



HOL-2501-07-VCF-L
Getting Started

Table of contents

Lab Overview - HOL-2501-07-VCF-L - VCF Automation - Getting Started	4
Lab Guidance	4
Lab Description.....	5
Module 1 - Get Started by Adding your Cloud Environments (15 minutes) Basic	6
Introduction.....	6
Log in to Aria Automation.....	7
Understanding Cloud Accounts.....	12
Reviewing Cloud Accounts and Cloud Zones	13
Conclusion.....	28
Module 2 - Take Quick Actions on your Discovered Resources (15 minutes)	
Basic	30
Introduction.....	30
Introducing the Self Service Catalog	32
Explore The Deployment	37
Working With Discovered Resources	44
Conclusion.....	56
Module 3 - Organize Resources and Users into Projects (15 minutes) Basic	57
Introduction.....	57
Log in to Aria Automation Assembler as holadmin	57
Defining Projects and Users.....	62
Launch the Service Broker as holadmin.....	73
Defining Resource Quota Policy.....	75
Add Cloud Assembly cloud templates to the Service Broker catalog ..	86
Self Service Consumption of a Project with Policy	105
Conclusion.....	118
Module 4 - Create Quick Virtual Machines (15 minutes) Basic	119
Introduction.....	119
Review access and Enable service.....	119
Quick VM Creation	130
Review Day 2 Actions	144
Conclusion.....	155
Module 5 - Onboard Existing Workloads for Day-to-Day Management (15 mintues) Basic	156

Introduction	156
Log into Aria Automation.....	156
Launch the Automation Assembler Service	160
Onboard Existing Workloads	160
Conclusion.....	180
Appendix	182
Hands-on Labs Interface (Windows Main Console).....	182
Hands-on Labs Interface (Ubuntu Main Console)	186

Lab Overview - HOL-2501-07-VCF-L - VCF Automation - Getting Started

Lab Guidance

[2]

Welcome! This lab is available for you to repeat as many times as you want. To start somewhere other than the beginning, use the Table of Contents in the upper right-hand corner of the Lab Manual or click on one of the modules below.

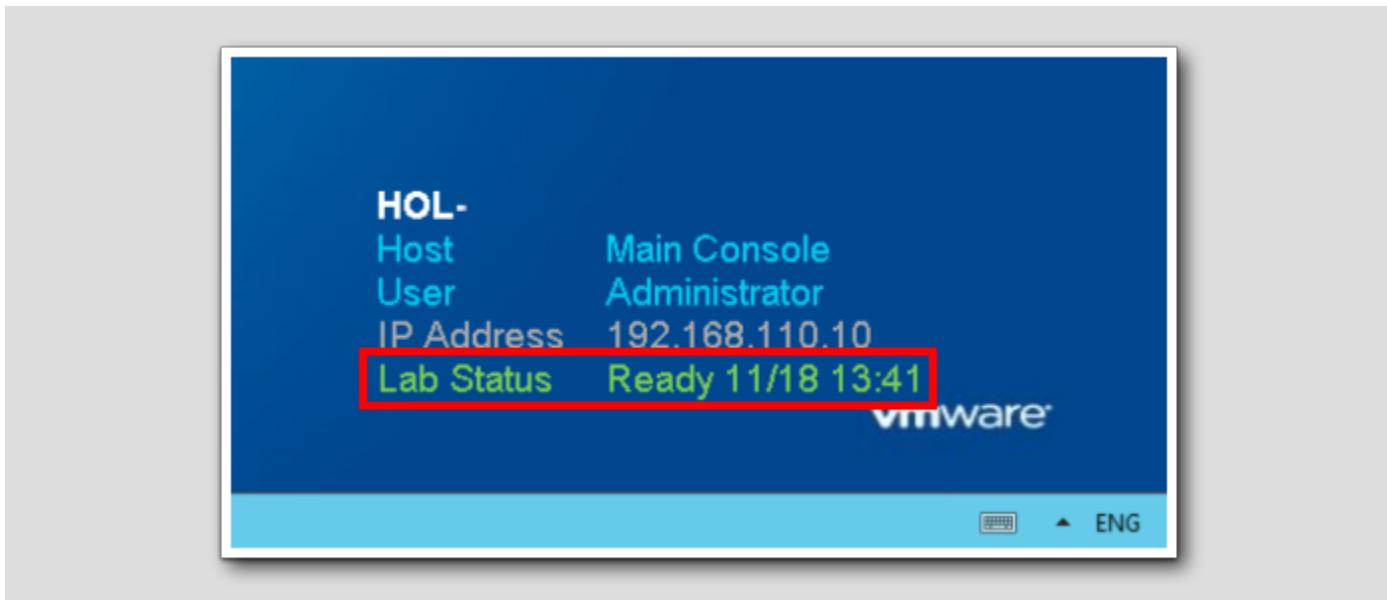
- [Module 1 - Get Started by Adding your Cloud Environments](#) - (15 minutes) (Basic)
- [Module 2 - Take Quick Actions on your Discovered Resources](#) (15 minutes) (Basic)
- [Module 3 - Organize Resource and Users into Projects](#) (15 minutes) (Basic)
- [Module 4 - Create Quick Virtual Machines](#) (15 minutes) (Basic)
- [Module 5 - Onboarding Existing Workloads for Day-to-Day Management](#) (15 minutes) (Basic)

Lab Captains:

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- Module 5 - Sam Aaron, Senior Consultant PS, US

You are ready....is your lab?

[3]



The lab console will indicate when your lab has finished all the startup routines and is ready for you to start. If you see anything other than "Ready", please wait for the status to update. If after 5 minutes your lab has not changed to "Ready", please ask for assistance.

Lab Description

[4]

Use automation to deploy basic workloads and manage resources in your existing environment. Learn how Aria Automation can help your organization free up IT resources by streamlining and ensuring consistent machine deployments for developers and administrators.

Module 1 - Get Started by Adding your Cloud Environments (15 minutes) Basic

Introduction

[6]

In this module, we will login to Assembler as a Cloud Admin's perspective to define a cloud environment to deploy resources in it.

What is Aria Automation?

[7]

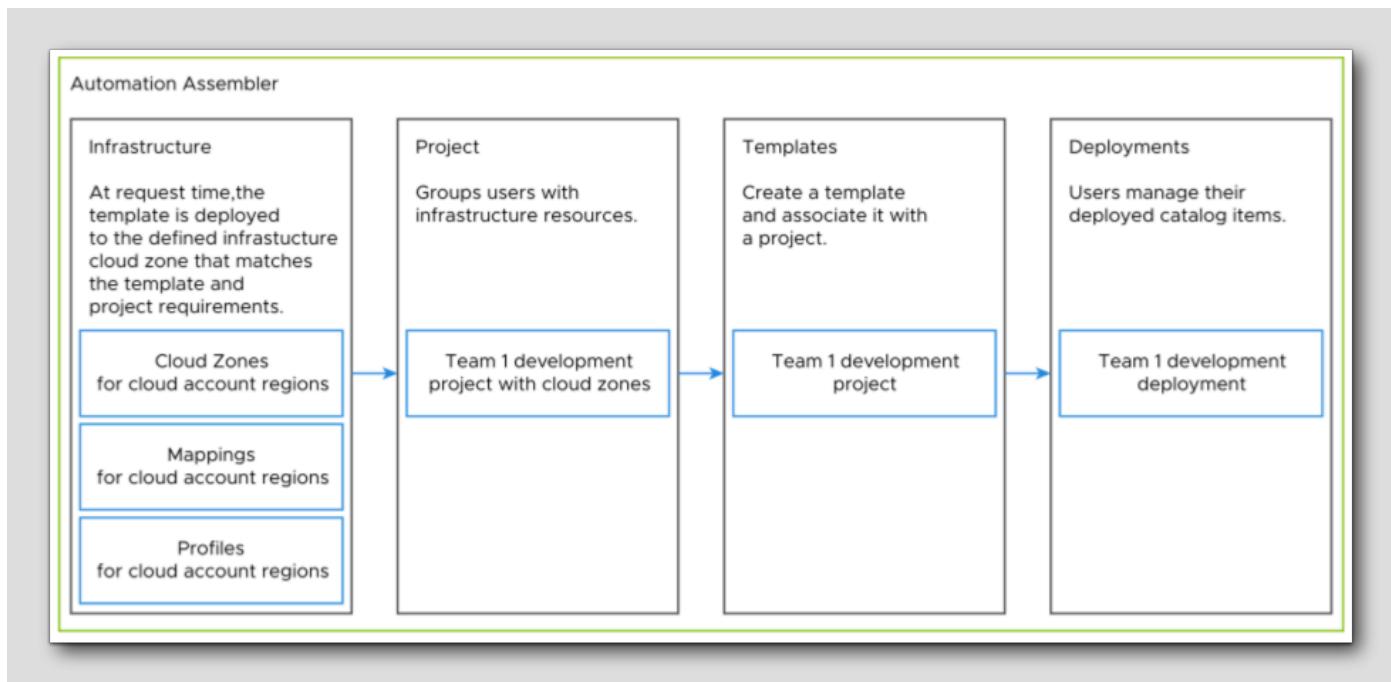
VMware Aria Automation includes 5 primary components:

- **Assembler**, the administration console and blueprinting engine for Aria Automation
- **Config**, modern configuration management and orchestration tool designed to help customers manage their IT infrastructure
- **Orchestrator**, the workflow engine of Aria Automation
- **Pipelines**, the pipeline and release orchestration engine
- **Service Broker**, the catalog for consumption of Aria Automation and other resources

While each component of Aria Automation can be used individually, to get the most out of a deployment, proper configuration of Assembler resources is required. In this module, we will explore the configuration of Assembler resources as a cloud administrator.

Configuring Assembler

[8]



Automation Assembler provides an automation service where your development teams can iteratively develop and deploy VMware cloud templates to designated cloud vendors.

Assembler consists of several resources, including Cloud Accounts and Zones, Image and Flavor Mappings, Network and Storage Profiles. Configuration of these resources allows cloud template designers to consume them. Proper configuration allows cloud templates to use these resources in a cloud agnostic manner - meaning that the same cloud template can be used across multiple clouds without the need to modify them for each specific environment.

Cloud Administrator Persona :

As an Automation Assembler administrator, generally referred as Cloud administrator, you will be able to configure the infrastructure to support template development and deployment. The infrastructure begins with cloud vendors, then you add Automation Assembler users as project members and link them to the cloud account regions as projects. At this point, you can continue to develop templates, or you can turn over development to the project administrators and members.

This module walks us through a Cloud Administrator tasks of onboarding a cloud environment which is intended to use for deployment by configuring the desired Cloud account in the Aria Automation Assembler component. We will be learning about auto discovering of the resources such as virtual machines, networking, and storage after adding your cloud.

To learn more about Aria Automation Assembler, visit [What is Aria Automation Assembler](#).

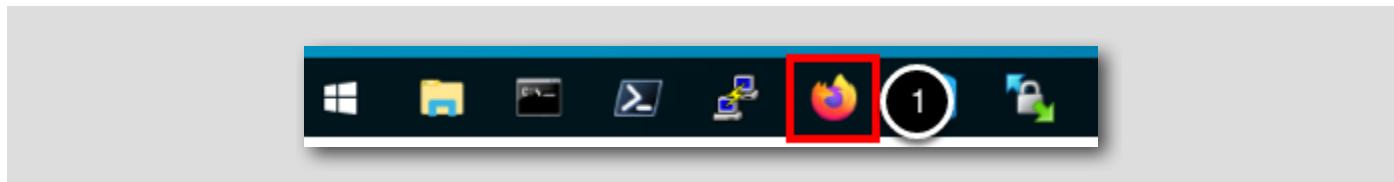
Log in to Aria Automation

[9]

In the following few pages, we will walk through the process for logging in to Aria Automation as the **holadmin** user.

Open the Firefox Browser from Windows Quick Launch Task Bar

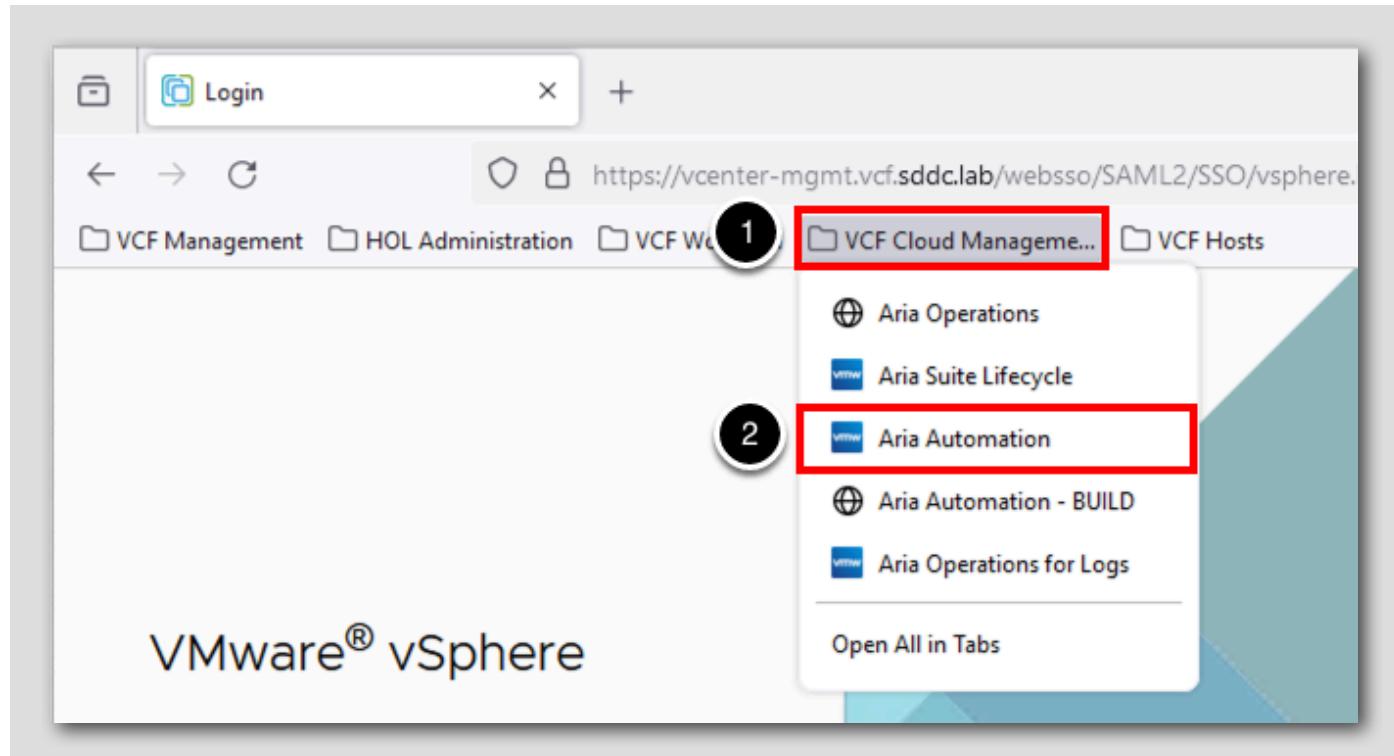
[10]



If the browser is not already open, launch Firefox.

1. Click the Firefox icon on the Windows Quick Launch Task Bar.

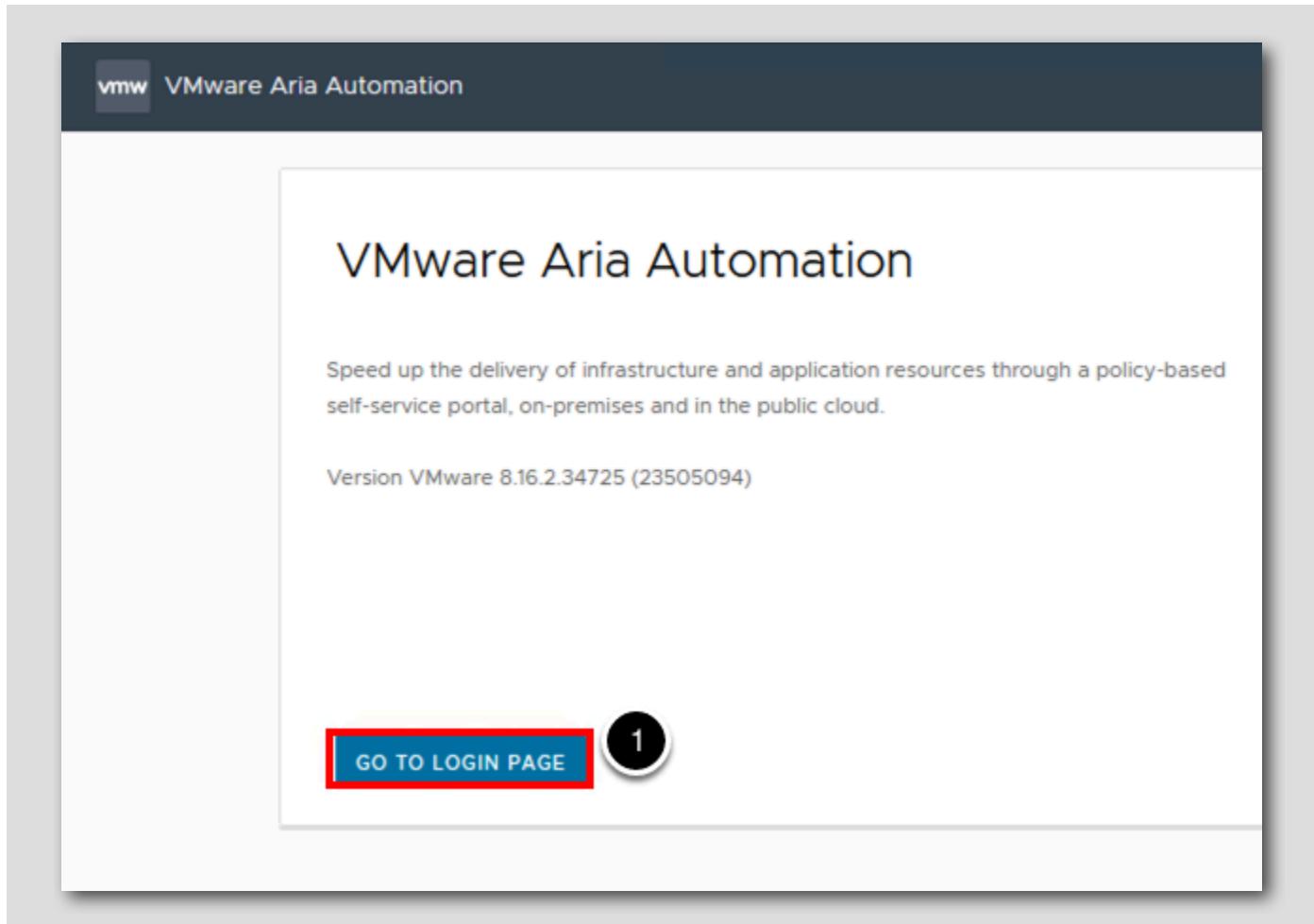
Log in to Aria Automation



Once Firefox has loaded:

1. Click the VCF Cloud Management bookmark folder
2. Click Aria Automation.

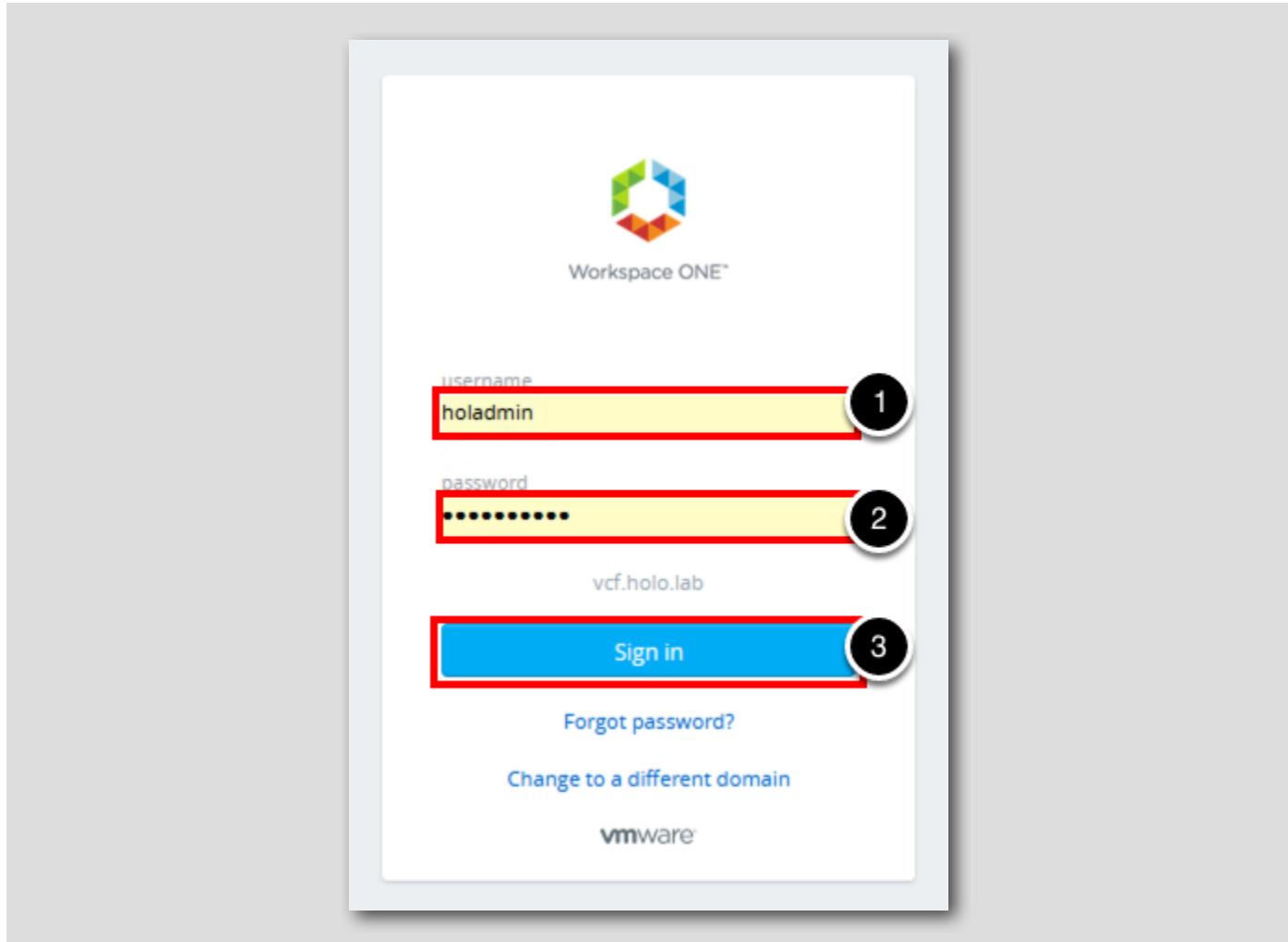
Redirect to Workspace ONE Access for Sign-On



Aria Automation is integrated with Workspace ONE Access (aka VMware Identity Manager) and we need to redirect to the Workspace ONE Access login page to complete our log in progress.

1. At the VMware Aria Automation page, click GO TO LOGIN PAGE.

Workspace ONE Access Login

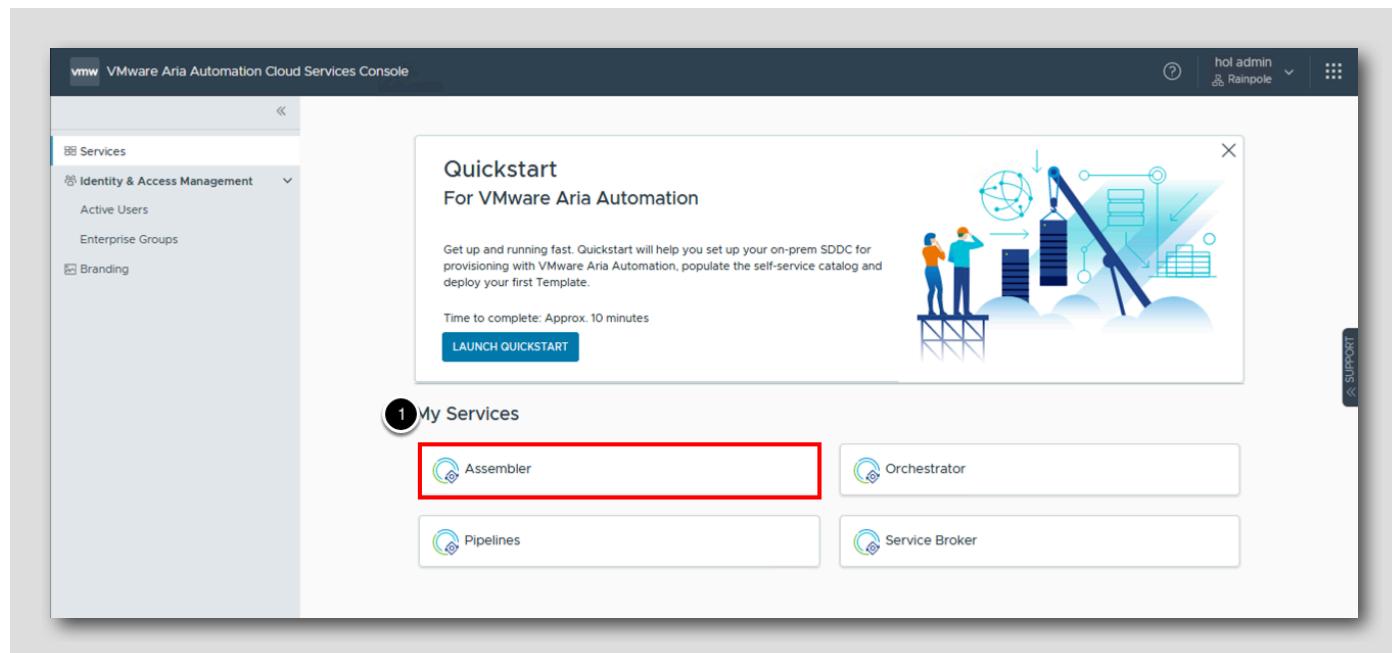


The credentials for **holadmin** should already be cached in the browser window.

At the **Workspace ONE Access** prompt, type in the following user and password information.

1. At the **username** field, type **holadmin**.
2. At the **password** field, type **VMware123!**.
3. Click **Sign in**.

Launch the Aria Automation Assembler Service

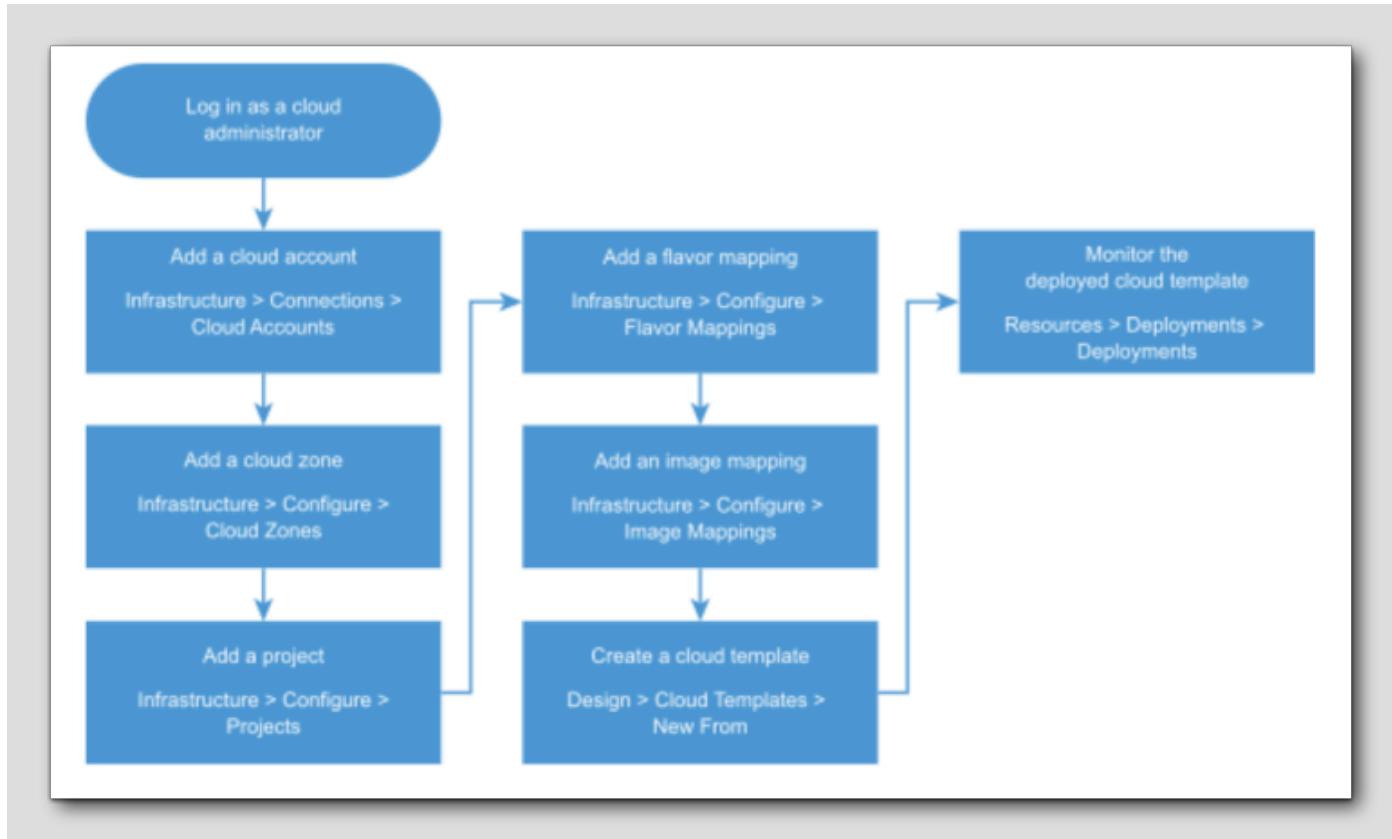


At the Workspace Aria Automation Cloud Service Console prompt, under **My Services**: .

1. Click the **Assembler** service tile.

Understanding Cloud Accounts

Cloud Accounts



Cloud Accounts are the configured permissions that Aria Automation Assembler uses to collect data from the regions or data centers, and to deploy cloud templates to those regions. The collected data includes the regions that you later associate with cloud zones.

When we later configure cloud zones, mappings, and profiles, we select the cloud account to which they are associated.

As a Cloud administrator, we create cloud accounts for the projects in which team members work. Resource information such as network and security, compute, storage, and tags content is data-collected from our cloud accounts.

If the cloud account has associated machines that have already been deployed in the region, you can bring those machines into Automation Assembler management by using an onboarding plan. See [What are onboarding plans in Automation Assembler](#).

If you remove a cloud account that is used in a deployment, resources that are part of that deployment become unmanaged. Some cloud accounts and some integrations require a cloud proxy.

Reviewing Cloud Accounts and Cloud Zones

Navigate to Infrastructure tab

The screenshot shows the Aria Automation Assembler interface. The top navigation bar has tabs: Assembler, CHANG (highlighted with a red box and circled 1), Resources, Design, Infrastructure (highlighted with a red box), Extensibility, Tenant Management, and Alerts. The Infrastructure tab is active. On the left, a sidebar lists sections: Pricing Cards, Terraform Versions, Tags, Onboarding, Resources (with sub-options: Compute, Networks, Security, Storage, Supervisors, Kubernetes), Activity (with sub-options: Requests, Events Log, Audit Log), and Connectors (with sub-option: Cloud Accounts). Step 3 highlights 'Cloud Accounts'. The main content area is titled 'Cloud Accounts' (2 items) and contains two tiles: 'VCF Management NSX' and 'VCF Mgmt vCenter'. The 'VCF Management NSX' tile shows status OK, identifier nsx-mgmt.vcf.sddc.lab, type NSX-T Manager, manager type Local, and NSX mode Policy. The 'VCF Mgmt vCenter' tile shows status OK, identifier vcenter-mgmt.vcf.sddc.lab, type vCenter Server, capability tags cloud:vsphere, and an 'OPEN' button (highlighted with a red box and circled 4).

We are going to review the current cloud accounts configured within the **rainpole** tenant. From with Aria Automation Assembler:

1. Click the **Infrastructure** tab
2. Use the Scroll bar to navigate to the bottom of the list to find Cloud Accounts
3. Click **Cloud Accounts**

Cloud Accounts specify the configured targets for provisioning of Cloud Assembly resources. Here you will see that the Lab already has Cloud Accounts set up for vSphere and NSX

4. Locate the **VCF Mgmt vCenter** tile and click **OPEN** to review the configuration

Review the vSphere Cloud Account Configuration - Status

The screenshot shows the 'VCF Mgmt Center' interface for managing vSphere Cloud Accounts. The main section displays the account status with four numbered callouts pointing to specific details:

- Status**: Shows green checkmarks for completed data collection (1 minute ago) and image synchronization (9 hours ago). A red arrow points from the 'Status' label to the first checkmark.
- Data collection completed 1 minute ago.**: Includes an information icon (circled 1).
- Image synchronization completed 9 hours ago.**: Includes an information icon (circled 2).
- Available for deployment.**: Includes an information icon (circled 3) and a blue 'UPDATE' button.
- Available for Kubernetes deployment.**: Includes an information icon (circled 4).

Below the status section, there are fields for account configuration:

- Type: vCenter Server
- Name: VCF Mgmt vCenter
- Description: (empty text area)

Credentials section:

- IP address / FQDN: vcenter-mgmt.vcf.sddc.lab
- Username: administrator@vsphere.local
- Password: (redacted)

The Cloud Account named **VCF Mgmt vCenter** in this Lab is connected to a **VMware Cloud Foundation** environment.

The first thing we are going to do is confirm the **Status** of the Cloud Account. Under Status we can see:

1. Data collection recently completed successfully
2. Image Synchronization recently completed successfully
3. The endpoint is available for deploying virtual machines workloads.
4. The endpoint is available for deploying Kubernetes-based workloads.

If we clicked **SYNC IMAGES** the endpoint would go to the endpoint and collect information on all available images at that endpoint so we can create more **Image Profiles** or use the images directly in our blueprints.

Validating vCenter Server Credentials

The screenshot shows a configuration dialog for validating vCenter server credentials. The 'Type' is set to 'vCenter Server' and the 'Name' is 'VCF Mgmt vCenter'. The 'Description' field is empty. The 'IP address / FQDN' is 'vccenter-mgmt.vcf.sddc.lab'. The 'Username' is 'administrator@vsphere.local' and the 'Password' is 'VMware123!'. A 'VALIDATE' button is highlighted with a red box. A green success message box says 'Credentials validated successfully.' A red arrow points from step 5 down to the 'VALIDATE' button. Another red arrow points from step 1 down to the 'Description' field.

Available for deployment. (i) **UPDATE**

Available for Kubernetes deployment. (i)

Type vCenter Server

Name * VCF Mgmt vCenter

Description

Credentials

IP address / FQDN: vccenter-mgmt.vcf.sddc.lab

Username *: 2 administrator@vsphere.local

Password *: 3
4 VALIDATE

Credentials validated successfully. X

Configuration

Allow provisioning to these datacenters: 5 mgmt-datacenter-01

NSX Manager VCF Management NSX

Next we are going to do is validate the credentials used to connect this Cloud Account to the vCenter endpoint.

1. Scroll down the page until the Credentials section is visible.
2. At the **username** field, type **administrator@vsphere.local**.
3. At the **password** field, type **VMware123!**.
4. Click **VALIDATE**.

The **administrator@vsphere.local** credentials should be a cached in the browser.

5. The Credentials validate successfully notification should appear.

We only need to VALIDATE an endpoint when we would like to make configuration changes.

Review the vSphere Cloud Account Configuration - Configuration

[21]

The screenshot shows the 'vSphere Cloud Account Configuration' page. The 'Credentials' section contains fields for IP address/FQDN (vcenter-mgmt.vcf.sddc.lab), Username (administrator@vsphere.local), and Password (redacted). A green success message box displays 'Credentials validated successfully.' with a checkmark icon. The 'Configuration' section includes a checkbox for 'Allow provisioning to these datacenters' with 'mgmt-datacenter-01' selected. Below it are fields for 'NSX Manager' (VCF Management NSX) and 'vROps cloud account' (vROPS-Integration). The 'Site Associations' section has a 'Cloud accounts' table with columns for Name, Bidirectional, and Status. Red annotations with numbered circles point to three specific areas: circle 1 points to the 'Credentials validated successfully.' message; circle 2 points to the 'NSX Manager' field; and circle 3 points to the 'Cloud accounts' table.

Finally we are going to review the configuration of the VCF Mgmt vCenter endpoint. Under Configuration, we can see:

1. The endpoint is connected to a single Virtual Datacenter, mgmt-datacenter-01.
2. The endpoint is integrated with an NSX Manager endpoint, VCF Management NSX.
3. The endpoint is integrated with Aria Operations which enables additional information and capabilities.

Review the vSphere Cloud Account Configuration - Configuration

[22]

The screenshot shows the 'Configuration' tab of the vSphere Cloud Account settings. It includes the following details:

- Configuration:** Shows 'Allow provisioning to these datacenters' with 'mgmt-datacenter-01' selected.
- NSX Manager:** Shows 'VCF Management NSX' as the selected endpoint.
- vROps cloud account:** Shows 'vROPS-Integration'.
- Site Associations:** A table titled 'Cloud accounts' with one row labeled 'No association'.
- Capabilities:** Shows 'cloud:vsphere' as a selected capability tag.

Two numbered callouts point to specific elements:

- A red arrow points to the 'No association' entry in the Site Associations table, labeled with a circled '1'.
- A red box highlights the 'CANCEL' button at the bottom of the screen, labeled with a circled '2'.

1. Scroll to the bottom of the page.
2. Click CANCEL.

View Cloud Zones

[23]

The screenshot shows the 'Cloud Zones' page in the VCF UI. On the left, a sidebar lists various configuration options: Settings, Configure, Cloud Zones (highlighted with a red box and numbered 2), Virtual Private Zones, Kubernetes Zones, Flavor Mappings, Image Mappings, Network Profiles (highlighted with a black circle and numbered 1), Storage Profiles, Cluster Plans, Pricing Cards, Terraform Versions, Tags, and Onboarding. The main area displays a single cloud zone named 'mgmt-datacenter-01'. It includes details such as Account / region (VCF Mgmt vCenter / mgmt-datacenter-01), Compute (1), Projects (1), and Capability tags (env:dev, cloud:vSphere). At the bottom of the zone card, there are 'OPEN' and 'DELETE' buttons, with 'OPEN' highlighted with a red box and numbered 3.

1. Use the scrollbar to scroll up to the top of the left menu
2. Click on Cloud Zones
3. Click OPEN to open the existing mgmt-datacenter-01 cloud zone

Review Mgmt-datacenter-01 Cloud Zone Summary Tab

[24]

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

Account / region * VCF Mgmt vCenter / mgmt-datacenter-01

Name * mgmt-datacenter-01

Description

Placement policy * SPREAD

Folder Workloads

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 env:dev X cloud:vsphere X Enter capability tags

1. Click on the **Summary** tab

2. Click on the Placement policy field to view the Placement Policy options, do not change the setting from SPREAD

Placement Policy determines how Aria Automation chooses to deploy workloads. Below provides a definition for each available setting;

- **DEFAULT** - Places compute resources on random hosts.
- **BINPACK** - Places compute resources on the most loaded host that still has enough resources to run the given compute.
- **SPREAD** - Provisions compute resources, at a deployment level, to the cluster or host with the least number of virtual machines. For vSphere, Distributed Resource Scheduler (DRS) distributes the virtual machines across the hosts.
- **SPREAD BY MEMORY** - For public cloud, provisions compute resources, at a deployment level, to the cluster or host with the most amount of remaining free memory. This is the host/cluster with the least amount of allocated memory. For private cloud, provisions compute resources, at a deployment level, to the cluster or host with the smallest ratio of allocated memory to total memory. If all hosts/clusters are empty, the biggest one is prioritize.
- **ADVANCED** - Will place workloads based on Aria Operations recommendations.

4. View the Capability tags. By specifying a capability tag for this cloud zone, we can configure unique identifiers that Cloud Templates can use as constraints. Any deployment of a Cloud Template with a constraint tag of `env:dev` and `cloud:vsphere` will be directed to this cloud zone.

5. Click the **Compute** tab.

Review Mgmt-datacenter-01 Cloud Zone Compute Tab

[25]

Name	Account / Region	Type	Tags
wld-cluster-01	VCF Mgmt vCenter / mgmt-datacenter-01	Supervisor Cluster	compute:workload

The Cloud Zone Compute tab is where we allocate Compute resources for the Cloud Zone from our Cloud Accounts

1. Click the dropdown and review the options for assigning compute resources to the Cloud Zone
 - **Dynamically include compute by tags** - Allows us to dynamically allocate Compute resources based on their tag. In this example we have dynamically added Compute Resources based on the tag `compute:workload`
 - **Include All unassigned compute** - assigns all compute resources that haven't been allocated to a Cloud Zone
 - **Manually Select Compute** - will provide a list of all available compute resources that can be manually selected
2. Click the Projects Tab to view the allocated Projects.

Review the Cloud Zone Projects Tab

[26]

The screenshot shows a user interface for managing projects in a Cloud Zone. At the top, there's a header with a cloud icon, the name "mgmt-datacenter-01", and a "DELETE" button. Below the header, there are tabs: Insights, Summary, Compute, **Projects**, and Alerts. The "Projects" tab is active. A sub-header below the tabs says "Projects that are allowed to provision to this cloud zone." There is a note with a question mark icon: "①". Below this, a table lists a single project: "HOL Project". The table has columns: Name, Description, Priority, Instances, Memory Limit (MB), CPU Limit, and Storage Limit (GB). The "HOL Project" row is highlighted with a red border. At the bottom of the table are buttons for "Manage Columns" and a page number "1". At the very bottom of the interface are "SAVE" and "CANCEL" buttons, with the "CANCEL" button also having a red border.

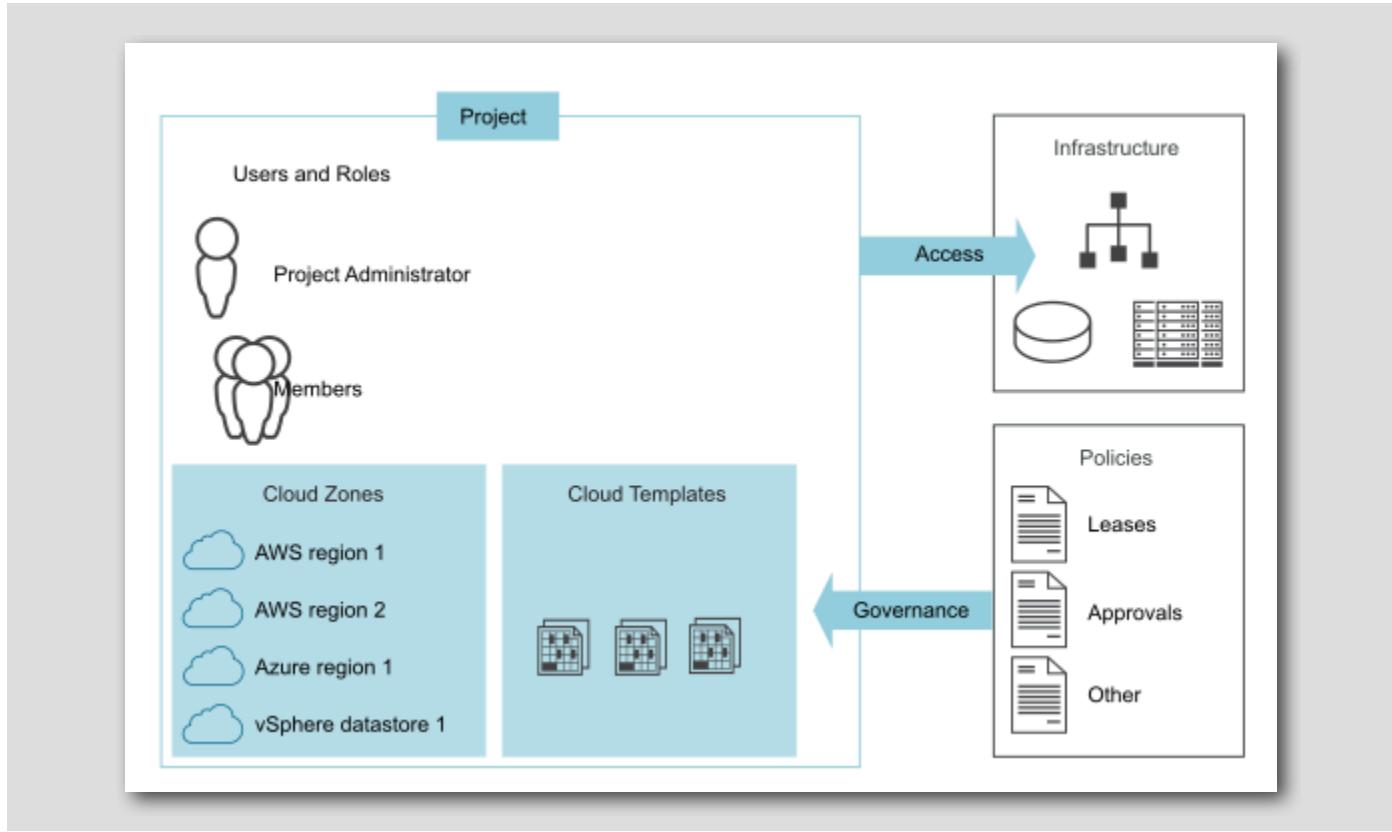
A project determines the following:

- Which cloud zones a particular user or group can deploy to and a priority value .
- The maximum number of virtual machine instances to deploy.
- A maximum amount of memory that the deployment can use.

A project is usually defined for a specific business group or purpose.

1. Take time to review the HOL Project values.
2. Now that we understand Cloud Zones and their relationship to Cloud Accounts. Let's take a closer look at Projects, Click CANCEL

Projects



Projects control who has access to Aria Automation Assembler cloud templates and where the templates are deployed. We use projects to organize and govern what our users can do and to what cloud zones they can deploy cloud templates in our cloud infrastructure.

Cloud administrators set up the projects, to which they can add users and cloud zones. Anyone who creates and deploys cloud templates must be a member of at least one project.

Navigate to New Projects

The screenshot shows the Assembler interface with the Infrastructure tab selected. On the left, there's a navigation sidebar with sections like Administration, Configure, and Kubernetes Zones. The 'Projects' item under Administration is highlighted with a red box and a circled '1'. In the main content area, a 'Projects' section is displayed with a count of '1 items'. A 'HOL Project' card is shown, featuring a user icon, the project name 'HOL Project', and various metrics: Administrators (1), Members (1), Zones (1), Templates (1), Deployments (3), and Price (\$0.57). Below the card are 'OPEN' and 'DELETE' buttons, with the 'OPEN' button also highlighted with a red box and a circled '2'.

Projects are a collection of Users, Cloud Templates, provisioning targets (in the form of cloud zones) and more.

1. Click Projects in the left pane.
2. We will review the HOL Project, Click OPEN.

Review the Project Summary Tab

The screenshot shows the 'HOL Project' summary tab. The 'Users' tab is selected, indicated by a red box and a circled '2'. The 'Name' field contains 'HOL Project', which is also highlighted with a red box and circled '1'. The 'Description' field is empty. Below the tabs is an 'Overview' section with various metrics:

Category	Value
Administrators	1
Members	1
Viewers	0
Supervisors	0
Zones	1
Templates	2
Deployments	2
Kubernetes resources	0
Actions	0
Custom resources	0
Resource actions	0
Secrets	0
Service locks	0
Codestream resources	0
Price	\$1.03

At the bottom are 'SAVE' and 'CANCEL' buttons.

1. The Summary Tab provides information on the Project as well as where we would specify the name of the project.
2. Click on the Users tab.

Review the Project Users Tab

[30]

The screenshot shows the 'Users' tab selected in the top navigation bar of a project configuration interface. The 'Deployment sharing' checkbox is checked. The 'User roles' section lists two users: 'hol admin' (Account: holadmin, Role: Administrator) and 'hol user' (Account: holuser, Role: Member). There are buttons for '+ ADD USERS', '+ ADD GROUPS', and 'X REMOVE'.

Name	Account	Role
hol admin	holadmin	Administrator
hol user	holuser	Member

1. The ADD USERS tab allows us to add users or groups to the Project. Users/groups can be assigned using one of four roles:
 - **Administrator:** Can configure resources in the project
 - **Member:** Can consume resources in the project
 - **Viewer:** Can view resources in the project
 - **Supervisor:** Can approve deployment requests
2. Deployment sharing check box allows all users within the project to access other members deployments. It also allows them to change ownership of the deployment to another member of the project.
3. Click Provisioning to review the Projects provisioning details.

Review Cloud Zones assigned to the Project

The screenshot shows the 'Provisioning' tab for the 'HOL Project'. Under the 'Zones' section, there is a table with one row. The table columns are: Name, Status, Description, Priority, Instances, Memory Limit (MB), CPU Limit, Storage Limit (GB), and Capability Tags. The row contains the following data:

Name	Status	Description	Priority	Instances	Memory Limit (MB)	CPU Limit	Storage Limit (GB)	Capability Tags
mgmt-datacenter-01	--		0	Unlimited	Unlimited	Unlimited	Unlimited	env.dev, cloud:vSphere

Annotations with circled numbers 1 and 2 point to the 'Storage Limit (GB)' column and the 'Capability Tags' column respectively.

A Cloud Zone mgmt-datacenter-01 has already added to the HOL Project project.

1. The Provisioning Tab is where we would add the Cloud Zones that we would like to allocate to the Project along with defined limits that we can put in place to determine priority, the number of instances that can be deployed, Memory Limits, CPU Limits and Storage Limits. Note that for vSphere cloud zones, resource limits can be set for CPU, memory, and storage, but for public cloud zones, only CPU and memory limits are available.
2. Users in this project will be able to use the tags applied to each cloud zone in their Cloud Templates to direct deployments to specific cloud zones. Scroll down to see the rest of the Provisioning configuration options (Not Shown)

Additional Provisioning Properties

Custom Naming

Specify the naming template to be used for machines, networks, security groups and disks provisioned in this project.

Template `$(resource.name)-$(####)`

Hint: Avoid conflicting names by generating digits in names. \$(#####)

Request Timeout

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

Timeout 100m

Cloud Zone Mapping for Template Terraform Resources

Allow Terraform resources to deploy to cloud zones in this project. Associated cloud account credentials will be securely shared with the Terraform runtime engine.

Allow terraform cloud zone mapping

SAVE CANCEL 1

In addition to specifying cloud zones, priority, and optional limits per cloud zone, project provisioning can do the following:

- Apply tags to deployed resources
- Include specific constraints for network, storage, and extensibility configuration
- Apply custom properties to requests
- Specify a project-specific custom naming standard for deployed objects
- Set a project-wide request timeout for deployments that need more than the default 2 hours
- Allow Terraform resources to deploy to Cloud Zones in this project

1. Click CANCEL to close the project without making changes

In the next lesson we will cover how to add a new project to the above Cloud Account and Cloud Zone

Conclusion

In this module we explored the configuration of Cloud Assembly resources:

- We reviewed Cloud Accounts, Cloud Zones and how they relate to one another

Congratulations on completing the lab module.

If you are looking for additional information, see:

- How does Automation Assembler work
- Building Your Resource Infrastructure

From here you can:

1. Continue with the next lab module
2. Click [vlp:table-of-contents] Show Table of Contents] to jump to any module or lesson in this lab
3. End your lab and return in the future

You've finished the module

[34]

Module 2 - Take Quick Actions on your Discovered Resources (15 minutes) Basic

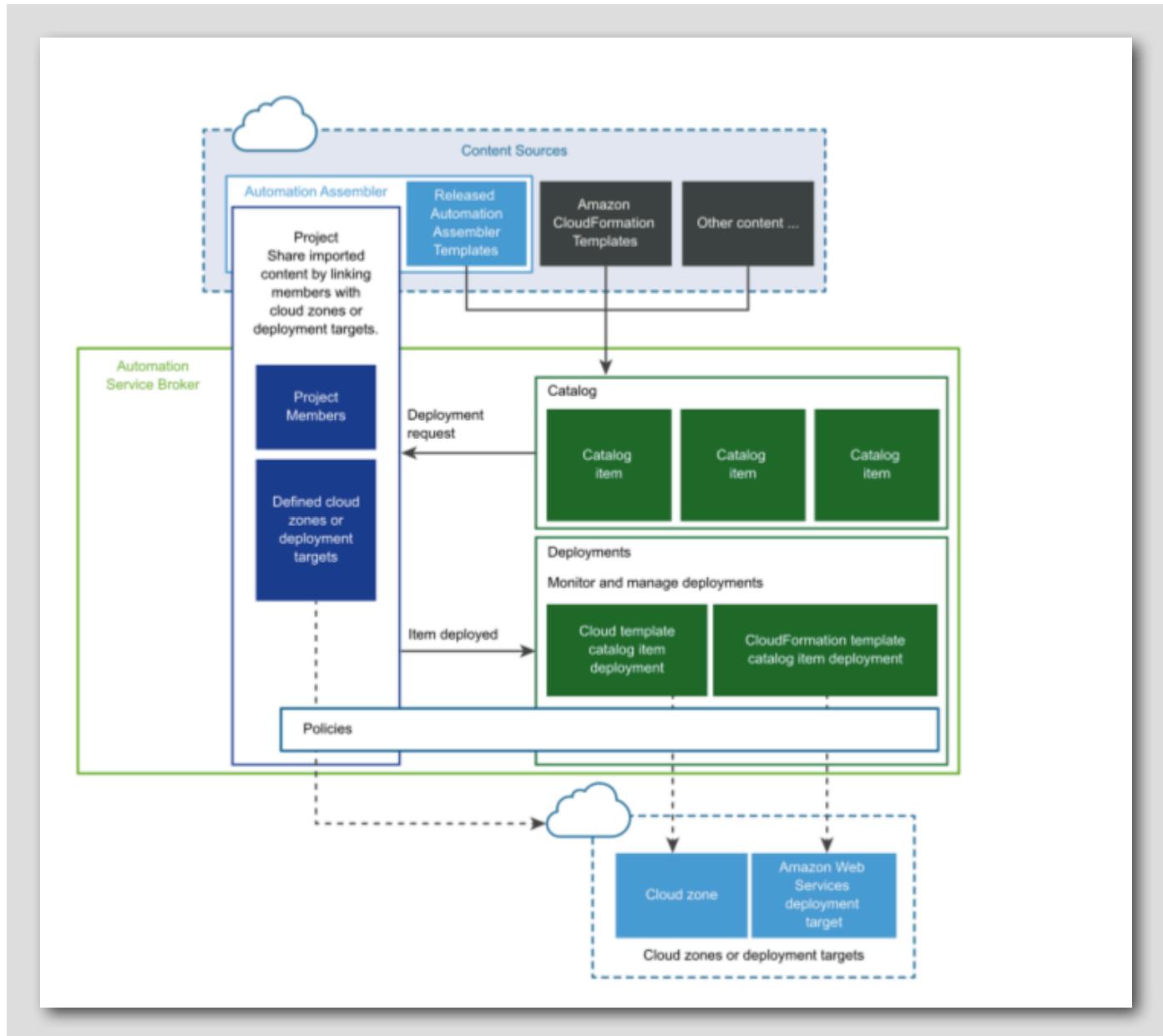
Introduction

The Aria Automation Service Broker provides a single interface where catalog items can be requested and managed.

In this module we will cover the following topics:

- Introduction to Aria Automation Service Broker
- Approval workflow of a deployment
- Exploring deployments
- Performing Day2 Actions

Aria Automation Service Broker



The Aria Automation Service Broker provides a single point where we can request and manage catalog items. We use Aria Automation Service Broker to deploy Automation Assembler Templates to cloud regions or datastores associated with projects.

As a Cloud administrator, you create catalog items by importing released Aria Automation Cloud Assembly Cloud Templates and Amazon Web Services Cloud Formation templates that your users can deploy to your cloud vendor regions or datacenters.

As a user, we can request and monitor the provisioning process. After we deploy catalog items, we can run actions in Automation Service Broker to modify and manage the resources that are discovered. The available actions depend on the resource type and whether the action is supported on a particular cloud account or integrated platform.

All content was published for our Service broker user (HOLUser) by the Cloud Administrator. In the next lesson, we will explore Aria Automation Service Broker as a user to explore the Service Catalog and discovered resources.

To learn more, visit <https://docs.vmware.com/en/VMware-Aria-Automation/SaaS/Using-Automation-Service-Broker/GUID-8DDBB69B-6316-40FC-B584-C4F89643FA27.html>

Introducing the Self Service Catalog

[38]

In this lesson, we will use the Service Broker from a user's perspective to request a service from the Catalog.

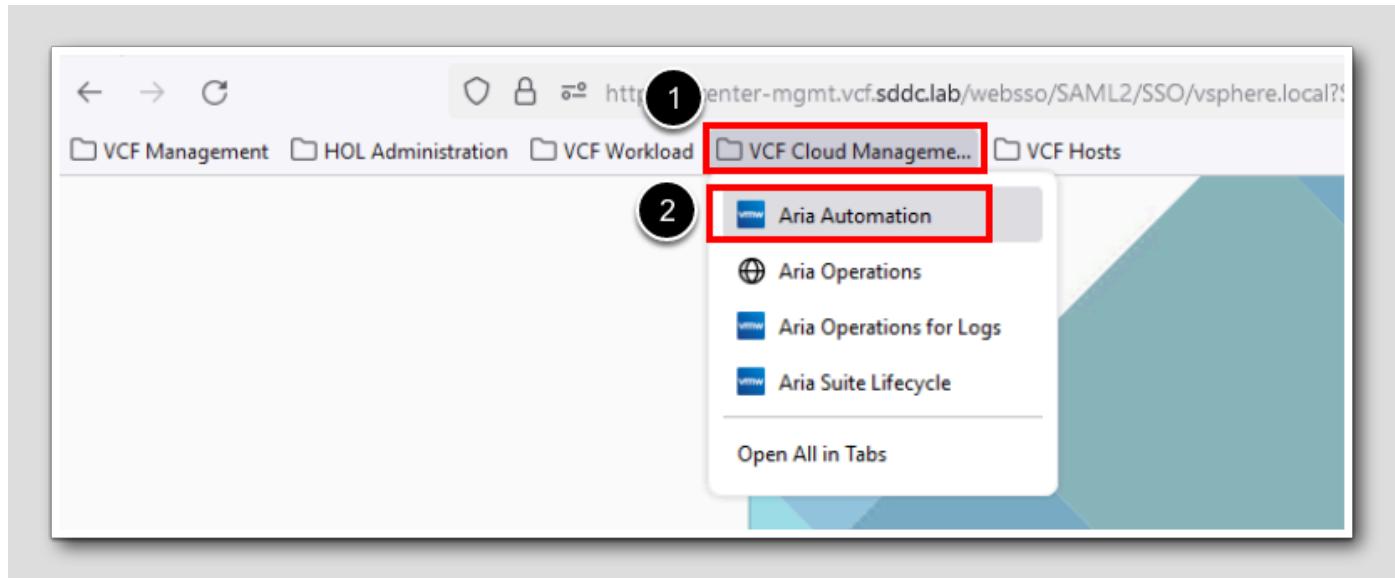
LAUNCH FIREFOX

[39]



1. Click on the Firefox icon from your desktop bar

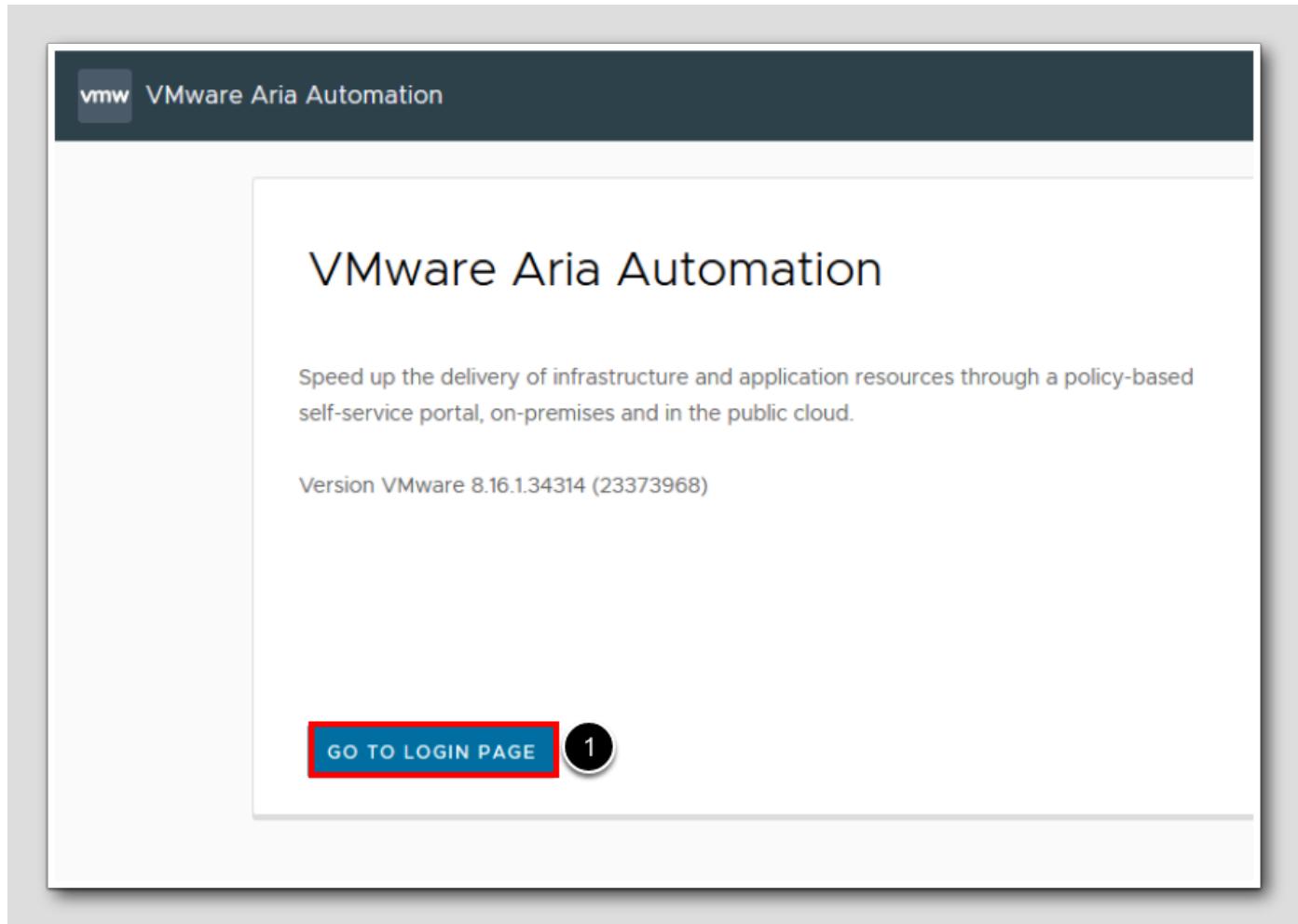
LAUNCH ARIA AUTOMATION



From within the Firefox web browser :

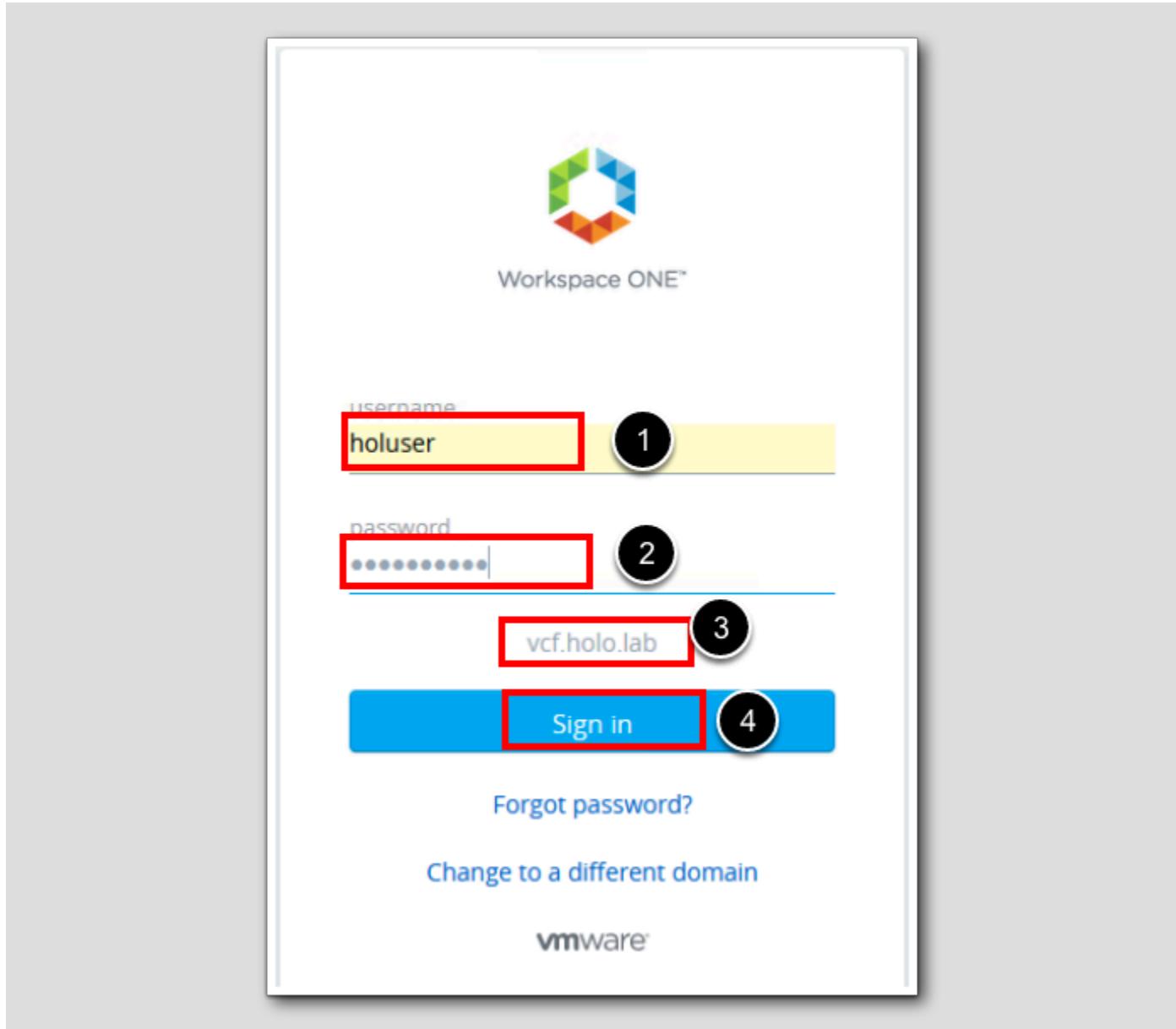
1. Click VCF Cloud Management from the bookmarks bar
2. Select Aria Automation from the dropdown

GO TO LOGIN PAGE



1. Click GO TO LOGIN PAGE

LOG IN TO ARIA AUTOMATION



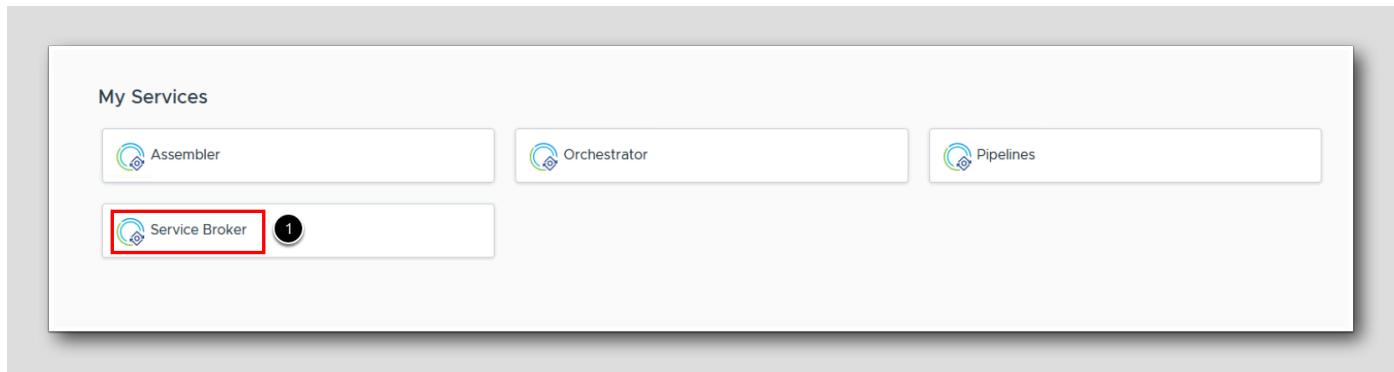
At the Workspace ONE login screen:

1. Enter holuser into the username field.
2. Enter VMware123! into the password field.
3. Make sure vcf.holo.lab is the domain. If you see a different domain, Click on Change to a different domain to change it.
4. Click Sign In

IMPORTANT: The username will autofill with the holadmin account. You must change it to holuser for this lesson.

LAUNCH THE SERVICE BROKER SERVICE

[43]

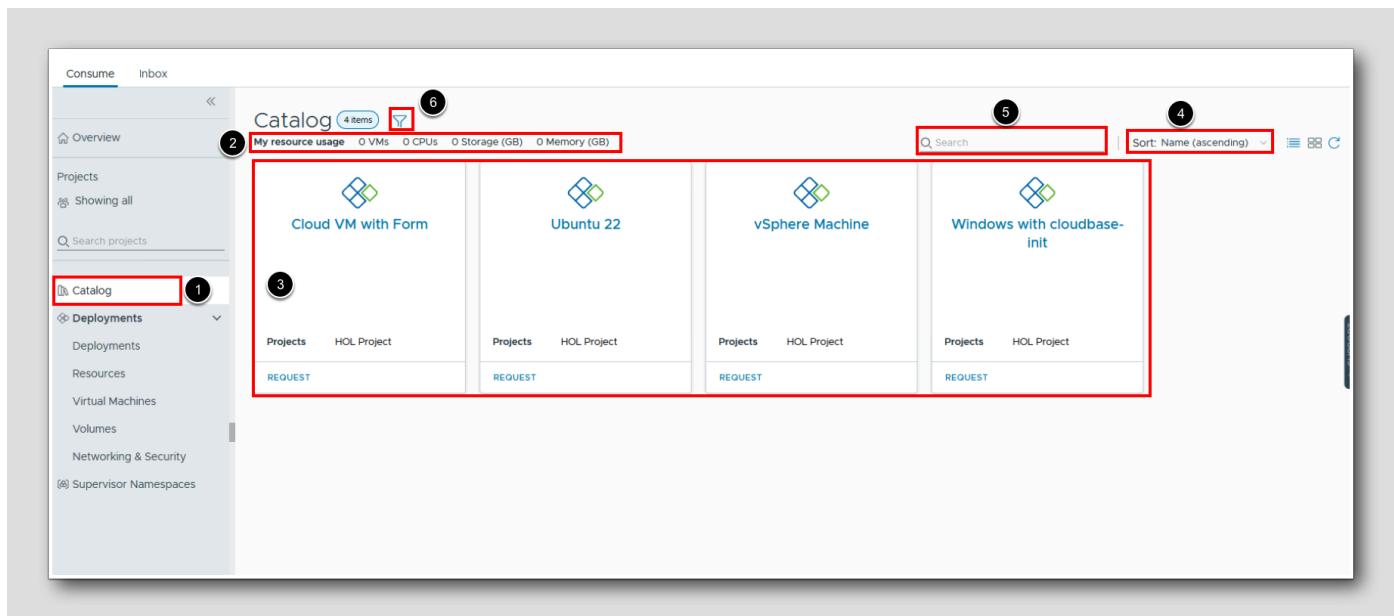


After logging into Aria Automation we arrive at the Cloud Services Console. Under My Services you will find a list of services that this user has been entitled to.

1. Click the Service Broker service.

REVIEW THE CATALOG

[44]



Let's first review the Catalog interface before moving on to requesting a service;

1. Click Catalog to ensure that you are looking at the Catalog view. Note the additional menu items; Deployment and Resources.

We will take a look at these later in this module.

2. My Resources Usage provides information on current resources utilised by this user

3. Available Catalog Items are displayed as tiles, note the details provided on each tile

4. Catalog items can be sorted by utilising the Sort: drop down menu

5. The Search box provides the ability to search catalog items by text. Feel free to type some text to see how the tiles change.

For example, type "machine" in the Search box and hit <Enter> to see all catalog items with the word machine included

6. Click the Filter icon to open the filtering options panel

Review the filters available in the panel on the left (not shown in the above image). Click through the filters to view how the tiles change.

Explore The Deployment

[45]

In this lesson, we will explore a deployment in Service Broker from a user's perspective. We will review the detailed information available to the user from directly within the Aria Automation interface.

REVIEW DEPLOYMENTS

[46]

Name		ACTIONS
Resize Me		
hol-windows		
hol-linux		

Resource Name	Address	Status	Resource Type
ubuntu-000308	10.64.12.10	Off	Cloud vSphere.Machine
hol-prod			Cloud vSphere.Network

Take note of the details available from the Deployments interface :

1. Click the **Deployments** tab.
2. Click the **Arrow** to expand hol-linux.
3. Note that **the resources** within the deployment are shown - in this case one virtual vSphere machine and one vSphere network.
4. Click the **3 dots** next to the hol-linux deployment.

Here we can view the list of day-2 actions available for a deployment:

- **Change Lease** - allows us to change the lease duration for the deployment
- **Change Owner** - allows us to change ownership of the deployment
- **Change Project** - allows us to change the project of the deployment. Resource quotas, policies, and constraints will change to match the ones of the target project
- **Delete** - will delete the deployment
- **Edit Deployment** - allows us to edit the deployment values
- **Edit Tags** - allows the Tags assigned to the deployment to be modified
- **Power Off** - will power off all the resources of the deployment
- **Rebuild VMs** - will allow us to rebuild the vm of the deployment. It will wipe their disks and detach any first class disks, while keeping their content.
- **Power On** - will power on all the resources of the deployment
- **Update** - will allow us to update the deployment

REVIEW RESOURCES

Name	Resource Type	Deployment	Account / Region	Project	Created On
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	a day ago
ubuntu-001202	Cloud.vSphere.Machine	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	a day ago
ubuntu-001202-boot-disk	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	a day ago
hol-prod	Cloud.vSphere.Network	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	a day ago
windows-000906-boot-disk	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	6 days ago
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	6 days ago
windows-000906	Cloud.vSphere.Machine	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	6 days ago
hol-prod	Cloud.vSphere.Network	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	6 days ago
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	10 days ago
ubuntu-000308	Cloud.vSphere.Machine	hol-linux	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	10 days ago
ubuntu-000308-boot-disk	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datcenter-3	HOL Project	10 days ago
hol-prod	Cloud.vSphere.Network	hol-linux	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	10 days ago

Aria Automation allows us to view and manage our deployments either by deployment name or by the resources which have been deployed.

1. In the left pane, select Resources
2. By default ,all of the resource types are shown in the resource list. We can use the RESOURCE TYPE drop-down menu to narrow the list down to a specific set of resource types. Review the resource types available to select or deselect.
- 3.Click on the filter icon to view what filters are available

REVIEW FILTERING RESOURCE TYPES

The screenshot shows the vSphere Web Client interface. On the left, there's a sidebar with 'Consume' and 'Inbox' tabs, followed by sections for Overview, Projects, Catalog, and Deployments. Under Deployments, 'Resources' is selected. The main area is titled 'Resources' and lists 22 resources. The columns are Name, Resource Type, Deployment, Account / Region, Project, Origin, Tags, and Create On. Each resource entry includes a 'Resize Me' link and a small icon. At the top of the resources list, there's a search bar labeled 'Search resources'. To the right of the search bar is a 'RESOURCE TYPE' dropdown and a refresh button. On the far right, there's a 'Manage Columns' button and a 'Resources per page' dropdown set to 20. The bottom right corner shows '1 - 12 of 12 resources'. The filter pane on the left has three numbered callouts: 1 points to the 'CLEAR ALL' button, 2 points to the search bar, and 3 points to the '<<' button.

1. Use the **arrows** to expand each filter category. We can filter resources based on Resource Origin or Resource tag or Cloud Type or Cloud Account they belong to
2. We can use the **search bar** to search for a particular resource
3. Click **<<** to close the Filter pane

REVIEW THE RESOURCE DAY 2 ACTIONS

Name	Resource Type	Deployment	Account / Region	Project	Origin	Tags	Created On
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-r-3	HOL Project	Deployed		a day ago
Add Disk	Cloud.vSphere.Machine	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed		a day ago
Attach SaltStack Resource	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-r-3	HOL Project	Deployed		a day ago
Change Security Groups	Cloud.vSphere.Network	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed		a day ago
Connect to Remote Console	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-r-3	HOL Project	Deployed		6 days ago
Create Snapshot	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-r-3	HOL Project	Deployed		6 days ago
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-r-3	HOL Project	Deployed		6 days ago
windows-000906	Cloud.vSphere.Machine	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed		6 days ago
hol-prod	Cloud.vSphere.Network	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed		6 days ago

1. Click the 3 dots next to the ubuntu-*** resource. Here, we are presented with a list of Day 2 actions that we can perform against the machine. We can manage the available options utilising Policies. Note that the menu actions for a resource are different from those we saw earlier for the deployment.

2. Click Deployments to return to the deployments view

OPEN THE DEPLOYMENT

Name	Owner	Project	Status	Expires on	Price	Created on
hol-windows	holadmin@vcf.hololab	HOL Project	Never	Month to date \$4.37	3 days ago	
hol-linux	holadmin@vcf.hololab	HOL Project	Never	Month to date \$7.47	6 days ago	

1. Click on the hol-linux deployment to view the deployment details

REVIEW THE DETAILS OF DEPLOYMENT

The screenshot shows the deployment details for a virtual machine named "ubuntu". The topology canvas displays a connection between "vsphere_netw..." and "ubuntu". The "ubuntu" node is highlighted with a red box and numbered 1. On the right, the "General" section is expanded, showing details such as Resource name, Account / region, Status, Hostname, Address, Compute host, and Type. This section is numbered 2. Below it are collapsed sections for Storage and Network, which are numbered 3.

1. Click on the **ubuntu** node in the topology canvas to see information about that virtual machine.
2. On the right, expand the **General** section to see details such as resource name and IP address.
3. Expand the **Storage** and **Network** sections to see those additional details.

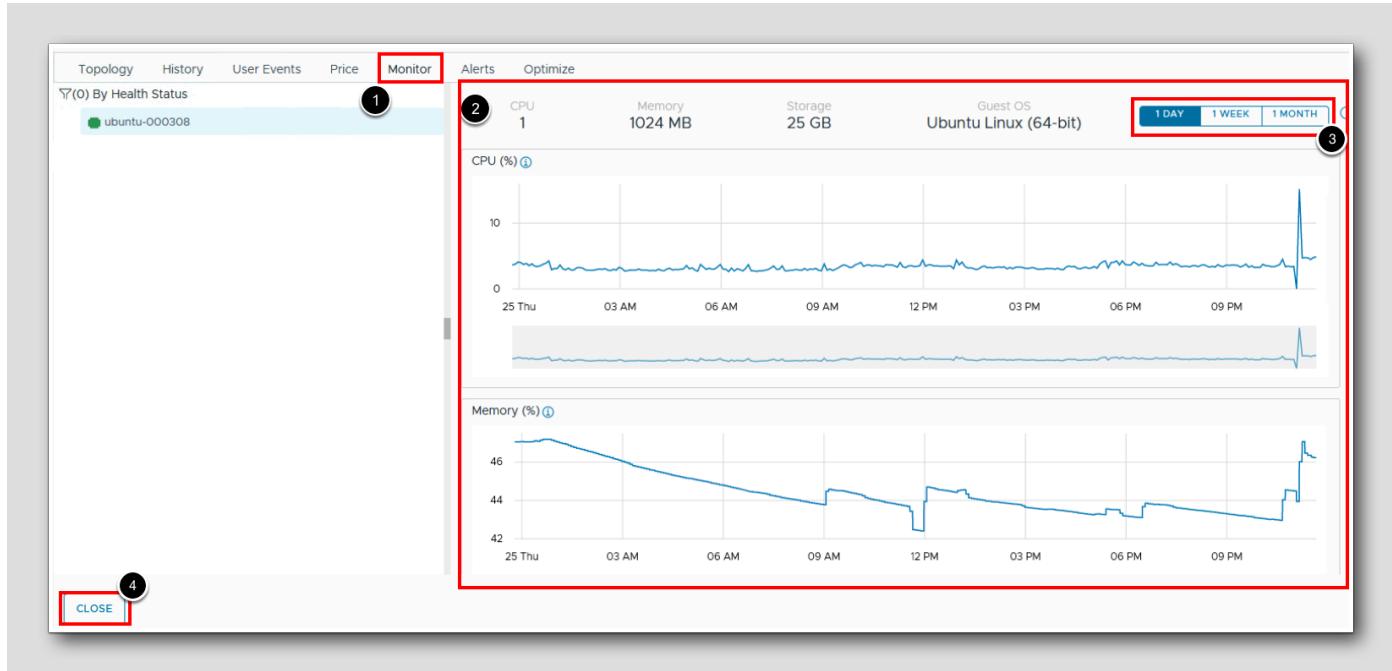
REVIEW THE DEPLOYMENT HISTORY

The screenshot shows the deployment history for a resource named 'hol-linux'. The 'History' tab is active. The deployment was successful ('Power On Successful'). The 'Create' step was also successful. The deployment table is highlighted with a red border.

Timestamp	Status	Resource type	Resource name	Details
Jul 25, 2024, 11:0...	REQUEST_FINISHED			
Jul 25, 2024, 11:0...	COMPLETION_FINISHED			
Jul 25, 2024, 11:0...	COMPLETION_IN_PROGRESS			
Jul 25, 2024, 11:0...	ACTION_FINISHED	Cloud.vSphere.Machine	ubuntu	
Jul 25, 2024, 11:0...	ACTION_IN_PROGRESS	Cloud.vSphere.Machine	ubuntu	
Jul 25, 2024, 11:0...	APPROVAL_FINISHED			No Approval Required - Applicable approval policies are empty in the org or project
Jul 25, 2024, 11:0...	APPROVAL_IN_PROGRESS			Checking for any approval policies
Jul 25, 2024, 11:0...	INITIALIZATION_FINISHED			
Jul 25, 2024, 11:0...	INITIALIZATION_IN_PROGRE...			
Jul 25, 2024, 11:0...	REQUEST_IN_PROGRESS			ACTIONS ubuntu of type Cloud.vSphere.Machine

1. Click on the History tab
2. In the details section, all the tasks that were executed for the deployment are listed including timestamp and status for each task.

MONITORING PERFORMANCE



When Aria Automation is integrated with Aria Operations, we can view graphs illustrating the deployment's health and performance status

1. Click the **Monitor** tab.
2. In the details section, you can scroll up and down to see performance metrics for CPU, Memory, Network and Storage.
3. You can also choose the duration at which you want the performance metrics to be displayed.
4. Click **CLOSE** to exit the deployment details view.

Working With Discovered Resources

In this lesson, we will explore how to perform a Day-2 Action on the discovered resources in Service Broker from a administrative user perspective.

Discovered resources are collected from the cloud account region and added to the resources on the Deployments node on the Consume tab. This example focuses on virtual machines, but other resource types are collected, including storage and network information.

If we are an Automation Service Broker administrator, we can use the Resources page on the Consume tab to manage our discovered machines. Only administrators will see discovered resources on the various pages. In this lesson, let's first review the Resource page with Service Broker User and then login with Service Broker administrator to work with discovered resources.

OPEN RESOURCES WITH SERVICE BROKER USER

Name	Resource Type	Deployment	Account / Region	Project	Origin	Tags	Created On
ubuntu-001202	Cloud.vSphere.Machine	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed	a day ago	
ubuntu-001202-boot-disk	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-3	HOL Project	Deployed	a day ago	
hol-prod	Cloud.vSphere.Network	Resize Me	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed	a day ago	
windows-000906-boot-disk	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-3	HOL Project	Deployed	6 days ago	
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-3	HOL Project	Deployed	6 days ago	
windows-000906	Cloud.vSphere.Machine	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed	6 days ago	
hol-prod	Cloud.vSphere.Network	hol-windows	VCF Mgmt vCenter / mgmt-datacenter-01	HOL Project	Deployed	6 days ago	
CD/DVD drive 1	Cloud.vSphere.Disk		VCF Mgmt vCenter / Datacenter:datacenter-3	HOL Project	Deployed	10 days ago	

Remember that we have logged with **holuser**, so we will not be able to see the discovered resources in Resources page of Consume.

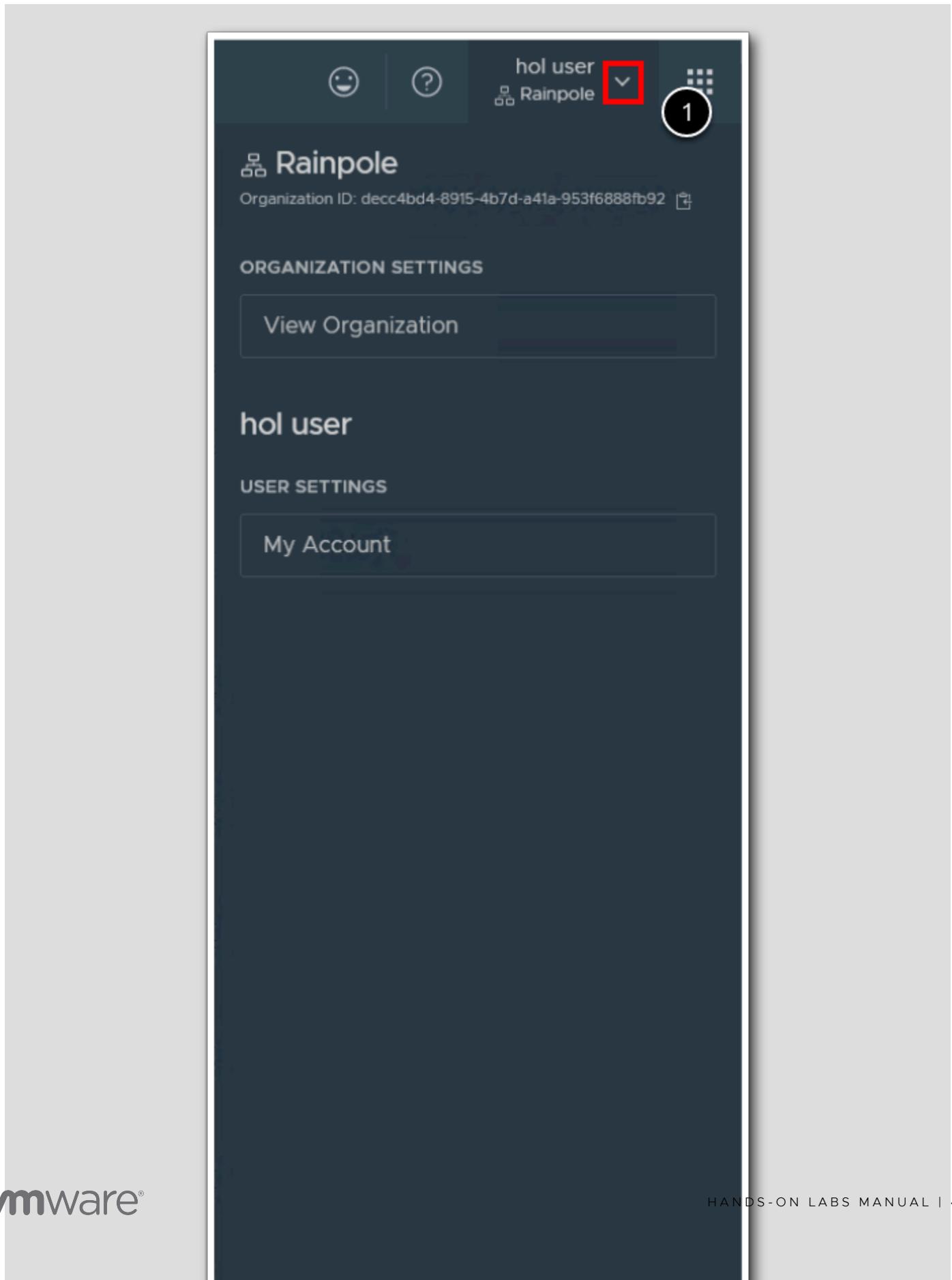
1. Click **Resources** on left-side panel.
2. Click the **Filter** icon near the page label.
3. In the filter list, expand **Resource Origin**.

Note: As a Service Broker User, we can see only the **Deployed** option in the filter list

4. In right-side panel, we can see only the resources of **Origin is Deployed**.

LOGOUT

[56]

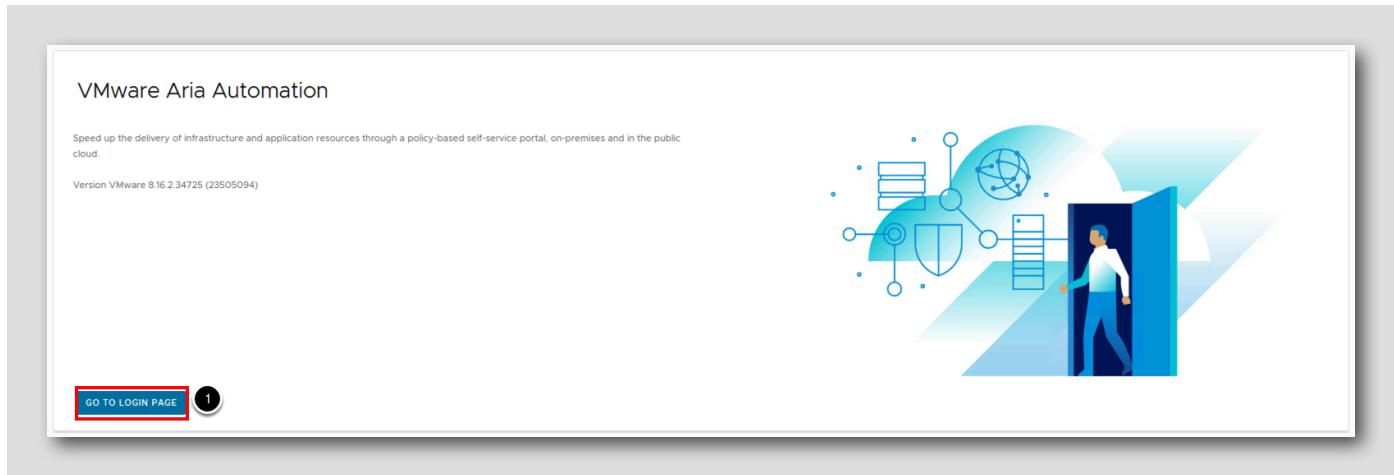


Let's now logout of the Service broker and then log in with the HOL Admin account who has the role of Aria Automation Service Broker administrator.

1. Click on the arrow near the User HOL.
2. Click SIGN OUT

[GO TO LOGIN PAGE](#)

[57]



1. Click on GO TO LOGIN PAGE

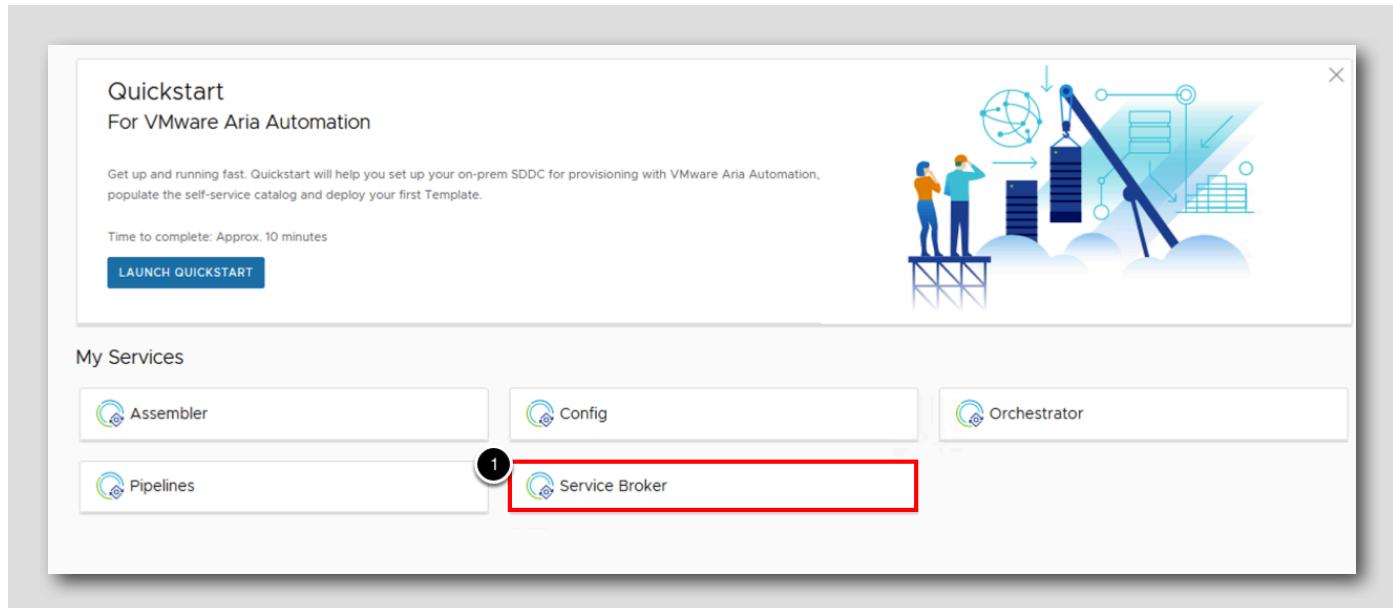
LOG IN AS HOLADMIN



At the Workspace ONE login screen:

1. Enter holadmin into the username field.
2. Enter VMware123! into the password field.
3. Click Sign In

LAUNCH SERVICE BROKER



1. Click Service Broker

OPEN RESOURCES

Since we have logged in with Automation Service Broker administrator, we should be able to see both discovered and deployed resources. Let's filter the discovered resources and then perform the Day-2 action.

1. Click on **Resources** on left-side panel.
2. Click on the filter icon.
3. In the filter list, expand **Cloud Types**.
4. Select **vSphere**.
5. In the filter list, expand **Resource Origin**.
6. Select **Discovered**.
7. Enter **Linux** in Search Resources field
8. Click on the 3 dots, in front of **linux-dev-***** machine.

We can see list of applicable Day-2 action for this resource

LOCATE DISCOVERED VIRTUAL MACHINE DETAILS

The screenshot shows the VMware Cloud Director interface. On the left, the navigation pane includes 'Consume', 'Content & Policies', 'Infrastructure', and 'Inbox'. Under 'Virtual Machines' (circled 1), there are sections for 'Projects', 'Catalog', 'Deployments', 'Resources', and 'Virtual Machines'. A red box highlights the 'Virtual Machines' section. The main content area is titled 'Virtual Machines' (circled 2) and shows a table of discovered resources. The table has columns for Name, Power State, Account / Region, Address, and Tags. The first two rows show 'dev-project-worker-xrhkv-66c85ccb-9h7mp' and 'dev-project-z7vlf-djzki' both in 'On' state. The third row shows 'linux-dev-0011' in 'Off' state. The fourth row shows 'linux-dev-0010' in 'Off' state. The fifth and sixth rows show 'SupervisorControlPlaneVM (1)' and '(3)' respectively, both in 'On' state. The last row shows 'vCLS-3e942531-e837-4fe8-96b0-eb5813cd7890' in 'On' state. A red box highlights the filter icon in the top right of the table header. A search bar and a refresh button are also visible.

	Name	Power State	Account / Region	Address	Tags
<input type="checkbox"/>	dev-project-worker-xrhkv-66c85ccb-9h7mp	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.244.0.35	
<input type="checkbox"/>	dev-project-z7vlf-djzki	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.244.0.34	
<input type="checkbox"/>	linux-dev-0011	Off	VCF Mgmt vCenter / mgmt-datacenter-01		
<input type="checkbox"/>	linux-dev-0010	Off	VCF Mgmt vCenter / mgmt-datacenter-01		
<input type="checkbox"/>	SupervisorControlPlaneVM (1)	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.15.3	wp_vmvmaa_category:wp_vmvmaa_1
<input type="checkbox"/>	SupervisorControlPlaneVM (3)	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.15.2	wp_vmvmaa_category:wp_vmvmaa_1
<input type="checkbox"/>	vCLS-3e942531-e837-4fe8-96b0-eb5813cd7890	On	VCF Mgmt vCenter / mgmt-datacenter-01		

Discovered resources are collected from the cloud account region and added to the resources on the Deployments node on the Consume tab. This example focuses on virtual machines, but other resource types are collected, including storage and network information.

1. Click on **Virtual Machines** on left-side panel.
2. Click on the filter icon.
3. In the filter list, expand **Cloud Types**.
4. Select **vSphere**
5. In the filter list, expand **Resource Origin**.
6. Select **Discovered**

REVIEW VIRTUAL MACHINE DETAILS

The screenshot shows the vSphere Web Client interface. On the left, a list of virtual machines is displayed in a table format. The second item in the list, 'linux-dev-0010', has its row highlighted with a blue background and features a red box around the double arrows icon in the first column. To the right, a detailed view of the selected VM is shown in a pane. The pane title is 'linux-dev-0010' with a circled '2'. It contains sections for Deployment, VM State (Off), Account / region, Address, CPU count, External link, Project, Origin (Discovered), Tags, Owner, and Created on (10 days ago). Below these is a 'Volumes' section with a table:

Name	Capacity	Type
CD/DVD drive 1	0 GB	CDROM
Hard disk 1	25 GB	HDD

At the bottom of the details pane is a table header with columns: Index, Name, Address, Assignment Type, MAC Address, Security Groups, and Tags.

The resource details include all the collected information for the resource. You can use this information to understand the resource and any associations with other resources.

1. To view the resource details, click the **double arrows** in the left column next to the **linux-dev-0010** Virtual Machine.
2. Review the details, including storage, networks, custom properties, and other collected information

To close the pane, click the **double arrows**.

RUN A DAY-2 ACTION ON A VIRTUAL MACHINE

The screenshot shows the 'Virtual Machines' interface. At the top, there are tabs for 'Discovered' (which is selected) and 'Managed'. Below the tabs, a note states: 'Discovered machines are identified when you add cloud accounts. You can run simple day 2 actions on the machines or click Onboard to bring the selected machines under full management, including robust day 2 management actions. You can only include 50 machines each time you run an onboarding action.' A search bar and a refresh icon are at the top right. The main area displays a table of virtual machines:

	Name	Power State	Account / Region	Address	Tags
<input type="checkbox"/>	VM (1)	Off	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.15 3	wp_vmvmaa_category:wp_vmvmaa_tag
<input type="checkbox"/>	VM (2)	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.15 2	wp_vmvmaa_category:wp_vmvmaa_tag
<input type="checkbox"/>	VM (3)	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.15 1	wp_vmvmaa_category:wp_vmvmaa_tag
<input type="checkbox"/>	vCLS-3e942531-e837-4fe8-96b0- v4f3-000000000000	On	VCF Mnmt vCenter / mnmt-		

A context menu is open over the first row (VM 1). The menu items are: Power On (highlighted with a red box and circled with a black circle), Update Tags, Connect to Remote Console, and Power Off.

We use the Day-2 actions to manage the resources. The current actions for discovered virtual machines includes Power On and Power Off. If we are managing a vSphere virtual machine, we can also run Connect with Remote Console.

1. Click on 3 dots near linux-dev-0010.
2. Click Power On

Possible action for vSphere virtual machine are Power On, Update Tags, Connect to Remote Console and Power Off. As we can see, Power Off and Connect to Remote Console are not active as the machine is powered off

CONFIRM POWER ON

The screenshot shows a confirmation dialog box titled 'Power On'. The question 'Do you want to power on linux-dev-0010?' is displayed. There are two buttons at the bottom: 'CANCEL' and 'SUBMIT' (highlighted with a red box and circled with a black circle).

1. Click SUBMIT

REVIEW DAY-2 ACTION REQUEST

[65]

The screenshot shows the 'Virtual Machines' page in a cloud management interface. A table lists three virtual machines:

Name	Deployment	VM State	Account / Region	Address	Project
linux-dev-0010		Off	Private Cloud / RegionA01		
vCLS-60d30ce4-2d77...		On	Private Cloud / RegionA01		

A modal window titled 'Actions In Progress' is open over the first row. It displays the message '1 actions in progress' and 'Power On 0 / 1 Tasks'. The 'Power On' link is underlined. An information icon (a blue circle with a white 'i') is highlighted with a red box. A progress bar below it shows a blue segment followed by a grey segment, with the word 'CANCEL' next to it.

Once Day-2 request is submitted, We can see the progress of the request in the Virtual Machines page itself

1. Click on the 1 information icon

Wait for few seconds until the Action is completed. When the process is completed, the machine is powered on.

REVIEW THE VIRTUAL MACHINE

Name	Deployment	VM State	Account / Region	Address	Project	Origin	Tags
linux-dev-0010		On	Private Cloud / RegionA01	192.168.100.146		Discovered	-
... vCLS-70e8e903-0442...		Off	Private Cloud / RegionA01			Discovered	-
vCLS-70e8e903-0442...		On	Private Cloud / RegionA01	10.244.0.35		Discovered	-
vCLS-70e8e903-0442...		On	Private Cloud / RegionA01	10.244.0.34		Discovered	-
vCLS-70e8e903-0442...		On	Private Cloud / RegionA01			Discovered	-
vCLS-60d30ce4-2d77...		On	Private Cloud / RegionA01			Discovered	-

1. Note VM State is now On

2. Click on 3 dots near linux-dev-0010. We can now see Connect to Remote Console is enabled and Power On is disabled, as the machine is already on

Conclusion

In this module we have learned how to;

- Log into the Service Broker.
- Find details about a deployment, including its resources and infrastructure
- Monitor the performance of the deployment over time
- Perform Day-2 Operations on the discovered resources

You've finished the module

Congratulations on completing the lab module. If you are looking for additional information , try this [link](#)

From here you can:

1. Continue with the next lab module
2. Click [vlp:table-of-contents]Show Table of Contents] to jump to any module or lesson in this lab
3. End your lab and return in the future

Module 3 - Organize Resources and Users into Projects (15 minutes) Basic

Introduction

[70]

In this module we will be exploring actions:

- Defining projects and Users in Cloud Assembly
- Cloud Templates releasing to Catalog
- Defining Resource Quota Policy and governance of the cloud resources in an effective way
- Sharing of Cloud templates from Assembler
- Discovery of Cloud templates in Service Broker.

Lab Captain: Revathy Subburaja

Log in to Aria Automation Assembler as holadmin

[71]

In this lesson, we will login to Assembler as a Cloud Admin's perspective to define a cloud environment in order to deploy resources in it.

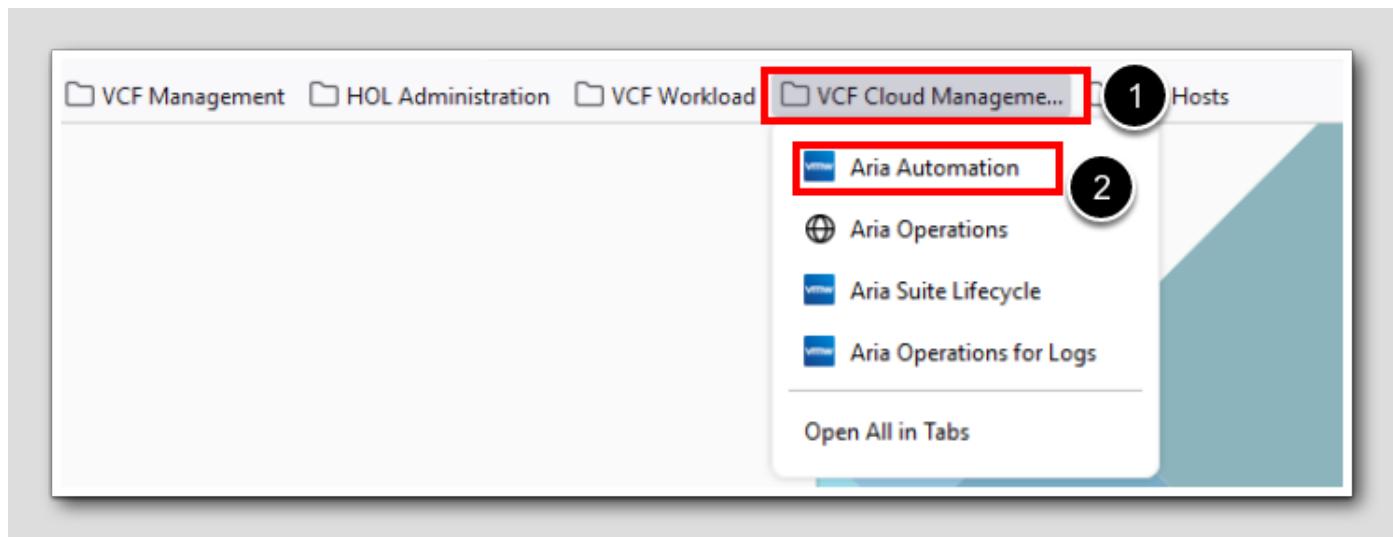
Launch FIREFOX

[72]



1. Click on the FIREFOX icon from your desktop bar

Launch Aria Automation

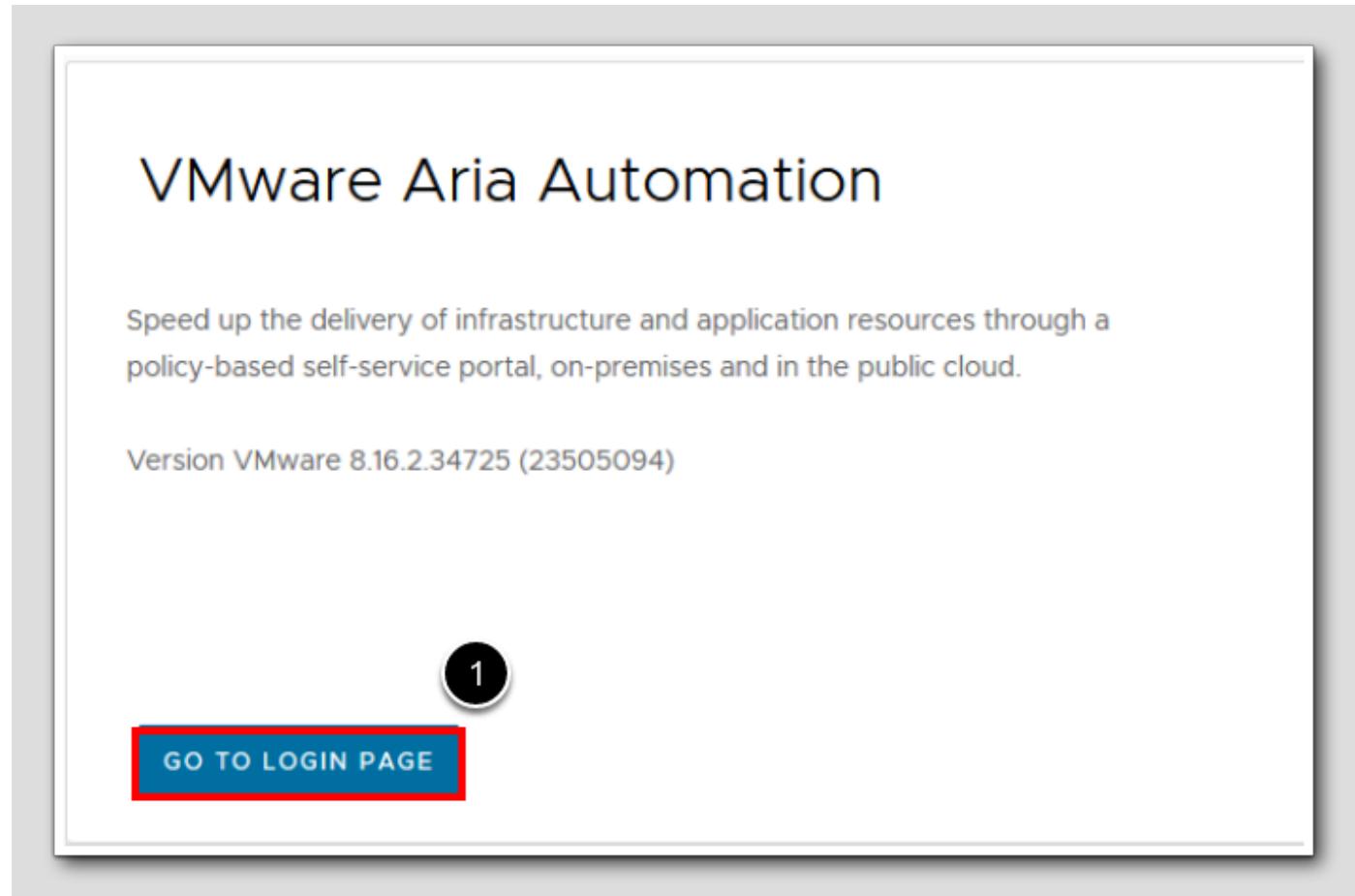


From within the FIREFOX web browser :

1. Click VCF Cloud Management from the bookmarks bar
2. Click Aria Automation from the menu

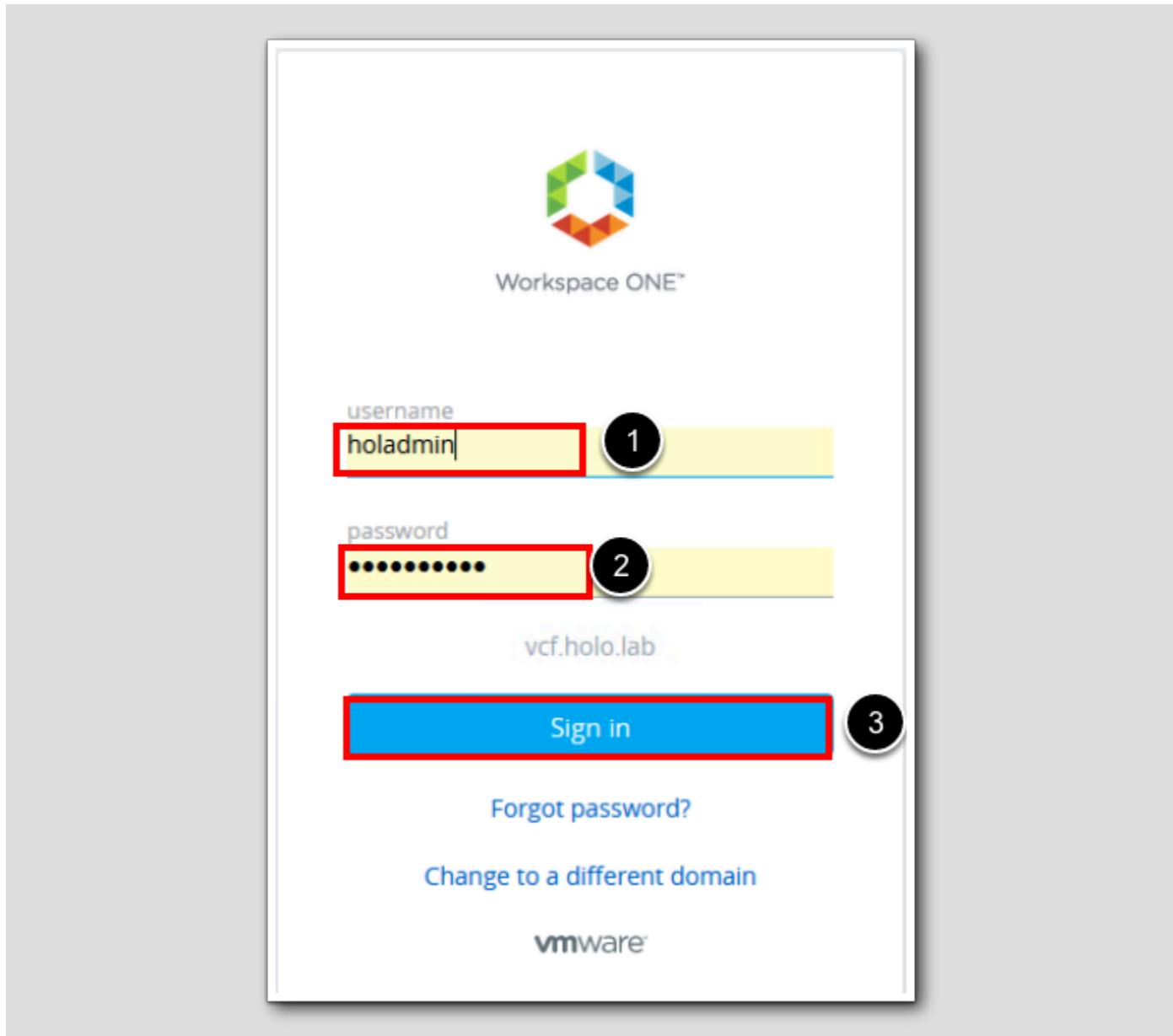
Redirecting to Login Page

[74]



1. Click on GO TO LOGIN PAGE

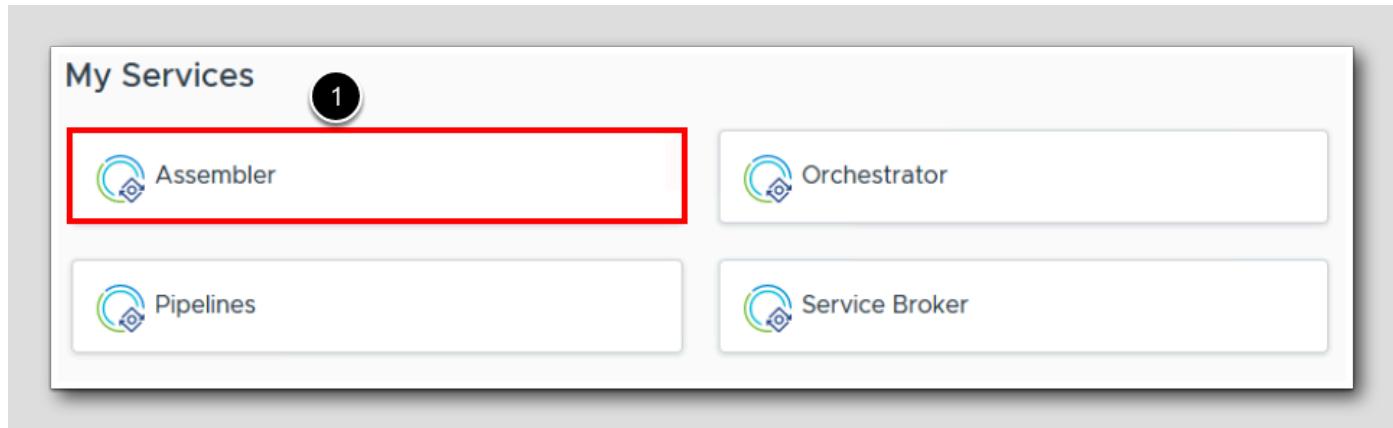
Log into Aria Automation



At the Workspace ONE login screen:

1. Username is auto configured with holadmin
2. Password is also auto configured as VMware!
3. Click Sign in

Launch the Assembler service

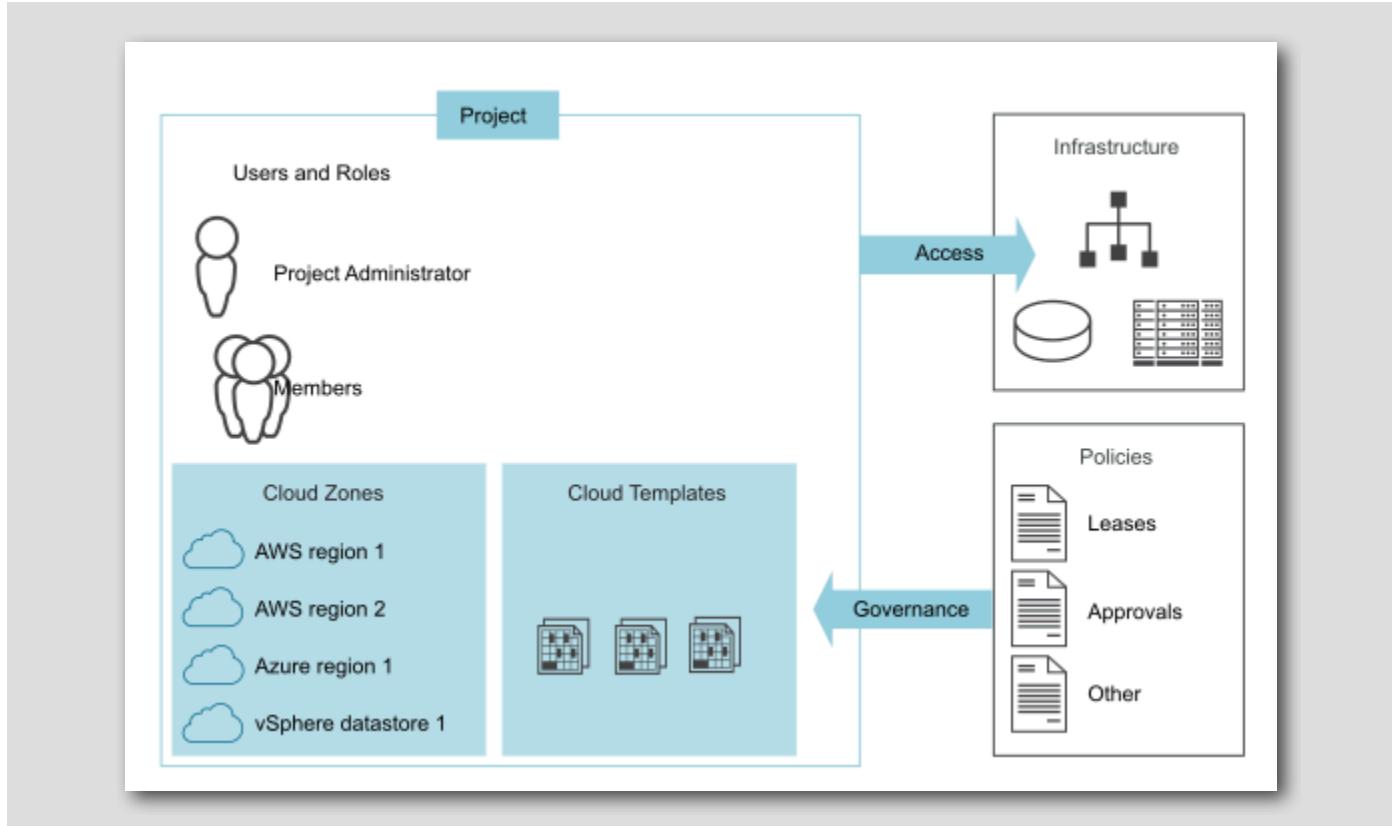


After logging into Aria Automation we arrive at the Cloud Services Console, under **My Services** you will find a list of services that this user has been entitled to.

1. Click on the Assembler service

Defining Projects and Users

Projects



A project is usually defined for a specific business group or purpose,

- which cloud zones a particular user or group can deploy to and a priority value
- maximum number of virtual machine instances to deploy
- maximum amount of memory that the deployment can use

Projects control who has access to Aria Automation Assembler Cloud Templates and where the templates are deployed. We use projects to organize and govern what our users can do and to what cloud zones they can deploy cloud templates in our cloud infrastructure.

Cloud administrators set up the projects, to which they can add users and cloud zones. Anyone who creates and deploys cloud templates must be a member of at least one project.

Navigate to Projects to review an existing HOL Project

The screenshot shows the VMware Aria Automation interface. At the top, there is a navigation bar with tabs: Assembler (selected), CHANGE, Resources, Design, Infrastructure (highlighted with a red box and a circled '1'), Extensibility, Tenant Management, and Alerts. Below the navigation bar is a sidebar with sections: Administration (Projects highlighted with a red box and circled '2'), Users and Groups, Custom Roles, Custom Names, Secrets, Settings, Configure (Cloud Zones, Virtual Private Zones, Kubernetes Zones). The main content area is titled 'Projects' (1 item) and contains a 'NEW' button and a 'TEST CONFIGURATION' button. A detailed view of the 'HOL Project' is shown, listing Administrators (1), Members (1), Zones (1), Templates (5), Deployments (2), and Actions (2). The 'OPEN' button for Actions is highlighted with a red box and circled '3'.

Projects are a collection of Users, Cloud Templates, provisioning targets (in the form of cloud zones) and more.

1. Click Infrastructure
2. Click Projects in the left pane under Administration
3. We will review the HOL Project, Click OPEN

- Take time to review the HOL Project configurations like Users added, Cloud Zones configured, templates tagged , deployments linked to this project and associated price of those resource deployments.
- Now that we understand Cloud Zones and their relationship to Cloud Accounts, let us take a next step by creating a new Project. Click on Cancel (Not Shown)

Add a new Project

[80]

The screenshot shows the VMware vSphere Web Client interface. On the left, the navigation pane is open with the following sections:

- Administration** (selected): Projects (highlighted in blue), Users and Groups, Custom Roles, Custom Names, Secrets, Settings.
- Configure**: Cloud Zones, Virtual Private Zones.

In the center, the main content area is titled "Projects" with "1 items". A red box highlights the "+ NEW" button, which is circled with a black marker labeled "1". To the right of the "+ NEW" button is a "TEST CONFIGURATION" button.

The right panel shows the details for the "HOL Project". It includes the following metrics:

Category	Value
Administrators	1
Members	1
Zones	1
Templates	5
Deployments	2
Actions	2

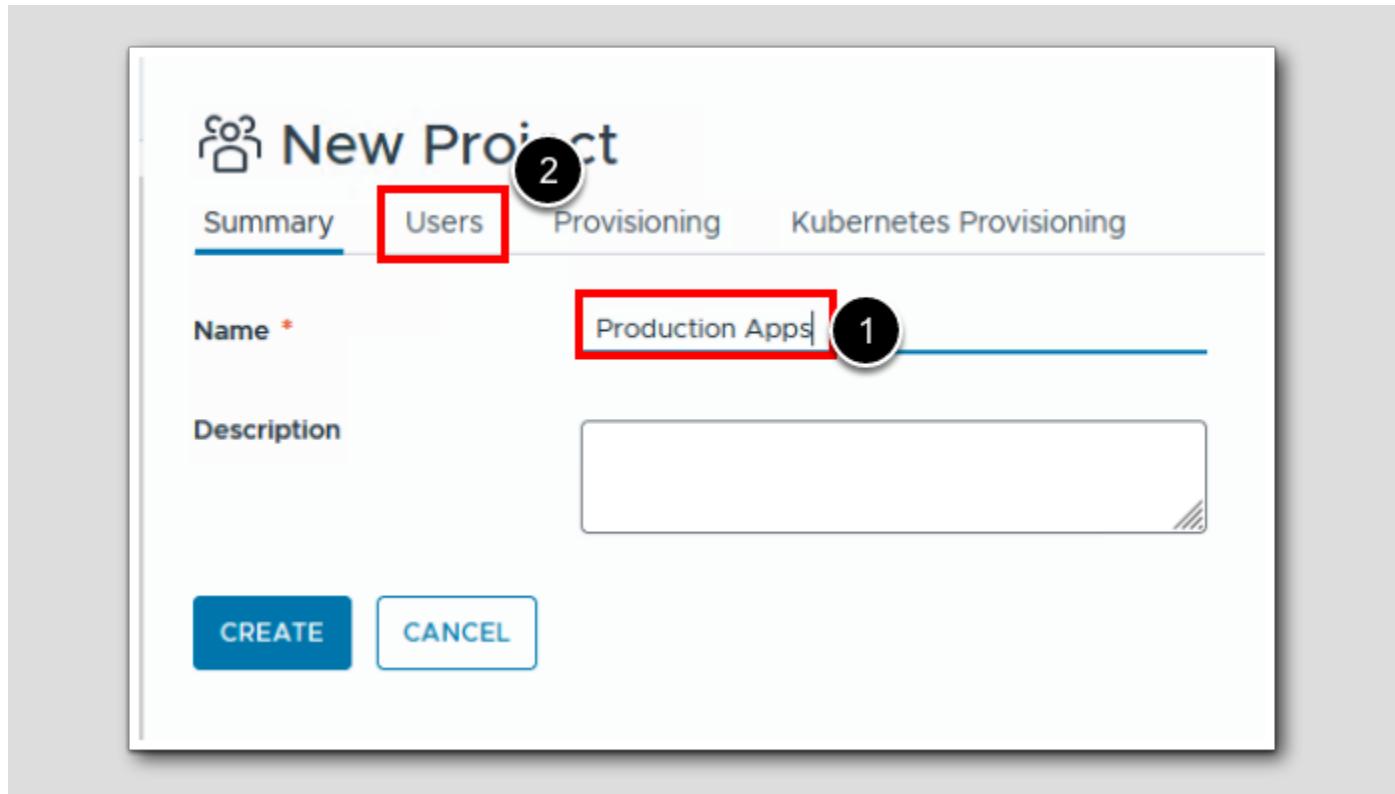
At the bottom of the right panel are "OPEN" and "DELETE" buttons.

1. Click + NEW .

New project creation from scratch helps to understand about users and cloud zone configuration. Later in this module, we will be linking a Resource Quota Policy as well to this new project.

Configuring Project

[81]



1. Name it as Production Apps

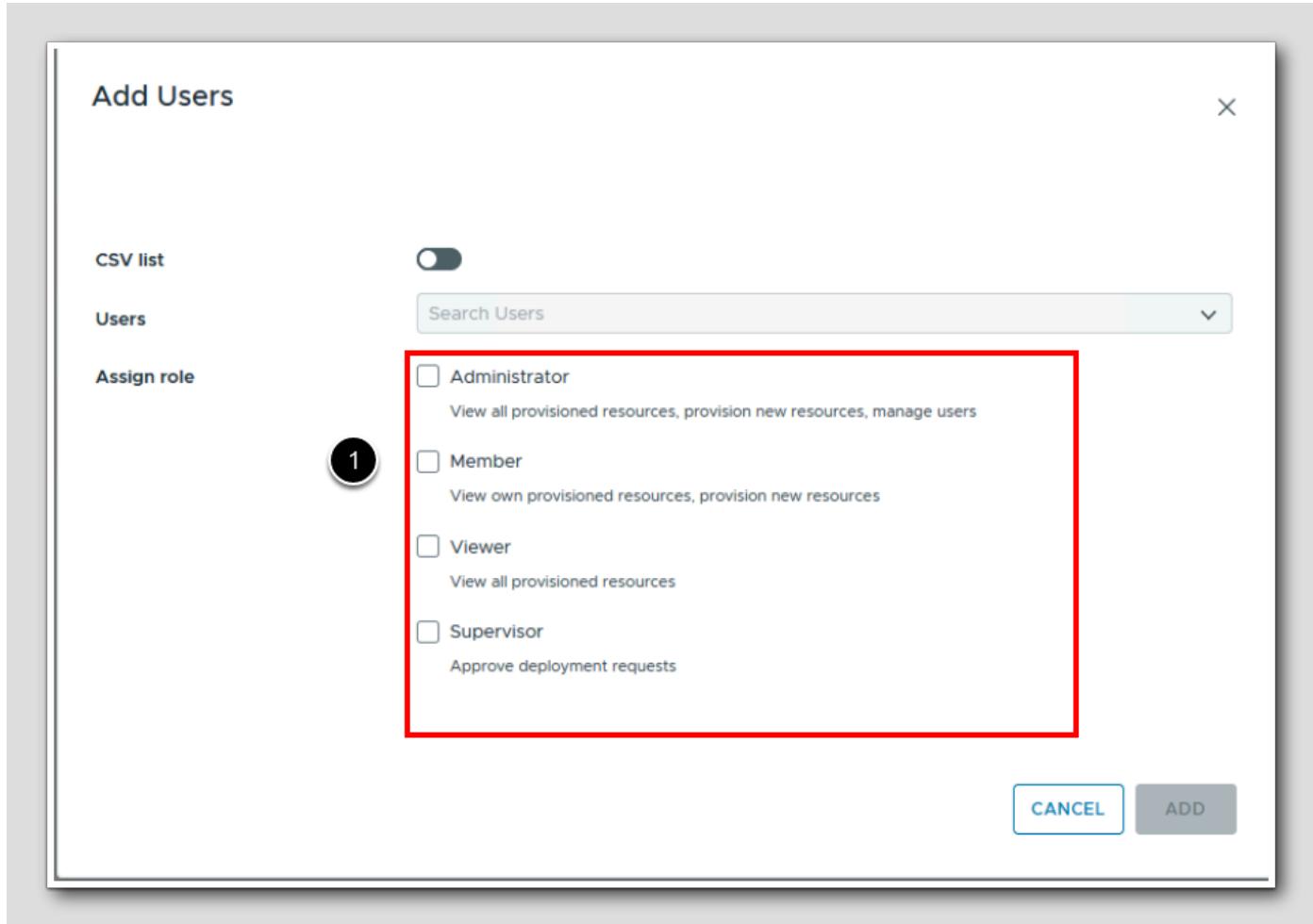
2. Click on Users

Add Users to the Project

The screenshot shows a 'New Project' dialog box. At the top, there are tabs: 'Summary', 'Users' (which is underlined), 'Provisioning', and 'Kubernetes Provisioning'. Below the tabs, there's a section for 'Deployment sharing' with a checked checkbox. Under 'User roles', there's a note: 'Specify the users and groups related to this project.' followed by three buttons: '+ ADD USERS' (highlighted with a red box and circled with a black number '1'), '+ ADD GROUPS', and 'X REMOVE'. Below these buttons is a table with a single row containing a checkbox and a 'Name' column. At the bottom of the dialog are 'CREATE' and 'CANCEL' buttons.

1. Click +ADD USERS

Understanding about User Roles



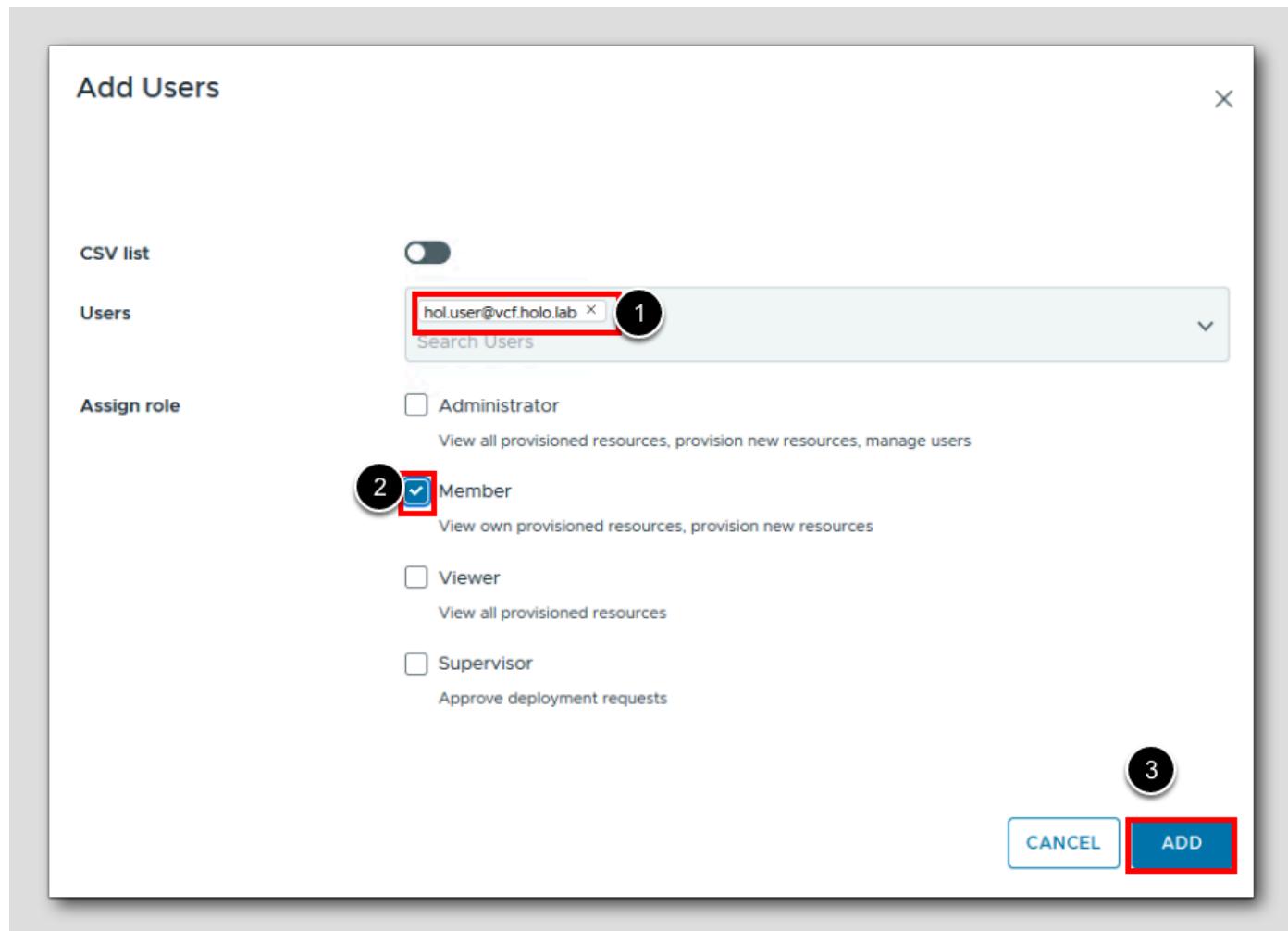
The Users tab allows us to add users or groups to the Project for self service consumption.

1. Review available Roles.

Users/groups can be assigned using one of four roles:

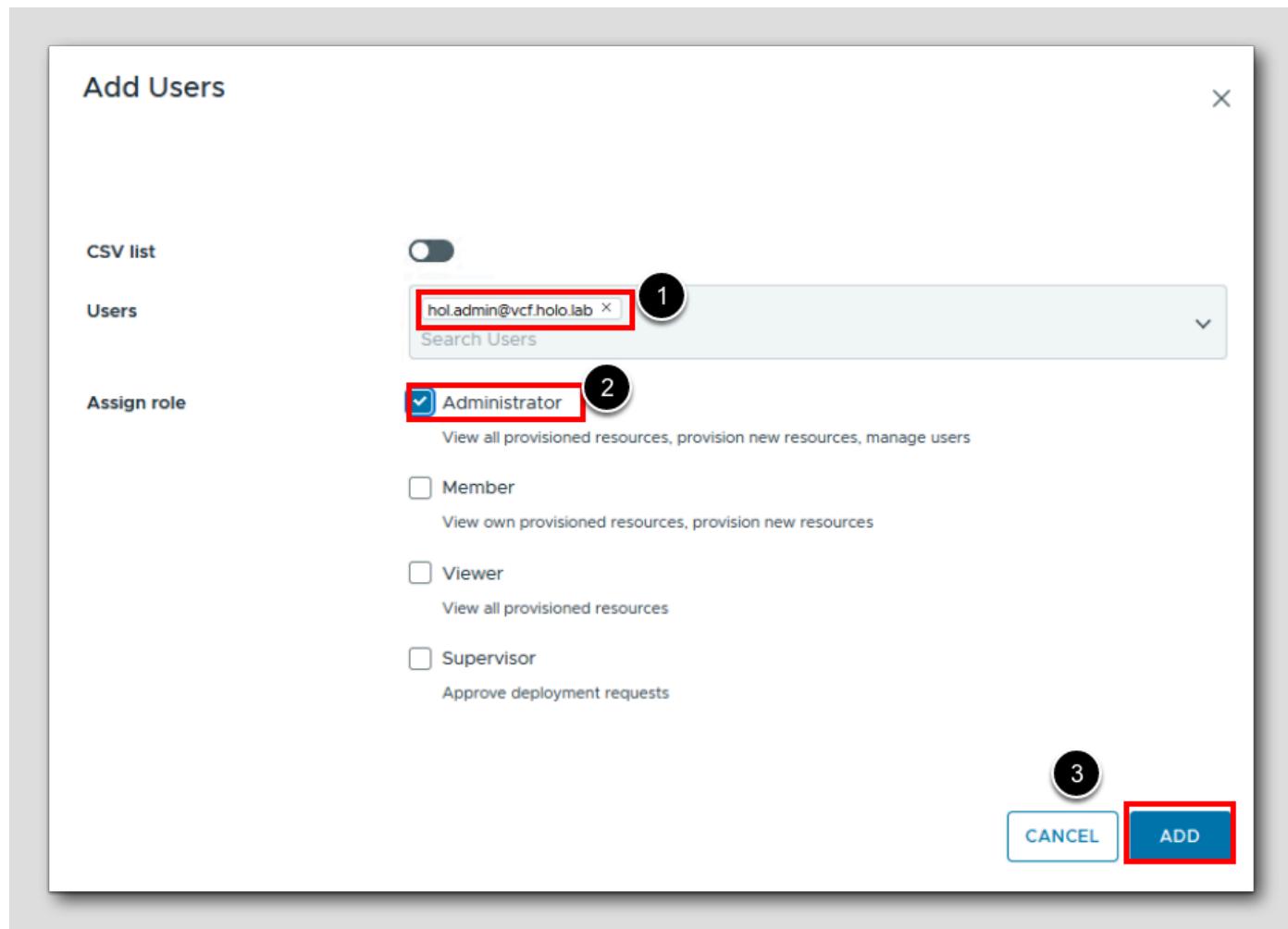
- Administrator: Can configure resources in the project
- Member: Can consume resources in the project
- Viewer: Can view resources in the project
- Supervisor : Can approve deployment requests

Adding an user to the Project



1. Search for holuser in the Users
2. Assign Member role
3. Click on ADD

Adding an Administrator to the Project



1. Search for holadmin user
2. Assign Administrator role
3. Click ADD

Adding Cloud Zone to the new Project

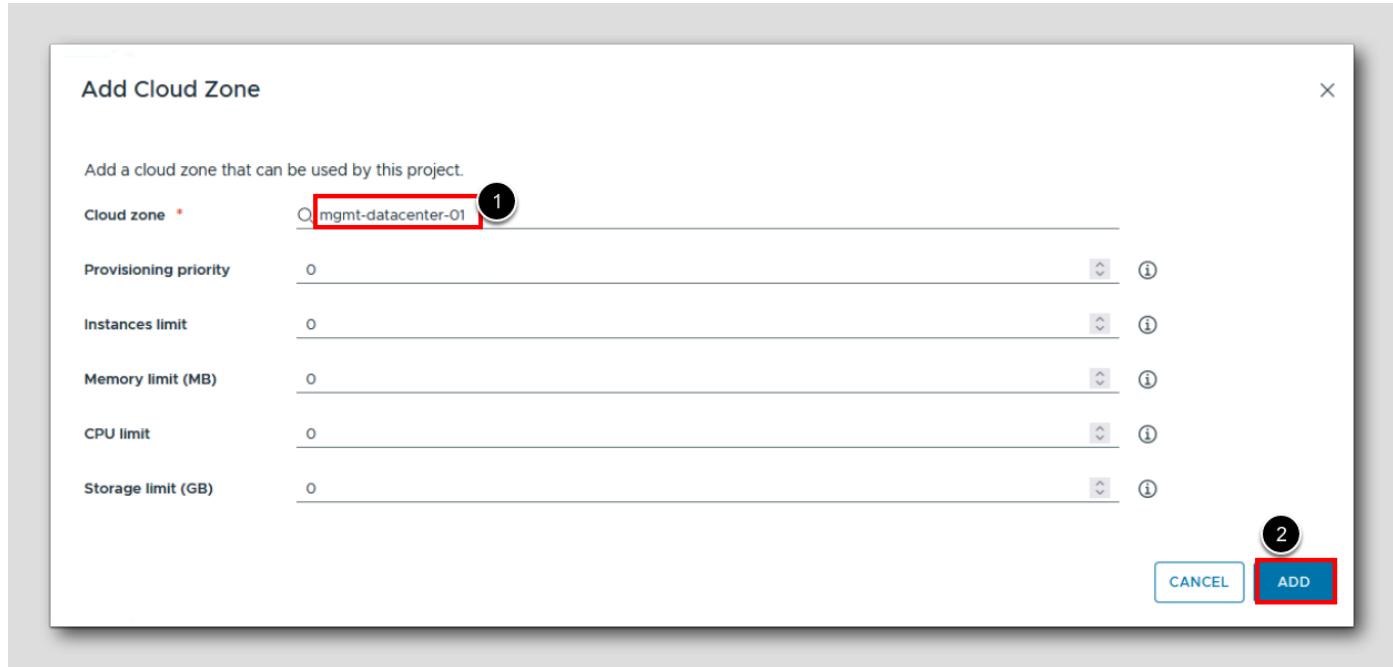
The screenshot shows the 'New Project' interface with the 'Provisioning' tab selected (Step 1). Below the tabs, there is a section titled 'Zones' with the instruction: 'Specify the zones that can be used when users provision deployments in this project.' A help icon (info) is available. Step 2 highlights the '+ ADD ZONE' button. Step 3 highlights the 'Cloud Zone' option in a dropdown menu that also includes 'Virtual Private Zone'. A 'Manage Columns' button is visible at the bottom of the table area.

1. Click Provisioning
2. Click ADD ZONE
3. Click Cloud Zone to add provisioning target for this project

The Provisioning tab helps to add Cloud Zones that we would like to allocate to the Project; along with defined limits that we can put in place to determine priority, the number of instances that can be deployed, Memory Limits, CPU Limits, and Storage Limits.

Note: For vSphere cloud zones, resource limits can be set for CPU, memory, and storage, but for public cloud zones, only CPU and memory limits are available.

Associating Cloud Zone to the new Project



1. Add mgmt-datacenter-01 Cloud Zone which is auto discovered from vCenter cloud account
2. Click on ADD

Additional Provisioning Properties

The screenshot shows a configuration interface for 'Additional Provisioning Properties'. At the top, there are tabs: Infrastructure (selected), Extensibility, Tenant Management, and Alerts. Below the tabs, there's a sidebar with navigation icons (back, forward, up, down) and a list of sections. A red vertical line highlights the first section, 'Custom Naming', which is expanded. A black circle with the number '1' is placed next to the 'Template' label under 'Custom Naming'. A red box highlights the 'Template' input field. A hint text 'Hint: Avoid conflicting names by generating digits in names. \${#####}' is shown below the input field. The next section, 'Request Timeout', is collapsed. A red vertical line highlights the 'Request Timeout' section. A black circle with the number '2' is placed next to the 'Timeout' label under 'Request Timeout'. A red box highlights the 'Timeout' input field. An example value 'Example: 1d, 2h, 3m, 59s' is shown next to it. Below these sections is a heading 'Cloud Zone Mapping for Template Terraform Resources'. It includes a note about allowing Terraform resources to deploy to cloud zones and a toggle switch labeled 'Allow terraform cloud zone mapping'. At the bottom are two buttons: 'CREATE' (highlighted with a red box) and 'CANCEL'.

1. Drag Scroll bar down

2. Click CREATE

In addition to specifying cloud zones, priority and optional limits per cloud zone, project provisioning can provide the below options as well (we will be leaving it to default values in this lesson).

- Apply tags to deployed resources
- Include specific constraints for network, storage, and extensibility configuration
- Apply custom properties to requests
- Specify a project-specific custom naming standard for deployed objects
- Set a project-wide request timeout for deployments that need more than the default 2 hours
- Allow Terraform resources to deploy to cloud zones in this project

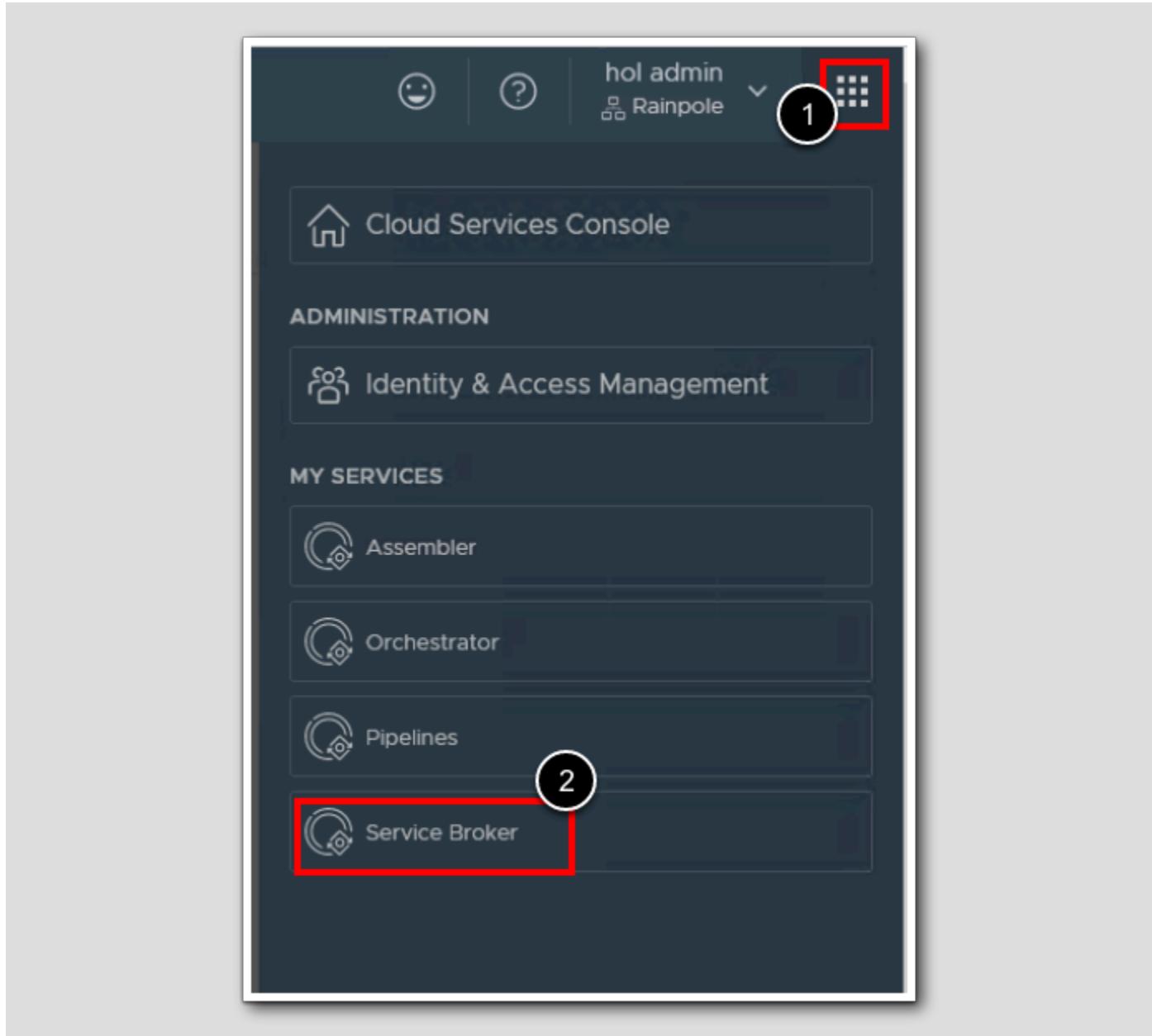
In this lesson, we have learned about creating a new project, adding users to the project, and adding the cloud zone to enable users to deploy resources under this project.

Launch the Service Broker as holadmin

[89]

In this lesson, we will login to the Service Broker as a Cloud Admin's perspective to define a cloud environment in order to deploy resources in it.

Launch the Service Broker



1. Click 9 Dot at the top right corner next to holadmin login
2. Click Service Broker.

Defining Resource Quota Policy

Resource quota policies control the amount of resources that are available to users. You define resource quota policies so that you limit the resources that can be consumed by each user, project, or the organization.

If you do not have resource quota policies defined, then no governance is applied and users can consume resources until all available resources are used up.

In this lesson ,we will configure a Resource Quota Policy for a new project "Production Apps".

What's in it for Cloud Administrator

As a cloud administrator, we can create one or more resource quota policies and apply them. For example, At the organization level, users across the organization request for deploying new resources. Resource Quota Policies track the consumption of resources to ensure that new deployment requests do not exceed the resource limits defined in the policies.

As we create our policies, we must configure the policy scope. The scope determines whether the policy is applied to resources at the organization or project level.

Adding Resource Quota Policy

The screenshot shows the VMware Aria Automation Service Broker interface. The top navigation bar includes 'Content & Policies' (highlighted with a red box and circled with a black number 1), 'Infrastructure', and 'Inbox'. The left sidebar has tabs: 'Content Sources', 'Content' (highlighted with a red box and circled with a black number 2), 'Policies' (highlighted with a red box and circled with a black number 3), 'Definitions' (highlighted with a red box), and 'Enforcement'. The main content area is titled 'Definitions' with '1 items'. It displays a table with one row:

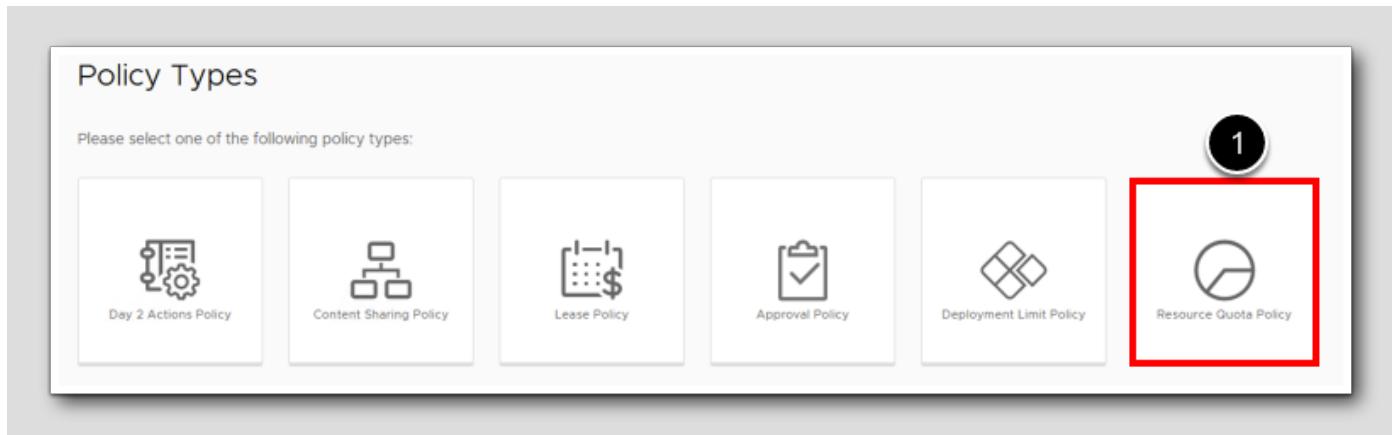
	Name	Type
<input type="checkbox"/>	HOL Project Templates	Content Sharing

A button '+ NEW POLICY' is visible in the top right of the definitions list.

1. Click Content & Policies
2. Click Definitions
3. Click +NEW POLICY

Defining Resource Quota Policy

[94]



1. Click Resource Quota Policy

Defining Resource Quota Policy (contd...)

New Policy

Resource quota policies control the amount of resources that can be consumed by each user, project, or organization. [\(i\)](#)

Type: Resource Quota

Name *: Production Apps Quota Policy 1

Description:

Scope *: 2 Organization / Multiple Projects
Apply the policy to all or a selection of projects in this organization. To target multiple projects, select project based criteria.
3 Project
Apply the policy to a single project in this organization.
4 Production Apps

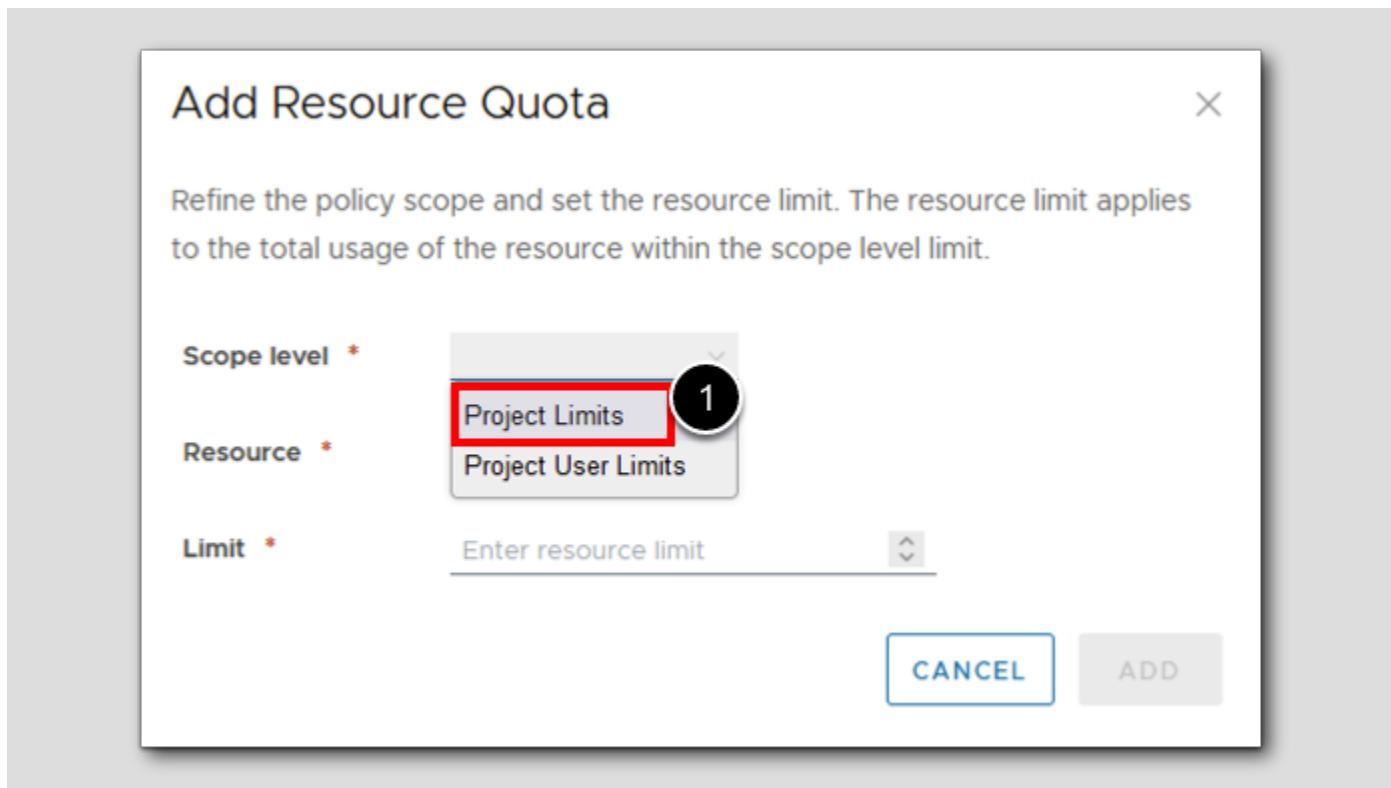
Resource quotas *: 5 + ADD

Resource	Limit
No resource quota added for this policy	

CREATE CANCEL

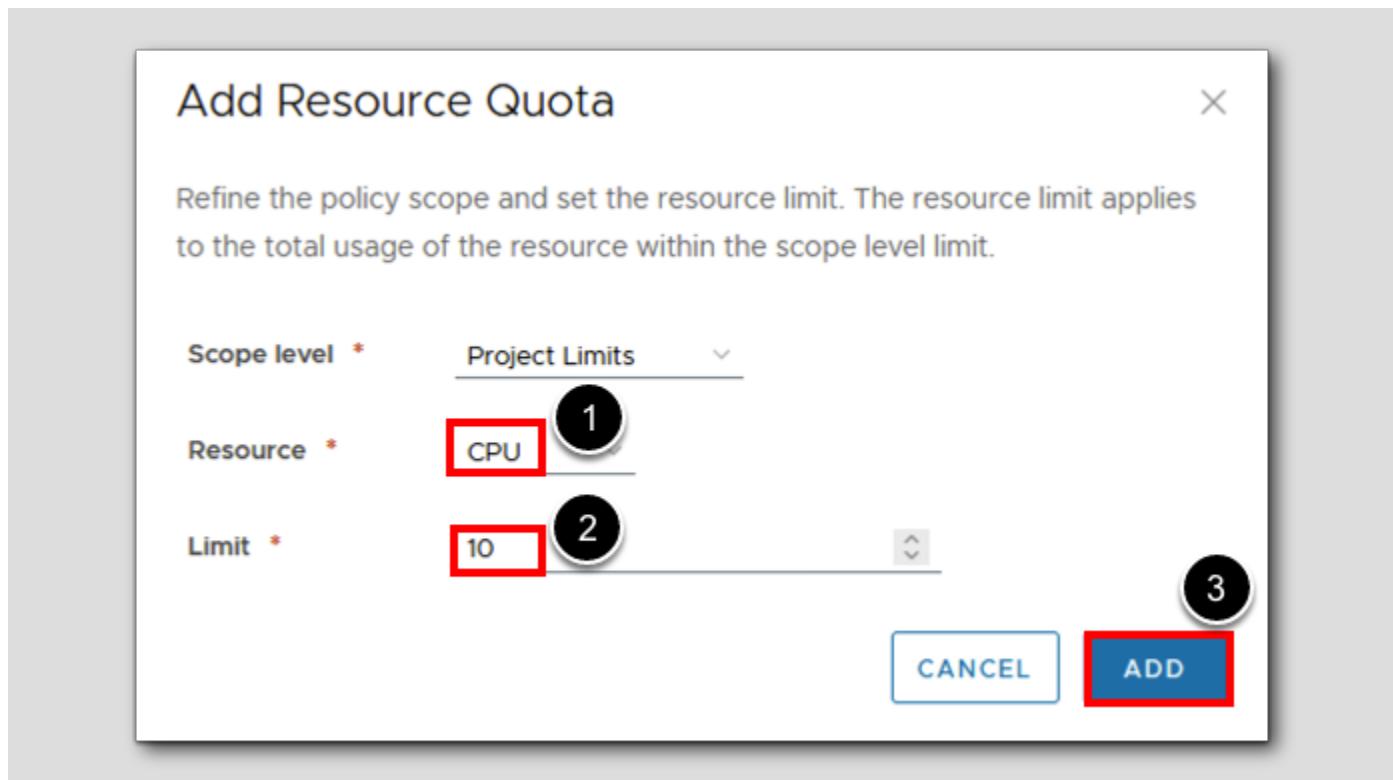
1. Enter Policy name Production Apps Quota Policy
2. Select Scope to Project
3. Search for the Project Production Apps
4. Click + ADD

Add Compute Resource Quota



1. Specify the quota scope to Project Limits

Add CPU Resource Quota



1. Select CPU quota limit
2. Set Limit as 10 CPU cores
3. Click ADD

Adding new Quota

The screenshot shows a table titled "Resource quotas" with one entry. The table has two columns: "Resource" and "Limit". The entry is "Project Limits" with a limit of "10". A red box highlights the "+ ADD" button at the top left, and a black circle with the number "1" is placed next to it.

Resource	Limit
Project Limits	10
CPU	

1. Click ADD.

Add Virtual Machine Quota

The screenshot shows the "Add Resource Quota" dialog box. It contains three input fields: "Scope level" set to "Project Limits", "Resource" set to "VM Count", and "Limit" set to "1". A red box highlights the "Project Limits" dropdown, and a black circle with the number "1" is placed next to it. Another red box highlights the "VM Count" dropdown, and a black circle with the number "2" is placed next to it. A third red box highlights the "1" in the limit field, and a black circle with the number "3" is placed next to it. The "ADD" button at the bottom right is highlighted with a red box, and a black circle with the number "4" is placed next to it.

1. Select Scope level as Project Limits
2. Select VM Count Resource
3. Set the limit as 1 instance
4. Click ADD

Adding new Resource Quota

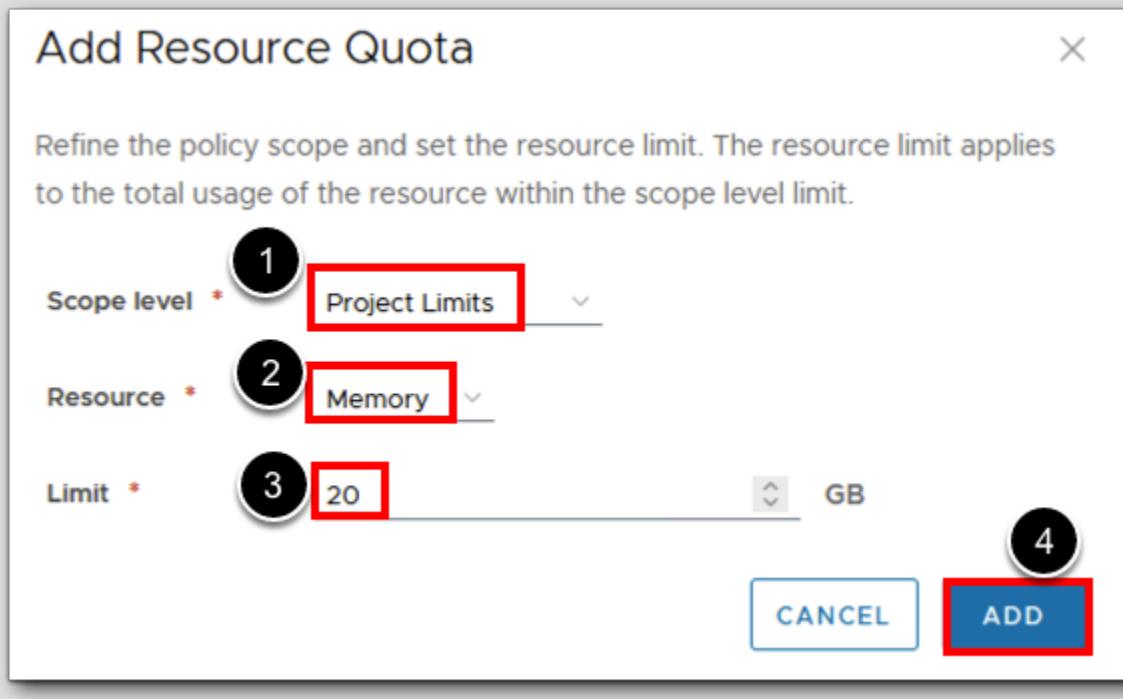
[100]

The screenshot shows a user interface for managing resource quotas. At the top left, it says 'Resource quotas *'. In the center, there is a button labeled '1 + ADD' with a red box around it. Below this is a table with two columns: 'Resource' and 'Limit'. The table contains three rows: 'Project Limits' (with a dropdown arrow), 'CPU' (with a value of '10'), and 'VM Count' (which is highlighted with a red box). A circled '2' is placed next to the 'VM Count' row.

Resource	Limit
Project Limits	
CPU	10
VM Count	1

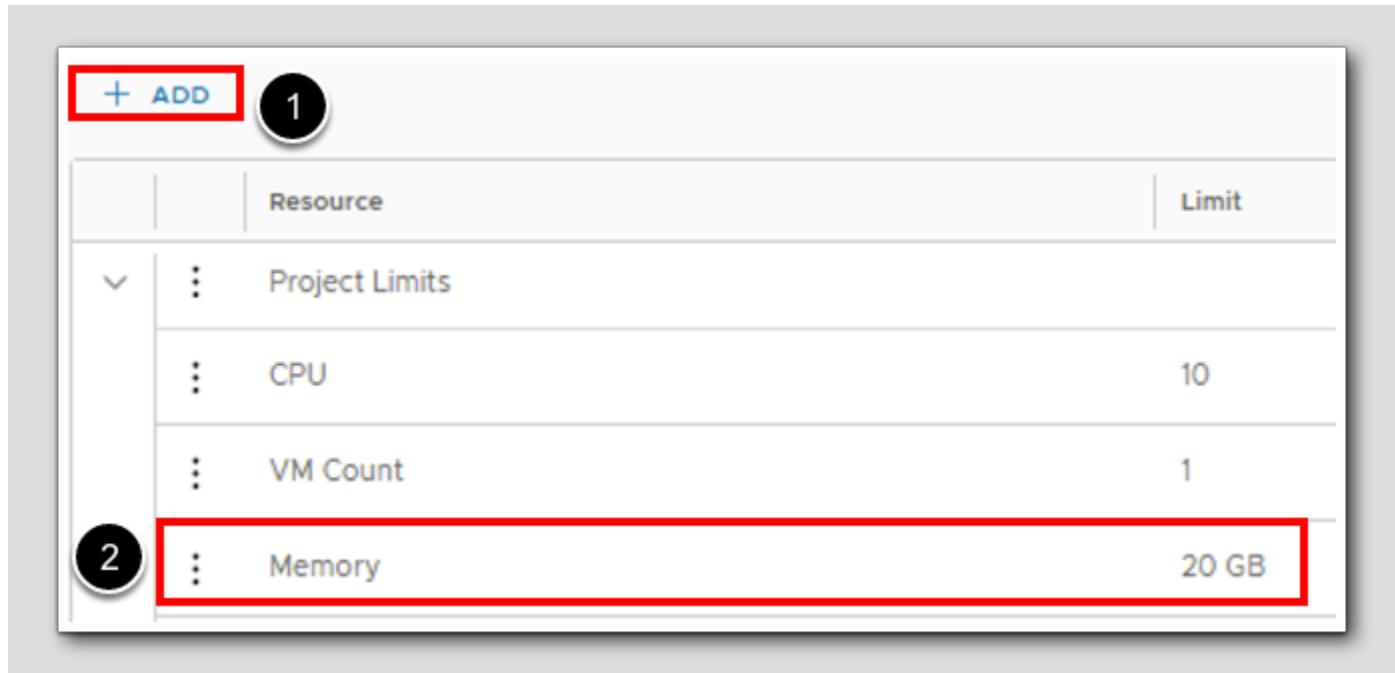
1. Click ADD
2. Review VM Count limit appended to Project Limits

Add Memory resource Quota



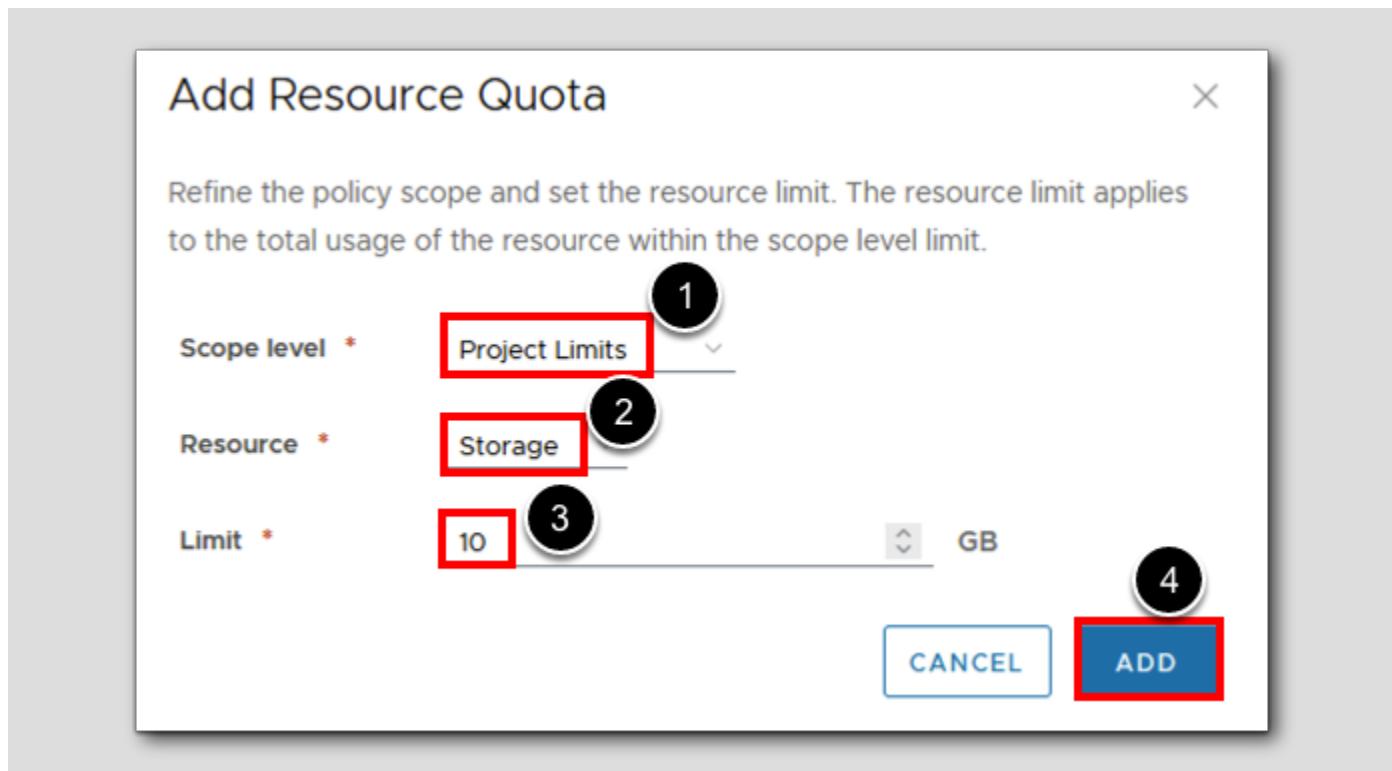
1. Select Scope level as Project Limits
2. Select Memory Count Resource
3. Set the limit as 20 GB
4. Click ADD

Adding New Resource



1. Click ADD for adding new Quota
2. Review Memory limit appended to Project Limits

Add Storage resource Quota



1. Select Scope level as Project Limits
2. Select Storage Resource
3. Set the limit as 10 GB
4. Click ADD

Reviewing the Quotas

The screenshot shows a 'Resource quotas' configuration screen. At the top right is a '+ ADD' button. Below it is a table with five rows, each representing a quota. The first row has a dropdown arrow. The table has two columns: 'Resource' and 'Limit'. The data is as follows:

Resource	Limit
Project Limits	
CPU	10
VM Count	1
Memory	20 GB
Storage	10 GB

Below the table are two buttons: 'CREATE' (highlighted with a red box) and 'CANCEL'.

1. Review the added quotas from the previous steps
2. Click CREATE

Reviewing the created Policy

The screenshot shows the VMware Aria Automation Service Broker interface. The top navigation bar includes 'Content & Policies' which is currently selected. Below the navigation is a sidebar with options: Content Sources, Content, Policies (selected), Definitions, Enforcement, and Notifications. The main content area is titled 'Definitions' with a sub-instruction 'A list of all the policies defined for your organization.' It features a 'NEW POLICY' button and a 'DELETE' button. A table lists two items: 'HOL Project Templates' (Content Sharing) and 'Production Apps Quota Policy' (Resource Quota). The 'Production Apps Quota Policy' row is highlighted with a red box and circled with a black number '1'.

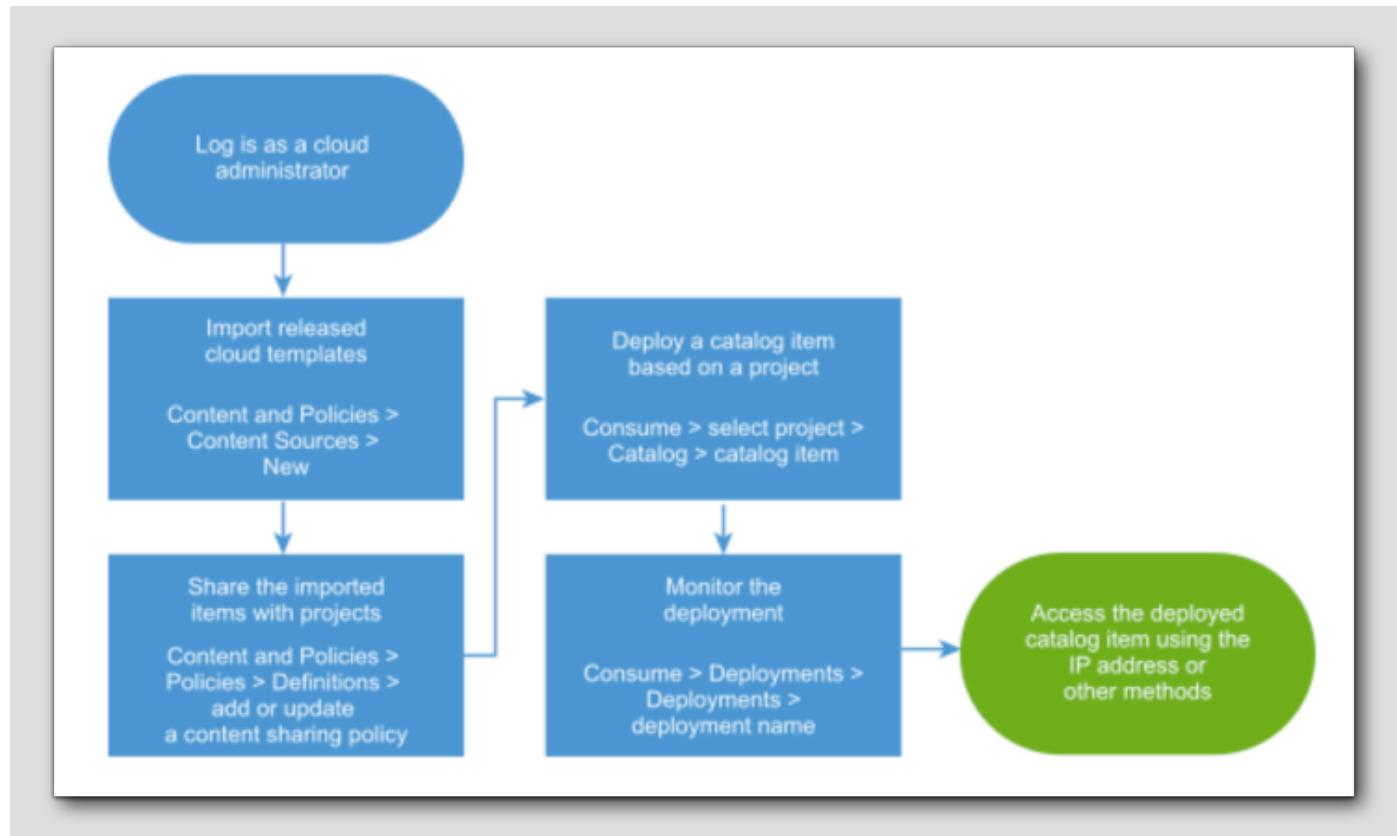
	Name	Type
1	HOL Project Templates	Content Sharing
	Production Apps Quota Policy	Resource Quota

1. Observe the Production Apps quota Policy created

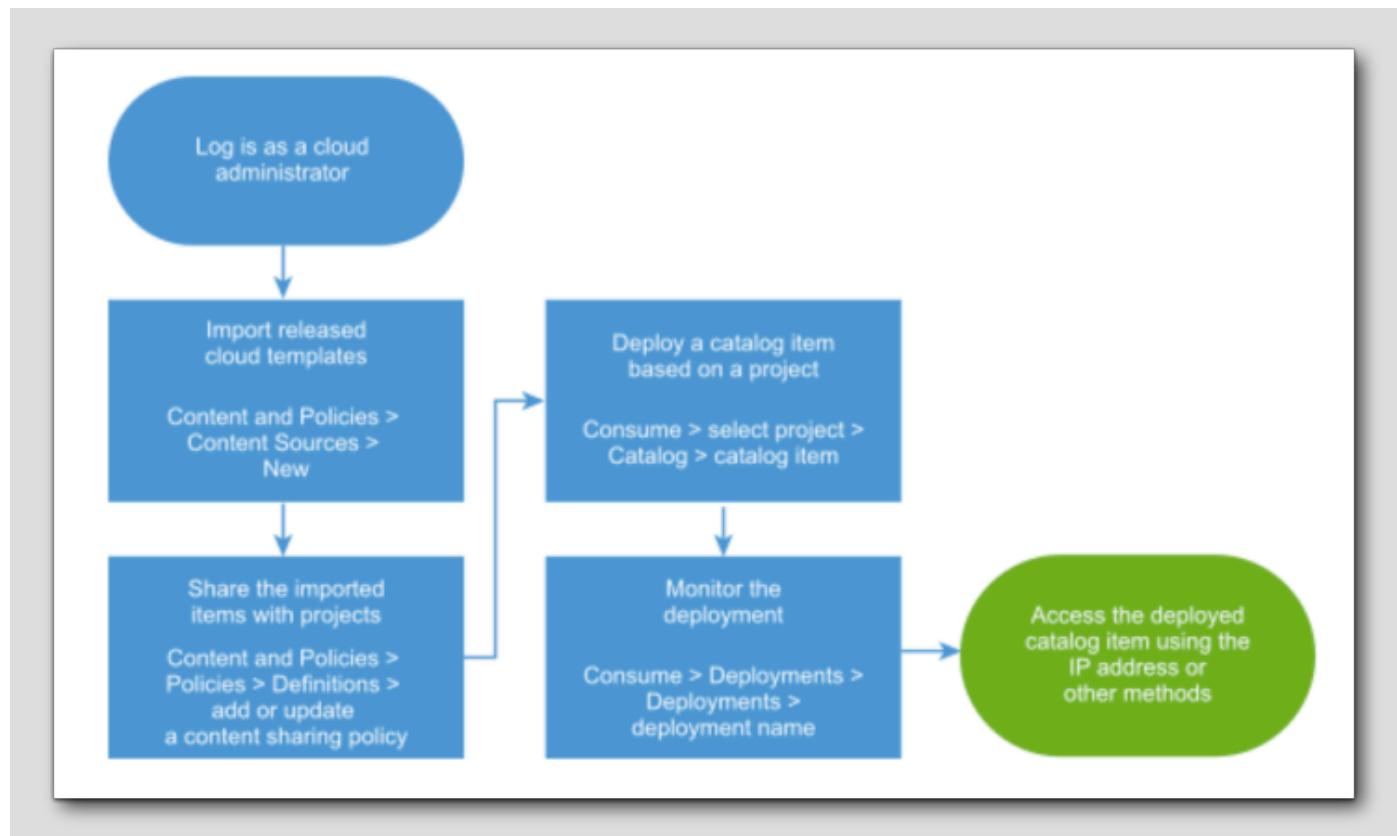
For more information , [Configure Automation Service Broker resource quotas using policies](#)

Add Cloud Assembly cloud templates to the Service Broker catalog

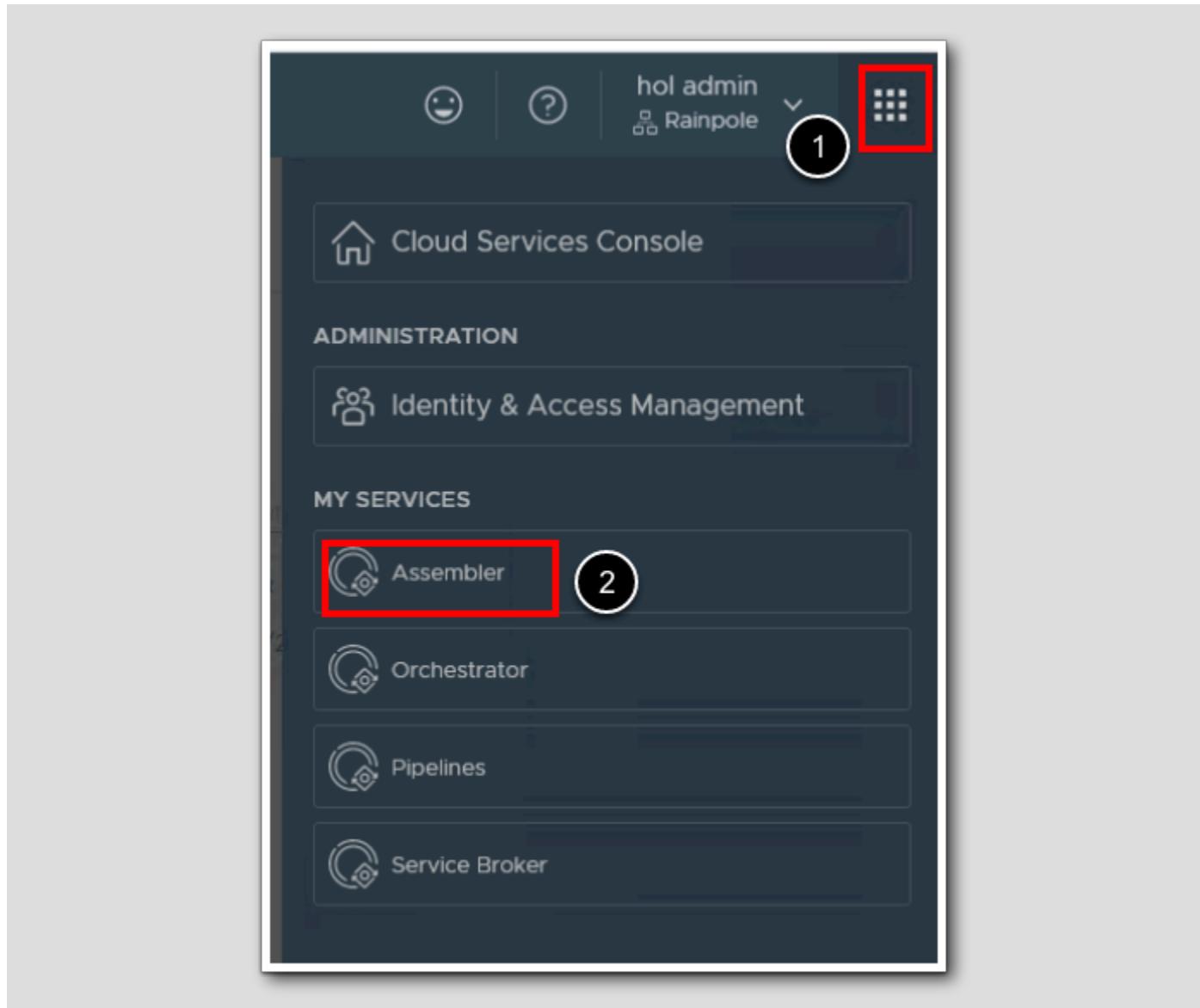
As a cloud administrator, we can make Cloud Assembly cloud templates available in the Service Broker catalog by adding a Cloud Assembly content source and sharing the templates. The cloud templates are the specifications for services or applications that we can deploy to our cloud providers.



This article explains about the steps involved in order to make a cloud template discovered in the catalog for Self Service Consumption for the entitled users added in the Content Sharing Policy.



Navigating to Assembler



1. Click on 9 dots at the right corner

2. Click Assembler

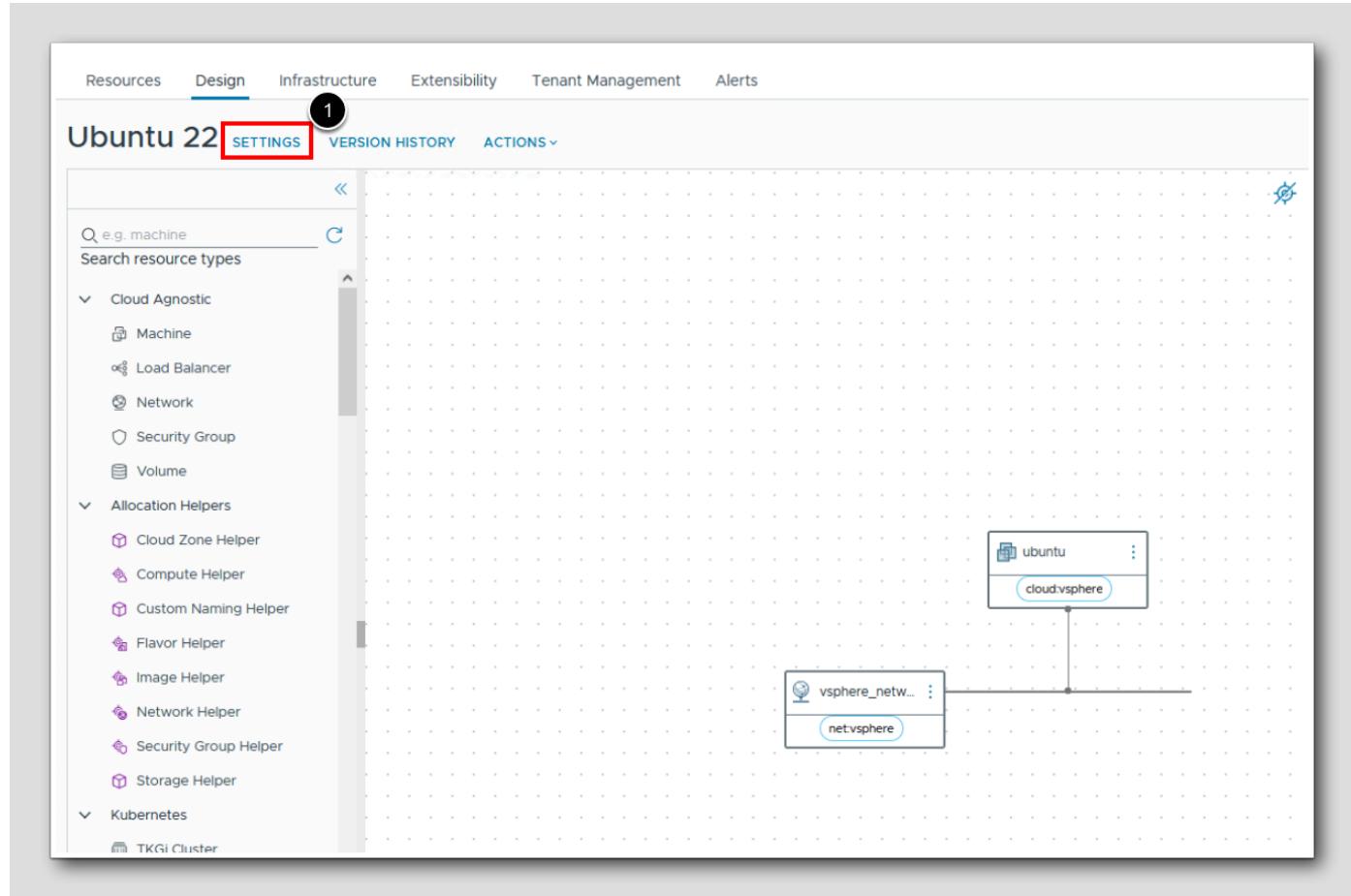
Sharing existing template with Production Apps Project

The screenshot shows the 'Templates' section of the VMware vSphere Web Client. The 'Design' tab is selected, indicated by a red box and the number 1. The 'Ubuntu 22' template is highlighted with a red box and the number 2. The table lists five templates:

	Name	Source Control	Read-only	Project
<input type="checkbox"/>	vSphere VM with Comments	⚠️ New draft, version(s) created		HOL Project
<input type="checkbox"/>	Windows with cloudbase-init	⚠️ New draft, version(s) created		HOL Project
<input type="checkbox"/>	vSphere Machine	⚠️ New draft, version(s) created		HOL Project
<input type="checkbox"/>	Ubuntu 22	⚠️ New draft, version(s) created		HOL Project
<input type="checkbox"/>	Cloud VM with Form	⚠️ New draft, version(s) created		HOL Project

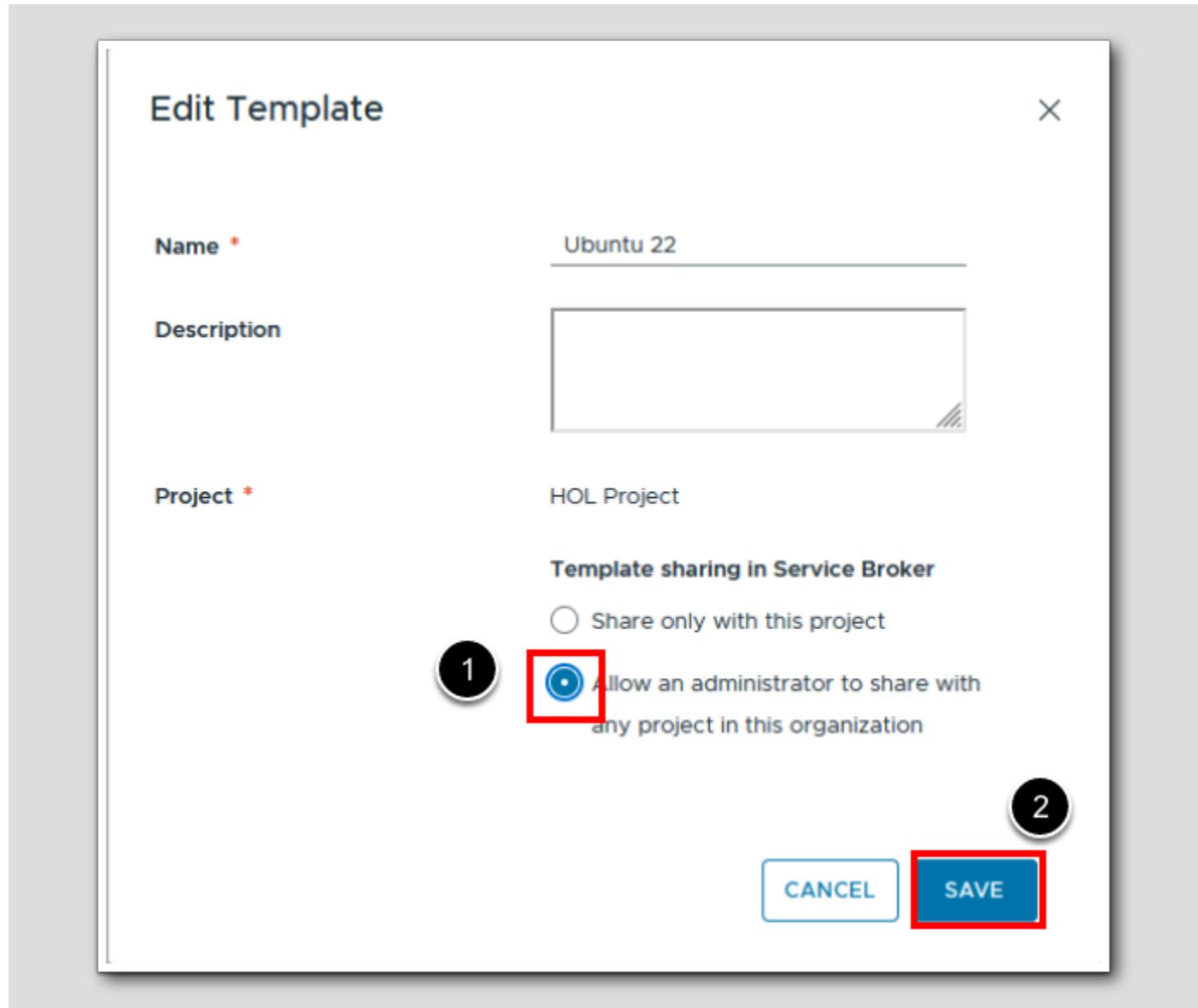
1. Click Design
2. Click Ubuntu 22 template

Updating the Template visibility setting



1. Click SETTINGS

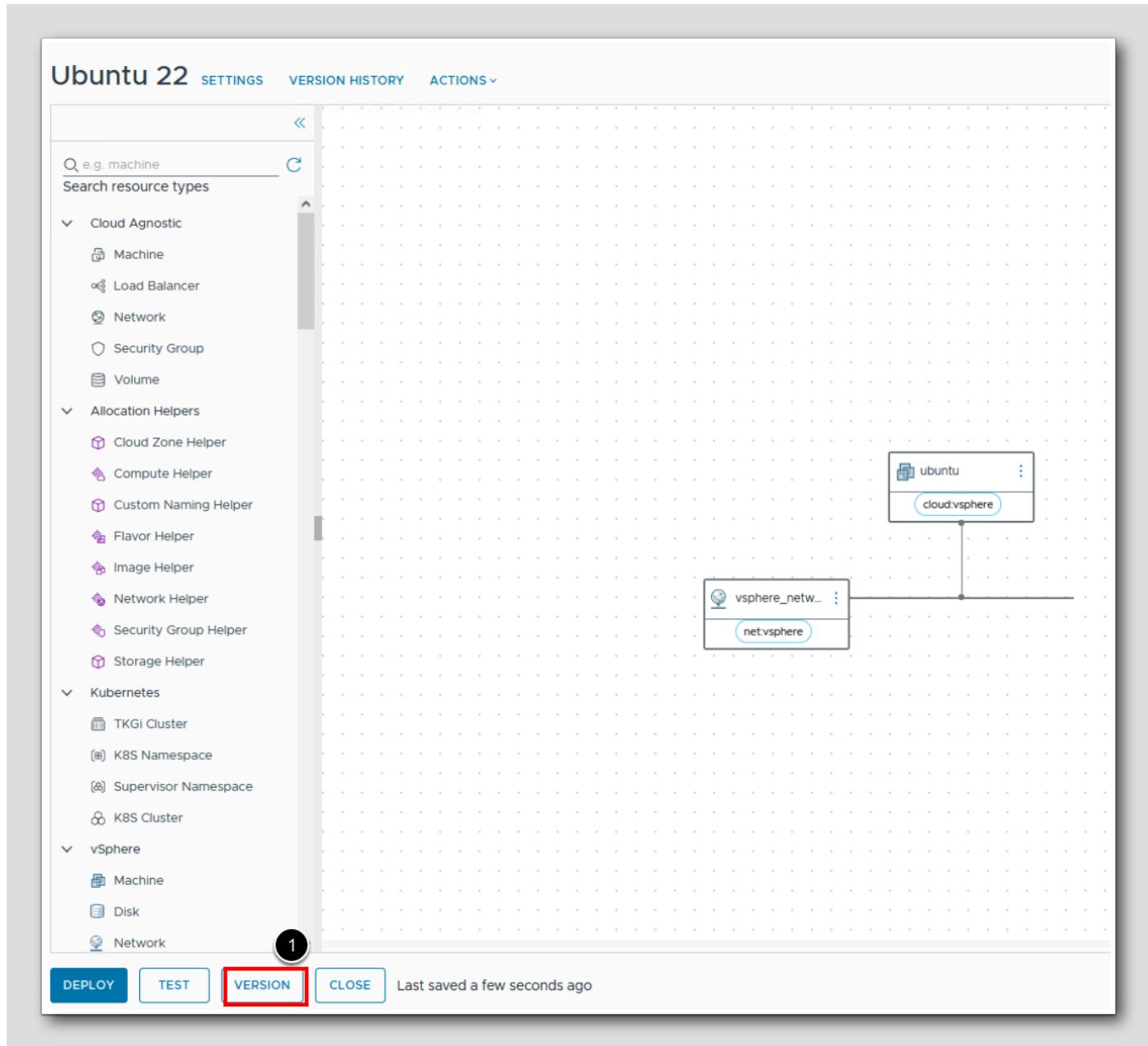
Saving Template Settings



1. Select Allow an Administrator to share with any project in this organization. This helps to discover the templates under Production Apps Project as well

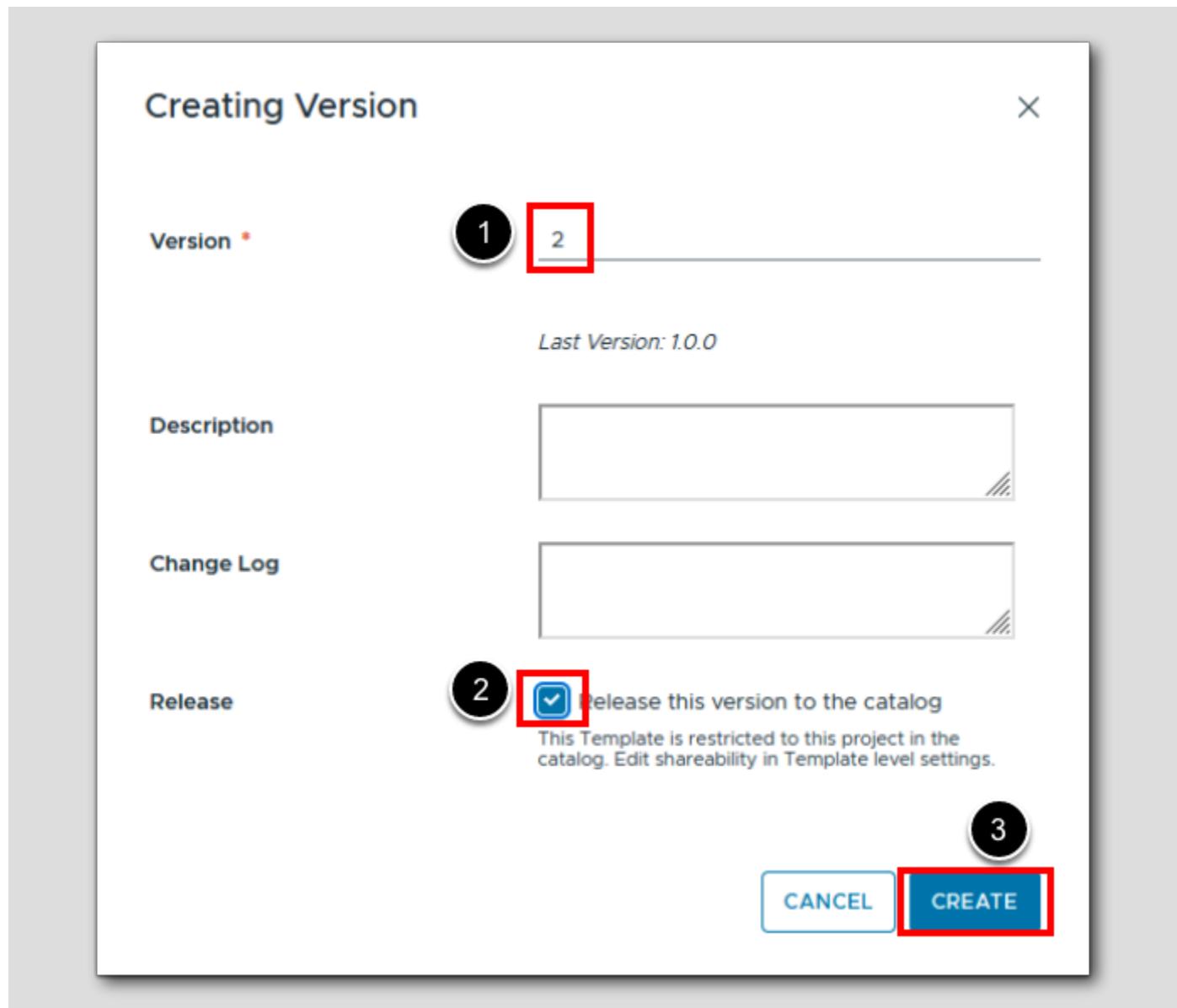
2. Click SAVE

Creating the latest template version



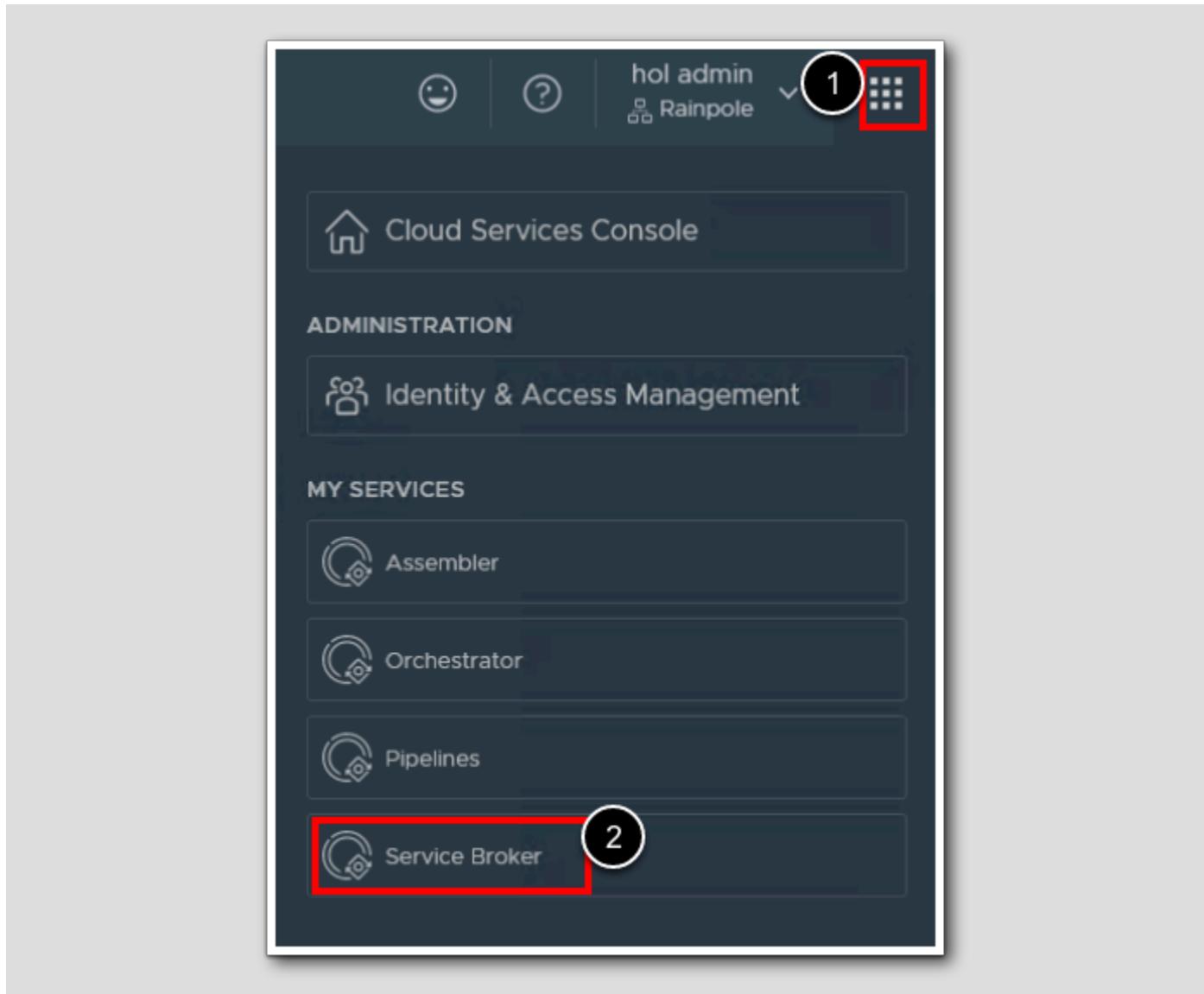
1. Click VERSION

Releasing latest version to the Catalog



1. Observe the version bumped up to 2
2. Click Release this version to the Catalog
3. Click CREATE

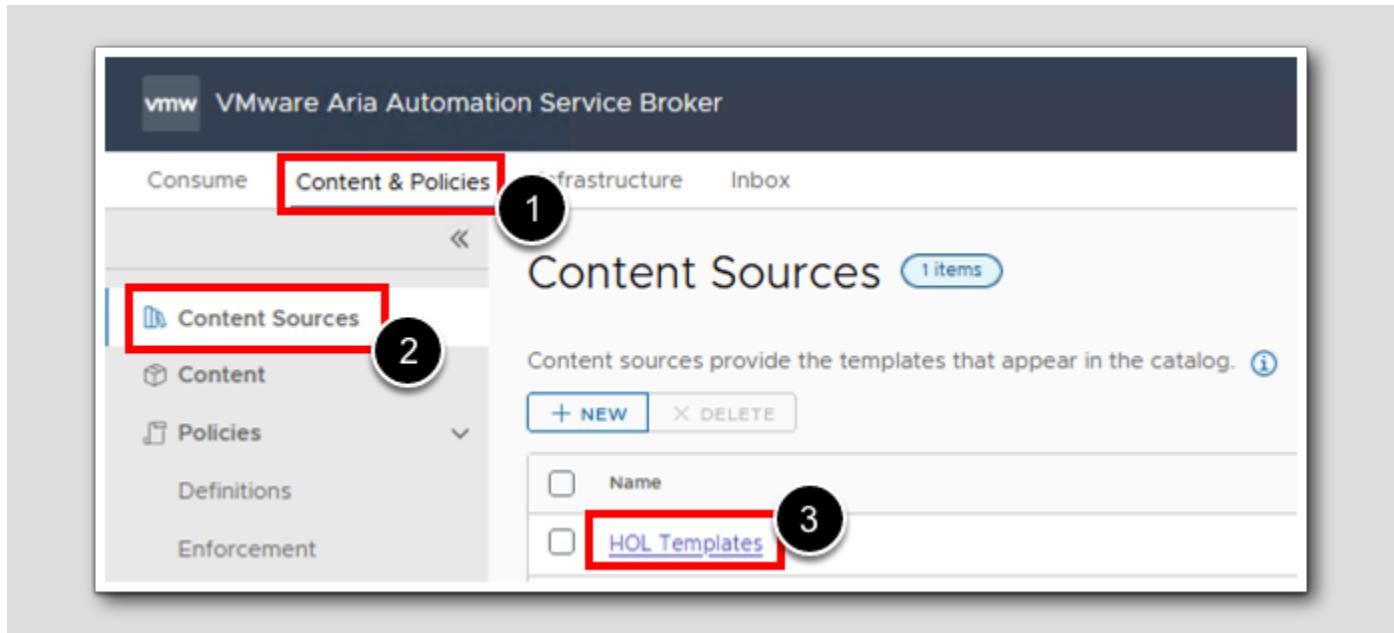
Navigating to Service Broker



1. Click on 9 dots at the right corner

2. Click Service Broker

Importing the Content Sources



Content Sources allows the Cloud Administrator to logically define where to obtain the Cloud Templates. The Cloud Templates could be sourced from a different content development team, or potentially the system administrators of the environment.

1. Click Content & Policies
2. Click Content Sources
3. Click HOL Templates

Validate the existing Templates to apply the settings changes

The screenshot shows the 'Content Source Details' dialog box. At the top, it says 'Content Source Details' and has a 'DELETE' link. Below that, there are fields for 'Type' (set to 'Template'), 'Name' (set to 'HOL Templates'), and 'Description'. Under 'Get Templates from', there is a 'Source project' field containing 'HOL Project' with a search icon, and a 'VALIDATE' button highlighted with a red box and circled with a number '1'. A green message bar at the bottom right says 'Content source validated successfully. 4 items found.' with a close button. Under 'Deploy Templates to', there is a note about templates being deployed to cloud zones and two buttons: 'SAVE & IMPORT' (highlighted with a red box and circled with a number '3') and 'CANCEL'.

1. Click VALIDATE
2. Once Validated , message appears like shown above
3. Click SAVE & IMPORT

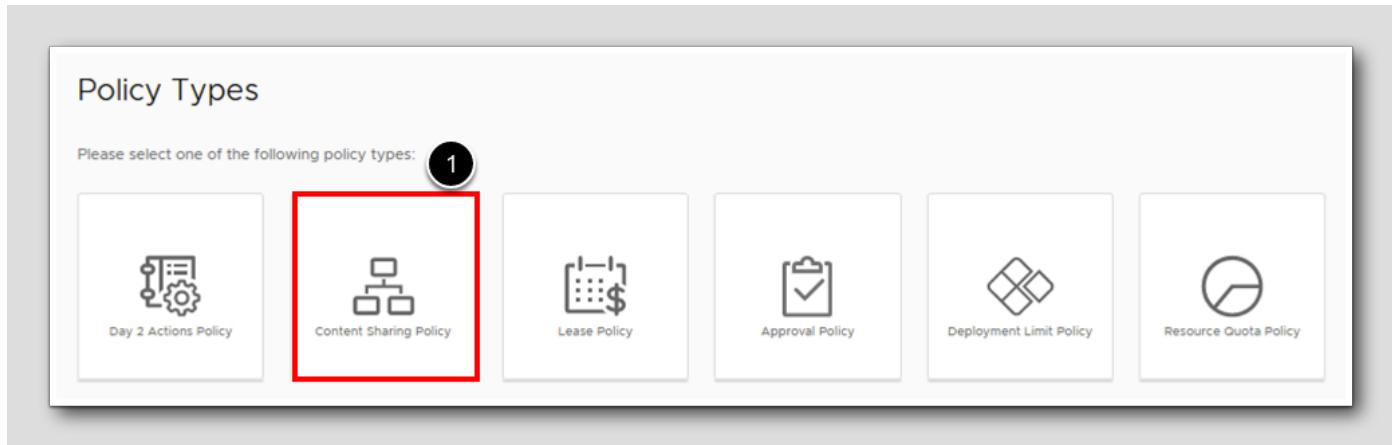
Adding Content Source Policy

The screenshot shows the VMware Aria Automation Service Broker interface. The top navigation bar includes 'Content & Policies' (which is selected), 'Consume', 'Infrastructure', and 'Inbox'. On the left, a sidebar menu lists 'Content Sources', 'Content', 'Policies' (with a red box around it and a circled '1'), 'Definitions' (with a red box around it and a circled '1'), 'Enforcement', 'Notifications' (with a circled '2'), 'Email Server', and 'Scenarios'. The main content area is titled 'Definitions' with a sub-header '(2 items)'. It displays a message: 'A list of all the policies defined for your organization.' Below this are two policy entries: 'HOL Project Templates' and 'Production Apps Quota Policy'. At the bottom of the list is a red box around the '+ NEW POLICY' button.

With the Content Source created, the Cloud Administrator can now define which project can access the source using a Content Source Policy.

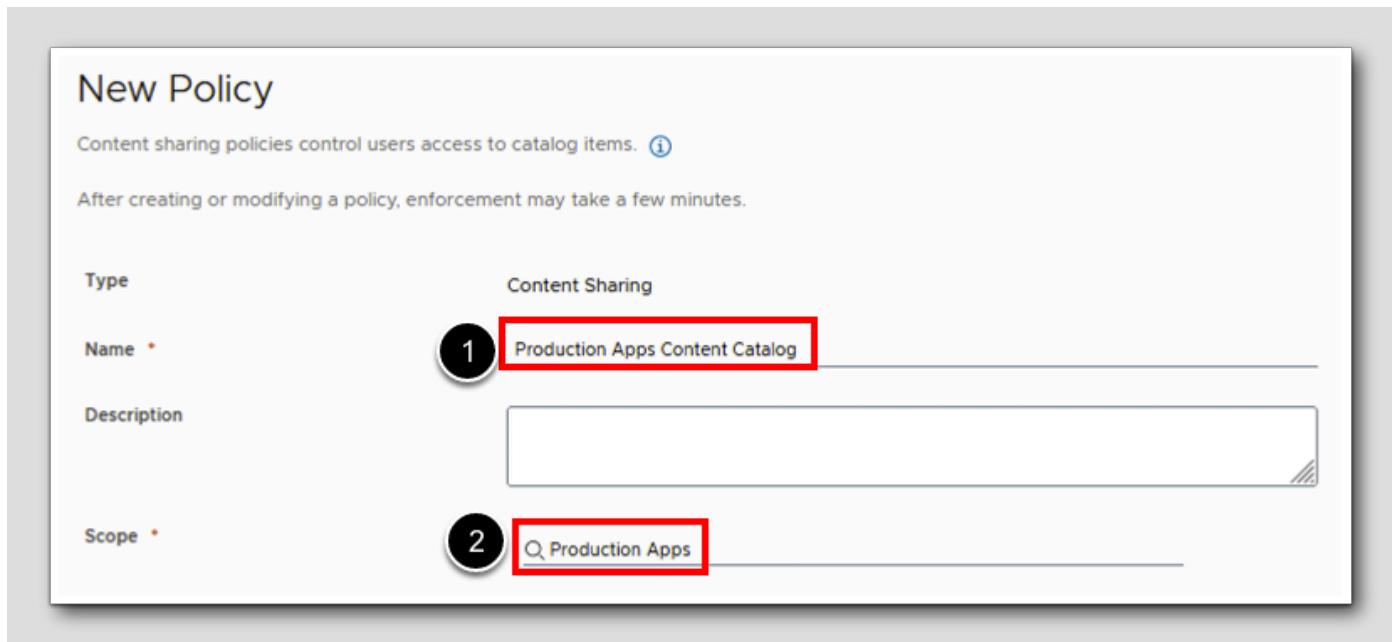
1. Click Policies -> Definitions
2. Click + New Policy

Defining Content Sharing Policy



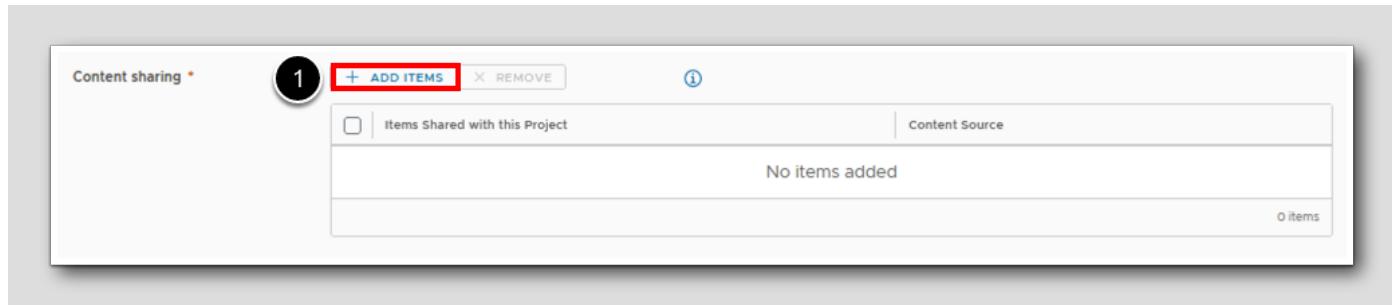
1. Click Content Sharing Policy.

Defining Content Sharing Policy (contd...)



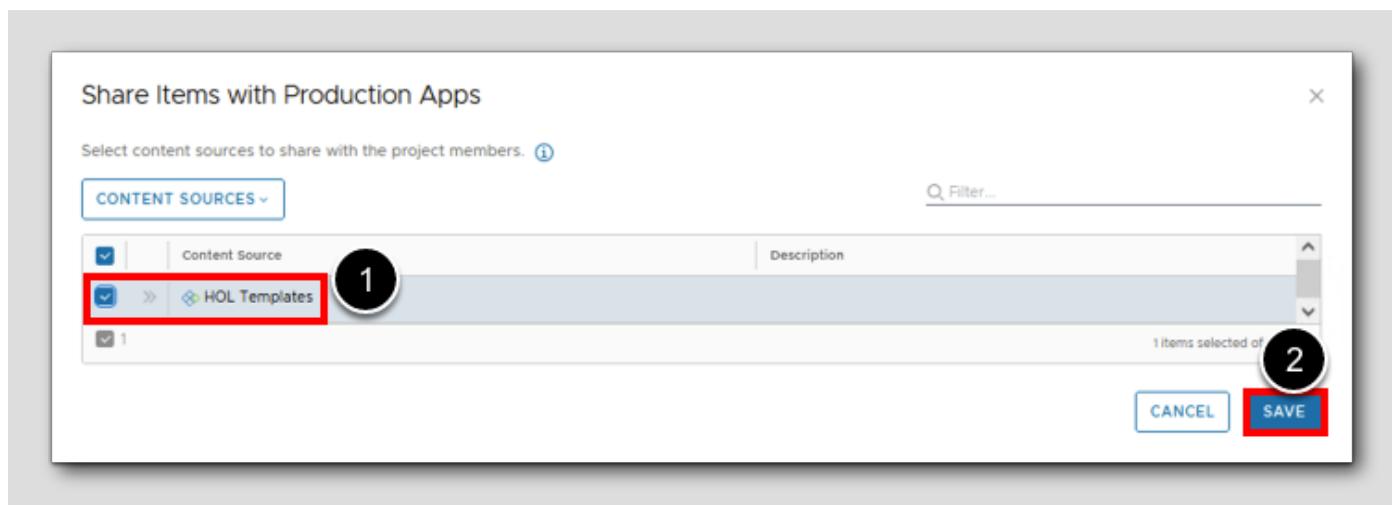
1. Name the Policy Production Apps Content Catalog
2. Select Production Apps Project

Content Sharing



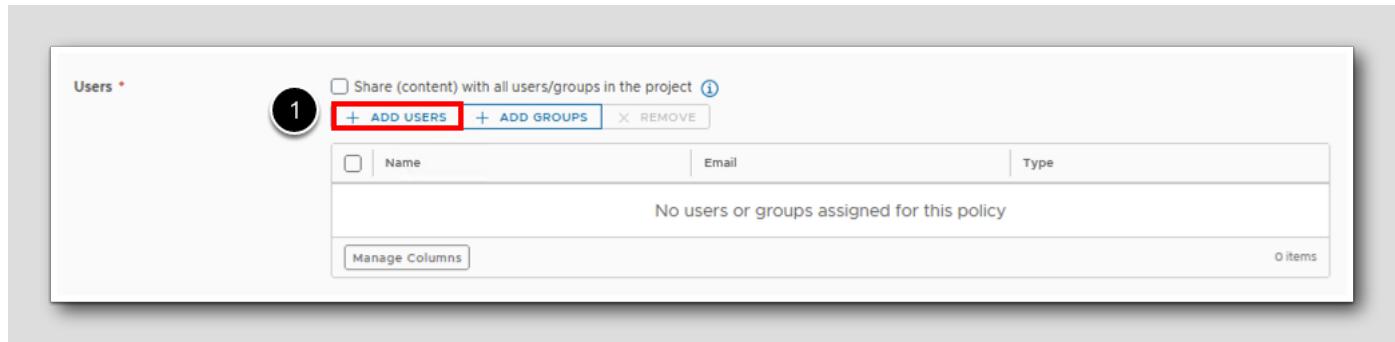
1. Click + ADD ITEMS

Share Catalog Items to the Project



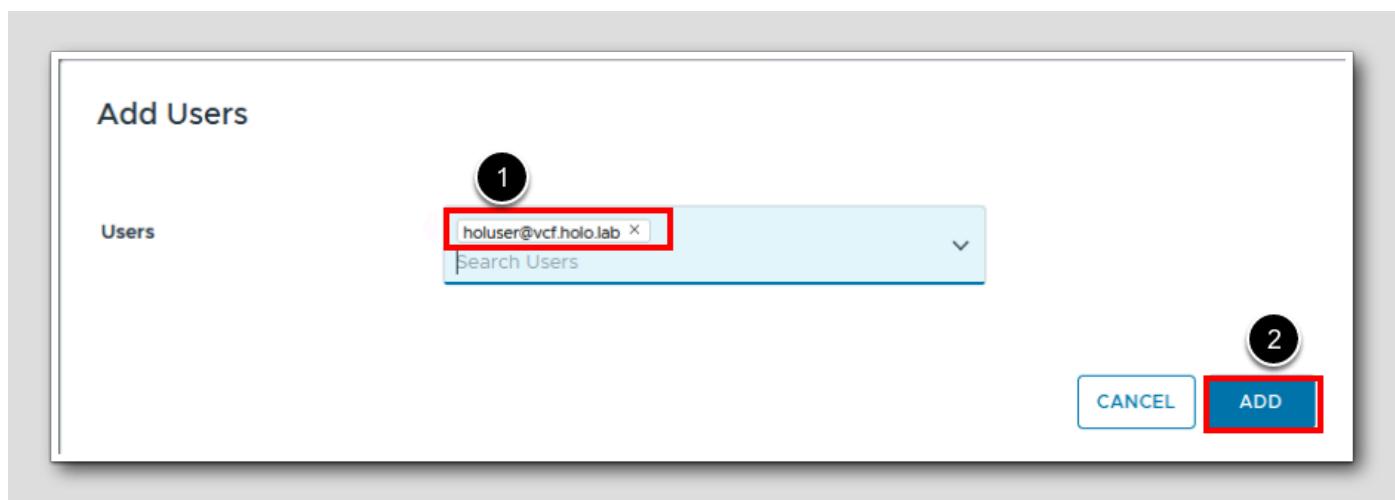
1. Select HOL Templates
2. Click SAVE

Add User to the Policy



1. Click + ADD USERS

Adding holuser to the Project Policy



1. Search for holuser and Select holuser@vcf.holo.lab

2. Click ADD

Create Content Sharing Policy

New Policy

Content sharing policies control users access to catalog items. ⓘ

After creating or modifying a policy, enforcement may take a few minutes.

Type Content Sharing

Name * Production Apps Content Catalog

Description

Scope * Production Apps

Content sharing *

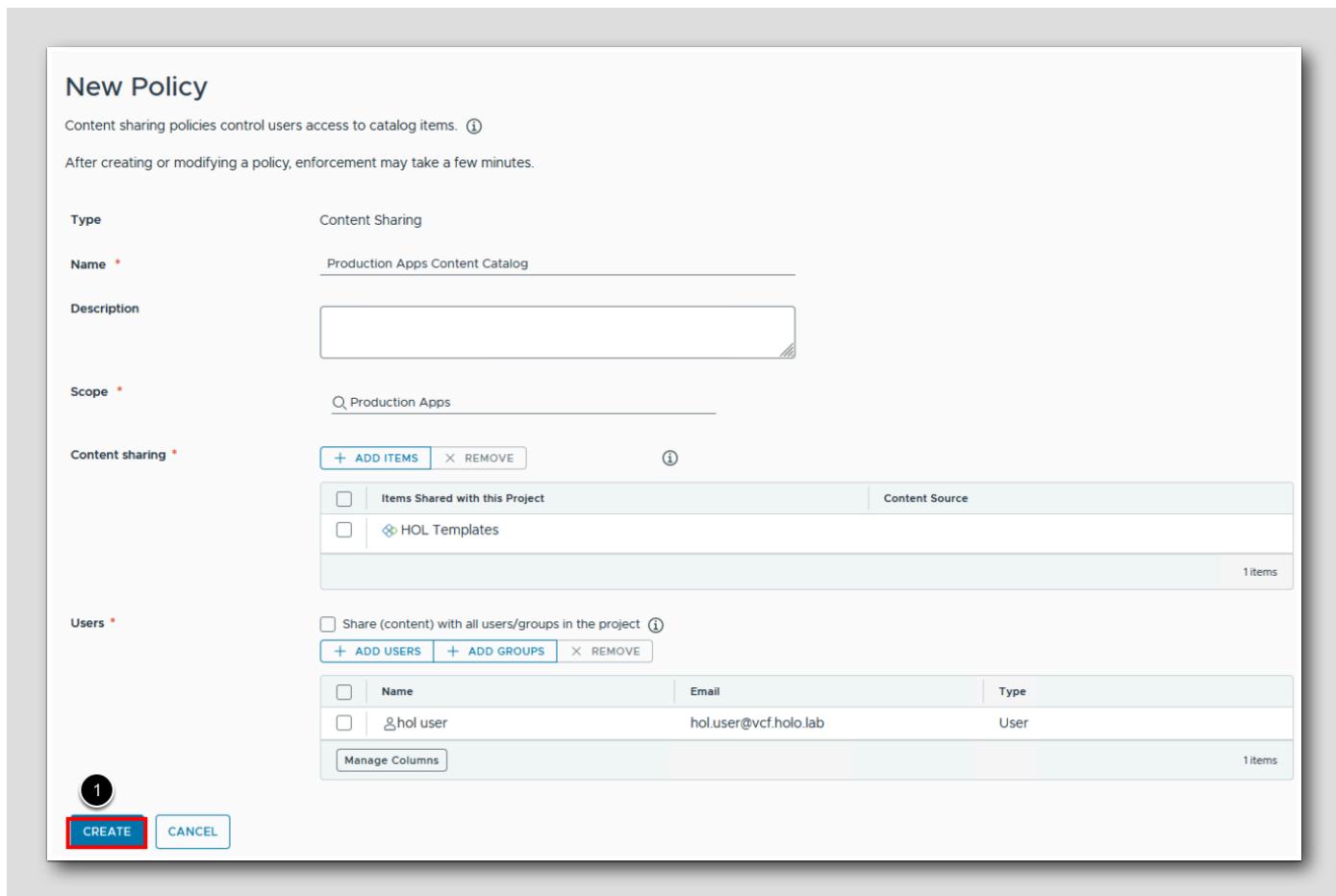
+ ADD ITEMS		X REMOVE	ⓘ
<input type="checkbox"/>	Items Shared with this Project	Content Source	
<input type="checkbox"/>	HOL Templates	1 items	

Users *

<input type="checkbox"/>	Name	Email	Type
<input type="checkbox"/>	hol user	hol.user@vcf.holo.lab	User

1

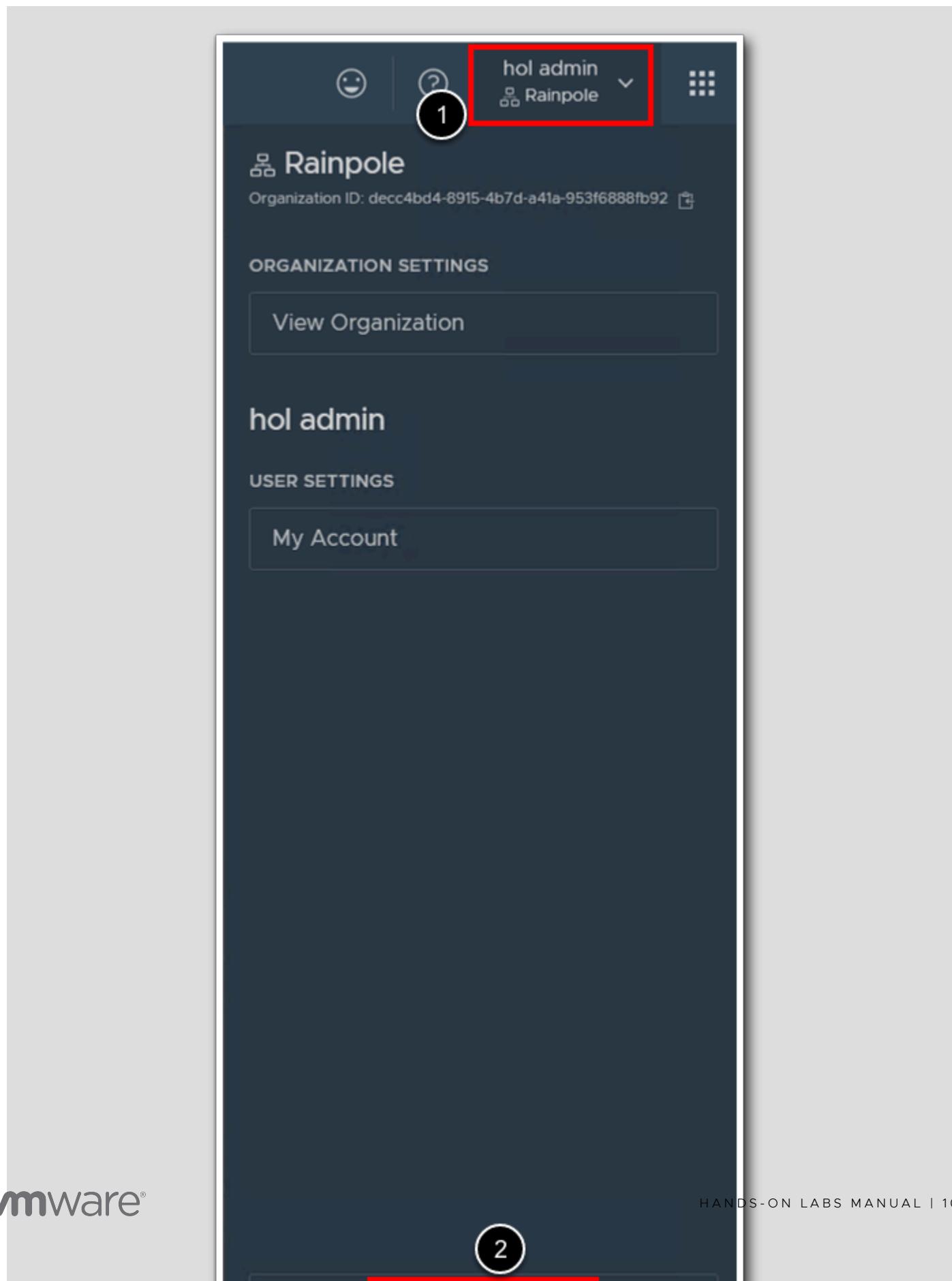
CREATE CANCEL



1. Click CREATE

Logging Out from holadmin

[124]



1. Click **holadmin** user profile at the right top corner
2. Click **SIGN OUT**

References

[125]

Refer for more details about [*Assembler and Service Broker content sharing and consumption of templates as catalog*](#)

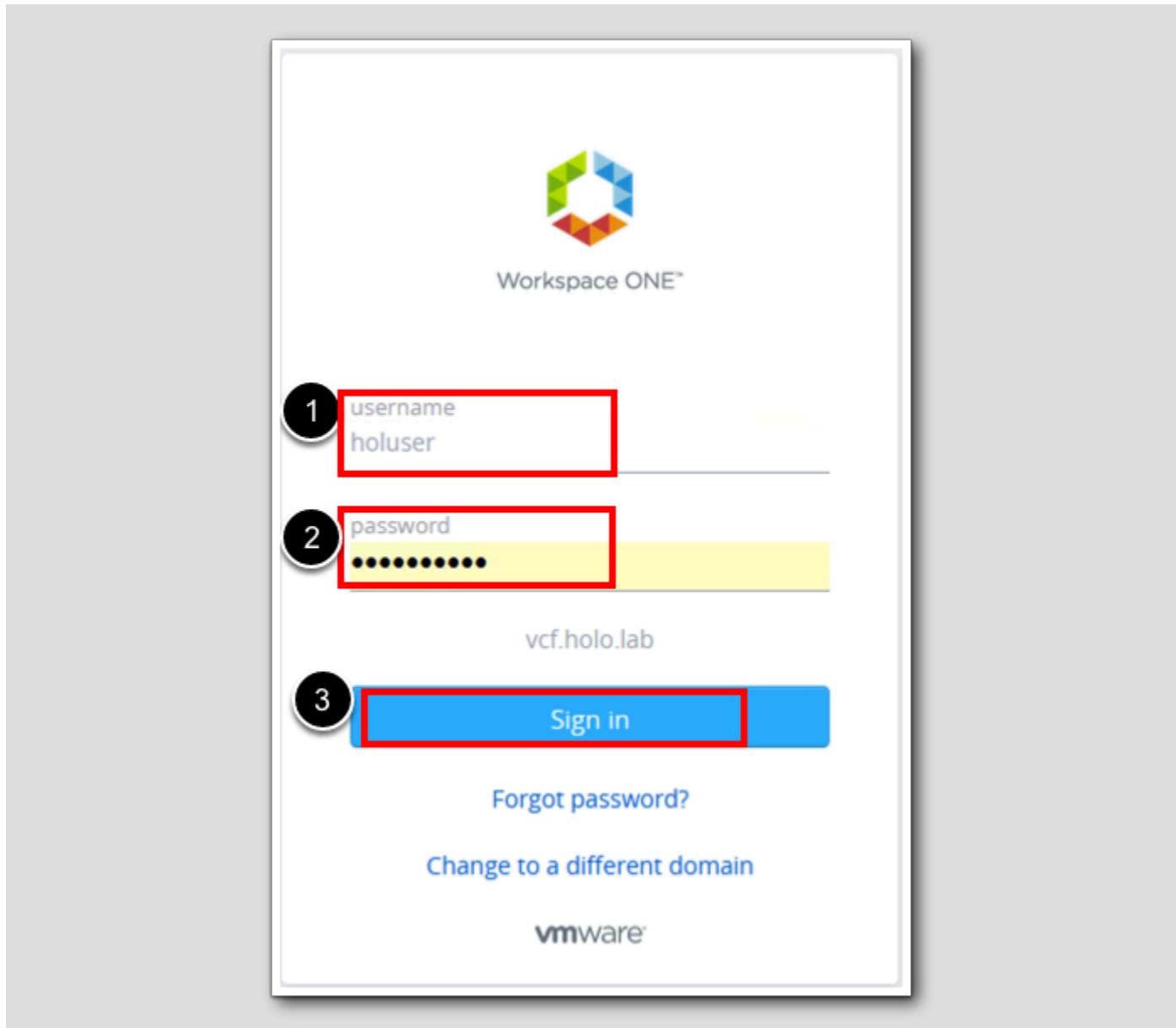
Self Service Consumption of a Project with Policy

[126]

This article explains about Self Service capability of Service Broker and how Resource Quota Policy helps Cloud Administrators to control on the resources which are entitled for Self Service request by a non cloud Administrators in the Organization.

We will be demonstrating the Resource Quota Policy set in the Production Apps project by provisioning more than 1 Virtual Machine whereas we have set the maximum Virtual Machine limit as 1 in the policy from the previous exercise.

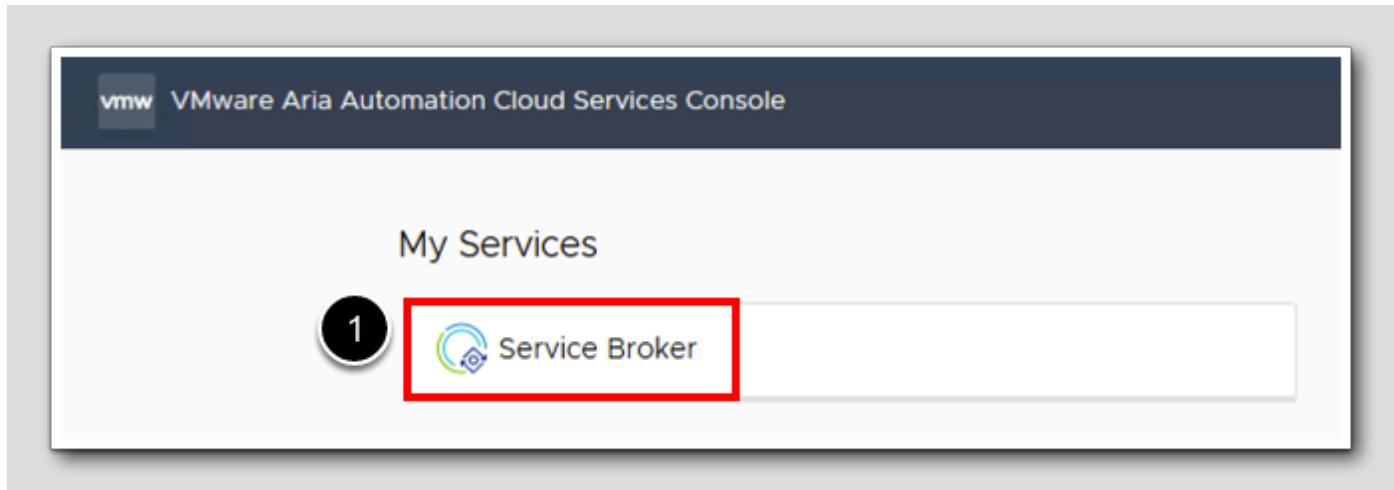
Log in Service Broker as holuser



1. Enter username **holuser**
2. Enter password **VMware1!**
3. Click **Sign in**

Access Service Broker

[128]



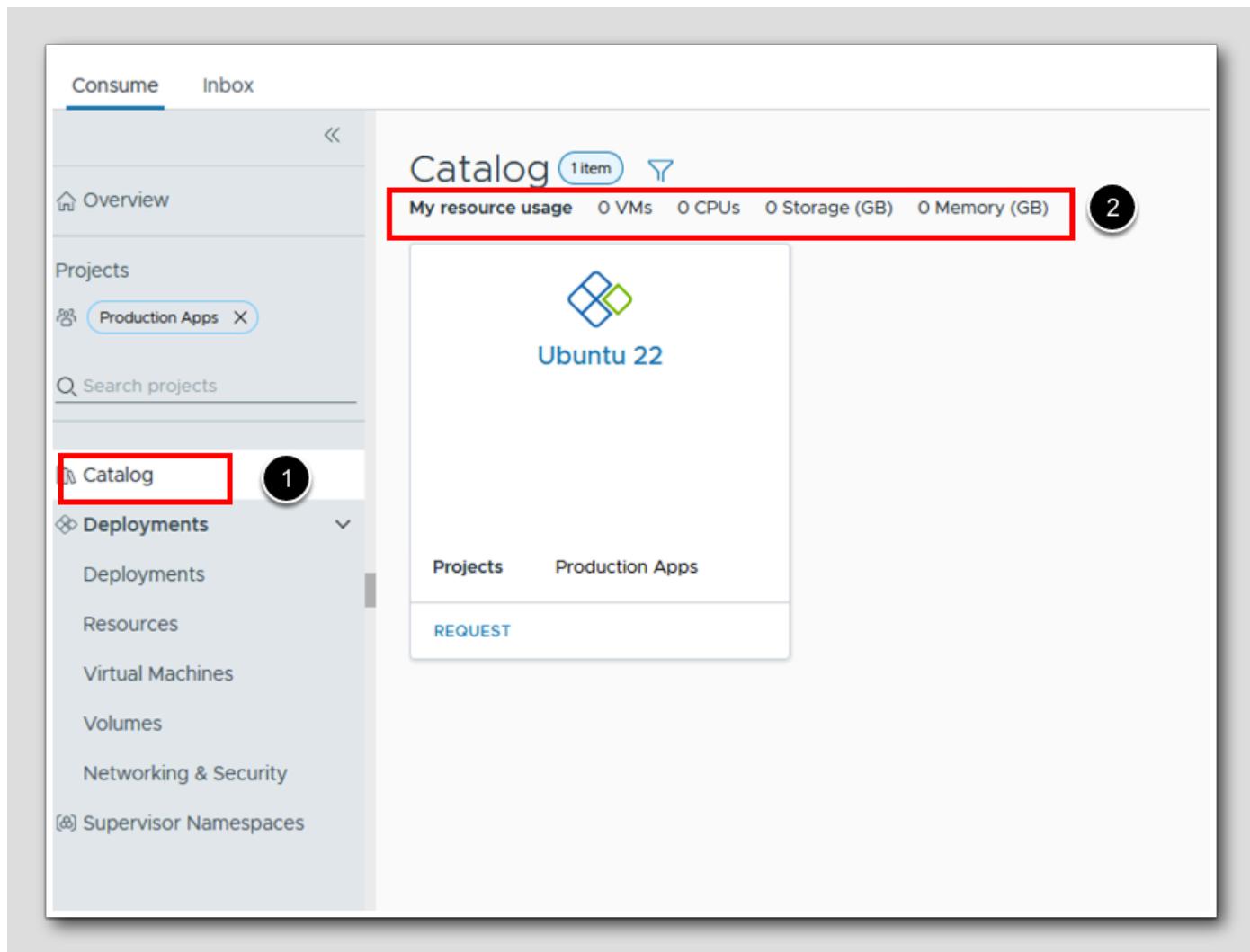
1. Click Service Broker

Filter for Production Apps Project details

The screenshot shows the VMware Aria Automation Service Broker interface. The top navigation bar has 'Consume' and 'Inbox' tabs, with 'Consume' highlighted. Below the navigation is a large 'Overview' section with a welcome message: 'Welcome to the consumer experience where you can request resources and services.' To the left is a sidebar with sections for Overview, Projects, Deployments, Resources, Virtual Machines, Volumes, and Networking & Security. Under 'Projects', there's a search bar with 'Production Apps' typed in. A list of projects shows 'HOL Project' and 'Production Apps', with 'Production Apps' circled with a red box and a black number '2' above it. The main content area has a heading 'Getting started with key concepts.' and a list of concepts: Projects, Catalog, Deployments and Applications, Resources, Cloud zones and Kubernetes zones, and Governance. There's also a link 'View definitions'.

1. Click Consume
2. Click into the Project search box and select Production Apps

Observe the Catalog Machine Resource Usage



1. Click Catalog
2. Observe there are no resources claimed by this holouser under the Production Apps Project

Request for a machine deployment

The screenshot shows the VCF UI interface. On the left, there's a sidebar with tabs for 'Consume' and 'Inbox', and sections for 'Overview', 'Projects' (with 'Production Apps' selected), 'Catalog', and 'Deployments'. Under 'Deployments', there are links for 'Deployments', 'Resources', 'Virtual Machines', 'Volumes', 'Networking & Security', and 'Supervisor Namespaces'. The main area is titled 'Catalog' with '1 item'. It shows a card for 'Ubuntu 22' with a logo. Below the card are two tabs: 'Projects' and 'Production Apps'. A red box highlights the 'REQUEST' button, which is labeled with the number '1'.

1. Click REQUEST

The Production Apps Project has a Resource Quota Policy defined which allows only a single machine deployment with limited compute capacity as defined in the previous lesson.

Catalog Request Configuration

[132]

New Request

Ubuntu 20

Version 3

Project * Production Apps

Deployment Name * First Machine Request

SUBMIT CANCEL

The image shows a 'New Request' dialog box. At the top left is the Ubuntu 20 logo. To its right is a dropdown menu labeled 'Version 3'. A red box highlights this dropdown, and a black circle with the number '1' is positioned above it. Below the logo is a 'Project *' label followed by a dropdown menu containing the option 'Production Apps'. A red box highlights this dropdown, and a black circle with the number '2' is positioned above it. Below the project dropdown is a 'Deployment Name *' label followed by an input field containing the text 'First Machine Request'. A red box highlights this input field, and a black circle with the number '3' is positioned above it. At the bottom of the dialog are two buttons: a blue 'SUBMIT' button and a white 'CANCEL' button with blue text. A black circle with the number '4' is positioned above the 'SUBMIT' button.

1. Select latest cloud template version 3
2. Select Production Apps Project
3. Enter name , For Example First Machine Request
4. Click SUBMIT

NOTE: Deployment may take a few minutes.

Deployment Status

[133]

1. Click Deployments
2. Observe the deployment status and background tasks for machine provisioning

Deployment Successful stage

The screenshot shows the 'Deployments' section of the VMware Aria Automation Service Broker. A deployment named 'First Machine Request' is listed. The status is 'Create Successful' (circled in red). Below the deployment details, a table lists resources: 'ubuntu-mcm838-23719506469' with IP '192.168.110.123' and status 'On' (both highlighted with red boxes).

1. Review the deployment status **Create Successful** after few minutes
2. Observe the IP address and machine status **On**

Observe Machine Quota

The screenshot shows the 'My Resource Usage' section. It displays metrics: 1 VMs Count (highlighted with a red box), 1 CPU Count, 8 Storage (GB), and 1 Memory (GB). In the sidebar, the 'Catalog' link is highlighted with a red box and circled in black.

1. Click Catalog

2. Observe the current machine count has been increased to 1 post successful machine deployment

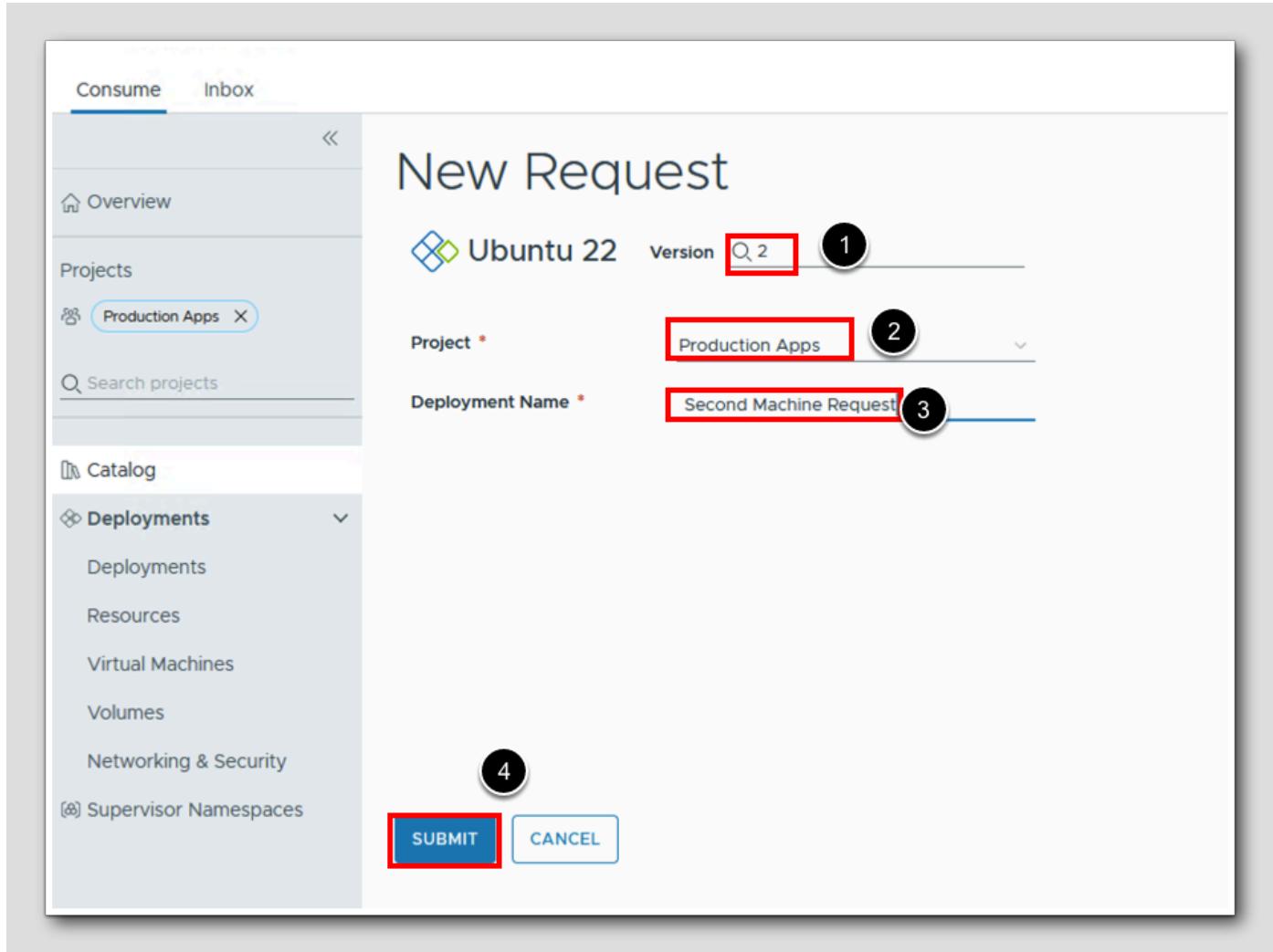
New Deployment Request

[136]

The screenshot shows the VMware Aria Automation Service Broker interface. The left sidebar has a 'Catalog' section highlighted with a red box and a circled '1'. Below it, a 'REQUEST' button is also highlighted with a red box. The main area displays 'My Resource Usage' with summary statistics: 1 VMs Count, 1 CPU Count, 8 Storage (GB), and 1 Memory (GB). The 'Catalog Items' section shows one item: 'Ubuntu 20' from 'VMware Aria Automatio...'. The 'REQUEST' button is located at the bottom of the catalog item card.

1. Click REQUEST

Configuring Machine Request



1. Select latest cloud template version 2
2. Select Production Apps Project
3. Enter name Second Machine Request
4. Click SUBMIT

Observing Deployment Request status

Name	Owner	Project	Status	Expires on	Price	Created on
Second Machine Request	holuser@corp.vmbeans.com	Production Apps	CANCEL	Never		a few seconds ago
First Machine Request	holuser@corp.vmbeans.com	Production Apps	Success	Never		19 minutes ago

1. Observe the deployment status for Second Machine Request

Validating Resource Quota Policy limit for Production Apps project

Name	Owner	Project	Status	Expires on	Actions
Second Machine Request	holuser@corp.vmbeans.com	Production Apps	Create approval rejected 4 / 9 Tasks. The requested 1 instances exceeds the limit defined at the project level in policy Production Apps Quota Policy.	Never expires	Actions
First Machine Request	holuser@corp.vmbeans.com	Production Apps	Success	Never expires	Actions

1. The second machine deployment request has been rejected at the approval stage as the Production Apps project policy machine limit is exceeded

This level of Governance and Policy enforcement helps Cloud Administrators to manage the cloud resources effectively and also allows Developers to provision machines independently in a controlled manner.

Reference

For more details refer to the Service Broker Policies section of the Aria Automation documentation [Service Broker Policies](#)

Conclusion

In this module we explored about Self Service Catalog Consumption:

- We reviewed releasing Cloud Templates to a Catalog, defining Resource Quota Policy, and how policy enforcement helps to govern the cloud resources in an effective way.
- How Cloud templates are shared from Assembler and discovered in Service Broker.

You've finished the module

Congratulations on completing the lab module.

If you are looking for additional information, see:

- How does Automation Service Broker work

From here you can:

1. Continue with the next lab module
2. Click [vlp:table-of-contents|Show Table of Contents] to jump to any module or lesson in this lab
3. End your lab and return in the future

Module 4 - Create Quick Virtual Machines (15 minutes) Basic

Introduction

While Aria Automation provides advanced Infrastructure as Code functionality for provisioning and managing complex cloud environments, sometimes you just need a VM. With quick VM create you can entitle project members and admins to quickly create a new VM and even add an existing network and storage, independent of a catalog item.

Lab Captain:

- Sam Aaron, Sr Consultant, USA

This service may be useful if you need to provide users the ability to provision virtual machines that may not necessarily require the complexities of extensibility. Another scenario may be that your users do not have access to a catalog, but still need to deploy virtual machines.

In this module, we will use the below lessons to explore the Quick VM service.

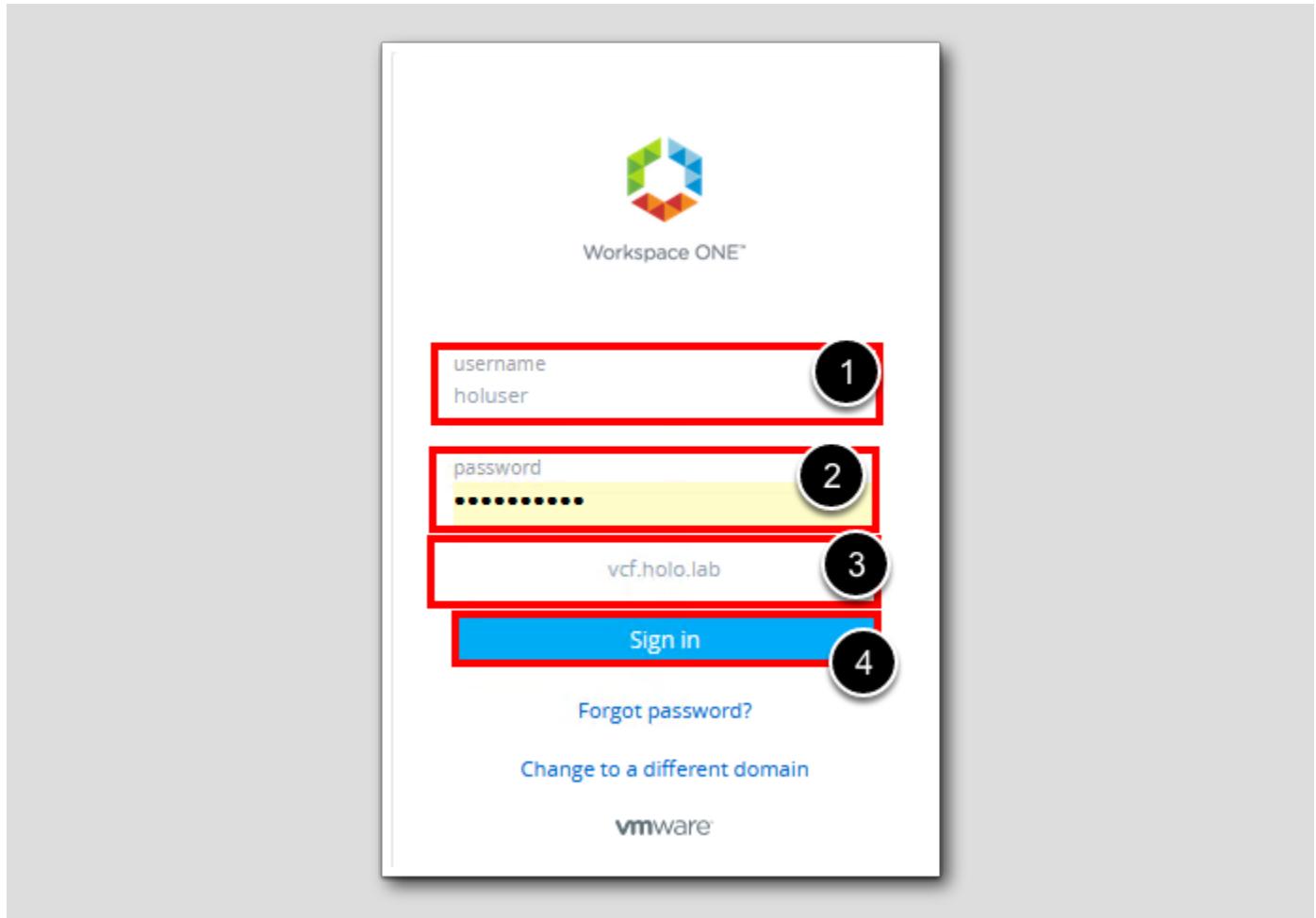
- Review the access of the current HOL User and Enable the service
- Create a quick virtual machine
- Review the day 2 actions associated with the new VM

Review access and Enable service

The quick VM service allows the Service Broker Administrator to provide a Project Member the ability to quickly create a VM directly using a single button and wizard independent of a Catalog Item. Let's take a look at what a Project Member would normally see if the service has not been enabled yet.

Log into Aria Automation

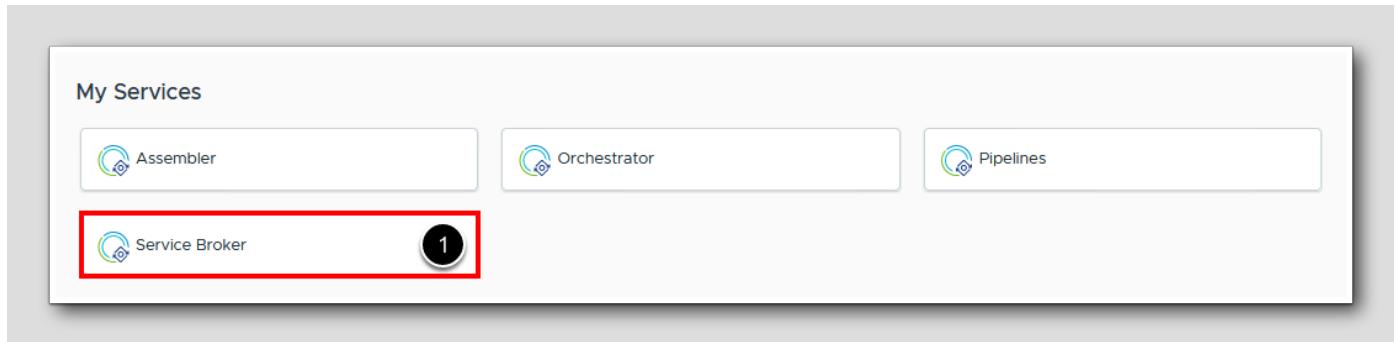
NOTE: If you have not launched the browser, open the firefox browser. Select the Aria Automation bookmark from the VCF Cloud Management bookmarks folder in the bookmarks bar.



Log in using the following:

1. Username: Replace holadmin with holuser
2. Password: VMware123!
3. Ensure that the domain is set to vcf.holo.lab
4. Click Sign in

Select Service Broker



1. Click the Service Broker button to launch the Service Broker service.

Default User View

Notice the browser page will default to the **Consume** tab.

As a member of the HOL Project, you can use the **Consume** tab to manage your Project's resources. The **Consume** tab acts as a resource center where you can monitor resources across clouds, make changes to them, as well as destroying or deleting them.

You can locate and manage your resources using the different views. You can filter the lists, view resource details, and then run actions on the individual items. The available actions depend on the resource state and the day 2 policies. Other resource types like networks, storage, etc., can also be viewed from this section of the product.

Navigate to Virtual Machines

[149]

The screenshot shows the VMware Aria Automation interface. On the left, a sidebar menu includes options like Overview, Projects, Catalog, Deployments, Resources, and Virtual Machines (which is highlighted with a red box and a circled '1'). The main content area is titled 'Virtual Machines' with a subtitle: 'Managed machines are those under full VMware Aria Automation management so that you can run day 2 actions. The managed machines included onboarded, migrated, or deployed machines. Click New VM if you want to deploy a VM based on your current cloud provider OS image and size flavors.' Below this is a table listing two virtual machines:

	Name	Deployment	Power State	Account / Region	Address	Project	Origin	Tags	Created On
...	windows-000906	hol-windows	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.64.12.13	HOL Project	Deployed		13 days ago
...	ubuntu-000308	hol-linux	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.64.12.10	HOL Project	Deployed		16 days ago

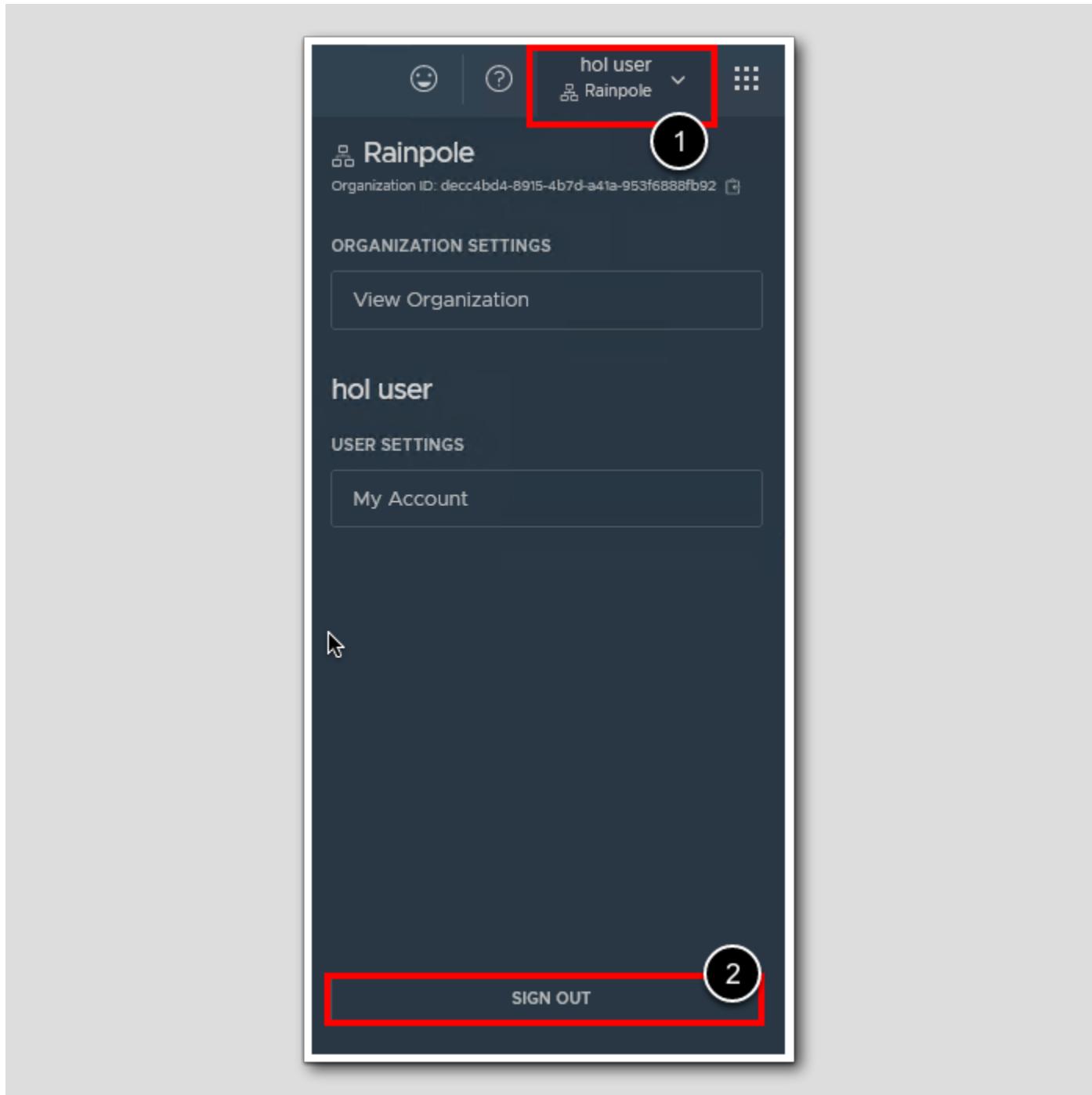
Annotations include a red box around the 'Virtual Machines' link in the sidebar (labeled '1') and a black circle with the number '2' over the table header.

1. On the left side of the page, navigate to **Virtual Machines**.
2. Notice under the table's title: **Virtual Machines** the blank space. If the Quick VM service were enabled, you would see a link to launch it.

This is the default view that most Project members will have until the service is activated.

Let us take a look at how to activate and use the service.

Log out of Aria Automation



1. In the top right corner, click on your username hol user.
2. A display menu will appear. Locate and click on SIGN OUT at the bottom.

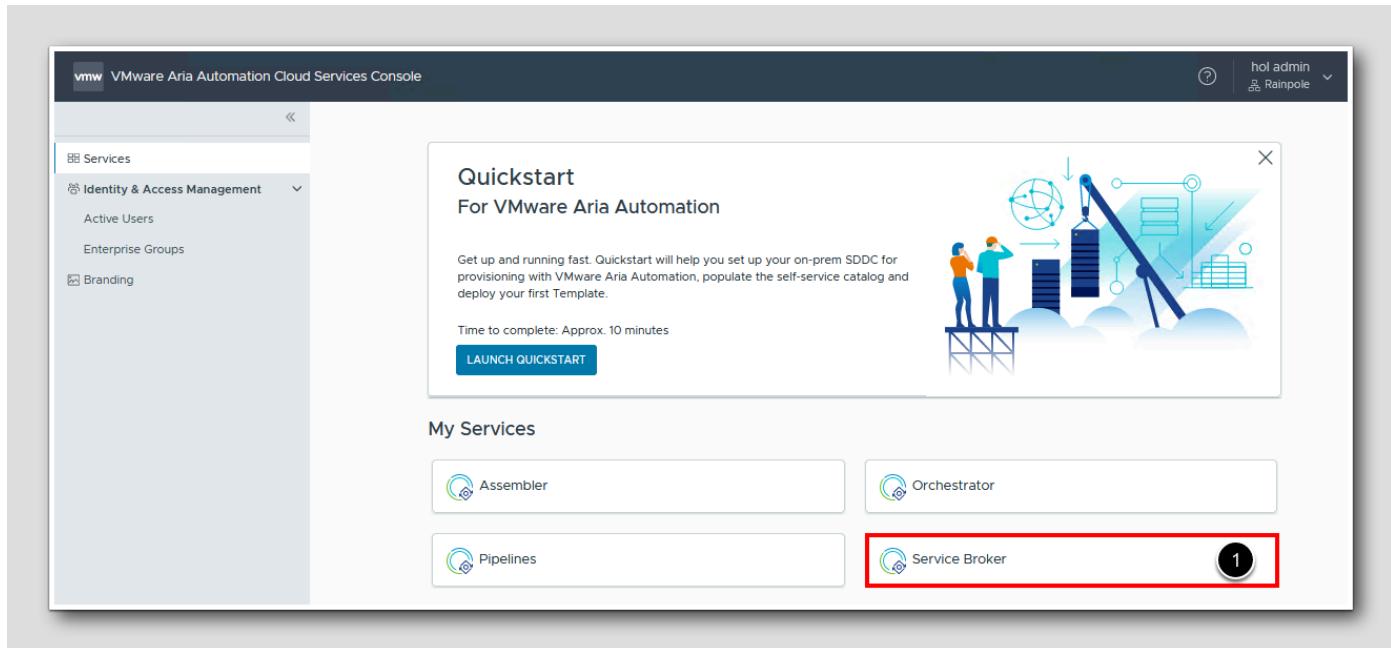
Log back into Aria Automation



NOTE: The HOL Admin account credentials may autofill the login prompt. If so, you can click on **Sign In** to log in. If not, use the following credentials to log in.

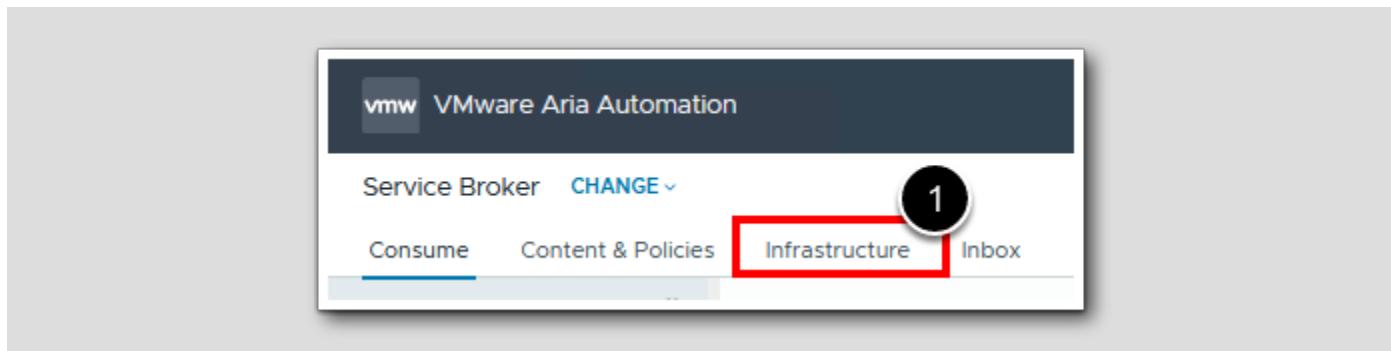
1. Username: holadmin
2. Password: VMware123!
3. Ensure the domain is set to vcf.holo.lab
4. Click **Sign In**

Launch the Service Broker



1. Locate the Service Broker button and click to launch the Service Broker Service.

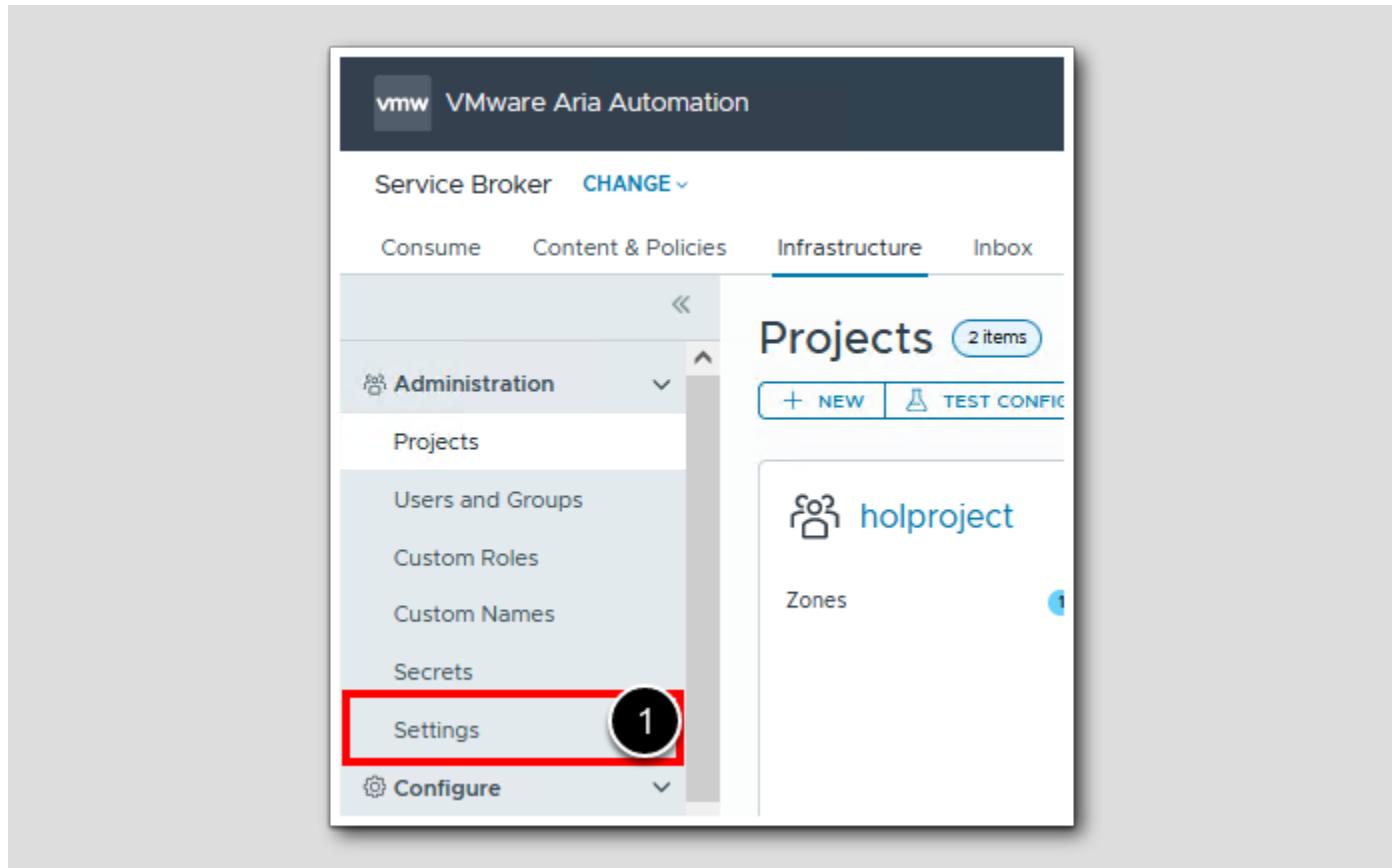
Navigate to the Infrastructure Resources



1. In the menu bar, locate Infrastructure and click on the link.

NOTE: Because the Infrastructure tab can be accessed by both the Service Broker and the Assembler services, these steps can be performed if you had selected Assembler.

Navigate to Settings



1. A menu is located on the left-hand side of the page. You should notice that all of the sub menus are expanded by default. Locate **Settings** - it should be close to the top within the **Administration** section. Click on **Settings**.

Reviewing Settings

The screenshot shows the 'Service Broker' section of the VMware Aria Automation interface. Under 'Infrastructure', the 'Settings' tab is selected. On the left, a sidebar shows 'Administration' with options like 'Projects', 'Users and Groups', 'Custom Roles', and 'Custom Names'. The main area displays two settings: 'Create new resource' (Value: --) and 'IP release timeout' (Value: false). A red box highlights the 'Create new resource' row, and a black circle with the number '1' is placed over the 'Value' column of this row. Below the table, a note explains the 'Create new resource' setting. At the bottom right of the settings table, there is a 'Save' button.

You will now see a couple of settings available to the Assembler and Service Broker Administrators.

1. Notice that the Create new resource item has no value. Click the Create new resource name.

Activate the setting

The screenshot shows a modal dialog titled 'Create New Resource'. It contains a note about activating the 'New VM' option for Service Broker users. Below the note is a setting labeled 'Allow to create new resource' with a green toggle switch. A red box highlights the toggle switch, and a black circle with the number '1' is placed over it. At the bottom right of the dialog are 'CANCEL' and 'SAVE' buttons, with the 'SAVE' button highlighted by a red box and circled with a black circle containing the number '2'.

1. Use the toggle to activate the setting to allow create new resource.
2. Click Save to save the setting.

Review the new setting

The screenshot shows a 'Settings' page with the heading 'Configure organization-level settings'. There are two items listed:

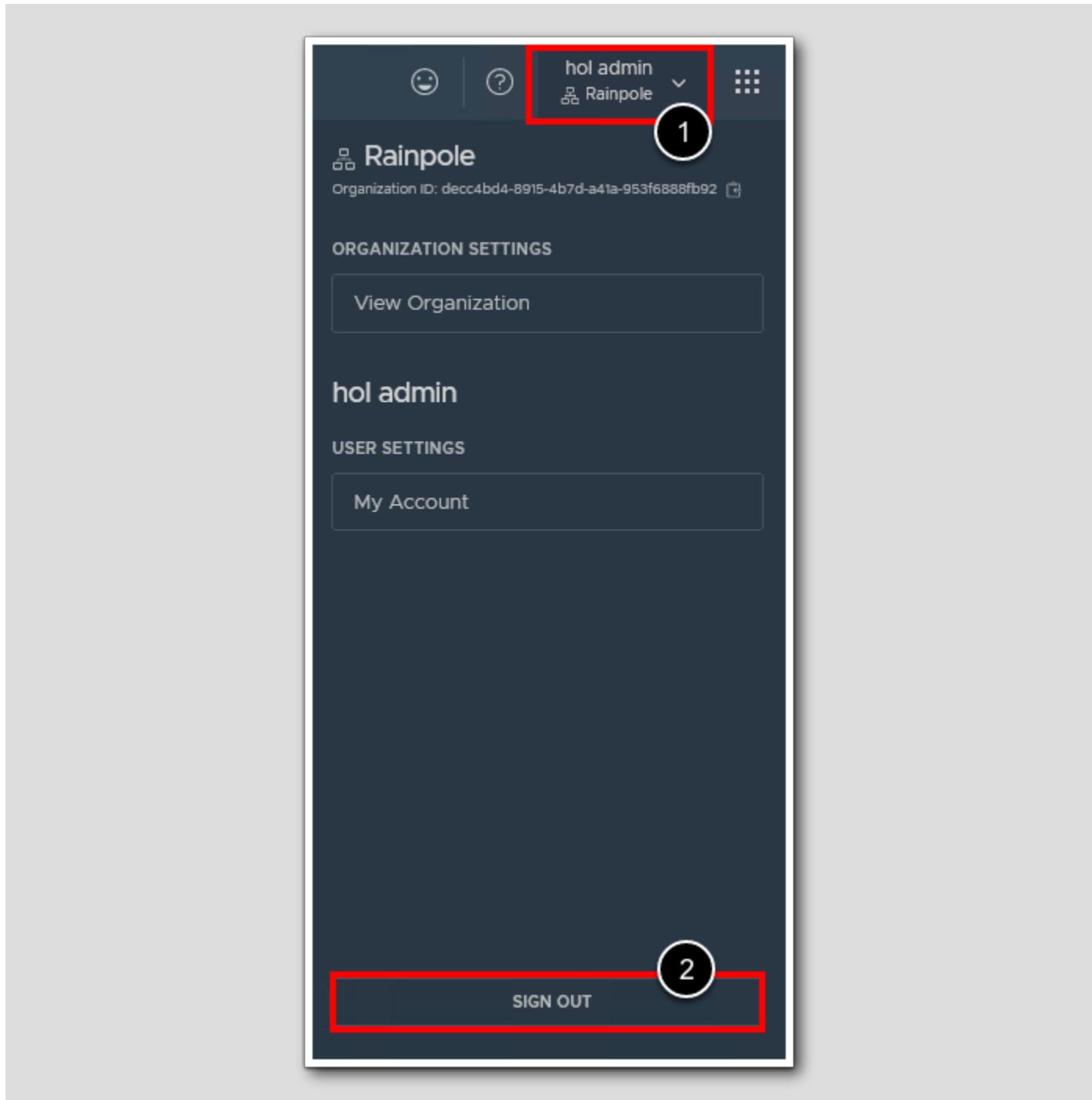
Name	Value
Create new resource	✓ option
IP release timeout	false

The first row, 'Create new resource', has a red box around it and a black circle with the number '1' pointing to the checkmark. The description for this row is: 'Activate the New VM option that allows Service Broker users to deploy simple virtual machines on the Virtual Machines page.' The second row, 'IP release timeout', has a value of 'false'.

Notice that the new setting has a "checkmark" indicating that it is active. The administrator can deactivate this setting at anytime.

NOTE: Once activated, the **create new resource** setting is a global setting that will be available to all project members within the Organization.

Log out of Aria Automation



1. In the top right corner, click on the user name **hol admin** and a menu appears.
2. At the bottom, click on **SIGN OUT** to log out of Aria Automation as the administrator.

Quick VM Creation

Now that the Quick VM service is enabled. Let's see how you would use the service to quickly deploy a virtual machine.

NOTE: If you skipped the previous step, "Review access and Enable Service", you must go and complete that step. Click [here](#) to return to that step.

Log into Aria Automation

NOTE: If you have not launched the browser, open the browser. Select the Aria Automation bookmark from the bookmarks bar.

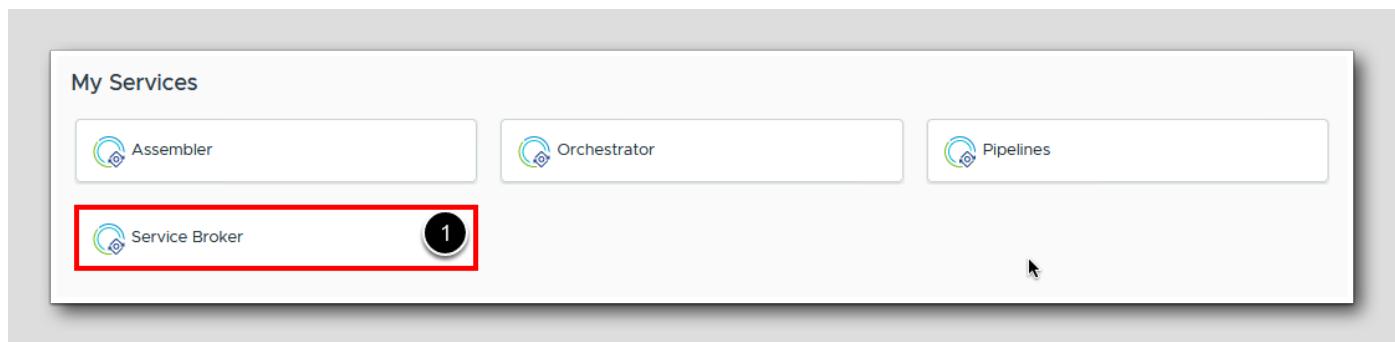


Log in using the following:

1. Username: Replace **holadmin** with **holuser**
2. Password: **VMware123!**
3. Ensure that the domain is set to **vcf.holo.lab**
4. Click **Sign in**

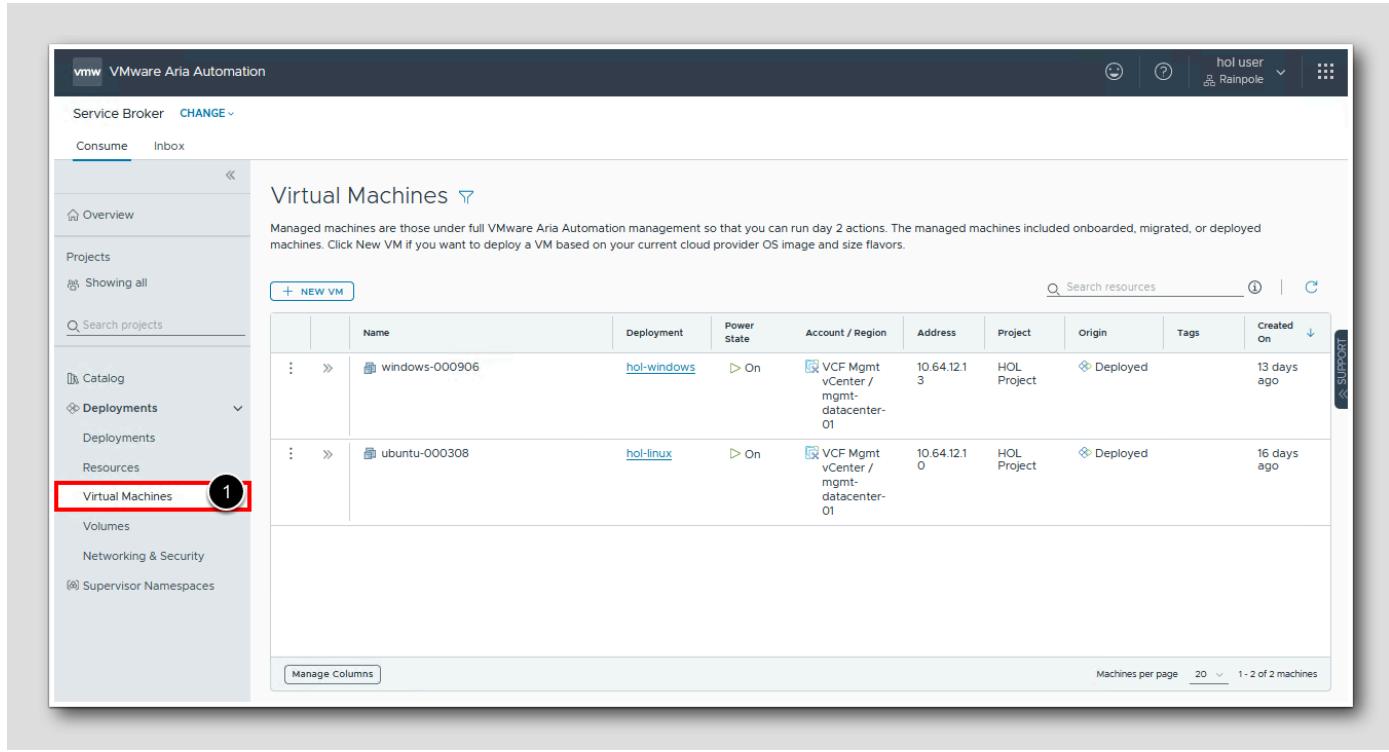
Select Service Broker

[161]



1. Click the **Service Broker** button to launch the Service Broker service.

Navigate to Virtual Machines



The screenshot shows the VMware Aria Automation Service Broker interface. On the left, there is a sidebar with the following navigation items:

- Overview
- Projects (Showing all)
- Catalog
- Deployments (selected)
- Deployments
- Resources
- Virtual Machines** (highlighted with a red box and a circled '1')
- Volumes
- Networking & Security
- Supervisor Namespaces

The main content area is titled "Virtual Machines" and displays two managed machines:

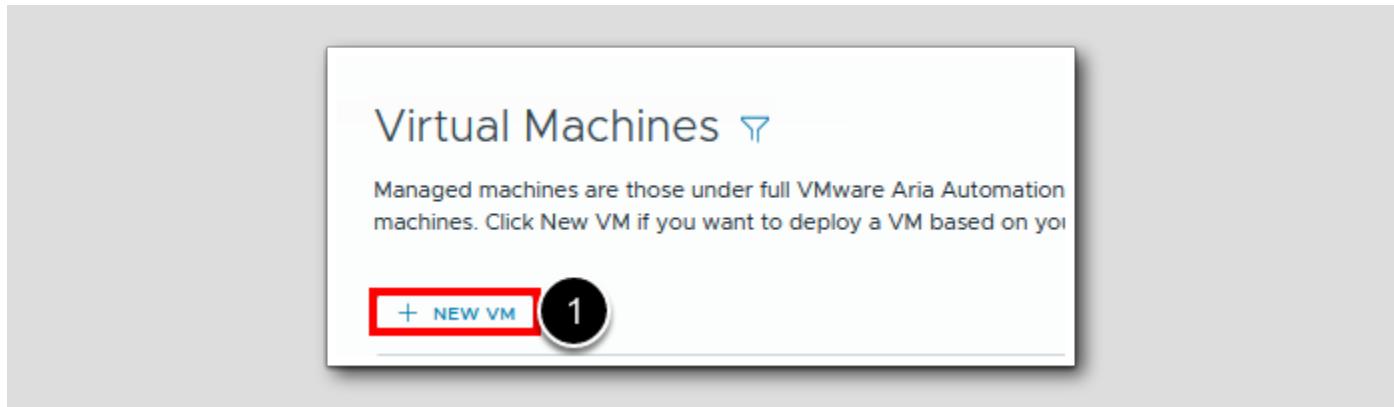
	Name	Deployment	Power State	Account / Region	Address	Project	Origin	Tags	Created on
...	windows-000906	hol-windows	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.64.12.13	HOL Project	Deployed		13 days ago
...	ubuntu-000308	hol-linux	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.64.12.10	HOL Project	Deployed		16 days ago

At the bottom right of the main area, there are buttons for "Manage Columns", "Machines per page" (set to 20), and "1 - 2 of 2 machines".

1. On the left of the page. Locate **Virtual Machines** and click on the menu item. The page will change to display the Virtual Machines resources.

Currently, two virtual machines that have been deployed by the HOL Project are visible.

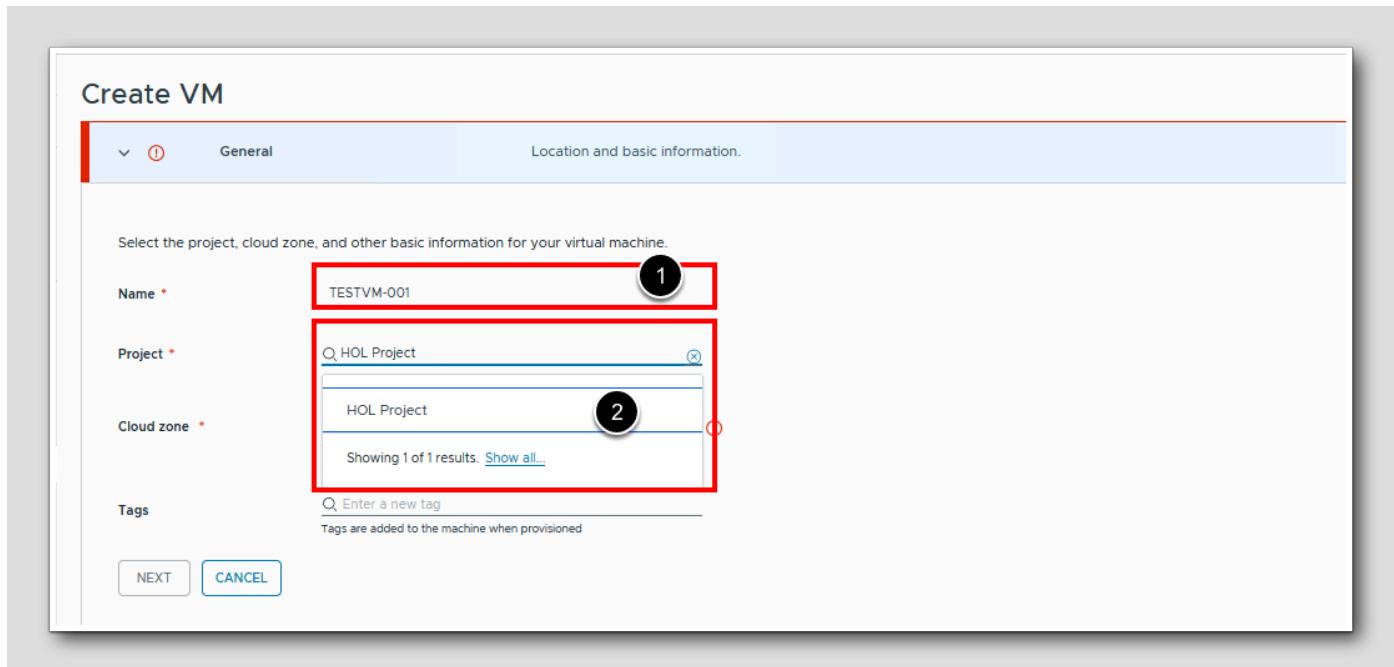
Quick VM Create



NOTE: If you remember from the previous lesson, we highlighted the empty space beneath the table's title: Virtual Machines. If you do not see a button that reads + NEW VM, then you must go back and [complete the previous lesson](#).

1. Locate the button that reads + NEW VM. Click the button.

Create VM - General - Name & Project Selection



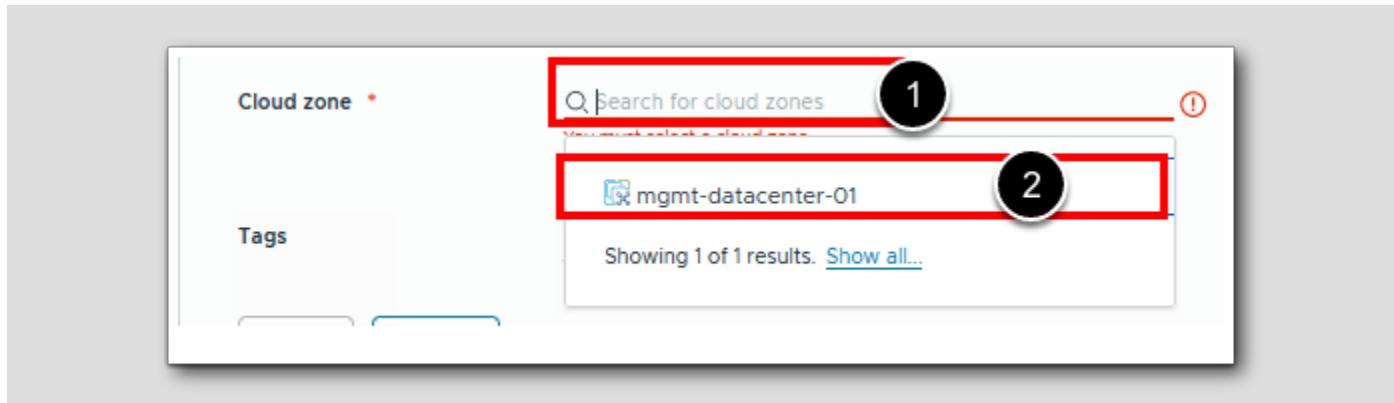
The button launches the **Create VM** wizard. You must provide some basic general information about the virtual machine, such as a name, the project it belongs to, the Cloud Zone, and any potential tags that may be needed.

Use the following information to complete the general section of this wizard.

1. Name: TESTVM-001
2. Project: Remove anything that may be populated. Enter "HOL" and select "HOL Project" from the dropdown.

Create VM - General - Cloud Zone

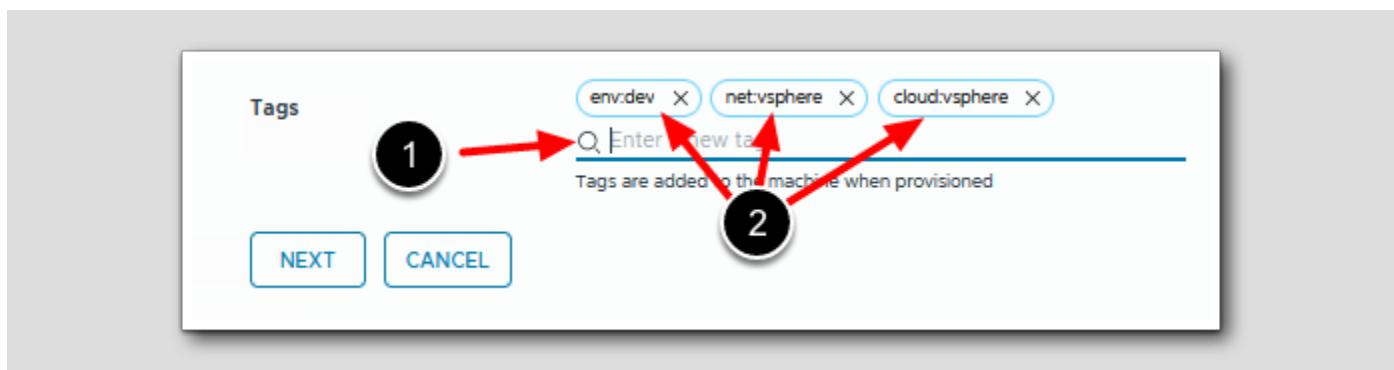
[165]



1. For the Cloud Zone, click in the field and a dropdown menu appears.
2. Select **mgmt-datacenter-01**

Create VM - General - Tags

[166]



1. Repeat the process to select the tags we will use for this deployment. Click on the empty field for the dropdown.
2. Select the tag: env:dev. Repeat to select the tags: net:vsphere and cloud:vsphere.

Create VM - General Details

Create VM

General Location and basic information.

Name * TESTVM-001

Project * HOL Project

Cloud zone * mgmt-datacenter-01

Tags

env:dev X net:vsphere X cloud:vsphere X

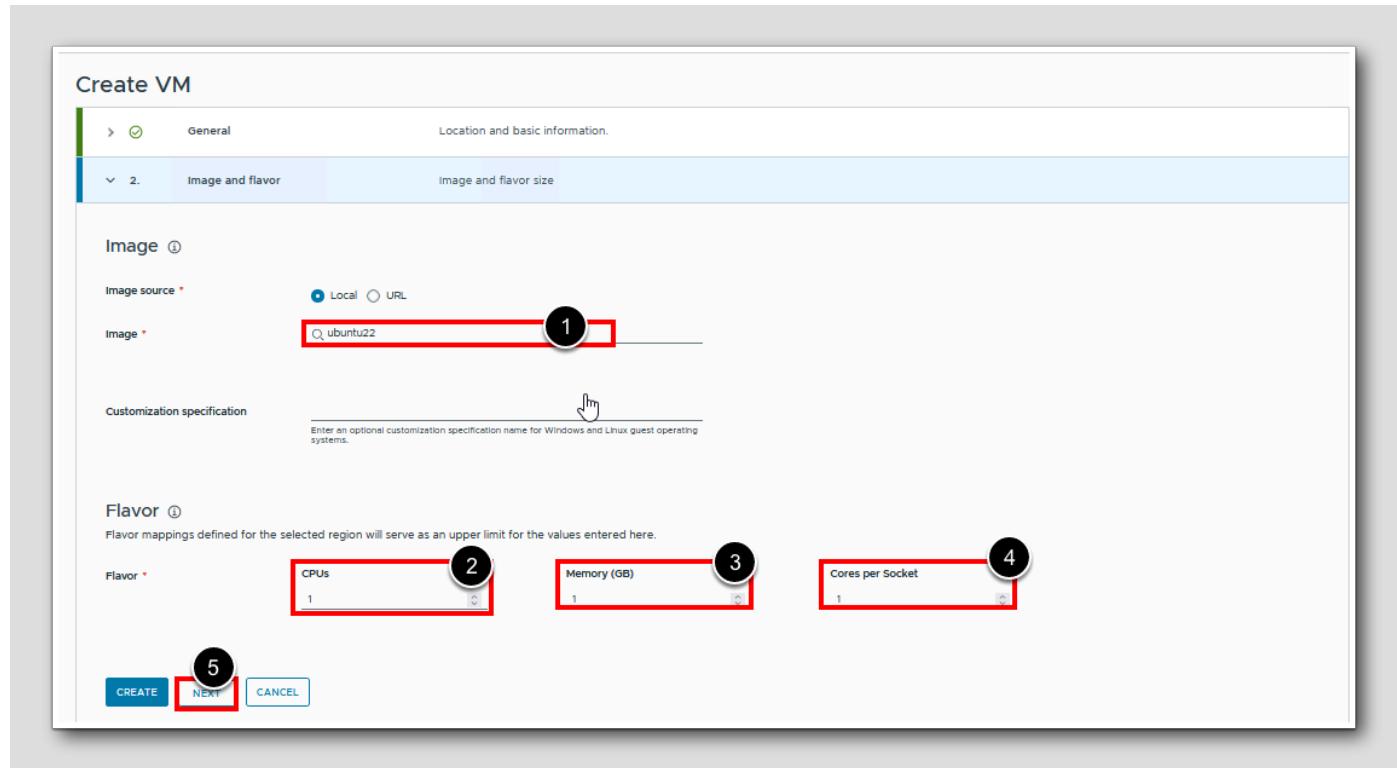
Enter a new tag

Tags are added to the machine when provisioned

NEXT CANCEL

1. If all of the details look like the example pictured, click NEXT.

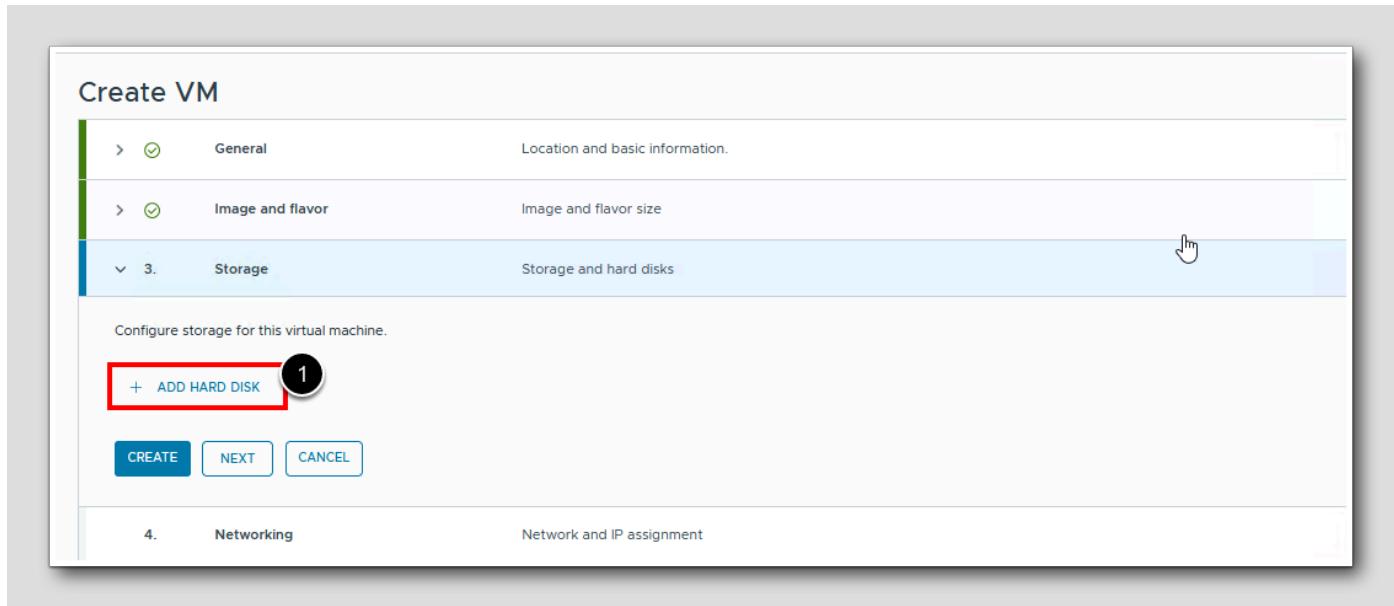
Create VM - Image & Flavor



1. An Image will need to be selected that our deployment is based on. Click in the empty image field and select the **ubuntu22** image that is available.
2. The Flavor, or size, of the virtual machine will need to be set. For our example, set the CPU to "1".
3. Set the Memory in GB to "1".
4. Set the Cores per Socket to "1".
5. When ready, click **NEXT**.

NOTE: If a quick clone of the image is needed, you may just click **CREATE**. However, please be aware that secondary disks, or network assignments would still need to be performed on the virtual machine before it would be accessible over the network.

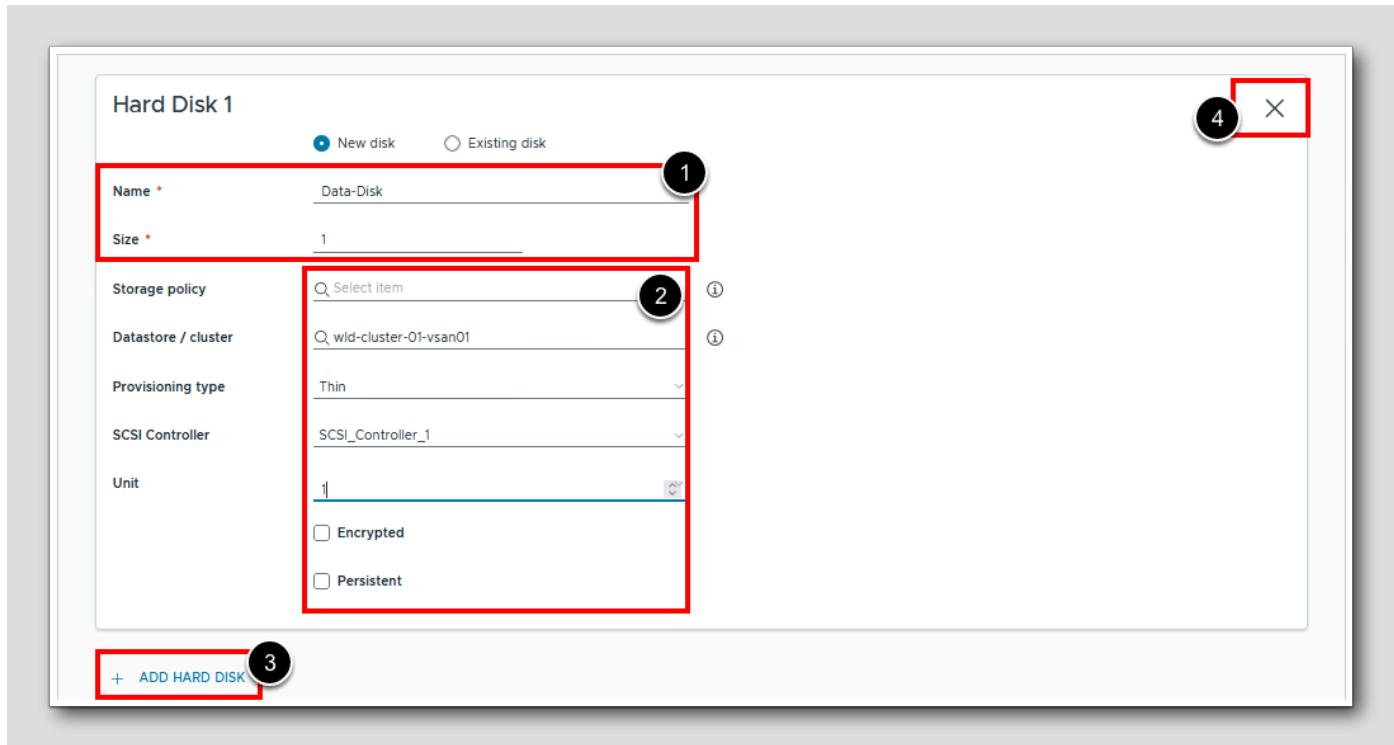
Create VM - Storage



Adding a secondary disk may not be necessary. However, if it were, you could click on the link + ADD HARD DISK to provide the virtual machine with a secondary disk.

1. For this example, click on the link + ADD HARD DISK to view the required details of a secondary disk for our virtual machine.

Create VM - Storage - Details

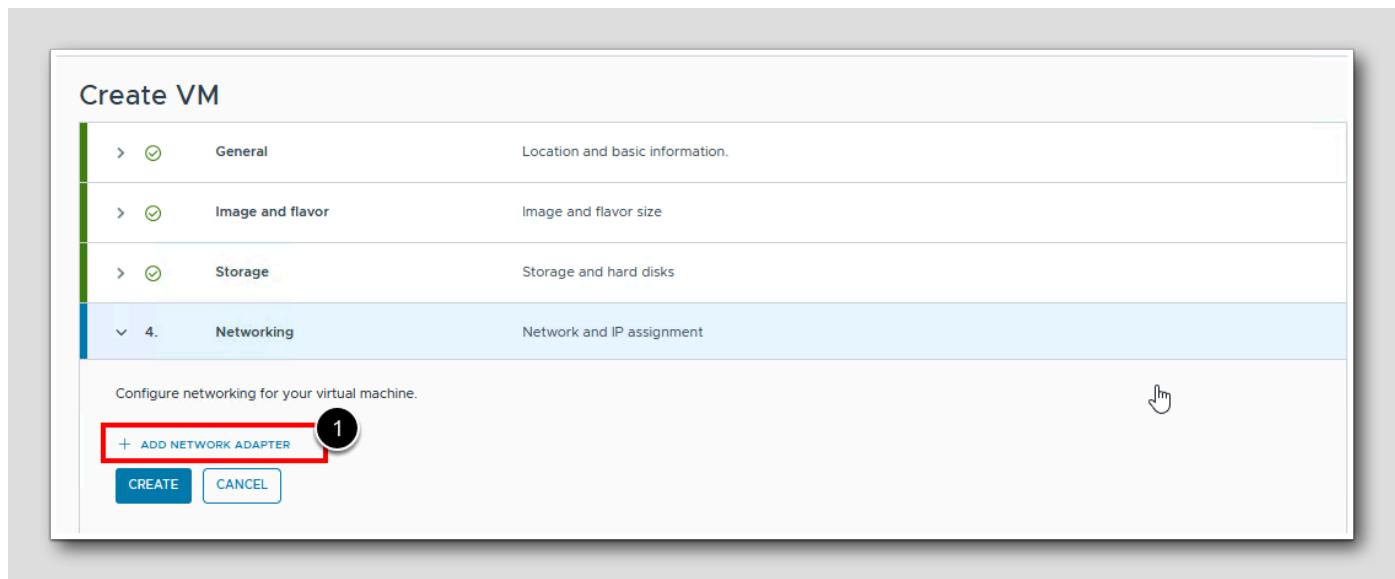


1. The only absolute data that is required for a secondary disk is the Resource Name and the Size.
2. Other details that can be supplied are specific Storage Policies, specific Datastores or Datastore Clusters, whether it should be thin or thick, and SCSI Controller information. Lastly, you could encrypt or make the disk persistent.
3. Even more additional disks can be added by clicking + ADD HARD DISK.
4. When ready, click on the "X" in the top right corner of the details box.
- 5.(NOT PICTURED) Click NEXT.

NOTE: The Resource Name that you enter here does not pass through to the Operating System. This is for the label that Aria Automation will refer to the Disk Resource within the Deployment.

NOTE: If you want to deploy a secondary disk to this virtual machine in this lesson, please match the details in the pictured example. Exceeding or changing the limits may not present a successful deployment.

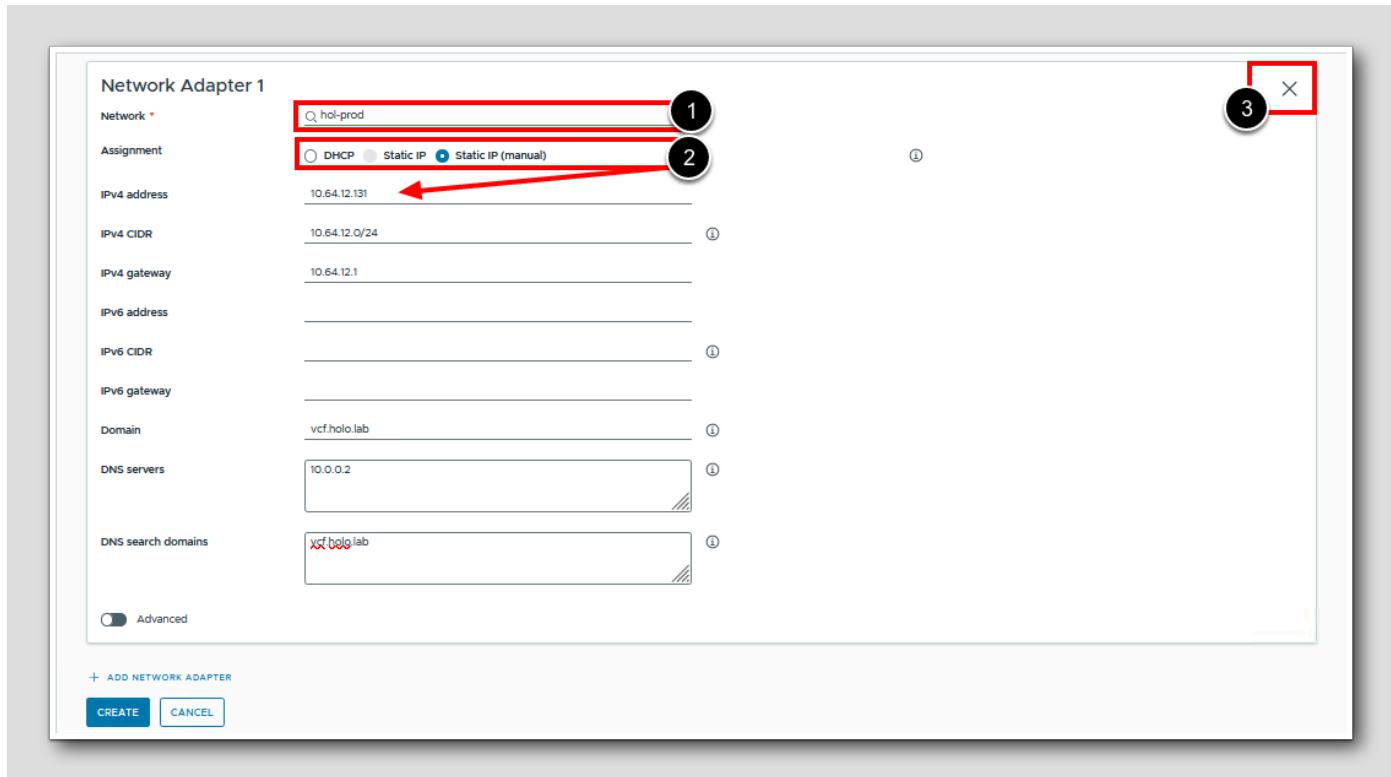
Create VM - Networking



As with the storage, adding and assigning networking may not be necessary for the virtual machine. If it is, click on the link + ADD NETWORK ADAPTER.

1. For this example, go ahead and click on the link + ADD NETWORK ADAPTER.

Create VM - Networking - Details



1. The Network is required. Click on the field to select the **hol-prod** network from the available networks in the dropdown list.
2. The assignment defaults to DHCP. DHCP may not be available in your environment. If this is the case, you can select **Static IP (manual)**. If you choose Static IP (manual), then provide an IP Address. If the CIDR information was populated in the Network Profile, then the CIDR information (CIDR, domain, and DNS info) will automatically present itself here.
3. When ready, click on the "X" in the top right corner of the details box.
- 4.(NOT PICTURED) Click **CREATE**.

New Improvements have been added under the **Advanced** button. If you select this button, it would be possible to assign Security Groups and Network Adapter tags. Network Adapter tags could be useful if you are using NSX tagging for automatically assigned security parameters. Security Groups could apply NSX Distributed Firewall (DFW) rules for the virtual workload. Unfortunately, these features are not active within this lab.

NOTE: Static IP expects that you have an IP range configured in the selected network for the virtual machine. If no IP range has been setup, the network will be disabled.

NOTE: It may take several minutes to deploy the virtual machine.

Deployments

Name	Project	Status	Expires on	Price	Created on
TESTVM-001_ca150f15-ef41-4ed3-b05f-f44a94912ec7	HOL Project	CANCEL	Never		a few seconds ago
hol-windows	HOL Project		Never	Month to date \$0.00	13 days ago
hol-linux	HOL Project		Never	Month to date \$0.00	16 days ago

You will automatically be transported to the Deployments page to watch the deployment process.

1. When ready, click on the deployment name.

NOTE: Every deployment name will start out with "TESTVM-001". The remainder of the name is a random GUID identifier.

Deployment Details

TESTVM-001_ca150f15-ef41-4ed3-b05f-f44a94912ec7

Create - Checking Approval 2 / 5 Tasks

TESTVM-001_allocate.eecc98ea4fb

General

When you open the deployment, you will notice that it looks no different than any other Aria Automation deployment.

1. Take note that the deployment and virtual machine statuses will change as tasks are completed.
2. Also note that you will always open onto the **Topology** tab, but you can change to the **History** tab to review the deployment tasks. This tab is handy if you need to troubleshoot any potential failures.

Click around and review the progress of the build.

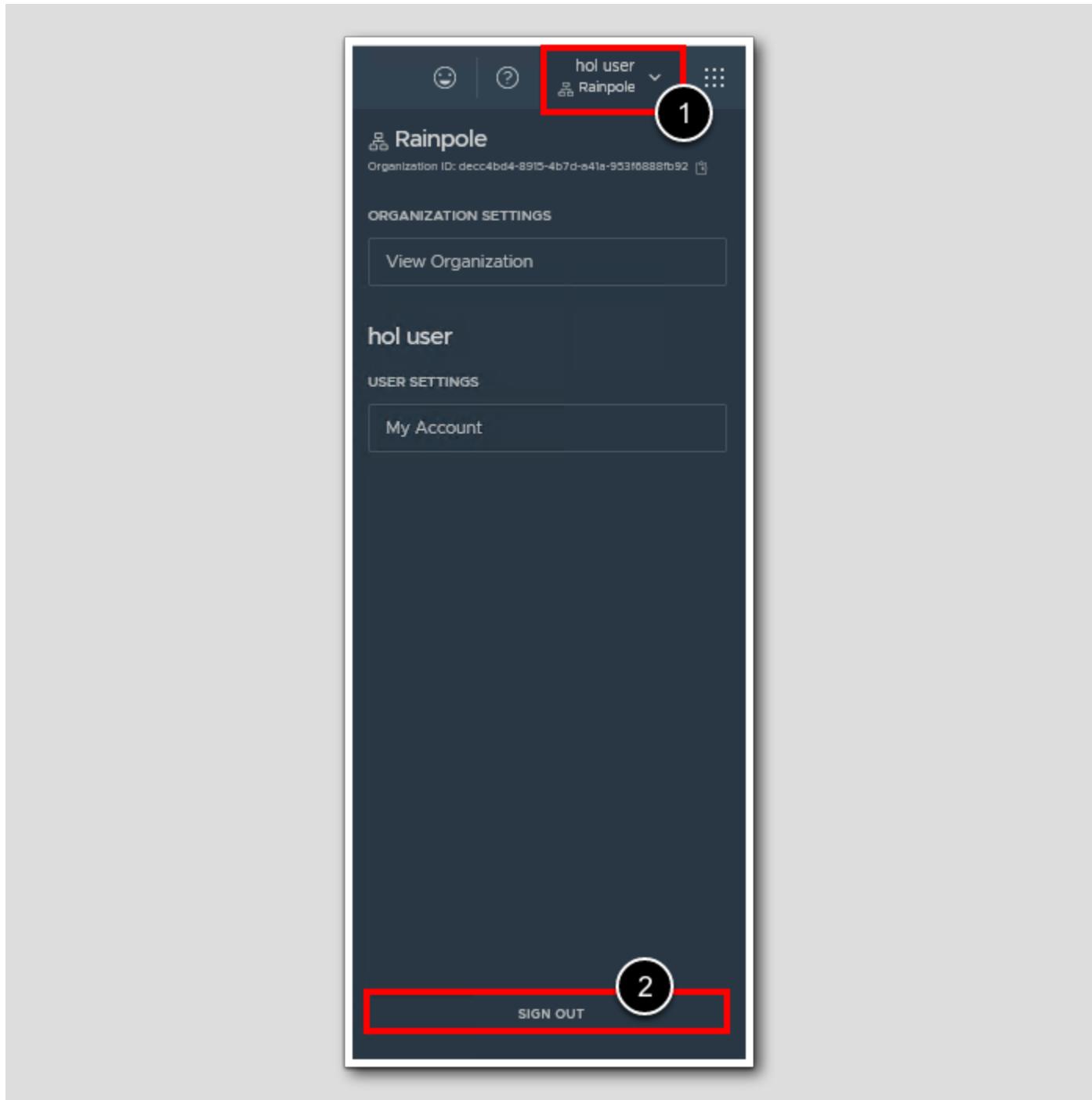
Deployment Details - Completed

[175]

The screenshot shows the VMware Aria Automation Service Broker interface. On the left, there's a sidebar with navigation links like Overview, Projects, Catalog, and Deployments. The main area has tabs for Topology, History, User Events, Monitor, Alerts, and Optimize. A search bar is at the top of the main area. Below the search bar, there's a summary card for a deployment named "TESTVM-001_ca150f15-ef41-4ed3-b05f-f44a94912ec7". The card shows "Health: Good", "Owner: holuser@vcf.hololab", "Requestor: holuser@vcf.hololab", "Project: HOL Project", and "Expires on: Never". A green button labeled "Create Successful" is highlighted with a red box and a circled '1'. Below the summary card is a grid where a single item is highlighted with a red box and a circled '2'. To the right of the grid, a detailed view of the deployment is shown in a sidebar. The sidebar shows the deployment name "TESTVM-001" and its details under the "General" section, including Resource name (hol-TESTVM-001-0002), Account / region (VCF Mgmt vCenter/mgmt-datacenter-01), Status (On), Address (10.64.12.8), Compute host (wld-cluster-01), and Type (Cloud.vSphere.Machine). There are also sections for Storage, Network, and Custom properties.

1. After a few minutes, the deployment will complete. If you followed these instructions in this lesson, you should see a **Create Successful** green button.
2. NOTE: While the virtual machine was deployed, no network resource is depicted on the Topology canvas. However, the virtual machine does have a network and IP Address assigned. This is because the Quick VM service does not utilize the cloud template extensibility to manipulate the network resource during the provisioning cycle.

Log out of Aria Automation



1. In the top right corner, click on your username User HOL.
2. A display menu will appear. Locate and click on SIGN OUT at the bottom.

Conclusion

In this lesson, we reviewed how to use the Quick Virtual Machine service to quickly spin up simple machines for use in our Projects. In the next lesson, we will take a look at the Day 2 Actions that can be applied to the workload.

Review Day 2 Actions

NOTE: This lesson requires that the other lessons in this module have been completed. If not, please review and complete the previous lessons.

In the previous lesson, you saw how to use the Quick VM service to deploy a virtual machine without the use of a catalog. In this lesson, we will explore Day 2 Actions.

NOTE: The available Day 2 Actions will be dependent on the action policies that have been entitled to your users. In this lab, all Day 2 Actions are available.

Log into Aria Automation

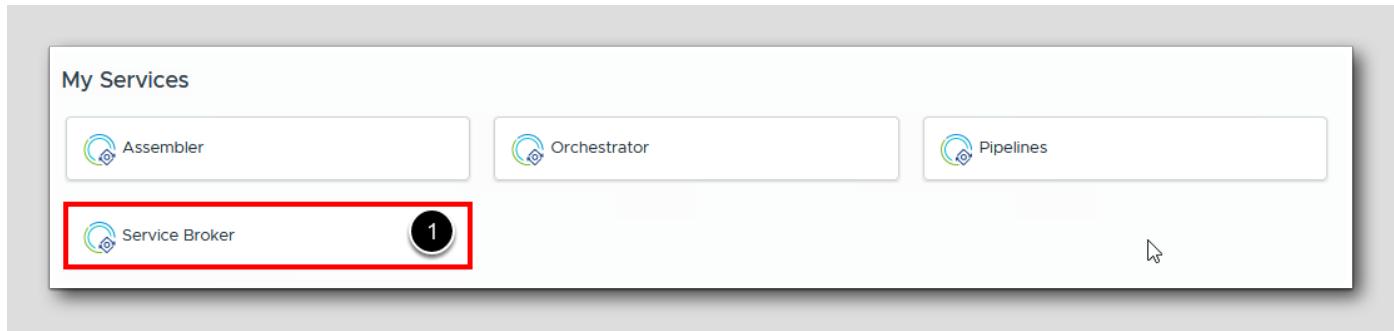
NOTE: If you have not launched the browser, open the browser. Select the VCF Automation bookmark from the VCF Cloud Management folder in the bookmarks bar.



Log in using the following:

1. Username: Replace **holadmin** with **holuser**
2. Password: **VMware123!**
3. Ensure that the domain is set to **vcf.holo.lab**
4. Click **Sign in**

Select Service Broker



1. Click the Service Broker button to launch the Service Broker service.

Navigate to Deployments

Welcome to the consumer experience where you can request resources and services.

Getting started with key concepts.

Become familiar with the following key concepts. [How do they all work together?](#)

- Projects
- Catalog
- Deployments and Applications
- Resources
- Cloud zones and Kubernetes zones
- Governance
- Supervisor regions
- Supervisor namespaces

[View definitions](#)

Projects (2 items)

Name	Description
holproject	
HOL Project	

1. On the left side menu, locate the Deployments menu item and click on it.

Deployments View

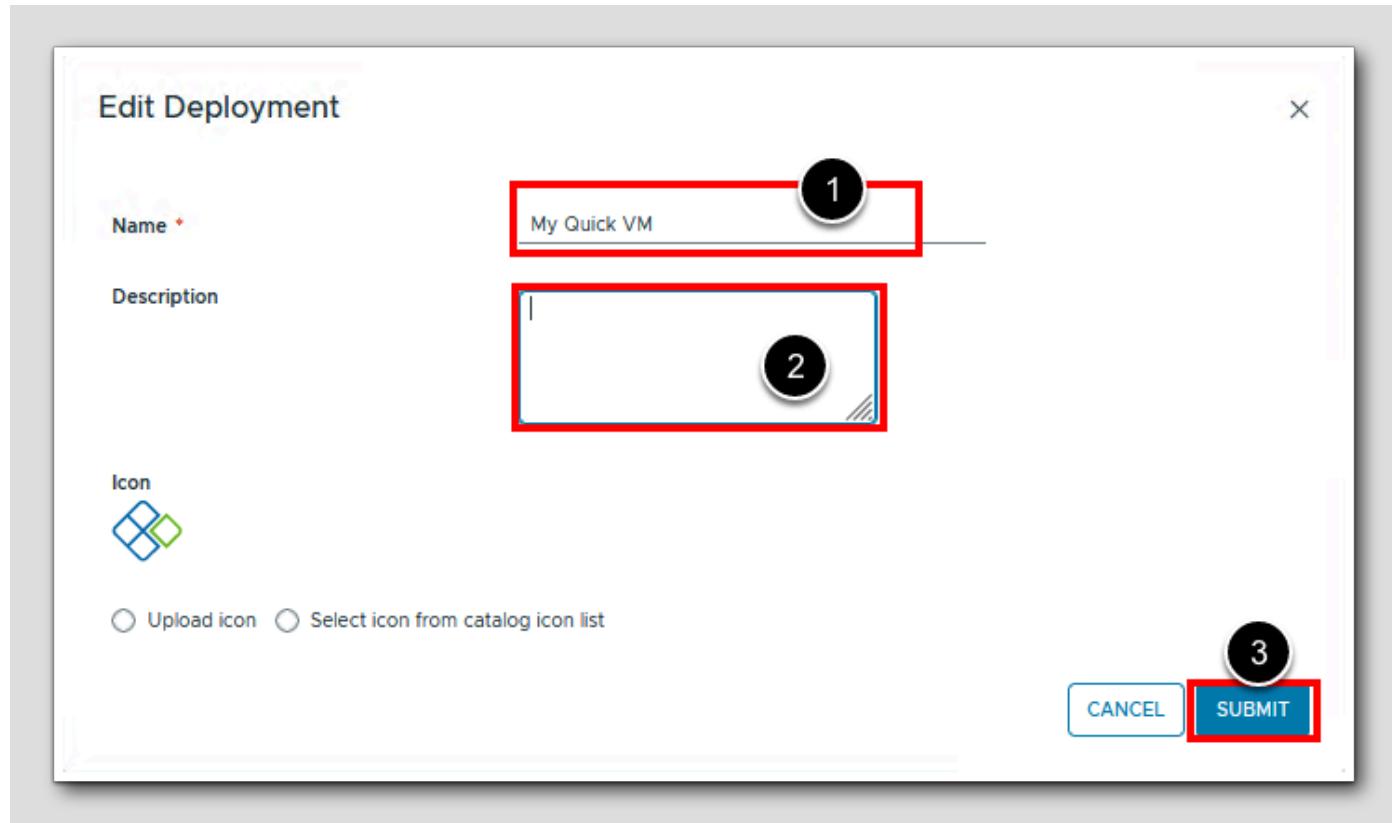
The screenshot shows the VMware Aria Automation Service Broker interface. On the left, there's a sidebar with 'Overview', 'Projects' (showing one item), 'Catalog', and a 'Deployments' dropdown. The main area is titled 'Deployments' with a sub-header '(3 items)'. It lists three deployments:

Name	Owner	Project	Status	Expires on	Price	Created on
TESTVM-001_<Random_GUID>	holuser@vcf.holo.lab	HOL Project	Never			9 minutes ago
	holadmin@vcf.holo.lab	HOL Project	Never	Month to date \$...	13 days ago	
	holadmin@vcf.holo.lab	HOL Project	Never	Month to date \$...	16 days ago	

A context menu is open over the first deployment row. Step 1 highlights the 'Edit Deployment' option. Step 2 highlights the 'Edit Tags' button at the bottom of the menu.

1. Locate the TESTVM-001_<Random_GUID>. You can click on the kabob menu to the left of the name to display the Deployment Actions Menu.
2. Click on the Edit Deployment action item.

Edit Deployment



1. Edit the name of the deployment by entering My Quick VM.
2. Optionally provide a description.
3. Click SUBMIT.

Open the Deployment

	Name	Owner	Project	Status	Expires on	Price	Created on
»	My Quick VM	holuser@vcf.holo.lab	HOL Project	Active	Never		11 minutes ago
»	hol-windows	holadmin@vcf.holo.lab	HOL Project	Active	Never	Month to date \$...	13 days ago
»	hol-linux	holadmin@vcf.holo.lab	HOL Project	Active	Never	Month to date \$...	16 days ago

1. Click on the deployment name, My Quick VM to open the deployment.

Deployment Details

My Quick VM Edit Deployment Successful ACTIONS ▾ | C

No description

Owner holuser@vcf.holo.lab	Expires on Never
Requestor holuser@vcf.holo.lab	Last updated Aug 4, 2024, 1:02:56 PM
Project HOL Project	Created on Aug 4, 2024, 12:52:27 PM

HIDE SUMMARY ▾

Topology History User Events

Search resources: TESTVM-0001

TESTVM-0001

CLOSE

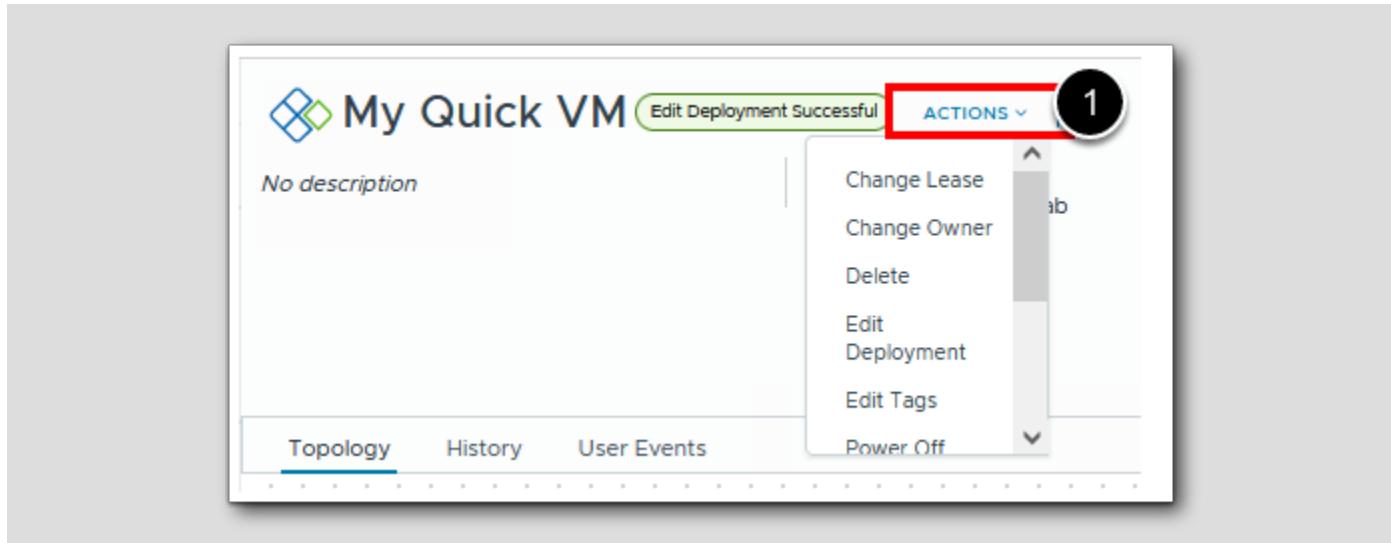
TESTVM-0001

General

- Resource name: hol-TESTVM-0001-0003
- Account / region: VCF Mgmt vCenter/mgmt-datacenter-01
- Status: On
- Hostname: ubuntu22

Within the deployment container, you will notice the green bubble shows that editing the deployment was successful.

Deployment Actions



1. Click on Actions to view the list of Deployment Actions.

This list should be the exact same list as we just viewed to rename the deployment. You will notice that all deployment actions are available to the Quick VM deployment.

For example, you could edit the owner, or change the lease. Our lab has all Deployment Actions allowed to all users.

Deployment actions are allowed or restricted by policies defined by the Service Broker Administrator. Learn more about how to define policies from reading [How do I entitle deployment users to Automation Service Broker day 2 actions using policies](#).

Resource Actions

The screenshot shows the Service Broker interface for a resource named 'My Quick VM'. The 'Topology' tab is selected. On the right, a detailed view of the resource is shown, including its owner (holuser@vcf.holo.lab), requestor (holuser@vcf.holo.lab), and project (HOL Project). The resource has never expired and was last updated on Aug 4, 2024, at 1:02:56 PM, created on Aug 4, 2024, at 12:52:27 PM. A context menu is open over the resource details, with the 'ACTIONS' option highlighted by a red box and a circled '1'. Other visible actions include 'Add Disk', 'Attach SaltStack Resource', 'Change Security Groups', 'Connect to Remote Console', and 'Create Snapshot'.

1. On the right of the Topology tab, the selected resource details will be shown. Click on the Actions to view the Resource Actions available.

Again, notice that all Resource Actions are available.

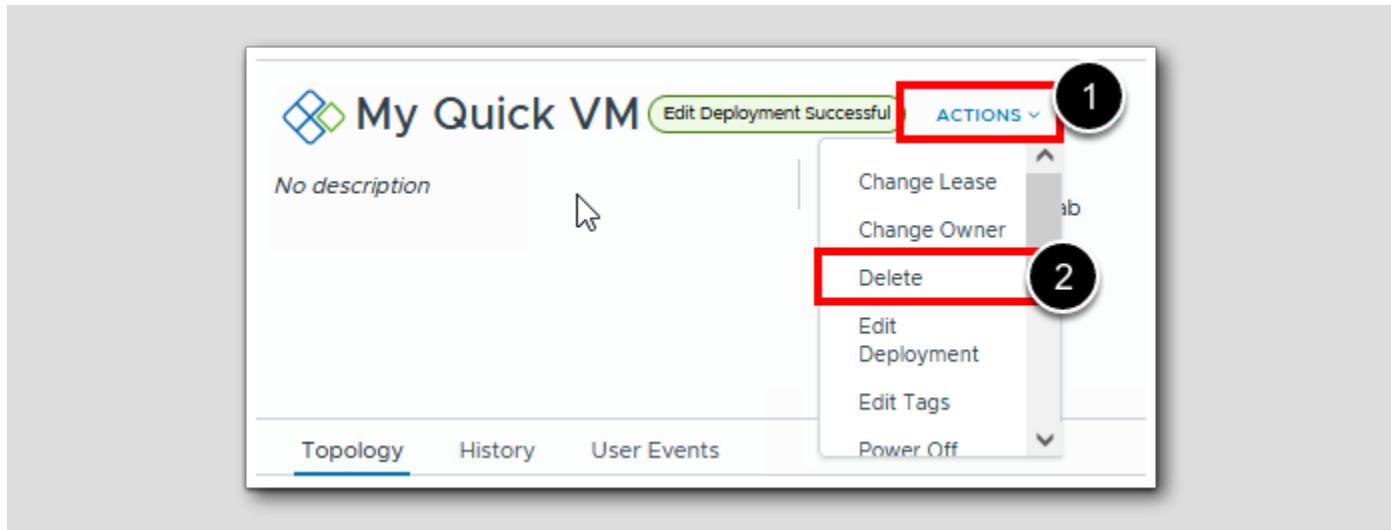
For instance, you could do the following actions:

- take a snapshot of the resource
- add a disk
- power on/off the resource
- access the console

Just like Deployment Actions, resource actions are allowed or restricted by policies defined by the Service Broker Administrator. Learn more about how to define policies from reading [How do I entitle deployment users to Automation Service Broker day 2 actions using policies](#).

Try out a few of the deployment or resource actions.

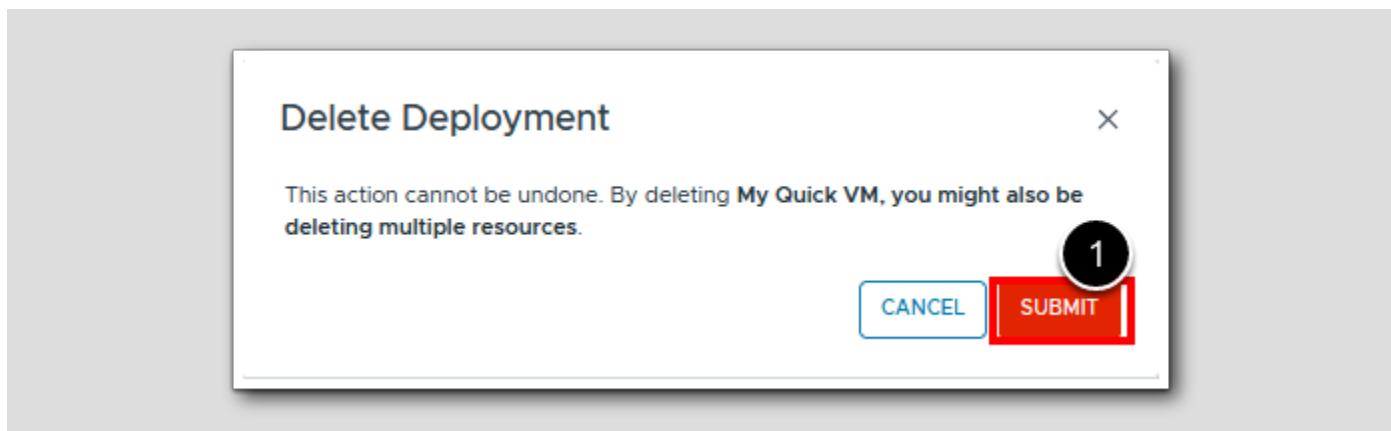
Clean up the deployment



Now that we have reviewed the Day 2 Actions, let's cleanup the deployment.

1. Click on Actions.
2. Select Delete from the menu.

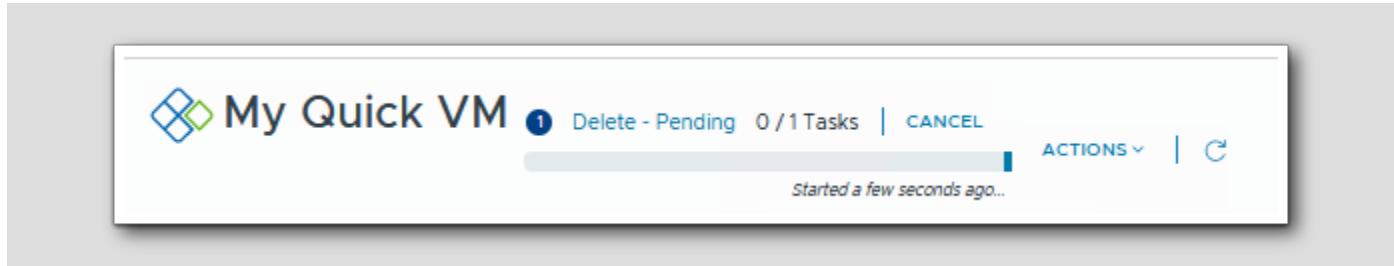
Confirm Deployment



1. Confirm the deployment by clicking on SUBMIT.

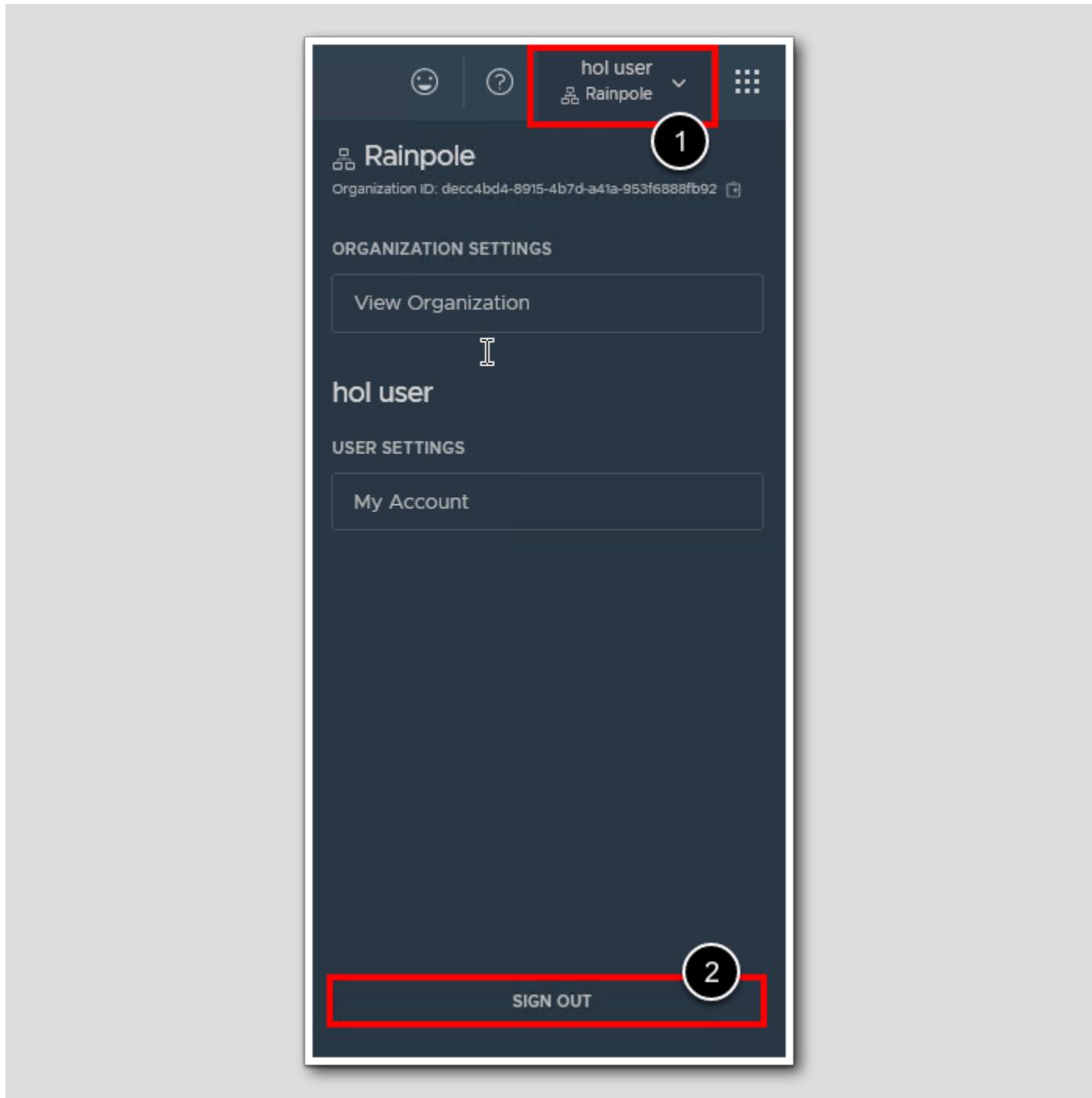
Deployment Deletion progress

[190]



You can watch the progress of the deletion. When completed, click CLOSE (NOT PICTURED).

Log out of Aria Automation



1. In the top right corner, click on your username **hol user**.
2. A display menu will appear. Locate and click on **SIGN OUT** at the bottom.

Conclusion

In this lesson, we have taken a look at how to access the deployment and resource actions that are available to a virtual workload deployed by the Quick VM service.

Conclusion

This module demonstrated how to use the Quick VM service to quickly deploy VMs for use by our projects. In addition, we learned that the deployment and resource day 2 actions are available to exercise against the virtual workload.

If you would like to learn more about the Quick VM service, check out these resources.

- Getting Started - Create Quick Virtual Machine (VMware YouTube Learning Channel)
- How do I entitle deployment users to Automation Service Broker day 2 actions using policies

From here you can:

1. Continue with the next lab module
2. Click [vlp:table-of-contents] Show Table of Contents] to jump to any module or lesson in this lab
3. End your lab and return in the future

Module 5 - Onboard Existing Workloads for Day-to-Day Management (15 mintues) Basic

Introduction

[195]

Within VMware Aria Automation, we can onboard discovered workloads to provide ongoing management and day-2 lifecycle actions with governance policy and guardrails. This process is known as workload onboarding.

In this module, we will walk through the process of onboarding existing workloads using onboarding plans. We will demonstrate this using VMware vSphere workloads, but machines from any supported cloud account can also be onboarded.

Lab Captain:

- Sam Aaron, Sr Consultant, USA

What Are Workload Onboarding Plans?

[196]

We use a workload onboarding plan to identify machines that have been data-collected from a cloud account type in a target region or data center, but that are not yet managed by an Automation Assembler project.

When we add a cloud account that contains machines that were deployed outside of Automation Assembler, the machines are not managed by Automation Assembler until we onboard them. We use an onboarding plan to bring unmanaged machines into Automation Assembler management. We create a plan, populate it with machines, and then run the plan to import the machines. Using the onboarding plan, we can create one or many deployments.

We can onboard one or many unmanaged machines in a single plan by selecting machines manually.

The person who runs the workload onboarding plan is automatically assigned as the machine owner.

Onboarding also supports onboarding custom properties, attached disks, changing deployment owners, and vSphere networks:

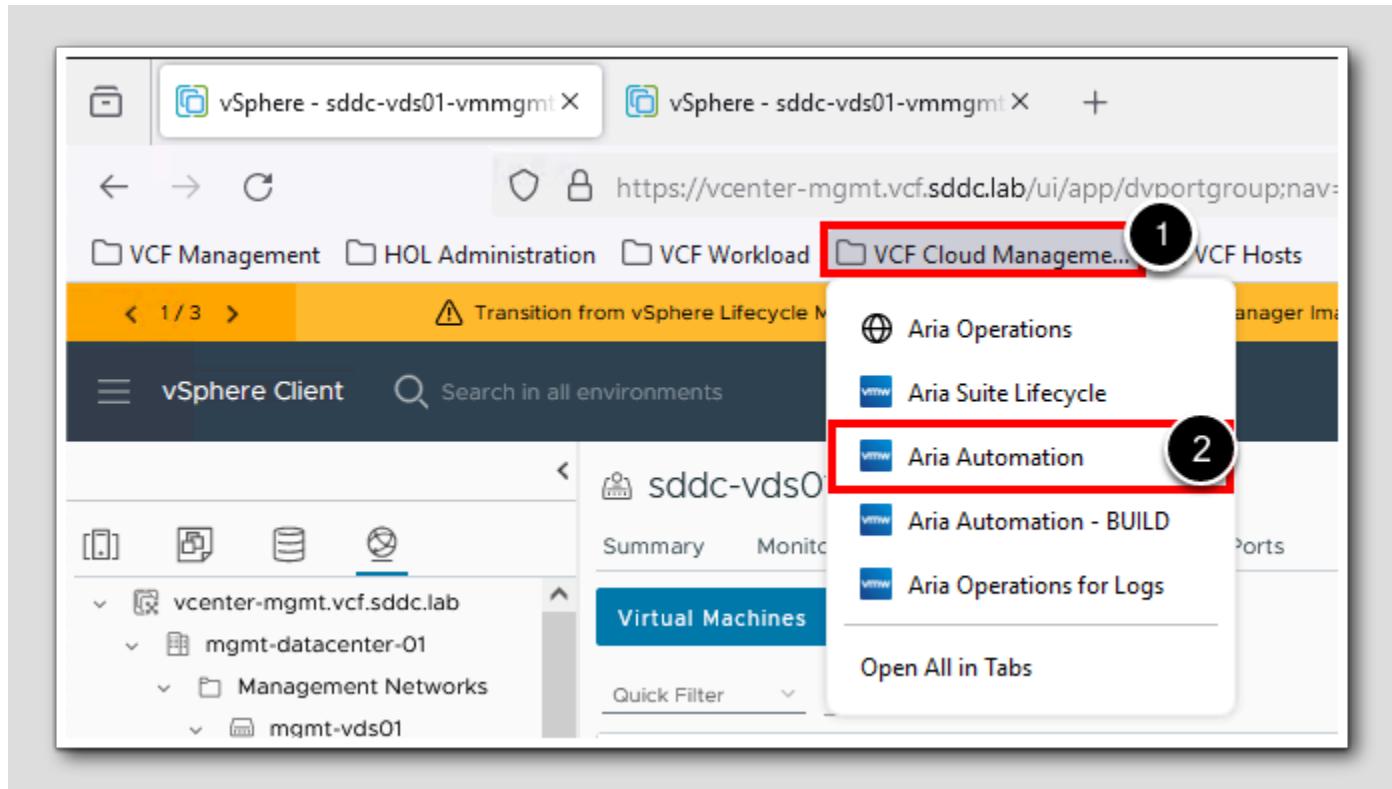
- Resource limits: We can enable onboarded workloads to respect and count against established resource limits.
- Custom properties: We can set custom properties at the plan and at the individual machine levels. A custom property set at the machine level overrides the same property on the plan level.
- Attached disks: If a machine has any non-bootable disks, they are automatically onboarded with the parent machine. To view non-bootable disks, click the machine name in the plan, and then navigate to the Storage tab.
- Deployment ownership: Onboarding allows us to change the default deployment owner.

Log into Aria Automation

[197]

We will begin our lesson by logging into Aria Automation as a cloud administrator.

Launch Aria Automation

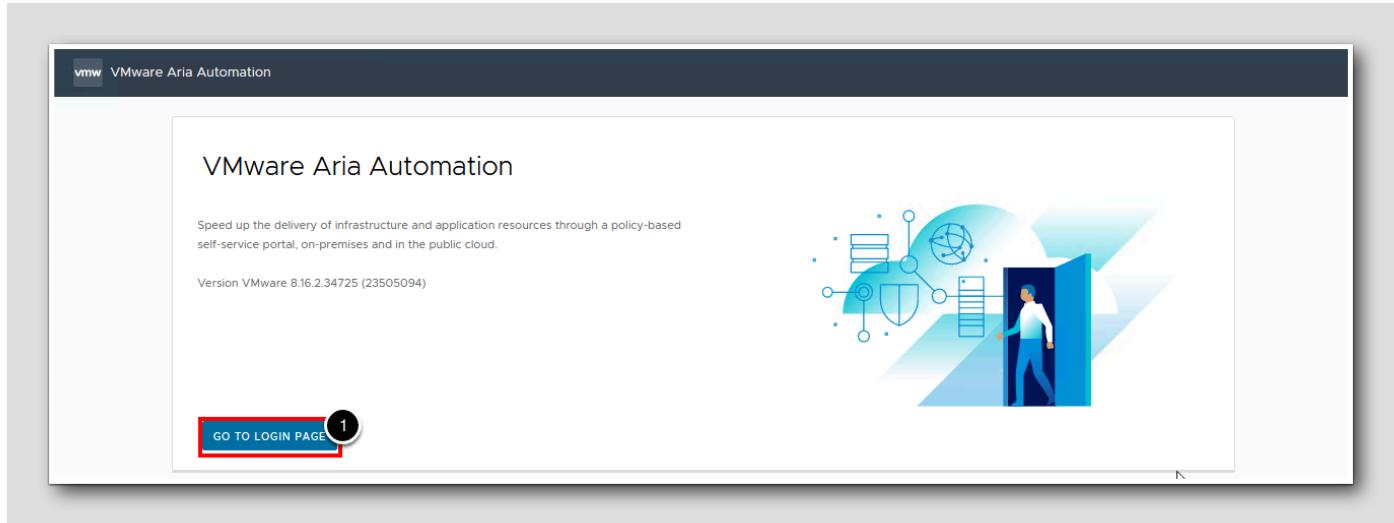


From within the Firefox web browser:

1. Select the VCF Cloud Management bookmark folder from the bookmarks bar.
2. Click on the bookmark labelled Aria Automation.

Go to Login Page

[199]



If the Aria Automation screen appears:

1. Click GO TO LOGIN PAGE

Log into Aria Automation



At the Workspace ONE login screen:

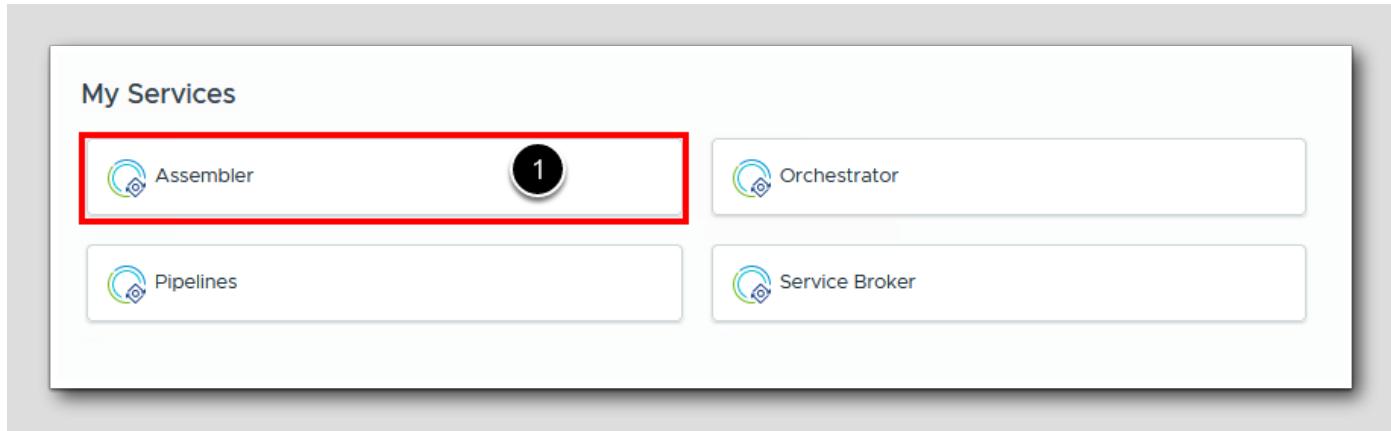
1. For username, enter **holadmin**.
2. For password, enter **VMware123!**.
3. Click **Sign in**.

[201]

Launch the Automation Assembler Service

[202]

Launch the Automation Assembler Service



From within the Aria Automation Cloud Services Console, under **My Services**:

1. Click the **Assembler** service.

Onboard Existing Workloads

[203]

As mentioned in the introduction, we can use an onboarding plan to bring unmanaged machines into Automation Assembler management.

In this lesson, we will discuss the differences between discovered and deployed resources, then create an onboarding plan and demonstrate how easy it is to bring in many vSphere machines at once, each with their own deployment.

Note the following prerequisites for onboarding vSphere workloads, which have already been prepared in advance in this lab:

- Add the vCenter Server account as a cloud account. For additional instructions, see Create a vCenter cloud account in VMware Aria Automation.
- Verify that your user account has at least Automation Assembler Administrator and Automation Service Broker Administrator service roles. See What are the VMware Aria Automation user roles.

Navigate to Resources

The screenshot shows the Aria Automation interface with the following steps highlighted:

- Click the **Resources** tab (1).
- Click the **Virtual Machines** link in the sidebar (2).
- View the list of virtual machines (3).

Virtual Machines

Discovered Managed

ONBOARD

Name	Power State	Account / Region	Address	Tags	Created On
dev-project-z7vjjf-djzkj	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.244.0.34		13 days ago
linux-dev-0011	Off	VCF Mgmt vCenter / mgmt-datacenter-01			16 days ago
linux-dev-0010	Off	VCF Mgmt vCenter / mgmt-datacenter-01			16 days ago
SupervisorControlPlaneVM (2)	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.0.0.151	wp_vmvmaa_category:wp_vmvmaa_tag	a month ago

Before we create the onboarding plan, let's look at some virtual machines that are part of an Aria Automation deployment, and some virtual machines that have been deployed elsewhere, and compare the actions that can be taken with them.

1. Click the **Resources** tab.
2. Click **Virtual Machines**.
3. A list of the virtual machines Aria Automation is aware of are shown.

With the default view we aren't able to identify whether the virtual machines were added via a discovery or deployed by Aria Automation. Let's adjust the view so that we can see this information for each of the virtual machines.

Add the Origin column

The screenshot shows the 'Virtual Machines' interface in a web browser. At the top, there are tabs for 'Discovered' and 'Managed'. Below the tabs, a message states: 'Discovered machines are identified when you add cloud accounts. You can run simple day 2 actions on the machines or click Onboard to bring the selected machines under full management, including robust day 2 management actions. You can only include 50 machines each time you run an onboarding action.' A search bar and a refresh button are at the top right.

The main area is a table with columns: Name, Power State, Account / Region, Address, Origin, Tags, and Created On. The 'Origin' column is highlighted with a red box and a circled number '4'. The table contains three rows of VM data. To the left of the table is a 'Show Columns' dropdown menu. In this menu, the 'Origin' checkbox is checked and highlighted with a red box and a circled number '2'. Other checkboxes in the menu include Deployment, Power State, Account / Region, Address, Project, Tags, Billable, Owner, and Created On. A 'SELECT ALL' link is also present. At the bottom left of the table is a 'Manage Columns' button, which is highlighted with a red box and a circled number '1'. The bottom right of the table shows pagination: 'Machines per page' set to 20, and '1 - 20 of 24 machines' with page navigation buttons.

1. Click Manage Columns

2. Select Origin from the list. Click elsewhere to see the table.

3. Review the virtual machines present. Notice how the VMs with Origin=Deployed are part of a deployment and associated with a project, and those with Origin=Discovered are not.

NOTE: If you do not see any VMs with an Origin=Deployed, then you may not have performed any of the other labs just yet. It is ok, if you do not see these VMs.

What do the different origins mean?

- **Deployed:** These workloads are deployed using Aria Automation.
- **Discovered:** These workloads already exist within a cloud or cloud infrastructure and are discovered by Aria Automation when a cloud account is configured. They are not yet under Aria Automation management.
- **Onboarded:** These workloads are discovered resources that have already been onboarded using an Onboarding Plan.

View Quick Actions a Discovered Resource

The screenshot shows a list of resources in the vSphere Web Client. At the top left, there's a 'ONBOARD' button. Below it, a resource named 'linux-dev-0010' is listed. To the right of the resource name, there are several columns: Power State (Off), Account / Region (VCF Mgmt vCenter / mgmt-datacenter-01), Address, Origin (Discoverd), Tags, and Created On (16 days ago). Below the main resource, there's another entry for 'linux-dev-0010' with the same details. On the far left of the first resource row, there's a vertical ellipsis icon (three dots) enclosed in a red box, labeled '1'. Next to it, the 'Power On' action is highlighted with a red box and labeled '2'. Other visible actions in the menu include 'Update Tags', 'Connect to Remote Console', and 'Power Off'.

Let's compare the resource actions that can be taken on a discovered resource versus those that can be taken on a deployed resource.

We'll start by looking at the resource actions available to a discovered VM, linux-dev-0011:

1. Click the vertical ellipse for VM **linux-dev-0011**.
2. Take note of the limited resource actions available for it.

Also note that these quick actions are only available for administrators: Only users with either the Service Broker Administrator role or the Automation Assembler Administrator role can access them.

View Day-2 Options of a Deployed Resource

The screenshot shows the 'Virtual Machines' page in the VMware Aria Automation interface. The 'Managed' tab is selected (1). A specific VM row is highlighted with a red box (2). A vertical ellipsis menu is open for this VM, with several options listed: 'Add Disk', 'Attach SaltStack Resource', 'Change Security Groups', 'Connect to Remote Console', and 'Create Snapshot'. The 'Create Snapshot' option is circled with a red box and has a red arrow pointing down to it (3), indicating it is the target of the next step in the process.

	Name	Deployment	Power State	Account / Region	Address	Project	Origin	Tags	Billable	Create On
ubuntu-000308	hol-linux	On	VCF Mgmt vCenter / mgmt-datacenter-01	10.64.12.10	HOL Project	Deployed				16 days ago

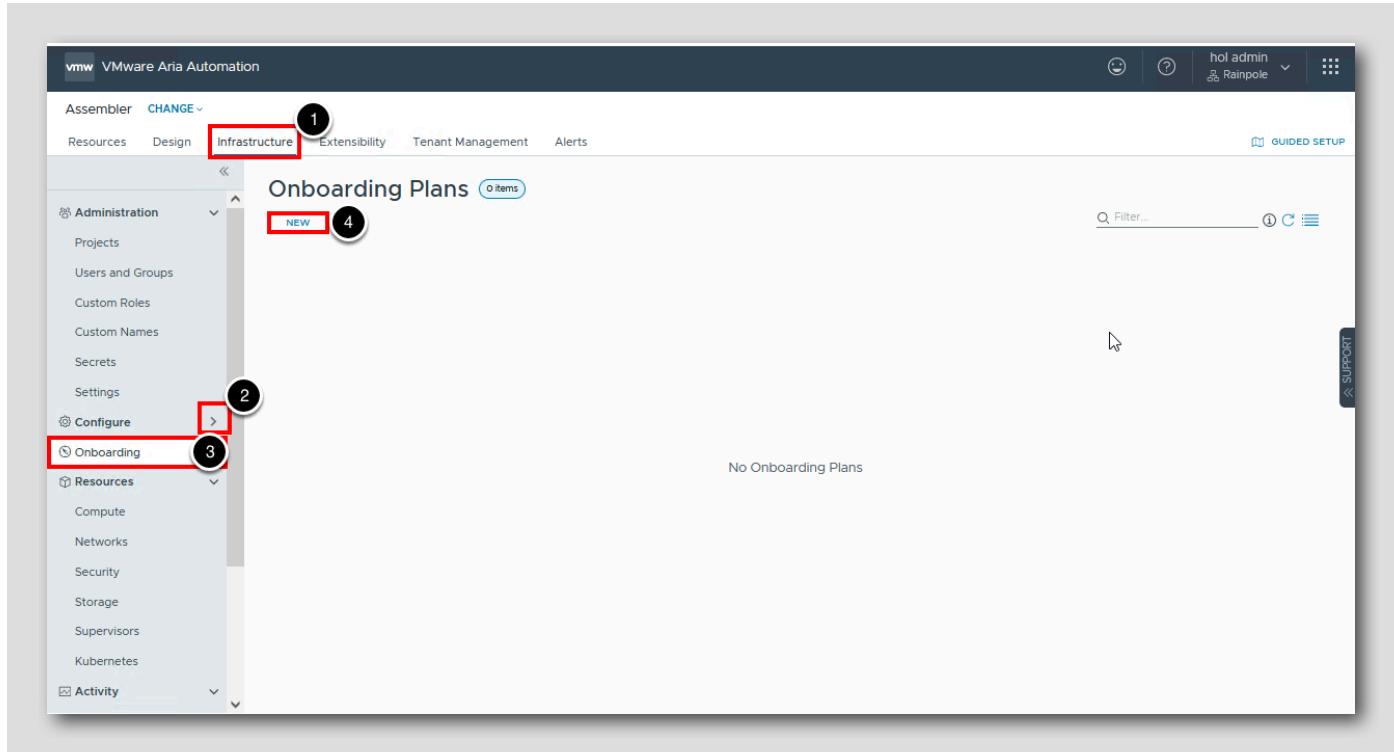
Now let's look at the day-2 options available for a deployed VM, ubuntu-000308, which was deployed as part of the hol-linux deployment via Aria Automation, and thus automatically managed by Aria Automation.

1. Click on the **Managed** tab.
2. Click the vertical ellipse for VM **ubuntu-000308**.
3. Observe how there are so many more resource actions are available for it, that we need to scroll to see them all!

From a day-2 lifecycle management perspective, there is clearly an advantage to bringing a virtual machine under management in Aria Automation.

We'll walk through how to do that in the rest of this lesson. We will create an onboarding plan, populate it with machines, and then run the plan to import the machines.

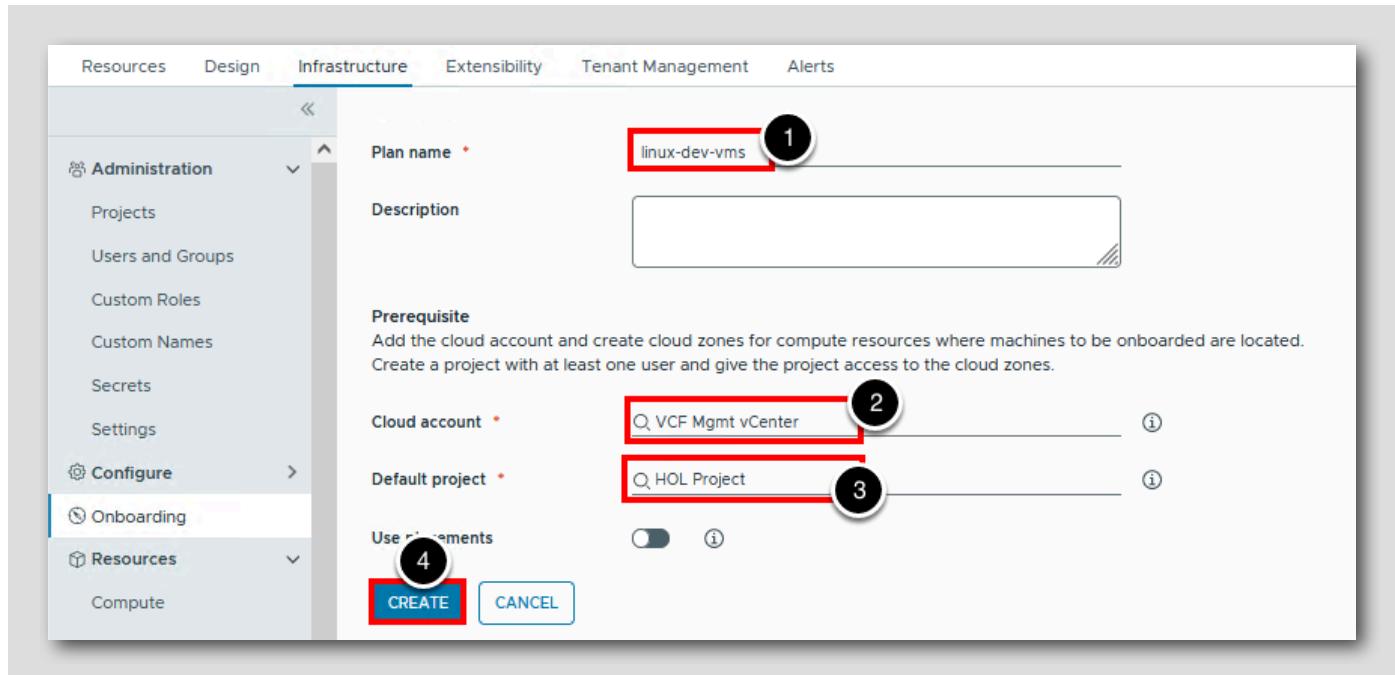
Navigate to Onboarding



First, let's create an onboarding plan.

1. Click the **Infrastructure** tab.
2. Click the arrow icon to collapse the **Configure** section of the left-hand navigation panel.
3. Click **Onboarding**.
4. Click **NEW**.

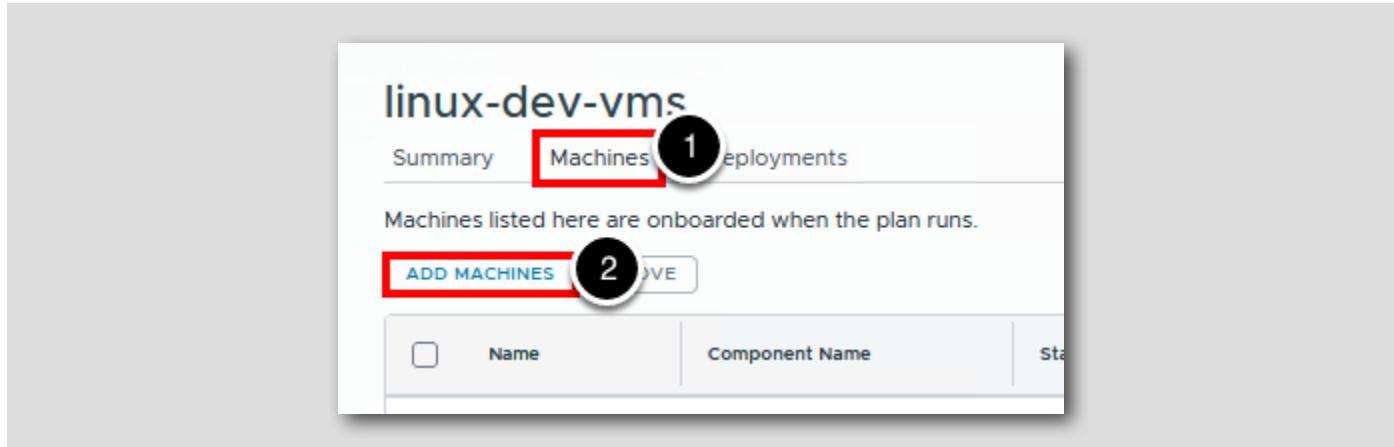
Create an Onboarding Plan



Define our new onboarding plan:

1. For the plan name, type linux-dev-vms.
2. For the cloud account, select VCF Mgmt vCenter.
3. For Default Project, select HOL Project.
4. Click CREATE.

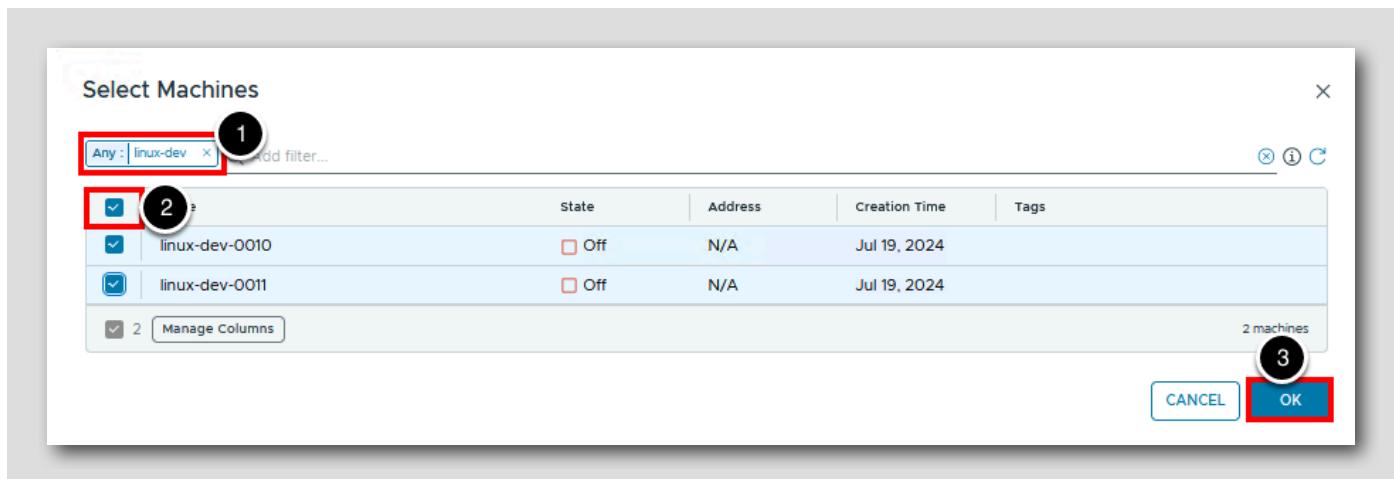
Add Machines to the Onboarding Plan



Now let's populate our onboarding plan with discovered machines to onboard:

1. Click the **Machines** tab.
2. Click **ADD MACHINES**.

Select Machines of an Onboarding Plan



We can choose discovered machines to include in our onboarding plan by filtering based on name, IP address, or tags.

For this exercise, we will import all machines with names prefixed with `linux-dev`:

1. In the filter field, type `linux-dev` and press <Enter>.

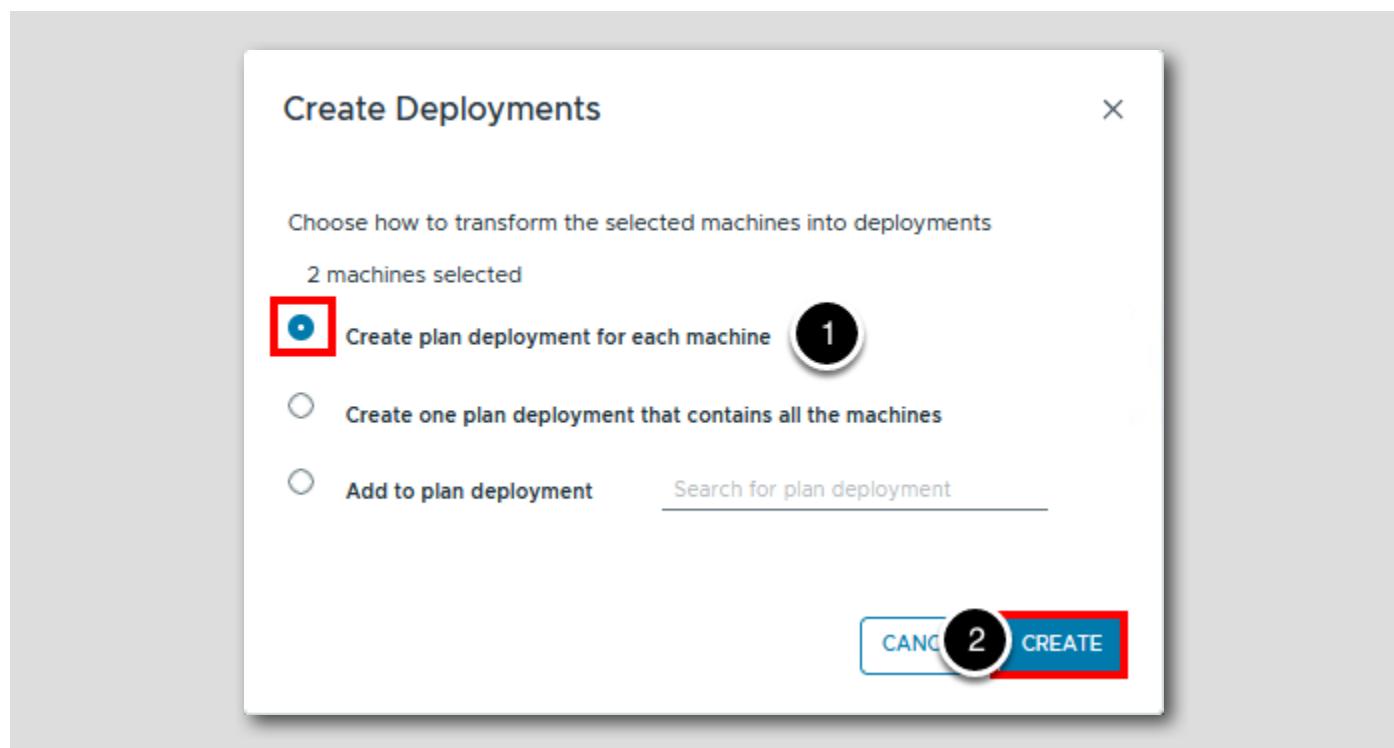
We should see two machines after applying this filter.

2. Check the top checkbox to select both of the VMs that match our filter.

3. Click OK.

Create Plan Deployments Per Machine

[212]



The onboarded machines will need to be part of a deployment, so the next step in defining our onboarding plan is to specify whether to create one or more new deployments, or use an existing deployment from an existing (previously created) onboarding plan.

1. Keep the default option to **Create plan deployment for each machine**.

This means that, with two machines selected to onboard in the previous prompt, two new deployments will be created, one for each of the selected VMs.

Also note the other options we are presented with. To create a single new deployment that would contain all of the VMs, as well as an option to add an existing onboarding plan deployment.

2. Click **CREATE**.

Reviewing the Onboarding Plan Machines

[213]

	Name	Component Name	Status	Power	Address	Deployment	Custom properties	Tags
<input type="checkbox"/>	linux-dev-0011	linux-dev-0011	Pending	Off		Deployment-a0...	Inherited	
<input type="checkbox"/>	linux-dev-0010	linux-dev-0010	Pending	Off		Deployment-65...	Inherited	

Back on the **Machines** tab of our onboarding plan, observe the following:

1. The status for onboarding both machines is **Pending**.
2. The deployments that will be created for each of our VMs has a unique guid in its name, which isn't particularly user-friendly.

If the deployment name is cut off in the column view, expand the column to view the full name.

Reviewing the Onboarding Plan Deployments

The screenshot shows the 'linux-dev-vms' onboarding plan interface. The 'Deployments' tab is active (1). Below it, two deployments are listed:

- Deployment-65590fb-6c48-47b9-81c0-7ef19ba02c44**: Status: Ready to run. Components: 1. Details show a single machine component named 'linux-dev-0010'.
- Deployment-a0cf4427-90a7-4d42-9e58-5174d287ae83**: Status: Ready to run. Components: 1. Details show a single machine component named 'linux-dev-0011'.

At the bottom left, there's a checkbox for selecting all (1) and a 'Manage Columns' button. At the bottom right, it says '2 deployments'.

Let's review the deployments we'll be creating as part of this onboarding plan:

1. Click the Deployments tab.

At this point, we can't see which machine belongs to which deployment given these GUID-based names.

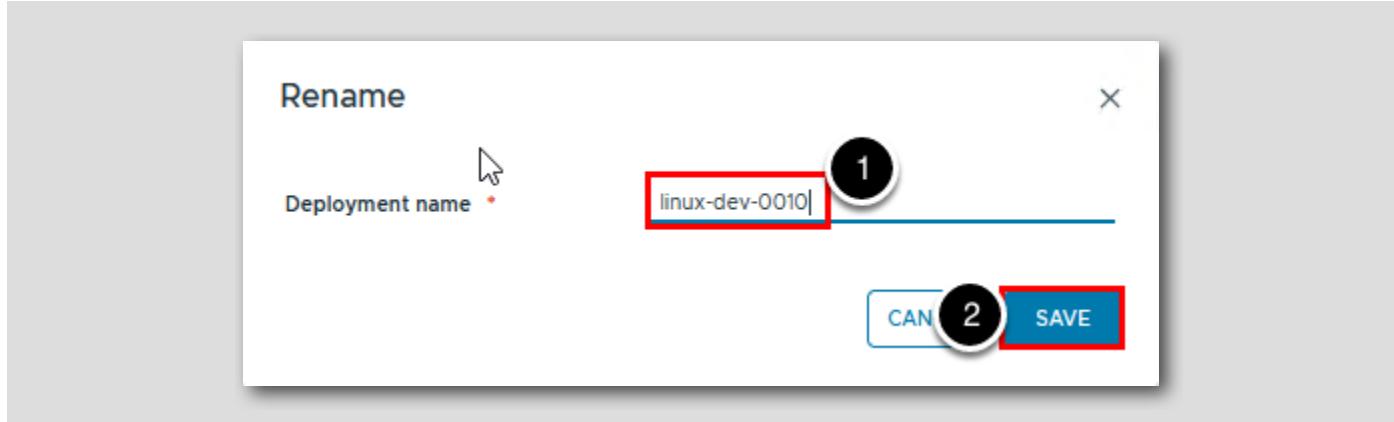
2. Expand the details for both of the deployments to display the machine component name of the deployment.

As part of our onboarding plan, we can change some attributes of the deployments. We'll start by renaming the deployments with more user-friendly names:

3. Click the checkbox for the linux-dev-0010 deployment.

4. Click RENAME.

Rename an Onboarding Plan Deployment



Rename the deployment to match the name of the machine:

1. For the deployment name, enter **linux-dev-0010**.
2. Click **SAVE**.

Rename Another Onboarding Plan Deployment

	Deployment Name	Status	Template	Owner	Components						
<input checked="" type="checkbox"/>	Deployment-a0cf4427-90a7-4d42-9e58-5174d287ae83	Ready to run			1						
<table border="1"> <tr> <th>Component Name</th> <th>Type</th> <th>Status</th> </tr> <tr> <td>linux-dev-0011</td> <td>Machine</td> <td></td> </tr> </table>						Component Name	Type	Status	linux-dev-0011	Machine	
Component Name	Type	Status									
linux-dev-0011	Machine										
<input type="checkbox"/>	linux-dev-0010	Ready to run			1						
<table border="1"> <tr> <th>Component Name</th> <th>Type</th> <th>Status</th> </tr> <tr> <td>linux-dev-0010</td> <td>Machine</td> <td></td> </tr> </table>						Component Name	Type	Status	linux-dev-0010	Machine	
Component Name	Type	Status									
linux-dev-0010	Machine										

Rename the deployment for the `linux-dev-0011` machine to match the machine's name:

1. Remain in the Deployments tab.
2. Click the checkbox for the `linux-dev-0011` deployment.
3. Click RENAME.
4. In the prompt, rename the deployment name to match the name of the machine, `linux-dev-0011` and click SAVE (not shown).

Note: Deployments can only be renamed before they are onboarded. After onboarding, the RENAME option is disabled.

Edit the Owners of the Deployments

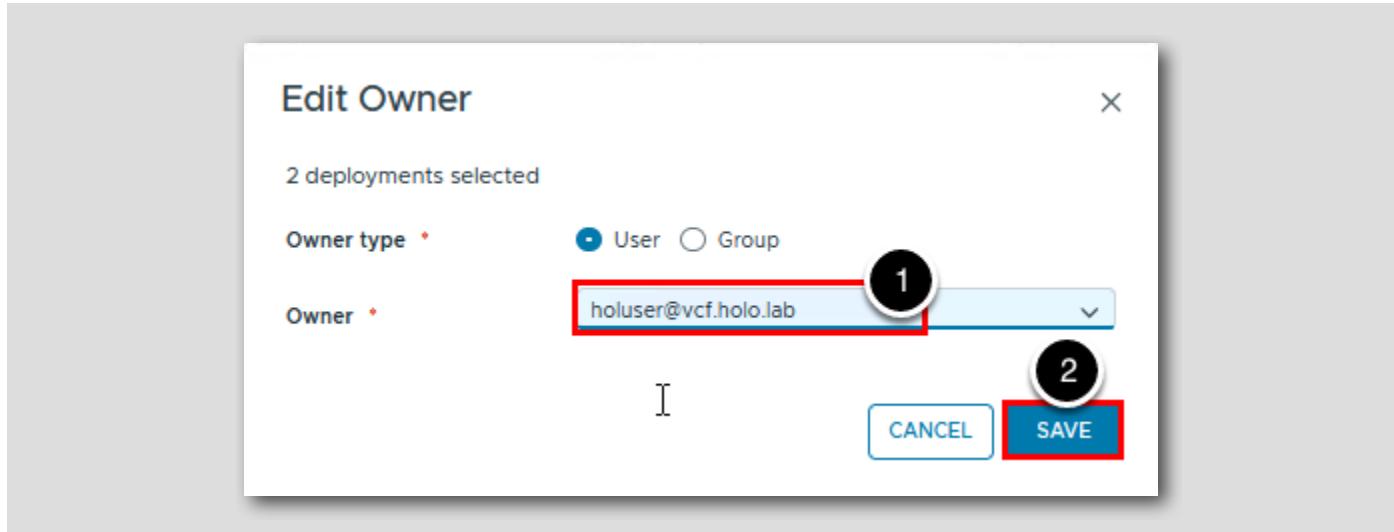
[217]

	Deployment Name	Status	Template	Owner	Components
<input checked="" type="checkbox"/>	linux-dev-0010	Ready to run			1
		Component Name	Type	Status	
		linux-dev-0010	Machine		
<input checked="" type="checkbox"/>	linux-dev-0011	Ready to run			1
		Component Name	Type	Status	
		linux-dev-0011	Machine		

By default, the person running the onboarding plan is assigned the owner of the deployments. We can assign different owners to our plan's deployments. Let's try that out:

1. Remain in the Deployments tab.
2. Click the top checkbox to select all of the deployments.
3. Click EDIT OWNER.

Select the Owners of the Deployments



1. In the prompt, for owner, select `holuser@vcf.holo.lab`.

2. Click **SAVE**.

It can sometimes take a few seconds for the Edit Owner prompt to close after we press **SAVE**.

Review the New Owner of the Onboarding Plan Deployments

	Deployment Name	Status	Template	Owner	Components
<input type="checkbox"/>	linux-dev-0010	Ready to run		holuser@vcf.holo.lab	1
<input type="checkbox"/>	linux-dev-0011	Ready to run		holuser@vcf.holo.lab	1

1. Observe that holuser@vcf.holo.lab is now the owner of both deployments.

Run the Onboarding Plan

[220]

The screenshot shows the 'linux-dev-vms' deployment management interface. The 'Deployments' tab is selected. There are two deployments listed:

Deployment Name	Status	Template	Owner	Components
linux-dev-0010	Ready to run		holuser@vcf.holo.lab	1
linux-dev-0011	Ready to run		holuser@vcf.holo.lab	1

Each deployment has a sub-table showing its components:

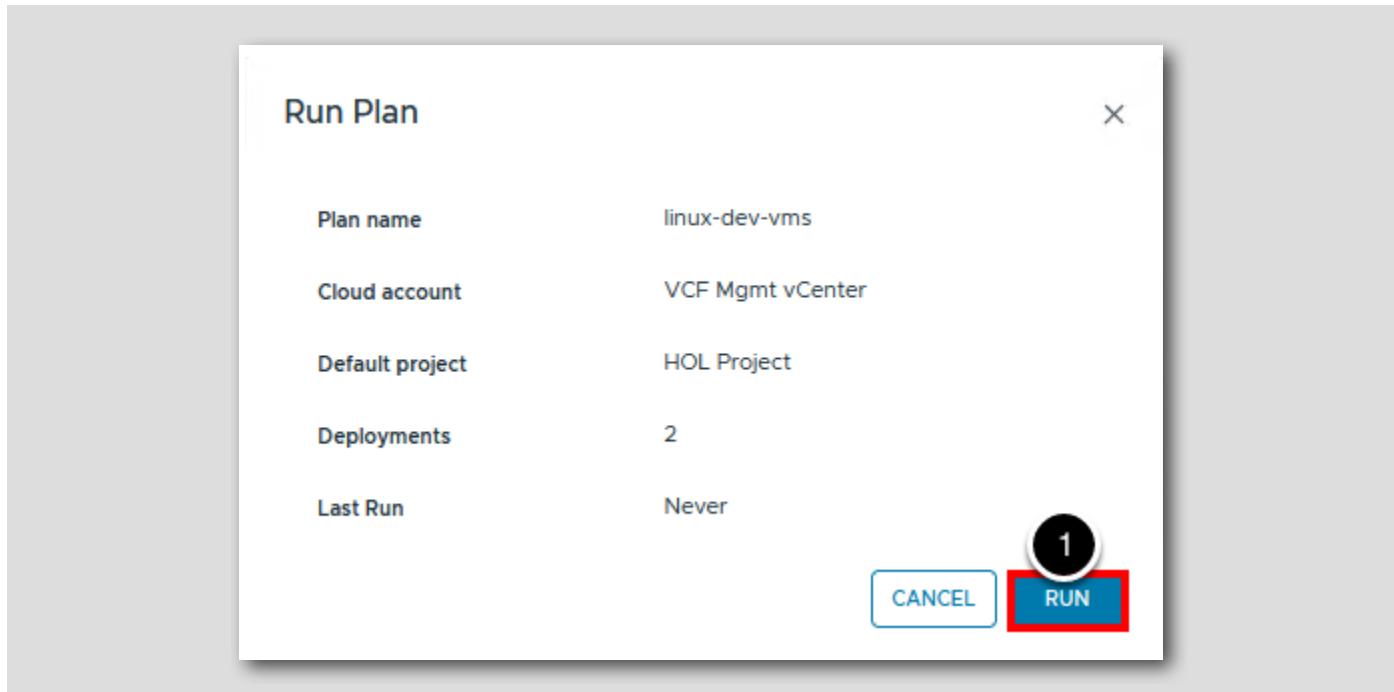
Component Name	Type	Status
linux-dev-0010	Machine	
linux-dev-0011	Machine	

At the bottom, there are buttons for 'SAVE', 'RUN' (highlighted with a red box and a circled '1'), and 'CANCEL'.

Finally, it's time to run our onboarding plan!

1. Click RUN.

Confirm the Onboarding Plan and Run



1. Confirm the onboarding plan details are correct and click RUN.

Review the Onboarding Plan Run Results

The screenshot shows the 'linux-dev-vms' deployment summary page. It includes a table with the following data:

	Deployment Name	Status	Template	Owner	Components
<input type="checkbox"/>	linux-dev-0010	Deployed		holuser@vcf.holo.lab	1
<input type="checkbox"/>	linux-dev-0011	Deployed		holuser@vcf.holo.lab	1

The onboarding plan should only take a minute or so to complete. When finished:

1. Observe the Status for each of the deployments upon completion is now Deployed.

Navigate to Resources

The screenshot shows the VMware Aria Automation interface. The top navigation bar includes tabs for Resources (highlighted with a red box and step 1), Ignite, Infrastructure, Extensibility, Tenant Management, and Alerts. A GUIDED SETUP button is in the top right. The left sidebar has sections for Deployments, All Resources (with Virtual Machines highlighted with a red box and step 2), Volumes, and Networking & Security. The main content area is titled "Virtual Machines" with a dropdown arrow. It shows a table of managed machines with the following columns: Name, Deployment, Power State, Address, Project, Origin, Tags, Billable, and Created On. The table contains five rows:

	Name	Deployment	Power State	Address	Project	Origin	Tags	Billable	Created On
1	linux-dev-0010	linux-dev-0010	Off		HOL Project	Onboarded	✓	✓	2 minutes ago
2	linux-dev-0011	linux-dev-0011	Off		HOL Project	Onboarded	✓	✓	2 minutes ago
3	hol-ubuntu-0004	My Custom-Named Resource 3	On	10.64.12.12	HOL Project	Deployed	✓	✓	43 minutes ago
4	windows-000906	hol-windows	On	10.64.12.13	HOL Project	Deployed	✓	✓	13 days ago
5	ubuntu-000308	hol-linux	On	10.64.12.10	HOL Project	Deployed	✓	✓	16 days ago

At the bottom of the table are buttons for "Manage Columns", "Machines per page" (set to 20), and "1 - 5 of 5 machines". A "SEARCH resources" bar is at the top right.

Now let's revisit the VM resources and examine how they have changed:

1. Click the **Resources** tab.
2. Click **Virtual Machines**.
3. Review the **linux-dev-0010** and **linux-dev-0011** machines.

We can see that a lot has changed:

- The origin of the machine resources has now been changed to **Onboarded** rather than **Discovered**.
- Each of the machines we onboarded is now associated with a deployment and a project.

View the Deployment Details

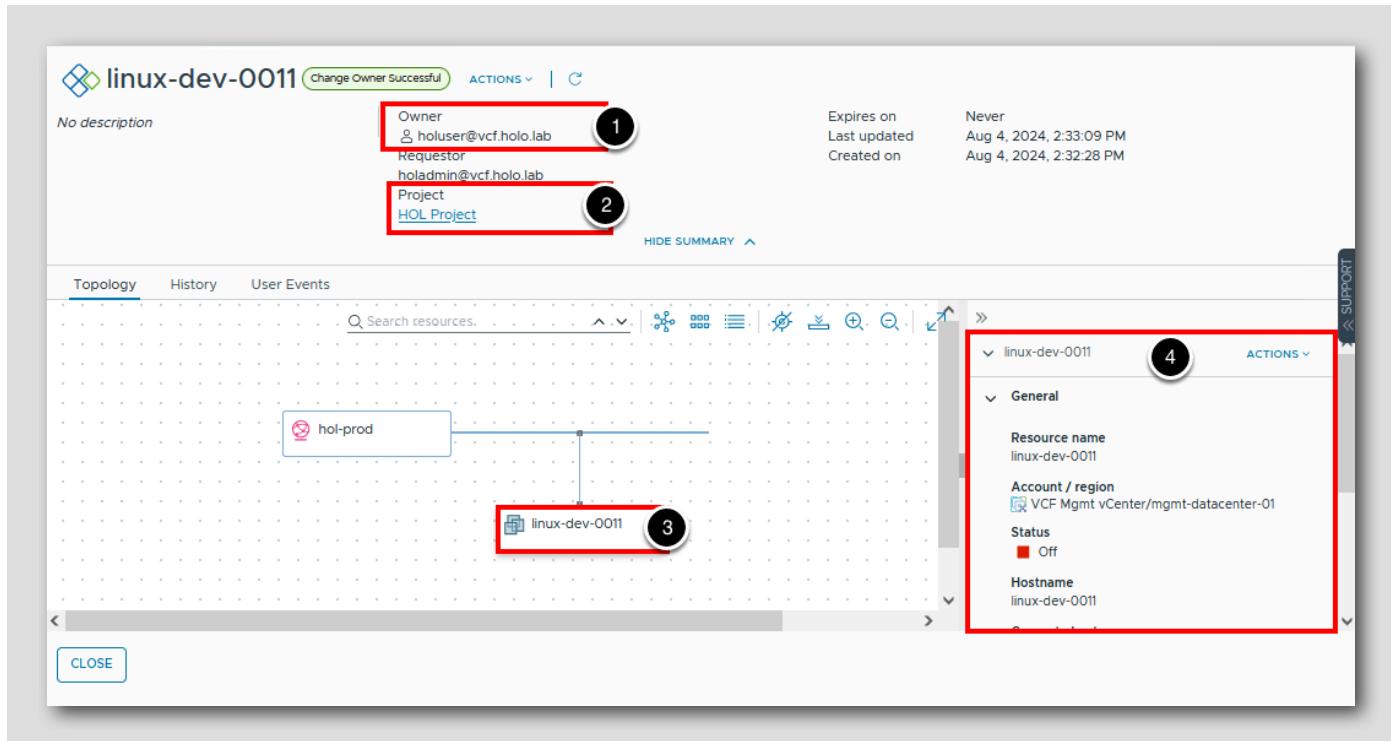
The screenshot shows the 'Virtual Machines' list in the VMware Aria Automation interface. The left sidebar includes 'Resources', 'Design', 'Infrastructure', 'Extensibility', 'Tenant Management', and 'Alerts'. Under 'Resources', there are sections for 'Deployments', 'All Resources', 'Virtual Machines', 'Volumes', and 'Networking & Security'. The main area displays a table of virtual machines with columns: Name, Deployment, Power State, Address, Project, Origin, Tags, Billable, and Created On. The table contains five rows:

	Name	Deployment	Power State	Address	Project	Origin	Tags	Billable	Created On
...	linux-dev-0010	linux-dev-0010	Off		HOL Project	Onboarded	✓	✓	2 minutes ago
...	linux-dev-0011	linux-dev-0011	Off		HOL Project	Onboarded	✓	✓	2 minutes ago
...	hol-ubuntu-0004	My Custom-Named Resource 3	On	10.64.12.12	HOL Project	Deployed	✓	✓	43 minutes ago
...	windows-000906	hol-windows	On	10.64.12.13	HOL Project	Deployed	✓	✓	13 days ago
...	ubuntu-000308	hol-linux	On	10.64.12.10	HOL Project	Deployed	✓	✓	16 days ago

At the bottom right of the table, there are buttons for 'Manage Columns', 'Machines per page' (set to 20), and a page number '1 - 5 of 5 machines'.

1. Click on the Refresh icon to refresh the screen.
2. Under the Deployment column, click the [linux-dev-0011](#) deployment name to view the deployment's details.

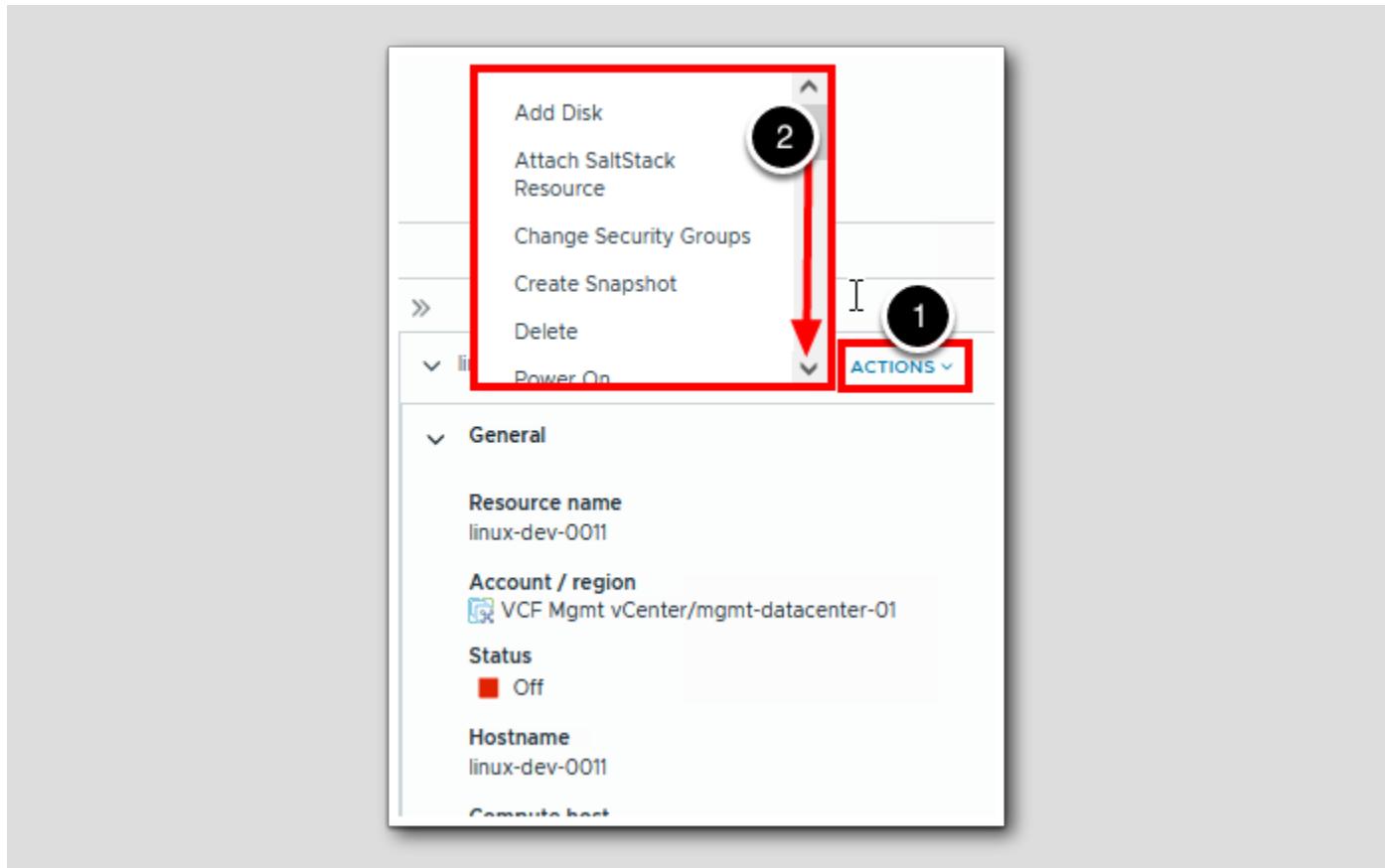
Explore the Deployment Topology



Observe how the `linux-dev-0011` deployment attributes match what we specified in the onboarding plan:

1. The owner is `holuser@vcf.holo.lab`.
2. The project is `HOL Project`, which was the default project of our onboarding plan.
3. Click the `linux-dev-0011` resource in the topology diagram.
4. Review the `linux-dev-0011` machine's details in the right-hand pane.

View Available Actions



In the information panel, we can also access a list of actions that you can take on the virtual machine:

1. In the right-hand pane, click the **ACTIONS** link to see the list of available actions.
2. Note that there are many more actions available to our VM now that it is onboarded--so many, we have to scroll to view them all!

View Deployment History

The screenshot shows the VCF Management UI with the History tab selected. On the left, there's a list of actions:

- Aug 4, 2024, 2:33:09 PM**: **CHANGE OWNER** (Successful) - Requested by: holadmin@vcf.hol... Request ID: 30414e51-4277-4928-b765-62c468014058
- Aug 4, 2024, 2:32:52 PM**: **ONBOARD** (Successful) - Requested by: holadmin@vcf.hol...

Below the list is a table titled "Events" showing deployment details:

Timestamp	Status	Resource type	Resource name	Details
Aug 4, 2024...	REQUEST_FINISHED			
Aug 4, 2024...	COMPLETION_FINISHED			
Aug 4, 2024...	COMPLETION_IN_PROGRESS			

At the bottom left is a "CLOSE" button.

As a last step, let's view a little more information about the steps taken by the onboarding plan to get this deployment to its current state:

1. Click the History tab.
2. Within the History tab, in the list of actions on the left side, click ONBOARD

Here, we can see information about the onboarding of the resource resource and the existing network to which it is connected. We can see who completed the onboarding activity, when, and whether it was a success.

3. Within the History tab, in the list of actions on the left side, click CHANGE OWNER

The change of ownership that we specified in our onboarding plan is shown as a separate action.

Conclusion

In this module, we discussed what an onboarding plan is. We compared the differences between discovered, deployed, and onboarded resources. Then walked through the straightforward process of creating and running one to onboard discovered machines from within a cloud account and create deployments for them to our specifications.

You've finished the module

Congratulations on completing Module 5.

If you are looking for additional information on onboarding, try one of these:

- What are onboarding plans in Automation Assembler
- Onboarding and managing vSphere resources
- Use the VMware Aria Automation for Secure Clouds API to onboard your cloud accounts

From here you can:

1. Continue with the next lab module
2. Click [vlp:table-of-contents] Show Table of Contents] to jump to any module or lesson in this lab
3. End your lab and return in the future

Appendix

Hands-on Labs Interface (Windows Main Console)

[231]

Welcome to Hands-on Labs! This overview of the interface and features will help you to get started quickly. Click next in the manual to explore the Main Console or use the Table of Contents to return to the Lab Overview page or another module.

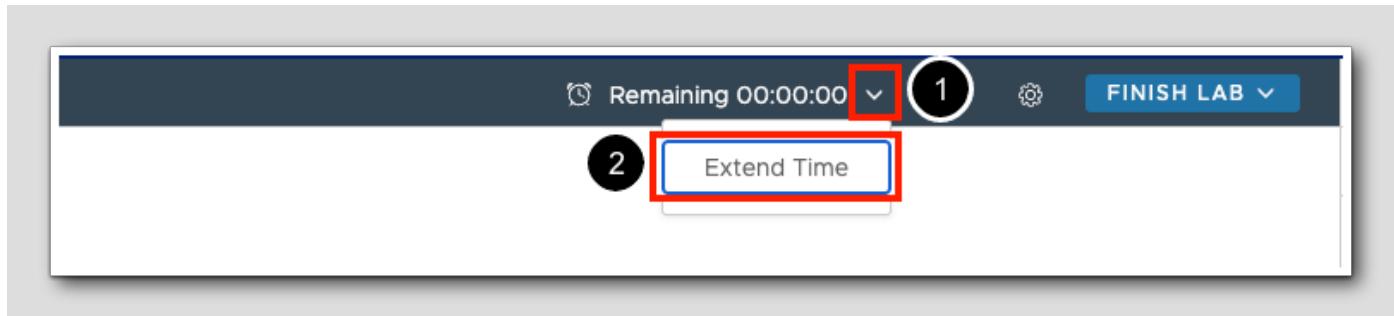
Location of the Main Console

[232]



1. The area in the large RED box contains the Main Console. The Lab Manual is on the tab to the right of the Main Console.

Extend Time



1. Your lab starts with a timer. The lab cannot be saved and will end when the timer expires. Click the drop down arrow next to the remaining time
2. Select Extend Timeto increase the time allowed. The amount of time you can extend will depend on the lab.

Alternate Methods of Keyboard Data Entry

In this lab you will input text into the Main Console. Besides directly typing in the console, two alternate methods make it easier to enter complex data.

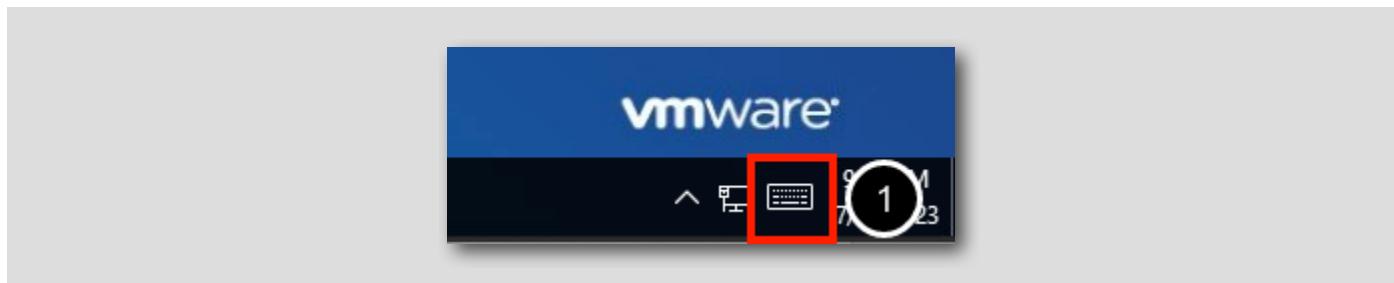
Click and Drag Lab Manual Content Into Console Active Window

<https://www.youtube.com/watch?v=xS07n6GzGuo>



You can click and drag text and Command Line Interface (CLI) commands directly from the Lab Manual into the active window in the Main Console.

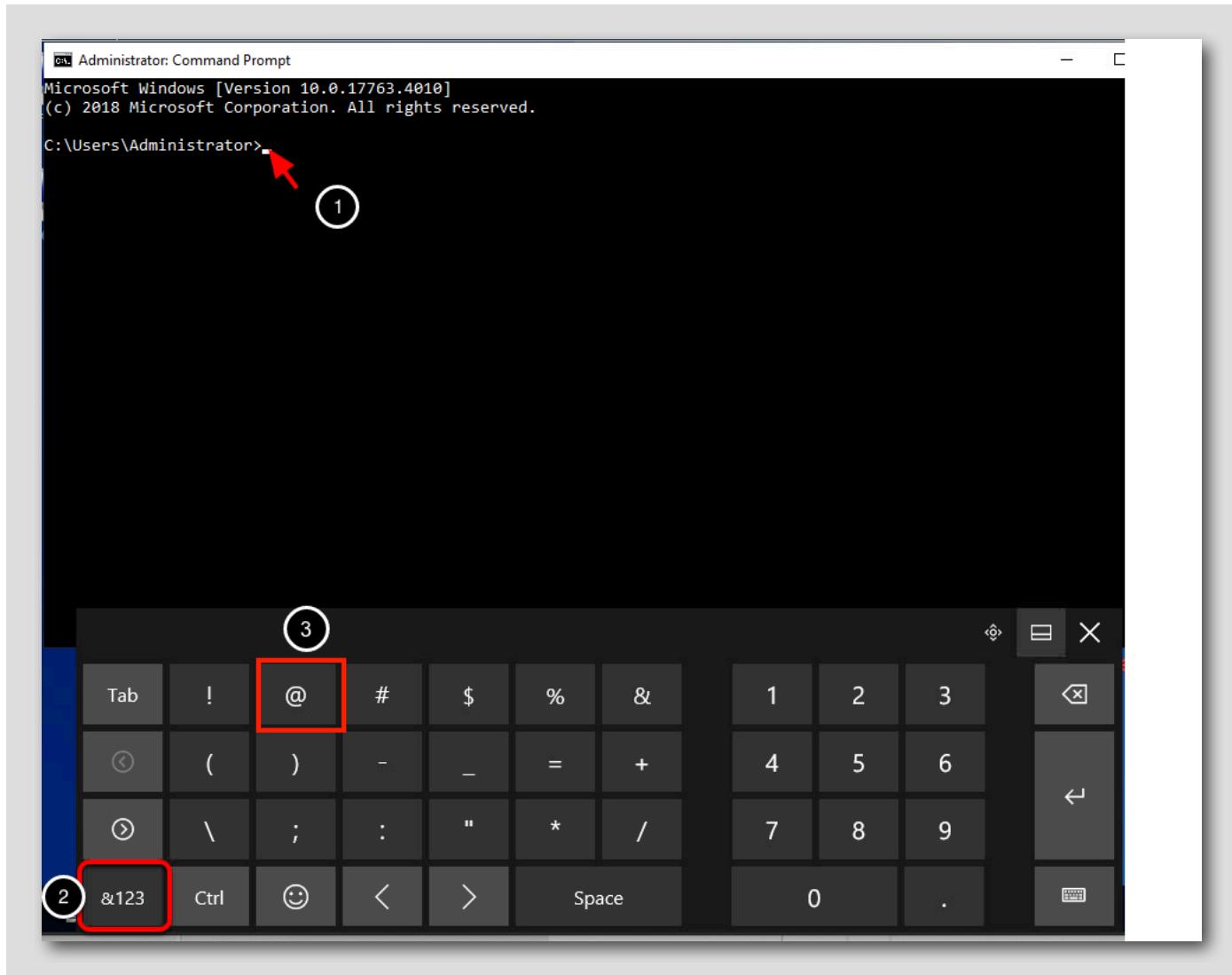
Accessing the Online International Keyboard



You can also use the Online International Keyboard found in the Main Console.

1. Click on the keyboard icon found on the Windows Quick Launch Task Bar.

Click once in active console window



For example, to enter the "@" sign used in email addresses you can use the Online Keyboard. The "@" sign is Shift-2 on US keyboard layouts.

1. Click once in the active console window.
2. Click on the Shift key.
3. Click on the "@" key.

Return to Lab Guidance

[238]

Use the Table of Contents to return to the Lab Overview page or another module.

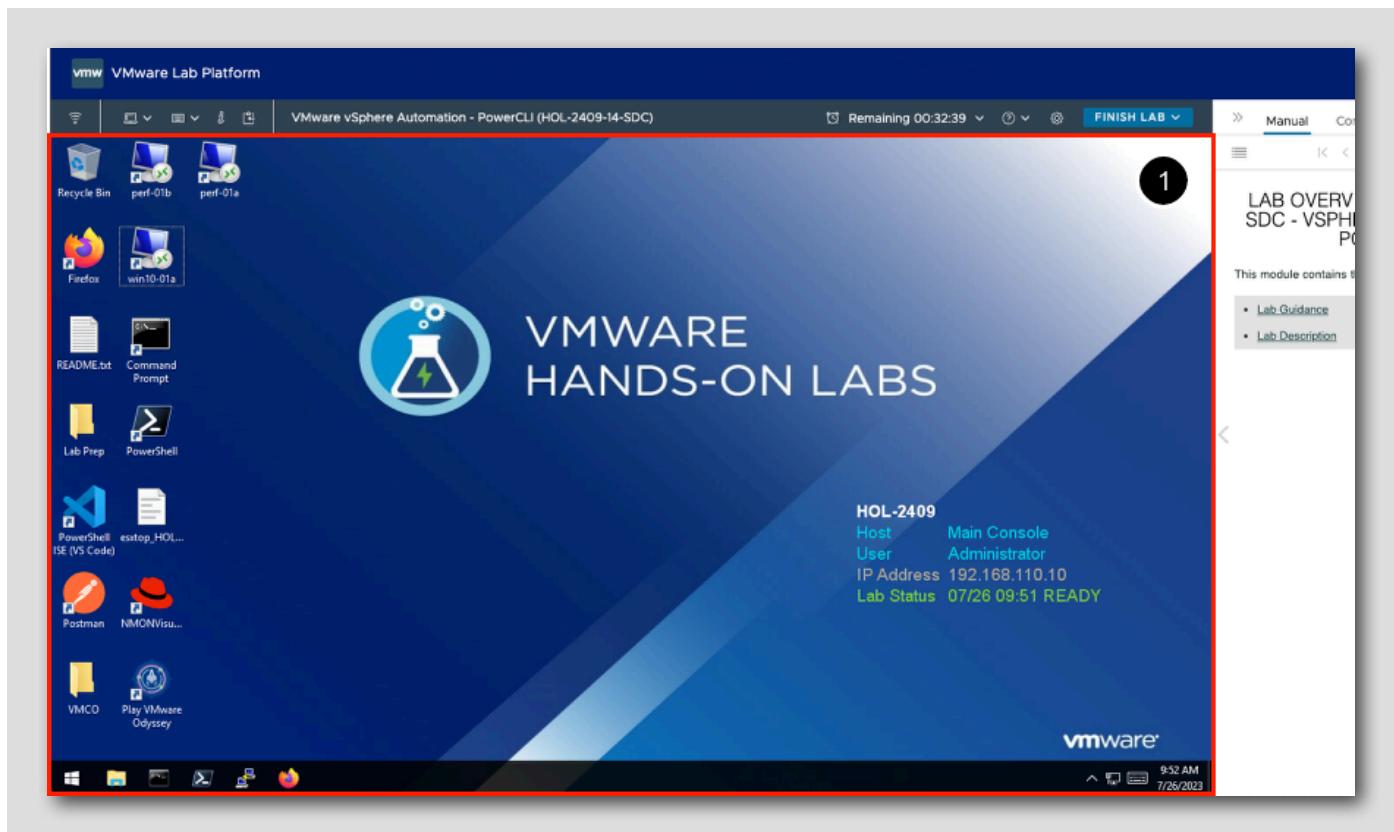
Hands-on Labs Interface (Ubuntu Main Console)

[239]

Welcome to Hands-on Labs! This overview of the interface and features will help you to get started quickly. Click next in the manual to explore the Main Console or use the Table of Contents to return to the Lab Overview page or another module.

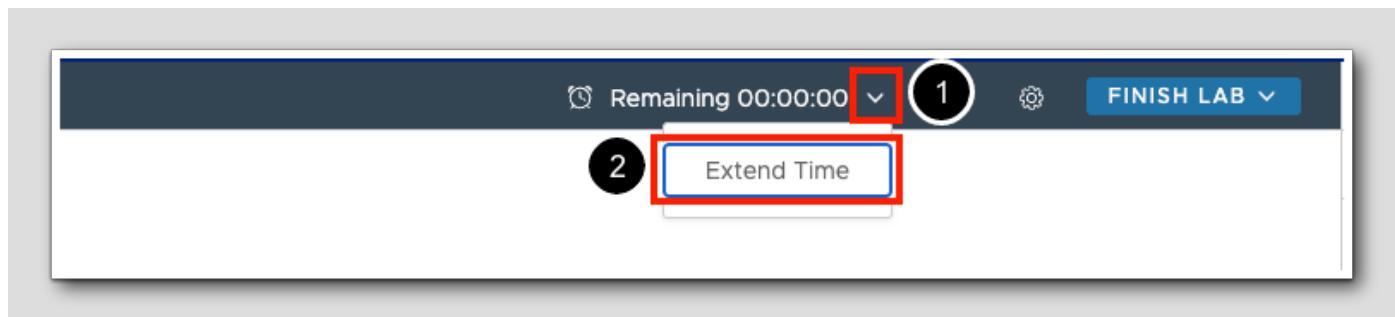
Location of the Main Console

[240]



1. The area in the large RED box contains the Main Console. The Lab Manual is on the tab to the right of the Main Console.

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Alternate Methods of Keyboard Data Entry

In this lab you will input text into the Main Console. Besides directly typing in the console, two alternate methods make it easier to enter complex data.

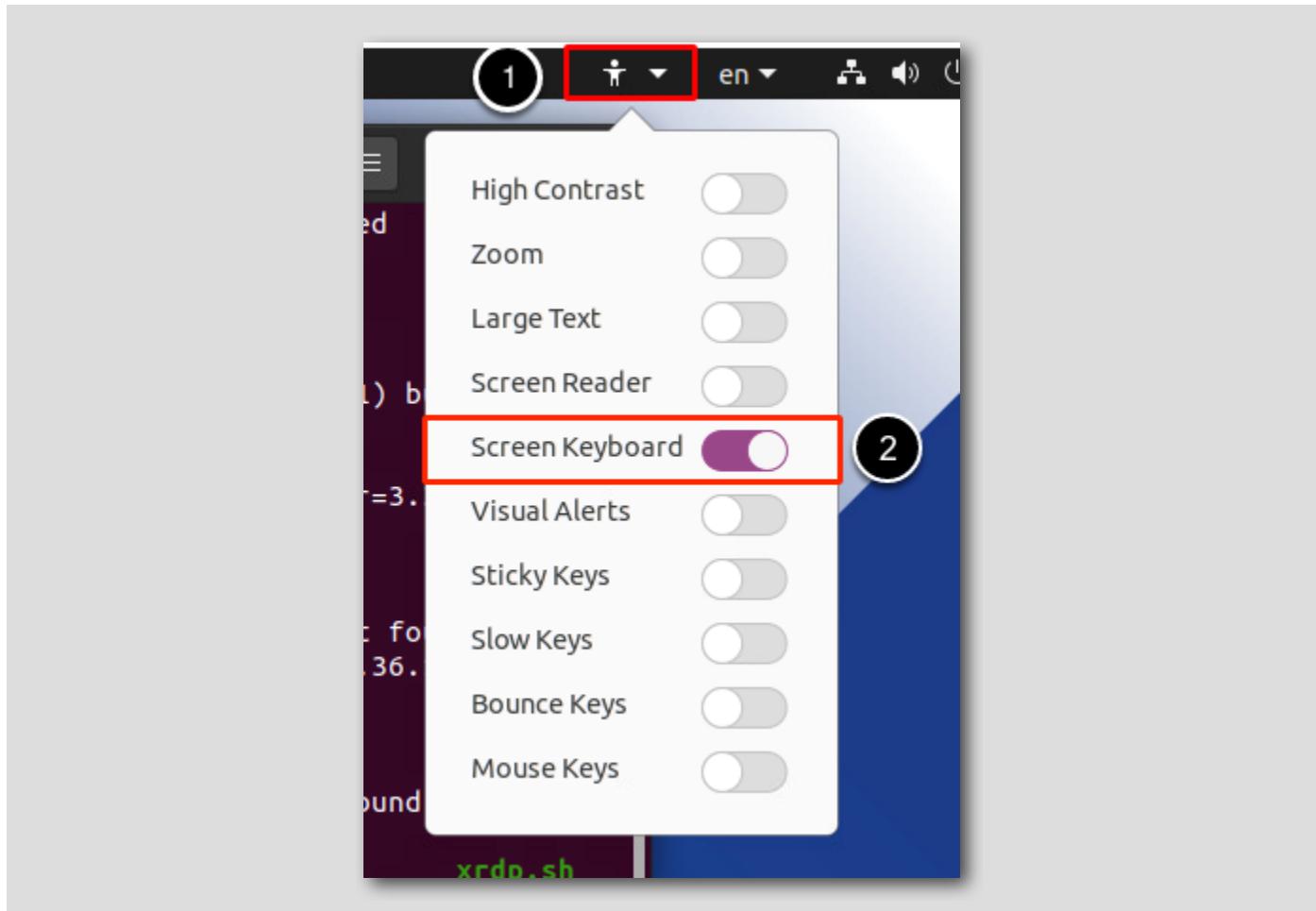
Click and Drag Lab Manual Content Into Console Active Window

<https://www.youtube.com/watch?v=xS07n6GzGuo>



You can click and drag text and Command Line Interface (CLI) commands directly from the Lab Manual into the active window in the Main Console.

Accessing the Online International Keyboard



You can also use the Online International Keyboard found in the Main Console.

1. Click on the Human icon (Universal Access) on the top taskbar
2. Enable Screen Keyboard

The Keyboard Is Now Enabled



The keyboard will now be enabled and will autohide and appear when needed; e.g., when you click in a text field or terminal.

Return to Lab Guidance

Use the Table of Contents to return to the Lab Overview page or another module.



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