Getting Started with vRealize Automation Cloud Assembly

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vRealize Automation 8.0

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What is vRealize Automation Cloud Assembly

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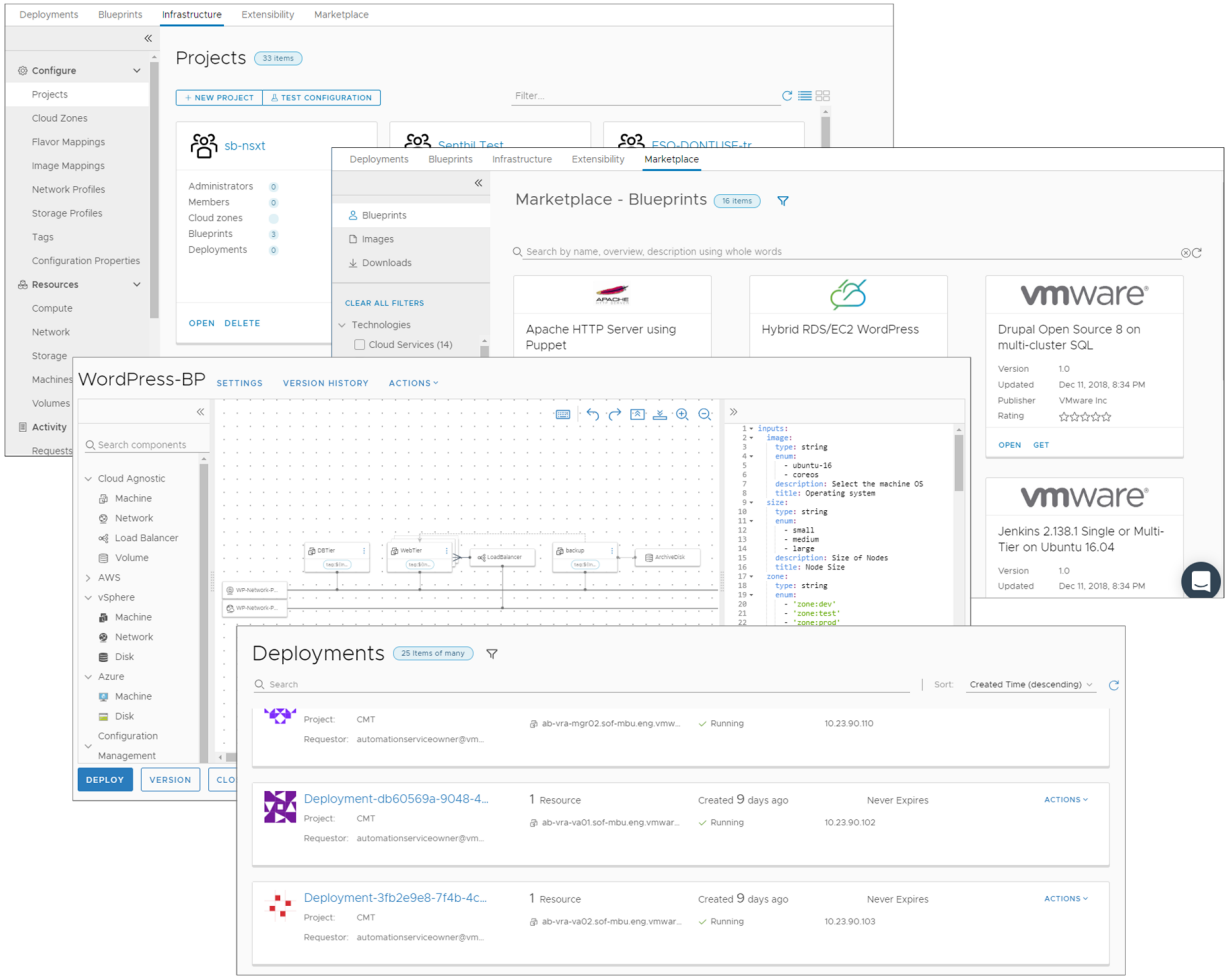
vRealize Automation Cloud Assembly is a cloud-based service that you use to create and deploy machines, applications, and services to your cloud infrastructure.

As a cloud administrator, you can:

- Configure the cloud vendor infrastructure to which your users deploy their blueprints.
- Set up projects to link the service users with the infrastructure resources.
- Import blueprints and OVA files to support blueprint developers using the marketplace.
- Delegate the user management and blueprint infrastructure to project managers, freeing you up to focus on your cloud resources.

As a blueprint developer, you can:

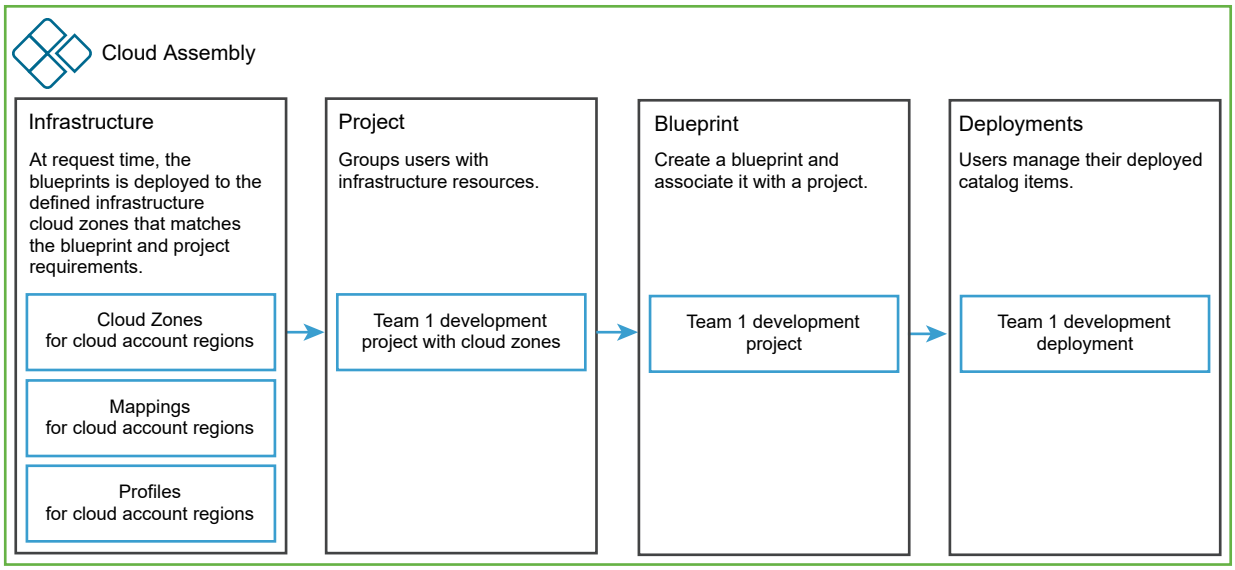
- Create and iterate on blueprints until they meet your development needs.
- Deploy blueprints to the supporting cloud vendors based on your project membership.
- Manage the deployed resources throughout the development life cycle.


Deployments
Blueprints
Infrastructure
Extensibility
Marketplace
Projects
33 items
+ NEW PROJECT
TEST CONFIGURATION
Filter...
Configure
Projects
Cloud Zones
Flavor Mappings
Image Mappings
Network Profiles
Storage Profiles
Tags
Configuration Properties
Resources
Compute
Network
Storage
Machines
Volumes
Activity
Requests
sb-nsxt
Administrators 0
Members 0
Cloud zones
Blueprints 3
Deployments 0
OPEN
DELETE
Senthil Test
ESO-DONTUSE-tr
Marketplace - Blueprints
16 items
Search by name, overview, description using whole words
Blueprints
Images
Downloads
CLEAR ALL FILTERS
Technologies
Cloud Services (14)
Apache HTTP Server using Puppet
Hybrid RDS/EC2 WordPress
Drupal Open Source 8 on multi-cluster SQL
Version 1.0
Updated Dec 11, 2018, 8:34 PM
Publisher VMware Inc
Rating
OPEN
GET
Jenkins 2.138.1 Single or Multi-Tier on Ubuntu 16.04
Version 1.0
Updated Dec 11, 2018, 8:34 PM
WordPress-BP
SETTINGS
VERSION HISTORY
ACTIONS
Search components
Cloud Agnostic
Machine
Network
Load Balancer
Volume
AWS
vSphere
Machine
Network
Disk
Azure
Machine
Disk
Configuration Management
DEPLOY
VERSION
Deployments
25 items of many
Search
Sort:
Created Time (descending)
Project: CMT
Requestor: automationserviceowner@vm...
ab-vra-mgr02.sof-mbu.eng.vmw...
Running
10.23.90.110
Deployment-db60569a-9048-4...
1 Resource
Created 9 days ago
Never Expires
ACTIONS
ab-vra-va01.sof-mbu.eng.vmwar...
10.23.90.102
Deployment-3fb2e9e8-7f4b-4c...
ab-vra-va02.sof-mbu.eng.vmwar...
10.23.90.103

What does vRealize Automation Cloud Assembly do

2

vRealize Automation Cloud Assembly provides an automation service where your development teams can iteratively develop and deploy blueprints to designated cloud vendors.



The primary purpose of vRealize Automation Cloud Assembly is to create blueprints, and then deploy the blueprints.

As a vRealize Automation Cloud Assembly administrator, generally referred to as a cloud administrator, you configure the infrastructure to support blueprint development and deployment. The infrastructure begins with cloud vendors, then you add vRealize Automation Cloud Assembly users as project members and link them to the cloud account regions as projects. At this point, you can continue to develop blueprints, or you can turn over development to the project administrators and members.

As a project member, use vRealize Automation Cloud Assembly as you iteratively develop and deploy blueprints, until you have a production-worthy product. The deployment locations are configured your cloud administrator as part of the infrastructure. The administrator has the best understanding of your organizations resources and budget.

Before you begin with vRealize Automation Cloud Assembly

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Before you start working in vRealize Automation Cloud Assembly as a cloud administrator, you must gather information about your public and private cloud accounts. Use this checklist to help you begin adding your cloud resources.

Before you onboard with vRealize Automation Cloud Assembly

To...	You need...
Sign up for and log in to vRealize Automation Cloud Assembly	A VMware ID. ■ Set up a My VMware account by using your corporate email address.
Connect to vRealize Automation services	HTTPS port 443 open to outgoing traffic with access through the firewall to: ■ *.vmwareidentity.com ■ gaz.csp-vidm-prod.com ■ *.vmware.com For more information about ports and protocols, see VMware Ports and Protocols. For related information about required ports and protocols, see: ■ Ports and Protocols in the *Installation* help ■ Port Requirements in the *Reference Architecture* help
Add an Amazon Web Services (AWS) cloud account	Provide a power user account with read and write privileges. The user account must be a member of the power access policy (PowerUserAccess) in the AWS Identity and Access Management (IAM) system. ■ 20-digit Access Key ID and corresponding Secret Access Key If you are using an external HTTP Internet proxy, it must be configured for IPv4.

To...	You need...
Add a Microsoft Azure cloud account	Configure a Microsoft Azure instance and obtain a valid Microsoft Azure subscription from which you can use the subscription ID. Create an Active Directory application as described in How to: Use the portal to create an Azure AD application and service principal that can access resources in Microsoft Azure product documentation. If you are using an external HTTP Internet proxy, it must be configured for IPv4. Make note of the following information: ■ Subscription ID Allows you to access to your Microsoft Azure subscriptions. ■ Tenant ID The authorization endpoint for the Active Directory applications you create in your Microsoft Azure account. ■ Client application ID Provides access to Microsoft Active Directory in your Microsoft Azure individual account. ■ Client application secret key The unique secret key generated to pair with your client application ID. The following permissions are needed for creating and validating Microsoft Azure cloud accounts: ■ Microsoft Compute ■ Microsoft.Compute/virtualMachines/extensions/write ■ Microsoft.Compute/virtualMachines/extensions/read ■ Microsoft.Compute/virtualMachines/extensions/delete ■ Microsoft.Compute/virtualMachines/deallocate/action ■ Microsoft.Compute/virtualMachines/delete ■ Microsoft.Compute/virtualMachines/powerOff/action ■ Microsoft.Compute/virtualMachines/read ■ Microsoft.Compute/virtualMachines/restart/action ■ Microsoft.Compute/virtualMachines/start/action ■ Microsoft.Compute/virtualMachines/write ■ Microsoft.Compute/availabilitySets/write ■ Microsoft.Compute/availabilitySets/read ■ Microsoft.Compute/availabilitySets/delete ■ Microsoft.Compute/disks/delete ■ Microsoft.Compute/disks/read ■ Microsoft.Compute/disks/write ■ Microsoft Network ■ Microsoft.Network/loadBalancers/backendAddressPools/join/action ■ Microsoft.Network/loadBalancers/delete ■ Microsoft.Network/loadBalancers/read ■ Microsoft.Network/loadBalancers/write ■ Microsoft.Network/networkInterfaces/join/action ■ Microsoft.Network/networkInterfaces/read ■ Microsoft.Network/networkInterfaces/write ■ Microsoft.Network/networkInterfaces/delete ■ Microsoft.Network/networkSecurityGroups/join/action ■ Microsoft.Network/networkSecurityGroups/read ■ Microsoft.Network/networkSecurityGroups/write

To...	You need...
	■ Microsoft.Network/networkSecurityGroups/delete ■ Microsoft.Network/publicIPAddresses/delete ■ Microsoft.Network/publicIPAddresses/join/action ■ Microsoft.Network/publicIPAddresses/read ■ Microsoft.Network/publicIPAddresses/write ■ Microsoft.Network/virtualNetworks/read ■ Microsoft.Network/virtualNetworks/subnets/delete ■ Microsoft.Network/virtualNetworks/subnets/join/action ■ Microsoft.Network/virtualNetworks/subnets/read ■ Microsoft.Network/virtualNetworks/subnets/write ■ Microsoft.Network/virtualNetworks/write ■ Microsoft Resources ■ Microsoft.Resources/subscriptions/resourcegroups/delete ■ Microsoft.Resources/subscriptions/resourcegroups/read ■ Microsoft.Resources/subscriptions/resourcegroups/write ■ Microsoft Storage ■ Microsoft.Storage/storageAccounts/delete ■ Microsoft.Storage/storageAccounts/listKeys/action ■ Microsoft.Storage/storageAccounts/read ■ Microsoft.Storage/storageAccounts/write ■ Microsoft Web ■ Microsoft.Web/sites/read ■ Microsoft.Web/sites/write ■ Microsoft.Web/sites/delete ■ Microsoft.Web/sites/config/read ■ Microsoft.Web/sites/config/write ■ Microsoft.Web/sites/config/list/action ■ Microsoft.Web/sites/publishxml/action ■ Microsoft.Web/serverfarms/write ■ Microsoft.Web/serverfarms/delete ■ Microsoft.Web/sites/hostruntime/functions/keys/read ■ Microsoft.Web/sites/hostruntime/host/read ■ Microsoft.web/sites/functions/masterkey/read If you are using Microsoft Azure with action-based extensibility, the following permissions are required, in addition to the minimal permissions: ■ Microsoft.Web/sites/read ■ Microsoft.Web/sites/write ■ Microsoft.Web/sites/delete ■ Microsoft.Web/sites/config/read ■ Microsoft.Web/sites/config/write ■ Microsoft.Web/sites/config/list/action ■ Microsoft.Web/sites/publishxml/action ■ Microsoft.Web/serverfarms/write ■ Microsoft.Web/serverfarms/delete ■ Microsoft.Web/sites/hostruntime/functions/keys/read

To...	You need...
	■ Microsoft.Web/sites/hostruntime/host/read ■ Microsoft.web/sites/functions/masterkey/read If you are using Microsoft Azure with action-based extensibility with extensions, the following permissions are also needed: ■ Microsoft.Compute/virtualMachines/extensions/write ■ Microsoft.Compute/virtualMachines/extensions/read ■ Microsoft.Compute/virtualMachines/extensions/delete

To...	You need...
Add a Google Cloud Platform (GCP) cloud account	The Google Cloud Platform cloud account interacts with the Google Cloud Platform compute engine. The Project Admin and Owner credentials are required for creating and validating Google Cloud Platform cloud accounts. If you are using an external HTTP Internet proxy, it must be configured for IPv4. The following compute engine permissions are also needed, depending on the actions that the user can take: ■ roles/compute.admin Provides full control of all compute engine resources. ■ roles/iam.serviceAccountUser Provides access to users who manage virtual machine instances that are configured to run as a service account. Grant access to the following resources and services: ■ compute.* ■ resourcemanager.projects.get ■ resourcemanager.projects.list ■ serviceusage.quotas.get ■ serviceusage.services.get ■ serviceusage.services.list ■ roles/compute.imageUser Provides permission to list and read images without having other permissions on the image. Granting the compute.imageUser role at the project level gives users the ability to list all images in the project. It also allows users to create resources, such as instances and persistent disks, based on images in the project. ■ compute.images.get ■ compute.images.getFromFamily ■ compute.images.list ■ compute.images.useReadOnly ■ resourcemanager.projects.get ■ resourcemanager.projects.list ■ serviceusage.quotas.get ■ serviceusage.services.get ■ serviceusage.services.list ■ roles/compute.instanceAdmin Provides permissions to create, modify, and delete virtual machine instances. This includes permissions to create, modify, and delete disks, and also to configure shielded VMBETA settings. For users that manage virtual machine instances (but not network or security settings or instances that run as service accounts), grant this role to the organization, folder, or project that contains the instances, or to the individual instances. Users that manage virtual machine instances that are configured to run as a service account also need the roles/iam.serviceAccountUser role. ■ compute.acceleratorTypes ■ compute.addresses.get ■ compute.addresses.list ■ compute.addresses.use ■ compute.autoscalers ■ compute.diskTypes ■ compute.disks.create

To...	You need...
	■ compute.disks.createSnapshot ■ compute.disks.delete ■ compute.disks.get ■ compute.disks.list ■ compute.disks.resize ■ compute.disks.setLabels ■ compute.disks.update ■ compute.disks.use ■ compute.disks.useReadOnly ■ compute.globalAddresses.get ■ compute.globalAddresses.list ■ compute.globalAddresses.use ■ compute.globalOperations.get ■ compute.globalOperations.list ■ compute.images.get ■ compute.images.getFromFamily ■ compute.images.list ■ compute.images.useReadOnly ■ compute.instanceGroupManagers ■ compute.instanceGroups ■ compute.instanceTemplates ■ compute.instances ■ compute.licenses.get ■ compute.licenses.list ■ compute.machineTypes ■ compute.networkEndpointGroups ■ compute.networks.get ■ compute.networks.list ■ compute.networks.use ■ compute.networks.useExternalIp ■ compute.projects.get ■ compute.regionOperations.get ■ compute.regionOperations.list ■ compute.regions ■ compute.reservations.get ■ compute.reservations.list ■ compute.subnetworks.get ■ compute.subnetworks.list ■ compute.subnetworks.use ■ compute.subnetworks.useExternalIp ■ compute.targetPools.get ■ compute.targetPools.list ■ compute.zoneOperations.get ■ compute.zoneOperations.list ■ compute.zones

To...	You need...

- resourcemanager.projects.get
- resourcemanager.projects.list
- serviceusage.quotas.get
- serviceusage.services.get
- serviceusage.services.list

- roles/compute.instanceAdmin.v1

  Provides full control of compute engine instances, instance groups, disks, snapshots, and images. Also provides read access to all compute engine networking resources.

  Note If you grant a user this role at the instance level, that user cannot create new instances.

  - compute.acceleratorTypes
  - compute.addresses.get
  - compute.addresses.list
  - compute.addresses.use
  - compute.autoscalers
  - compute.backendBuckets.get
  - compute.backendBuckets.list
  - compute.backendServices.get
  - compute.backendServices.list
  - compute.diskTypes
  - compute.disks
  - compute.firewalls.get
  - compute.firewalls.list
  - compute.forwardingRules.get
  - compute.forwardingRules.list
  - compute.globalAddresses.get
  - compute.globalAddresses.list
  - compute.globalAddresses.use
  - compute.globalForwardingRules.get
  - compute.globalForwardingRules.list
  - compute.globalOperations.get
  - compute.globalOperations.list
  - compute.healthChecks.get
  - compute.healthChecks.list
  - compute.httpHealthChecks.get
  - compute.httpHealthChecks.list
  - compute.httpsHealthChecks.get
  - compute.httpsHealthChecks.list
  - compute.images
  - compute.instanceGroupManagers
  - compute.instanceGroups
  - compute.instanceTemplates
  - compute.instances
  - compute.interconnectAttachments.get
  - compute.interconnectAttachments.list

To...	You need...
	■ compute.interconnectLocations ■ compute.interconnects.get ■ compute.interconnects.list ■ compute.licenseCodes ■ compute.licenses ■ compute.machineTypes ■ compute.networkEndpointGroups ■ compute.networks.get ■ compute.networks.list ■ compute.networks.use ■ compute.networks.useExternalIp ■ compute.projects.get ■ compute.projects.setCommonInstanceMetadata ■ compute.regionBackendServices.get ■ compute.regionBackendServices.list ■ compute.regionOperations.get ■ compute.regionOperations.list ■ compute.regions ■ compute.reservations.get ■ compute.reservations.list ■ compute.resourcePolicies ■ compute.routers.get ■ compute.routers.list ■ compute.routes.get ■ compute.routes.list ■ compute.snapshots ■ compute.sslCertificates.get ■ compute.sslCertificates.list ■ compute.sslPolicies.get ■ compute.sslPolicies.list ■ compute.sslPolicies.listAvailableFeatures ■ compute.subnetworks.get ■ compute.subnetworks.list ■ compute.subnetworks.use ■ compute.subnetworks.useExternalIp ■ compute.targetHttpProxies.get ■ compute.targetHttpProxies.list ■ compute.targetHttpsProxies.get ■ compute.targetHttpsProxies.list ■ compute.targetInstances.get ■ compute.targetInstances.list ■ compute.targetPools.get ■ compute.targetPools.list ■ compute.targetSslProxies.get ■ compute.targetSslProxies.list

To...	You need...
	■ compute.targetTcpProxies.get ■ compute.targetTcpProxies.list ■ compute.targetVpnGateways.get ■ compute.targetVpnGateways.list ■ compute.urlMaps.get ■ compute.urlMaps.list ■ compute.vpnTunnels.get ■ compute.vpnTunnels.list ■ compute.zoneOperations.get ■ compute.zoneOperations.list ■ compute.zones ■ resourcemanager.projects.get ■ resourcemanager.projects.list ■ serviceusage.quotas.get ■ serviceusage.services.get ■ serviceusage.services.list
Add an NSX-T cloud account	Provide an account with the following read and write privileges: ■ NSX-T Enterprise Administrator role and access credentials ■ NSX-T IP address or FQDN Administrators *also* require access to the vCenter Server as described in the following *vSphere agent requirements for vCenter-based cloud accounts* section on this page.
Add an NSX-V cloud account	Provide an account with the following read and write privileges: ■ NSX-V Enterprise Administrator role and access credentials ■ NSX-V IP address or FQDN Administrators *also* require access to the vCenter Server as described in the following *vSphere agent requirements for vCenter-based cloud accounts* section on this page.
Add a vCenter cloud account	Provide an account with the following read and write privileges: ■ vCenter IP address or FQDN Administrators *also* require access to the vCenter Server as described in the following *vSphere agent requirements for vCenter-based cloud accounts* section on this page.
Add a VMware Cloud on AWS (VMC) cloud account	Provide an account with the following read and write privileges: ■ The cloudadmin@vmc.local account or any user account in the CloudAdmin group ■ NSX Enterprise Administrator role and access credentials ■ NSX Cloud Admin access to your organization's VMware Cloud on AWS SDDC environment ■ Administrator access to your organization's VMware Cloud on AWS SDDC environment ■ The VMware Cloud on AWS API token for your VMware Cloud on AWS environment in your organization's VMware Cloud on AWS service ■ vCenter IP address or FQDN Administrators *also* require access to the vCenter that is used by your target VMware Cloud on AWS SDDC that has all the permissions listed in the following *vSphere agent requirements for vCenter-based cloud accounts* section on this page. For more information about the permissions needed to create and use VMware Cloud on AWS cloud accounts, see *Managing the VMware Cloud on AWS Data Center* in VMware Cloud on AWS product documentation.

vSphere agent requirements for vCenter-based cloud accounts

The following table lists the permissions needed to manage VMware Cloud on AWS and vCenter cloud accounts. The permissions must be enabled for all clusters in the vCenter Server, not just clusters that host endpoints.

For all vCenter Server-based cloud accounts - including NSX-V, NSX-T, vCenter, and VMware Cloud on AWS - the administrator must have vSphere endpoint credentials, or the credentials under which the agent service runs in vCenter, that provide administrative access to the host vCenter Server.

For more information about vSphere agent requirements, see VMware vSphere product documentation.

Table 3-1. Permissions Required for vSphere Agent to Manage vCenter Server Instance

Attribute Value	Permission
Datastore	■ Allocate space ■ Browse datastore
Datastore Cluster	Configure a datastore cluster
Folder	■ Create folder ■ Delete folder
Global	■ Manage custom attributes ■ Set custom attribute
Network	Assign network
Permissions	Modify permission
Resource	■ Assign VM to Res Pool ■ Migrate powered off virtual machine ■ Migrate powered on virtual machine

Table 3-1. Permissions Required for vSphere Agent to Manage vCenter Server Instance (continued)

Attribute Value	Permission
Content Library	To assign a permission on a content library, an administrator must grant the permission to the user as a global permission. For related information, see Hierarchical Inheritance of Permissions for Content Libraries in *vSphere Virtual Machine Administration* at VMware vSphere Documentation. ■ Add library item ■ Create local library ■ Create subscribed library ■ Delete library item ■ Delete local library ■ Delete subscribed library ■ Download files ■ Evict library item ■ Evict subscribed library ■ Probe subscription information ■ Read storage ■ Sync library item ■ Sync subscribed library ■ Type introspection ■ Update configuration settings ■ Update files ■ Update library ■ Update library item ■ Update local library ■ Update subscribed library ■ View configuration settings
Tags	■ Assign or unassign vSphere tag ■ Create a vSphere tag ■ Create a vSphere tag category ■ Delete vSphere tag ■ Delete vSphere tag category ■ Edit vSphere tag ■ Edit vSphere tag category ■ Modify UsedBy field for category ■ Modify UsedBy field for tag
vApp	■ Import ■ vApp application configuration The `vApp.Import` application configuration is required for OVF templates and to provision VMs from the content library. The `vApp.vApp` application configuration is required when using cloud-init for cloud configuration scripting. This setting allows for modification of a vApp's internal structure, such as its product information and properties.

Table 3-1. Permissions Required for vSphere Agent to Manage vCenter Server Instance (continued)

Attribute Value	Permission
Virtual Machine - Inventory	■ Create from existing ■ Create new ■ Move ■ Remove
Virtual Machine - Interaction	■ Configure CD media ■ Console interaction ■ Device connection ■ Power off ■ Power on ■ Reset ■ Suspend ■ Tools install
Virtual Machine - Configuration	■ Add existing disk ■ Add new disk ■ Add or remove ■ Remove Disk ■ Advanced ■ Change CPU count ■ Change resource ■ Extend virtual disk ■ Disk change tracking ■ Memory ■ Modify device settings ■ Rename ■ Set annotation ■ Settings ■ Swapfile placement
Virtual Machine - Provisioning	■ Customize ■ Clone template ■ Clone virtual machine ■ Deploy template ■ Read customization specs
Virtual Machine - State	■ Create snapshot ■ Remove snapshot ■ Revert to snapshot

How do I set up vRealize Automation Cloud Assembly

4

To set up and verify your vRealize Automation Cloud Assembly instance, you can use a quick start wizard and a guided setup. The wizard asks you to provide values that are used to configure vRealize Automation Cloud Assembly and vRealize Automation Service Broker. The guided setup provides instructions in a support panel that guide you through a vRealize Automation Cloud Assembly configuration process in the user interface.

- How do I get started with vRealize Automation using the Quickstart

  If you are new to vRealize Automation, the Quickstart is a great way to get started. The Quickstart helps you, the cloud administrator, set up your on-premises SDDC so that you can provision resources using vRealize Automation, populate the self-service catalog, and deploy your first blueprint to your vSphere instance.

- How do I get started with vRealize Automation Cloud Assembly using the Guided Setup

  To set up and verify your vRealize Automation Cloud Assembly instance, you configure the infrastructure based on the cloud accounts, and then you create and deploy blueprints to ensure that everything is flowing through the system.

How do I get started with vRealize Automation using the Quickstart

If you are new to vRealize Automation, the Quickstart is a great way to get started. The Quickstart helps you, the cloud administrator, set up your on-premises SDDC so that you can provision resources using vRealize Automation, populate the self-service catalog, and deploy your first blueprint to your vSphere instance.

Using the Quickstart, you do the following vRealize Automation Cloud Assembly and vRealize Automation Service Broker tasks.

After you run the Quickstart the first time, the Quickstart is added as a tile on the console services page. You can run it again to add new vCenter Server instances.

- Add a vCenter Server cloud account. Cloud accounts are the credentials that are used to collect data from and deploy resources to your vCenter Server instance.
- Add an NSX-T or NSX-V cloud account and associate it with the vCenter Server account. The NSX cloud accounts are the credentials that are used to create and deploy NSX network resources.

- Create a project, which links your users with cloud account regions, so that they can deploy application templates and blueprints with networks and storage resources to your vCenter Server instance.
- Create a sample machine blueprint that you can deploy.
- Create lease and machine naming policies. The lease policy controls how long a deployment is active. The naming policy provides a standardized naming convention for the resources.
- Add the templates to the catalog.
- Deploy a machine from the catalog.

Much of this terminology might be new to you. As you go through the Quickstart and the tour, we explain the new concepts in more detail. After you run the Quickstart, use the Take me on a tour of vRealize Automation to see what the Quickstart did to tour the results.

The Quickstart is not an option under the following circumstances.

- If you do not use vSphere and want to add a different type of cloud account, you can use the Guided Setup as your first-time guide to the process.
- You can only run the Quickstart once. You cannot run it a second time. Consider using the Guided Setup.
- For more about the Guided Setup, see How do I get started with vRealize Automation Cloud Assembly using the Guided Setup.

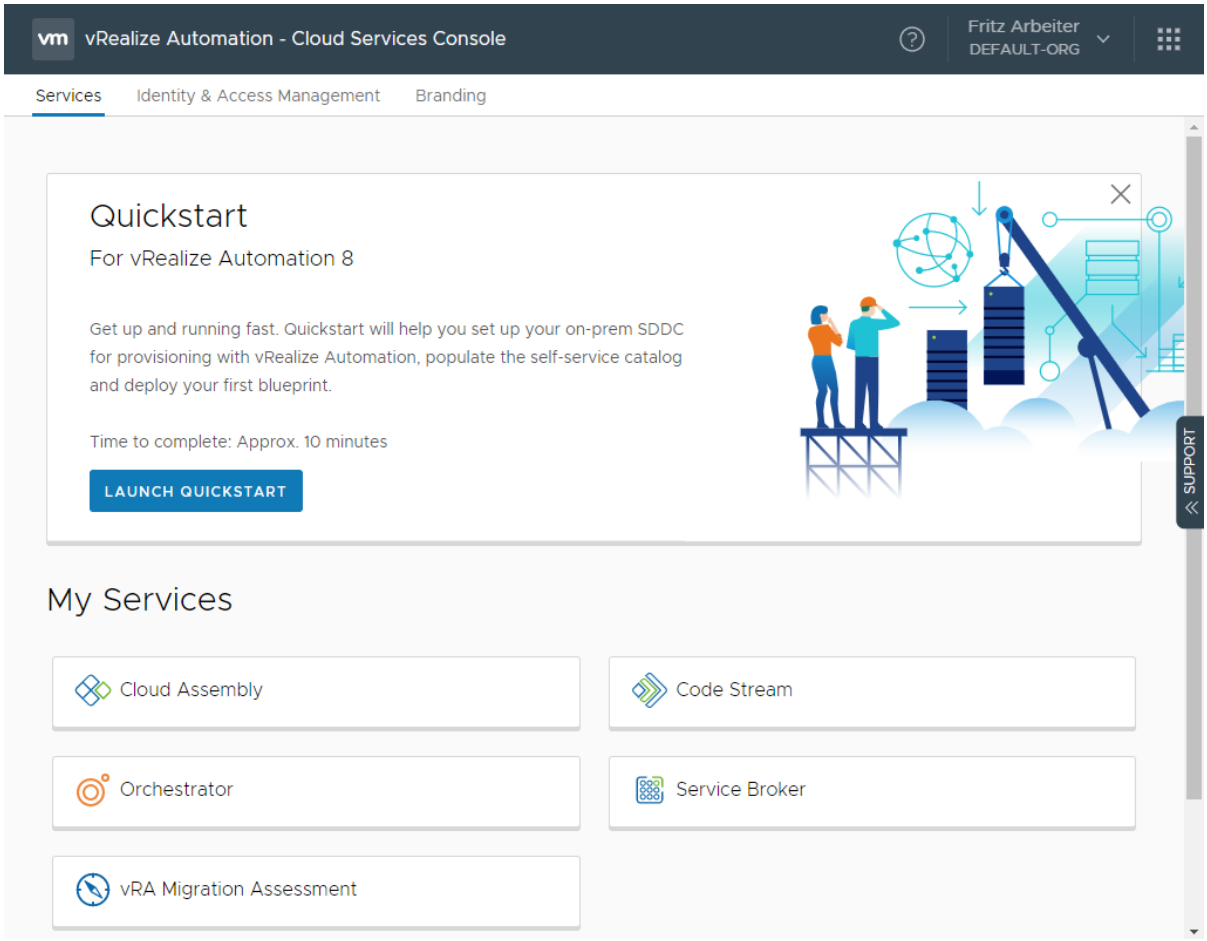
In this procedure, we provide sample values to illustrate the workflow. Substitute these samples with values that are relevant to your environment.

Prerequisites

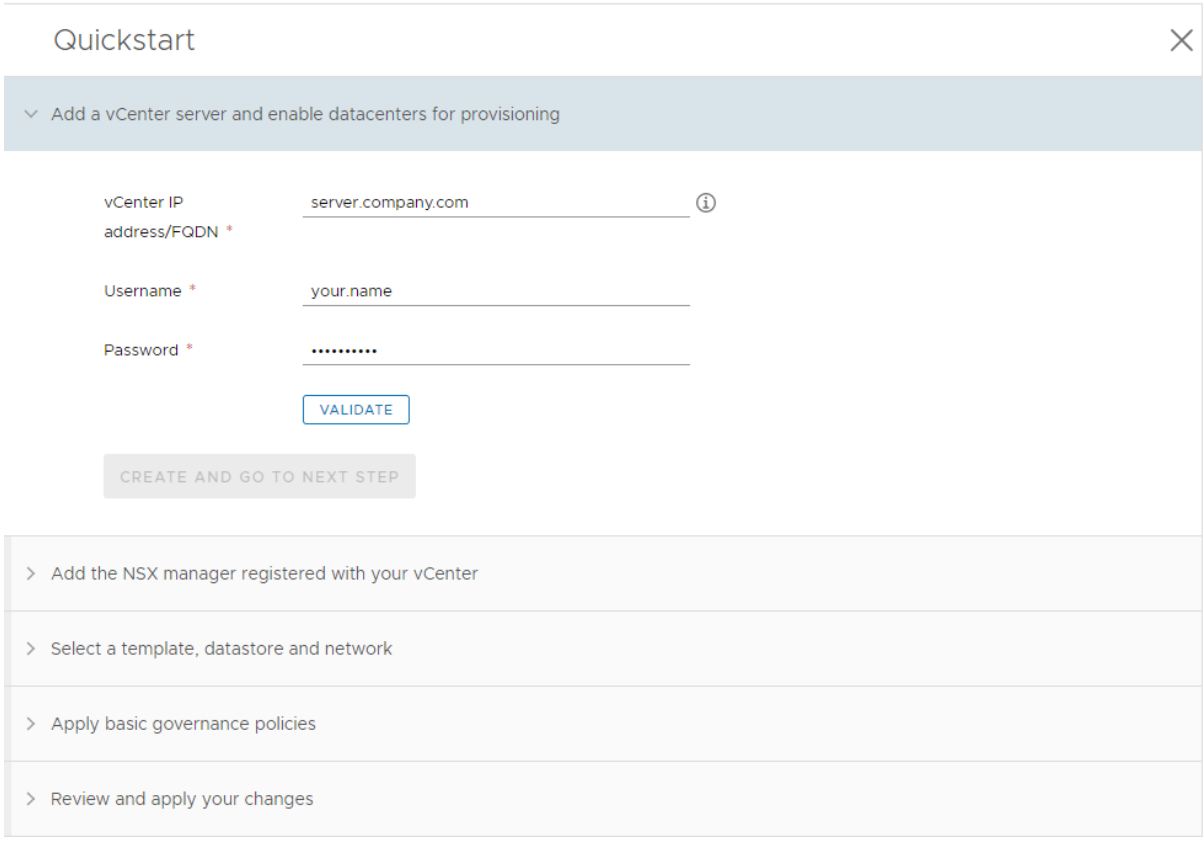
- Verify that you have the IP address or FQDN for the vCenter Server that you are adding as a cloud account. You must also have the credentials for a vCenter Server user account with the necessary permissions. See the vCenter Server requirements in Chapter 3 Before you begin with vRealize Automation Cloud Assembly.
- Verify that you have the IP address or FQDN for the NSX-V or NSX-T instance that you are adding as a cloud account. You must also have the credentials for a user account that has create, read, edit, and delete permission. See the NSX requirements in Chapter 3 Before you begin with vRealize Automation Cloud Assembly.

Procedure

1 After you install vRealize Automation and log in for the first time, click **Launch Quickstart**.



2 Add your vCenter Server.



Remember that all values are use case samples. Your account values depend on your environment.

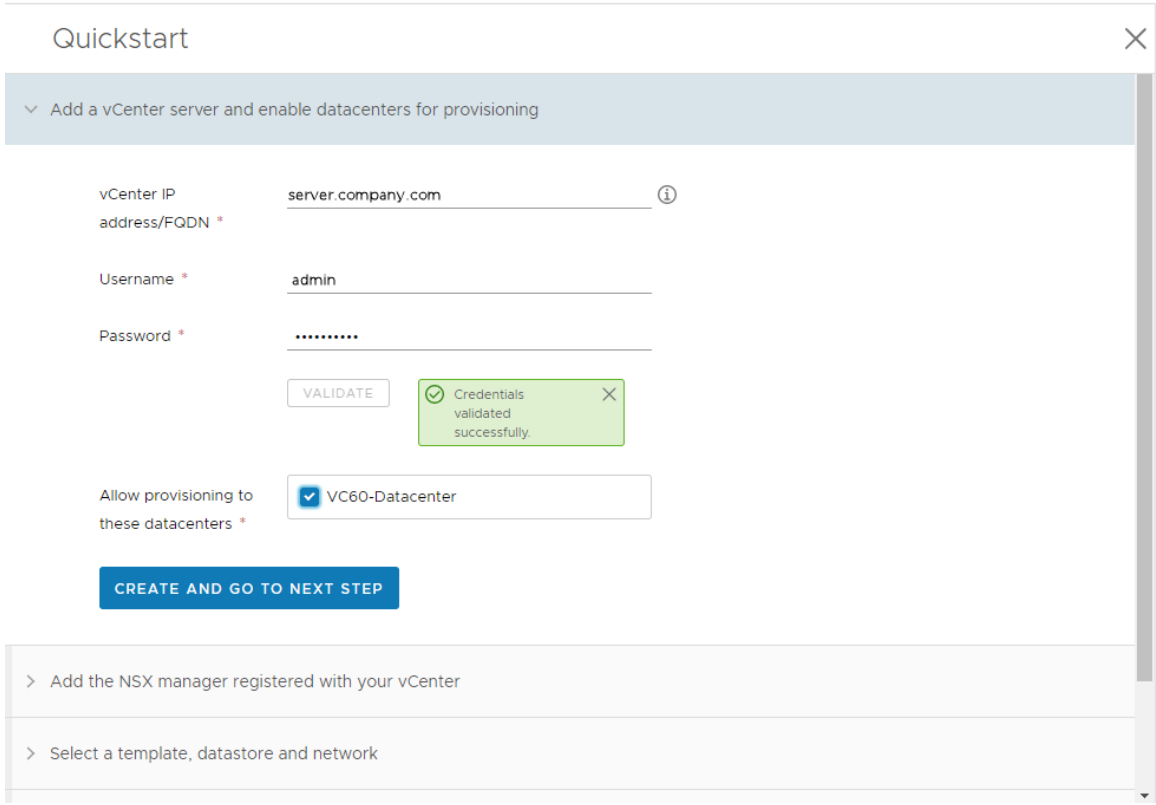
Avoid any beginning or trailing spaces when you enter the values.

a Enter the address and credentials.

b Click **Validate**.

If your certificates are not configured, a warning appears regarding the untrusted certificate. You can resolve the trust or you can click **Accept** and continue.

c Select the data centers that you want to deploy to.

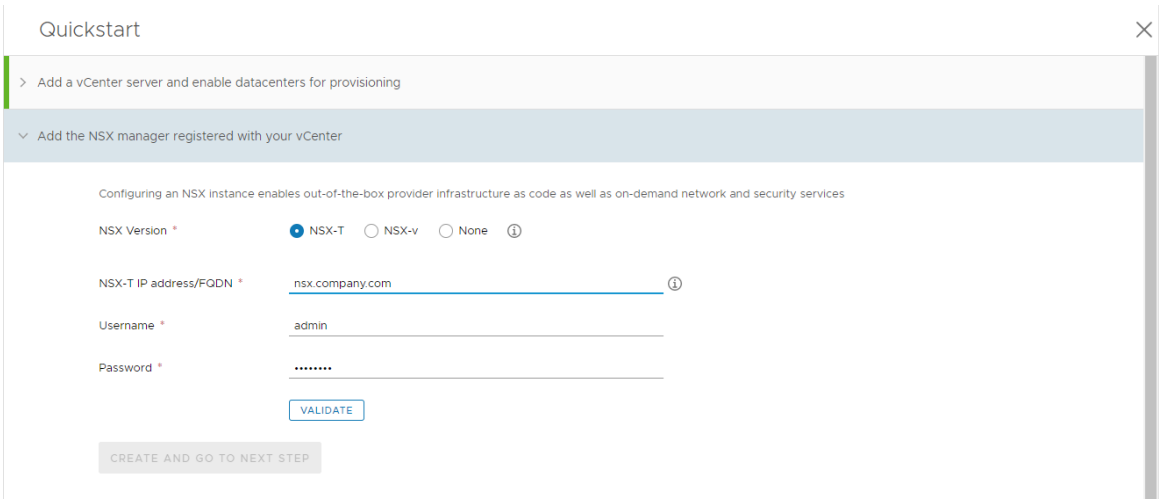


Each data center becomes an account region cloud zone.

d Click **Create and go to next step**.

3 Add the NSX instance that is associated with your vCenter Server.

For this example, the values are for NSX-T.



a Select the NSX version.

Select the NSX version that you use. If you do not have NSX, select **None**.

b Enter the address and credentials.

c Click **Validate**.

Again, if your certificates are not configured, a warning appears regarding the untrusted certificate. You can resolve the trust or you can click **Accept** and continue.

d Click **Create and go to next step**.

4 Set up where your first blueprint is deployed.

This process sets up the elements in your infrastructure. The terms that are used in vRealize Automation Cloud Assembly and vRealize Automation Service Broker are provided so that you become familiar with them and how they are used in the UI.

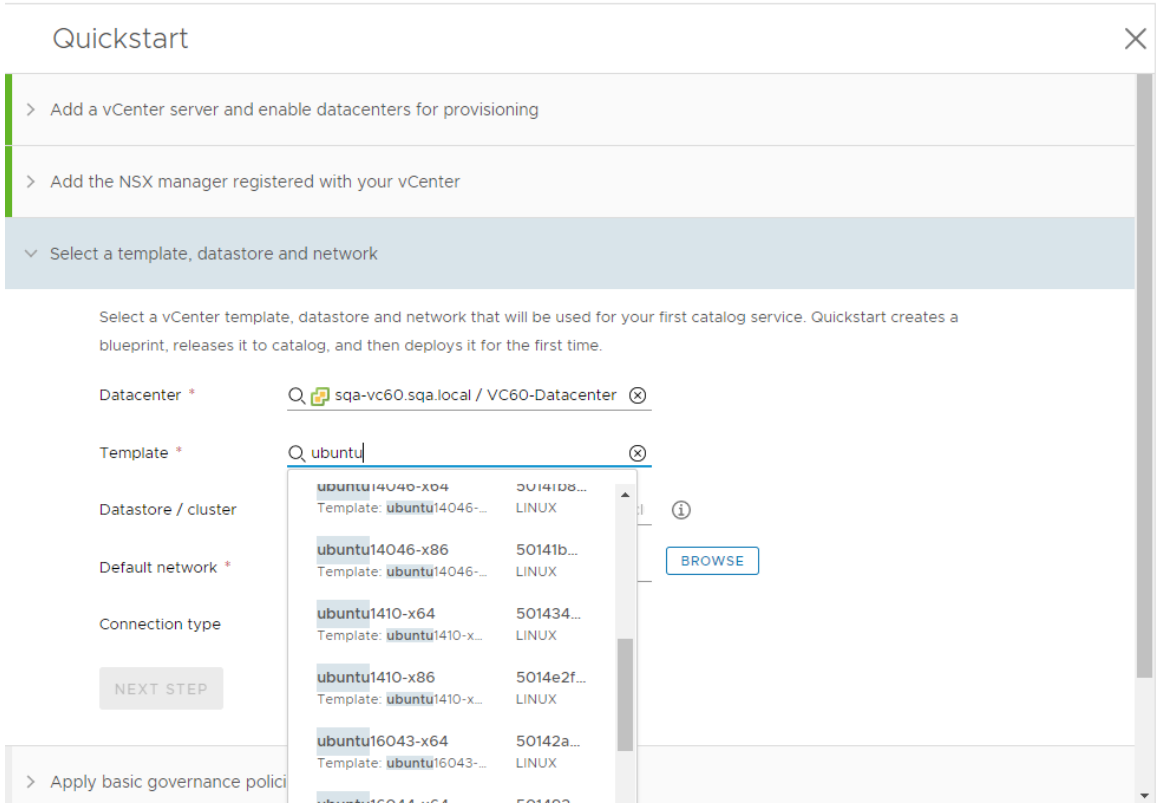
a Click in the text box to activate the collected values and select the **Datacenter**.

The other possible values on this page are collected from your vCenter Server instance based on the provided credentials. This data center becomes a cloud zone in vRealize Automation Cloud Assembly.

b Select the vCenter Server **Template** that you want to deploy.

This template is a virtual machine template on your vCenter Server instance.

You can use the automatic search by clicking in the text box.



c Select the **Datastore / cluster**.

This datastore becomes a storage profile.

d Select the **Default network**.

If you are configuring NSX, select the NSX network, not the vCenter Server network.

This network becomes a cloud zone that supports the network profile.

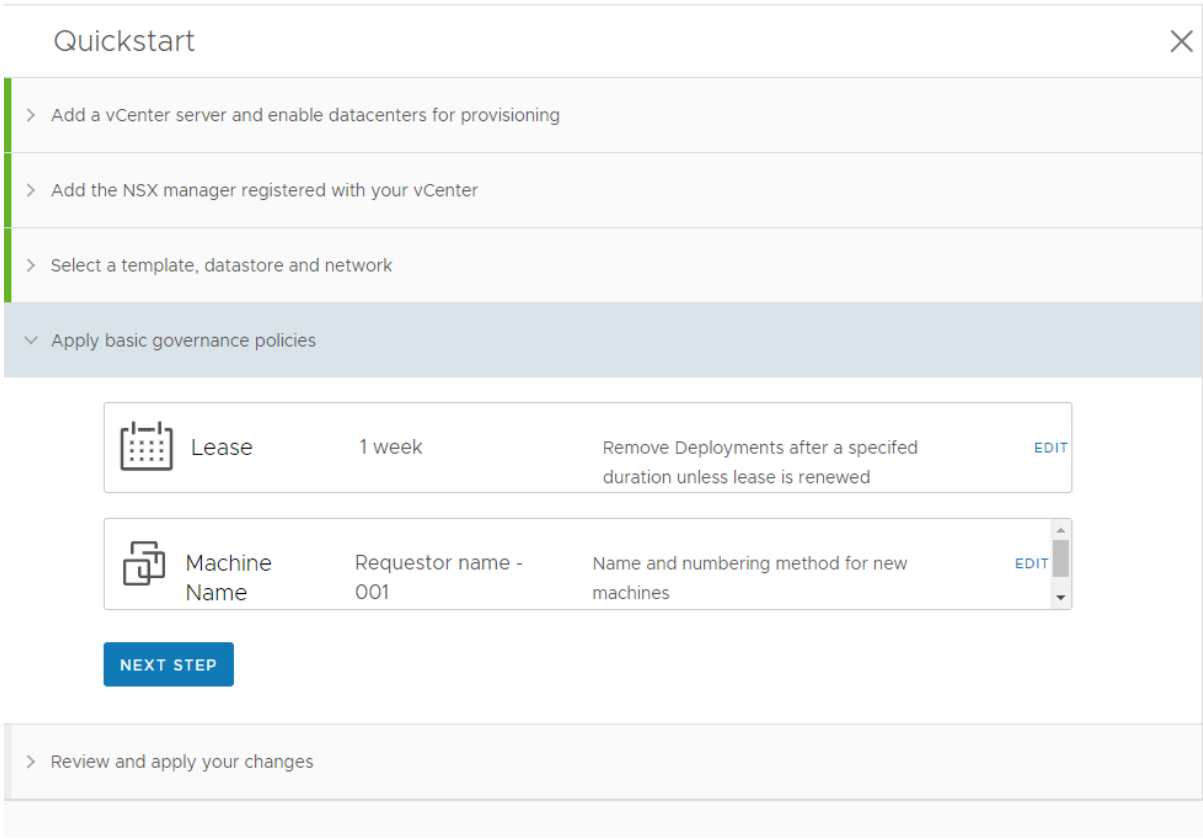
e To select and configure a DHCP or static IP connection type, click **Configure** and provide the values specific to your environment.

The network connection that you configure becomes a network profile.

f Click **Next Step**.

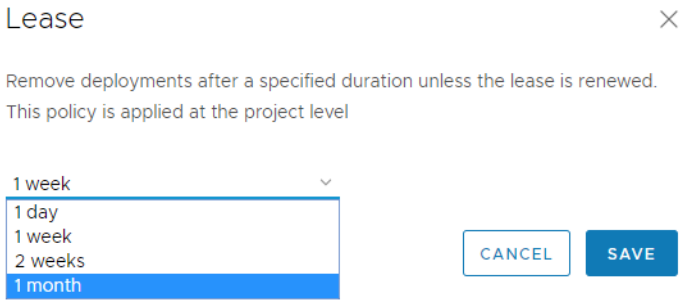
As part of this configuration process, a Quickstart project is defined for you. The project eventually links your users, infrastructure, and provisioning templates. You can see the project in the tour.

5 Provide a lease policy and a machine naming policy so that all the deployments have the same lease time and follow a standard naming convention.

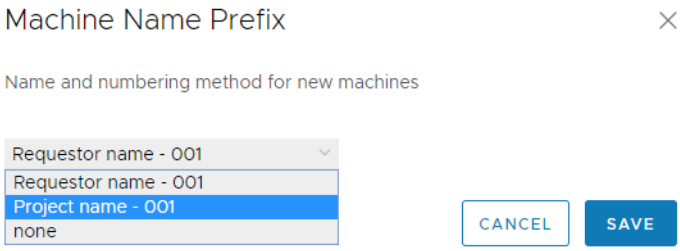


These policies are applied to deployments associated with the Quickstart project. The Quickstart creates the project for you. You define the policies.

a Edit the lease and select the time after which the resources are destroyed if not renewed by the user.

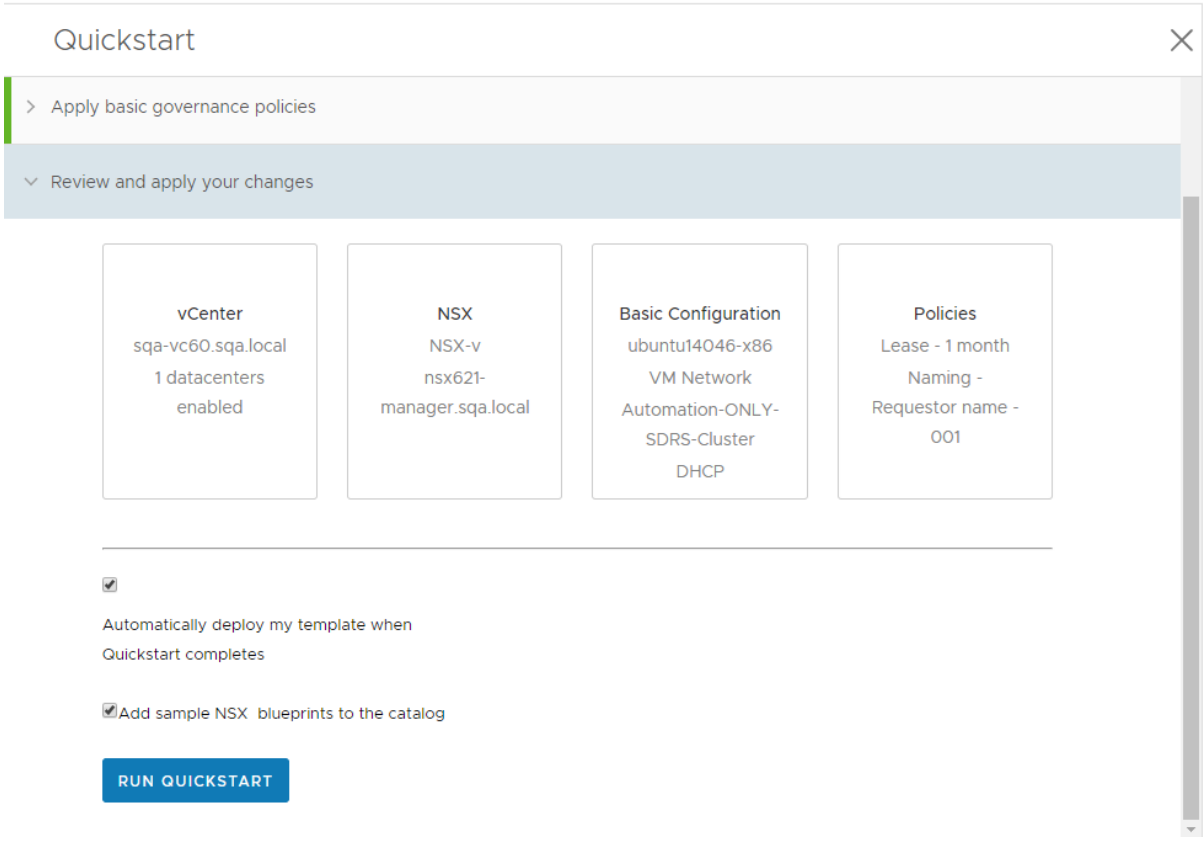


b Edit the machine name and select the naming convention that you want to use.



c Click **Next Step**.

6 Verify your configuration requests on the Summary page.



- If you want to immediately deploy the template so that you can see the results in Cloud Assembly and on your vCenter Server instance, select the check box. If you do not select the check box, the infrastructure, the blueprint, and the catalog item are created, but they are not deployed.
- If you want to add the NSX blueprints to the catalog, select the check box. The NSX blueprint includes a network, a load balancer, a firewall, and a tier 1 router. If you do not select the check box, the blueprints are created, but they are not released to the catalog.

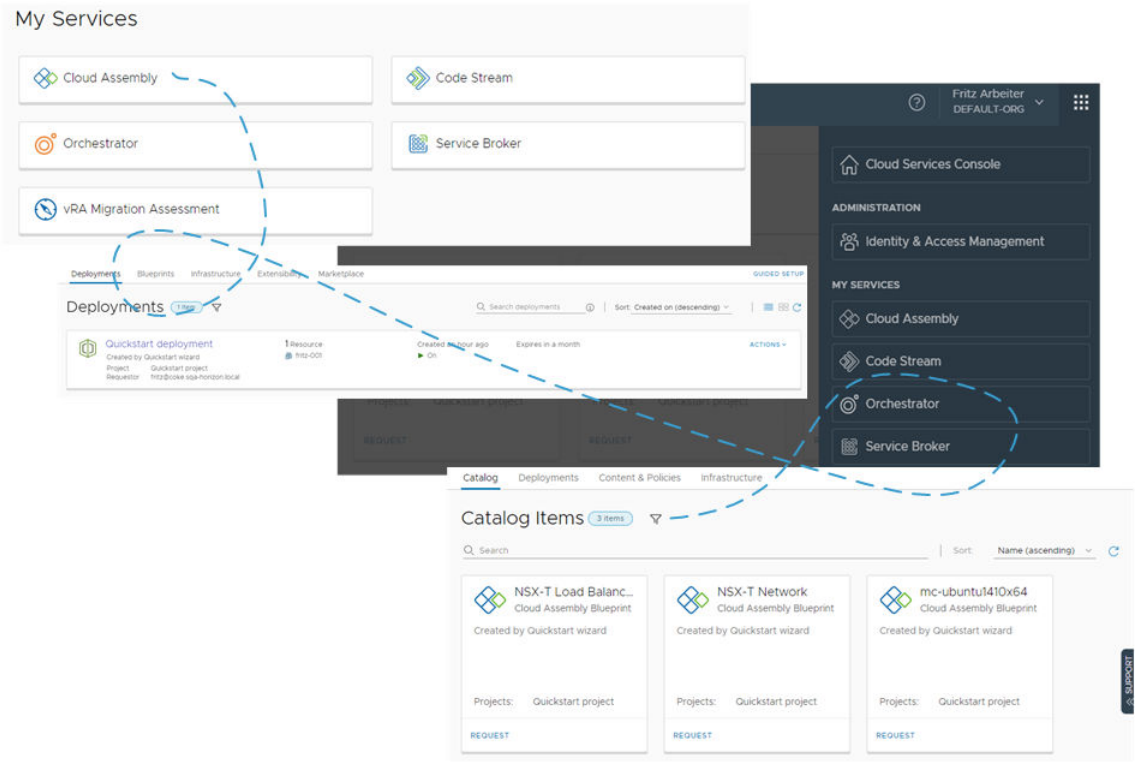
7 Click **Run Quickstart**.

What to do next

Take a tour of vRealize Automation Cloud Assembly and vRealize Automation Service Broker to discover more about how you manage your infrastructure, create blueprints, and deploy and manage resources. See Take me on a tour of vRealize Automation to see what the Quickstart did.

Take me on a tour of vRealize Automation to see what the Quickstart did

If you run the vRealize Automation Quickstart, the wizard configures cloud accounts, some infrastructure, a project, and some blueprints. It also deploys a blueprint. Follow the steps in this procedure to see what was added. You can also use this tour to learn about some of the vRealize Automation Cloud Assembly and vRealize Automation Service Broker features.



The information presented in this tour is ordered to replicate the basic workflow that you follow as you add new cloud accounts, develop your own blueprints, and make them available to your consumers as a catalog. To expand your configured infrastructure to support a diverse range of development operation team projects, you must broaden your infrastructure so that you can create more refined blueprints. This tour is only a starting point that is intended to familiarize you with the user interface and how to use it.

You begin with the console, then vRealize Automation Cloud Assembly, where cloud administrators and blueprint developers do most of their work. This is followed by vRealize Automation Service Broker, which you configure to provide catalog items that your consumers can request and manage.

Prerequisites

- The procedure assumes that you ran the Quickstart. See How do I get started with vRealize Automation using the Quickstart.
- If you did not, you can use the Guided Setup to get started creating your cloud infrastructure. See How do I get started with vRealize Automation Cloud Assembly using the Guided Setup.
- Log in as a user with a cloud administrator role.

Procedure

1 Tour of the Quickstart changes to vRealize Automation Cloud Assembly

This tour of vRealize Automation Cloud Assembly shows you what the Quickstart configured and deployed. It is designed to guide your through the user interface and help you understand some of the tasks you might later perform on your own.

2 Tour of the Quickstart changes to vRealize Automation Service Broker

vRealize Automation Service Broker is where you provide your users with a catalog of blueprints and other templates that they can deploy to the cloud accounts that you provide. In this part of the tour, you can see what the Quickstart configured for you.

Tour of the Quickstart changes to vRealize Automation Cloud Assembly

This tour of vRealize Automation Cloud Assembly shows you what the Quickstart configured and deployed. It is designed to guide your through the user interface and help you understand some of the tasks you might later perform on your own.

When you log in to vRealize Automation, you might see the Identity and Access Management and Branding tab. These tabs are not covered as part of the tour. You use them as you add users and manage your organizations.

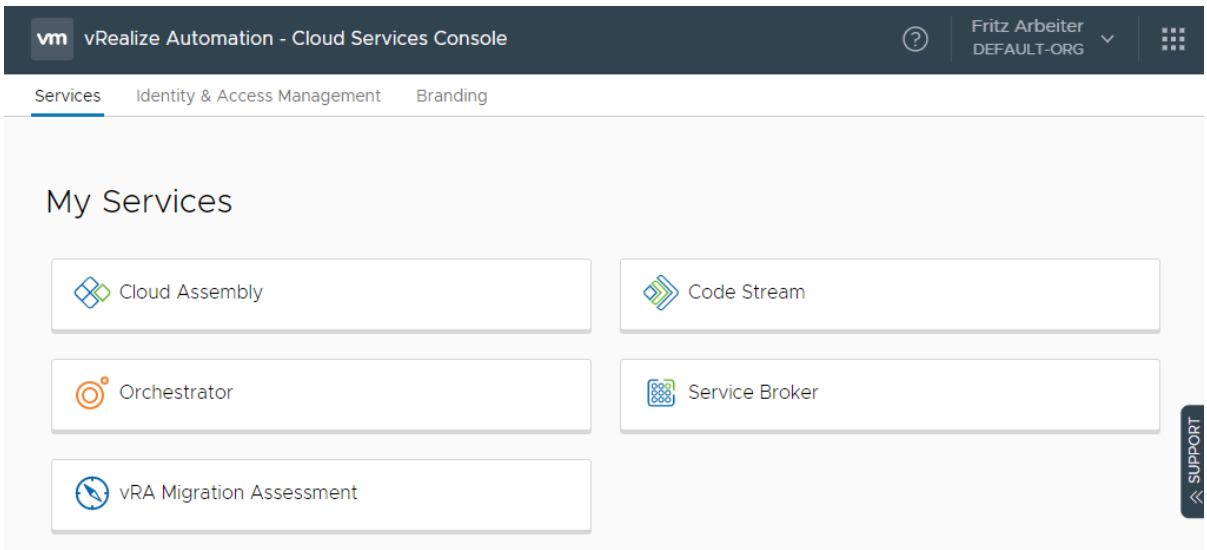
For more about identity management and branding, see Administering vRealize Automation

Prerequisites

- This procedure assumes that you ran the QuickStart. See How do I get started with vRealize Automation using the Quickstart.
- Log in as a user with an administrator role.

Procedure

1 As a cloud administrator, log in to vRealize Automation.

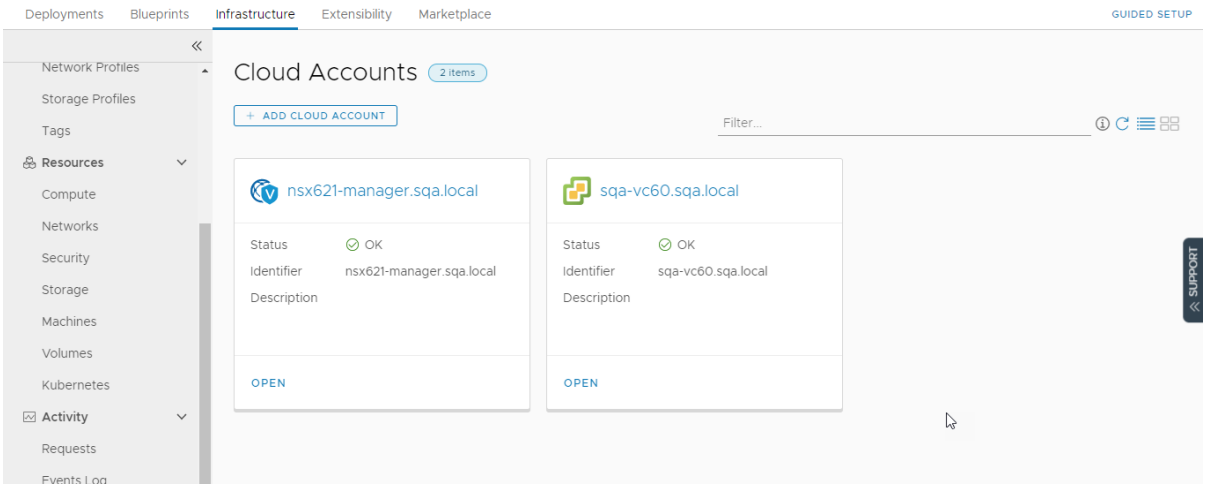


2 Click **Cloud Assembly**.

vRealize Automation Cloud Assembly opens with the Deployments tab active.

The deployments in vRealize Automation Cloud Assembly are the blueprints that are provisioned on your cloud account platforms. A successfully deployed blueprint represents your final goal as an administrator or blueprint designer. Because this tour is to help you understand your workflow, we start with connecting to cloud accounts first and return to deployments later.

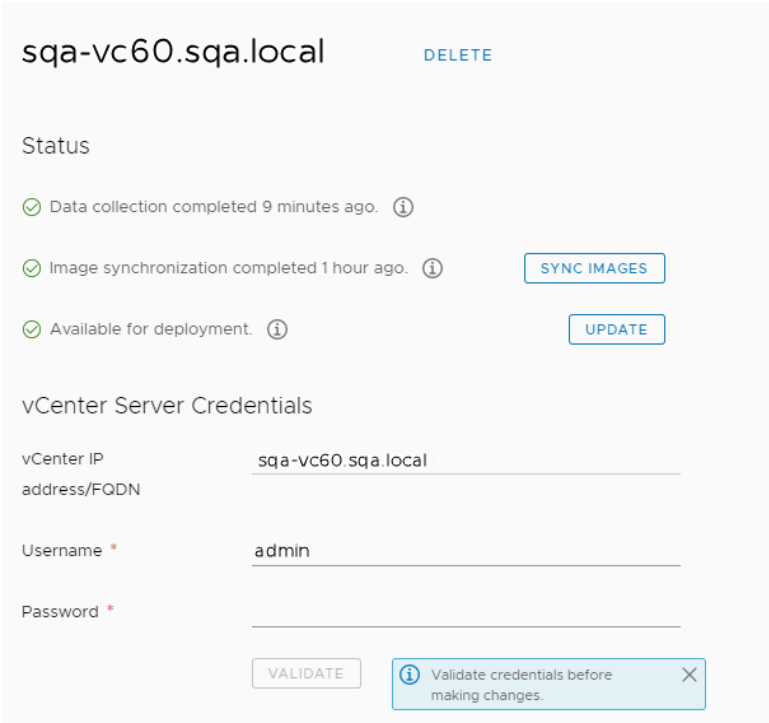
3 To learn how the QuickStart configured vRealize Automation Cloud Assembly to support the deployment, begin by selecting **Infrastructure > Connections > Cloud Accounts**.



Cloud accounts provide the credentials that are used to connect to your target systems. Using the provided credentials, vRealize Automation Cloud Assembly can monitor the status, collect information, and deploy workloads to those systems. In this example, you can see the NSX and vSphere instances that you provided in the QuickStart.

Each time you run the QuickStart, a new cloud zone is added.

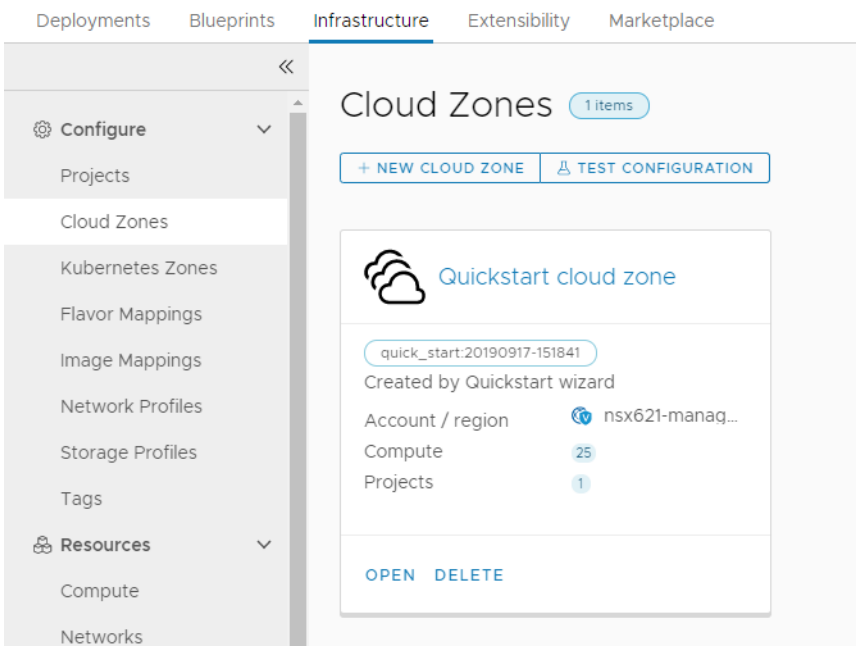
a Click the vSphere cloud account name.



Notice that the account name is based on the vCenter Server FQDN and that the NSX endpoint matches the NSX instance that you provided.

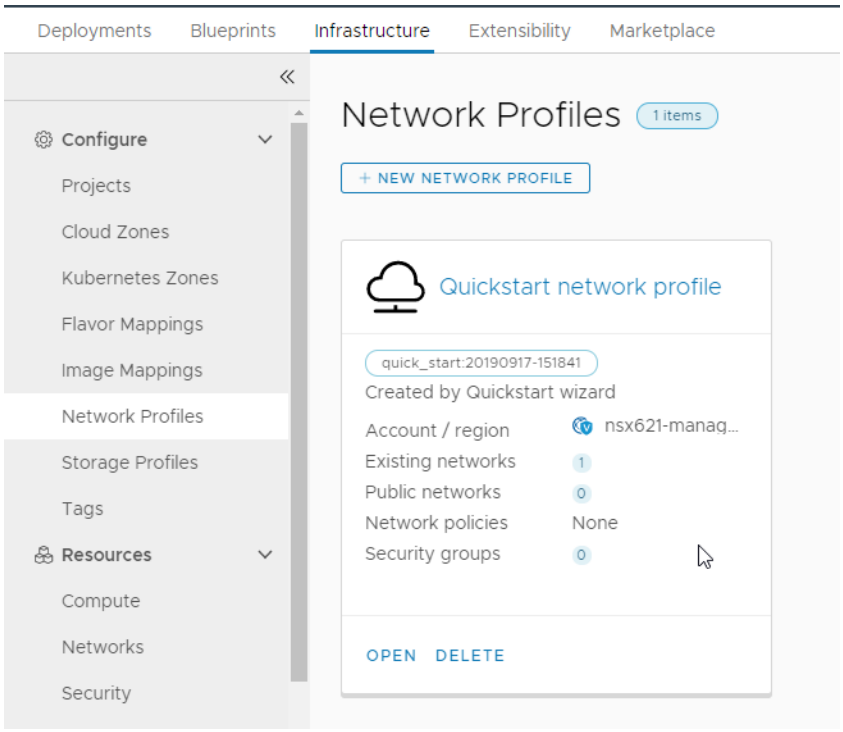
If you look at the NSX cloud account, you see same relationships regarding name and vSphere endpoint. The endpoint, in this user interface, is the cloud account.

4 Let's look at the cloud zones that were created from the cloud accounts. Select **Infrastructure > Configure > Cloud Zones**



Cloud zones are the account regions or data centers that are associated with your cloud account. If your cloud account includes more than one region, then multiple cloud zones might be created from that cloud account. For example, you might have more than one data center or region, and each one becomes a cloud zone. Cloud zones are then associated with projects, allowing you to grant users permission to deploy to a specific set of cloud resources.

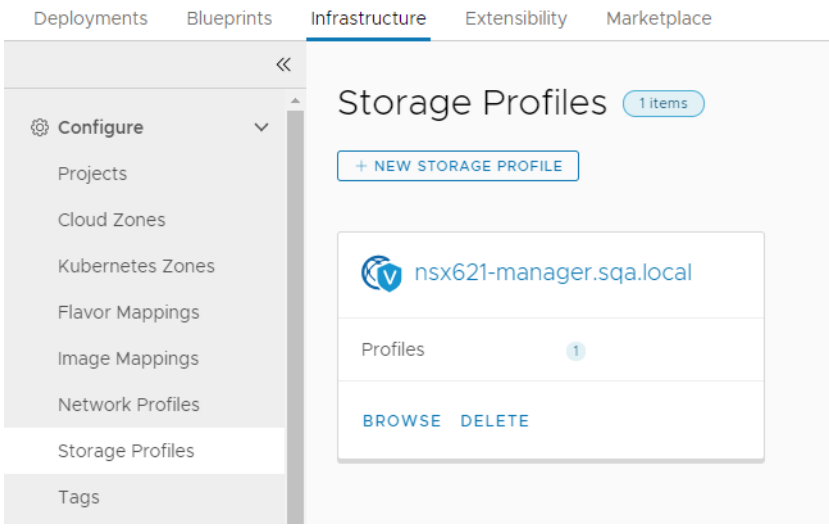
5 To see the network you configured, select **Infrastructure > Configure > Network Profiles**.



A network profile defines a group of networks and network settings that are available for a cloud account in a particular region or data center.

If you run the QuickStart more than once, a network profile is added each time you run it.

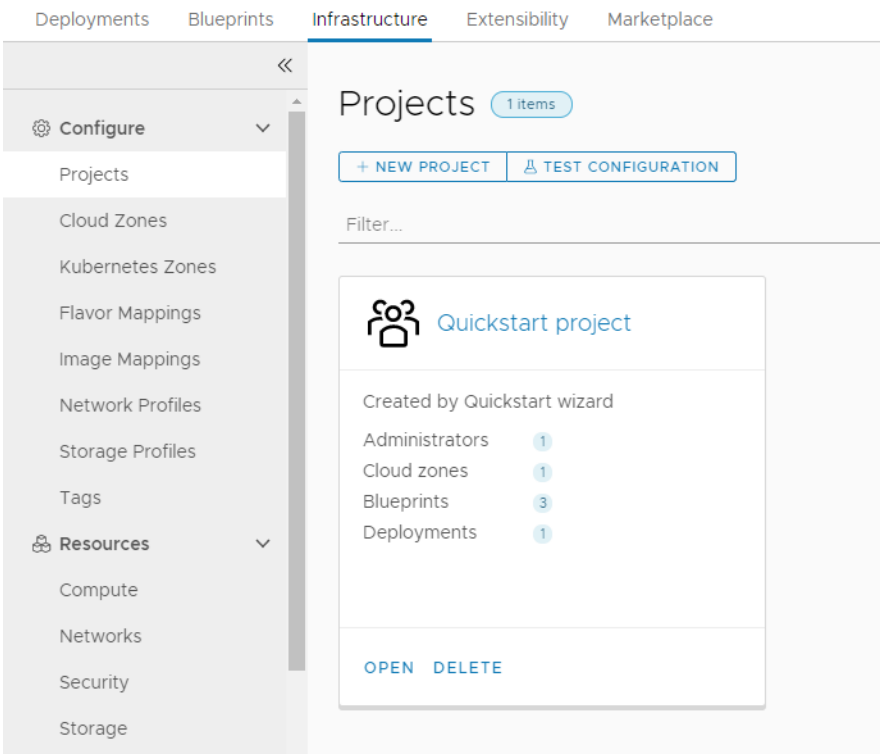
6 To see the storage you configured, select **Infrastructure > Configure > Storage Profiles**.



Storage profiles are organized under cloud-specific regions. One cloud account might have multiple regions, with multiple storage profiles under each region.

If you run the QuickStart wizard more than once, a storage profile is added to the associated datacenter each time you run the wizard.

7 To see the project that was created, even though you provided no specific values, select **Infrastructure > Configure > Projects**.



Projects link users and resources so that users can only deploy to the cloud zones that you specify. You might later create other projects to support different development teams.

a Click the project name, and then click the **Users** tab.

This tab is where you can add more users to a project.

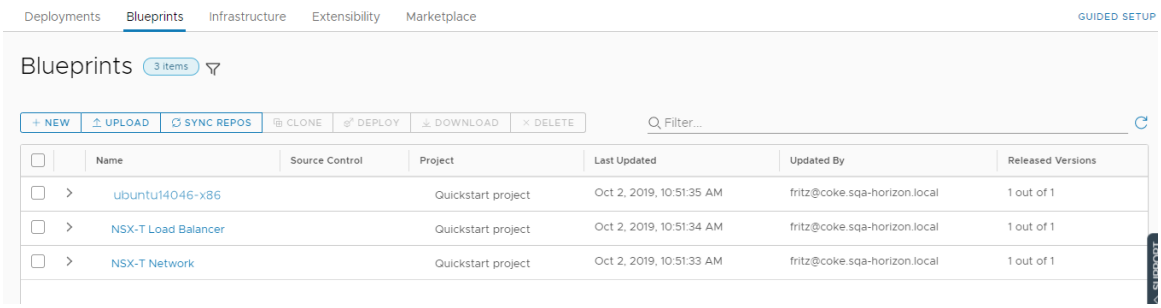
b Click the **Provisioning** tab.

This tab is where you add or remove the cloud zones. Notice that you have the `Quickstart cloud zone`.

c Scroll down the provisioning page and locate **Custom Naming**.

Notice that the custom naming template has the machine name prefix format that you selected in the policies section in the QuickStart. The custom naming is associated with projects.

8 To see the blueprints that were created, click the **Blueprints** tab.



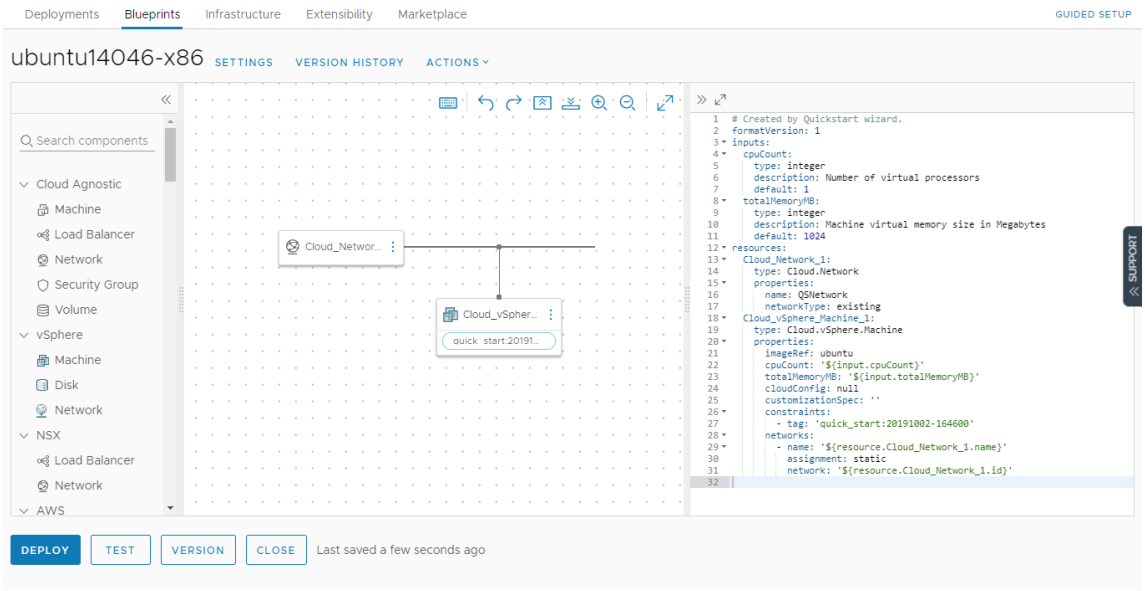
As part of the QuickStart, you have three blueprints. The machine blueprint was deployed, the NSX-T network and load balancer blueprints are provided as examples and were not deployed.

If you run the QuickStart wizard more than once, you will have blueprints that are created for each wizard configuration.

a In the Project column, notice that blueprints are associated with the Quickstart project.

b In the Released Versions column, notice that each blueprint is released.

c To see the blueprint canvas and where you release the blueprints, click the name of the blueprint that you selected in the QuickStart. In this example, the blueprint name begins with ubuntu.



d In the center is the canvas where you drag components and connect them.

e On the right is the blueprint-as-code YAML editor where you can refine all the details for a blueprint.

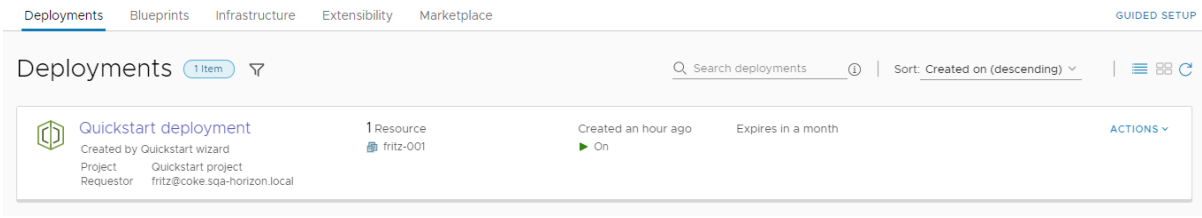
The YAML defines the blueprint components.

f On the left is the searchable list of components that you can add to the blueprint.

g To version the blueprint, click **Version** and notice that there is already a released version of the blueprint.

You can deploy blueprints in vRealize Automation Cloud Assembly that are released or unreleased. To make blueprints available in vRealize Automation Service Broker, they must be released.

9 Click the **Deployments** tab.

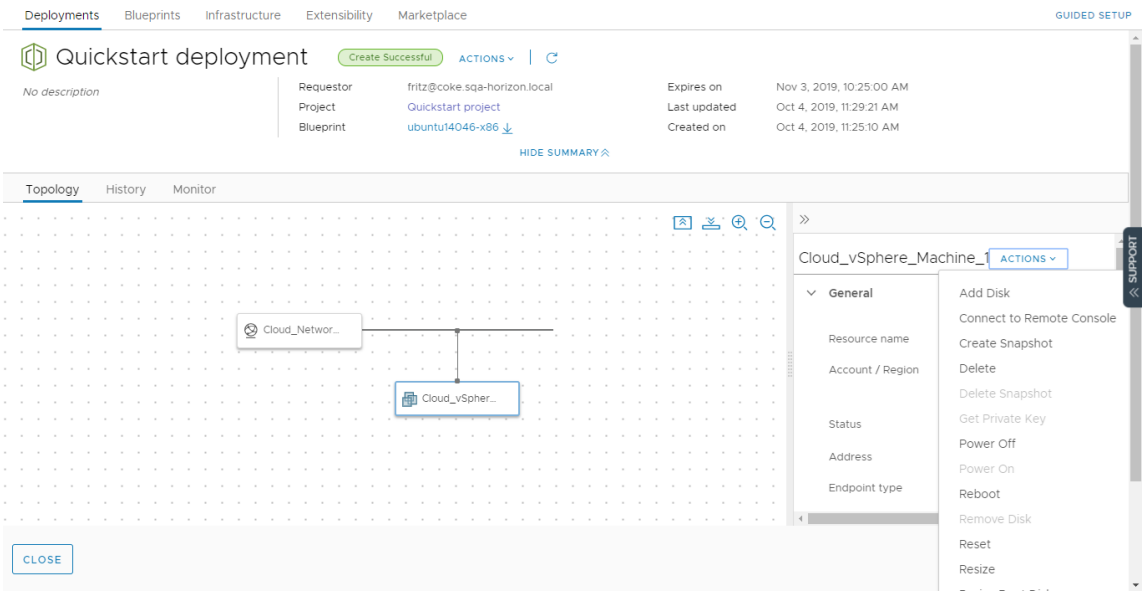


If you ran the QuickStart wizard more than once, you will have deployments as validation for each wizard configuration.

a Review the information that is provided on the deployment card.

- Deployment name is Quickstart deployment.
- Project is Quickstart project.
- Requestor is Fritz. In your environment, it is the user account that you used to run the QuickStart.
- Resource name is fritz-001. This name is based on the custom naming that you defined in the Quickstart. If you deploy another resource using this naming convention, the name is likely to be fritz-002.
- Power status indicates that the resource is On.
- Expires in the month is the starting lease period. The value will count down to the expiration date.
- Actions are the deployment level changes you can make, including power off or destroy.

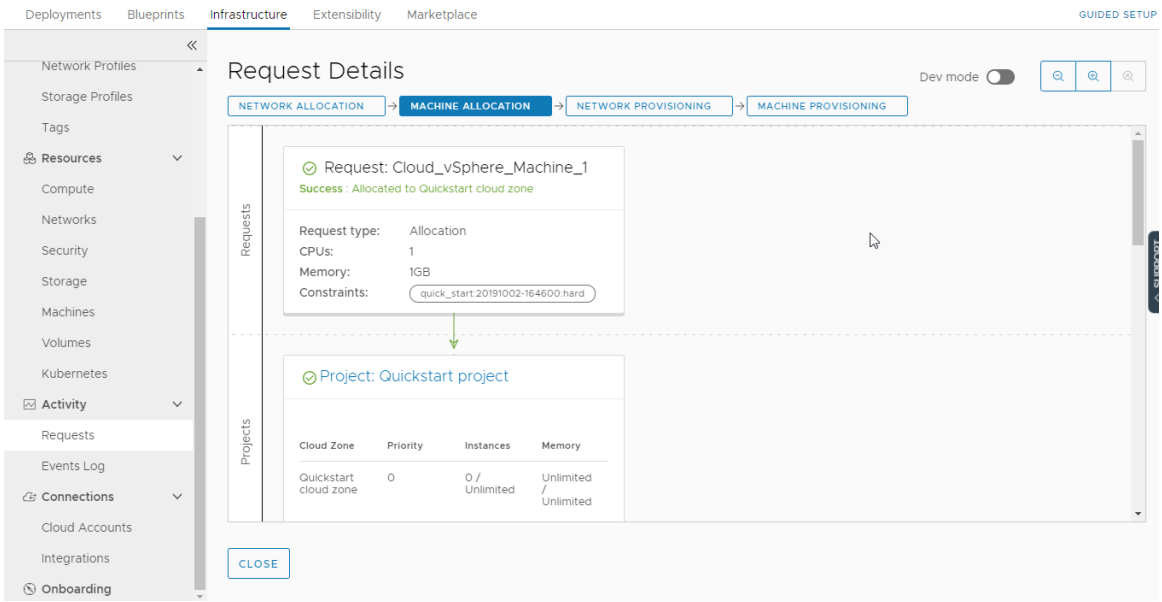
b Click the deployment name in the deployments list so that you can see the deployment details and review the available information.



- Name of the blueprint that was used to create the deployment. In this example, it is the template that you selected in the QuickStart.
- The Topology tab provides a visualization of the relationship between the deployed components. This example is a simple machine. If the deployment had multiple machines, networking, and storage, you can see a more robust topology.
- Tabs for History and Monitor. History as the log of the deployment and any changes that you make using the actions. Monitor is relevant if you integrate with vRealize Operations Manager.

- Account regions where the resource was deployed.
- Actions that you can run on the selected resource.

10 To understand how the deployment was provisioned, select **Infrastructure > Activity > Requests**, and click the deployment name.



The Request Details provide a graphical view of how the deployment request is processed and provisioned. You can look at the project, the machine, and the network allocation and provisioning to see where the workload was placed.

As you create your infrastructure and blueprints, the request details provide insights that you can use to troubleshoot unexpected behavior or deployment failures.

What to do next

Continue your tour in vRealize Automation Service Broker.

Tour of the Quickstart changes to vRealize Automation Service Broker

vRealize Automation Service Broker is where you provide your users with a catalog of blueprints and other templates that they can deploy to the cloud accounts that you provide. In this part of the tour, you can see what the Quickstart configured for you.

The tour gets you started learning the user interface and understanding some of the tasks you can later perform on your own.

If you run the Quickstart wizard more than once, you will see representative examples for each run as you progress through this tour.

Prerequisites

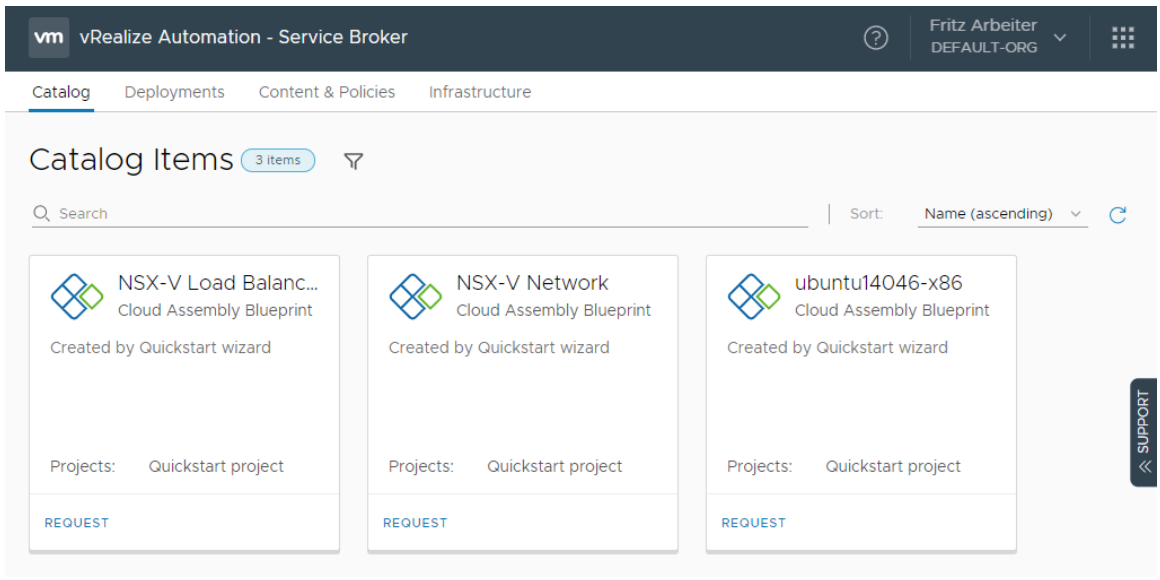
Review the tour of Cloud Assembly. See Tour of the Quickstart changes to vRealize Automation Cloud Assembly.

Procedure

1 To see how your consumers deploy blueprints and other templates, navigate to vRealize Automation Service Broker using the menu in the upper right corner.

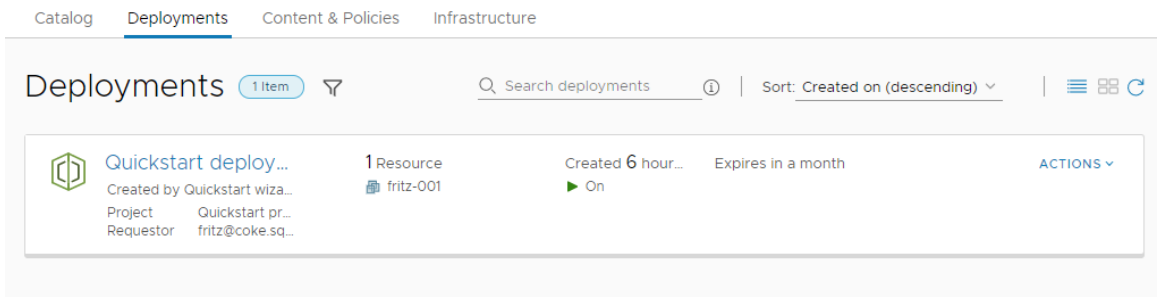
a Click the navigation matrix in the upper right corner.

b Select **Service Broker**.



Notice that the three catalog items are the released blueprints from vRealize Automation Cloud Assembly.

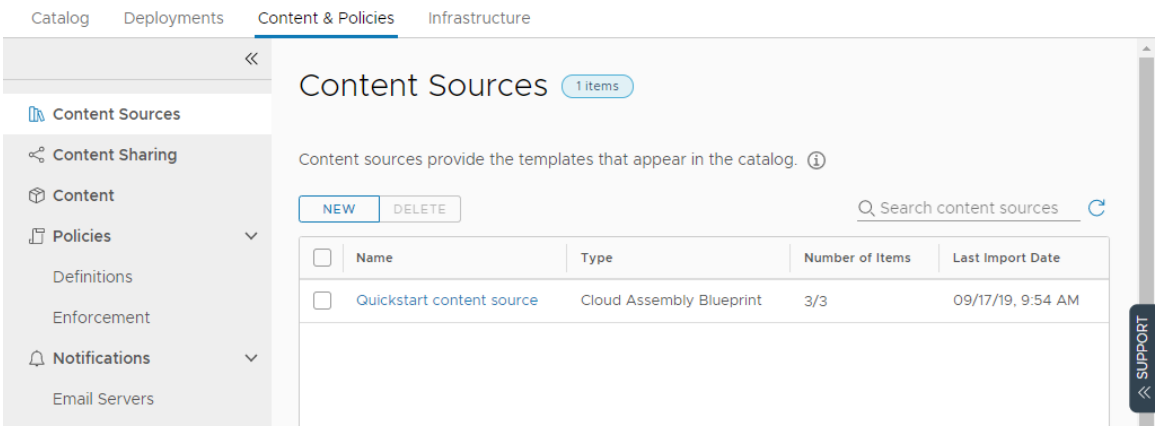
c To see what the Quickstart deployed, click the **Deployments** tab.



Notice that this deployment is the same one that we saw in vRealize Automation Cloud Assembly.

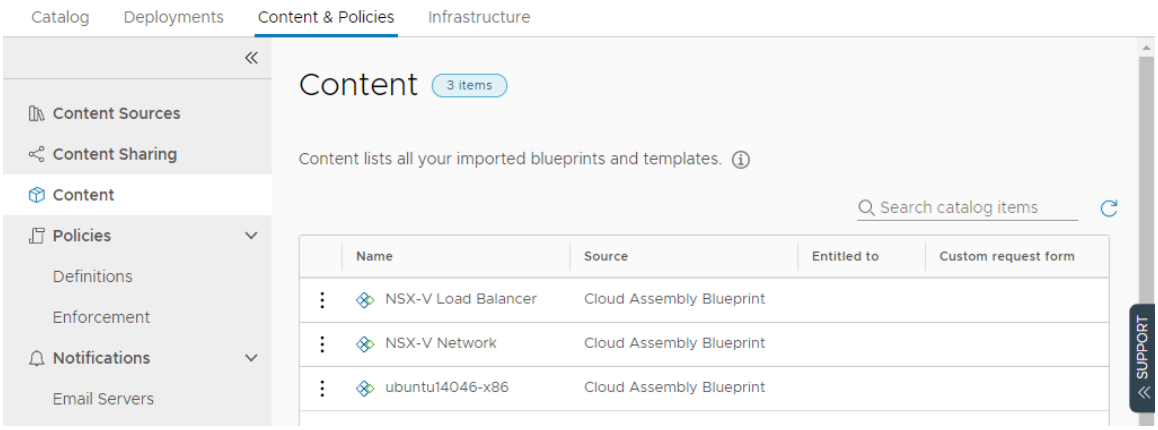
2 To review how Quickstart configured vRealize Automation Service Broker to provide the blueprints in the catalog, select **Content and Policies**.

a Click **Content Sources**.



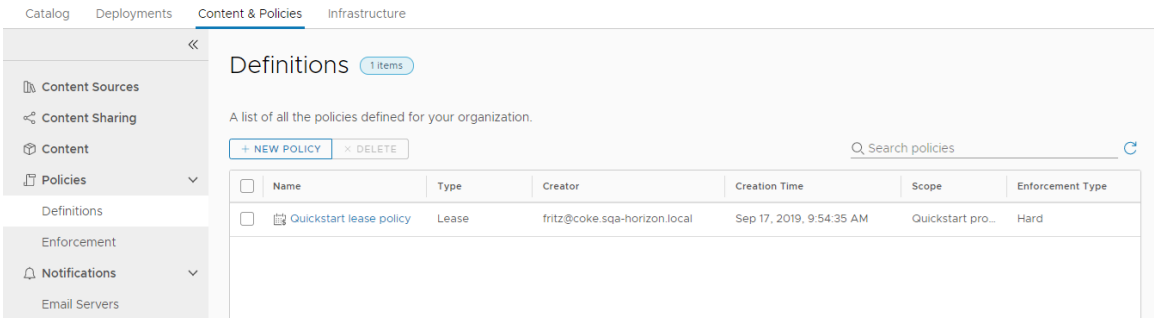
In this case, the Cloud Assembly blueprints are the content source. You can also add Amazon Web Services CloudFormation templates, vRealize Orchestrator workflows, and templates that you want to provide to your consumers.

b Click **Content**.



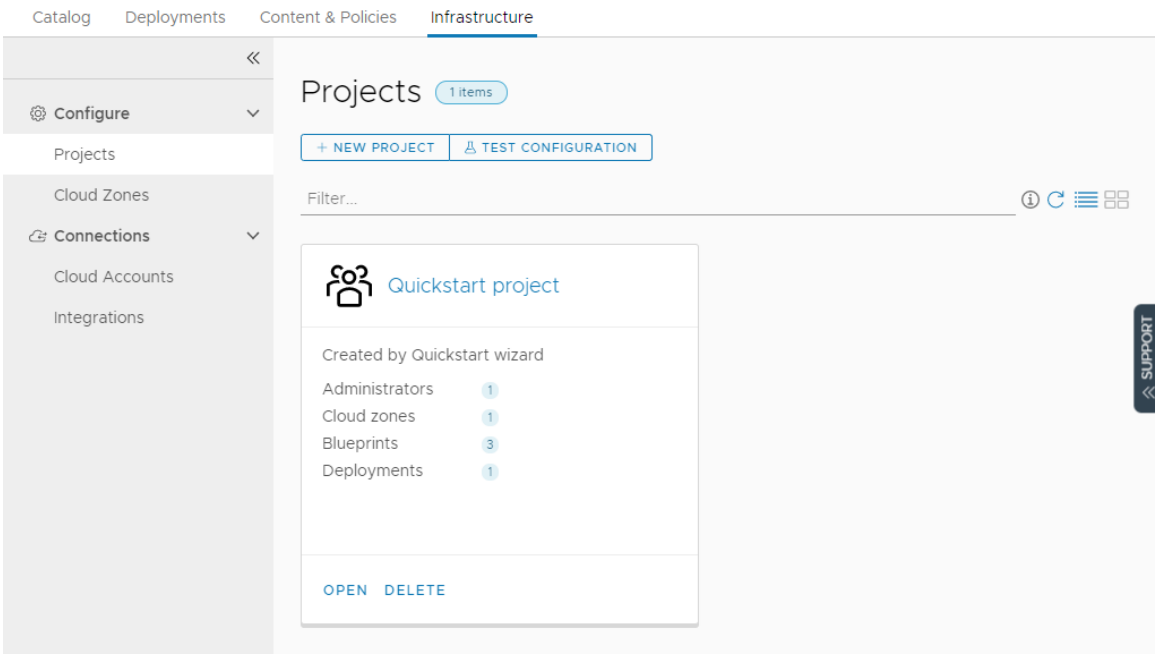
This list is where you see the master list of all the content in vRealize Automation Service Broker, including the blueprints from vRealize Automation Cloud Assembly.

c Select **Policies > Definitions**.



You create and manage policies in vRealize Automation Service Broker, including lease policies that apply to vRealize Automation Cloud Assembly deployments.

d To review the project and the custom name that you created in the Quickstart, and that you saw in the vRealize Automation Cloud Assembly part of the tour, select **Infrastructure > Configure > Projects**.



Notice that only a limited number of the infrastructure options that you saw in vRealize Automation Cloud Assembly are available in vRealize Automation Service Broker. Only the options that you must use to set up the catalog for your consumers are provided.

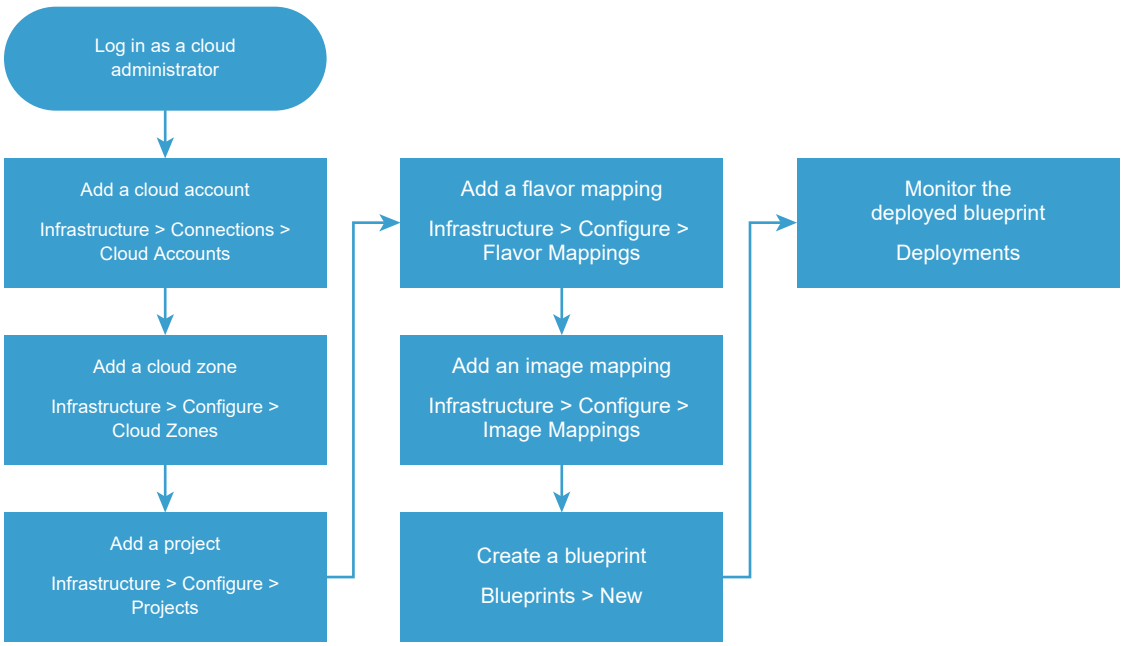
What to do next

To add another cloud account, configure the infrastructure to support it, and deploy a blueprint to support it, use the guided setup. See How do I get started with vRealize Automation Cloud Assembly using the Guided Setup.

How do I get started with vRealize Automation Cloud Assembly using the Guided Setup

To set up and verify your vRealize Automation Cloud Assembly instance, you configure the infrastructure based on the cloud accounts, and then you create and deploy blueprints to ensure that everything is flowing through the system.

This use case helps you, a cloud administrator, through your first time using vRealize Automation Cloud Assembly. You add an Amazon Web Services cloud account and configure the infrastructure related to that account. The infrastructure consists of a cloud account region, a project to link users to the region, and some size and image mapping that you use at deployment time. To test the infrastructure, you next create and deploy a simple blueprint.



To help you with this getting started process, the instructions are available as a Guided Setup in the user interface.

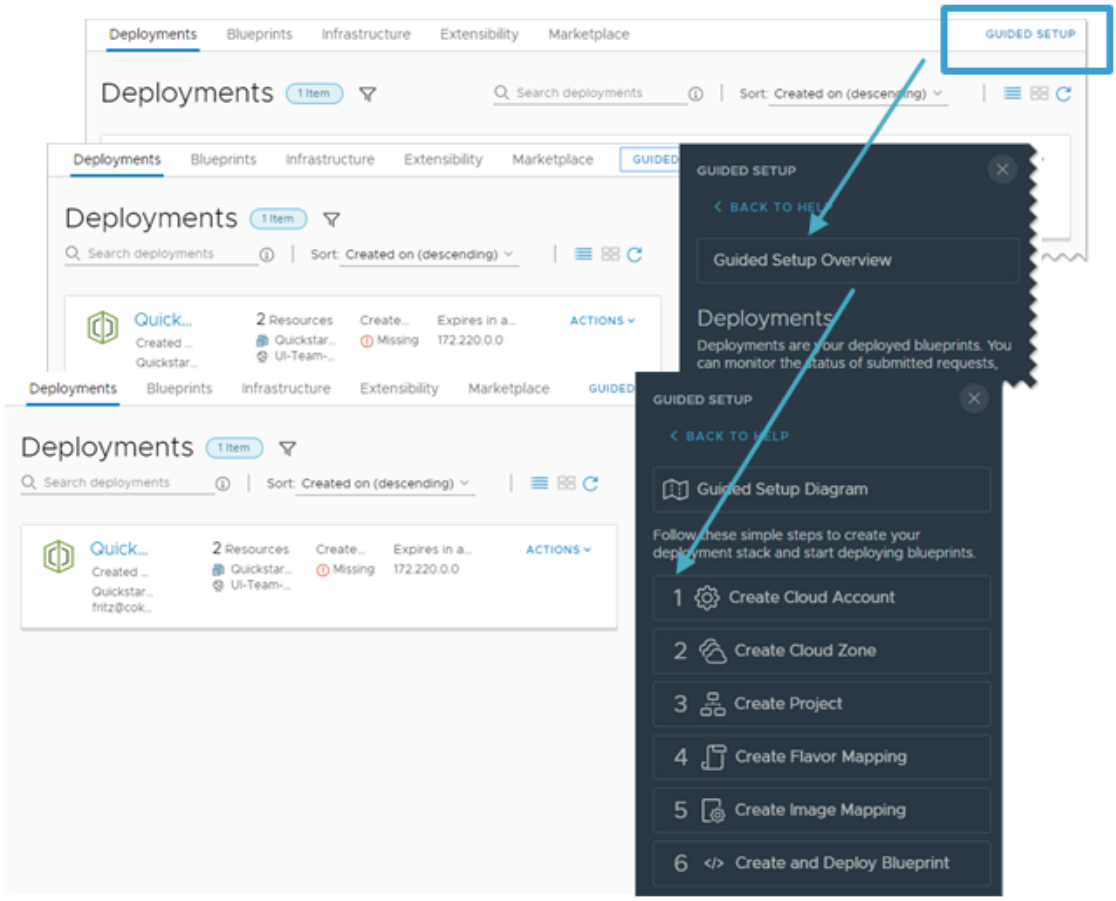
The first time that you log in to vRealize Automation Cloud Assembly, you might encounter the Guided Setup Diagram. The diagram illustrates how the components that you configure process a blueprint at request time. Click **Continue** and configure your cloud account.

Prerequisites

- Log in as a cloud administrator.
- Verify that you have the credentials required to connect to the cloud account. If you have an Amazon Web Services account, consider using those credentials. See Chapter 3 Before you begin with vRealize Automation Cloud Assembly for details.

Procedure

1 Open the **Guided Setup**.



a Click **Guided Setup** on the tab bar.

b In the support panel, click **Guided Setup Overview**.

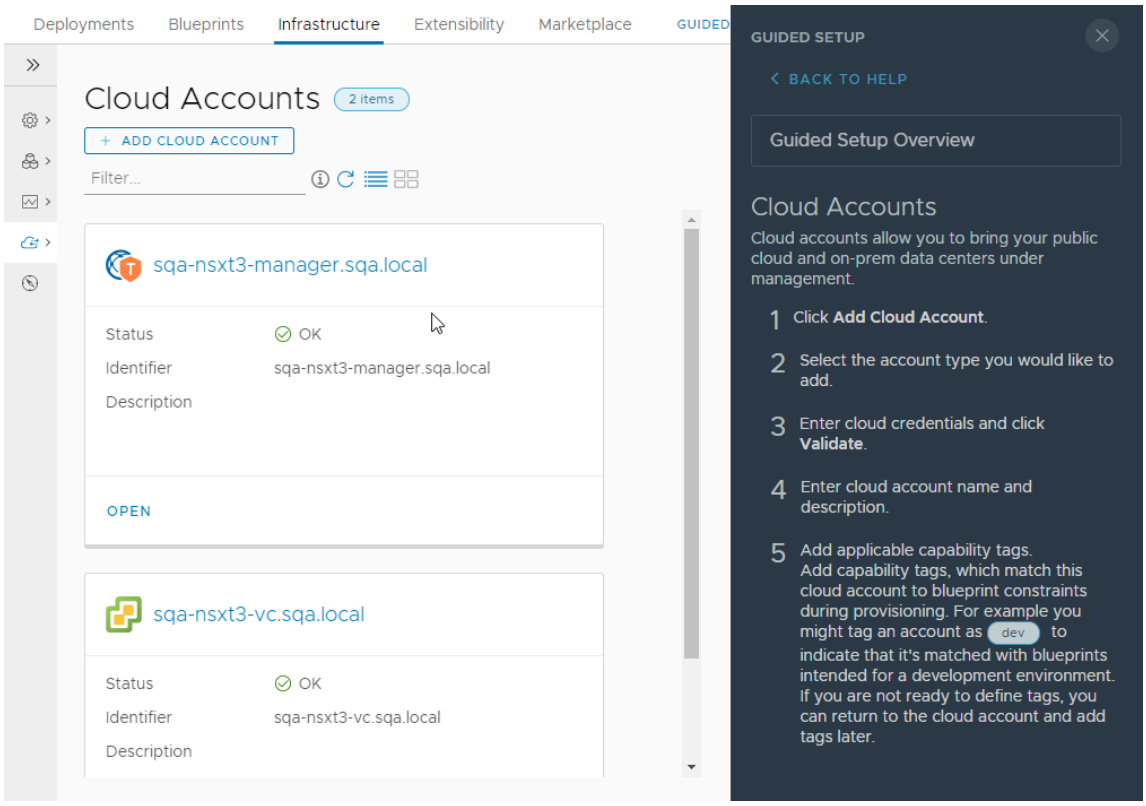
The Guided Setup is context sensitive to the page that you are on in the user interface. The initial Guided Setup topic that opens depends on the page you are on in the user interface. The link to the Guided Setup overview is at the top of each getting started topic.

c In the step list, click **Create Cloud Account** to begin.

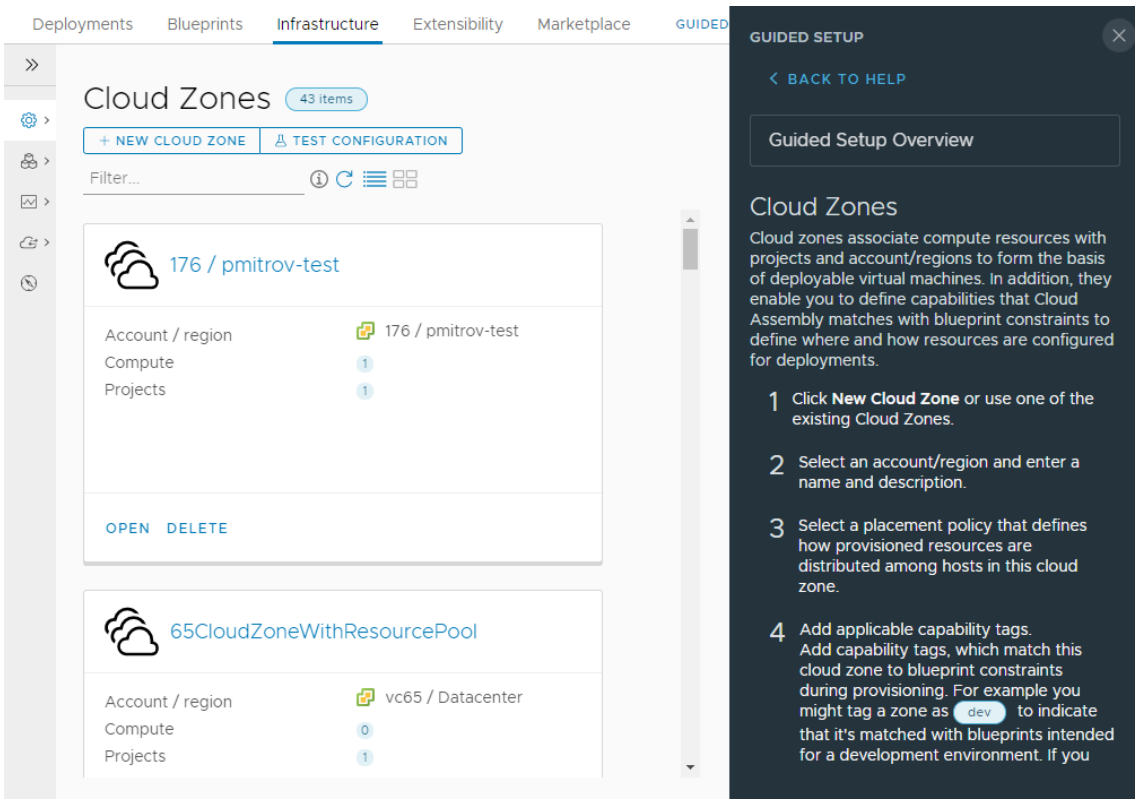
The guided opens the cloud account topic and opens the page in the UI.

Use the information in the support panel and the built in workflow to set up your infrastructure, create a blueprint, and deploy the blueprint.

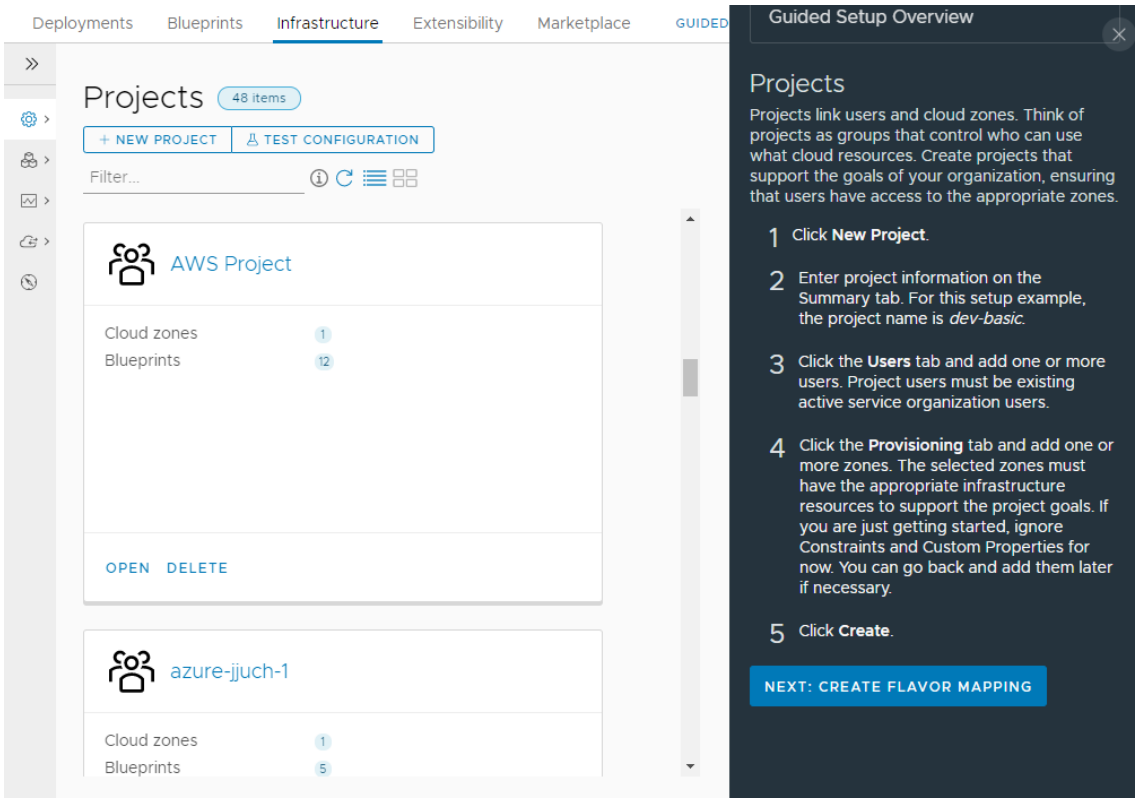
2 Add a cloud account.



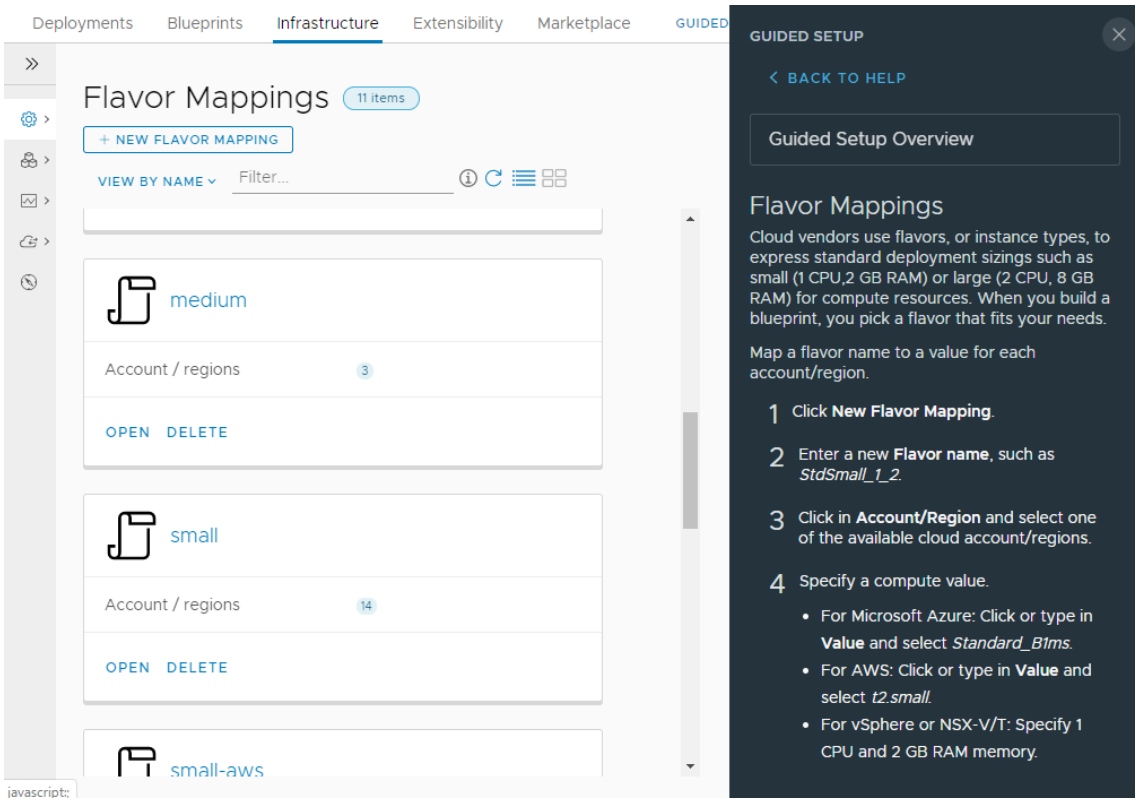
3 Create a cloud zone for one of your Amazon Web Services regions.



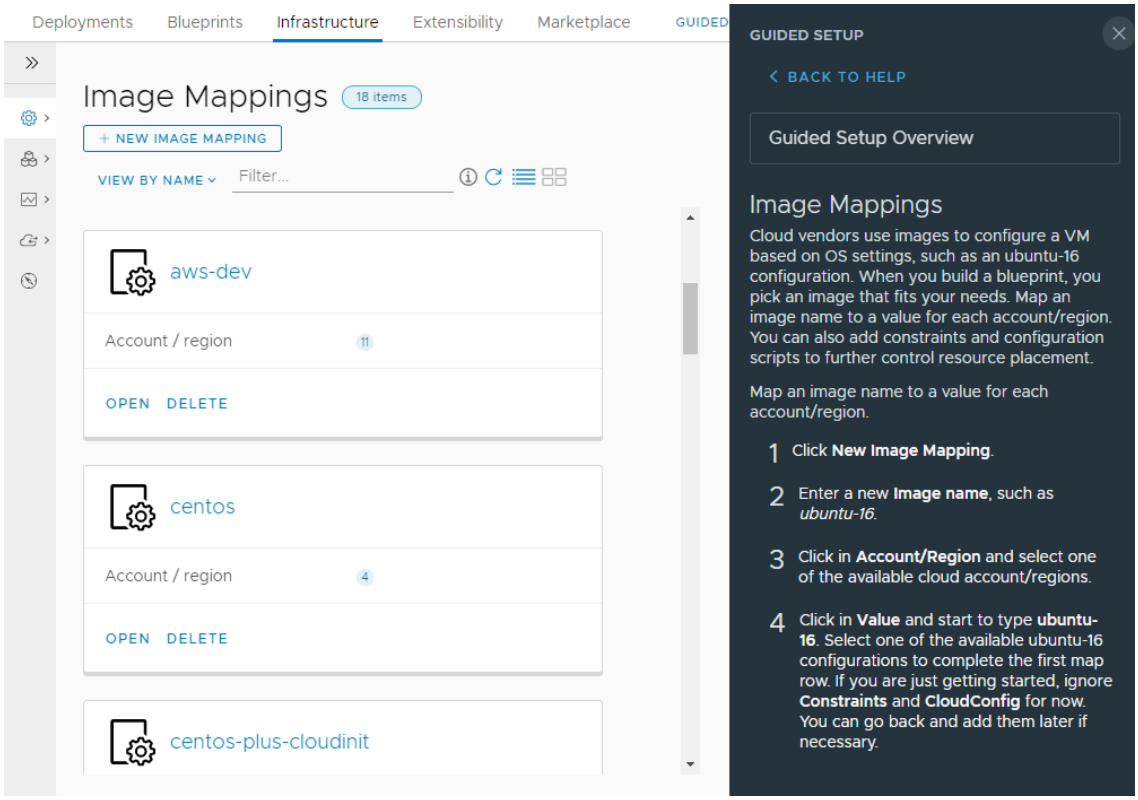
4 Create a project with users and the cloud zone.



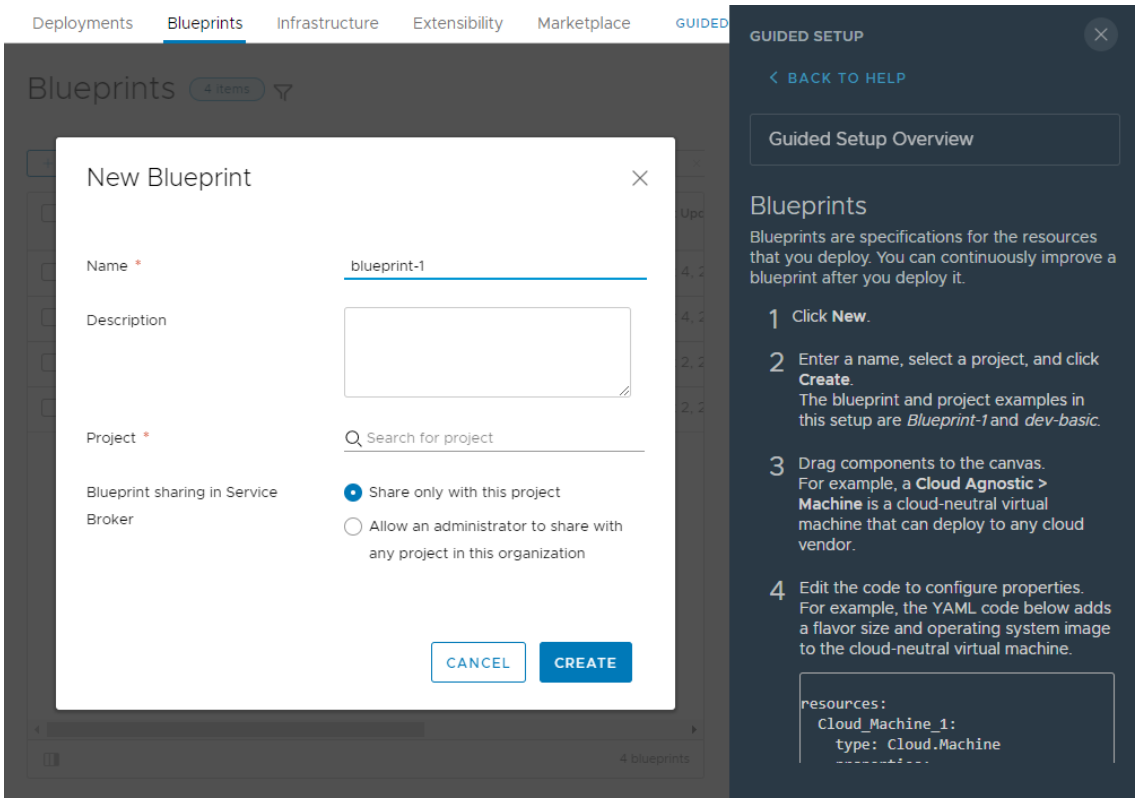
5 Create a `small` flavor mapping.



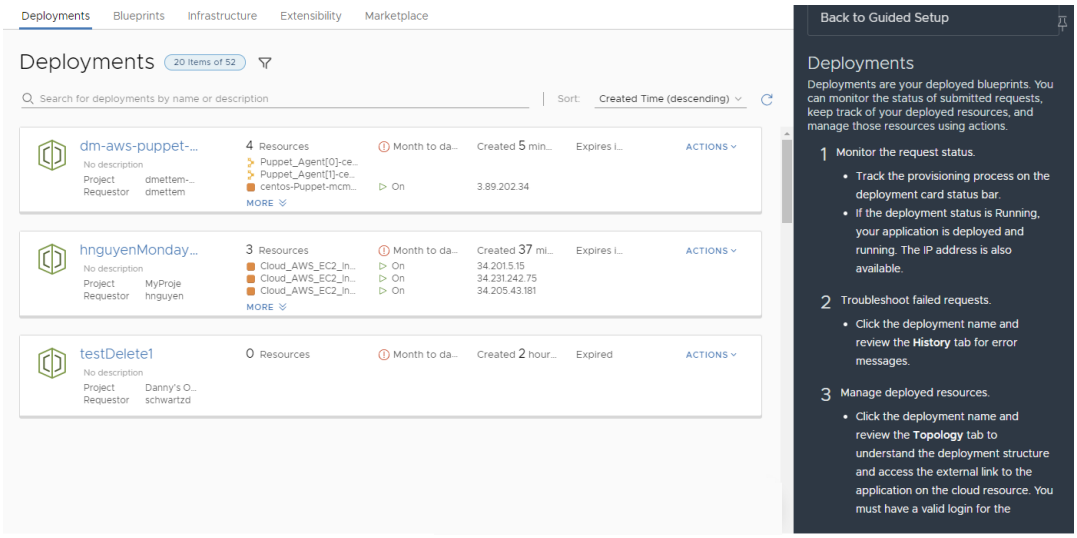
6 Create an `ubuntu-16` image mapping.



7 Create a simple blueprint that deploys a small machine with the ubuntu-16 operating system.



8 Check on your deployed blueprint.



What else can I do with vRealize Automation Cloud Assembly

5

As a cloud administrator, you use vRealize Automation Cloud Assembly to provide blueprints to your developers so that they can deploy blueprints. To manage your cloud resources, you configure the accounts, the regions, the policies, and the projects. If it suits your organization, you can delegate the blueprint creation to project members, or you can create them yourself.

In addition to the following suggestions, you can assign roles to your users. See Administering vRealize Automation.

To learn about...	**See in *Using and Managing vRealize Automation Cloud Assembly*...**
Adding more cloud accounts and integrations.	Setting up Cloud Assembly for your organization
Building out your infrastructure.	Building your Cloud Assembly resource infrastructure
Using projects effectively.	How Do I Set Up Cloud Assembly Projects
Creating a multi-tier blueprint.	The WordPress Use Case
Building blueprints.	How Do I Create and Deploy Cloud Assembly Blueprints
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