om.infobloxdemo.com/172.27.1.2	Requesting	Requesting

To start polling, click the Poll Members icon above this table ...

[Cancel] [Restart]

## Create Network Container

In this step, we will create a network container to hold networks created by vRA deployments. When we create on demand networks through vRA Cloud Assembly, smaller blocks of IP space will be allocated from this container for subnets.

1. From the **Data Management -> IPAM** tab, click the **+** **Add** dropdown, select **-> Network -> IPv4**.
2. On Step 1 of the wizard, select **Add Network Container**.

## Add IPv4 Network Wizard > Step 1 of 7

- Add Network
- Manually
- Using a network template
- Add Network Container

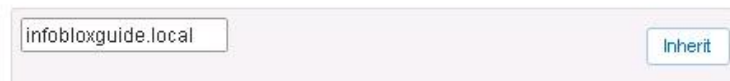
Select Template

3. Click Next.
4. Enter in your desired Netmask, such as **16**. *Allow for a large block of address space as this will be subnetted later.*
5. Click the **+** to add a new network ID, such as **172.30.0.0**.
6. Click **Save & Close**.
7. Select the new Network Container and click **Edit** in the action menu.
8. In the edit window, open the **IPv4 DHCP Options tab**.
9. Using the **Override** buttons, set the Router, Domain Name, and DNS Server for this network block.

### Routers



### Domain Name



### DNS Servers



10. Click **Save & Close**.

## Create Cloud API Account

Any admin account with access to the cloud API can be used for the Infoblox plugin for vRA 8, including the default admin account. As a best practice, an account with the least required privileges should be used. This account will need Read/Write permissions for the network objects, DNS zones, and reverse DNS zones that will be used. It will also need permission to Read the grid DHCP properties.

This section will detail how to set up a cloud admin account and give permissions to the cloud-api-only admin group for use with the vRA 8 Infoblox plugin.

## Create Account

1. Navigate to the **Administration -> Administrators** tab.
2. Click the **+** to add a new admin user.
3. In the wizard, select **Local** for Authentication Type.
4. Enter a name and password for the admin account.

Add Administrator Wizard > Step 1 of 2

Authentication Type: Local

Credentials

\*Login: cloud-admin

\*Password: [masked]

\*Confirm Password: [masked]

Password must contain at least 4 characters.

Email Address: [empty]

\*Admin Group: [Select] [Clear]

5. Next to Admin Group, click **Select**.
6. In the Admin Group Selector window, click on the **cloud-api-only** group.

Admin Group Selector

All Admin Groups

Off Filter On Show Filter

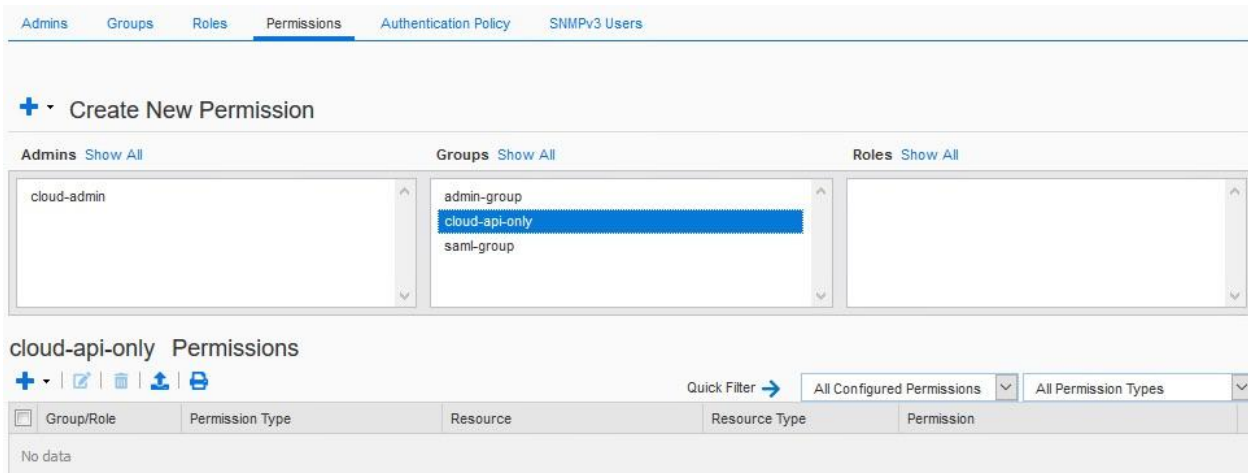
Find [input] Go

Name ^	Superuser	Comment	Site
admin-group	Yes		
cloud-api-only	No	Admins allowe...	
saml-group	No	Admins allowe...	
splunk-reporting-g	No		

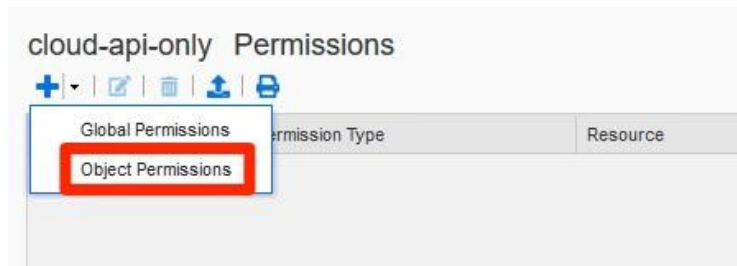
7. Back in the Add Administrator Wizard, click **Save & Close**.

## Set Permissions

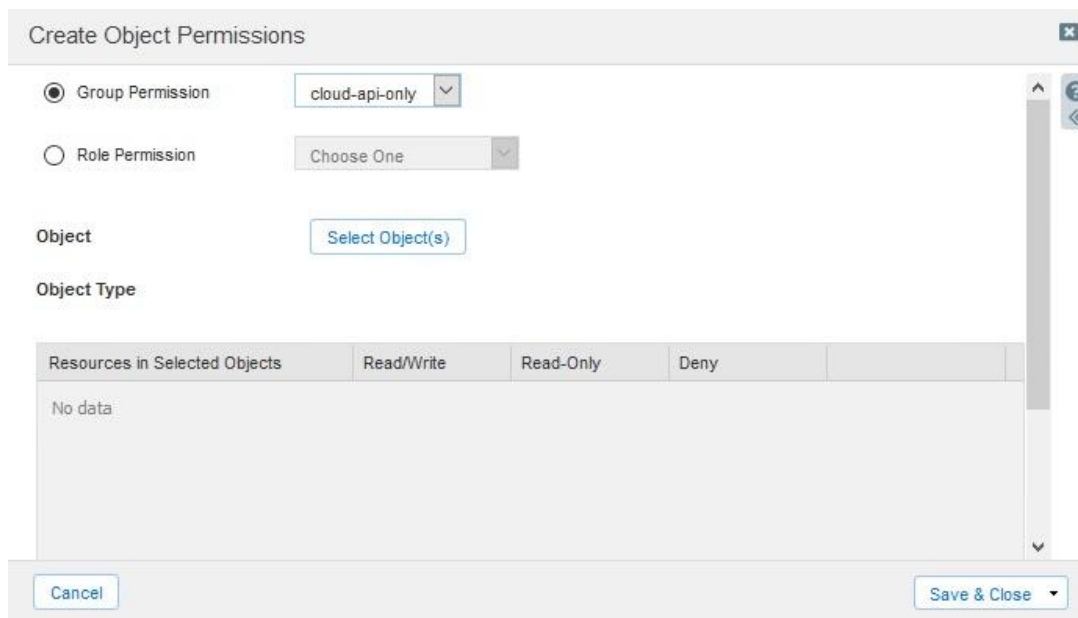
1. Navigate to the **Administration -> Permissions** tab.
2. In the Groups column, click on the **cloud-api-only** group.



3. Click on the **+** dropdown and select **Object Permissions**.



4. Click **Select Object(s)**.



- In the object filter, select **IPv4 Network** from the dropdown list.
- Type the first octet of your network in the search bar.
- Click on **Search**.

Object Selector

172

Type equals IPv4 Network

Search Reset

Include Extensible Attributes Values

Name	Type	Matched Property	Matched Value	IP Address / Data	Comment	Site
<input type="checkbox"/> default/172.26.1.0/24	IPv4 Network	Network View/...	172.26.1.0			
<input type="checkbox"/> default/172.27.1.0/24	IPv4 Network	Network View/...	172.27.1.0			

Cancel Select

- Click on the network you created earlier, or select its checkbox and click **Select**.
- In the Create Object Permissions window, select **Read/Write** next to the resource.
- Select **Read/Write** for IPv4 Host Addresses, IPv4 DHCP Ranges, and IPv4 Fixed Addresses/Reservations.

Create Object Permissions

Group Permission cloud-api-only

Role Permission Choose One

Object default/172.27.1.0/24 Select Object(s)

Object Type IPv4 Network

Resource default/172.27.1.0/24

Read/Write Read Only Deny

Resources in Selected Objects	Read/Write	Read-Only	Deny
Port Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IPv4 Host Addresses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IPv4 DHCP Ranges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IPv4 DHCP Fixed Addresses/Reserv.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cancel Save & Close

11. Click **Save & Close**.
12. Repeat steps 3 through 11 to add the same permissions for your network container. Use **IPv4 Network Container** for the Type in the search filter.

13. Click on the **+** dropdown and select **Object Permissions**.
14. Click **Select Object(s)**.
15. In the object filter, select **All Zones** from the dropdown list.
16. Type the first part of your DNS zone name in the search bar.
17. Click on **Search**.

Name	Type	Matched Property	Matched Value	IP Address / Data	Comment	Site
default/infobloxdemo.com	Forward-Mappi...	DNS View/FQDN	infobloxdemo.c...			
default/infobloxguide.local	Forward-Mappi...	DNS View/FQDN	infobloxguide.l...			

18. If needed, drag to expand the Name column to view the entire name.
19. Click on the DNS zone you created earlier, or select its checkbox and click **Select**.
20. In the Create Object Permissions window, select **Read/Write** next to the resource.

21. Select **Read/Write** for Host, A Records, and PTR.

Create Object Permissions

Group Permission  Role Permission

cloud-api-only Choose One

Object default/infobloxguide.local [Select Object\(s\)](#)

Object Type Forward-Mapping Authoritative Zone

Resource default/infobloxguide.local

Read/Write Read Only Deny

Resources in Selected Objects	Read/Write	Read-Only	Deny
Host	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A Records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AAAA Records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cancel Save & Close

22. Click **Save & Close**.

23. Click on the **+** dropdown and select **Object Permissions**.

24. Click **Select Object(s)**.

25. In the object filter, select **All Zones** from the dropdown list.

26. Type the first octet of your network in the search bar.

27. Click on **Search**.

Object Selector

172

Type equals All Zones

Search Reset

Include Extensible Attributes Values

Name	Type	Matched Property	Matched Value	IP Address / Data	Comment	Site
default/1.26.172.in-addr.arpa	IPv4 Reverse...	DNS View/FQDN	1.26.172.in-ad...			
default/1.27.172.in-addr.arpa	IPv4 Reverse...	DNS View/FQDN	1.27.172.in-ad...			

Cancel Select



28. Click on the reverse lookup zone you created earlier.
29. In the Create Object Permissions window, select **Read/Write** next to the resource.
30. Select **Read/Write** for Host and PTR.

Resource: default/1.27.172.in-addr.arpa

Read/Write  Read Only  Deny

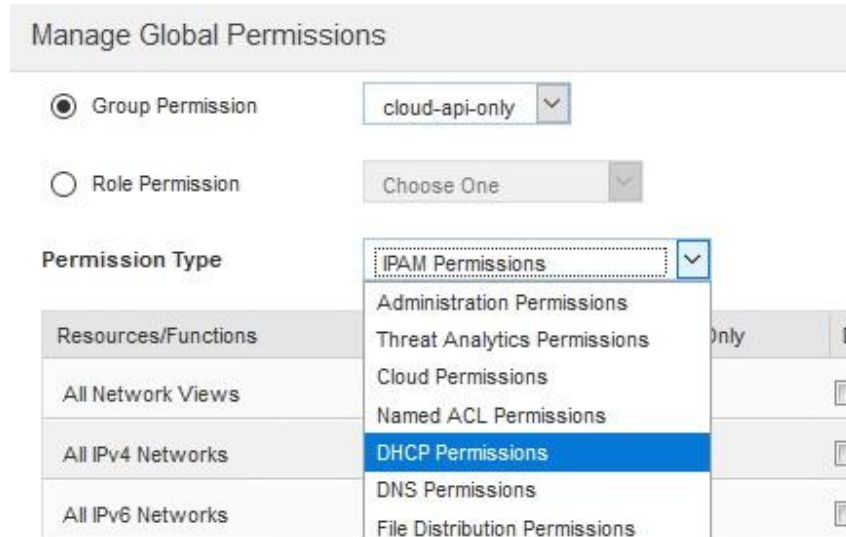
Resources in Selected Objects	Read/Write	Read-Only	Deny
Host	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CNAME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DNAME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PTR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

31. Click **Save & Close**.
32. Click on the **+** dropdown and select **Global Permissions**.

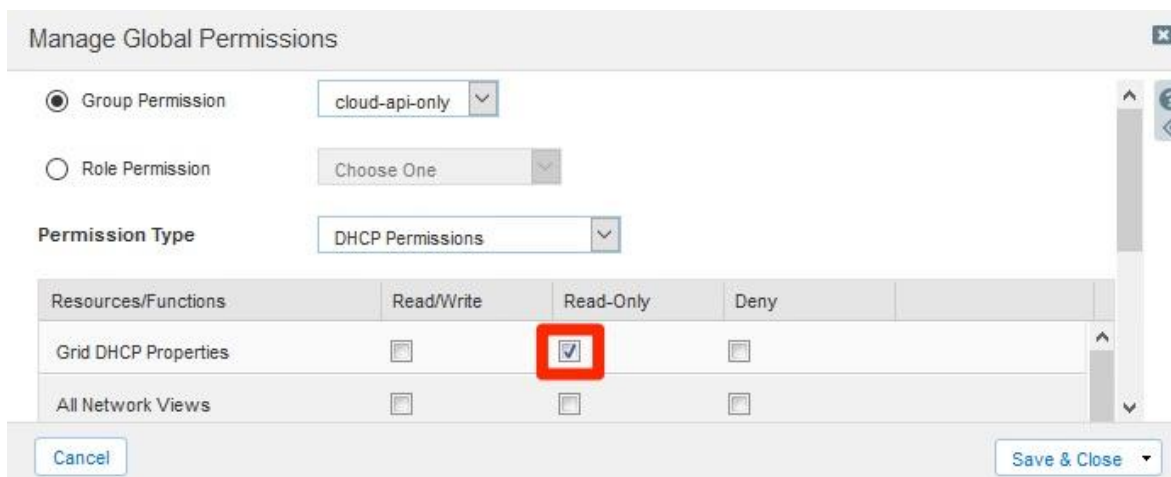
cloud-api-only Permissions

- Global Permissions
- Object Permissions
- HCP Permissions

33. In the Permission Type dropdown, select **DHCP Permissions**.



34. Select **Read-Only** for Grid DHCP Properties.




35. Click **Save & Close**.

## Add Extensible Attributes for vRA Plugin

The Infoblox plugin for vRA 8 uses the following extensible attributes (EA) in the Infoblox grid to hold metadata for resources:

- **Tenant ID** (string)
- **CMP Type** (string)
- **VM ID** (string)
- **VM Name** (string)
- **VMware NIC index** (integer)
- **VMware resource ID** (string)

Many of these extensible attributes are added to the grid when you install the Cloud Network Automation (CNA) licence. You will need to manually add VMware NIC index and VMware resource ID.

1. Navigate to the **Administration -> Extensible Attributes** tab in Grid Manager.
2. Click the  to add a new extensible attribute.
3. In the wizard, enter **VMware NIC index** for the name.
4. Select **Integer** in the Type dropdown.

Add Extensible Attribute Wizard > Step 1 of 2

\*Name:


Type:

Value Limits: Min  Max






Comment:

Buttons: Cancel, Previous, Next, Save & Close

5. Click **Save & Close**.
6. Repeat the above steps using **VMware resource ID** for the name and **String** for the type.
7. Verify that all 6 extensible attributes listed above are present in your grid.

Extensible Attributes 

Quick Filter:  On Filter Off Show Filter

<input type="checkbox"/> Name ^	Type	Comment	Required	Restricted to Objects
<input type="checkbox"/> CMP Type	String		No	
<input type="checkbox"/> Tenant ID	String		No	Network View,IPv4 Network,IPv4 Rang...
<input type="checkbox"/> VM ID	String		No	IPv4 Fixed/Reservation Address,IPv6 ...
<input type="checkbox"/> VM Name	String		No	
<input type="checkbox"/> VMware NIC index	Integer		No	
<input type="checkbox"/> VMware resource ID	String		No	

## Install Infoblox Plugin in vRA 8

The Infoblox IPAM plugin for vRA 8 is available to download on the VMware Solution Exchange, <https://marketplace.vmware.com>. You will need a My VMware account to download the plugin. You can sign up for a free account on the site.

1. On the Solution Exchange site, use the product search box to search for **Infoblox**.
2. In the search results locate the vRA Cloud Infoblox Plugin, newest version is 1.4.



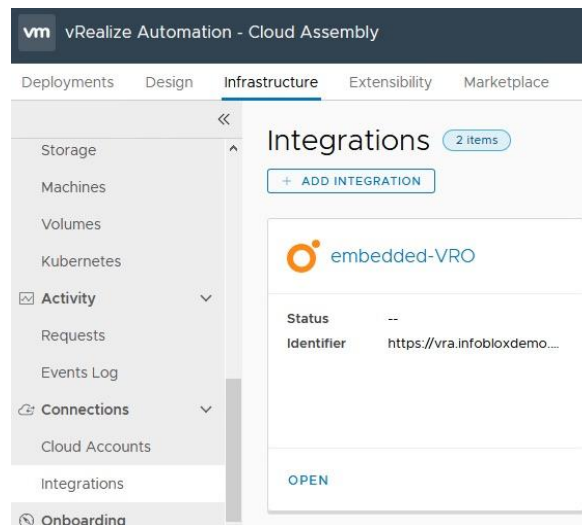
**Note: The plugin is developed and published by VMware and works with both vRA 8 and vRA Cloud.**

3. Follow links to download the plugin and save it to your computer.

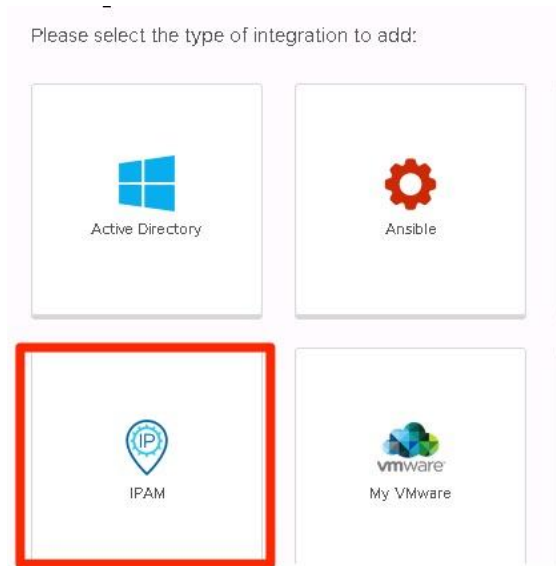
## Add Infoblox IPAM Provider

To install the Infoblox IPAM plugin:

1. Login to vRA and open the Cloud Assembly console.
2. Navigate to the **Infrastructure** tab.
3. In the left menu under Connections, select **Integrations**.
4. Click on **Add Integration**.



- For type, select **IPAM**.



- Enter a Name for the integration.
- Click **Manage IPAM Providers**.

### New Integration

**Name \***

**Description**

**IPAM Provider**  
Specify IPAM provider for integration. Add new if no providers are registered in Cloud Assembly

**Provider \***

[MANAGE IPAM PROVIDERS](#)

- Click **Import Provider Package**.

## Manage IPAM Providers

[IMPORT PROVIDER PACKAGE](#) [DELETE](#)

<input type="checkbox"/>	Name	Version
No IPAM providers found		

9. Select the **Infoblox.zip** file you downloaded earlier.
10. Click **Open**.
11. Once the file loads, click **CLOSE**.

### Manage IPAM Providers ×

IMPORT PROVIDER PACKAGE
DELETE

<input type="checkbox"/>	Name	Version	Description	Package Signature
<input type="checkbox"/>	Infoblox	1.1	Infoblox integration for vRA	✔

1 providers

CLOSE

12. Click in the Provider search bar.
13. Select **Infoblox** from the list.

#### IPAM Provider

Specify IPAM provider for integration. Add new if no providers are registered in Cloud Assembly

**Provider \***

ADD
CANCEL

Infoblox
Infoblox integration for vRA

Showing 1 of 1 results. [Show all...](#)

14. Enter the Username for the Cloud API User you created in NIOS.
15. Enter the Cloud API User's Password.
16. Enter the resource URL or IP address of your NIOS server.

Provider \*

[MANAGE IPAM PROVIDERS](#)

Running environment

Username \*

Password \*

Hostname \*

17. Click **Validate**.

Hostname \*

[+](#)

<input type="checkbox"/>	Key	Value
<input type="checkbox"/>	Infoblox.IPAM.DisableCertificateCheck	False
<input type="checkbox"/>	Infoblox.IPAM.WAPIVersion	2.7
<input type="checkbox"/>	Infoblox.IPAM.HTTPTimeout	30
<input type="checkbox"/>	Infoblox.IPAM.LogApiCallsAsInfo	False
		1 - 4 OF 4

[VALIDATE](#)

18. If you get a popup regarding an untrusted certificate, click **Accept** to accept NIOS self-signed certificate.

### Untrusted Certificate Found



Certificate thumbprint	8B:4A:A2:AE:11:99:4F:03:3E:05:F2:49:88:98:E8:65:B4:9C:BE:23
Common name	gm.infobloxdemo.com
Issued by	gm.infobloxdemo.com
Expires	Mar 11, 2021, 7:46:49 AM

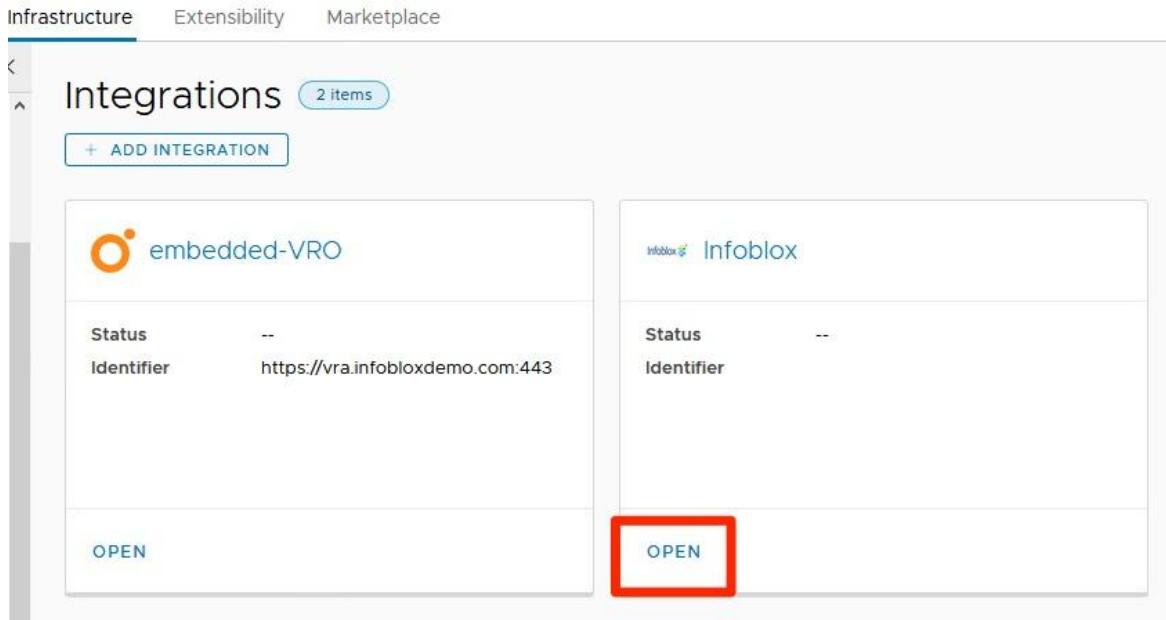
[CANCEL](#) [ACCEPT](#)

19. Wait for the validation to complete.

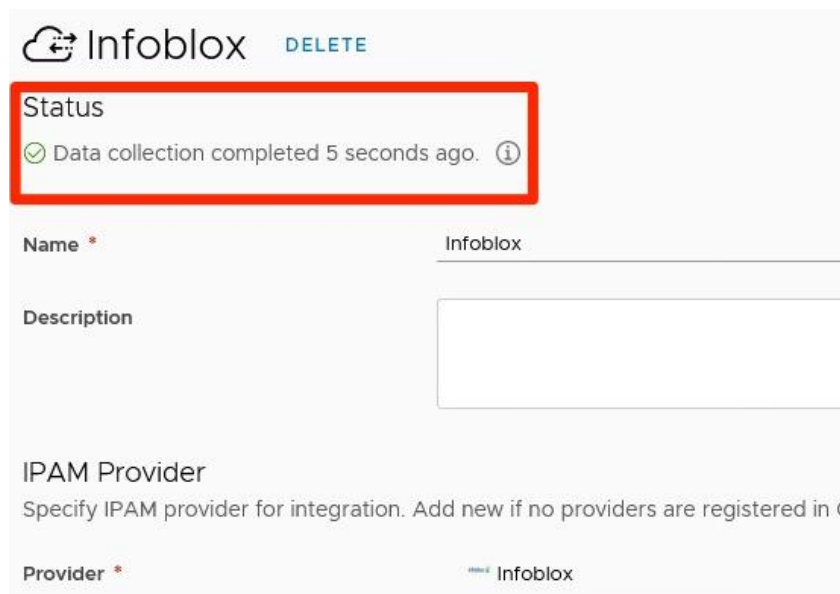
20. Once you see the “Credentials Validated Successfully”, click **Add** to finish installing the plugin.



- 21. The plugin will begin running the extensibility action Infoblox\_GetIPRanges.
- 22. To monitor the progress, from the **Infrastructure** -> **Integrations** page, click **OPEN** on your new integration.



- 23. View progress under Status.





## Create Resources in vCenter

Prior to configuring resources and deploying blueprints using vRA and the Infoblox plugin, you will need at least one virtual machine template and one VM customization specification in vCenter

### Create Template

Use your preferred method to create a VM template. For the template to work properly with vRA and the Infoblox plugin, ensure:

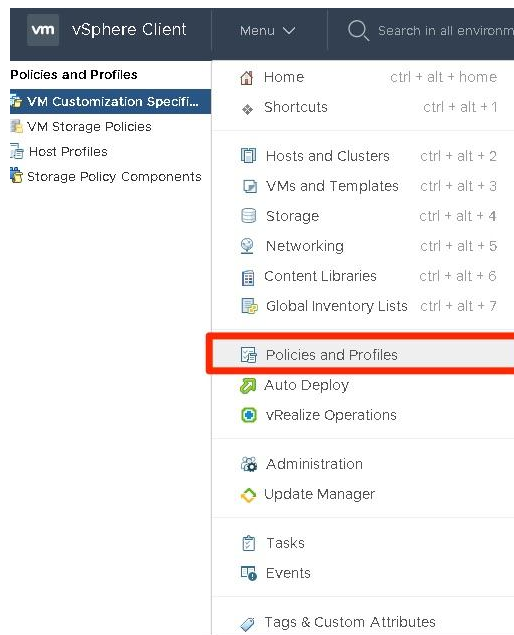
- VMware tools are installed on the VM. OS customization will not work without this.
- Perl is installed on the VM. OS customization will not work without this.
- The network interface (NIC) for the VM is set to “Connect at Power On”.

The template used for this document uses CentOS 7 with a single NIC and open vm tools installed.

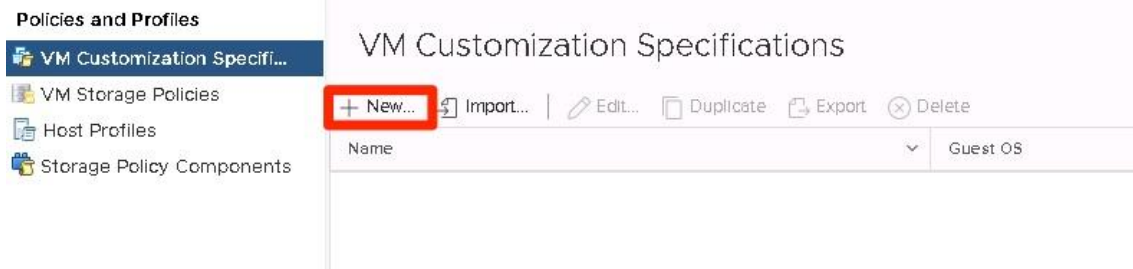
### Create VM Customization Specification

Customization Specifications are XML files that allow you to customize the configuration of guest operating systems when deploying new VMs. This guide demonstrates creating a specification for Linux VMs. Steps for Windows VMs will differ slightly but the same settings shown here should be applied.

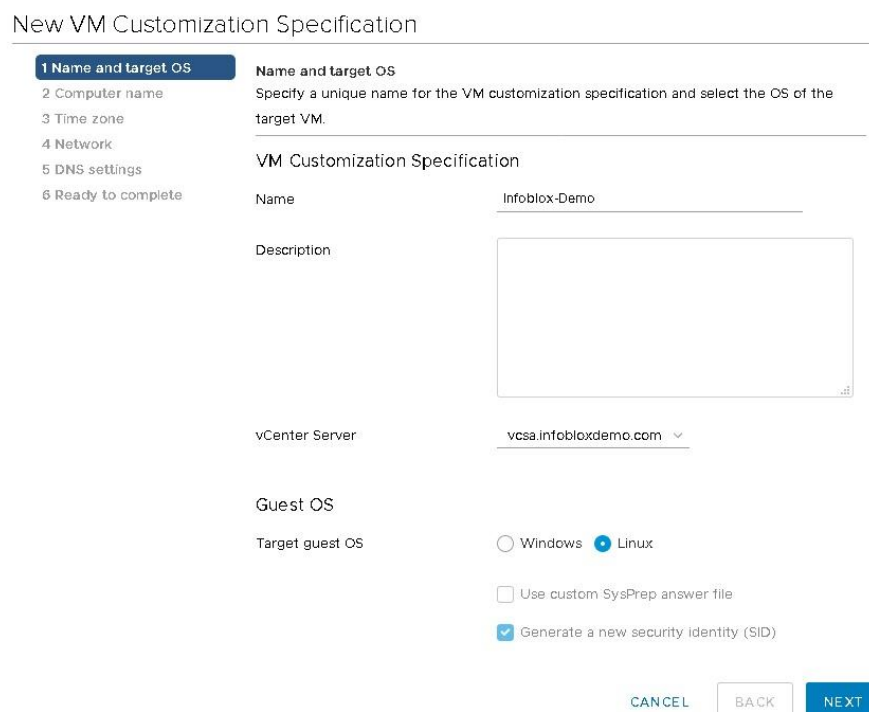
1. Login to the vSphere Client.
2. From the Home menu, Navigate to **Policies and Profiles**.



3. Click on **New** to create a Customization Specification.



4. In the wizard, enter a name for the customization specification.
5. Select **Linux** as the Target guest OS.
6. Click **NEXT**.



7. On the Computer name page, ensure **Use the virtual machine name** is selected.
8. For Domain name, enter the domain you created earlier, for example: **infobloxguide.local**.
9. Click **NEXT**.

## New VM Customization Specification

✓ 1 Name and target OS  
2 Computer name  
3 Time zone  
4 Network  
5 DNS settings  
6 Ready to complete

**Computer name**  
Specify a computer name that will identify this virtual machine on a network.

Use the virtual machine name ⓘ  
 Enter a name in the Clone/Deploy wizard  
 Enter a name

Append a unique numeric value ⓘ

Generate a name using the custom application configured with the vCenter Server  
Argument \_\_\_\_\_

Domain name infobloxguide.local

CANCEL BACK NEXT

10. On the Time zone page, select your Area and Location for the Time Zone. Click **NEXT**.
11. On the Network page, ensure **“Use standard network settings for the guest operating system, including enabling DHCP on all network interfaces”** is selected.
12. Click **NEXT**.

## New VM Customization Specification

✓ 1 Name and target OS  
✓ 2 Computer name  
✓ 3 Time zone  
4 Network  
5 DNS settings  
6 Ready to complete

**Network**  
Specify the network settings for the virtual machine.

Use standard network settings for the guest operating system, including enabling DHCP on all network interfaces  
 Manually select custom settings

ADD

Description	IPv4 Address	IPv6 Address
NIC1	Use DHCP	Not used

CANCEL BACK NEXT

13. On the DNS settings page, enter an IP address for your Primary DNS server.

14. Under DNS Search Paths, enter the local domain you created earlier and click **ADD**.
15. Click **NEXT**.

New VM Customization Specification

- ✓ 1 Name and target OS
- ✓ 2 Computer name
- ✓ 3 Time zone
- ✓ 4 Network
- 5 DNS settings**
- 6 Ready to complete

**DNS settings**  
Specify the DNS and domain information for the virtual machine.

**DNS Servers**

Primary DNS server

Secondary DNS server

Tertiary DNS server

**DNS Search Paths**

Enter DNS search path  **ADD**

MOVE UP MOVE DOWN DELETE

infobloxguide.local

1 items

CANCEL BACK NEXT

16. On the final page, click **FINISH**.

New VM Customization Specification

- ✓ 1 Name and target OS
- ✓ 2 Computer name
- ✓ 3 Time zone
- ✓ 4 Network
- ✓ 5 DNS settings
- 6 Ready to complete**

**Ready to complete**  
Review your settings selections before finishing the wizard.

Name	Linux
OS type	Linux
Computer name	Use Virtual Machine name
Domain name	infobloxguide.local
Time zone	US/Pacific
Hardware clock	Set to UTC
Network type	Standard
Primary DNS server	172.27.1.2
DNS search paths	infobloxguide.local

CANCEL BACK FINISH

## Configure Resources in vRA Cloud Assembly

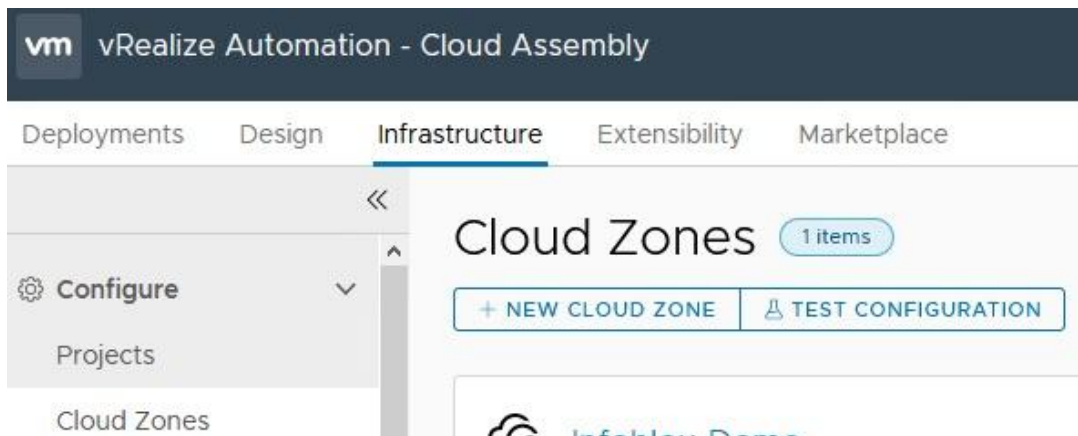
This section will detail the configuration of the minimal resources needed in vRealize Automation Cloud Assembly to deploy VMs and networks using the Infoblox plugin. The tags assigned when creating some of these resources are particularly important as they will inform the blueprint deployment which resources to use. The configuration items and resources needed are:

- Cloud Zone
- Project
- Image Mapping
- Network Profiles

### Create Cloud Zone

According to the in-application documentation, a Cloud Zone defines the compute resources that can be used for provisioning virtual machines. Cloud Zones also allow you to define capabilities by adding tags that will be matched when deploying blueprints.

1. Login to vRA and open Cloud Assembly.
2. Open the **Infrastructure** tab.
3. Navigate to **Cloud Zones** under Configure.
4. Click on **NEW CLOUD ZONE**.



5. On the Summary tab, select your Account / region from the dropdown.
6. Enter a name for the Cloud Zone.
7. Add two Capability tags such as **infoblox-demo** and **infoblox2**. *The tags can have any name you choose. You will add these same tags to other resources in later steps to differentiate between them in your blueprints.*

## Infoblox-Demo

**Summary** Compute Projects

A cloud zone defines a set of compute resources that can be used for provisioning.

Account / region *	<input type="text" value="vcsa.infobloxdemo.com / Tacoma"/>
Name *	<input type="text" value="Infoblox-Demo"/>
Description	<input type="text"/>
Placement policy *	<input type="text" value="DEFAULT"/>
Folder	<input type="text" value="Select folder"/>

### Capabilities

Capability tags are effectively applied to all compute resources in this cloud zone, but only in the context of this cloud zone.

Capability tags	<input type="text" value="infoblox-demo"/>
-----------------	--------------------------------------------

8. Click **CREATE**.

## Create Project

According to the in-application documentation, Projects are groups that control which users can utilize which resources.

1. Click on **Projects** under Configure.
2. Click **NEW PROJECT**.
3. On the Summary tab, enter a name for your Project.

<b>Configure</b>	<b>New Project</b>
Projects	<b>Summary</b> Users Provisioning Kubernetes Provisioning
Cloud Zones	Name * <input type="text" value="Infoblox-Demo"/>
Kubernetes Zones	Description <input type="text"/>
Flavor Mappings	<input type="button" value="CREATE"/> <input type="button" value="CANCEL"/>
Image Mappings	
Network Profiles	
Storage Profiles	

4. Open the **Users** tab.

5. Click on **ADD USERS**.

**New Project**

Summary **Users** Provisioning Kubernetes Provisioning

Deployment sharing  Deployments are shared between all users in the project

User roles Specify the users and groups related to this project.

<input type="checkbox"/>	Name	Account
No us		

6. Type the first few letters of your vRA username in the search box. Select your user.
7. Use the Assign role dropdown to select **Administrator**.
8. Click **ADD**.

**Add Users** ×

Users  ⓘ

Search users

Assign role  ▾

9. Open the **Provisioning** tab.
10. Click **ADD CLOUD ZONE**.
11. Select your Cloud zone from the list.
12. Click **ADD**.

### Add Cloud Zone ✕

Add a cloud zone that can be used by this project.

Cloud zone *	<input type="text" value="Infoblox-Demo"/>	<span>⊗</span>
Provisioning priority	<input type="text" value="Non-negative"/>	<span>ⓘ</span>
Instances limit	<input type="text" value="Number of Instances"/>	<span>ⓘ</span>
Memory Limit (GB)	<input type="text" value="Max memory (GB)"/>	<span>ⓘ</span>

CANCEL ADD

13. Add the same Tags you used for the Cloud Zone.

Summary Users Provisioning Kubernetes Provisioning

#### Cloud Zones

Specify the cloud zones that can be used when users provision deployments in this project. ⓘ

+ ADD CLOUD ZONE
✕ REMOVE

<input type="checkbox"/>	Name	Description	Priority	↑	Instances
<input type="checkbox"/>	Infoblox-Demo		0		Unlimited

☰

#### Resource Tags

Specify the tags to be applied to machines provisioned in this project.

Tags

infoblox-demo ✕

ⓘ

14. Scroll down and enter **`$(resource.name)-${###}`** for the Custom Naming Template. *This will be used for VM DNS host names, using the name we give in the blueprint concatenated with a random 3 digit number.*



**Custom Naming**  
Specify the naming template to be used for machines provisioned in this project.

Template

**Request Timeout**  
If this project team is deploying blueprints that need more than 2 hours to provision, you can specify an extended period before the deployment fails. If both the blueprint and the project include timeout values, the largest value takes precedence.

Timeout

**CREATE** **CANCEL**

15. Click **CREATE**.

## Create Image Mapping

Image Mappings specify VM images that will be used when deploying from blueprints.

1. Click on **Image Mappings** under Configure.
2. Click **NEW IMAGE MAPPING**.
3. Enter a name.
4. Under Configuration, search for or select your Account / Region from the dropdown.
5. Select an Image which meets the requirements discussed in the Create Resources in vCenter section of this document.

### New Image Mapping

Define one or many images or machine templates for a specific name. You can also define images or machine templates for a specific region. ⓘ

Image name \*

**Configuration**

Account / Region	Image	Constraints	Cloud Configuration
<input type="text" value="vcsa.infobloxdemo.com / Tacoma"/>	<input type="text" value="CentOS1"/>	<input type="text" value="Example: llicense:none,hard"/>	<input type="button" value="+ ADD"/>

**CREATE** **CANCEL**

6. Click **CREATE**.

## Create Network Profiles

According to the in-application documentation, a Network Profile defines networks and settings used when provisioning VMs. As a step in creating the Network Profile, we will map an IP range designated in our Infoblox grid to be used for our VM network. We will create two network profiles, one for an existing network and one for creating on-demand networks.

### Profile for Existing Network

1. Click on **Network Profiles** under Configure.
2. Click **NEW NETWORK PROFILE**.

- On the Summary tab, select your Account / region.
- Enter a Name for the profile.
- Add a capability tag matching the first one you used for the Project and Cloud Zone, for example **infoblox-demo**.

## New Network Profile

Summary Networks Network Policies

A network profile defines a group of networks and network settings used when machines are provisioned.

Account / region \*

Name \*

Description

Capabilities

Capability tags listed here are matched to constraint tags in the blueprint.

Capability tags  Enter capability tags

- Open the **Networks** tab.
- Click **ADD NETWORK**.
- Select your Distributed Port Group.
- Click **OK**.

Add Network

Filter...

<input type="checkbox"/>	Name	Account / Region	Zone	Network Domain	CIDR	Support Public IP	Default for Zone	Origin	Tags
<input type="checkbox"/>	VM Network	vcsa.infobloxdemo.com / Tacoma		VM Network		--	--	Discovered	
<input checked="" type="checkbox"/>	DPortGroup	vcsa.infobloxdemo.com / Tacoma		DSwitch		--	--	Discovered	

1 2 networks

- Select your network and click **MANAGE IP RANGES**.

+ ADD NETWORK					TAGS					MANAGE IP RANGES					× REMOVE				
<input checked="" type="checkbox"/>	Name	↑	▼	Account / Region	▼	Zone	▼	Network Domain											
<input checked="" type="checkbox"/>	DPortGroup			vcsa.infobloxdemo.com / Tacoma				DSwitch											

11. Click **NEW IP RANGE**.

## Manage IP Ranges

Defines the set of IP addresses that can be reserved during provisioning.

+ NEW IP RANGE					× DELETE				
<input type="checkbox"/>	Name	Description	Network	Provider					

12. Select **External** for Source.

13. Next to Provider, search for the plugin integration you added earlier.

14. Next to Address Space, select **default** from the dropdown.

## Add IPAM IP Range

Network *	DPortGroup
Provider *	<input type="text" value="Q Infoblox"/> <span>⊗</span>
Address Space *	<input type="text" value="default"/> ▼

15. Select the checkbox for the network you created earlier in your Infoblox grid.

16. Click **ADD**.

<input type="checkbox"/>	Name	Description	Start IP Address	End IP Address	Domains	Default Gateway	DNS Servers	DNS Search Domains	Tags
<input type="checkbox"/>	172.26.1.0/24		172.26.1.1	172.26.1.254	infobloxdemo.com	-	172.26.1.2		range-type:net
<input type="checkbox"/>	172.26.1.1-172.26.1.100		172.26.1.1	172.26.1.100		-			range-type:ran
<input type="checkbox"/>	172.26.1.150-172.26.1.200		172.26.1.150	172.26.1.200	infobloxdemo.com	-	172.26.1.2		range-type:ran
<input checked="" type="checkbox"/>	172.27.1.0/24		172.27.1.1	172.27.1.254	infobloxguide.local	-	172.26.1.2		range-type:net

1 4 IP ranges

CANCEL ADD

- Close the Manage IP Ranges window.
- Click **CREATE**.

## New Network Profile

Summary **Networks** Network Policies

Networks listed here are used when provisioning to existing, on-demand, or public networks. ⓘ

+ ADD NETWORK TAGS MANAGE IP RANGES REMOVE

<input checked="" type="checkbox"/>	Name	Account / Region	Zone	Network Domain
<input checked="" type="checkbox"/>	DPortGroup	vcsa.infobloxdemo.com / Tacoma		DSwitch

1

CREATE CANCEL

### Profile for On-demand Networks

- Click **NEW NETWORK PROFILE**.
- On the **Summary** tab, select your Account / region.
- Enter a Name for the profile.
- Add a capability tag matching the second one you used for the Project and Cloud Zone, for example **infoblox2**.

Account / region vcsa.infobloxdemo.com / Tacoma

Name \*

Description

Capabilities  
Capability tags listed here are matched to constraint tags in the blueprint.

Capability tags infoblox2 X

5. Open the **Network Policies** tab.
6. For Isolation Policy, select **Create an on-demand network** from the dropdown.
7. Choose a Network domain (from your domains in vCenter).
8. For Source, select **External**.
9. Next to IP blocks, click **ADD IP BLOCK**.

Summary Networks **Network Policies**

Use these settings when creating outbound and private networks. ⓘ

Isolation policy  ⓘ

Network domain \*  ⓘ

IP Address Management  
Configure internal IPAM or select external IPAM IP blocks

Source  Internal  External

IP blocks \* + ADD IP BLOCK X REMOVE

<input type="checkbox"/>	Name	Description	IPAM Integration
<input type="checkbox"/>			

10. For IPAM integration, select **Infoblox**.
11. For Address Space, select your network view, for example **default**.
12. Select the checkbox for the Network Container you created in the Infoblox grid.

Add IPAM IP Block ×

IPAM integration \*

Address space \*

Filter... 🔍

<input checked="" type="checkbox"/>	Name	Description	CIDR	Domain	Default Gateway	DNS Servers	DNS Search Domains	Tags
<input checked="" type="checkbox"/>	172.30.0.0/16		172.30.0.0/16	infobloxguide.local	172.30.0.1	172.26.1.2		

1 1 IP blocks

13. Click **ADD**.
14. For Subnet size, select a size from the dropdown. This size should create subnets that fit inside your network container. For example if the network container is a /16, set the subnet size to **/24**. *If the subnet is not a smaller IP space than the network container, the deployment will fail.*

Source  Internal  External

IP blocks \*

<input type="checkbox"/>	Name	Description	IPAM Integration	Address Space
<input type="checkbox"/>	172.30.0.0/16		Infoblox	default

1 1 IP blocks

Subnet size \*

15. Click **CREATE**.

## Create Blueprints in vRA Cloud Assembly

Next, we will create two blueprints to utilize the Infoblox plugin for IPAM and DNS configuration on VMs and allocate IP space for on-demand networks.

### Create Blueprint to use Existing Network

1. In vRA Cloud Assembly, open the **Design** tab.
2. Select **Blueprints** in the left menu.
3. Click on **NEW**.

Deployments **Design** Infrastructure Extensibility Marketplace

Blueprints 2 items

🔄

Blueprints

Custom Resources

4. Enter a Name for the blueprint.

5. Select your Project.

## New Blueprint ✕

Name \*

Description

Project \*

Blueprint sharing in Service Broker

Share only with this project

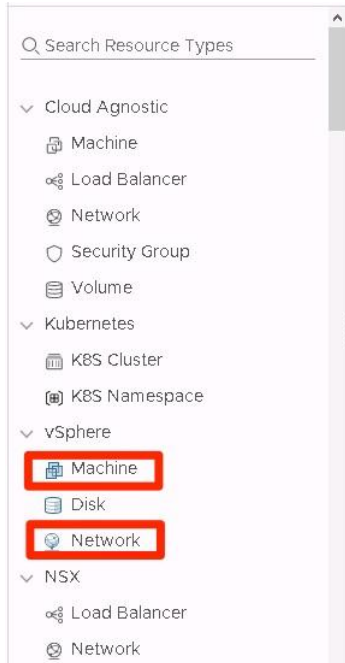
Allow an administrator to share with any project in this organization

6. Click **CREATE**.

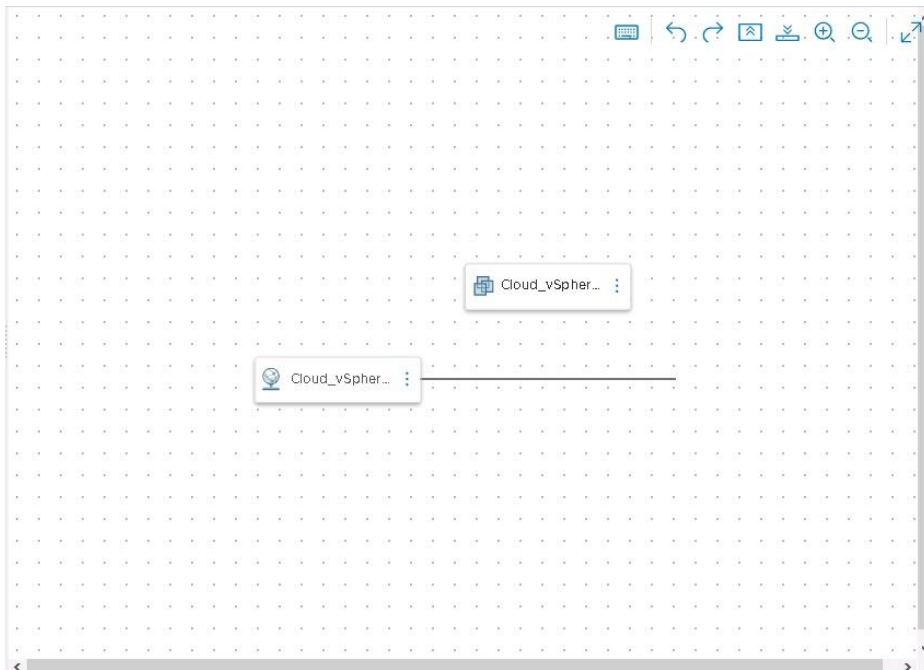
### Add Resources

To add resources to the blueprint, drag and drop them from the resource menu onto the canvas.

1. Locate the Network and Machine resources, under vSphere.

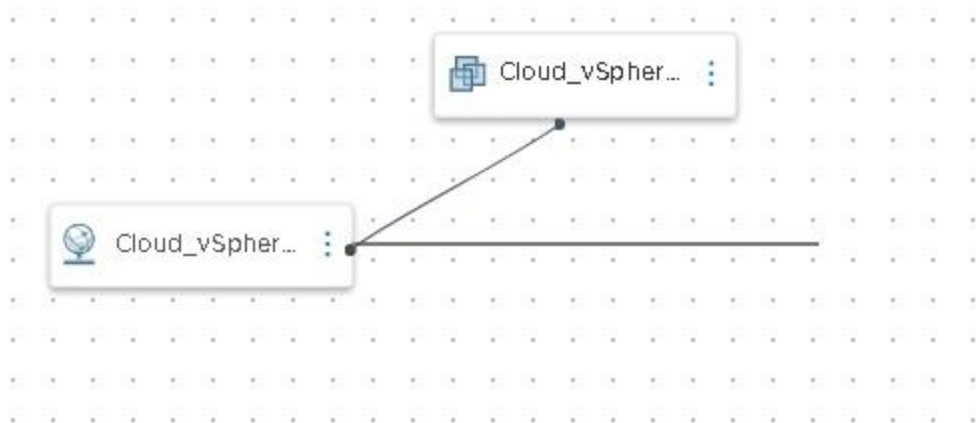


2. Drag and drop the Network resource onto the canvas.
3. Drag and drop the Machine resource onto the canvas. *You may see a red warning message on the VM resource; you can safely ignore this for now.*



4. Click the connection point on the Network resource and drag to connect it to the VM.

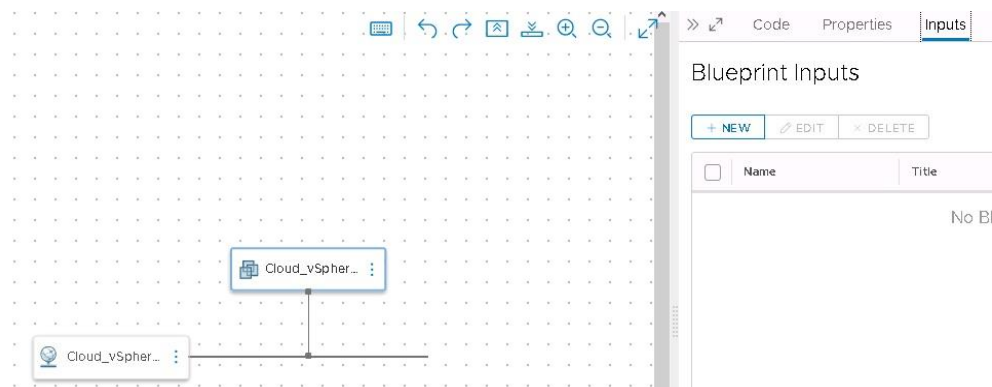




### Configure Properties and Inputs

Properties and inputs for blueprint resources can be configured by adding YAML code or using Properties and Input tabs in the blueprint editor. We will use some of each for this document.

1. Highlight the VM resource in the canvas.
2. Click on the **Inputs** tab on the right side of the blueprint window.



3. Click **NEW**.
4. For Name, enter **hostname**.
5. For Title, enter **hostname**.
6. Set Type to **string**.

## Create Blueprint Input



Name \*

Title

Description

Type

Encrypted

7. Scroll down and set a Default Value.
8. Click **CREATE**.

Default Value

Pattern

Enum

Value
<input type="text"/>

9. Click on the **Code** tab.
10. Click between the quotes next to image:
11. Select or type the name of the Image Mapping you created earlier.

```

>> ↗ Code Properties Inputs
1 formatVersion: 1
2 inputs:
3   hostname:
4     type: string
5     title: hostname
6     default: host
7 resources:
8   Cloud_vSphere_Machine_1:
9     type: Cloud.vSphere.Machine
10    properties:
11     image: 'Infoblox-Demo'
12     cpucount: 1
13     totalMemoryMB: 1024
14     networks:
15       - network: '${resource.Cloud_vSphere_Network_1.id}'
16   Cloud_vSphere_Network_1:
17     type: Cloud.vSphere.Network
18     properties:
19       networkType: existing

```

12. Create a new line below image.
13. Specify your Customization Specification by entering **customizationSpec: <name-of-spec>**. Use the name of the Customization Specification you created in vCenter.

```

properties:
  image: 'Infoblox-Demo'
  customizationSpec: Infoblox-Demo
  cpucount: 1
  totalMemoryMB: 1024
  networks:

```

14. Create a new line below customizationSpec.
15. Specify the VM name by entering **name: \${input.hostname}**. This uses the input you created earlier to name the VM.

```

properties:
  image: 'Infoblox-Demo'
  customizationSpec: Infoblox-Demo
  name: ${input.hostname}
  cpucount: 1

```

16. Add a new line under - network.
17. Specify creation of a static IP by entering **assignment: static**.

```
resources:
  Cloud_vSphere_Machine_1:
    type: Cloud.vSphere.Machine
    properties:
      image: 'Infoblox-Demo'
      customizationSpec: Infoblox-Demo
      name: ${input.hostname}
      cpuCount: 1
      totalMemoryMB: 1024
      networks:
        - network: '${resource.Cloud_vSphere_Network_1.id}'
          assignment: static
  Cloud_vSphere_Network_1:
```

18. Under the Network resource, add a new line under networkType.
19. Enter **constraints**:
20. Under constraints, enter **- tag: <tag-name>**. *This should be the tag you used when creating the Network Profile for an existing network.*

```
19 Cloud_vSphere_Network_1:
20   type: Cloud.vSphere.Network
21   properties:
22     networkType: existing
23     constraints:
24       - tag: infoblox-demo
```

Your completed blueprint should look similar to the screenshot below, substituting names where appropriate.

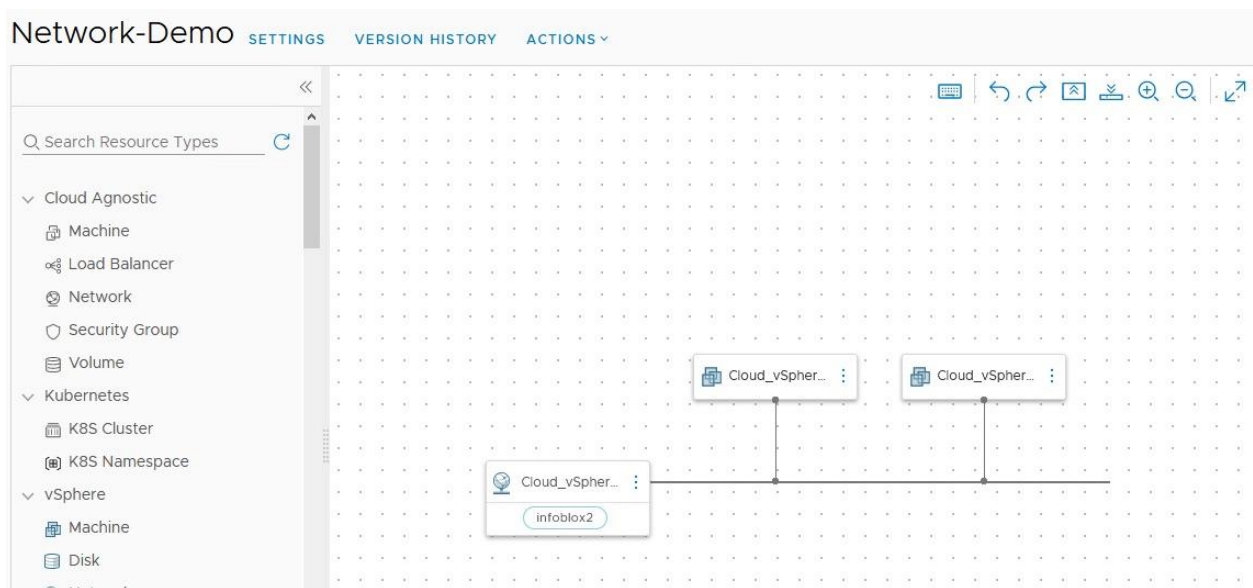
21. Click **CLOSE**.

## Create Blueprint for On-Demand Networks

1. Follow instructions from the previous section to create another blueprint with a different name.
2. Add two virtual machine resources, and a network resource. Connect both VMs to the network resource.
3. Add two inputs: hostname1 and hostname2.

4. Add a **name:** line to each VM. Use the appropriate input, **`\${input.hostname1}`** for VM 1 and **`\${input.hostname2}`** for VM 2.
5. Specify the image for each VM.
6. Add a **customizationSpec:** **<name-of-spec>** line for each VM. *Use the name of the Customization Specification you created in vCenter.*
7. Add **assignment: static** to the networks section for each VM.
8. For the network resource, networkType, enter **private**.
9. Add a constraint tag section for the network, using the tag which matches your on-demand network profile, for example **infoblox2**.

**The completed blueprint should look similar to the one in the screenshots below, substituting names where appropriate.**



Canvas section of blueprint.

```
>> ↵ Code Properties Inputs
1 formatVersion: 1
2 ▾ inputs:
3 ▾ hostname1:
4   type: string
5   default: Host1
6   title: VM1-Name
7 ▾ hostname2:
8   type: string
9   default: Host2
10  title: VM2-Name
11 ▾ resources:
12 ▾ Cloud_vSphere_Machine_1:
13   type: Cloud.vSphere.Machine
14   properties:
15     image: CentOS
16     cpuCount: 1
17     totalMemoryMB: 1024
18     customizationSpec: Linux
19     name: '${input.hostname1}'
20   networks:
21     - network: '${resource.Cloud_vSphere_Network_1.id}'
22       assignment: static
23 ▾ Cloud_vSphere_Machine_2:
24   type: Cloud.vSphere.Machine
25   properties:
26     image: CentOS
27     cpuCount: 1
28     totalMemoryMB: 1024
29     customizationSpec: Linux
30     name: '${input.hostname2}'
31   networks:
32     - network: '${resource.Cloud_vSphere_Network_1.id}'
33       assignment: static
34 ▾ Cloud_vSphere_Network_1:
35   type: Cloud.vSphere.Network
36   properties:
37     networkType: private
38   constraints:
39     - tag: infoblox2
```

Code section of blueprint.

## Deploy Blueprint in vRA Cloud Assembly

Prior to deploying your blueprint, you can use the Test feature in vRA Cloud Assembly to verify that your blueprint is valid. To test, click the **TEST** button in the blueprint window.

Deploying a blueprint will create the associated resources. We can monitor the deployment and see actions taken by the Infoblox plugin in both vRA and the NIOS Grid Manager.

1. Open the blueprint you want to deploy.
2. Click the **DEPLOY** button.
3. In step 1 of the deployment window, enter a Name for the deployment.
4. Select or search for a Blueprint Version.

Deploy Infoblox-Demo

1 Deployment Type

2 Deployment Inputs

Deployment Type

Create a new deployment

Deployment Name \* Infoblox-Demo

Blueprint Version \* Q Current Draft

Description

CANCEL NEXT

5. Click **NEXT**.
6. On step 2, enter hostnames or leave the default.
7. Click **DEPLOY**.

Deploy Infoblox-Demo

1 Deployment Type

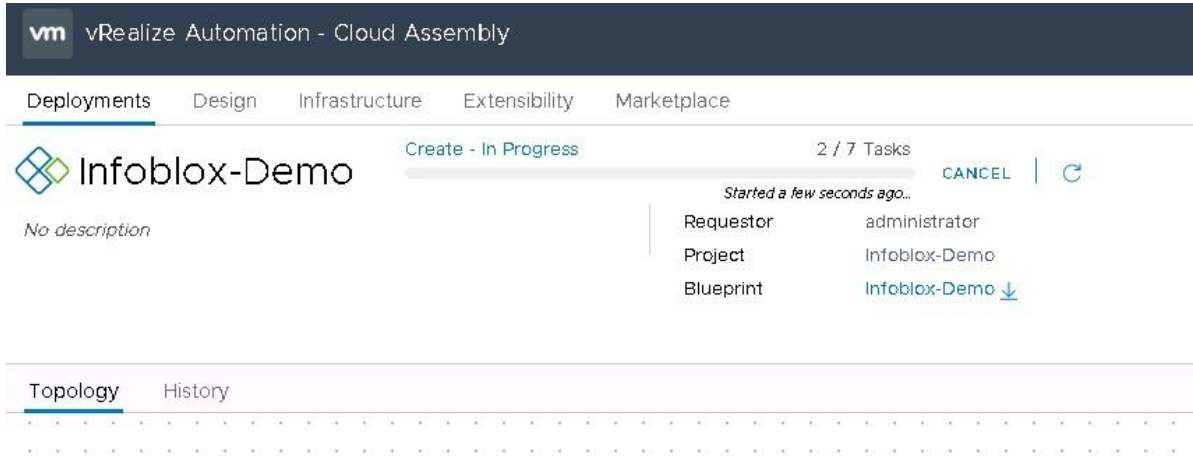
2 Deployment Inputs

Deployment Inputs

hostname demo-host

CANCEL PREVIOUS DEPLOY

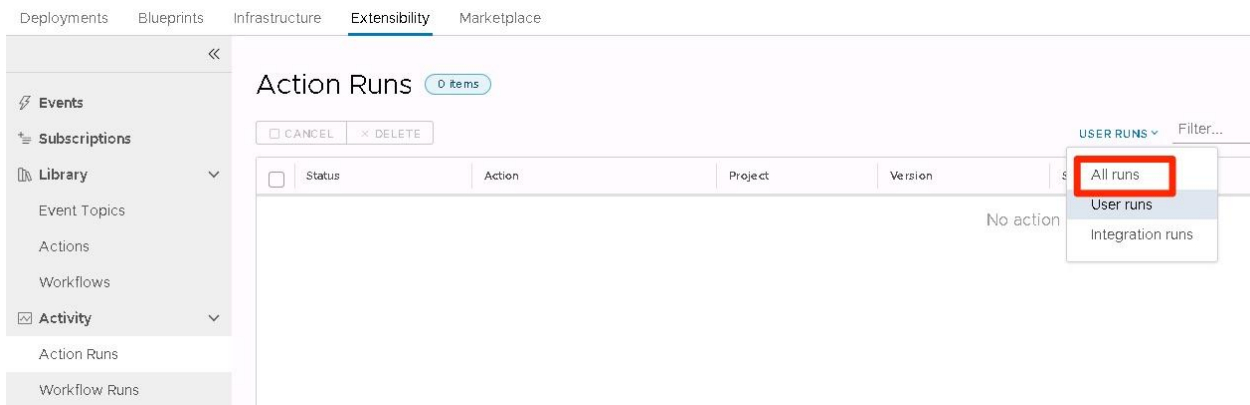
You can monitor the progress of your deployment on the **Deployments** tab in vRA Cloud Assembly.



## View Infoblox Extensibility Actions

As part of the deployment process, the Infoblox plugin will run certain actions based on the type of request submitted: Infoblox\_AllocateIP, Infoblox\_Update, and Infoblox\_AllocateIPRange (for on-demand network creation).

1. To view the details on these actions, navigate to the **Extensibility** tab in vRA Cloud Assembly.
2. Click on **Action Runs** under Activity.
3. Select **All runs** from the dropdown.



4. To view details on any of the actions, click on them in the table.

<input type="checkbox"/>	Status	Action	Project	Version	Started By	FaaS Provider	Started On	Duration
<input type="checkbox"/>	Completed	Infoblox_Update		Current Draft	administrator		04/15/20, 7:26 AM	5s 586ms
<input type="checkbox"/>	Completed	Infoblox_GetIPRanges		Current Draft	provisioning-LATeXEx0HleD46p9		04/15/20, 7:25 AM	2s 736ms
<input type="checkbox"/>	Completed	Infoblox_AllocateIP		Current Draft	administrator		04/15/20, 7:23 AM	3s 416ms
<input type="checkbox"/>	Completed	Infoblox_GetIPRanges		Current Draft	provisioning-LATeXEx0HleD46p9		04/15/20, 7:15 AM	2s 988ms

5. You can view details of the inputs and outputs for the action which is useful in troubleshooting.








- Use the same process to deploy and view your other blueprint.

## View Details in Infoblox Grid Manager






To view the DNS and IPAM data automatically added to the Infoblox grid using the vRA integration, login to Grid Manager.

- Navigate to the **Data Management -> DNS -> Zones** tab.
- Click on the zone you created earlier to view it.

infobloxguide.local Authoritative Zone   


Records Subzones





Quick Filter: None  |  Filter On |

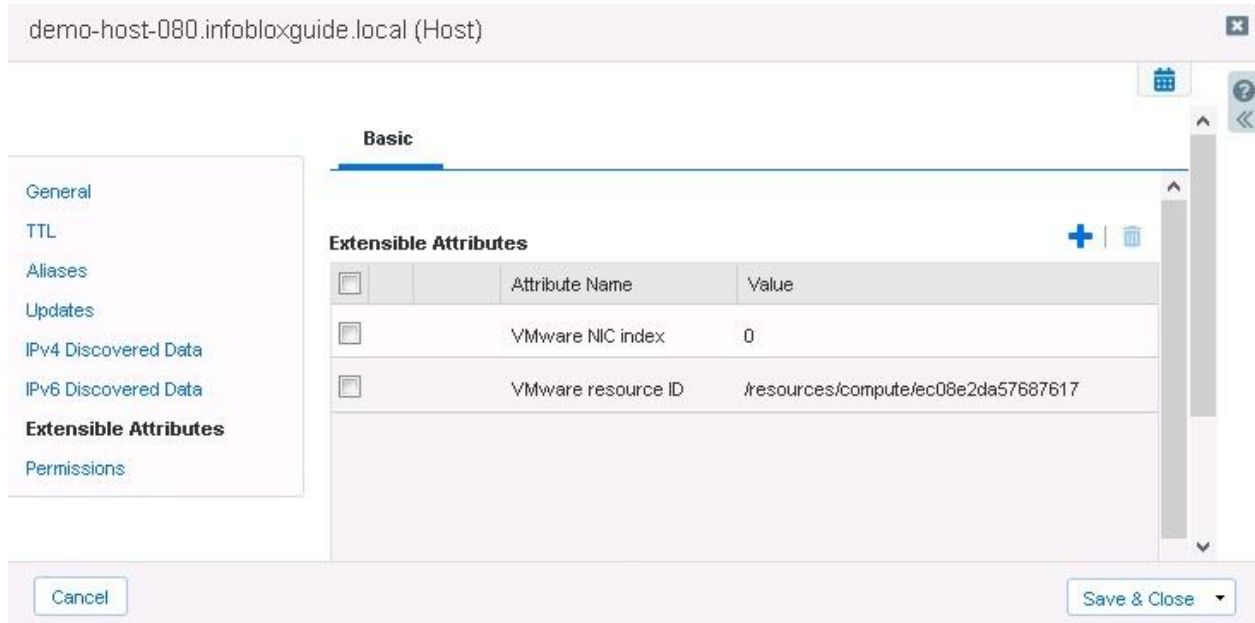
    

	Name	Type	Data	Record Source
		SOA Record	Serial: 7 MNAME: gm.infobloxdem RNAME: please_set_em: Refresh: 10800 Retry: 3600 Expire: 2419200 Negative Caching TTL: 900	System
		NS Record	gm.infobloxdemo.com	System
<input checked="" type="checkbox"/>	demo-host-080	Host	172.27.1.2	Static
<input type="checkbox"/>	router	A Record	172.27.1.1	Static

This screenshot shows the host record created for our new VM by the Infoblox\_AllocateIP action.

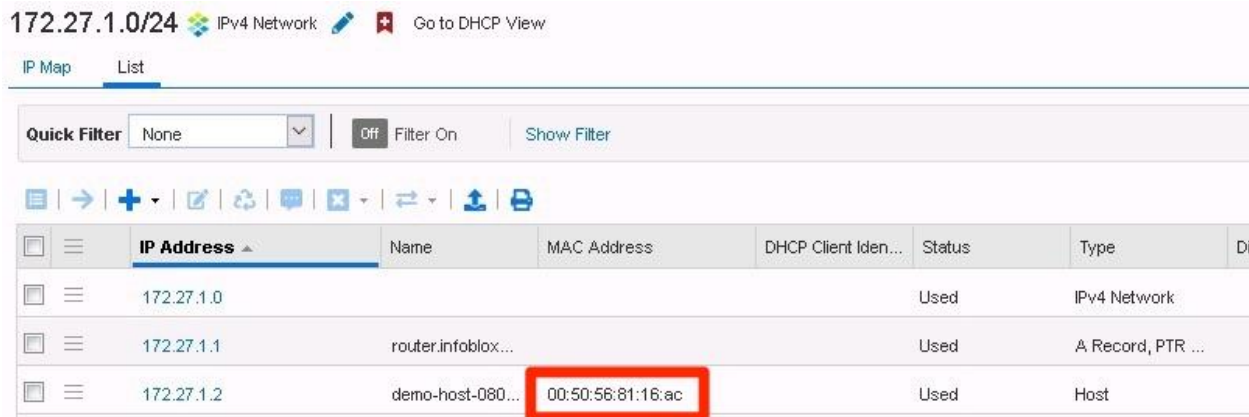
- To view extensible attributes added by the Infoblox\_Update action, click the  action menu next to the host record.
- Select **Extensible Attributes**.

<input type="checkbox"/>		Edit	NS Record	gm.infobloxdemo.com	System
<input checked="" type="checkbox"/>		Delete	Host	172.27.1.2	Static
<input checked="" type="checkbox"/>		<b>Extensible Attributes</b>	A Record	172.27.1.1	Static
<input type="checkbox"/>		Permissions			




This screenshot shows the VMware specific attributes you created earlier, populated with data specific to the newly deployed virtual machine.

5. To view IPAM data for the new VM, navigate to the **Data Management -> IPAM** tab.
6. Click on the network created earlier to view details.

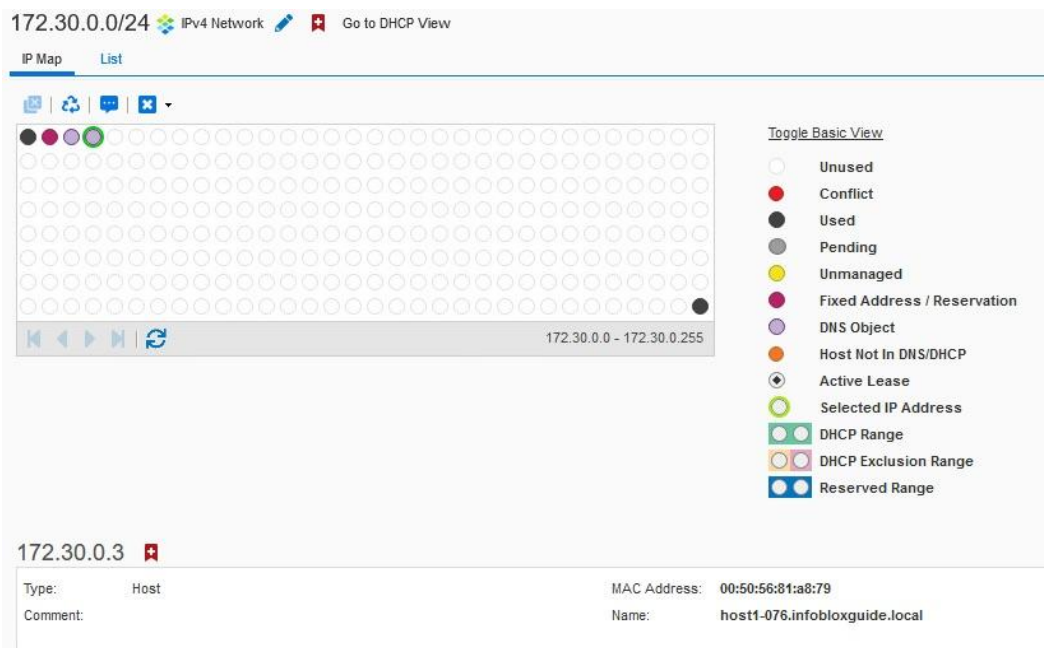


This screenshot shows the IP which was allocated to the VM. It also contains the MAC address of the VM, written to the grid with the Infoblox\_Update action.

7. To view IPAM data for the on-demand network, navigate to the **Data Management -> IPAM** tab.
8. Click on your network container to open it.
9. Click on the new network, then click the  to view details.



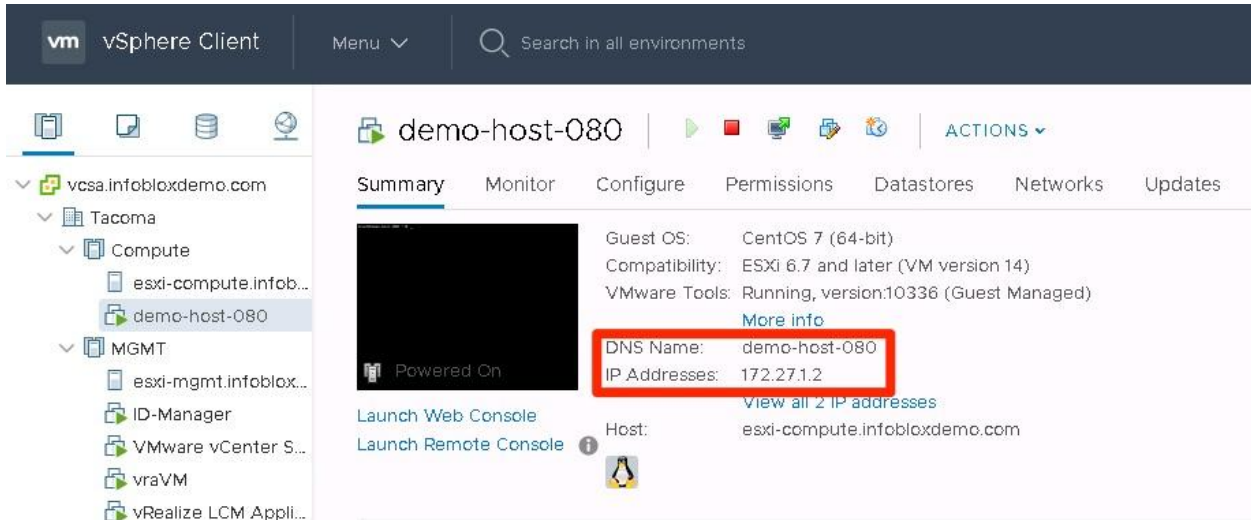
10. Click on any of the used IPs to view details.



This screenshot shows details of the newly created network, including IP use and details for VMs.

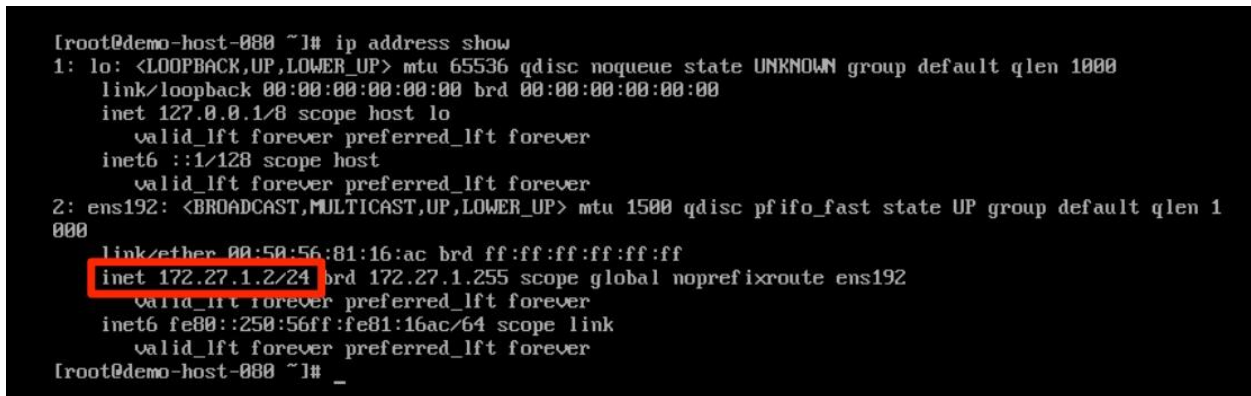
## View Deployment in vCenter

To view the new virtual machine and verify the IP and hostname were assigned, login to the vSphere client. Navigate to **Hosts and Clusters**. Click on your new VM.



This screenshot shows the IP address and hostname assigned to the VM in vCenter.

You can also login to your VMs using the web console and use network commands such as **ip address show** to verify the IP address is assigned to your VM.

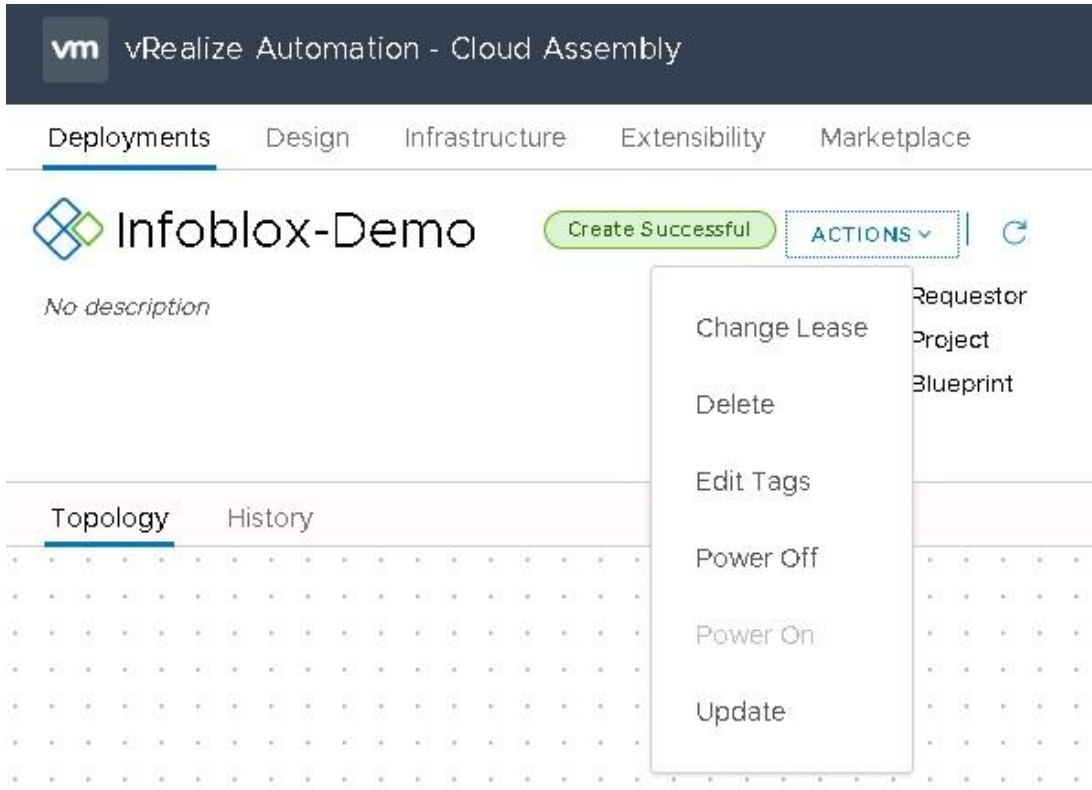


This screenshot shows the output of the `ip address show` command on a CentOS VM. Note the configured IP address allocated from Infoblox.

## Delete Deployment

The Infoblox plugin for vRA 8 includes actions to deallocate IP addresses, IP ranges, and host records when deployments are deleted. To delete the deployment, login to vRA.

1. Navigate to **Cloud Assembly, Deployments** tab.
2. Click on your deployment to open it.
3. From the ACTIONS dropdown, select **Delete**.



4. Click **SUBMIT**.
5. Monitor progress of the Delete on the Deployments tab.
6. You can view plugin actions related to deployment deletion by navigating to the **Extensibility** tab.

Details | **Log** | Trace

```
[2020-04-15 17:13:41,604] [INFO] - Querying for auth credentials
[2020-04-15 17:13:41,713] [INFO] - Credentials obtained successfully!
[2020-04-15 17:13:41,714] [INFO] - Deallocating ip 172.27.1.2 from range network/265zLm5ldHdvcmSkMTcyLjI3LjEuM09yWC0w:172.27.1.0/24/default
[2020-04-15 17:13:41,714] [INFO] - Checking for a host record corresponding to ip 172.27.1.2
[2020-04-15 17:13:41,830] [INFO] - Deleting host record: HostRecordV4: ipv4addrs="[IPv4: ipv4addr="172.27.1.2", configure_for_dhcp="false", mac="00:50:56:81:16:ac", _ref="record:host_ipv4addr/265zLmhvc3RfYWRkcmVzcyQuX2RlZmF1bHQubG9jYUwuaW5mb2Jsb3hnd0lkZS5kZWlvLWlhvc3QtMDgwLjE3Mi4yNy4xLjIu:172.27.1.2/demo-host-080.infobloxguide.local/default", ip="172.27.1.2", host="demo-host-080.infobloxguide.local"]", extattrs="EAs:VMware NIC index=0,VMware resource ID=/resources/compute/ec08e2da57687617", _ref="record:host/265zLmhvc3QkL19kZWZhdWx0LmxyY2FsLmluZm9ibG94Z3VpZG9uZGVtbylob3N0LTA4MA:demo-host-080.infobloxguide.local/default", ipv4addr="172.27.1.2" as 172.27.1.2 is the last ip
```

This screenshot shows the log from Infoblox\_DeallocateIP action. The action has triggered deallocation of the IP address and deletion of the host record.

To verify host records and IPAM data for the deployment have been removed from the Infoblox grid, login to grid manager and navigate to appropriate Data tabs.

You can view this activity in Infoblox logs by navigating to **Administration -> Logs -> Syslog or Audit Log**.

Navigation: Dashboards | Data Management | Cloud | Smart Folders | Grid | Administration

Sub-navigation: Administrators | Workflow | **Logs** | Network Views | Extensible Attributes | Cloud | Authentication Server Groups | Named ACLs

Audit Log | Syslog

SysLog Log Viewer Member gm.infobloxdemo.com

Quick Filter: None | On Filter Off | Show Filter | Toggle single line view

Timestamp	Facility	Level	Server	Message
2020-04-27 12:15:19 PDT	daemon	INFO	named[8869]	zone ibxdemo.com/IN: ZRQ applied DELETE for 'host22': 28800 IN A 172.30.0.2 (ro host rnpos=0 ).
2020-04-27 12:15:18 PDT	daemon	INFO	named[8869]	zone ibxdemo.com/IN: ZRQ applied DELETE for 'host11': 28800 IN A 172.30.0.3 (ro host rnpos=0 ).

Audit Log Syslog

Audit Log Log Viewer

Quick Filter: None | On Filter Off | Show Filter | Toggle single line view

Timestamp	Admin	Action	Object Type	Object Name	Execution Status	Message
2020-04-27 12:16:41 PDT	cloud-admin	DELETED	IPv4 Network	172.30.0.0/24	Normal	network_view=default:
2020-04-27 12:15:19 PDT	cloud-admin	DELETED	Host	host22.ibxdem...	Normal	DnsView=default address=172.30.0.2:
2020-04-27 12:15:18 PDT	cloud-admin	DELETED	Host	host11.ibxdem...	Normal	DnsView=default address=172.30.0.3:

## Limitations

- The vRA 8 Infoblox IPAM plugin v1.4 is developed and maintained by VMware. The plugin is not officially supported by Infoblox.
- This document was tested in a vSphere 6.7 cloud environment, and not with Azure, AWS, or other cloud providers.
- Plugin functionality is currently limited to IP address allocation, network creation, and DNS record creation.

## Additional Resources

Demo Video: <https://www.youtube.com/watch?v=u35vk81J8VE&feature=youtu.be>

Infoblox NIOS 8.5 Documentation: <https://docs.infoblox.com/display/nios85>

VMware vRealize Automation Documentation: <https://docs.vmware.com/en/vRealize-Automation/index.html>

Download and deploy an external IPAM provider package for use in vRealize Automation Cloud Assembly : <https://docs.vmware.com/en/vRealize-Automation/8.1/Using-and-Managing-Cloud-Assembly>



Infoblox is the leader in modern, cloud-first networking and security services. Through extensive integrations, its solutions empower organizations to realize the full advantages of cloud networking today, while maximizing their existing infrastructure investments. Infoblox has over 12,000 customers, including 70 percent of the Fortune 500.

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