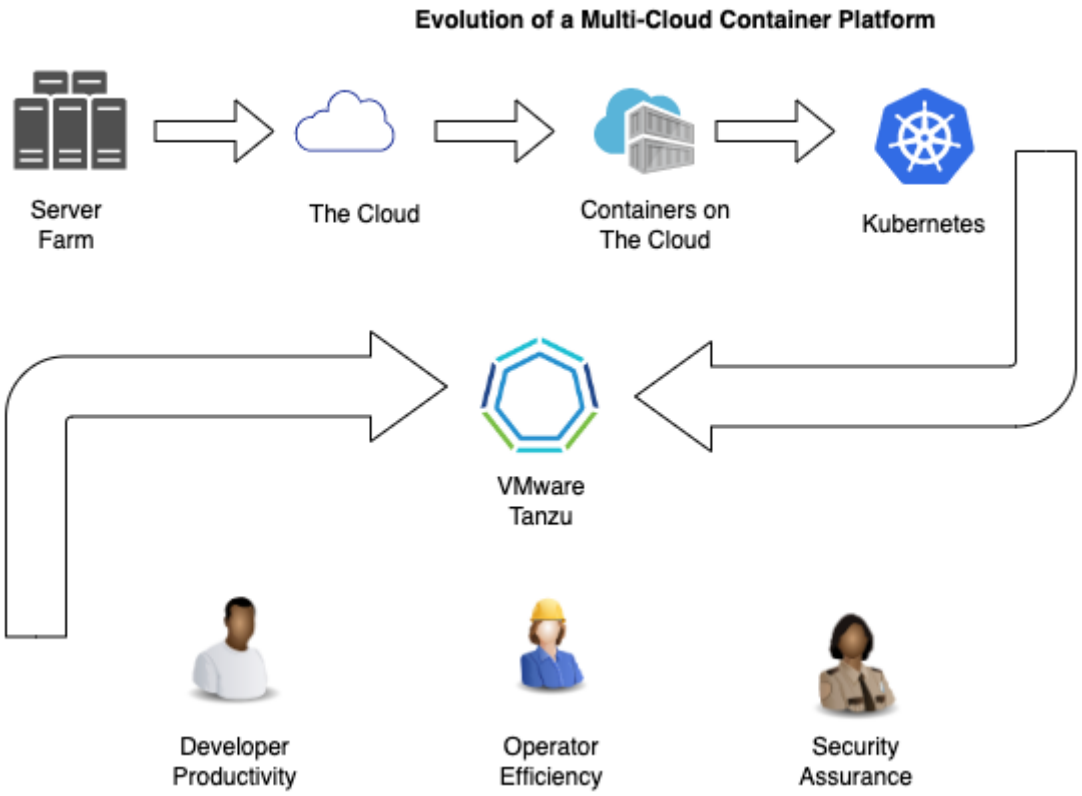
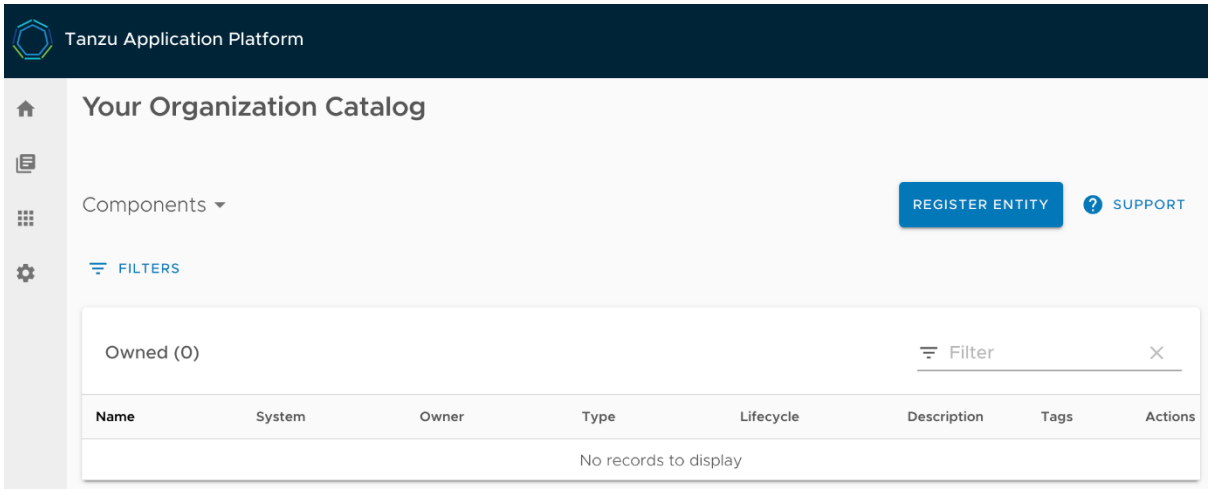
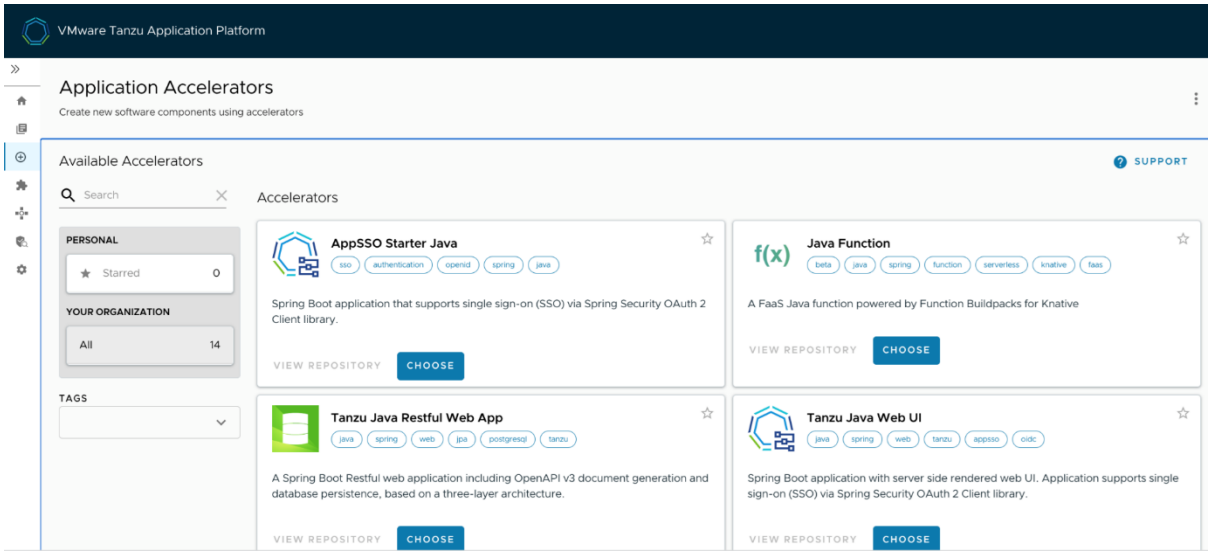
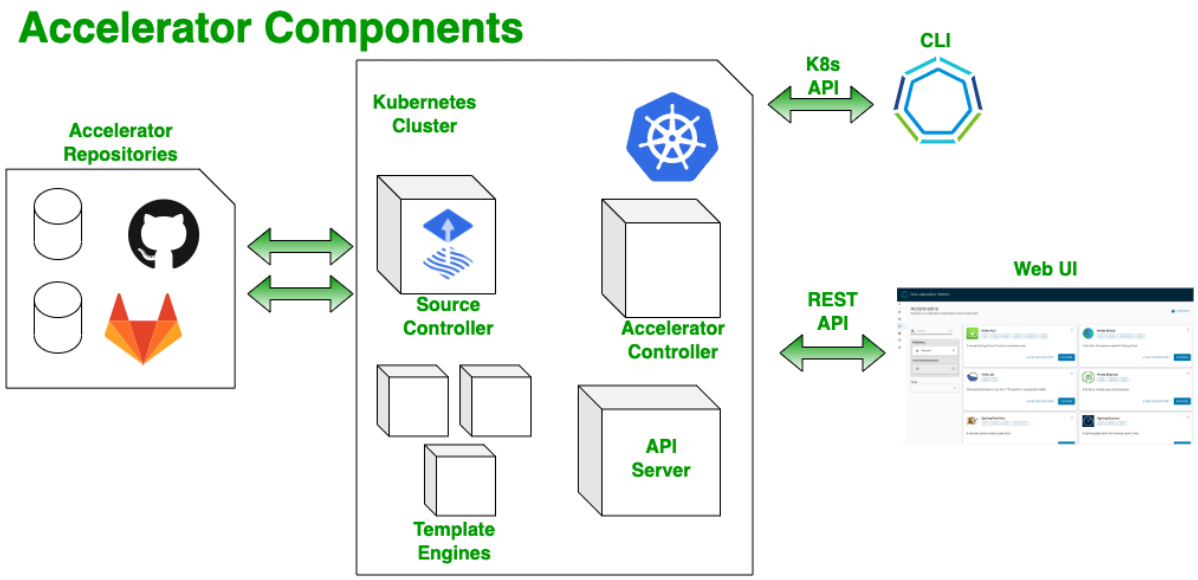
Chapter 1: Understanding the need to Move to a Cloud Platform

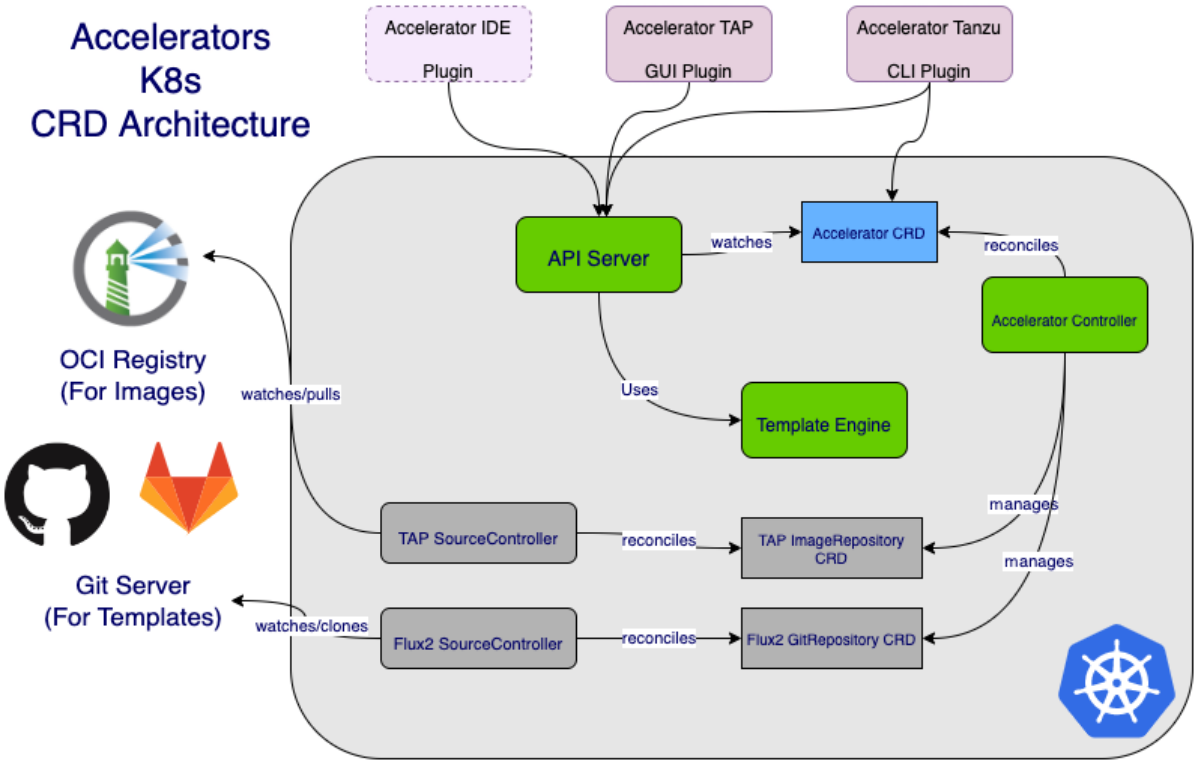


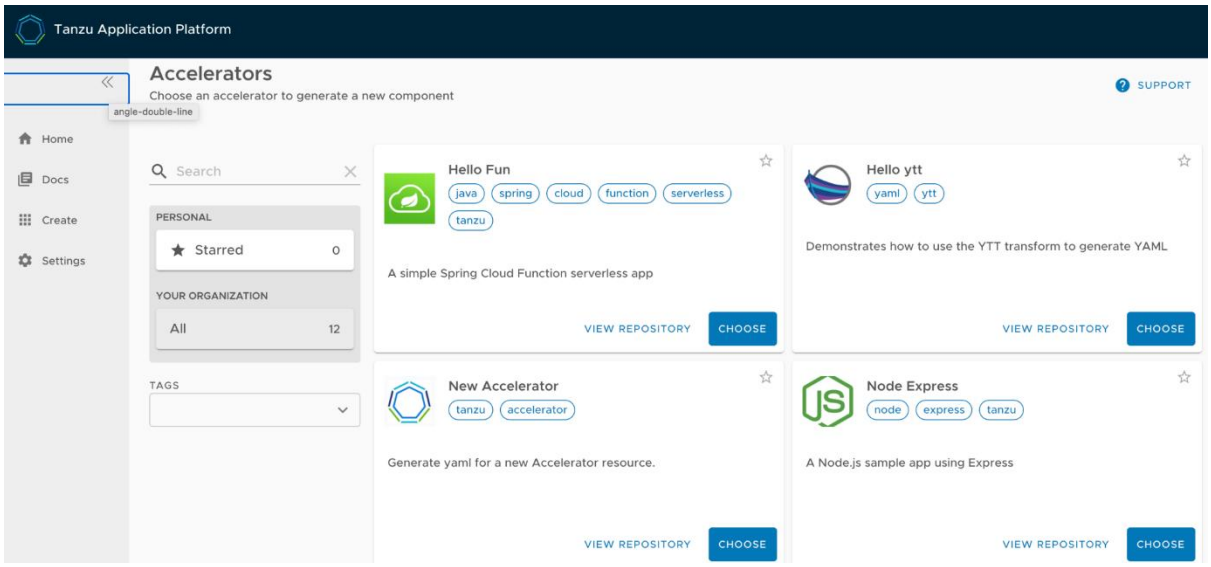
Chapter 2: Developing Cloud-Native Applications


Tanzu Application Platform
Your Organization Catalog
Components
REGISTER ENTITY
SUPPORT
FILTERS
Owned (0)
Filter
Name
System
Owner
Type
Lifecycle
Description
Tags
Actions
No records to display


VMware Tanzu Application Platform
Application Accelerators
Create new software components using accelerators
Available Accelerators
SUPPORT
Search
Accelerators
PERSONAL
Starred 0
YOUR ORGANIZATION
All 14
TAGS
AppSSO Starter Java
Spring Boot application that supports single sign-on (SSO) via Spring Security OAuth 2 Client library.
VIEW REPOSITORY
CHOOSE
Java Function
A FaaS Java function powered by Function Buildpacks for Knative
VIEW REPOSITORY
CHOOSE
Tanzu Java Restful Web App
A Spring Boot Restful web application including OpenAPI v3 document generation and database persistence, based on a three-layer architecture.
VIEW REPOSITORY
CHOOSE
Tanzu Java Web UI
Spring Boot application with server side rendered web UI. Application supports single sign-on (SSO) via Spring Security OAuth 2 Client library.
VIEW REPOSITORY
CHOOSE

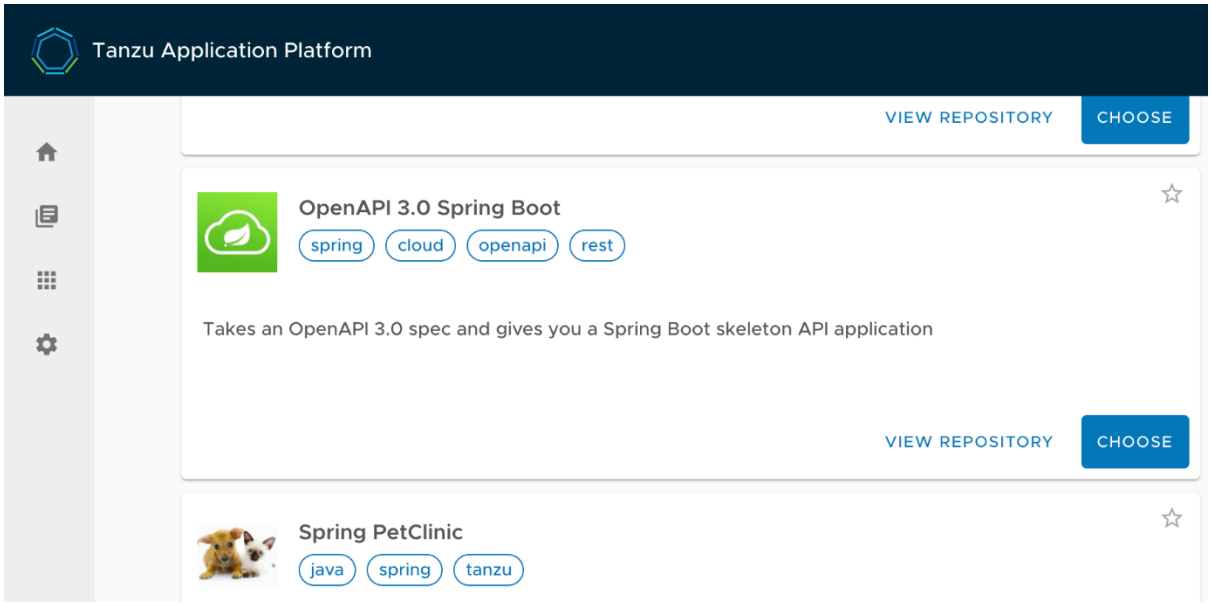

Accelerator Components
Accelerator Repositories
Kubernetes Cluster
Source Controller
Accelerator Controller
API Server
Template Engines
K8s API
CLI
REST API
Web UI


Accelerators
K8s
CRD Architecture
Accelerator IDE
Plugin
Accelerator TAP
GUI Plugin
Accelerator Tanzu
CLI Plugin
API Server
watches
Accelerator CRD
reconciles
Accelerator Controller
OCI Registry
(For Images)
watches/pulls
Uses
Template Engine
TAP SourceController
reconciles
TAP ImageRepository
CRD
manages
manages
Git Server
(For Templates)
watches/clones
Flux2 SourceController
reconciles
Flux2 GitRepository CRD


Tanzu Application Platform
Accelerators
Choose an accelerator to generate a new component
SUPPORT
Home
Docs
Create
Settings
Search
PERSONAL
Starred 0
YOUR ORGANIZATION
All 12
TAGS
Hello Fun
java
spring
cloud
function
serverless
tanzu
A simple Spring Cloud Function serverless app
VIEW REPOSITORY
CHOOSE
Hello ytt
yaml
ytt
Demonstrates how to use the YTT transform to generate YAML
VIEW REPOSITORY
CHOOSE
New Accelerator
tanzu
accelerator
Generate yaml for a new Accelerator resource.
VIEW REPOSITORY
CHOOSE
Node Express
node
express
tanzu
A Node.js sample app using Express
VIEW REPOSITORY
CHOOSE

19 lines (19 sloc) | 535 Bytes Raw Blame

```yaml
apiVersion: accelerator.apps.tanzu.vmware.com/v1alpha1
kind: Accelerator
metadata:
  name: openapi-accelerator
  namespace: accelerator-system
spec:
  displayName: OpenAPI 3.0 Spring Boot
  description: Takes an OpenAPI 3.0 spec and gives you a Spring Boot skeleton API application
  iconUrl: https://github.com/simple-starters/icons/raw/master/icon-cloud.png
  tags:
    - spring
    - cloud
    - openapi
    - rest
  git:
    ignore: ".git/"
    url: https://github.com/rhardt-pivotal/openapi-accelerator
    ref:
      branch: main
```



Explore Project

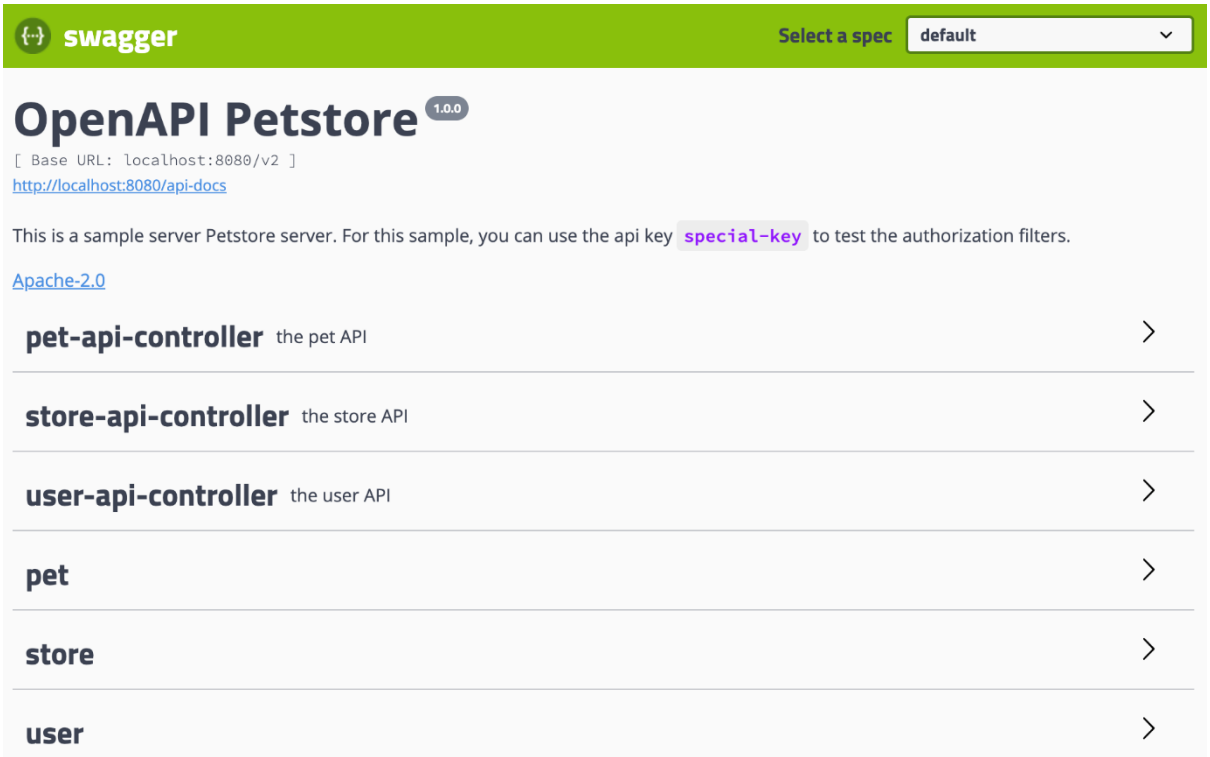
openapi-accelerator.zip

- accelerator-log.md
- build.gradle
- gradle
- gradlew
- gradlew.bat
- settings.gradle
- src
  - main
    - resources
      - openapi-v3.0.yaml

openapi-v3.0.yaml DOWNLOAD COPY

```yaml
openapi: 3.0.0
servers:
  - url: 'http://petstore.swagger.io/v2'
info:
  description: >-
    This is a sample server Petstore server. For this sample, you can use the api key
    `special-key` to test the authorization filters.
  version: 1.0.0
  title: OpenAPI Petstore
  license:
    name: Apache-2.0
    url: 'https://www.apache.org/licenses/LICENSE-2.0.html'
tags:
  - name: pet
    description: Everything about your Pets
  - name: store
    description: Access to Petstore orders
  - name: user
```

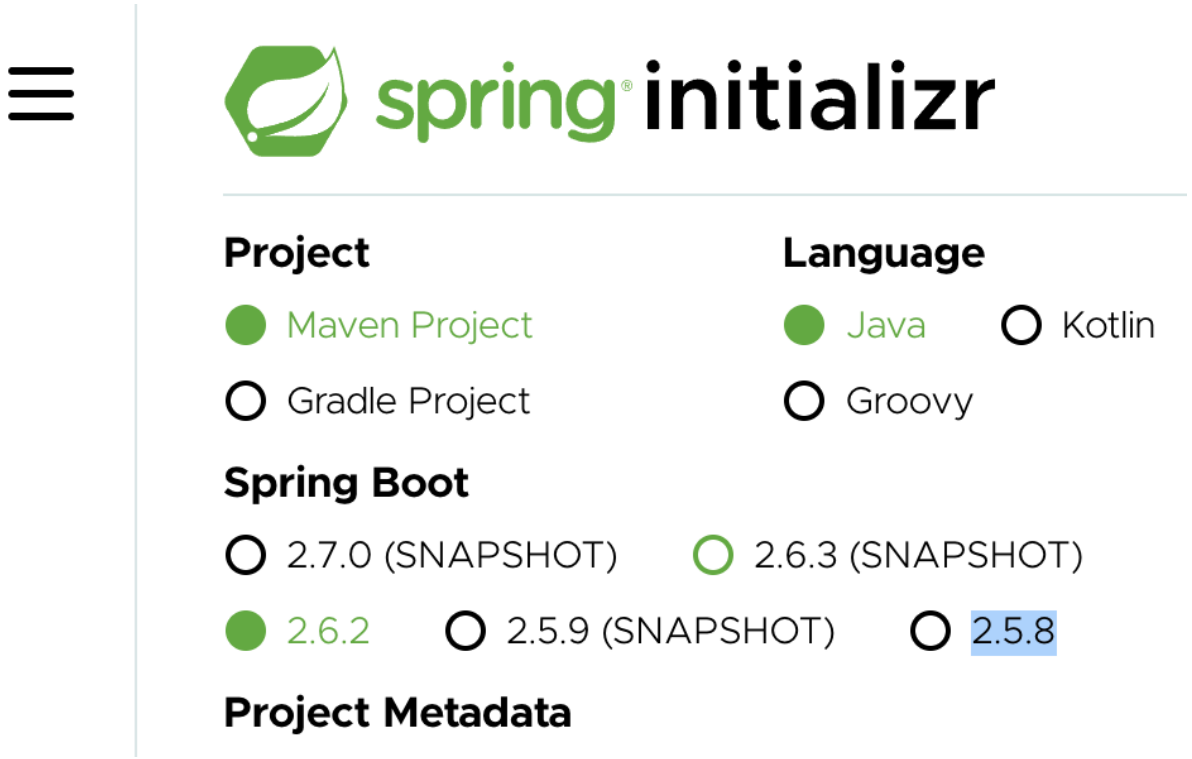
CLOSE



38 lines (32 sloc) | 869 Bytes

```
plugins {
        id 'org.springframework.boot' version '2.5.6'
        id 'io.spring.dependency-management' version '1.0.11.RELEASE'
        id "org.openapi.generator" version "5.2.1"
        id 'java'
}

```



Search Gradle plugins

search by tag or keyword

Gradle

org.openapi.generator

Owner: Jim Schubert

OpenAPI Generator allows generation of API client libraries (SDK generation), server stubs, documentation and configuration automatically given an OpenAPI Spec (v2, v3)

https://openapi-generator.tech/

#openapi-3.0 #openapi-2.0 #openapi #swagger #codegen #sdk

Version 5.3.1 (latest)

Other versions

Created 21 December 2021.

OpenAPI Generator allows generation of API client libraries (SDK generation), server stubs, documentation and configuration automatically given an OpenAPI Spec (v2, v3)

Users > roberthardt > work2 > tanzu > accelerator > openapi-accelerator > build.gradle

```
plugins {
    id 'org.springframework.boot' version '2.6.2'
    id 'io.spring.dependency-management' version '1.0.11.RELEASE'
    id "org.openapi.generator" version "5.3.1"
    id 'java'
}

group = 'com.example'
version = '0.0.1-SNAPSHOT'
sourceCompatibility = '11'

repositories {
    mavenCentral()
}

dependencies {
    implementation 'org.springframework.boot:spring-boot-starter-hateoas'
    testImplementation 'org.springframework.boot:spring-boot-starter-test'
}

test {
    useJUnitPlatform()
}
```

What Spring can do

Microservices

Quickly deliver production-grade features with independently evolvable microservices.

Reactive

Spring's asynchronous, nonblocking architecture means you can get more from your computing resources.

Cloud

Your code, any cloud—we've got you covered. Connect and scale your services, whatever your platform.

Web apps

Frameworks for fast, secure, and responsive web applications connected to any data store.

Serverless

The ultimate flexibility. Scale up on demand and scale to zero when there's no demand.

Event Driven

Integrate with your enterprise. React to business events. Act on your streaming data in realtime.

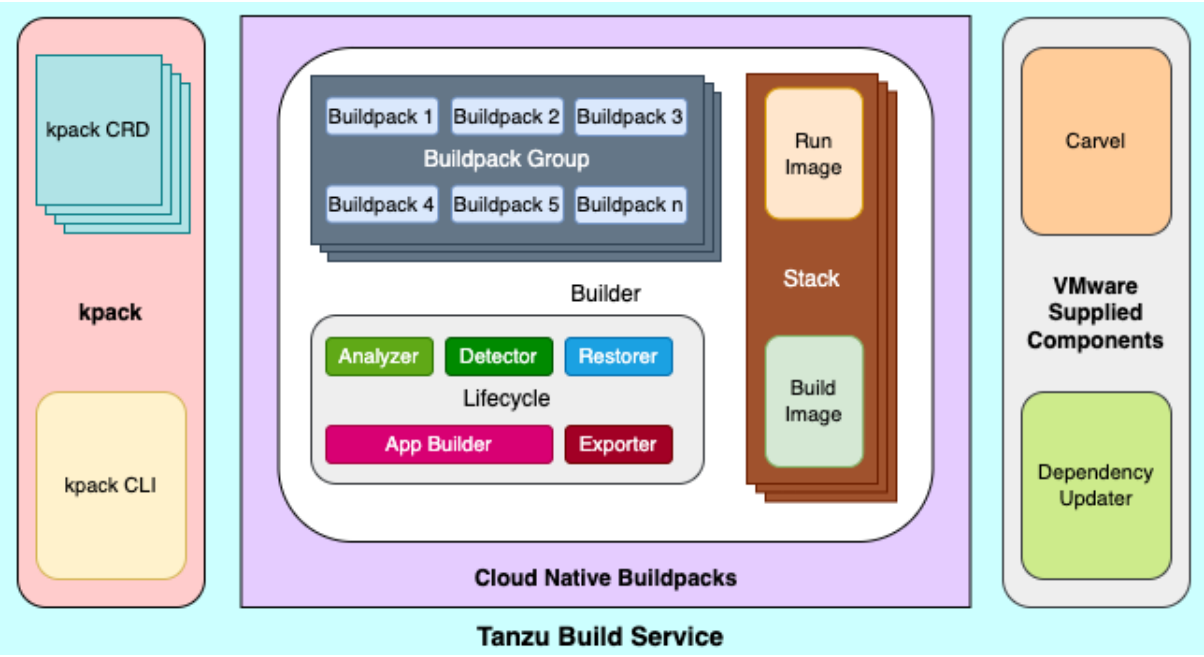
Batch

Automated tasks. Offline processing of data at a time to suit you.

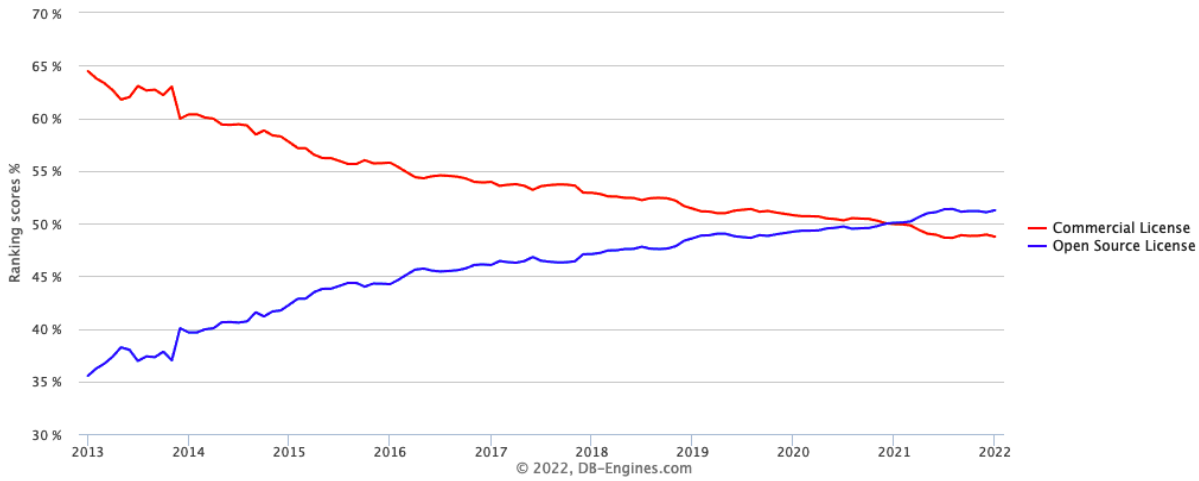
Chapter 3: Building Secure Container Images with Build Service

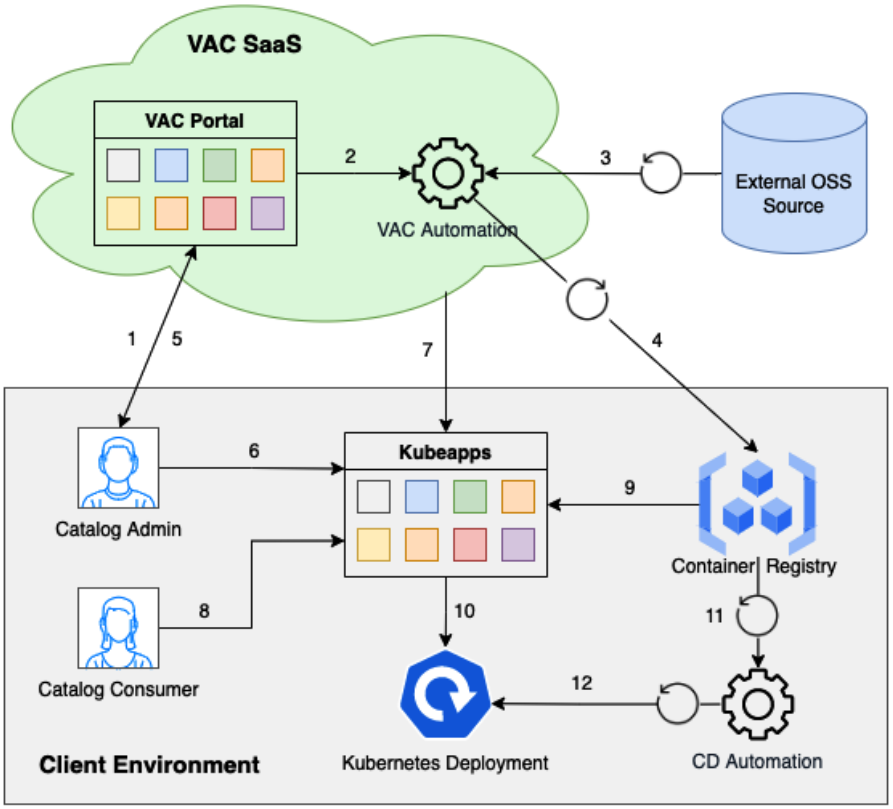
```
| ● Layers ├──────────────────────────────────────────────────────────────────────────────────────────────────────────
Cmp   Size  Command
      73 MB  FROM 3f26145e37da197
      43 MB  apt-get update     && apt-get install -y --no-install-recommends tzdata curl ca-certificates fontconfig lo
     128 MB  set -eux;     ARCH="$(dpkg --print-architecture)";     case "${ARCH}" in        aarch64|arm64)          ES
      48 MB  COPY target/*.jar app.jar # buildkit
```

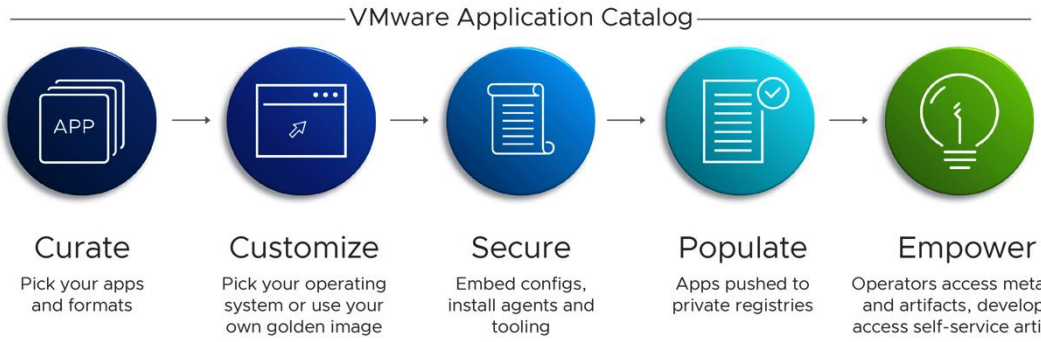
```
| ● Layers ├──────────────────────────────────────────────────────────────────────────────────────────────────────────
Cmp   Size  Command
      73 MB  FROM 3f26145e37da197
      43 MB  apt-get update     && apt-get install -y --no-install-recommends tzdata curl ca-certificates fontconfig lo
     128 MB  set -eux;     ARCH="$(dpkg --print-architecture)";     case "${ARCH}" in        aarch64|arm64)          ES
        0 B  WORKDIR /application
      48 MB  COPY application/dependencies/ ./ # buildkit
     246 kB  COPY application/spring-boot-loader/ ./ # buildkit
        0 B  COPY application/snapshot-dependencies/ ./ # buildkit
     102 kB  COPY application/application/ ./ # buildkit
```

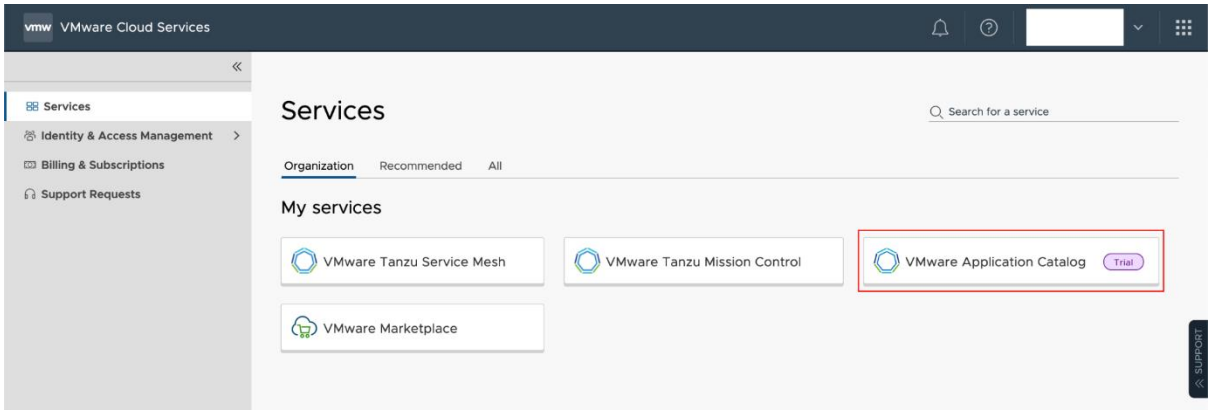

kpack CRD
kpack
kpack CLI
Buildpack 1
Buildpack 2
Buildpack 3
Buildpack Group
Buildpack 4
Buildpack 5
Buildpack n
Builder
Analyzer
Detector
Restorer
Lifecycle
App Builder
Exporter
Run Image
Stack
Build Image
Cloud Native Buildpacks
Carvel
VMware Supplied Components
Dependency Updater
Tanzu Build Service

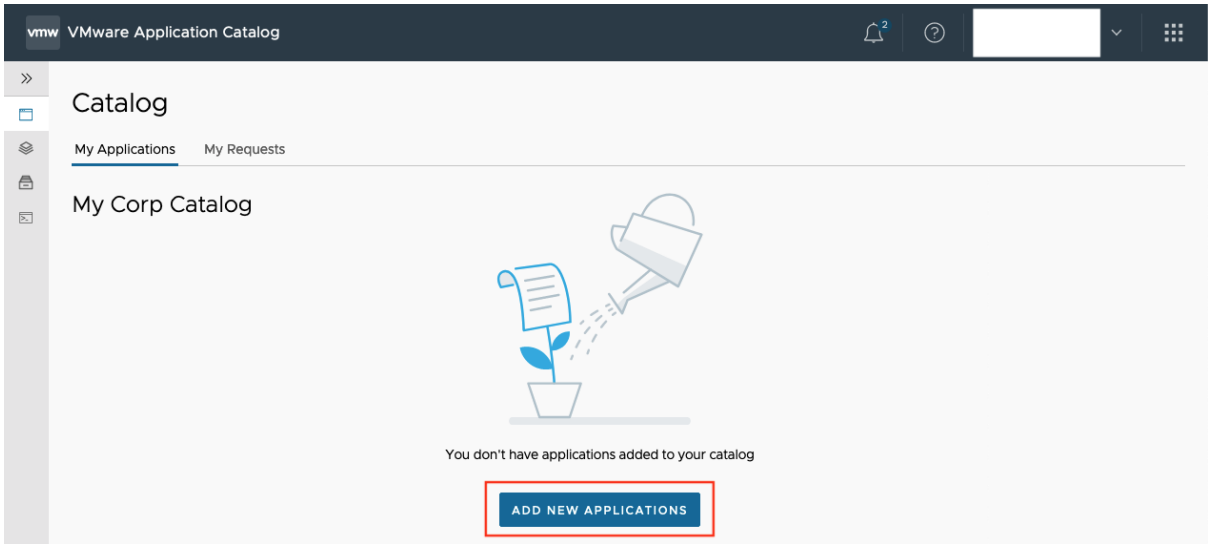
Chapter 4: Provisioning Backing Services for Applications

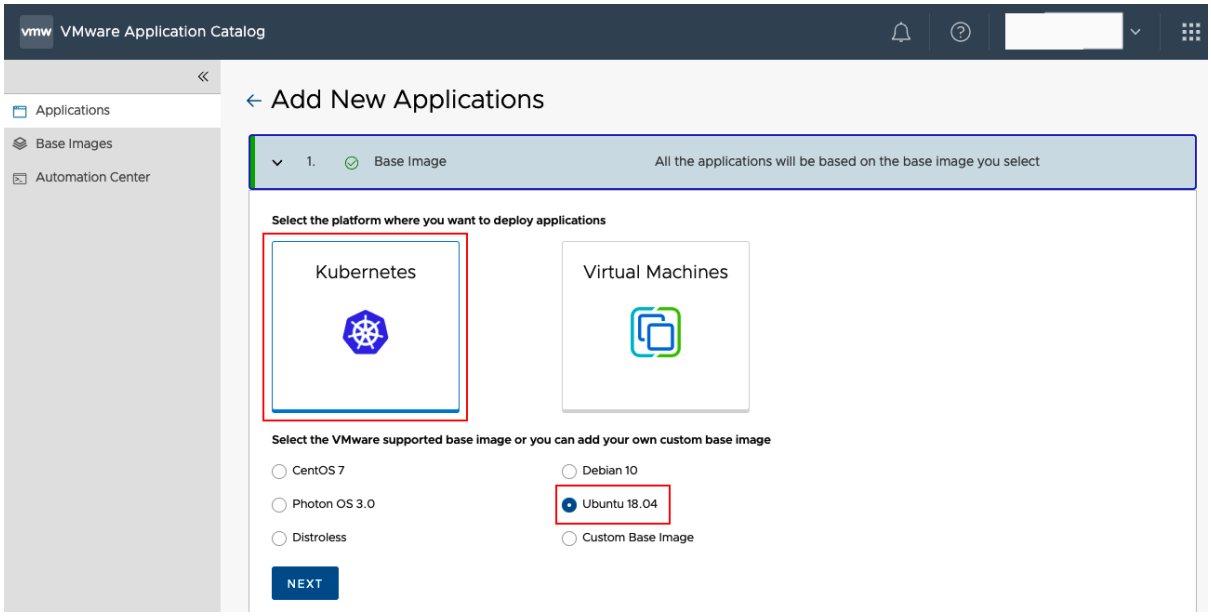


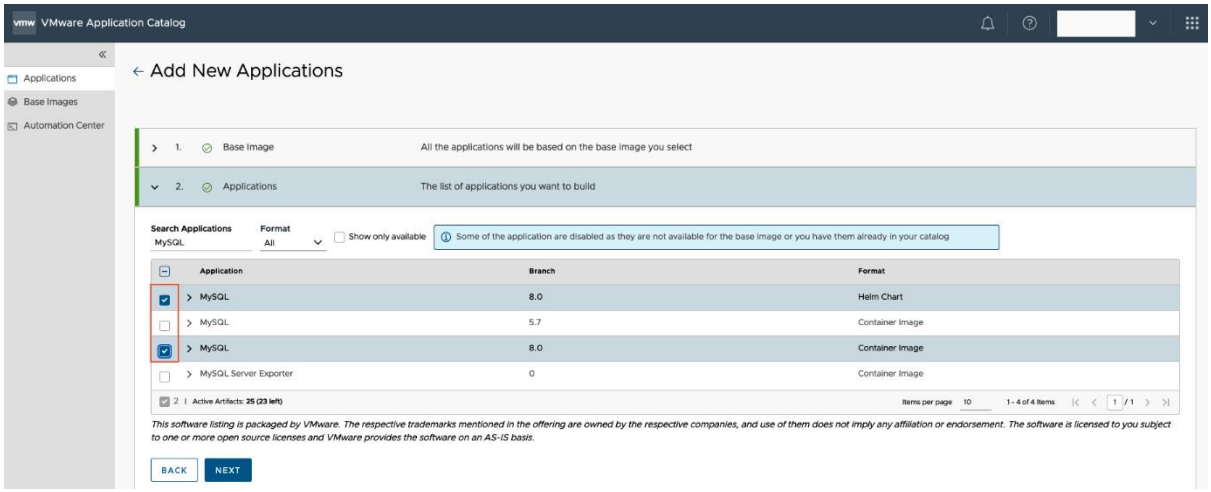



VMware Application Catalog
APP
Curate
Pick your apps and formats
Customize
Pick your operating system or use your own golden image
Secure
Embed configs, install agents and tooling
Populate
Apps pushed to private registries
Empower
Operators access metadata and artifacts, developers access self-service artifacts


VMware Cloud Services
Services
Identity & Access Management
Billing & Subscriptions
Support Requests
Services
Search for a service
Organization
Recommended
All
My services
VMware Tanzu Service Mesh
VMware Tanzu Mission Control
VMware Application Catalog
Trial
VMware Marketplace
SUPPORT


VMware Application Catalog
Catalog
My Applications
My Requests
My Corp Catalog
You don't have applications added to your catalog
ADD NEW APPLICATIONS


VMware Application Catalog
Applications
Base Images
Automation Center
Add New Applications
1. Base Image
All the applications will be based on the base image you select
Select the platform where you want to deploy applications
Kubernetes
Virtual Machines
Select the VMware supported base image or you can add your own custom base image
CentOS 7
Debian 10
Photon OS 3.0
Ubuntu 18.04
Distroless
Custom Base Image
NEXT


VMware Application Catalog
Add New Applications
1. Base Image
All the applications will be based on the base image you select
2. Applications
The list of applications you want to build
Search Applications
MySQL
Format
All
Show only available
Some of the application are disabled as they are not available for the base image or you have them already in your catalog
Application
Branch
Format
MySQL
8.0
Helm Chart
MySQL
5.7
Container Image
MySQL
8.0
Container Image
MySQL Server Exporter
0
Container Image
Active Artifacts: 25 (23 left)
Items per page 10
1 - 4 of 4 items
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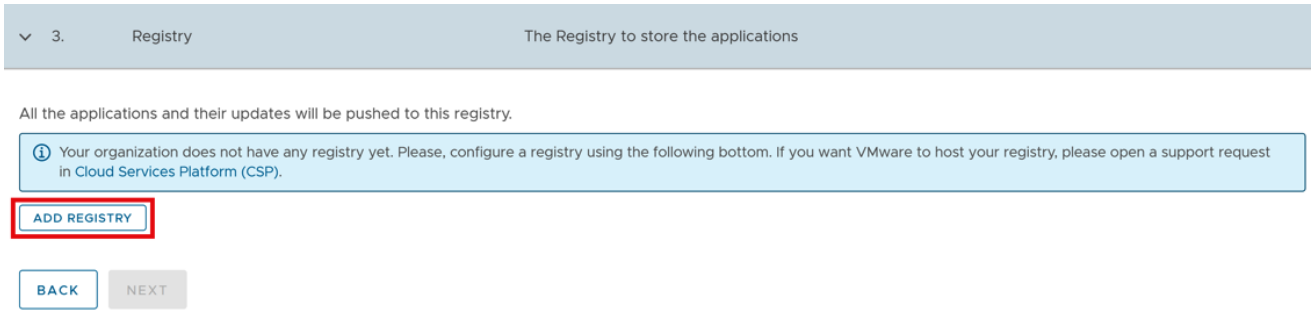
BACK
NEXT


3. Registry
The Registry to store the applications
All the applications and their updates will be pushed to this registry.
Your organization does not have any registry yet. Please, configure a registry using the following bottom. If you want VMware to host your registry, please open a support request in Cloud Services Platform (CSP).
ADD REGISTRY
BACK
NEXT

Add Registry

Registries are used to push newly requested applications, application updates and storing custom base images

Provider Google Container Registy (GCR)

Name Main Google Container Registry

Provide a short name

Description

Google Container Registry to store container images.

Registry URL https://gcr.io/myvacregistry

URL to connect to your registry. Add the https:// protocol

Credentials (JSON)

```
{ "access_key": "_json_key",
"access_secret": "{
  "type": "service_account",
```

Content of the Credentials JSON file provided by Google Container Registry

CANCEL ADD

4. Request Name and Description — Describe your application request

Name

My Corp Catalog

Description (Optional)

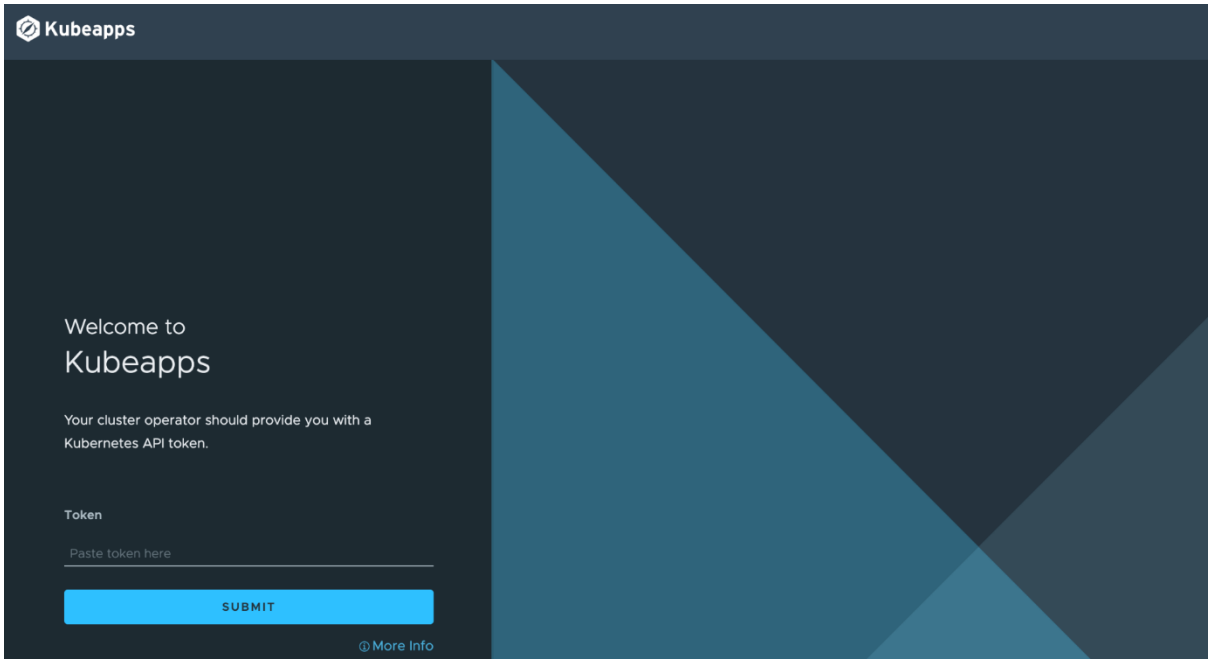
This description is for your reference

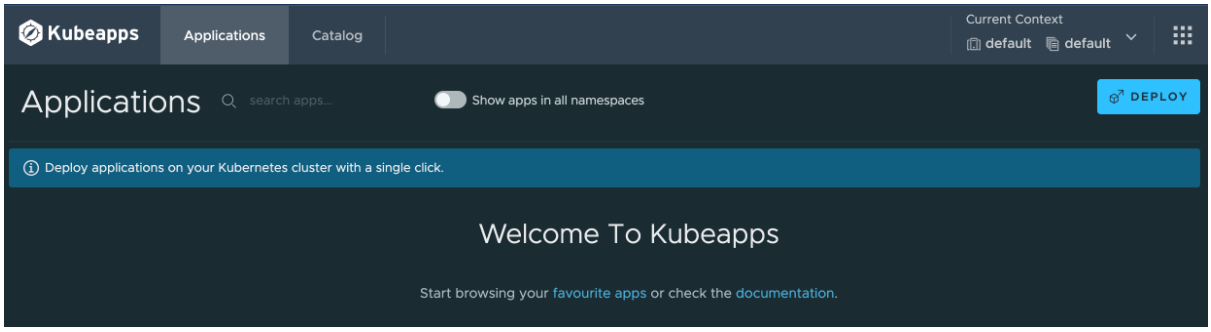
BACK NEXT

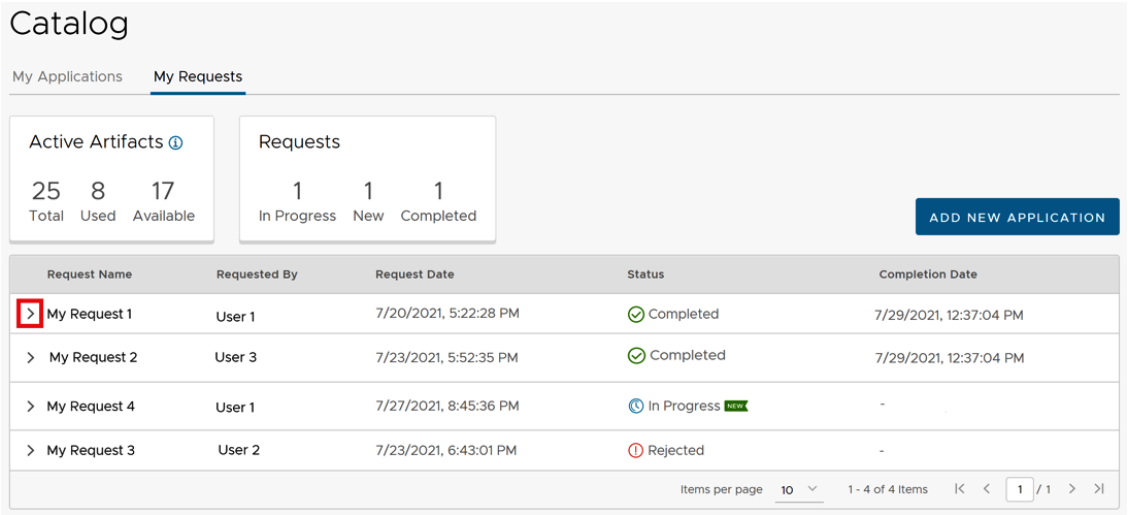
5. Summary Review your request

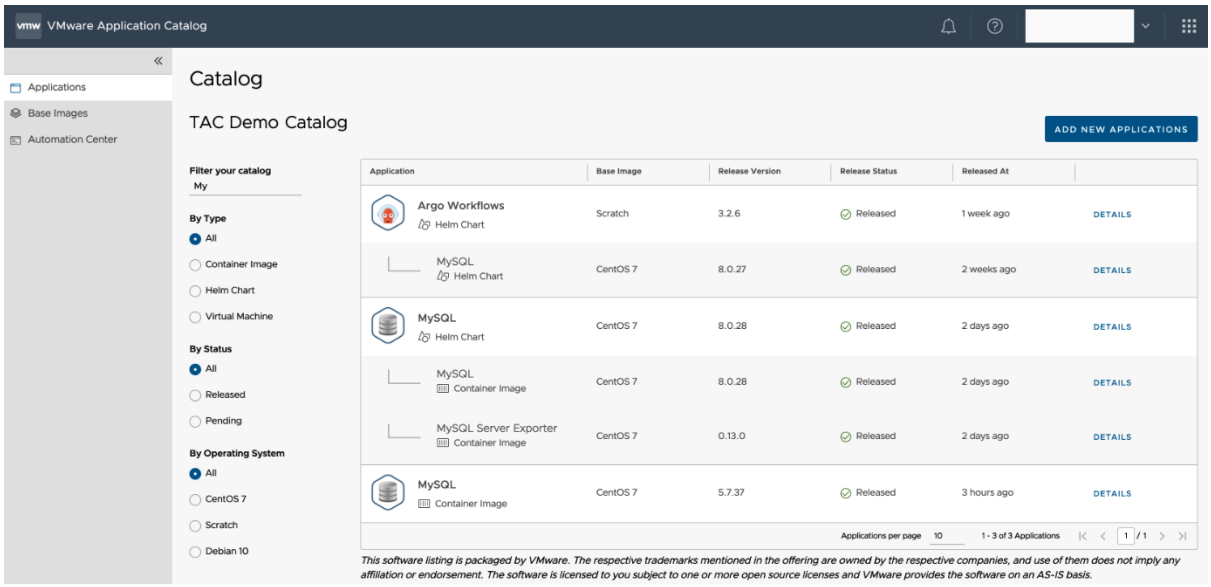
Applications	Base Image	Registry
MySQL (Chart)	Ubuntu 18.04	VMware will reach out to gather more details about your registry
MySQL (Container)		

BACK SUBMIT






Catalog
My Applications
My Requests
Active Artifacts
25 Total
8 Used
17 Available
Requests
1 In Progress
1 New
1 Completed
ADD NEW APPLICATION
Request Name
Requested By
Request Date
Status
Completion Date
My Request 1
User 1
7/20/2021, 5:22:28 PM
Completed
7/29/2021, 12:37:04 PM
My Request 2
User 3
7/23/2021, 5:52:35 PM
Completed
7/29/2021, 12:37:04 PM
My Request 4
User 1
7/27/2021, 8:45:36 PM
In Progress
NEW
-
My Request 3
User 2
7/23/2021, 6:43:01 PM
Rejected
-
Items per page 10
1 - 4 of 4 Items
1 / 1


VMware Application Catalog
Applications
Base Images
Automation Center
Catalog
TAC Demo Catalog
ADD NEW APPLICATIONS
Filter your catalog
My
By Type
All
Container Image
Helm Chart
Virtual Machine
By Status
All
Released
Pending
By Operating System
All
CentOS 7
Scratch
Debian 10
Application
Base Image
Release Version
Release Status
Released At
Argo Workflows
Helm Chart
Scratch
3.2.6
Released
1 week ago
DETAILS
MySQL
Helm Chart
CentOS 7
8.0.27
Released
2 weeks ago
DETAILS
MySQL
Helm Chart
CentOS 7
8.0.28
Released
2 days ago
DETAILS
MySQL
Container Image
CentOS 7
8.0.28
Released
2 days ago
DETAILS
MySQL Server Exporter
Container Image
CentOS 7
0.13.0
Released
2 days ago
DETAILS
MySQL
Container Image
CentOS 7
5.7.37
Released
3 hours ago
DETAILS
Applications per page 10
1 - 3 of 3 Applications
1 / 1
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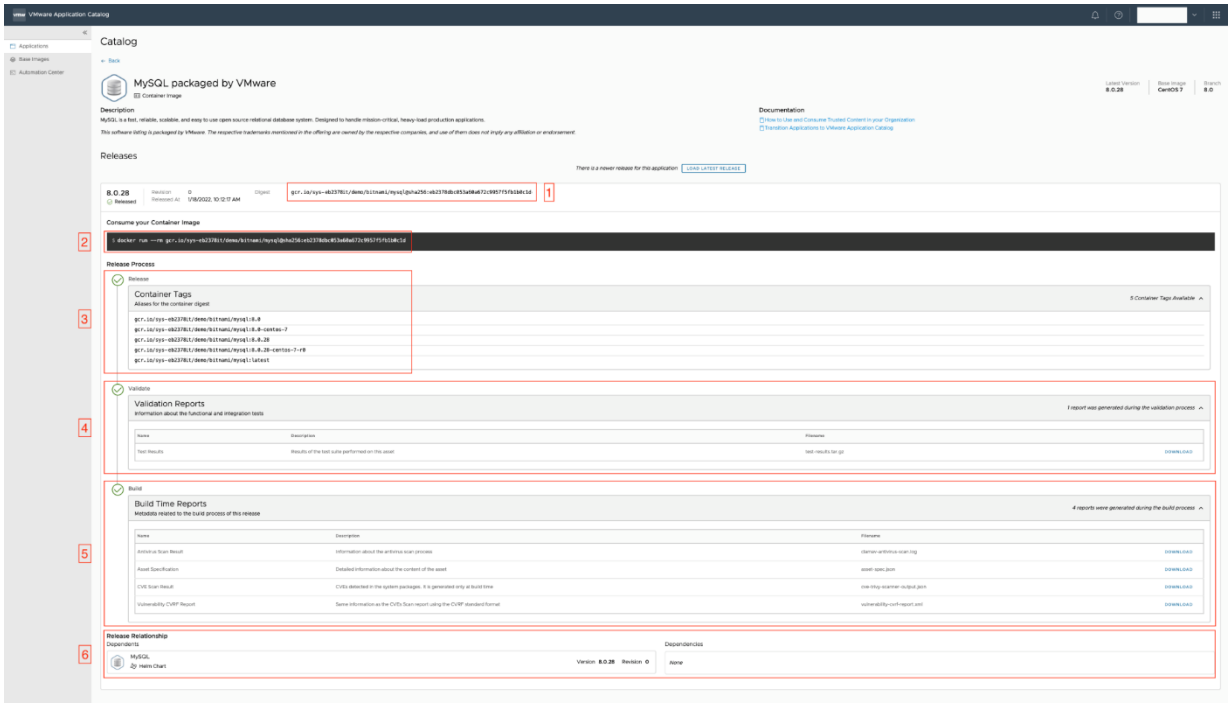


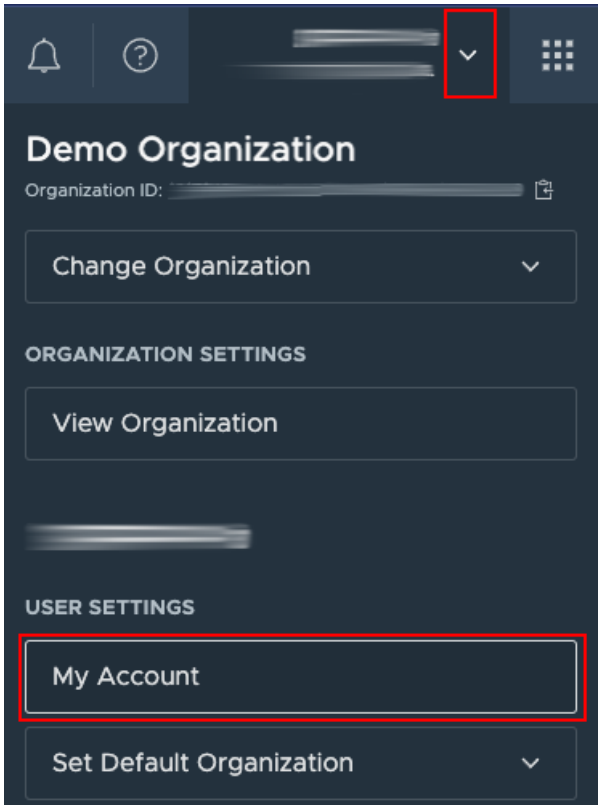
Release Process

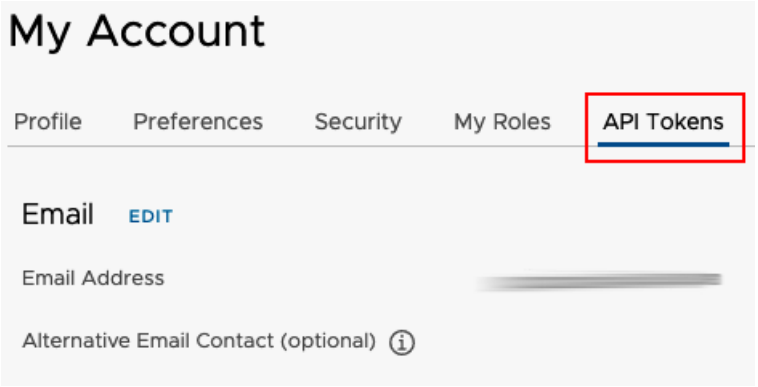
Release

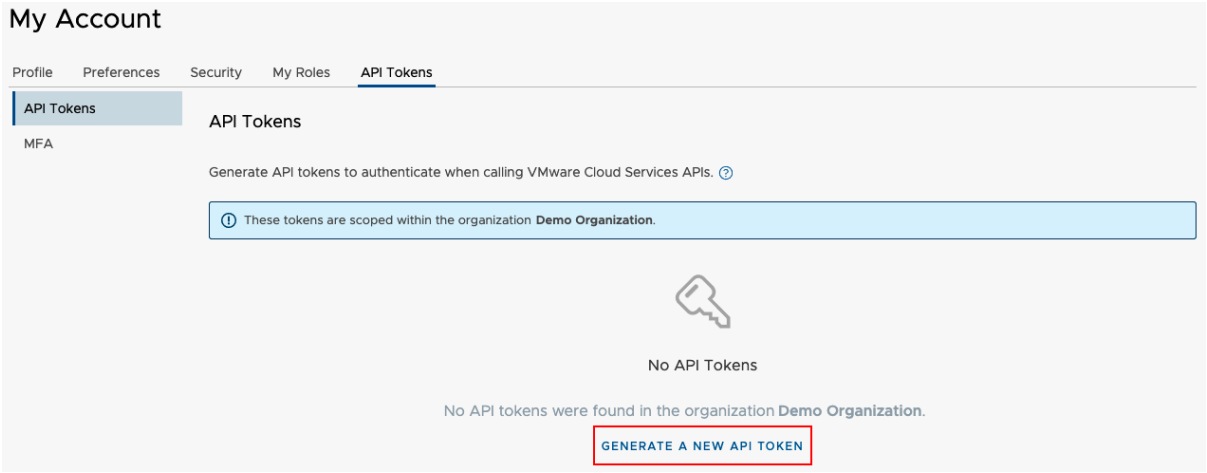
Helm Chart Information

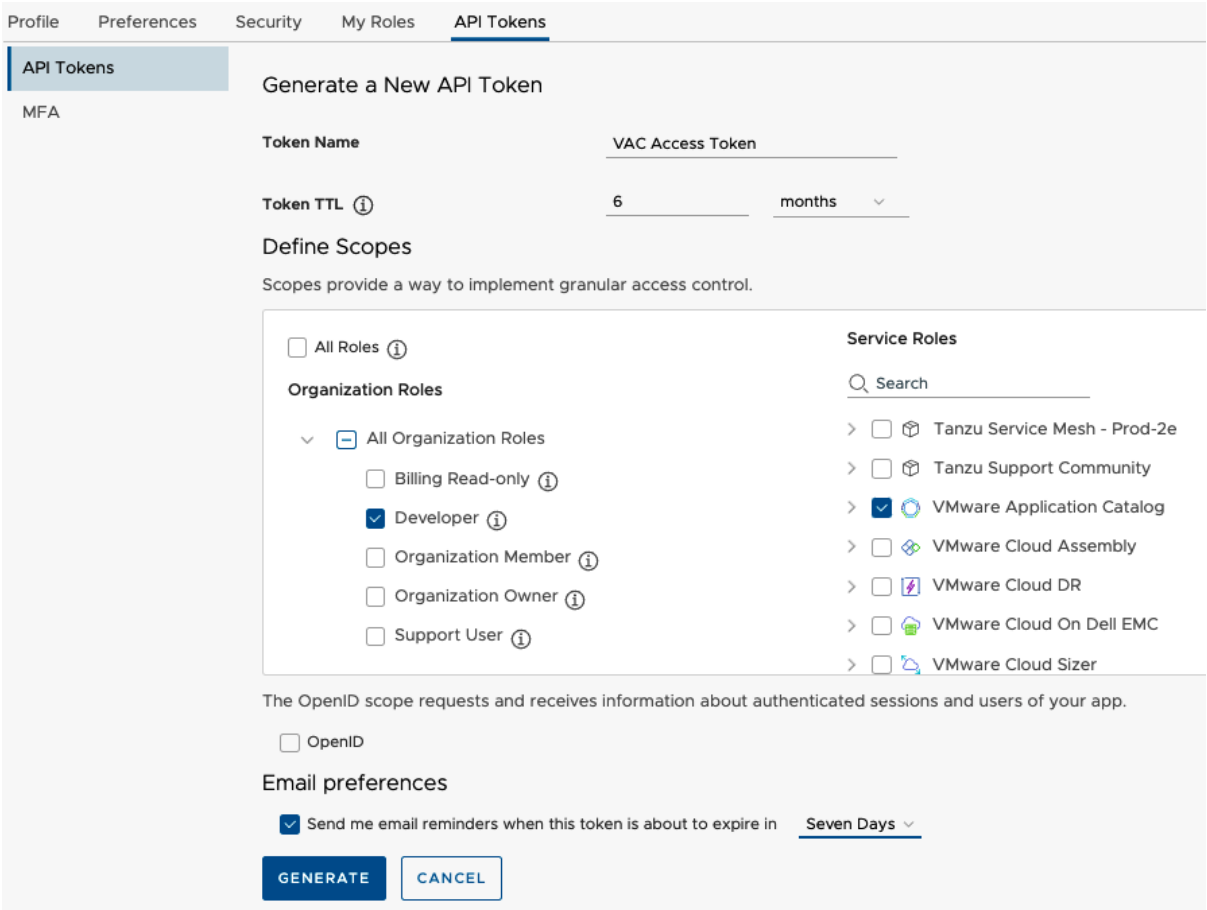
Details about the Helm Chart

Digest	sha256:8071933e7b59adf14fdd46139832ff688037c4d41066f2dd50870[redacted]
Name	mysql
Version	8.8.16
Url	https://charts.[redacted].vmware.com/demo/mysql-8.8.16.tgz


Demo Organization
Organization ID:
Change Organization
ORGANIZATION SETTINGS
View Organization
USER SETTINGS
My Account
Set Default Organization


My Account
Profile
Preferences
Security
My Roles
API Tokens
Email
EDIT
Email Address
Alternative Email Contact (optional)


My Account
Profile
Preferences
Security
My Roles
API Tokens
API Tokens
MFA
API Tokens
Generate API tokens to authenticate when calling VMware Cloud Services APIs.
These tokens are scoped within the organization Demo Organization.
No API Tokens
No API tokens were found in the organization Demo Organization.
GENERATE A NEW API TOKEN


Profile
Preferences
Security
My Roles
API Tokens
API Tokens
MFA
Generate a New API Token
Token Name
VAC Access Token
Token TTL
6
months
Define Scopes
Scopes provide a way to implement granular access control.
All Roles
Organization Roles
All Organization Roles
Billing Read-only
Developer
Organization Member
Organization Owner
Support User
Service Roles
Search
Tanzu Service Mesh - Prod-2e
Tanzu Support Community
VMware Application Catalog
VMware Cloud Assembly
VMware Cloud DR
VMware Cloud On Dell EMC
VMware Cloud Sizer
The OpenID scope requests and receives information about authenticated sessions and users of your app.
OpenID
Email preferences
Send me email reminders when this token is about to expire in
Seven Days
GENERATE
CANCEL

Token Generated

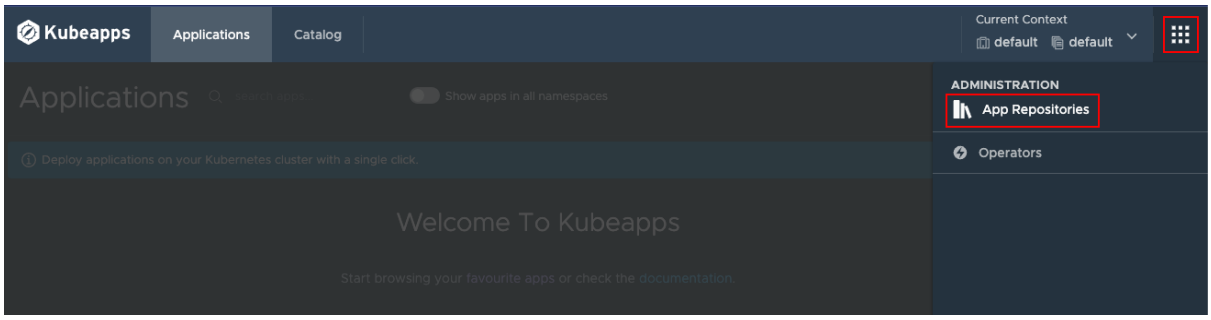
Your token **"VAC Access Token"** has been generated within the organization **Demo Organization**. Your token will expire at [redacted]. Keep in mind that you will need to exchange this API token for an authentication token.
Learn more

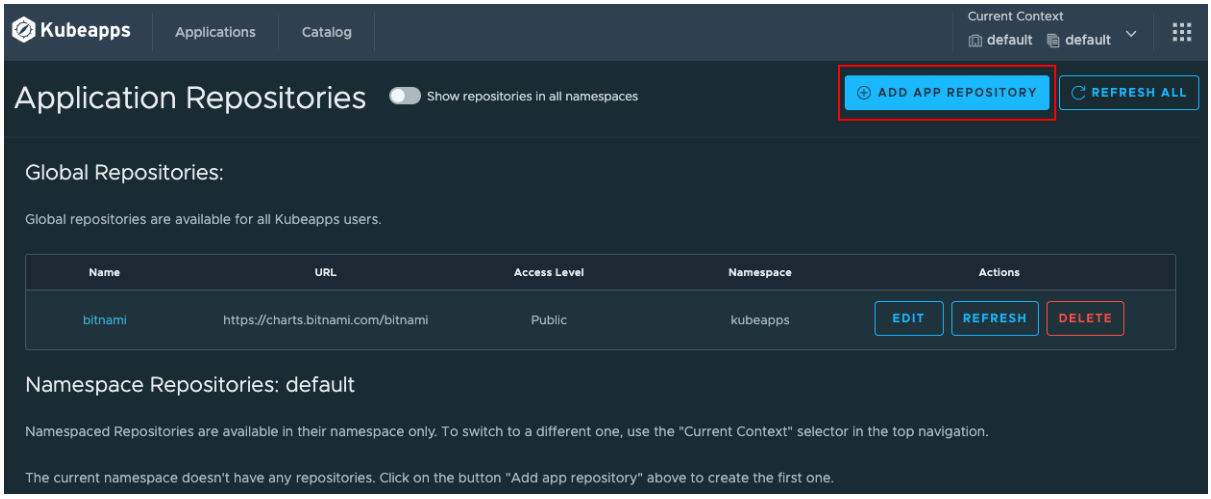
G2fSWus7akCbJ7lbVWisSOlJ[redacted]4dY2glBa40k903AnKyfxxUlSdBd0RmE

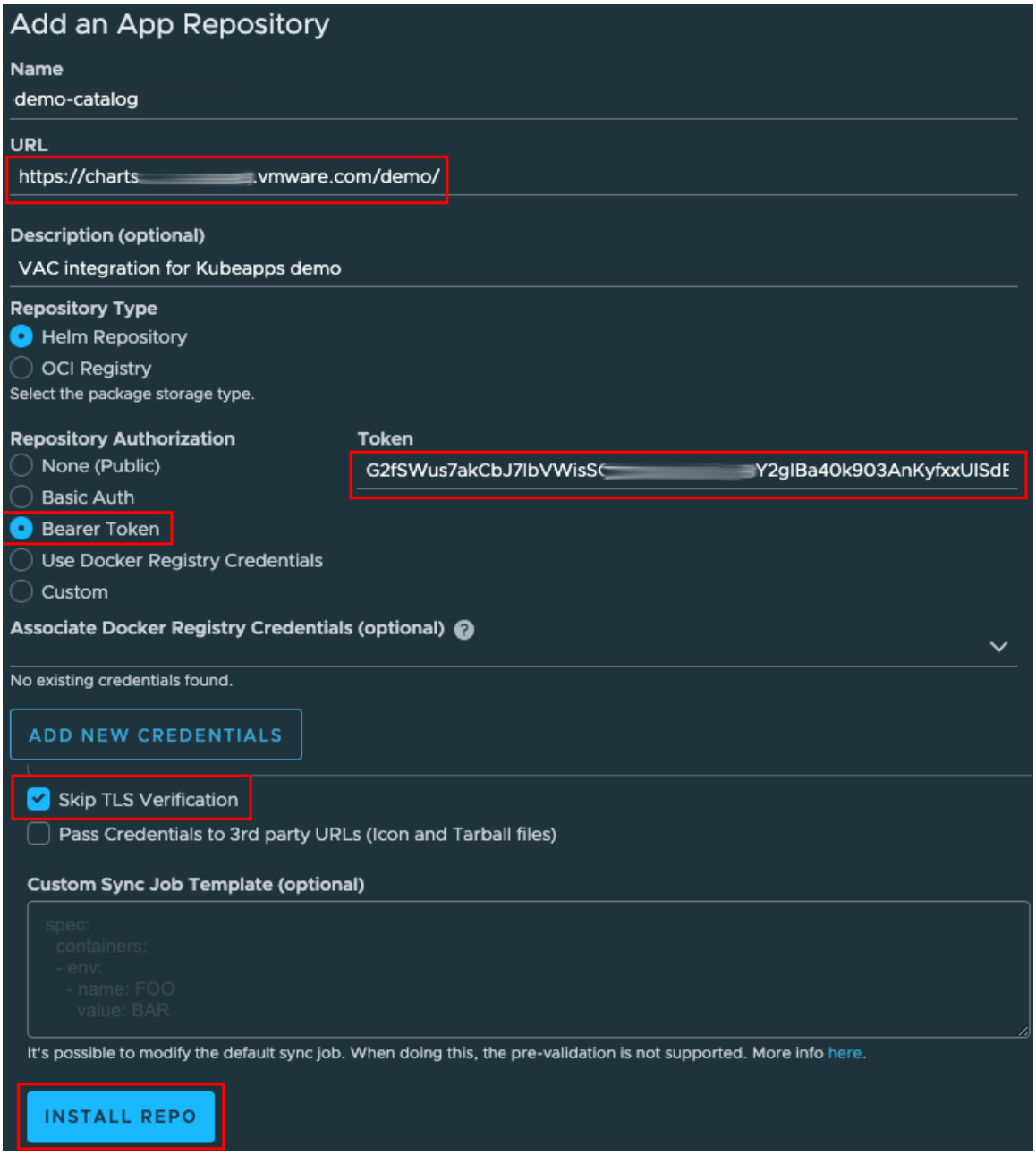
COPY PRINT

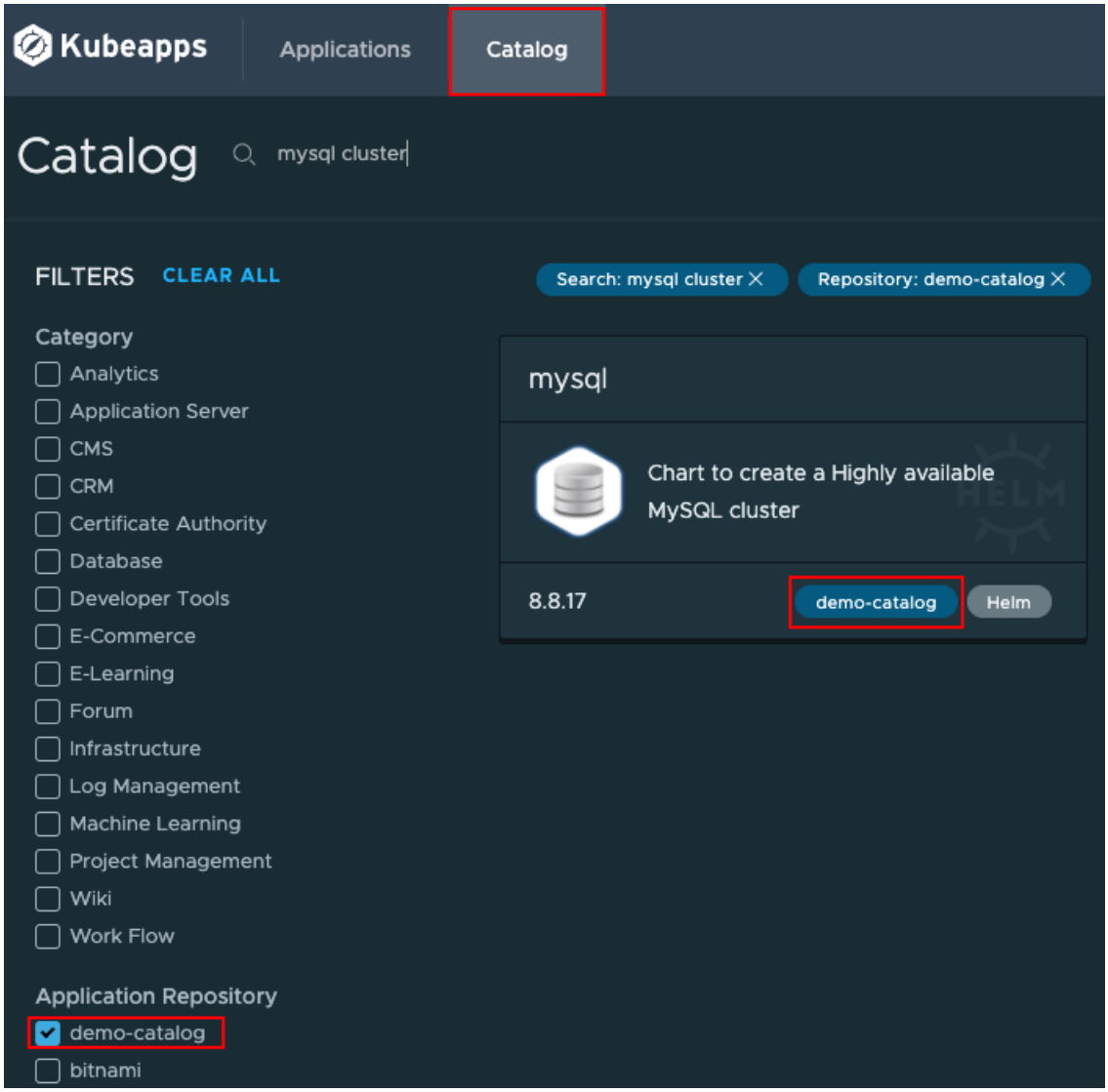
Make sure to store this token in a safe place where you can access it. Once you click "Continue", you will not be able to retrieve this token again.

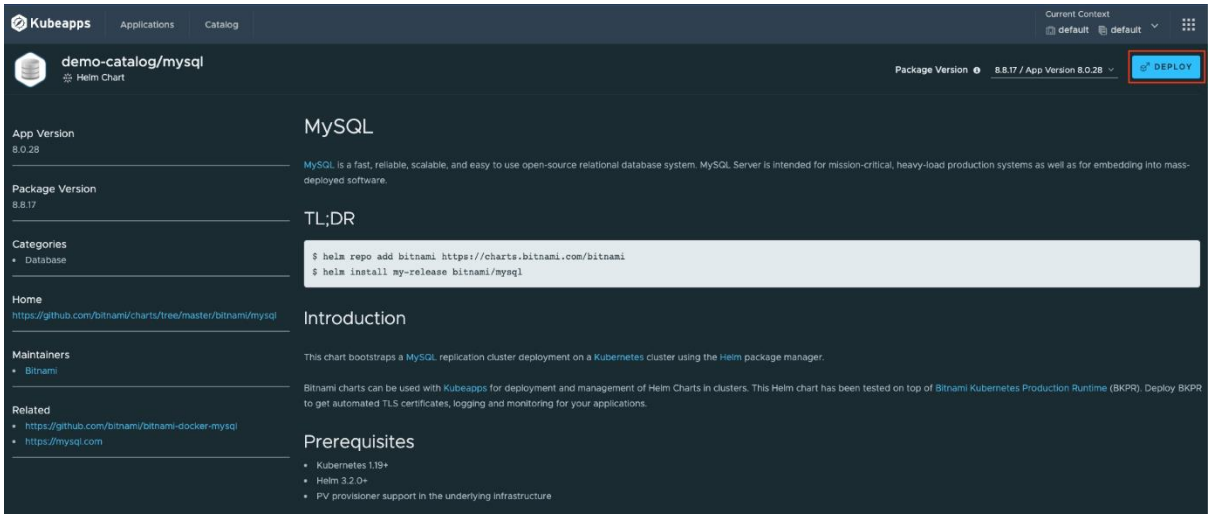
CONTINUE

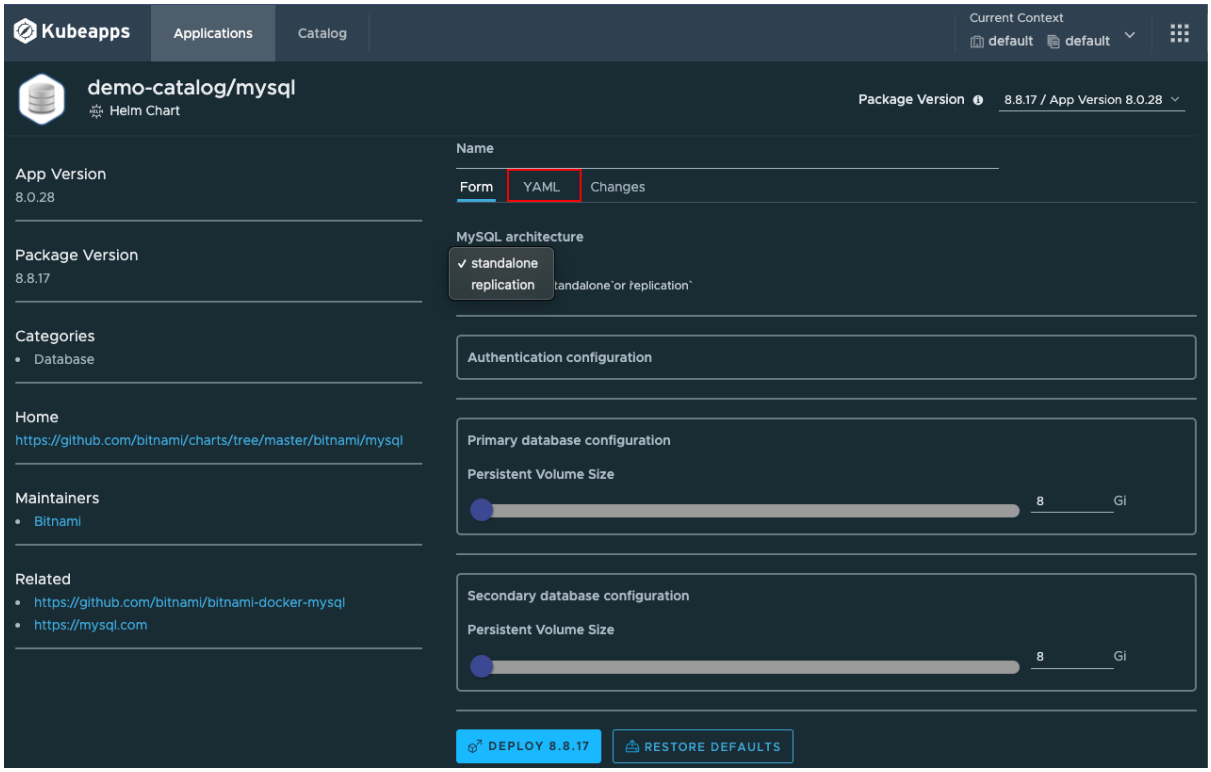


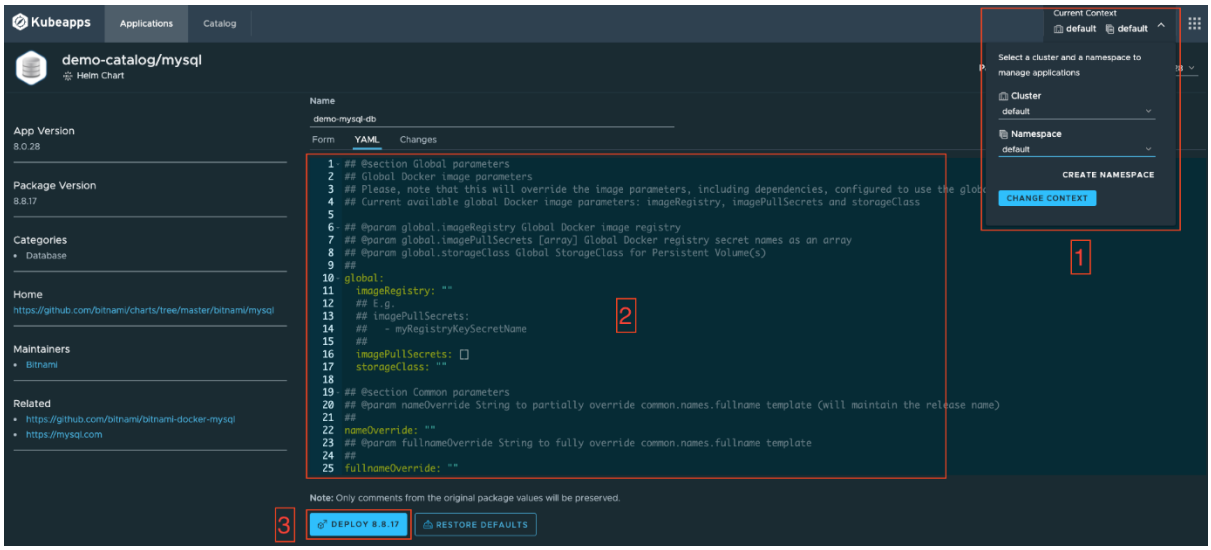


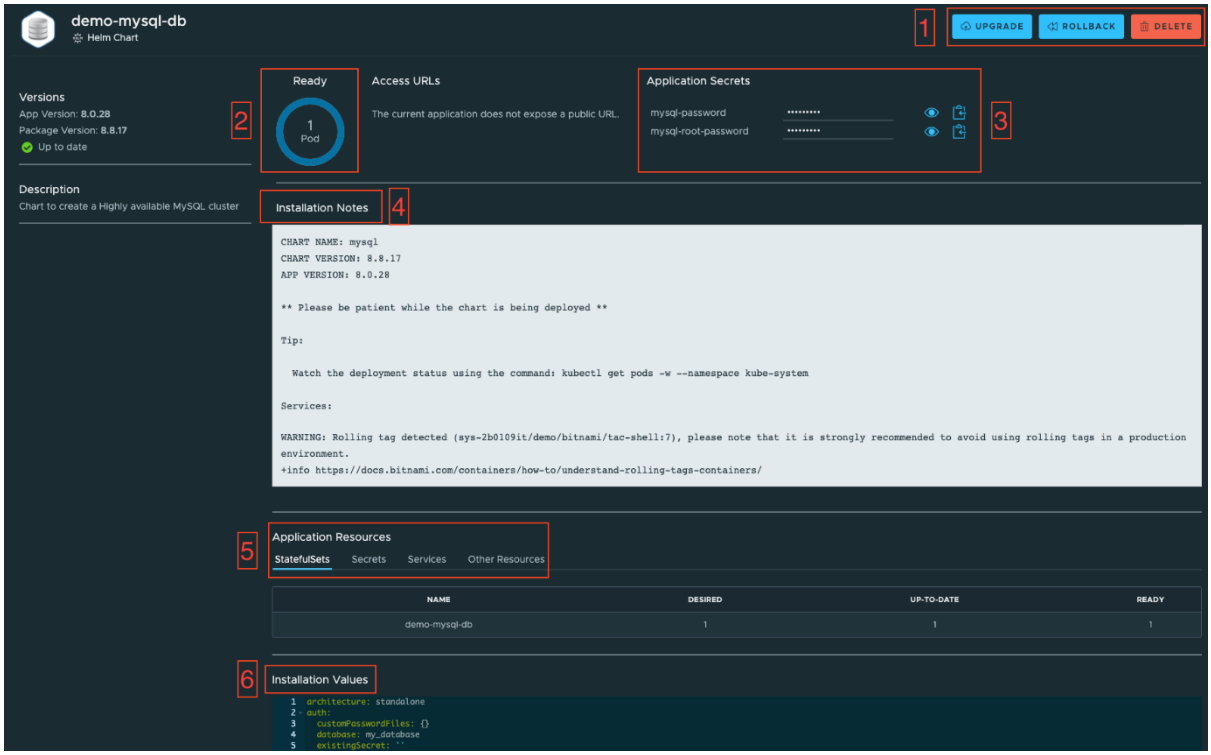

Add an App Repository
Name
demo-catalog
URL
https://charts.vmware.com/demo/
Description (optional)
VAC integration for Kubeapps demo
Repository Type
Helm Repository
OCI Registry
Select the package storage type.
Repository Authorization
None (Public)
Basic Auth
Bearer Token
Use Docker Registry Credentials
Custom
Token
G2fSWus7akCbJ7lbVWisS Y2glBa40k903AnKyfxxUlSdE
Associate Docker Registry Credentials (optional)
No existing credentials found.
ADD NEW CREDENTIALS
Skip TLS Verification
Pass Credentials to 3rd party URLs (Icon and Tarball files)
Custom Sync Job Template (optional)
spec:
containers:
- env:
- name: FOO
value: BAR
It's possible to modify the default sync job. When doing this, the pre-validation is not supported. More info here.
INSTALL REPO

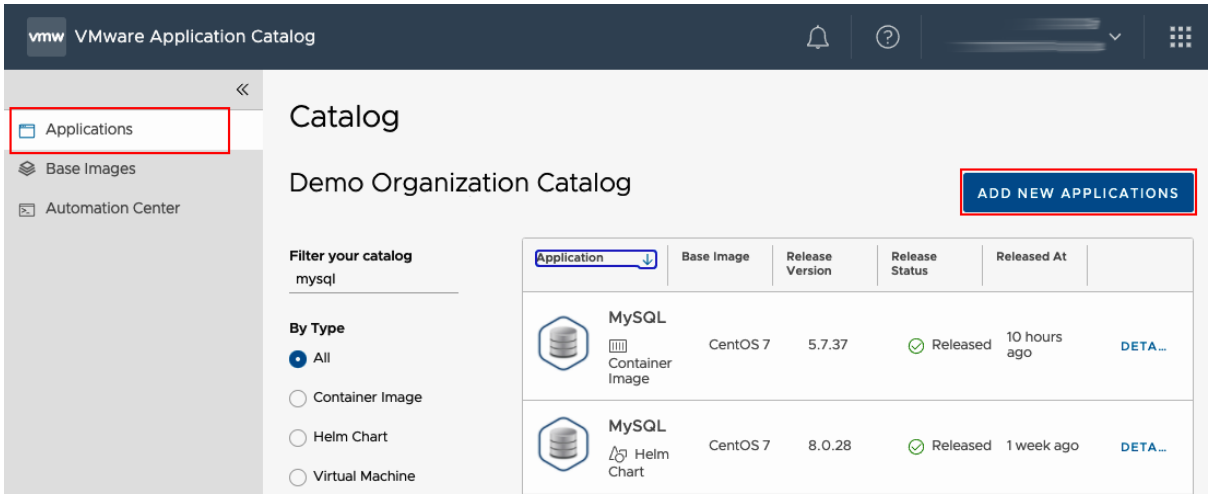

Kubeapps
Applications
Catalog
Catalog
mysql cluster
FILTERS
CLEAR ALL
Search: mysql cluster
Repository: demo-catalog
Category
Analytics
Application Server
CMS
CRM
Certificate Authority
Database
Developer Tools
E-Commerce
E-Learning
Forum
Infrastructure
Log Management
Machine Learning
Project Management
Wiki
Work Flow
Application Repository
demo-catalog
bitnami
mysql
Chart to create a Highly available MySQL cluster
8.8.17
demo-catalog
Helm

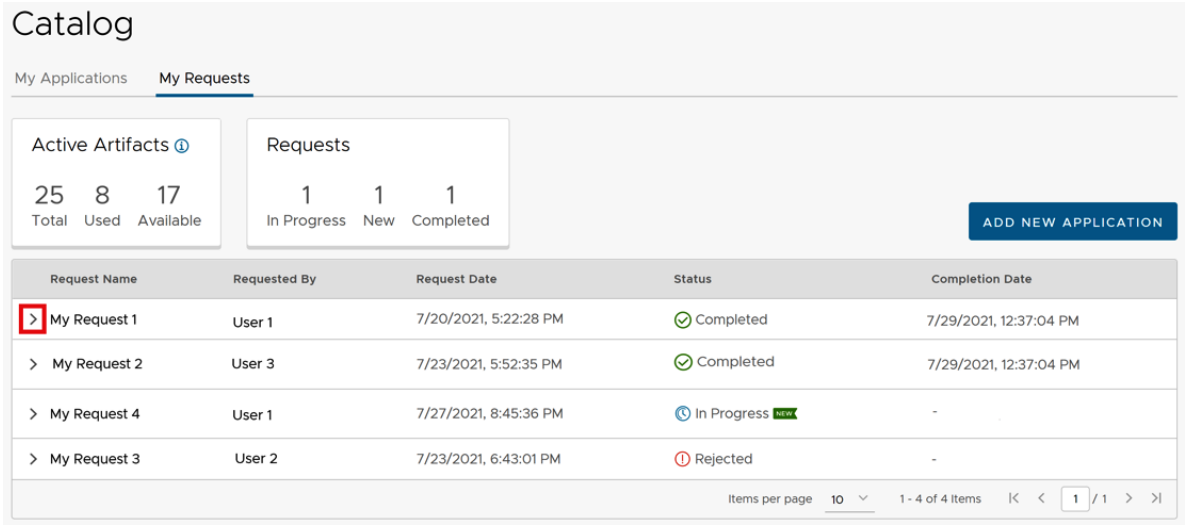

Kubeapps
Applications
Catalog
Current Context
default
default
demo-catalog/mysql
Helm Chart
Package Version
8.8.17 / App Version 8.0.28
DEPLOY
App Version
8.0.28
Package Version
8.8.17
Categories
Database
Home
https://github.com/bitnami/charts/tree/master/bitnami/mysql
Maintainers
Bitnami
Related
https://github.com/bitnami/bitnami-docker-mysql
https://mysql.com
MySQL
MySQL is a fast, reliable, scalable, and easy to use open-source relational database system. MySQL Server is intended for mission-critical, heavy-load production systems as well as for embedding into mass-deployed software.
TL;DR
$ helm repo add bitnami https://charts.bitnami.com/bitnami
$ helm install my-release bitnami/mysql
Introduction
This chart bootstraps a MySQL replication cluster deployment on a Kubernetes cluster using the Helm package manager.
Bitnami charts can be used with Kubeapps for deployment and management of Helm Charts in clusters. This Helm chart has been tested on top of Bitnami Kubernetes Production Runtime (BKPR). Deploy BKPR to get automated TLS certificates, logging and monitoring for your applications.
Prerequisites
Kubernetes 1.19+
Helm 3.2.0+
PV provisioner support in the underlying infrastructure


Kubeapps
Applications
Catalog
Current Context
default
default
demo-catalog/mysql
Helm Chart
Package Version
8.8.17 / App Version 8.0.28
App Version
8.0.28
Package Version
8.8.17
Categories
Database
Home
https://github.com/bitnami/charts/tree/master/bitnami/mysql
Maintainers
Bitnami
Related
https://github.com/bitnami/bitnami-docker-mysql
https://mysql.com
Name
Form
YAML
Changes
MySQL architecture
standalone
replication
Authentication configuration
Primary database configuration
Persistent Volume Size
8
Gi
Secondary database configuration
Persistent Volume Size
8
Gi
DEPLOY 8.8.17
RESTORE DEFAULTS

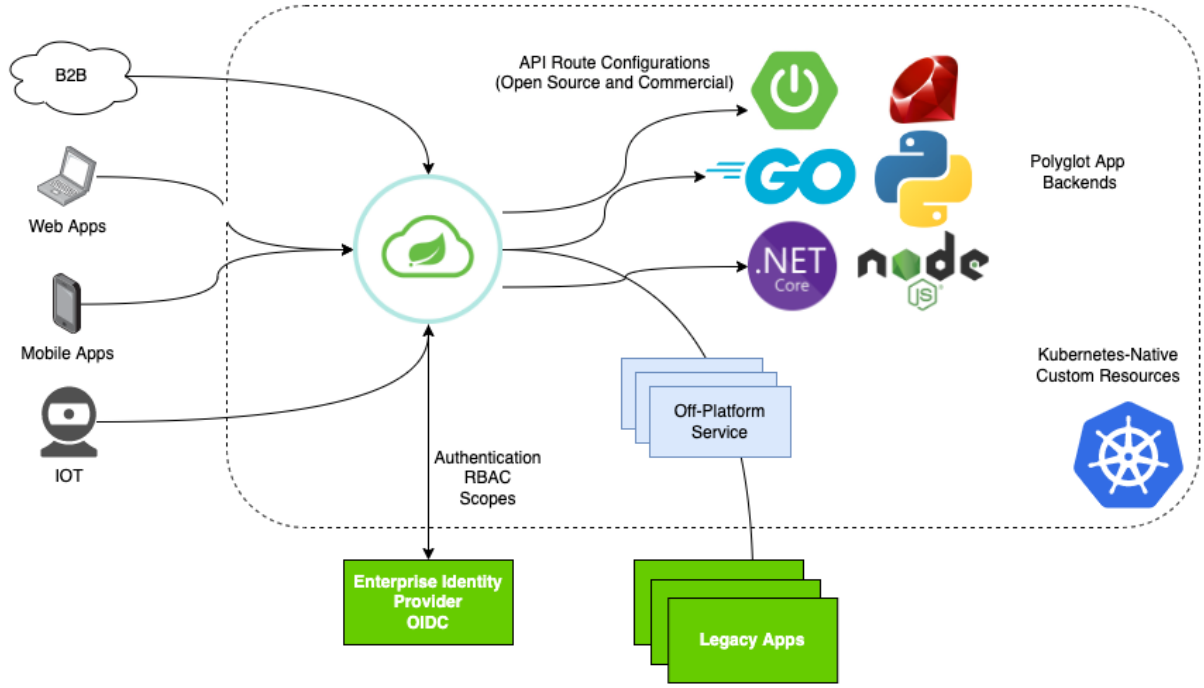

Kubeapps
Applications
Catalog
demo-catalog/mysql
Helm Chart
App Version
8.0.28
Package Version
8.8.17
Categories
Database
Home
https://github.com/bitnami/charts/tree/master/bitnami/mysql
Maintainers
Bitnami
Related
https://github.com/bitnami/bitnami-docker-mysql
https://mysql.com
Name
demo-mysql-db
Form
YAML
Changes
Current Context
default
default
Select a cluster and a namespace to manage applications
Cluster
default
Namespace
default
CREATE NAMESPACE
CHANGE CONTEXT
1
2
3
Note: Only comments from the original package values will be preserved.
DEPLOY 8.8.17
RESTORE DEFAULTS

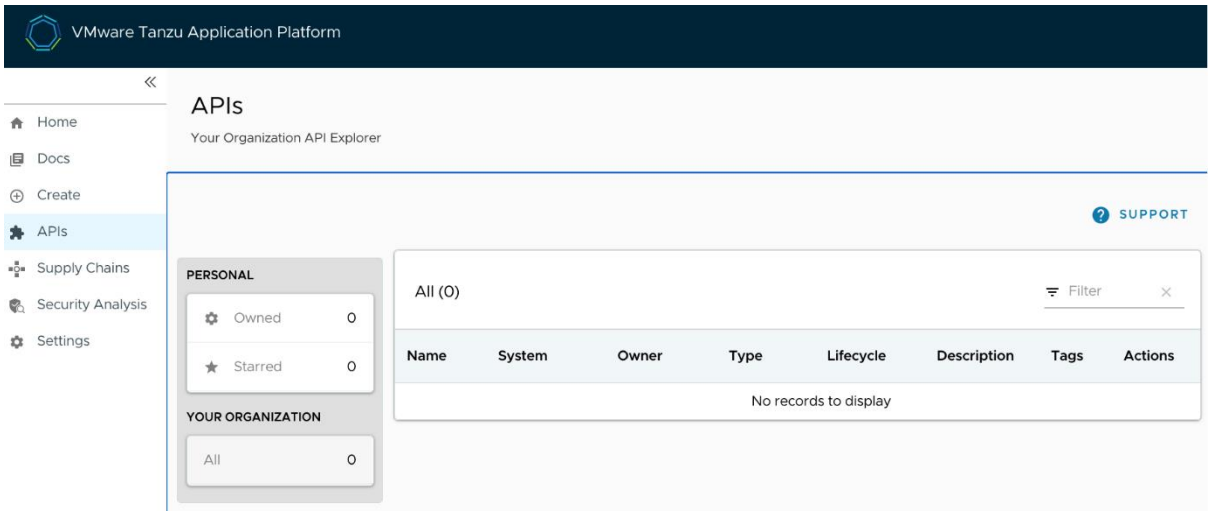

demo-mysql-db
Helm Chart
1
UPGRADE
ROLLBACK
DELETE
Versions
App Version: 8.0.28
Package Version: 8.8.17
Up to date
2
Ready
1
Pod
Access URLs
The current application does not expose a public URL.
Application Secrets
mysql-password
mysql-root-password
3
Description
Chart to create a Highly available MySQL cluster
Installation Notes
4
CHART NAME: mysql
CHART VERSION: 8.8.17
APP VERSION: 8.0.28
** Please be patient while the chart is being deployed **
Tip:
Watch the deployment status using the command: kubectl get pods -w --namespace kube-system
Services:
WARNING: Rolling tag detected (sys-2b0109it/demo/bitnami/tac-shell:7), please note that it is strongly recommended to avoid using rolling tags in a production environment.
+info https://docs.bitnami.com/containers/how-to/understand-rolling-tags-containers/
5
Application Resources
StatefulSets
Secrets
Services
Other Resources
NAME
DESIRED
UP-TO-DATE
READY
demo-mysql-db
1
1
1
6
Installation Values
architecture: standalone
auth:
customPasswordFiles: {}
database: my_database
existingSecret: ''


VMware Application Catalog
Applications
Base Images
Automation Center
Catalog
Demo Organization Catalog
ADD NEW APPLICATIONS
Filter your catalog
mysql
By Type
All
Container Image
Helm Chart
Virtual Machine
Application
Base Image
Release Version
Release Status
Released At
MySQL
Container Image
CentOS 7
5.7.37
Released
10 hours ago
DETA...
MySQL
Helm Chart
CentOS 7
8.0.28
Released
1 week ago
DETA...


Catalog
My Applications
My Requests
Active Artifacts
25 Total
8 Used
17 Available
Requests
1 In Progress
1 New
1 Completed
ADD NEW APPLICATION
Request Name
Requested By
Request Date
Status
Completion Date
My Request 1
User 1
7/20/2021, 5:22:28 PM
Completed
7/29/2021, 12:37:04 PM
My Request 2
User 3
7/23/2021, 5:52:35 PM
Completed
7/29/2021, 12:37:04 PM
My Request 4
User 1
7/27/2021, 8:45:36 PM
In Progress
NEW
-
My Request 3
User 2
7/23/2021, 6:43:01 PM
Rejected
-
Items per page
10
1 - 4 of 4 Items
1
/ 1

Chapter 5: Defining and Managing Business APIs





LOGIN

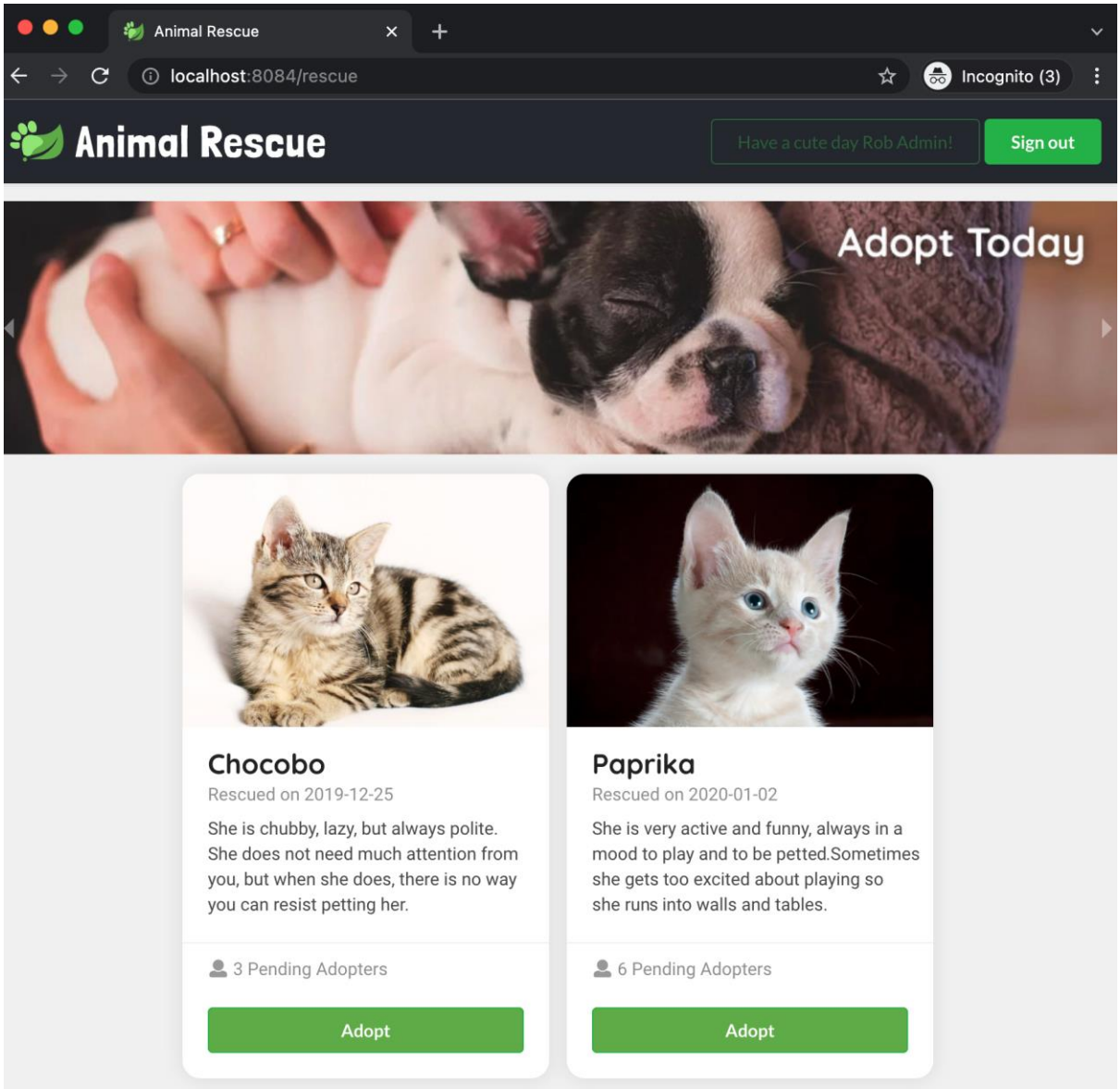
Sign-in redirect URIs

Allow wildcard * in login URI redirect.

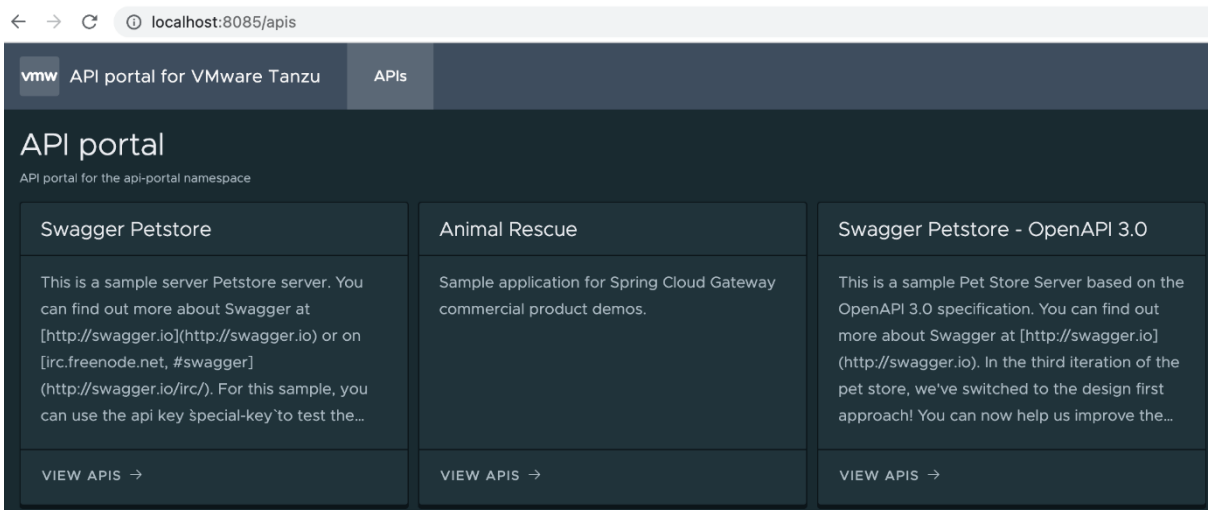
http://localhost:8080/login/oauth2/code/sso

http://localhost:8084/login/oauth2/code/sso

http://localhost:8085/login/oauth2/code/sso



```
- {
    openapi: "3.0.1",
  - info: {
      title: "Animal Rescue",
      description: "Sample application for Spring Cloud Gateway commercial product demos.",
      version: "1.0.0-K8s"
    },
  - externalDocs: {
      url: "https://github.com/spring-cloud-services-samples/animal-rescue/"
    },
  - servers: [
    - {
        url: "http://animal-rescue.my.domain.io"
      }
    ],
  - paths: {
    - /api/animals: {
        summary: "Route ID: animal-rescue-animal-rescue-backend-routes-0",
      - get: {
        - tags: [
            "pet adoption"
          ],
          summary: "Retrieve pets for adoption.",
          description: "Retrieve all of the animals who are up for pet adoption.",
        - responses: {
          - 200: {
              description: "Ok",
            - headers: {
              - X-Remaining: {
                  description: "RateLimit: number of requests remaining",
                - schema: {
                    type: "integer"
                  }
                }
              }
            },
          - 429: {
              description: "Too Many Requests. RateLimit=2,10s",
            - headers: {
              - X-Retry-In: {
                  description: "RateLimit: time in milliseconds until retry",
                - schema: {
                    type: "integer"
                  }
                }
              }
0].paths["/api/animals"].get.responses["429"]
```

Request URL

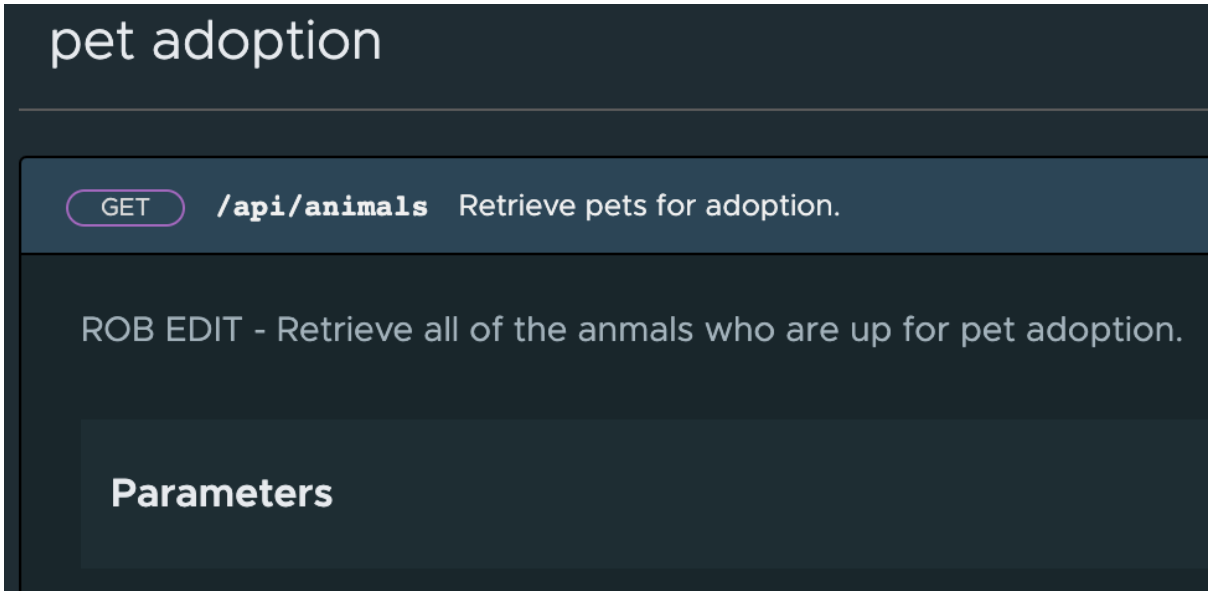
```
http://localhost:8084/api/animals
```

Server response

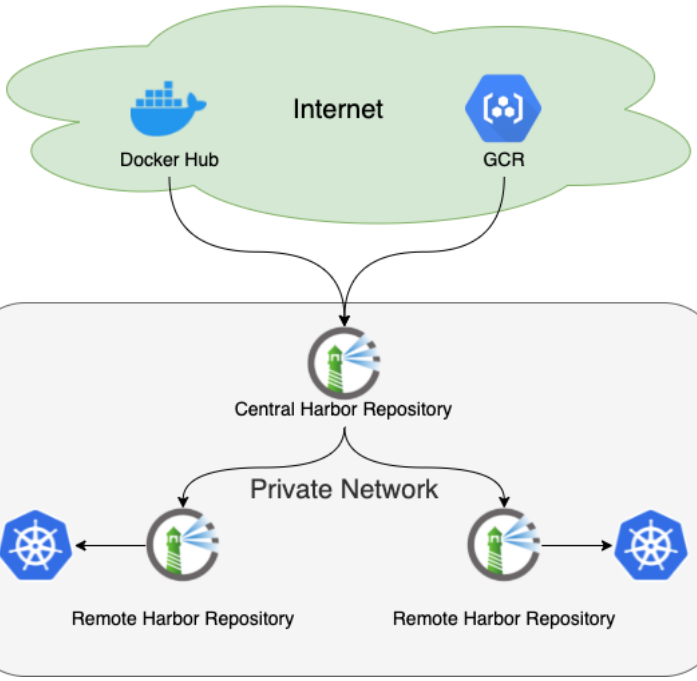
Code	Details
200	**Response body**

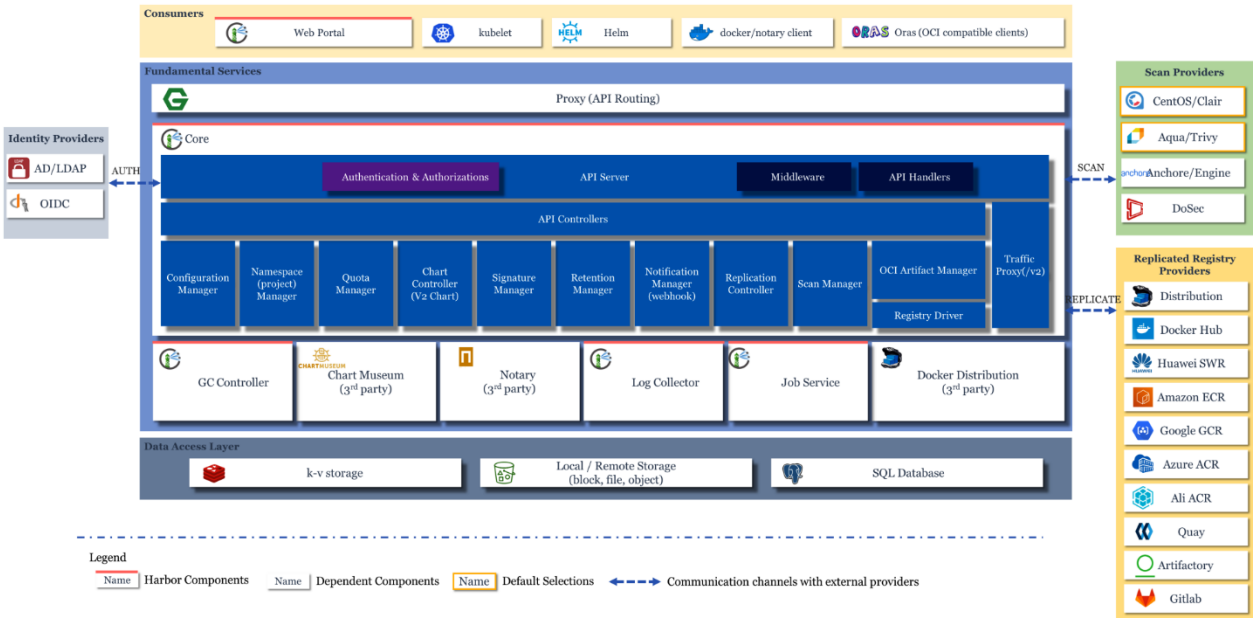

```
[
  {
    "id": 1,
    "name": "Chocobo",
    "rescueDate": "2019-12-25",
    "avatarUrl": "https://cdn.pixabay.com/photo/2016/02/10/16/37/cat-1192026_1280.jpg",
    "description": "She is chubby, lazy, but always polite. She does not need much attention from you, but when she does, there is no way you can resist petting her.",
    "adoptionRequests": [
      {
        "id": 2,
        "adopterName": "Gareth",
        "email": "gareth@email.com",
        "notes": "Blah blah",
        "animal": 1
      },
      {
        "id": 1,
        "adopterName": "Bella",
        "email": "bella@email.com",
```


```
    - "pet adoption"
  title: "Retrieve pets for adoption."
  description: "ROB EDIT - Retrieve all of the anmals who are up for pet
- predicates:
    - Path=/api/animals/{animalId}/adoption-requests
    - Method=POST
  ssoEnabled: true
  tokenRelay: true
```

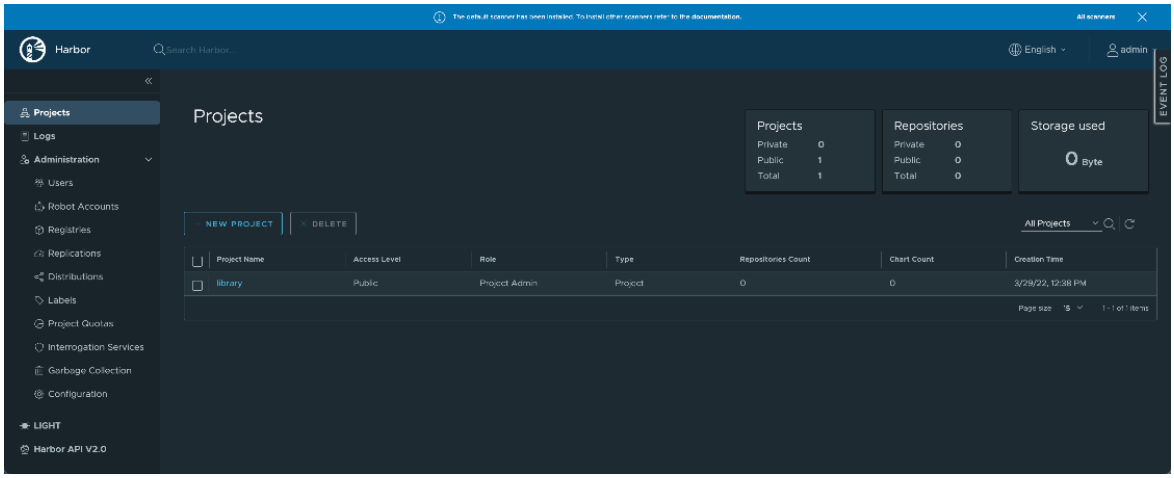

pet adoption
GET
/api/animals
Retrieve pets for adoption.
ROB EDIT - Retrieve all of the anmals who are up for pet adoption.
Parameters

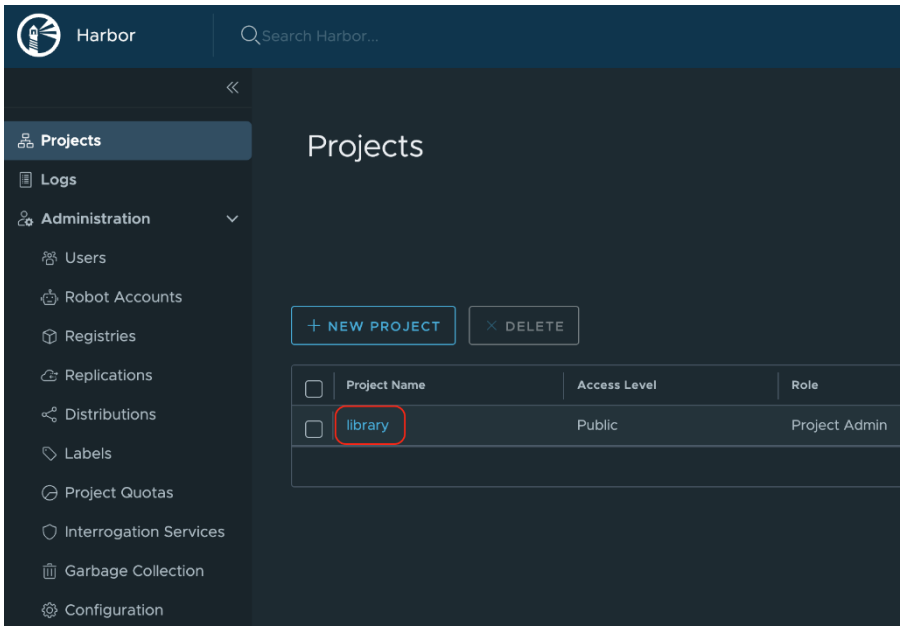
Chapter 6: Managing Container Images with Harbor

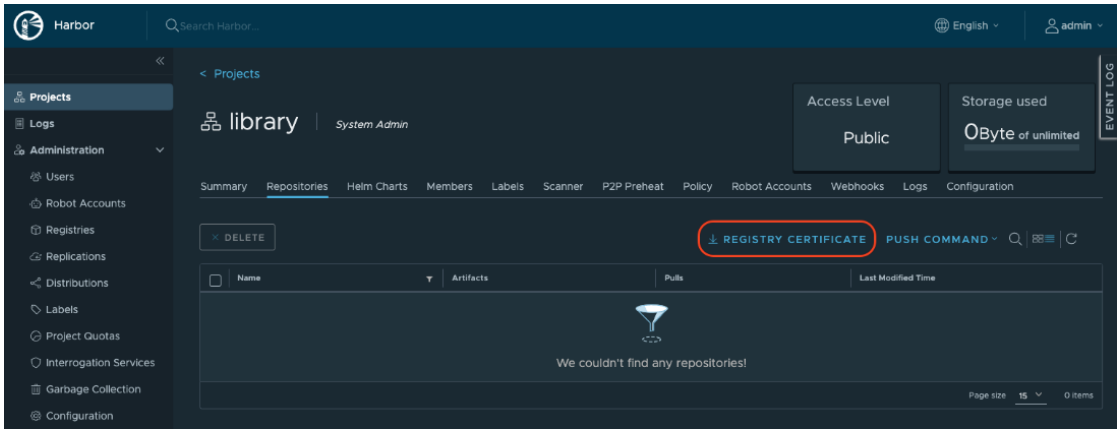


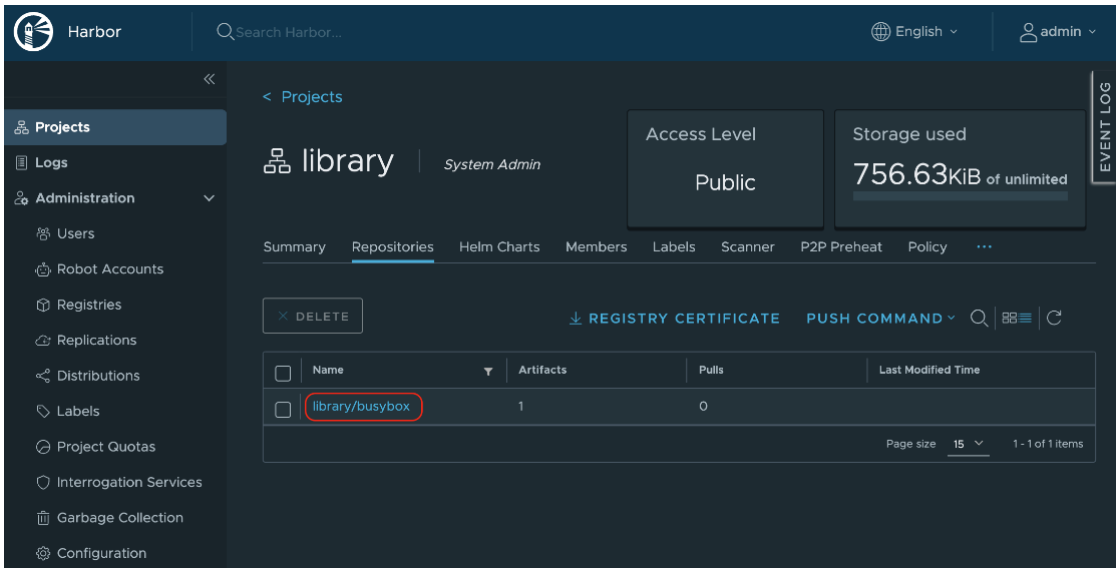


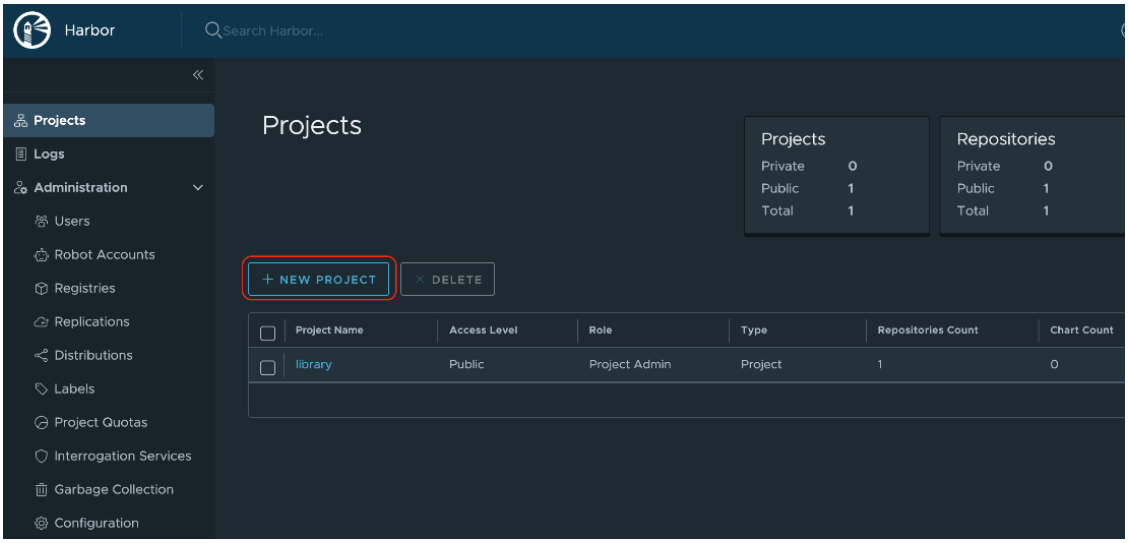
Harbor
Search Harbor...
English
About
Harbor
admin
Remember me
LOG IN
More info...

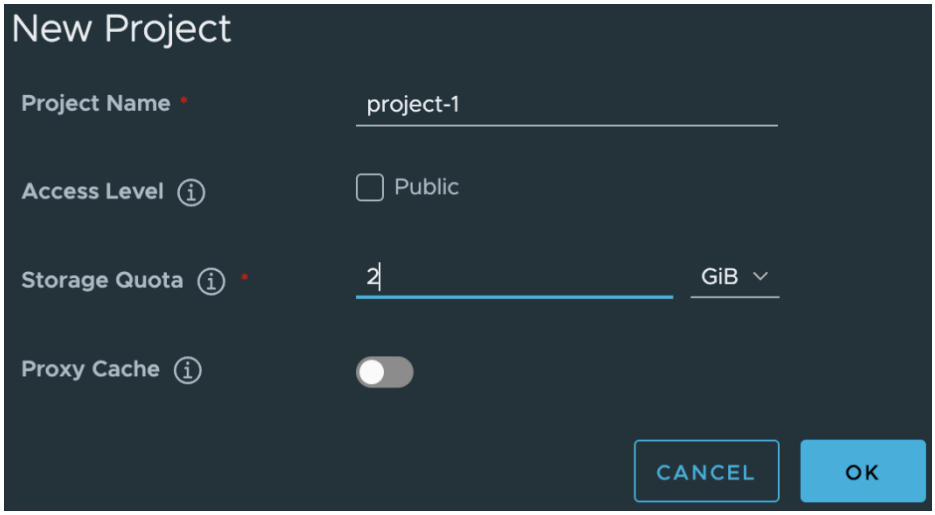

Harbor
Search Harbor...
English
admin
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
LIGHT
Harbor API V2.0
Projects
Projects
Private 0
Public 1
Total 1
Repositories
Private 0
Public 0
Total 0
Storage used
0 Byte
NEW PROJECT
DELETE
All Projects
Project Name
Access Level
Role
Type
Repositories Count
Chart Count
Creation Time
library
Public
Project Admin
Project
0
0
3/29/22, 12:38 PM
EVENT LOG

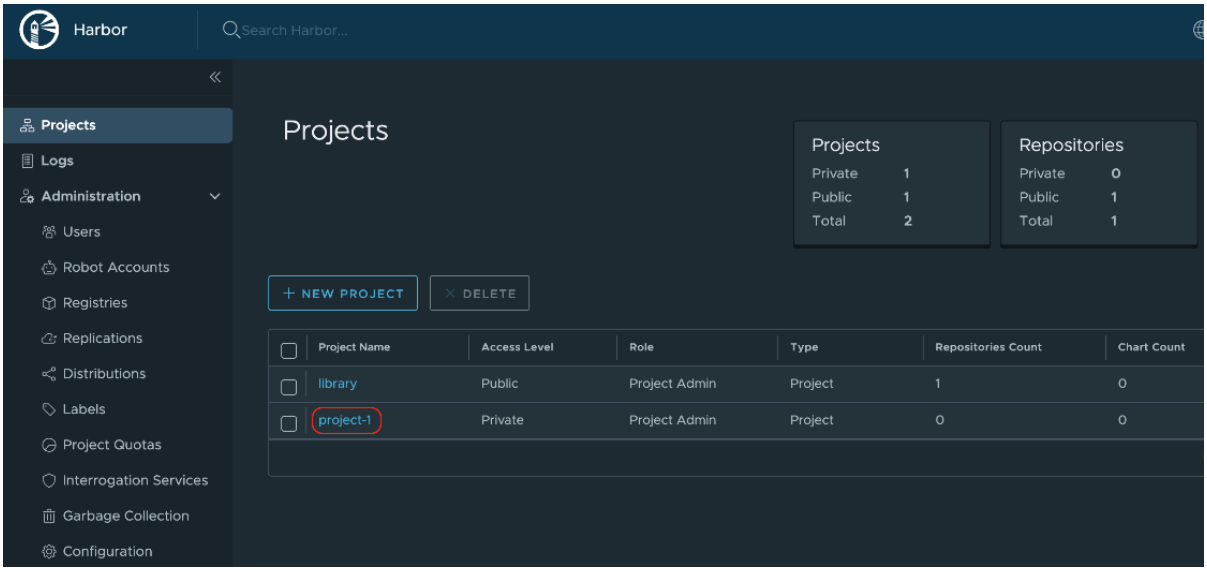

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
NEW PROJECT
DELETE
Project Name
Access Level
Role
library
Public
Project Admin

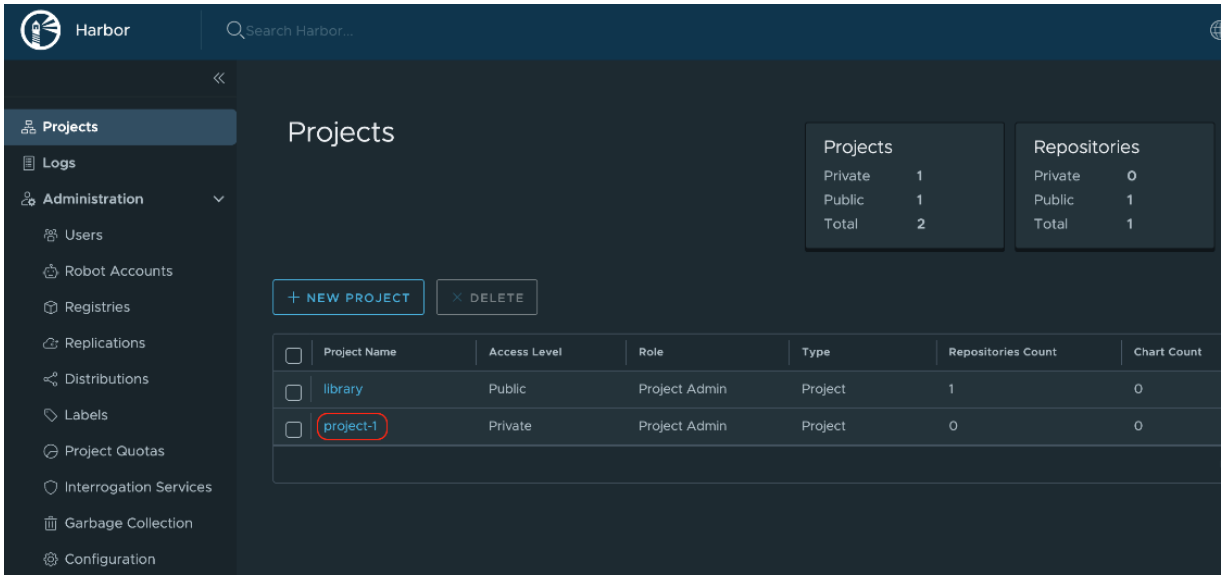

Harbor
Search Harbor...
English
admin
< Projects
library
System Admin
Access Level
Public
Storage used
0Byte of unlimited
EVENT LOG
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
Webhooks
Logs
Configuration
DELETE
REGISTRY CERTIFICATE
PUSH COMMAND
Name
Artifacts
Pulls
Last Modified Time
We couldn't find any repositories!
Page size 15
0 items
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration

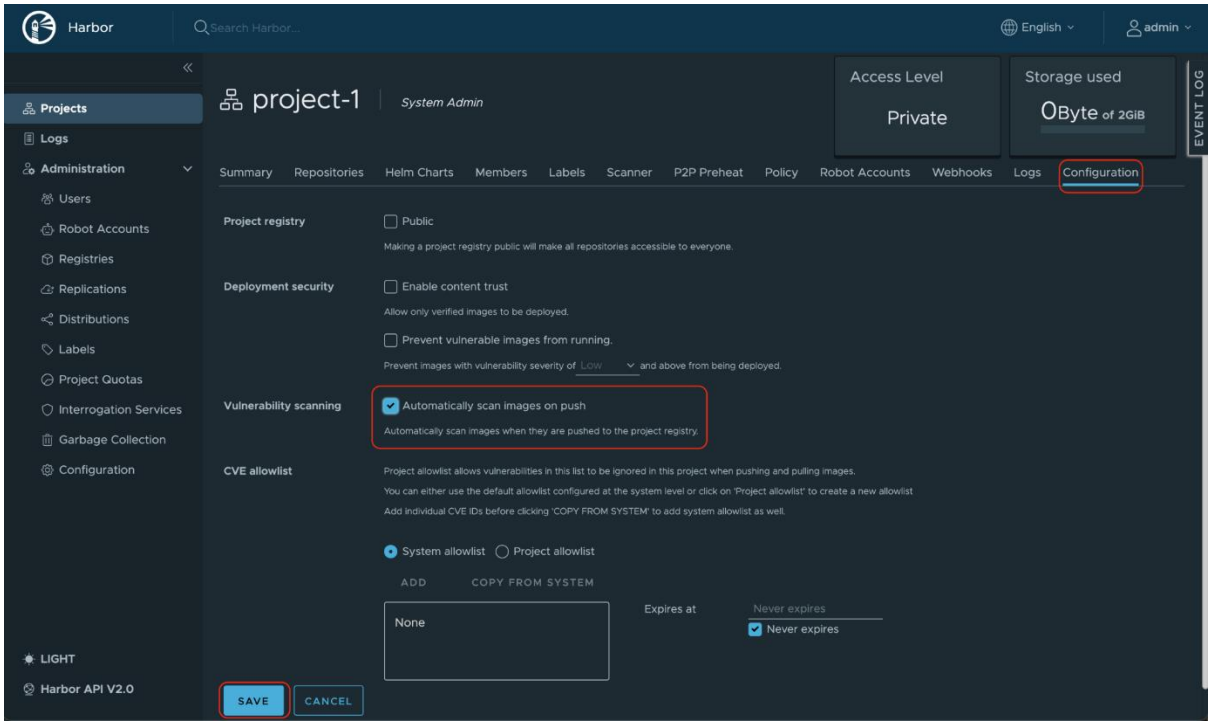

Harbor
Search Harbor...
English
admin
< Projects
library
System Admin
Access Level
Public
Storage used
756.63KiB of unlimited
EVENT LOG
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
DELETE
REGISTRY CERTIFICATE
PUSH COMMAND
Name
Artifacts
Pulls
Last Modified Time
library/busybox
1
0
Page size 15
1 - 1 of 1 items
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration

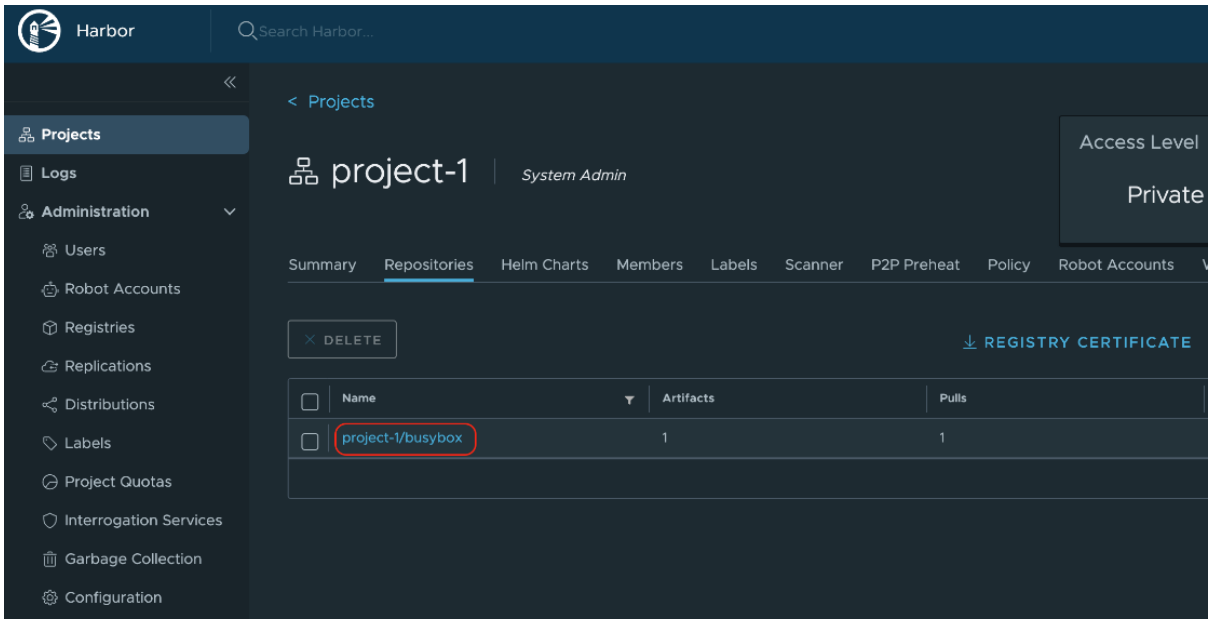

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
Projects
Private 0
Public 1
Total 1
Repositories
Private 0
Public 1
Total 1
+ NEW PROJECT
DELETE
Project Name
Access Level
Role
Type
Repositories Count
Chart Count
library
Public
Project Admin
Project
1
0

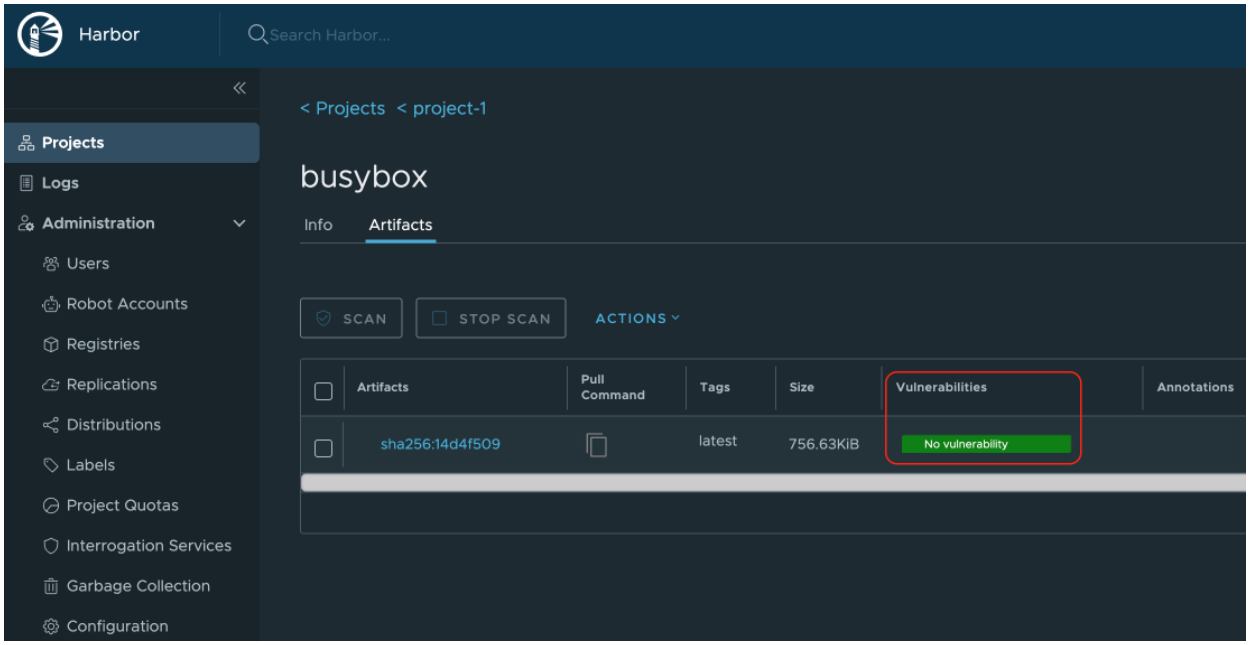

New Project
Project Name *
project-1
Access Level
Public
Storage Quota *
2
GiB
Proxy Cache
CANCEL
OK

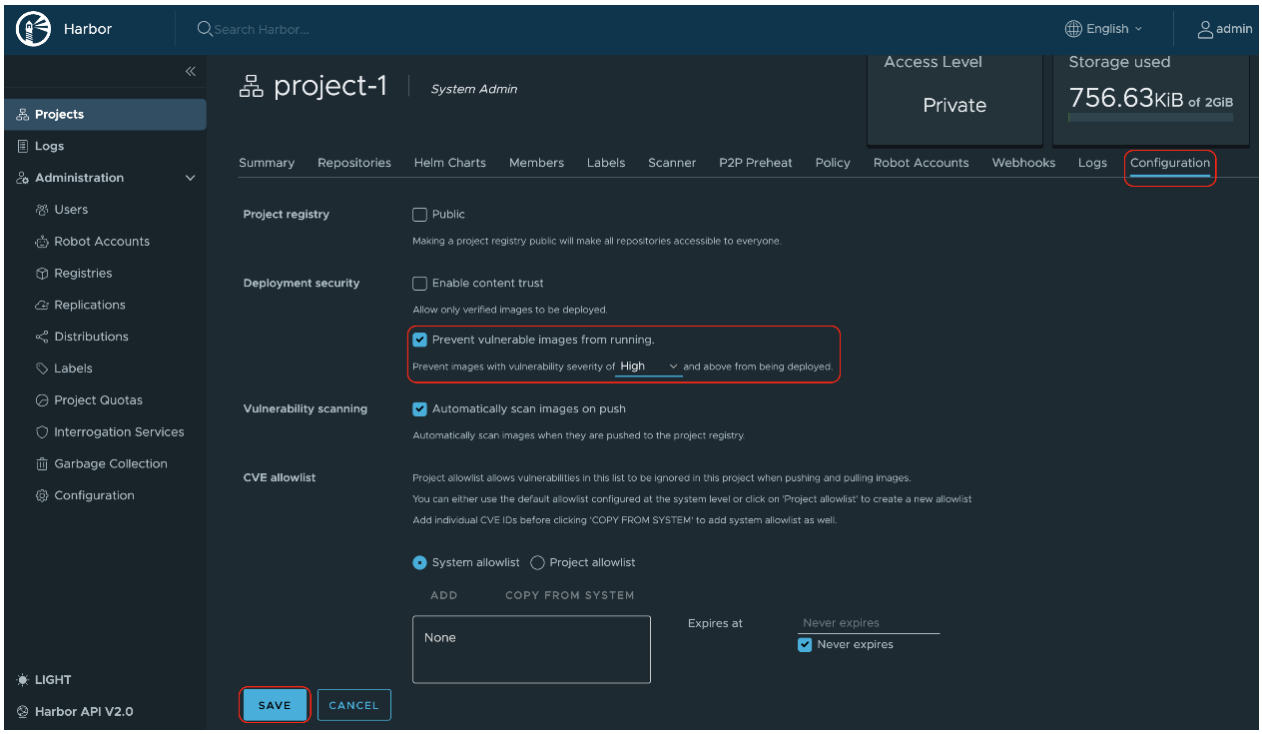

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
Projects
Private 1
Public 1
Total 2
Repositories
Private 0
Public 1
Total 1
+ NEW PROJECT
DELETE
Project Name
Access Level
Role
Type
Repositories Count
Chart Count
library
Public
Project Admin
Project
1
0
project-1
Private
Project Admin
Project
0
0

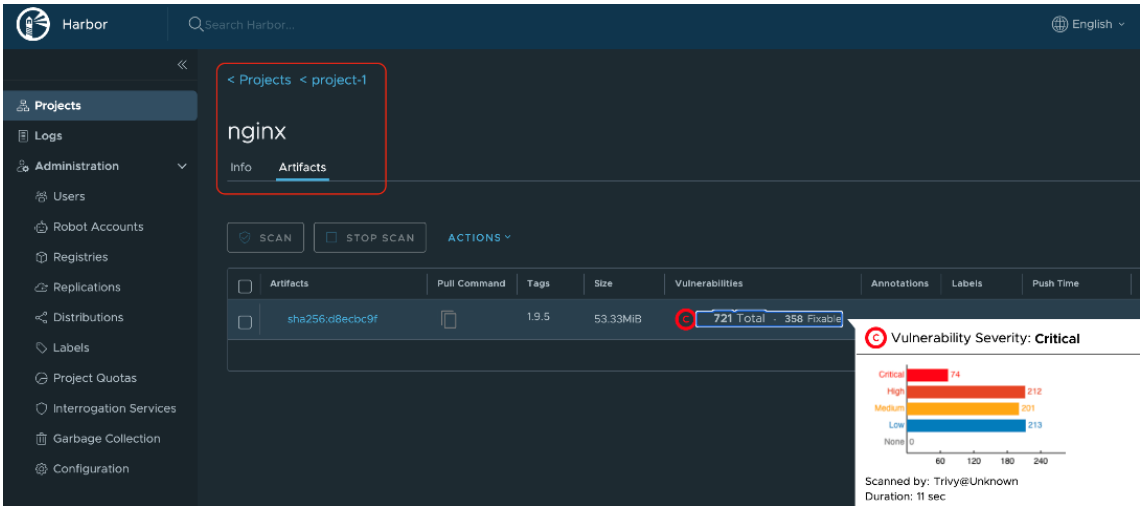

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
Projects
Private 1
Public 1
Total 2
Repositories
Private 0
Public 1
Total 1
+ NEW PROJECT
DELETE
Project Name
Access Level
Role
Type
Repositories Count
Chart Count
library
Public
Project Admin
Project
1
0
project-1
Private
Project Admin
Project
0
0

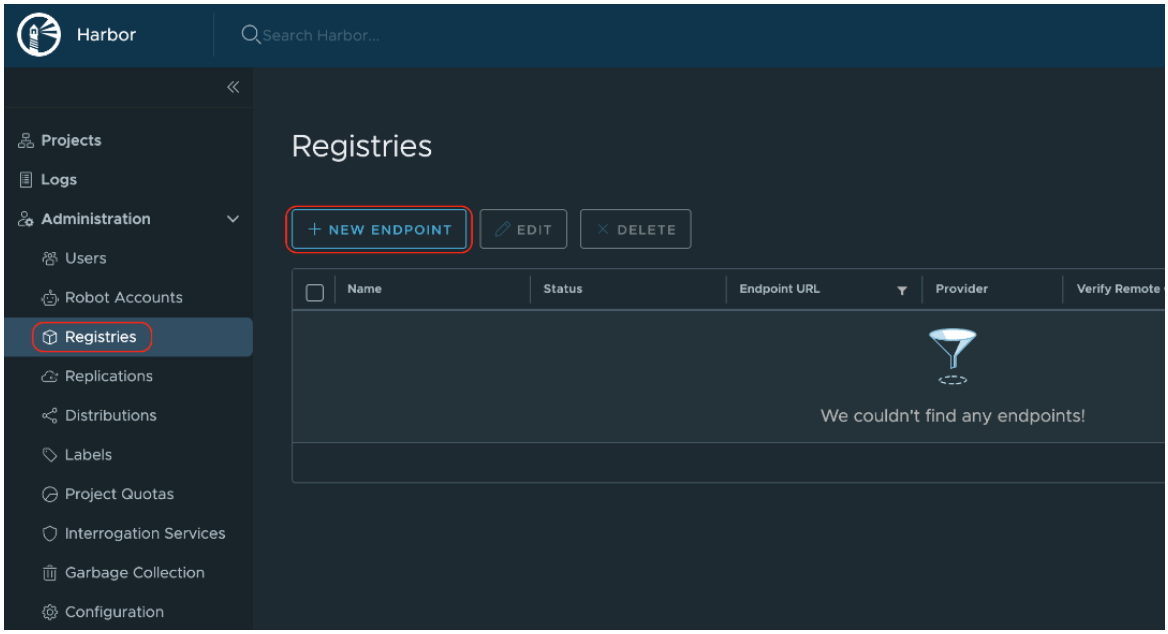

Harbor
Search Harbor...
English
admin
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
LIGHT
Harbor API V2.0
project-1
System Admin
Access Level
Private
Storage used
0Byte of 2GiB
EVENT LOG
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
Webhooks
Logs
Configuration
Project registry
Public
Making a project registry public will make all repositories accessible to everyone.
Deployment security
Enable content trust
Allow only verified images to be deployed.
Prevent vulnerable images from running.
Prevent images with vulnerability severity of Low and above from being deployed.
Vulnerability scanning
Automatically scan images on push
Automatically scan images when they are pushed to the project registry.
CVE allowlist
Project allowlist allows vulnerabilities in this list to be ignored in this project when pushing and pulling images.
You can either use the default allowlist configured at the system level or click on 'Project allowlist' to create a new allowlist
Add individual CVE IDs before clicking 'COPY FROM SYSTEM' to add system allowlist as well.
System allowlist
Project allowlist
ADD
COPY FROM SYSTEM
None
Expires at
Never expires
Never expires
SAVE
CANCEL

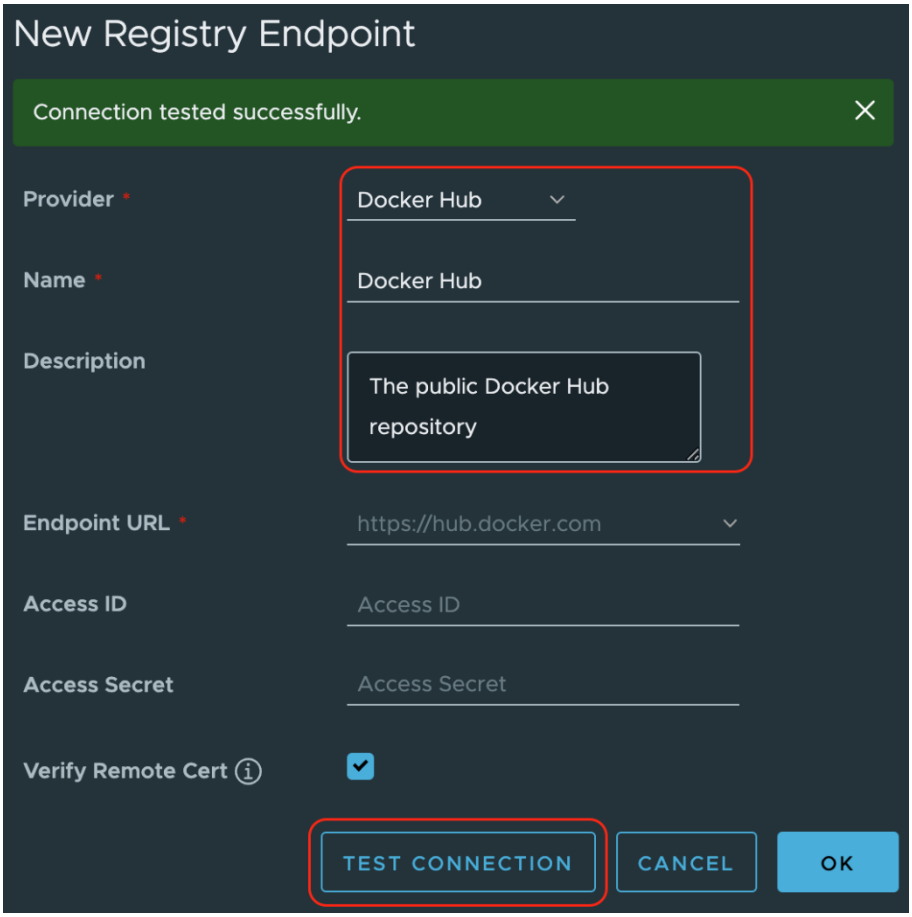

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
project-1
System Admin
Access Level
Private
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
DELETE
REGISTRY CERTIFICATE
Name
Artifacts
Pulls
project-1/busybox
1
1

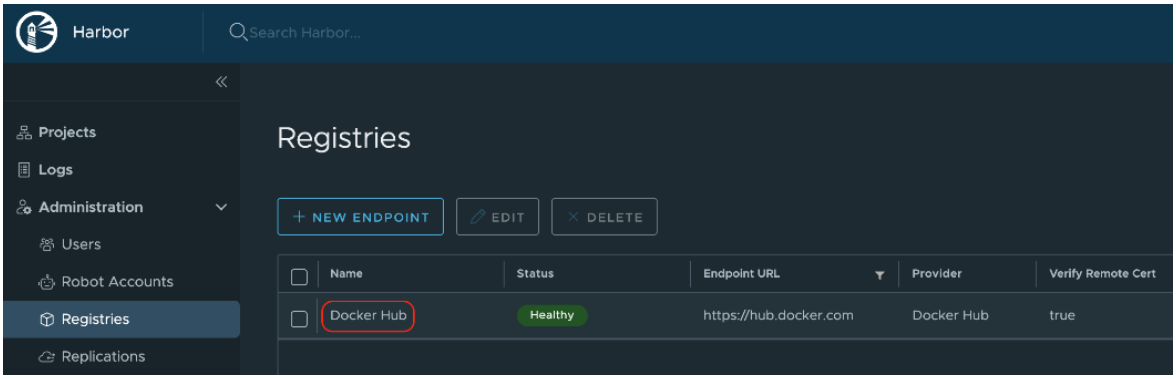

Harbor
Search Harbor...
< Projects < project-1
busybox
Info
Artifacts
SCAN
STOP SCAN
ACTIONS
Artifacts
Pull Command
Tags
Size
Vulnerabilities
Annotations
sha256:14d4f509
latest
756.63KiB
No vulnerability
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration

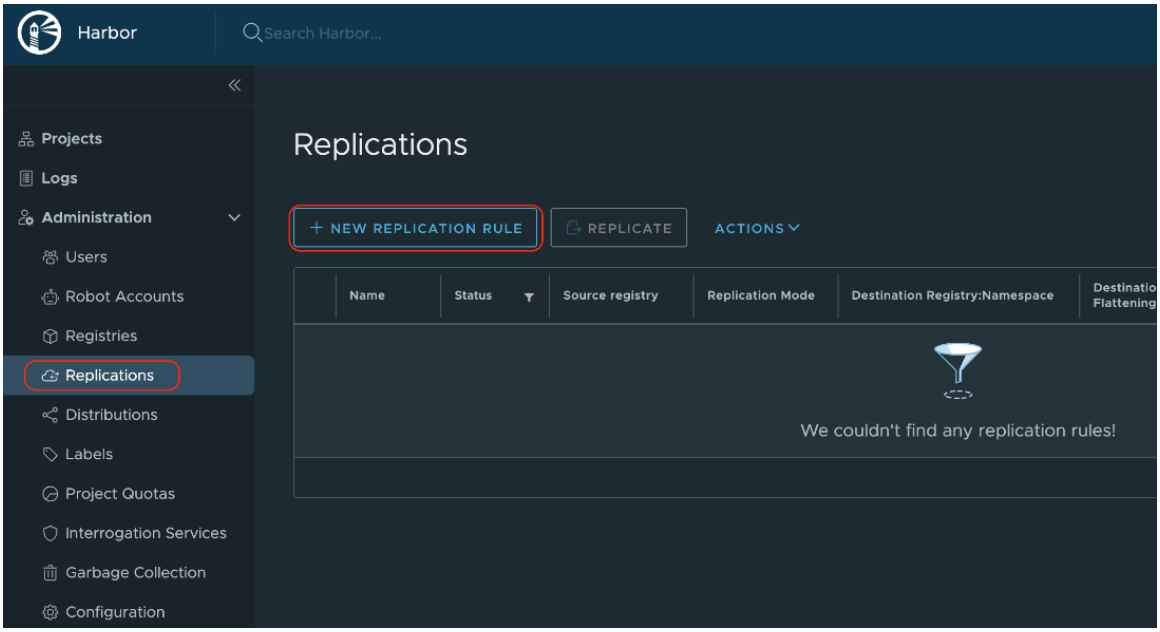

Harbor
Search Harbor...
English
admin
project-1
System Admin
Access Level
Private
Storage used
756.63KiB of 2GiB
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
Webhooks
Logs
Configuration
Project registry
Public
Making a project registry public will make all repositories accessible to everyone.
Deployment security
Enable content trust
Allow only verified images to be deployed.
Prevent vulnerable images from running.
Prevent images with vulnerability severity of High and above from being deployed.
Vulnerability scanning
Automatically scan images on push
Automatically scan images when they are pushed to the project registry.
CVE allowlist
Project allowlist allows vulnerabilities in this list to be ignored in this project when pushing and pulling images.
You can either use the default allowlist configured at the system level or click on 'Project allowlist' to create a new allowlist
Add individual CVE IDs before clicking 'COPY FROM SYSTEM' to add system allowlist as well.
System allowlist
Project allowlist
ADD
COPY FROM SYSTEM
None
Expires at
Never expires
Never expires
SAVE
CANCEL
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
LIGHT
Harbor API V2.0

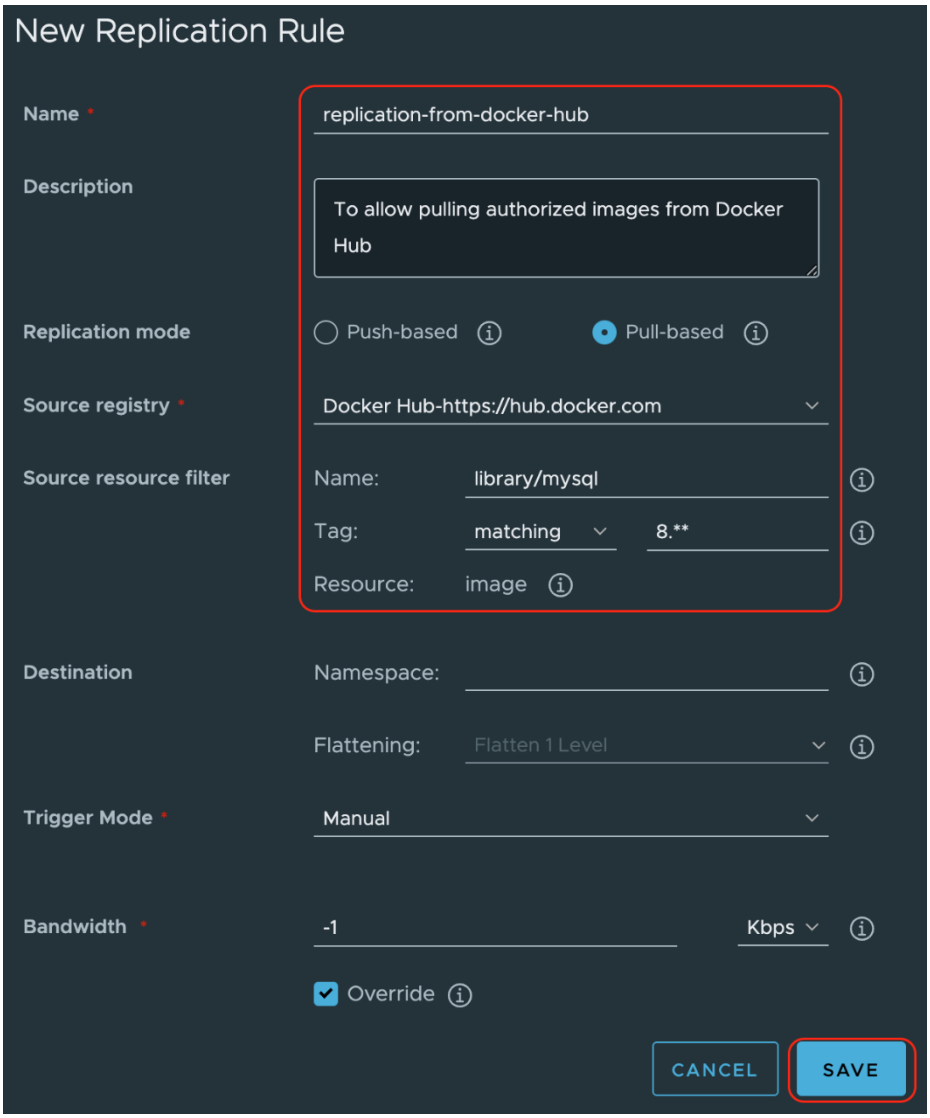

Harbor
Search Harbor...
English
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects < project-1
nginx
Info
Artifacts
SCAN
STOP SCAN
ACTIONS
Artifacts
Pull Command
Tags
Size
Vulnerabilities
Annotations
Labels
Push Time
sha256:d8ecbc9f
1.9.5
53.33MiB
721 Total · 358 Fixable
Vulnerability Severity: Critical
Critical 74
High 212
Medium 201
Low 213
None 0
60 120 180 240
Scanned by: Trivy@Unknown
Duration: 11 sec

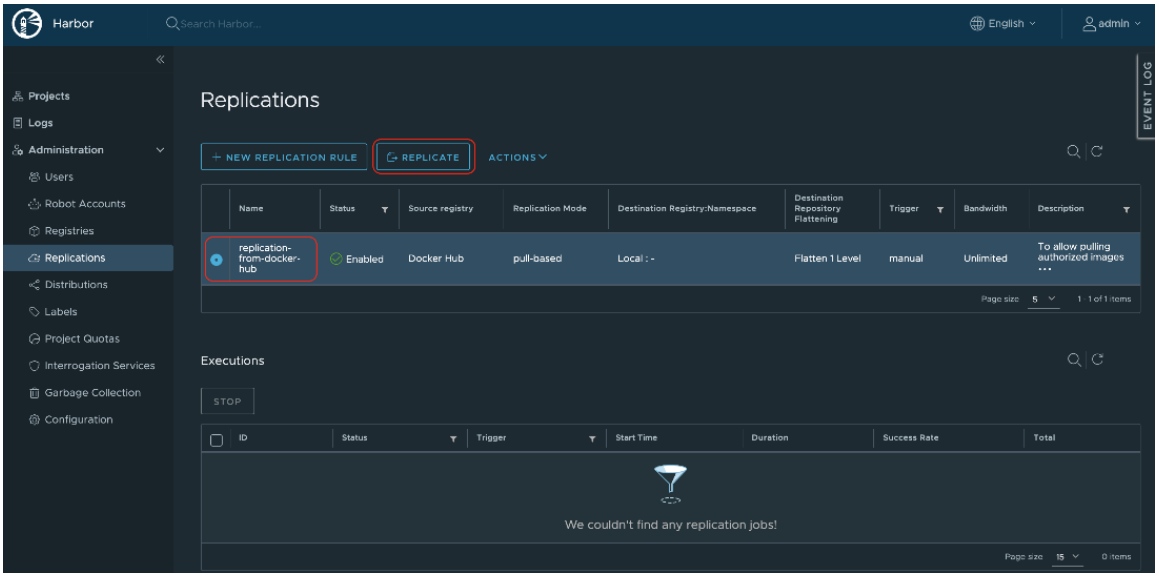

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Registries
+ NEW ENDPOINT
EDIT
DELETE
Name
Status
Endpoint URL
Provider
Verify Remote
We couldn't find any endpoints!

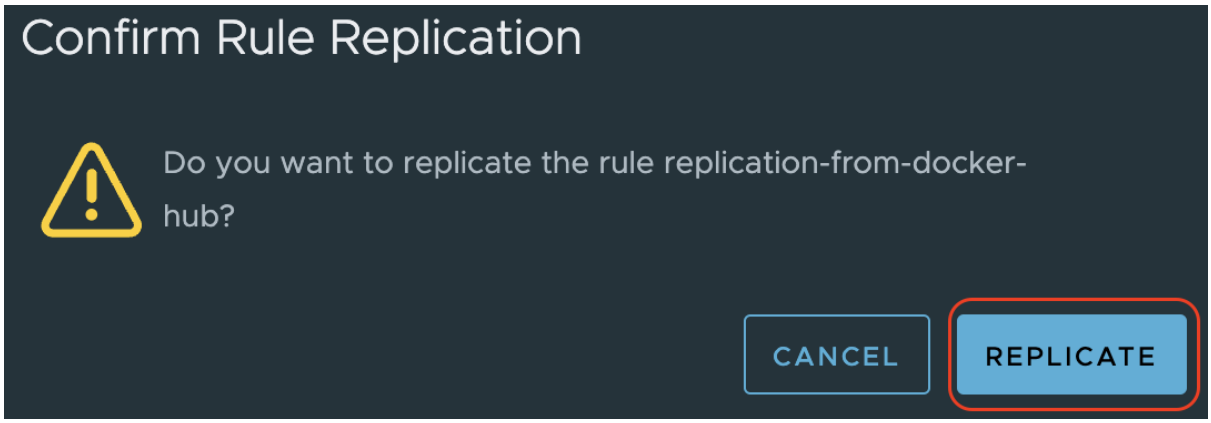

New Registry Endpoint
Connection tested successfully.
Provider *
Docker Hub
Name *
Docker Hub
Description
The public Docker Hub repository
Endpoint URL *
https://hub.docker.com
Access ID
Access ID
Access Secret
Access Secret
Verify Remote Cert
TEST CONNECTION
CANCEL
OK

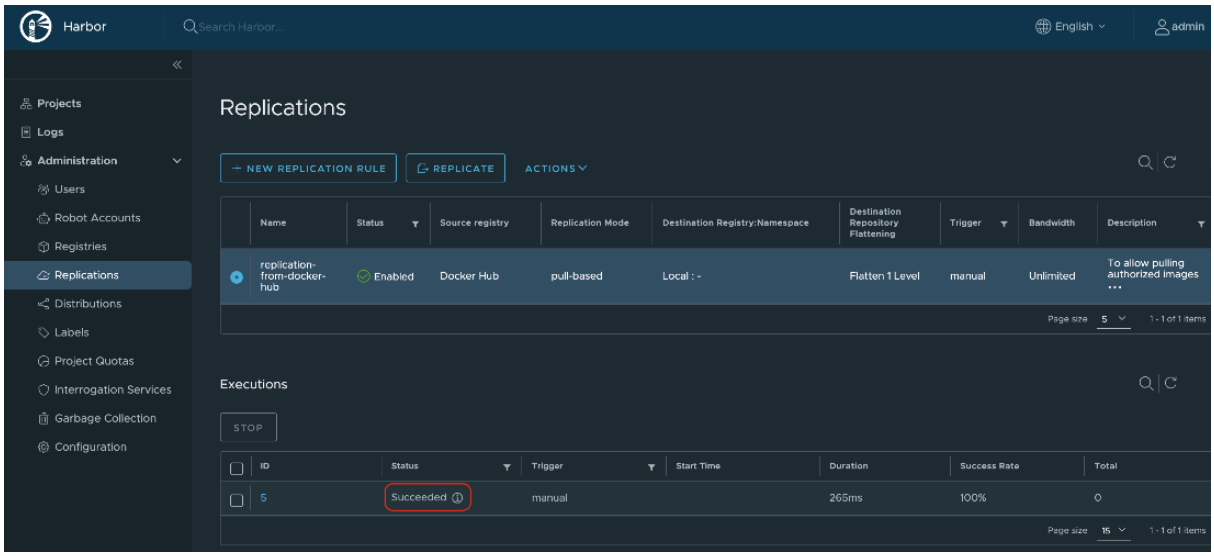

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Registries
+ NEW ENDPOINT
EDIT
DELETE
Name
Status
Endpoint URL
Provider
Verify Remote Cert
Docker Hub
Healthy
https://hub.docker.com
Docker Hub
true

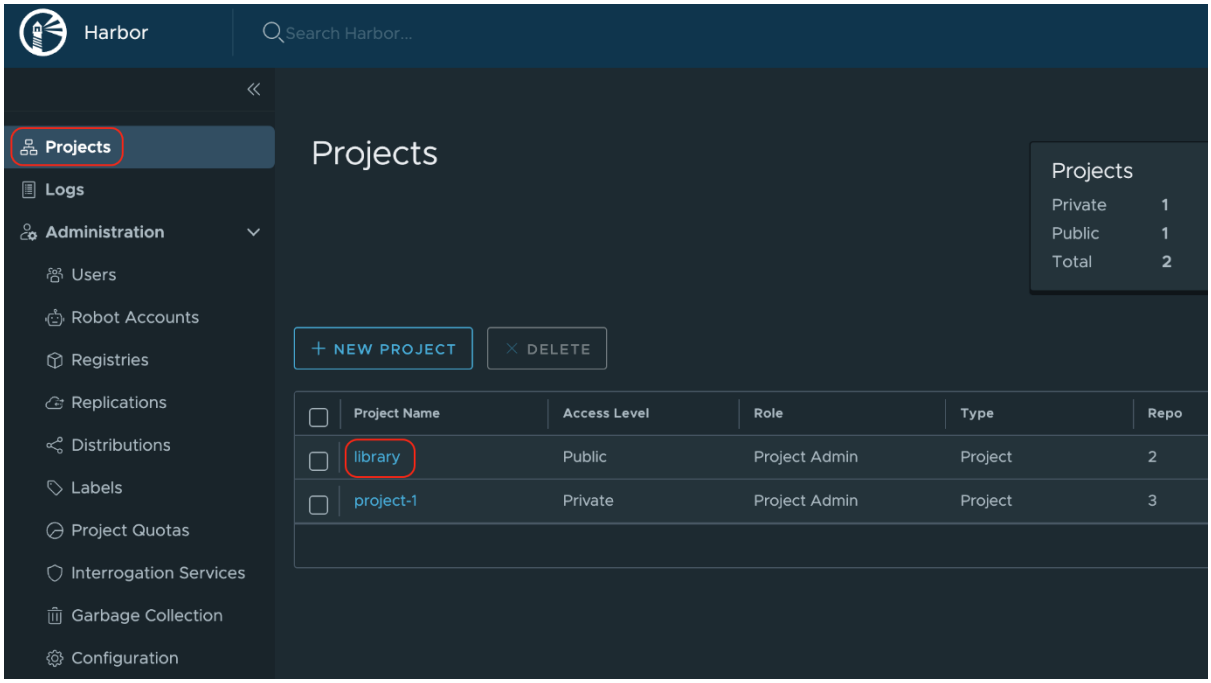

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Replications
+ NEW REPLICATION RULE
REPLICATE
ACTIONS
Name
Status
Source registry
Replication Mode
Destination Registry:Namespace
Destinatio Flattening
We couldn't find any replication rules!

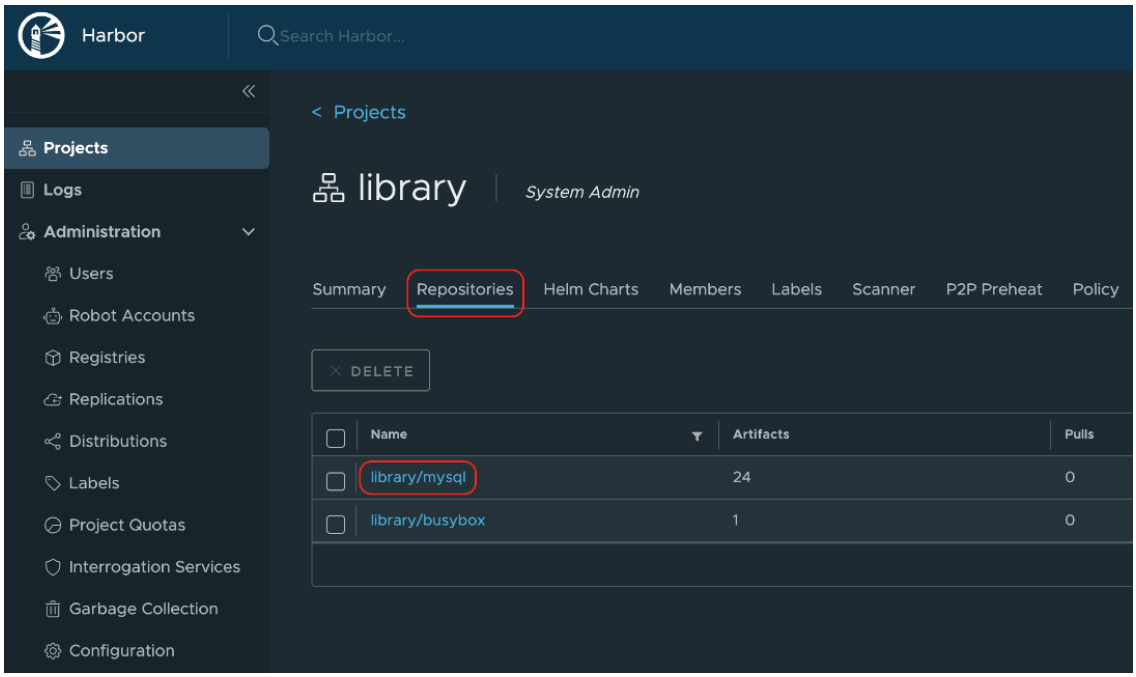

New Replication Rule
Name *
replication-from-docker-hub
Description
To allow pulling authorized images from Docker Hub
Replication mode
Push-based
Pull-based
Source registry *
Docker Hub-https://hub.docker.com
Source resource filter
Name:
library/mysql
Tag:
matching
8.**
Resource:
image
Destination
Namespace:
Flattening:
Flatten 1 Level
Trigger Mode *
Manual
Bandwidth *
-1
Kbps
Override
CANCEL
SAVE

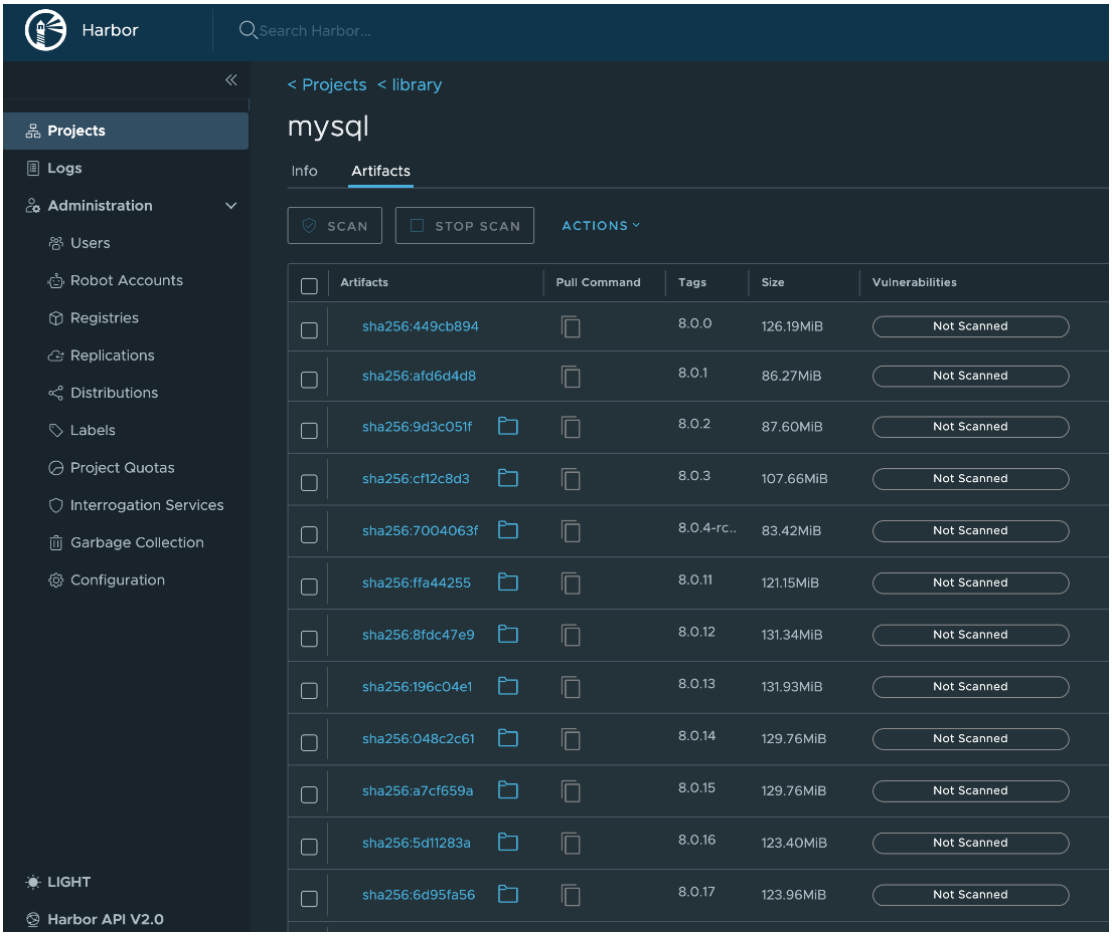

Harbor
Search Harbor...
English
admin
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
EVENT LOG
Replications
+ NEW REPLICATION RULE
REPLICATE
ACTIONS
Name
Status
Source registry
Replication Mode
Destination Registry:Namespace
Destination Repository Flattening
Trigger
Bandwidth
Description
replication-from-docker-hub
Enabled
Docker Hub
pull-based
Local : -
Flatten 1 Level
manual
Unlimited
To allow pulling authorized images
Page size 5
1 - 1 of 1 items
Executions
STOP
ID
Status
Trigger
Start Time
Duration
Success Rate
Total
We couldn't find any replication jobs!
Page size 15
0 items

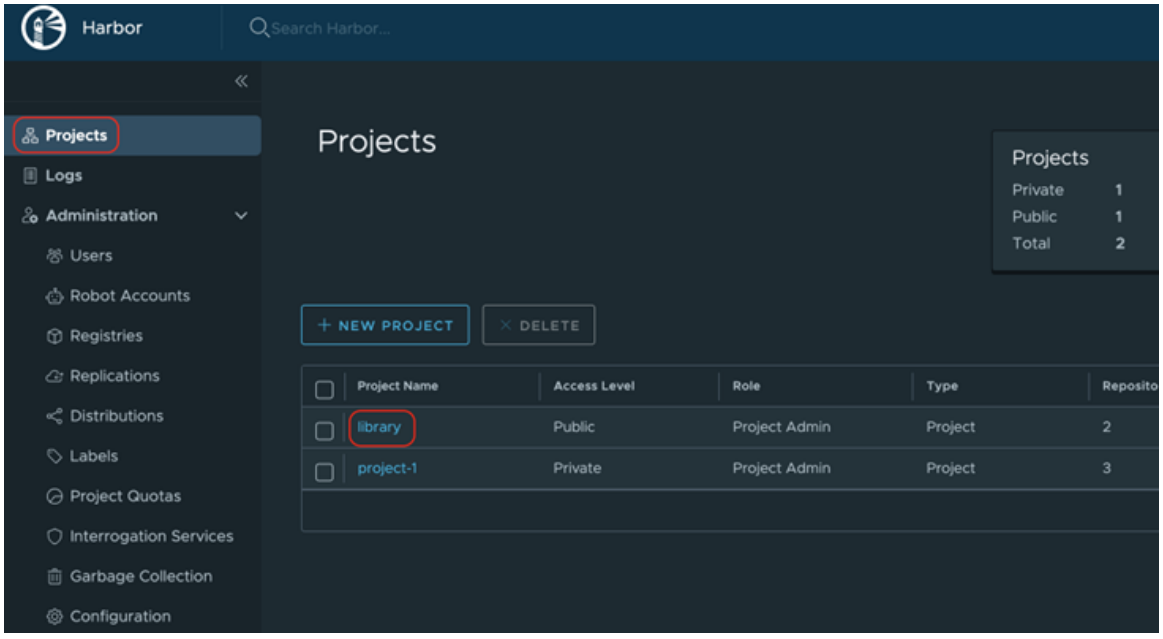

Confirm Rule Replication
Do you want to replicate the rule replication-from-docker-hub?
CANCEL
REPLICATE

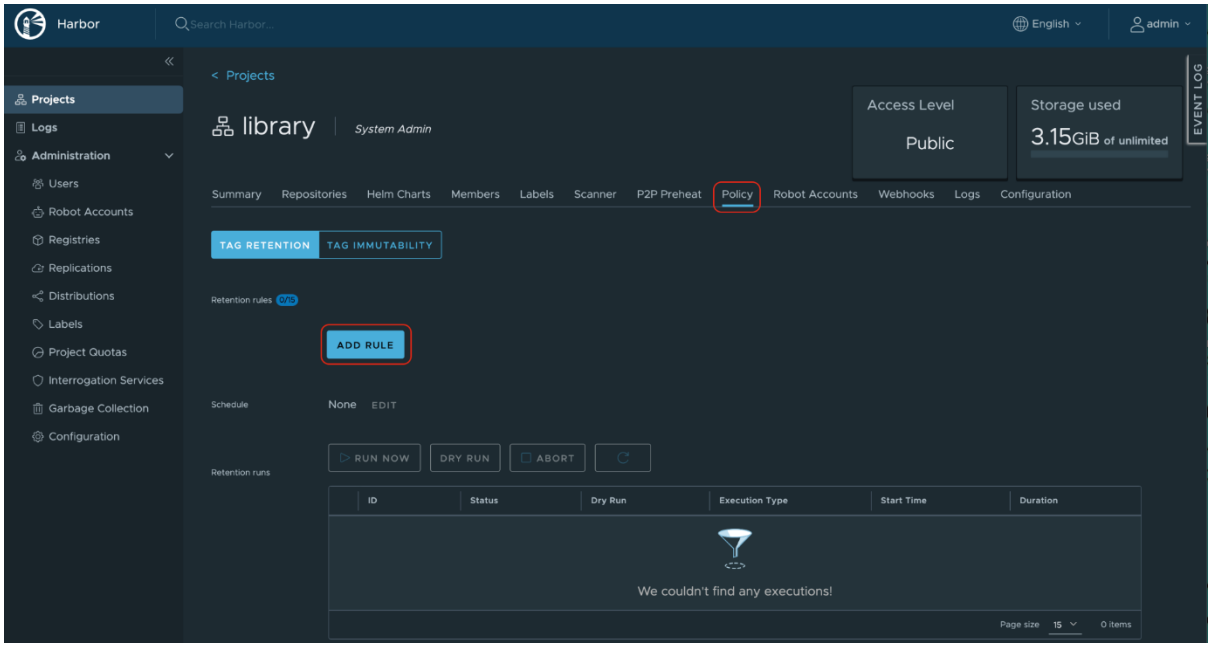

Harbor
Search Harbor...
English
admin
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Replications
+ NEW REPLICATION RULE
REPLICATE
ACTIONS
Name
Status
Source registry
Replication Mode
Destination Registry:Namespace
Destination Repository Flattening
Trigger
Bandwidth
Description
replication-from-docker-hub
Enabled
Docker Hub
pull-based
Local : -
Flatten 1 Level
manual
Unlimited
To allow pulling authorized images
Page size 5
1 - 1 of 1 items
Executions
STOP
ID
Status
Trigger
Start Time
Duration
Success Rate
Total
5
Succeeded
manual
265ms
100%
0
Page size 15
1 - 1 of 1 items

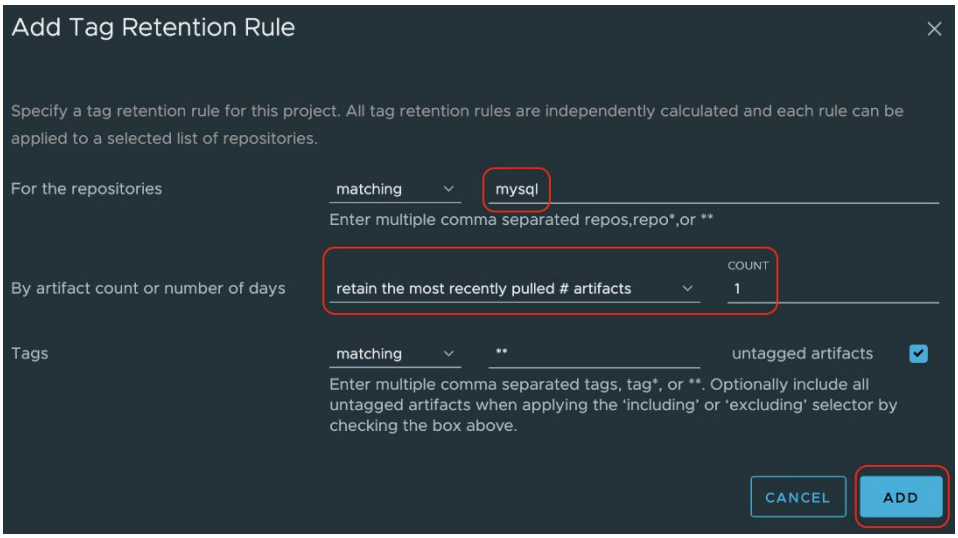

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
Projects
Private 1
Public 1
Total 2
+ NEW PROJECT
DELETE
Project Name
Access Level
Role
Type
Repo
library
Public
Project Admin
Project
2
project-1
Private
Project Admin
Project
3

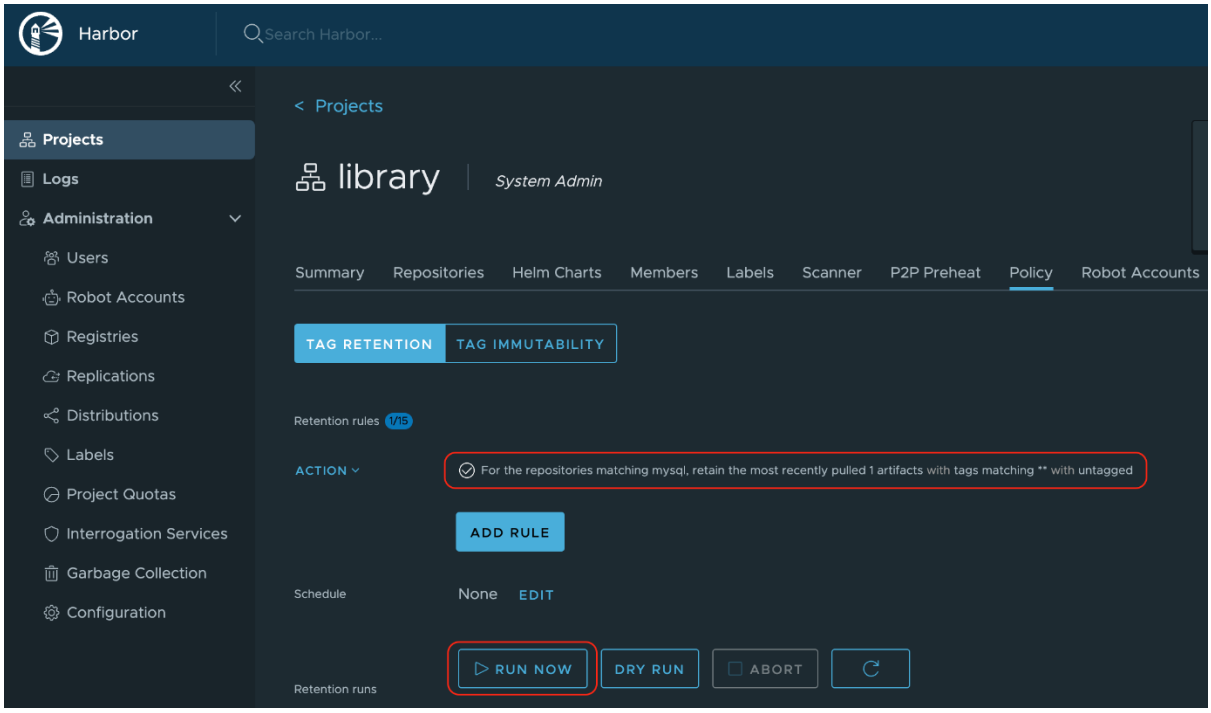

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
library
System Admin
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
DELETE
Name
Artifacts
Pulls
library/mysql
24
0
library/busybox
1
0

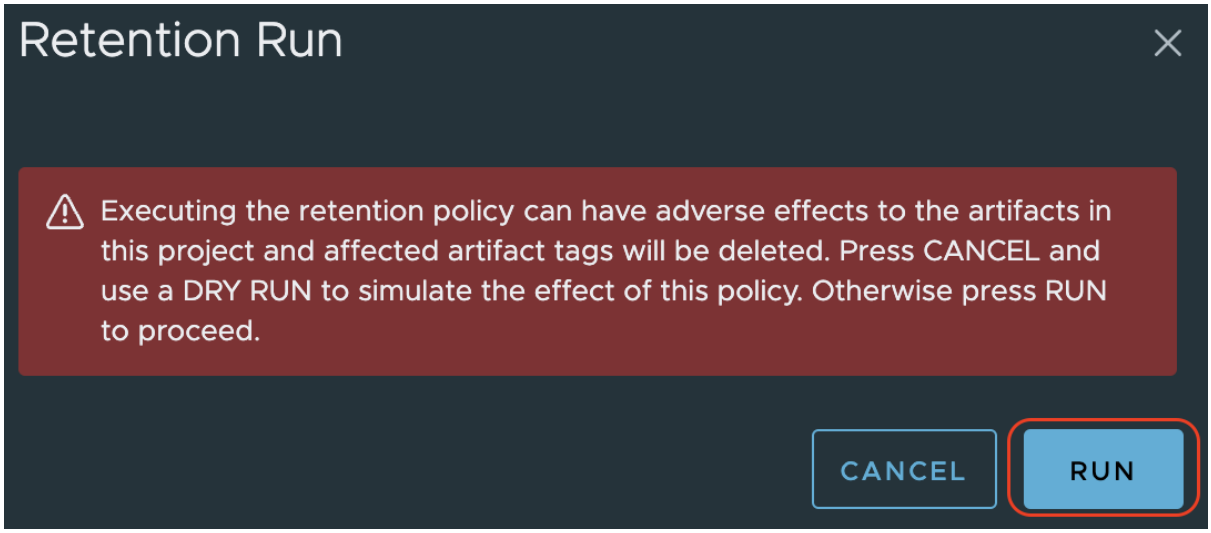

Harbor
Search Harbor...
< Projects < library
mysql
Info
Artifacts
SCAN
STOP SCAN
ACTIONS
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
LIGHT
Harbor API V2.0
Artifacts
Pull Command
Tags
Size
Vulnerabilities
sha256:449cb894 8.0.0 126.19MiB Not Scanned
sha256:afd6d4d8 8.0.1 86.27MiB Not Scanned
sha256:9d3c051f 8.0.2 87.60MiB Not Scanned
sha256:cf12c8d3 8.0.3 107.66MiB Not Scanned
sha256:7004063f 8.0.4-rc.. 83.42MiB Not Scanned
sha256:ffa44255 8.0.11 121.15MiB Not Scanned
sha256:8fdc47e9 8.0.12 131.34MiB Not Scanned
sha256:196c04e1 8.0.13 131.93MiB Not Scanned
sha256:048c2c61 8.0.14 129.76MiB Not Scanned
sha256:a7cf659a 8.0.15 129.76MiB Not Scanned
sha256:5d11283a 8.0.16 123.40MiB Not Scanned
sha256:6d95fa56 8.0.17 123.96MiB Not Scanned

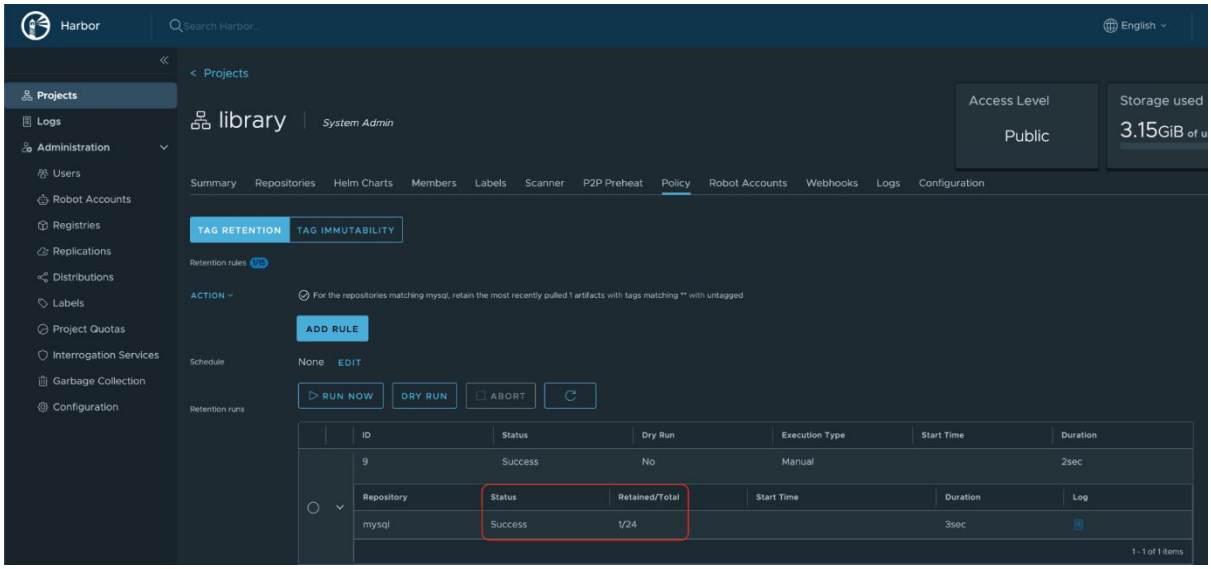

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
Projects
Projects
Private 1
Public 1
Total 2
+ NEW PROJECT
DELETE
Project Name
Access Level
Role
Type
library Public Project Admin Project 2
project-1 Private Project Admin Project 3

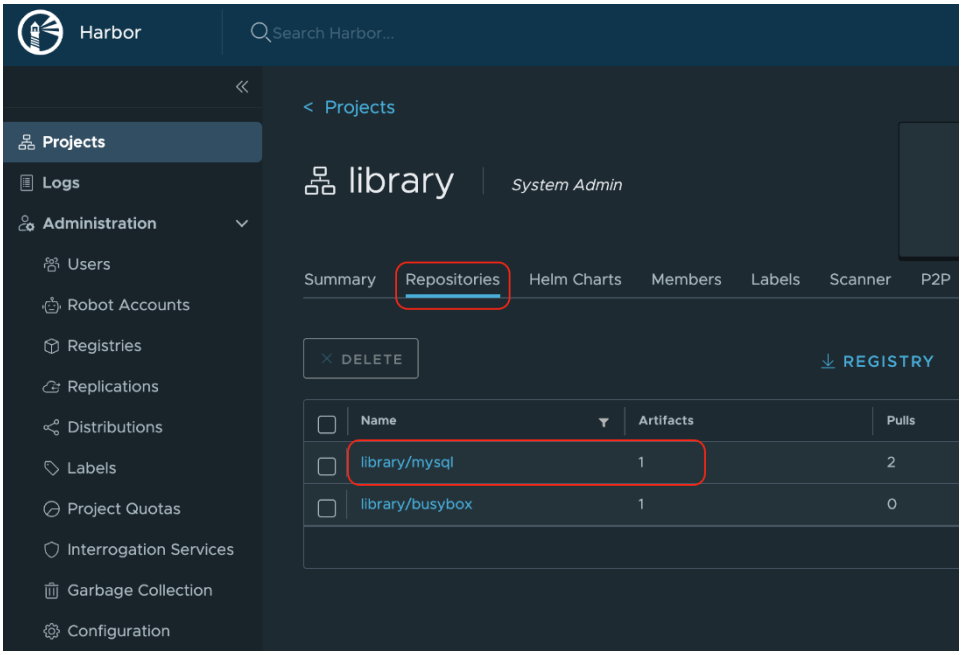

Harbor
Search Harbor...
English
admin
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
library
System Admin
Access Level
Public
Storage used
3.15GiB of unlimited
EVENT LOG
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
Webhooks
Logs
Configuration
TAG RETENTION
TAG IMMUTABILITY
Retention rules
ADD RULE
Schedule
None
EDIT
Retention runs
RUN NOW
DRY RUN
ABORT
ID
Status
Dry Run
Execution Type
Start Time
Duration
We couldn't find any executions!
Page size
15
0 items

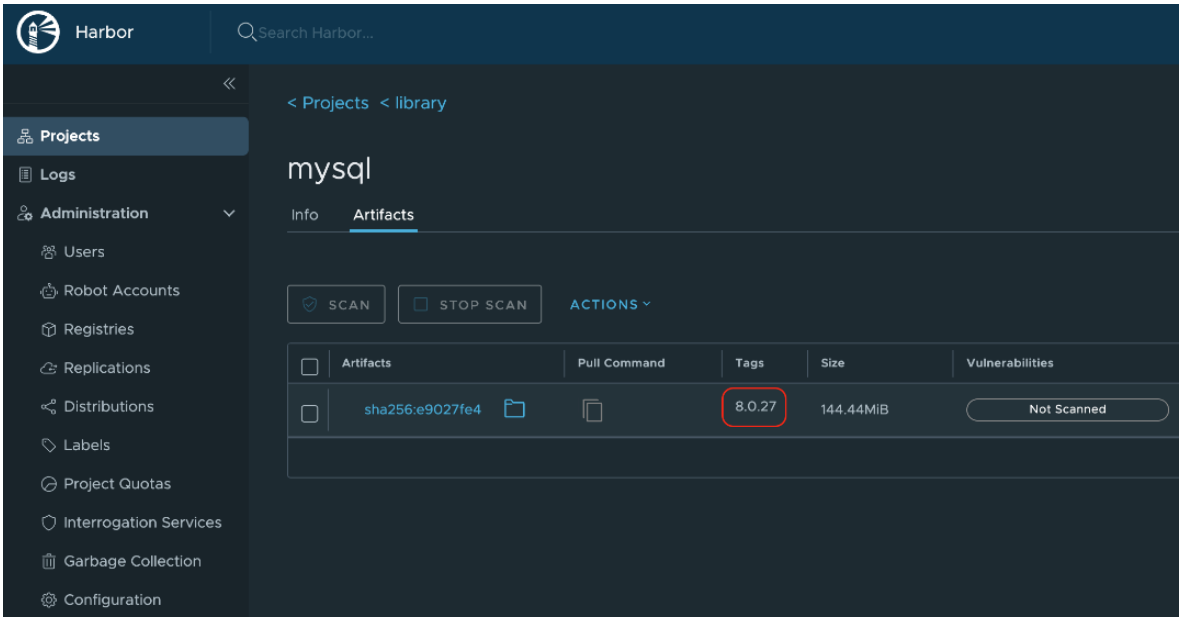

Add Tag Retention Rule
Specify a tag retention rule for this project. All tag retention rules are independently calculated and each rule can be applied to a selected list of repositories.
For the repositories
matching
mysql
Enter multiple comma separated repos,repo*,or **
By artifact count or number of days
retain the most recently pulled # artifacts
COUNT
1
Tags
matching
**
untagged artifacts
Enter multiple comma separated tags, tag*, or **. Optionally include all untagged artifacts when applying the 'including' or 'excluding' selector by checking the box above.
CANCEL
ADD


Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
library
System Admin
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
TAG RETENTION
TAG IMMUTABILITY
Retention rules 1/15
ACTION
For the repositories matching mysql, retain the most recently pulled 1 artifacts with tags matching ** with untagged
ADD RULE
Schedule
None
EDIT
Retention runs
RUN NOW
DRY RUN
ABORT

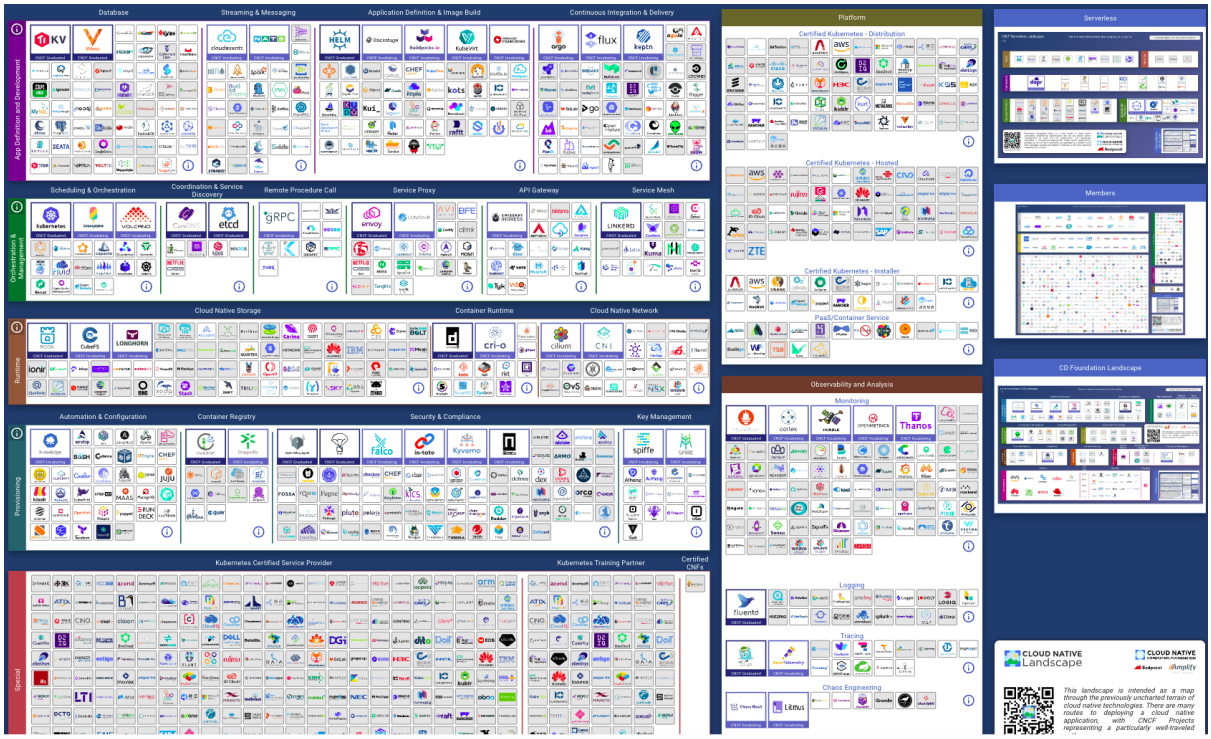

Retention Run
Executing the retention policy can have adverse effects to the artifacts in this project and affected artifact tags will be deleted. Press CANCEL and use a DRY RUN to simulate the effect of this policy. Otherwise press RUN to proceed.
CANCEL
RUN

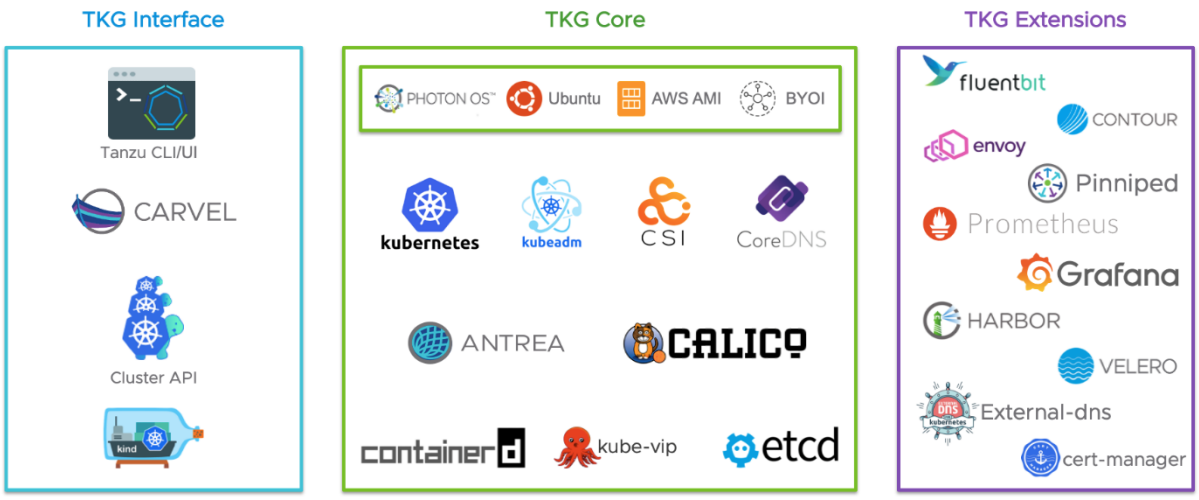

Harbor
Search Harbor...
English
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
library
System Admin
Access Level
Public
Storage used
3.15GiB
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P Preheat
Policy
Robot Accounts
Webhooks
Logs
Configuration
TAG RETENTION
TAG IMMUTABILITY
Retention rules
ACTION
ADD RULE
Schedule
None
EDIT
RUN NOW
DRY RUN
ABORT
Retention runs
ID
Status
Dry Run
Execution Type
Start Time
Duration
9
Success
No
Manual
2sec
Repository
Status
Retained/Total
Start Time
Duration
Log
mysql
Success
1/24
3sec
1 - 1 of 1 items

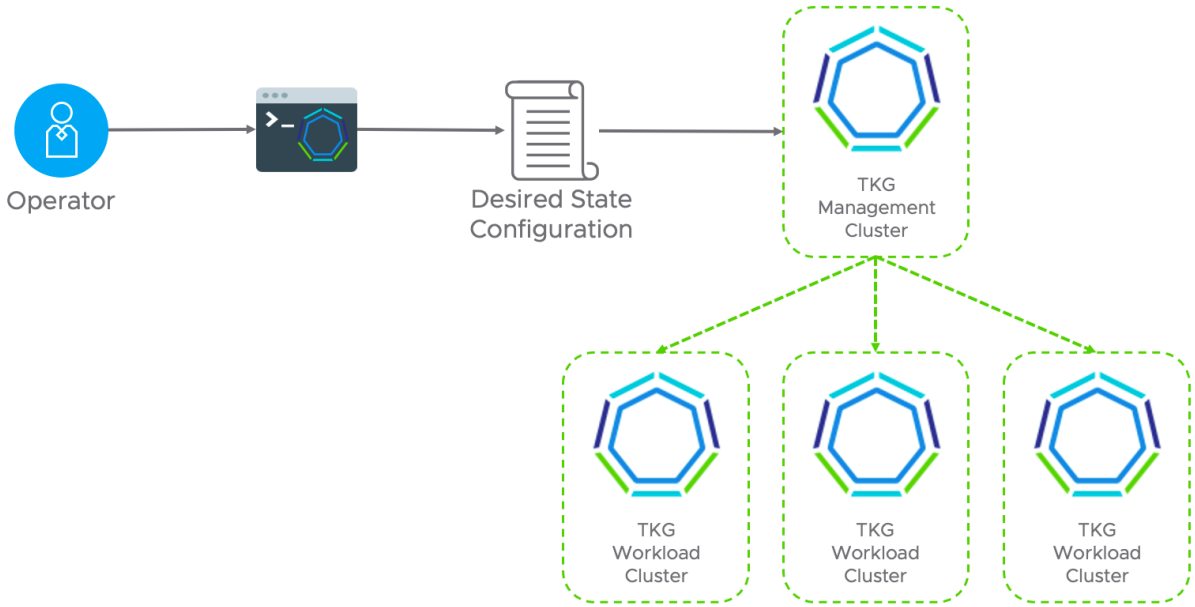

Harbor
Search Harbor...
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration
< Projects
library
System Admin
Summary
Repositories
Helm Charts
Members
Labels
Scanner
P2P
DELETE
REGISTRY
Name
Artifacts
Pulls
library/mysql
1
2
library/busybox
1
0

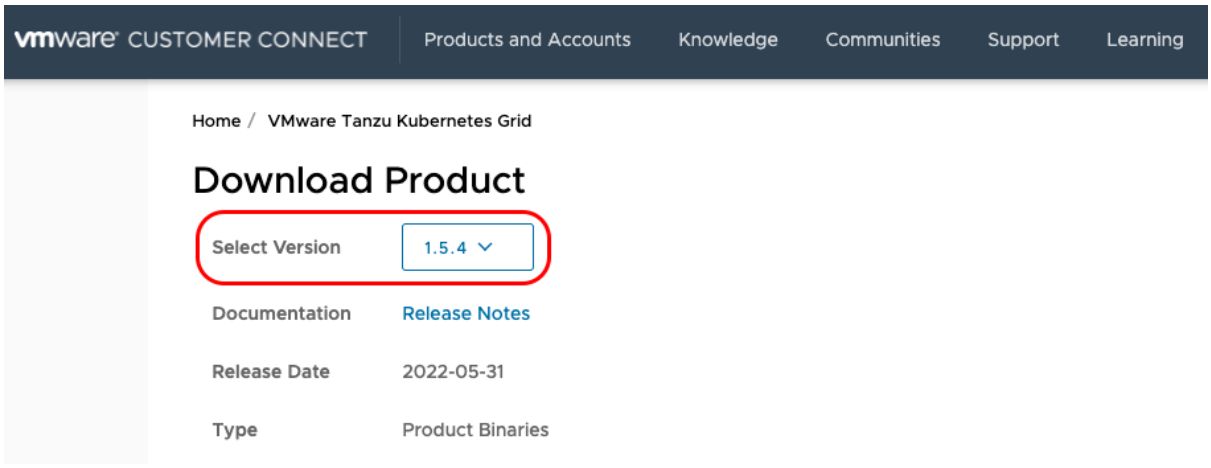

Harbor
Search Harbor...
< Projects < library
mysql
Info
Artifacts
SCAN
STOP SCAN
ACTIONS
Artifacts
Pull Command
Tags
Size
Vulnerabilities
sha256:e9027fe4
8.0.27
144.44MiB
Not Scanned
Projects
Logs
Administration
Users
Robot Accounts
Registries
Replications
Distributions
Labels
Project Quotas
Interrogation Services
Garbage Collection
Configuration

Chapter 7: Orchestrating Containers across Clouds with Tanzu Kubernetes Grid






Operator
Desired State Configuration
TKG Management Cluster
TKG Workload Cluster
TKG Workload Cluster
TKG Workload Cluster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Release Notes
Release Date
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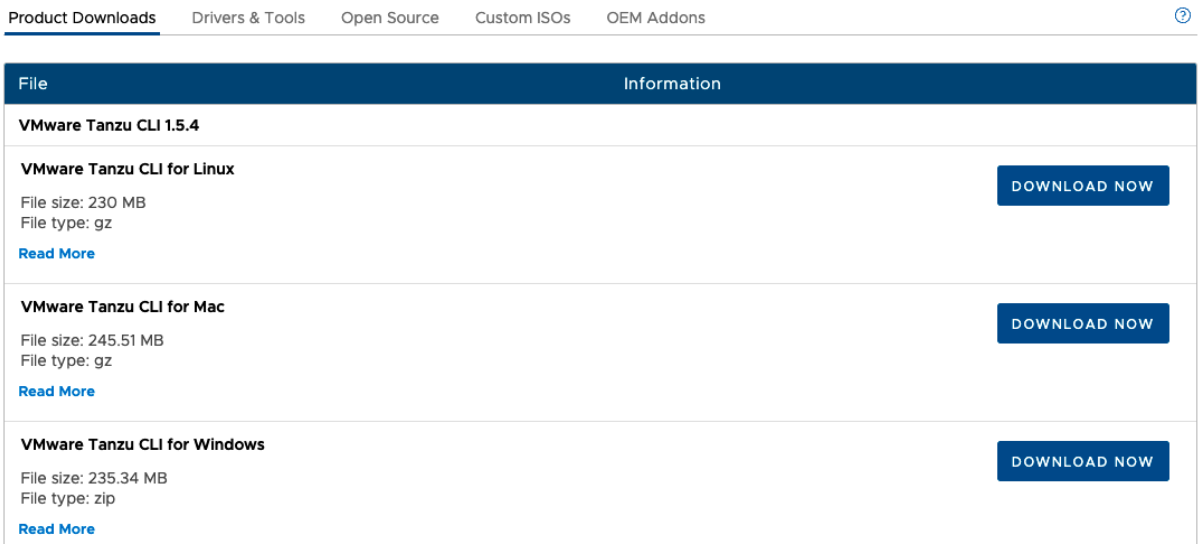
Product Binaries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Kubectl 1.22.9 for VMware Tanzu Kubernetes Grid 1.5.4

Kubectl cluster cli v1.22.9 for Linux

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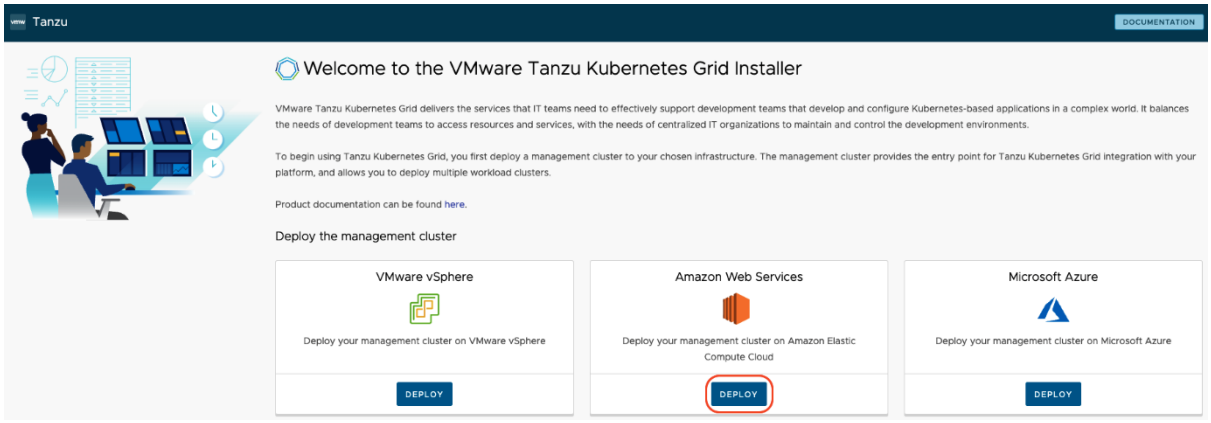
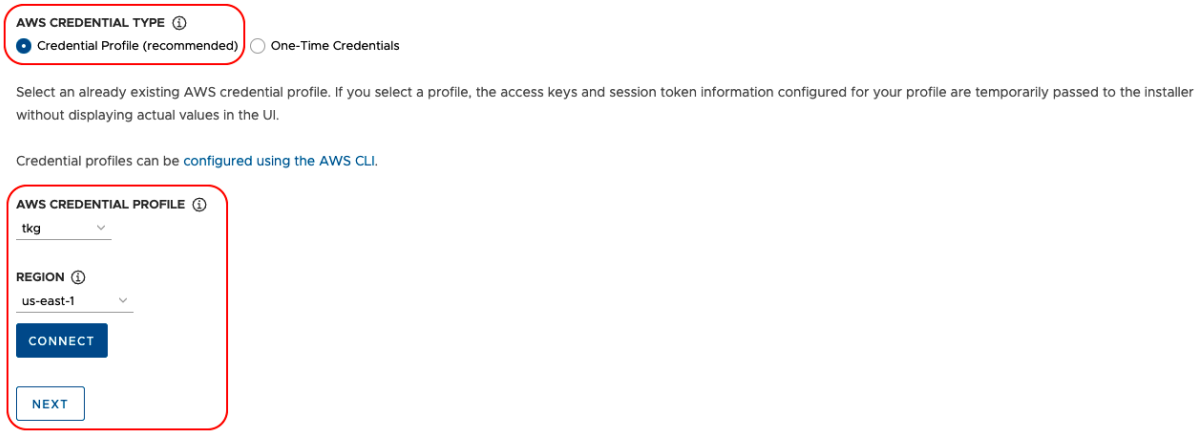
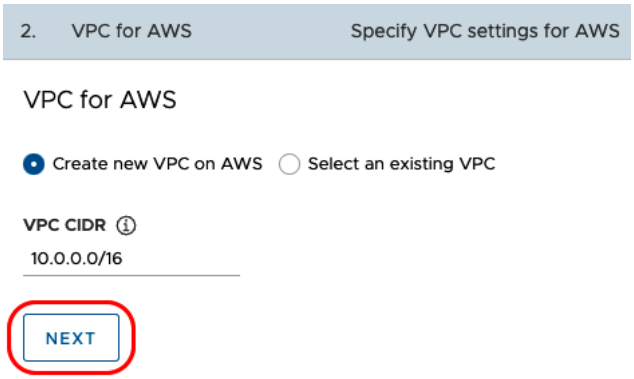
```
~ » tanzu plugin list
  NAME                DESCRIPTION                                                SCOPE       DISCOVERY                      VERSION  STATUS
  cluster             Kubernetes cluster operations                              Context     default-tkg-aws-mgmt-cluster   v0.11.6  installed
  kubernetes-release  Kubernetes release operations                             Context     default-tkg-aws-mgmt-cluster   v0.11.6  installed
  login               Login to the platform                                      Standalone  default                        v0.11.6  installed
  management-cluster  Kubernetes management-cluster operations                  Standalone  default                        v0.11.6  installed
  package             Tanzu package management                                   Standalone  default                        v0.11.6  installed
  pinniped-auth       Pinniped authentication operations (usually not directly invoked)  Standalone  default                        v0.11.6  installed
  secret              Tanzu secret management                                    Standalone  default                        v0.11.6  installed
```

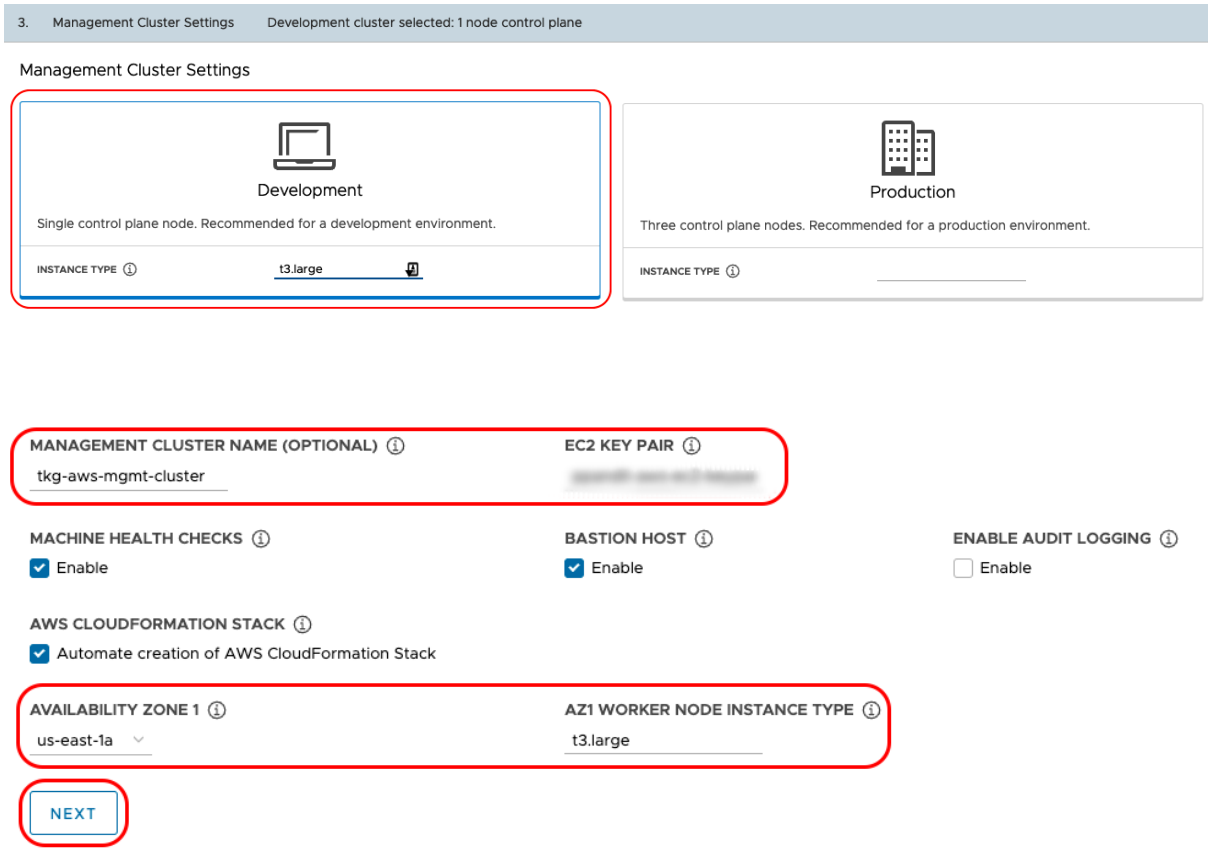


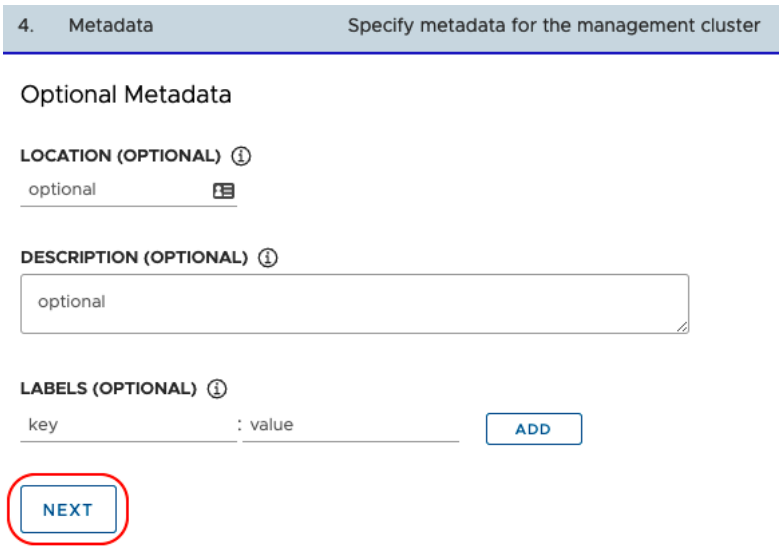
1.	IaaS Provider	Validate the AWS provider credentials for Tanzu Kubernetes Grid

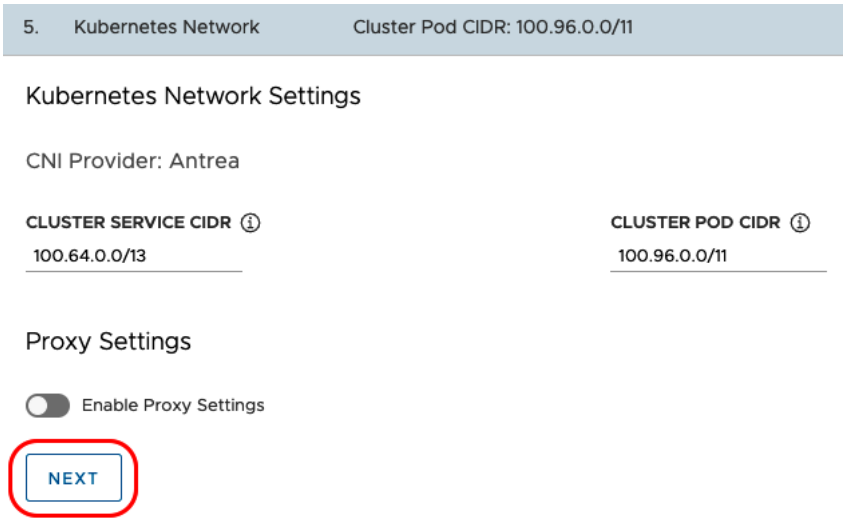


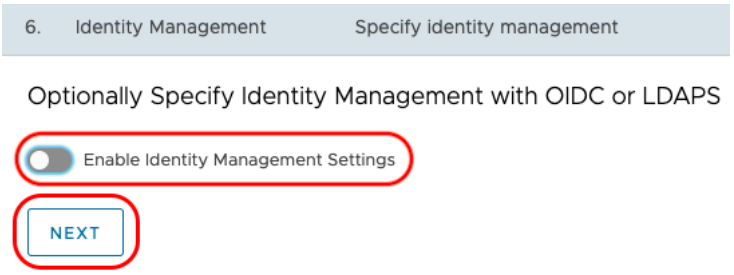
2.	VPC for AWS	Specify VPC settings for AWS

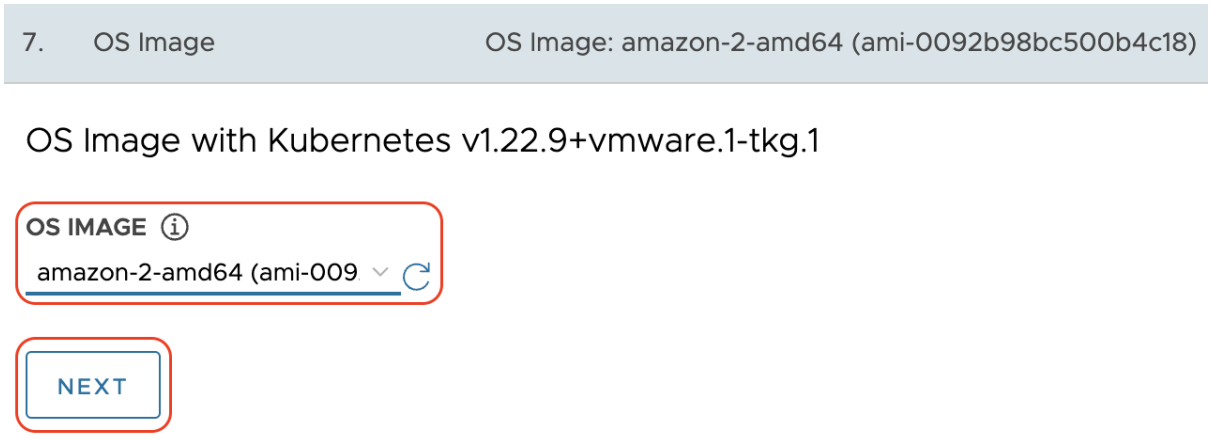


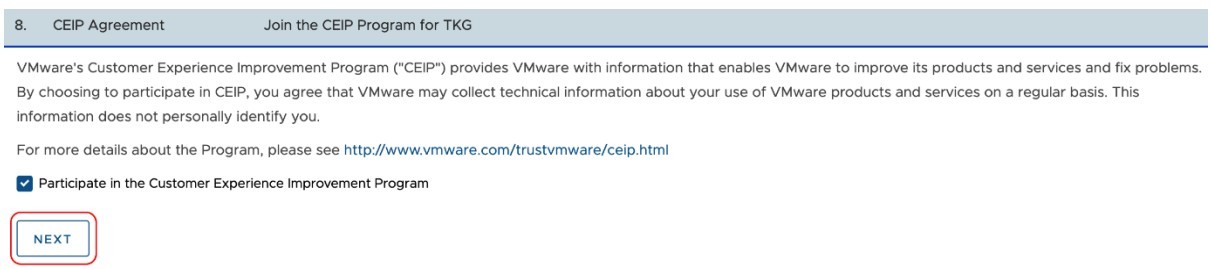

3. Management Cluster Settings
Development cluster selected: 1 node control plane
Management Cluster Settings
Development
Single control plane node. Recommended for a development environment.
INSTANCE TYPE
t3.large
Production
Three control plane nodes. Recommended for a production environment.
INSTANCE TYPE
MANAGEMENT CLUSTER NAME (OPTIONAL)
tkg-aws-mgmt-cluster
EC2 KEY PAIR
MACHINE HEALTH CHECKS
Enable
BASTION HOST
Enable
ENABLE AUDIT LOGGING
Enable
AWS CLOUDFORMATION STACK
Automate creation of AWS CloudFormation Stack
AVAILABILITY ZONE 1
us-east-1a
AZ1 WORKER NODE INSTANCE TYPE
t3.large
NEXT


4. Metadata
Specify metadata for the management cluster
Optional Metadata
LOCATION (OPTIONAL)
optional
DESCRIPTION (OPTIONAL)
optional
LABELS (OPTIONAL)
key
: value
ADD
NEXT


5. Kubernetes Network Cluster Pod CIDR: 100.96.0.0/11
Kubernetes Network Settings
CNI Provider: Antrea
CLUSTER SERVICE CIDR
100.64.0.0/13
CLUSTER POD CIDR
100.96.0.0/11
Proxy Settings
Enable Proxy Settings
NEXT


6. Identity Management Specify identity management
Optionally Specify Identity Management with OIDC or LDAPS
Enable Identity Management Settings
NEXT


7. OS Image OS Image: amazon-2-amd64 (ami-0092b98bc500b4c18)
OS Image with Kubernetes v1.22.9+vmware.1-tkg.1
OS IMAGE
amazon-2-amd64 (ami-009
NEXT


8. CEIP Agreement Join the CEIP Program for TKG
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Deploy Management Cluster on Amazon Web Services

✓	IaaS Provider	Validate the AWS provider credentials for Tanzu Kubernetes Grid
✓	VPC for AWS	Specify VPC settings for AWS
✓	Management Cluster Settings	Development cluster selected: 1 node control plane
✓	Metadata	Specify metadata for the management cluster
✓	Kubernetes Network	Cluster Pod CIDR: 100.96.0.0/11
✓	Identity Management	Specify identity management
✓	OS Image	OS Image: amazon-2-amd64 (ami-0092b98bc500b4c18)
✓	CEIP Agreement	Join the CEIP Program for TKG

REVIEW CONFIGURATION

OS Image

OS Image	OS Image: amazon-2-amd64 (ami-0092b98bc500b4c18)
CEIP OPT-IN	yes

CLI Command Equivalent

```
tanzu management-cluster permissions aws set && tanzu management-cluster create tkg-aws-mgmt-cluster --file
/Users/panditpa/.config/tanzu/tkg/clusterconfigs/0u63dgsrzz.yaml -v 6
```

COPY CLI COMMAND

DEPLOY MANAGEMENT CLUSTER | EDIT CONFIGURATION | EXPORT CONFIGURATION

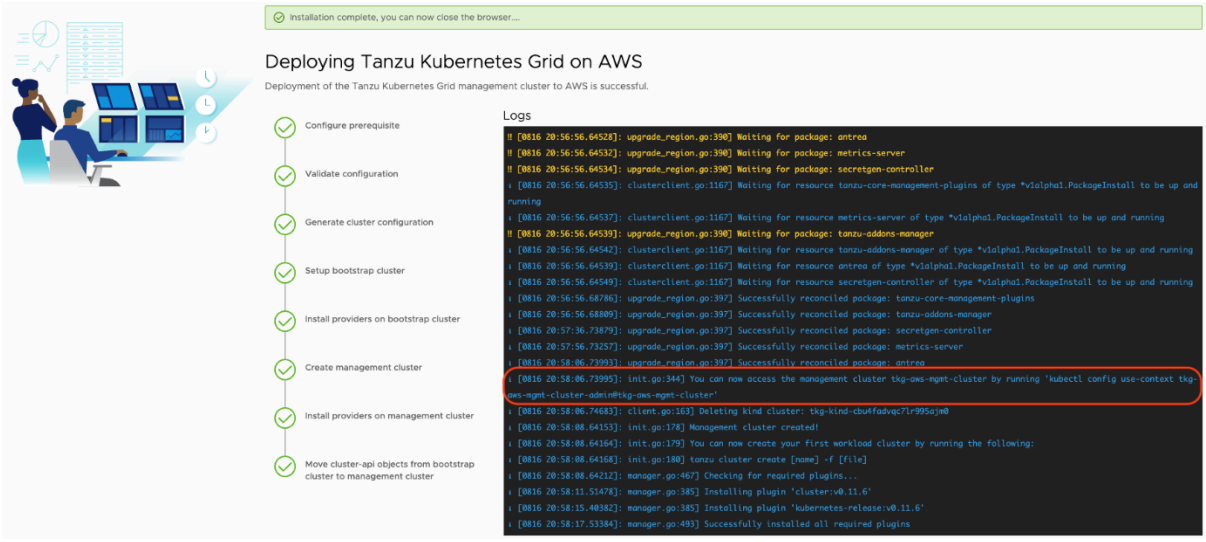
Deploying Tanzu Kubernetes Grid on AWS

Deployment of the Tanzu Kubernetes Grid management cluster to AWS is in progress.

- ✓ Configure prerequisite
- ✓ Validate configuration
- ✓ Generate cluster configuration
- ✓ Setup bootstrap cluster
- ✓ Install providers on bootstrap cluster
- ● Create management cluster
- ○ Install providers on management cluster
- ○ Move cluster-api objects from bootstrap cluster to management cluster

Logs

```
i [0816 20:43:44.84290]: logger.go:115] Ready after 16s
i [0816 20:43:47.98573]: init.go:186] Bootstrapper created. Kubeconfig: /Users/panditpa/.kube-tkg/tmp/config_bWUK16vm
i [0816 20:43:48.00571]: init.go:198] Installing providers on bootstrapper...
i [0816 20:44:09.85467]: init.go:481] installed Component="cluster-api" Type="CoreProvider" Version="v1.0.1"
i [0816 20:44:09.85471]: init.go:481] installed Component="kubeadm" Type="BootstrapProvider" Version="v1.0.1"
i [0816 20:44:09.85475]: init.go:481] installed Component="kubeadm" Type="ControlPlaneProvider" Version="v1.0.1"
i [0816 20:44:09.85476]: init.go:481] installed Component="aws" Type="InfrastructureProvider" Version="v1.2.0"
i [0816 20:44:09.92847]: init.go:619] Waiting for provider cluster-api
i [0816 20:44:09.92848]: init.go:619] Waiting for provider bootstrap-kubeadm
i [0816 20:44:09.92848]: init.go:619] Waiting for provider control-plane-kubeadm
i [0816 20:44:09.92858]: init.go:619] Waiting for provider infrastructure-aws
i [0816 20:44:10.04082]: clusterclient.go:1167] Waiting for resource capi-kubeadm-bootstrap-controller-manager of type *v1.Deployment to be up
and running
i [0816 20:44:10.04560]: clusterclient.go:1167] Waiting for resource capi-kubeadm-control-plane-controller-manager of type *v1.Deployment to be
up and running
i [0816 20:44:10.08698]: clusterclient.go:1167] Waiting for resource capi-controller-manager of type *v1.Deployment to be up and running
i [0816 20:44:10.18965]: clusterclient.go:1167] Waiting for resource capa-controller-manager of type *v1.Deployment to be up and running
i [0816 20:44:15.05609]: init.go:627] Passed waiting on provider control-plane-kubeadm after 5.127582397s
i [0816 20:44:15.09886]: init.go:627] Passed waiting on provider cluster-api after 5.170365479s
i [0816 20:44:20.05441]: init.go:627] Passed waiting on provider bootstrap-kubeadm after 10.125881317s
i [0816 20:44:20.20456]: init.go:627] Passed waiting on provider infrastructure-aws after 10.276004384s
i [0816 20:44:20.20459]: init.go:638] Success waiting on all providers.
i [0816 20:44:20.20464]: init.go:212] Start creating management cluster...
i [0816 20:44:25.03922]: clusterclient.go:548] [cluster control plane is still being initialized: WaitingForControlPlane, cluster infrastructure
is still being provisioned: WaitingForControlPlane]
```




```
~ » tanzu mc get
  NAME                  NAMESPACE   STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES       PLAN
  tkg-aws-mgmt-cluster  tkg-system  running  1/1           1/1      v1.22.9+vmware.1  management  dev

Details:

NAME                                                       READY  SEVERITY  REASON  SINCE  MESSAGE
/tkg-aws-mgmt-cluster                                      True                     45m
├─ClusterInfrastructure - AWSCluster/tkg-aws-mgmt-cluster  True                     46m
├─ControlPlane - KubeadmControlPlane/tkg-aws-mgmt-cluster-control-plane  True     45m
│ └─Machine/tkg-aws-mgmt-cluster-control-plane-dl44m       True                     46m
└─Workers
  └─MachineDeployment/tkg-aws-mgmt-cluster-md-0            True                     46m
    └─Machine/tkg-aws-mgmt-cluster-md-0-7c8864bbcf-79d2v   True                     46m

Providers:

  NAMESPACE                          NAME                    TYPE                     PROVIDERNAME  VERSION  WATCHNAMESPACE
  capa-system                        infrastructure-aws      InfrastructureProvider   aws           v1.2.0
  capi-kubeadm-bootstrap-system      bootstrap-kubeadm       BootstrapProvider        kubeadm       v1.0.1
  capi-kubeadm-control-plane-system  control-plane-kubeadm   ControlPlaneProvider     kubeadm       v1.0.1
  capi-system                        cluster-api             CoreProvider             cluster-api   v1.0.1
```

```
~ » tanzu cluster list
  NAME                   NAMESPACE  STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES   PLAN
  tkg-aws-workload-cluster  default  running  1/1           1/1      v1.21.11+vmware.1  <none>  dev
```

```
~ » kubectl get nodes
NAME                                STATUS   ROLES                  AGE   VERSION
ip-10-0-17-250.ec2.internal         Ready    <none>                 72m   v1.21.11+vmware.1
ip-10-0-20-55.ec2.internal          Ready    control-plane,master   73m   v1.21.11+vmware.1
```

```
~ » tanzu cluster list
  NAME                   NAMESPACE  STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES   PLAN
  tkg-aws-workload-cluster  default  running  1/1           1/1      v1.21.11+vmware.1  <none>  dev
```

```
~ » tanzu cluster scale tkg-aws-workload-cluster -w 3
Successfully updated worker node machine deployment replica count for cluster tkg-aws-workload-cluster
Workload cluster 'tkg-aws-workload-cluster' is being scaled
```

```
~ » tanzu cluster list
  NAME                       NAMESPACE  STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES   PLAN
  tkg-aws-workload-cluster   default    running  1/1           3/3      v1.21.11+vmware.1 <none>  dev
```

```
~ » tanzu cluster list
  NAME                       NAMESPACE  STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES   PLAN
  tkg-aws-workload-cluster   default    running  1/1           3/3      v1.21.11+vmware.1 <none>  dev
```

```
~ » tanzu kubernetes-release get
  NAME                         VERSION                      COMPATIBLE  ACTIVE  UPDATES AVAILABLE
  v1.20.15---vmware.1-tkg.2    v1.20.15+vmware.1-tkg.2      True        True    True
  v1.21.11---vmware.1-tkg.3    v1.21.11+vmware.1-tkg.3      True        True    True
  v1.22.9---vmware.1-tkg.1     v1.22.9+vmware.1-tkg.1       True        True    False
```

```
~ » tanzu cluster upgrade tkg-aws-workload-cluster --tkr v1.22.9---vmware.1-tkg.1
Upgrading workload cluster 'tkg-aws-workload-cluster' to kubernetes version 'v1.22.9+vmware.1'. Are you sure? [y/N]: y
Validating configuration...
unable to create AWS client. Skipping validations that require an AWS client
updating additional components: 'addons-management/kapp-controller' ...
Verifying kubernetes version...
Retrieving configuration for upgrade cluster...
Create InfrastructureTemplate for upgrade...
Upgrading control plane nodes...
Patching KubeadmControlPlane with the kubernetes version v1.22.9+vmware.1...
Updating the KCP object with k8s version v1.22.9+vmware.1
Waiting for kubernetes version to be updated for control plane nodes
Upgrading worker nodes...
Patching MachineDeployment with the kubernetes version v1.22.9+vmware.1...
Waiting for kubernetes version to be updated for worker nodes...
unable to create AWS client. Skipping validations that require an AWS client
updating additional components: 'metadata/tkg' ...
unable to create AWS client. Skipping validations that require an AWS client
updating additional components: 'addons-management/standard-package-repo' ...
Waiting for packages to be up and running...
Cluster 'tkg-aws-workload-cluster' successfully upgraded to kubernetes version 'v1.22.9+vmware.1'
```

Name	Instance ID	Instance state	Instance type
tkg-aws-workload-cluster-control-plane-bwlrz	i-0d096a46a1c57f0ba	Terminated	t3.large
tkg-aws-workload-cluster-control-plane-v1-22-9-vmware-1-cvrvs2h	i-070d2f53f5d716c81	Terminated	t3.large
tkg-aws-workload-cluster-control-plane-v1-22-9-vmware-1-cvthzst	i-030b1f7960fa9f5b7	Running	t3.large
tkg-aws-workload-cluster-md-0-l5zl4	i-03b9d7f74d5e42ea5	Terminated	t3.large
tkg-aws-workload-cluster-md-0-nrmc8	i-092be694c504019bc	Terminated	t3.large
tkg-aws-workload-cluster-md-0-s7t8l	i-0655711379df414de	Terminated	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-bq45v	i-078d97bac3162ddc3	Running	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-d9fcr	i-02f7a631f5234a3f5	Running	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-h4jq6	i-0b1eac85b961f6cb3	Running	t3.large

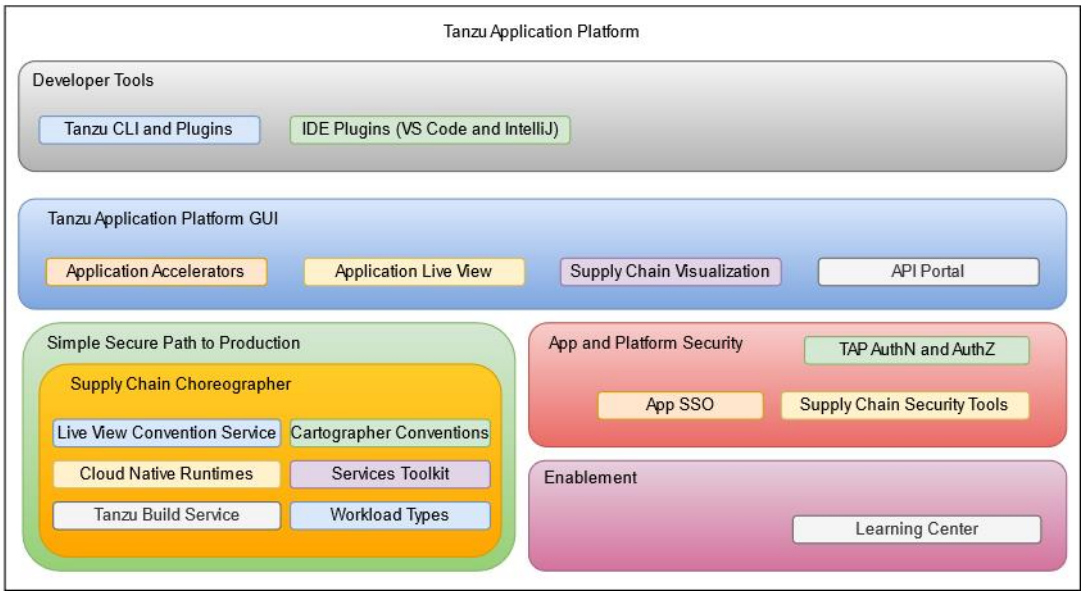
```
~ » tanzu cluster list
  NAME                       NAMESPACE  STATUS   CONTROLPLANE  WORKERS  KUBERNETES        ROLES   PLAN
  tkg-aws-workload-cluster   default    running  1/1           3/3      v1.22.9+vmware.1  <none>  dev
```

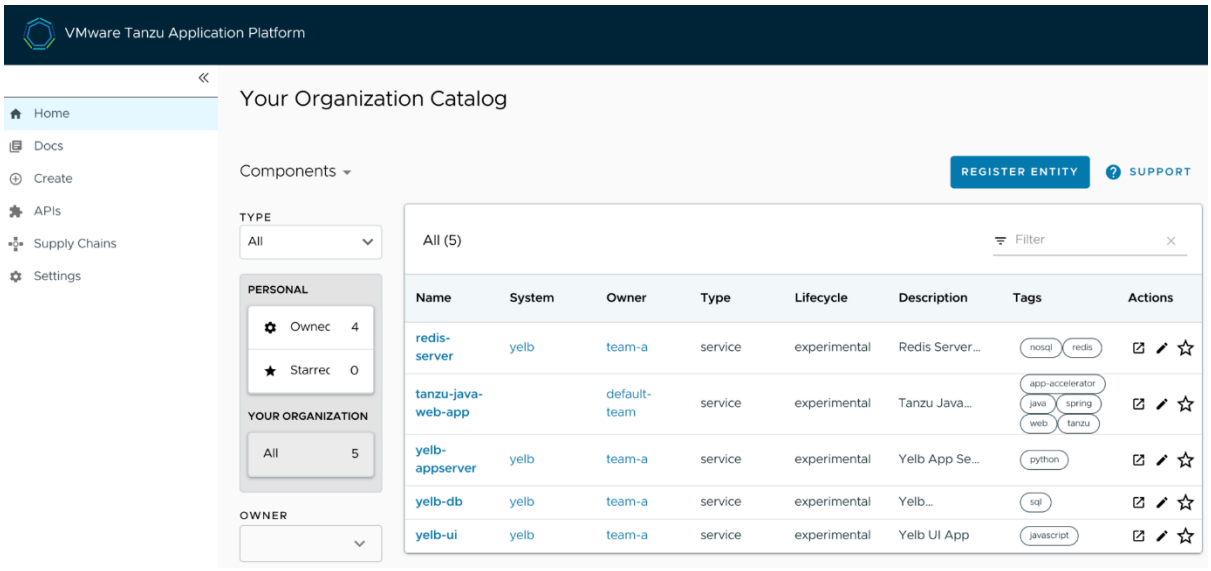
```
~ » tanzu cluster delete tkg-aws-workload-cluster
Deleting workload cluster 'tkg-aws-workload-cluster'. Are you sure? [y/N]: y
Workload cluster 'tkg-aws-workload-cluster' is being deleted
```

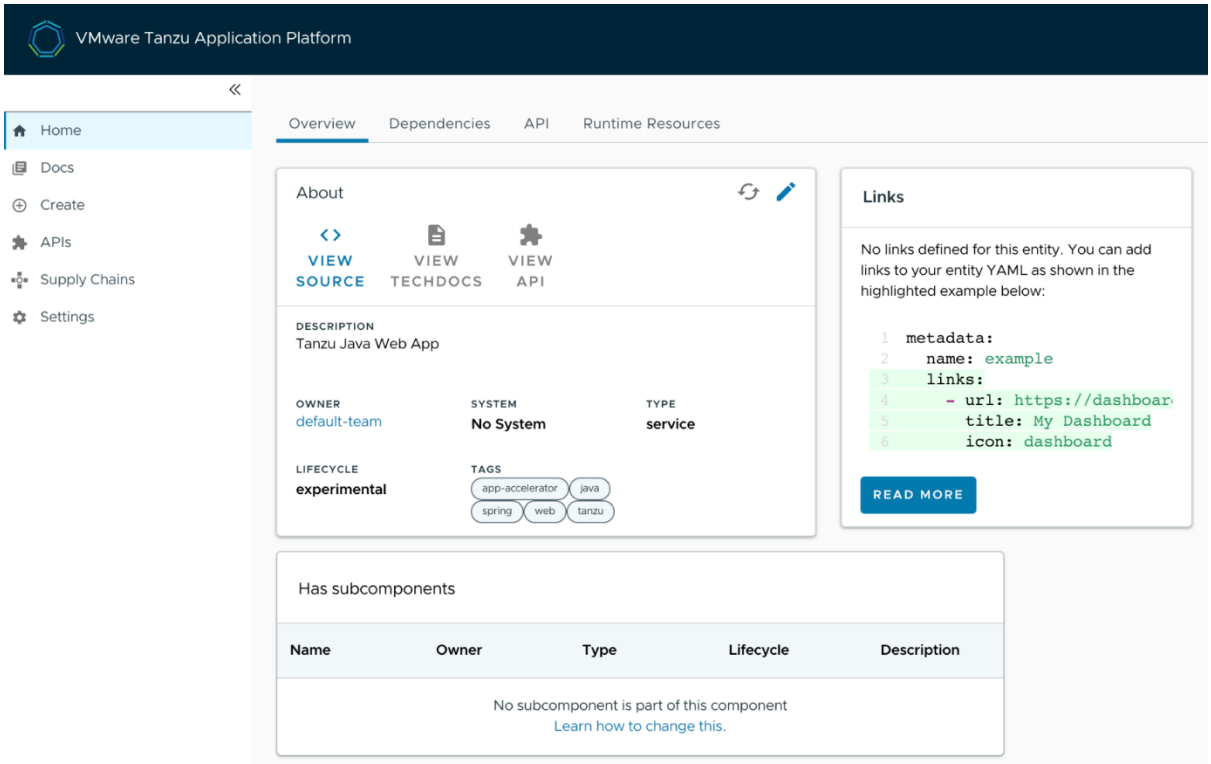
Name	Instance ID	Instance state	Instance type
tkg-aws-workload-cluster-control-plane-bwlrz	i-0d096a46a1c57f0ba	Terminated	t3.large
tkg-aws-workload-cluster-control-plane-v1-22-9-vmware-1-cvrvs2h	i-070d2f53f5d716c81	Terminated	t3.large
tkg-aws-workload-cluster-control-plane-v1-22-9-vmware-1-cvthzst	i-030b1f7960fa9f5b7	Terminated	t3.large
tkg-aws-workload-cluster-md-0-l5zl4	i-03b9d7f74d5e42ea5	Terminated	t3.large
tkg-aws-workload-cluster-md-0-nrmc8	i-092be694c504019bc	Terminated	t3.large
tkg-aws-workload-cluster-md-0-s7t8l	i-0655711379df414de	Terminated	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-bq45v	i-078d97bac3162ddc3	Terminated	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-d9fcr	i-02f7a631f5234a3f5	Terminated	t3.large
tkg-aws-workload-cluster-md-0-v1-22-9-vmware-1-pe5wg-h4jq6	i-0b1eac85b961f6cb3	Terminated	t3.large

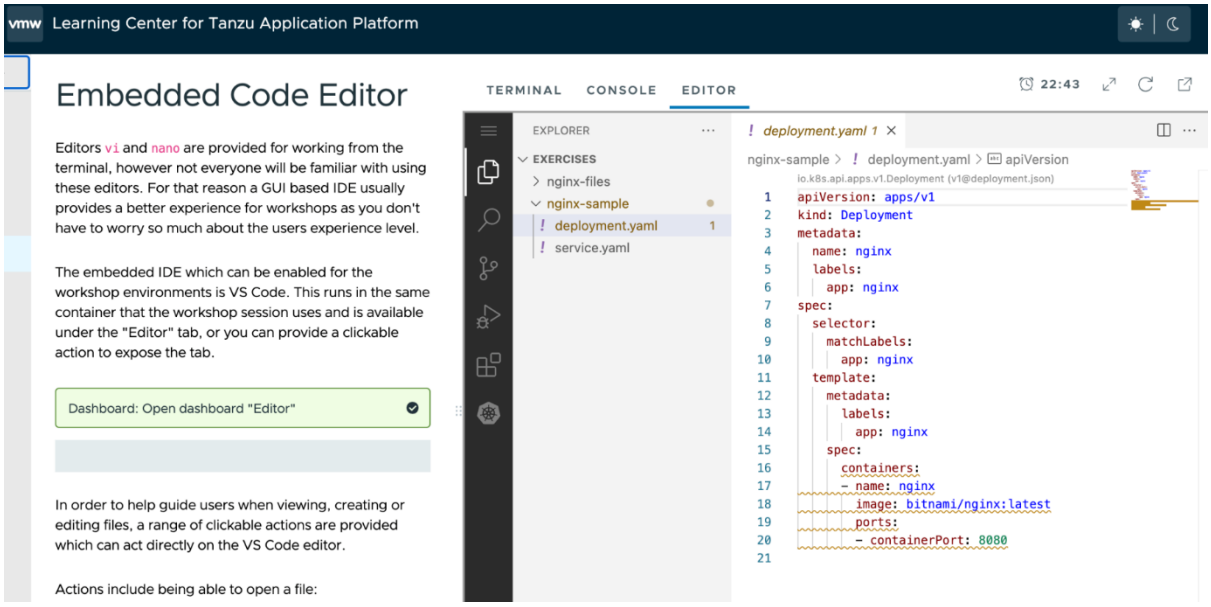
```
Ready after 16s
Installing providers to cleanup cluster...
Fetching providers
Installing cert-manager Version="v1.5.3"
Waiting for cert-manager to be available...
Installing Provider="cluster-api" Version="v1.0.1" TargetNamespace="capi-system"
Installing Provider="bootstrap-kubeadm" Version="v1.0.1" TargetNamespace="capi-kubeadm-bootstrap-system"
Installing Provider="control-plane-kubeadm" Version="v1.0.1" TargetNamespace="capi-kubeadm-control-plane-system"
Installing Provider="infrastructure-aws" Version="v1.2.0" TargetNamespace="capa-system"
installed  Component=="cluster-api"  Type=="CoreProvider"  Version=="v1.0.1"
installed  Component=="kubeadm"  Type=="BootstrapProvider"  Version=="v1.0.1"
installed  Component=="kubeadm"  Type=="ControlPlaneProvider"  Version=="v1.0.1"
installed  Component=="aws"  Type=="InfrastructureProvider"  Version=="v1.2.0"
Waiting for provider control-plane-kubeadm
Waiting for provider cluster-api
Waiting for provider bootstrap-kubeadm
Waiting for provider infrastructure-aws
Waiting for resource capi-kubeadm-bootstrap-controller-manager of type *v1.Deployment to be up and running
Waiting for resource capi-kubeadm-control-plane-controller-manager of type *v1.Deployment to be up and running
Waiting for resource capi-controller-manager of type *v1.Deployment to be up and running
Waiting for resource capa-controller-manager of type *v1.Deployment to be up and running
Passed waiting on provider bootstrap-kubeadm after 5.141313736s
Passed waiting on provider cluster-api after 5.179712151s
Passed waiting on provider infrastructure-aws after 5.265423202s
Passed waiting on provider control-plane-kubeadm after 10.14069577s
Success waiting on all providers.
Moving Cluster API objects from management cluster to cleanup cluster...
Performing move...
Discovering Cluster API objects
Moving Cluster API objects Clusters=1
Creating objects in the target cluster
Deleting objects from the source cluster
Waiting for the Cluster API objects to get ready after move...
Waiting for resource tkg-aws-mgmt-cluster of type *v1beta1.Cluster to be up and running
Waiting for resources type *v1beta1.MachineList to be up and running
Deleting management cluster...
Waiting for tkg-aws-mgmt-cluster resource of type *v1beta1.Cluster to be deleted
Management cluster 'tkg-aws-mgmt-cluster' deleted.
Deleting the management cluster context from the kubeconfig file '/Users/panditpa/.kube/config'
warning: this removed your active context, use "kubectl config use-context" to select a different one
Deleting kind cluster: tkg-kind-cbur8ctvqc7r4crv0i20

Management cluster deleted!
```

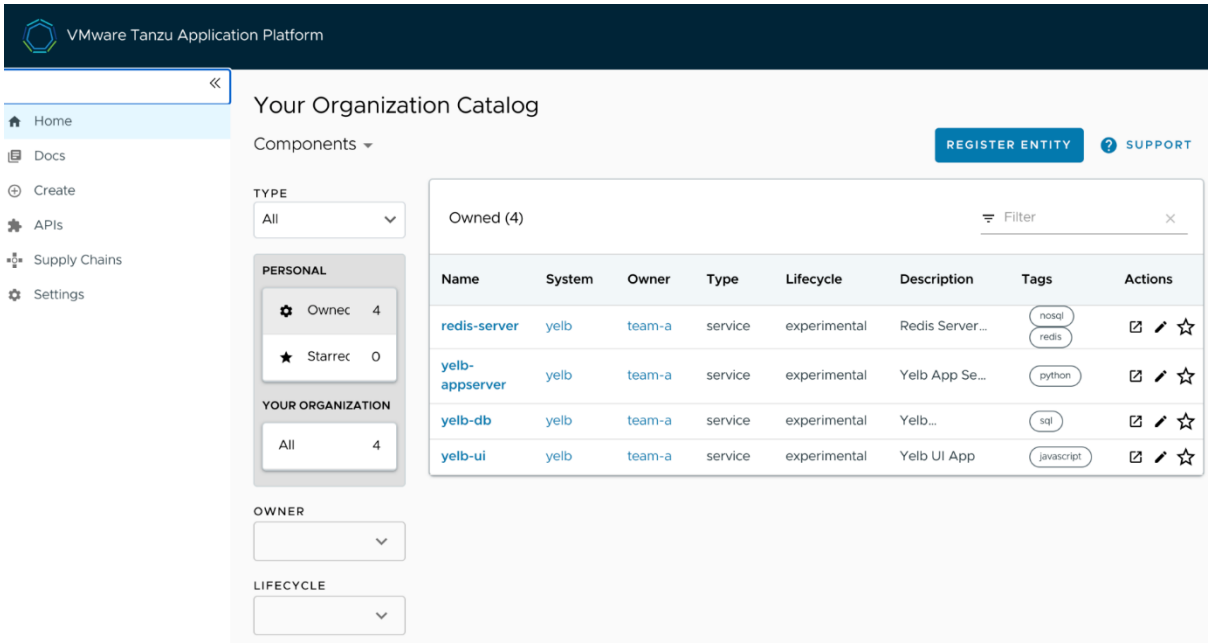
Chapter 8: Enhancing Developer Productivity with Tanzu Application Platform

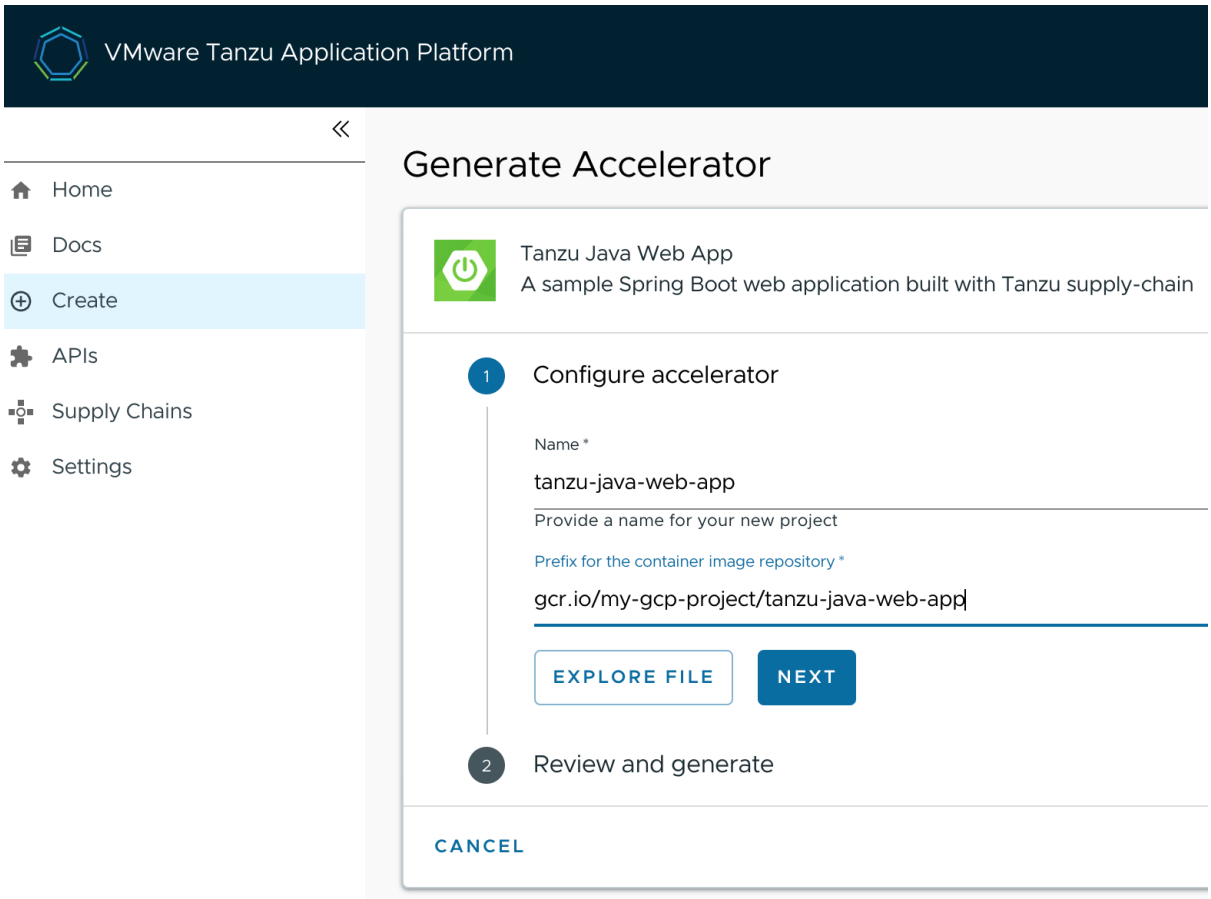


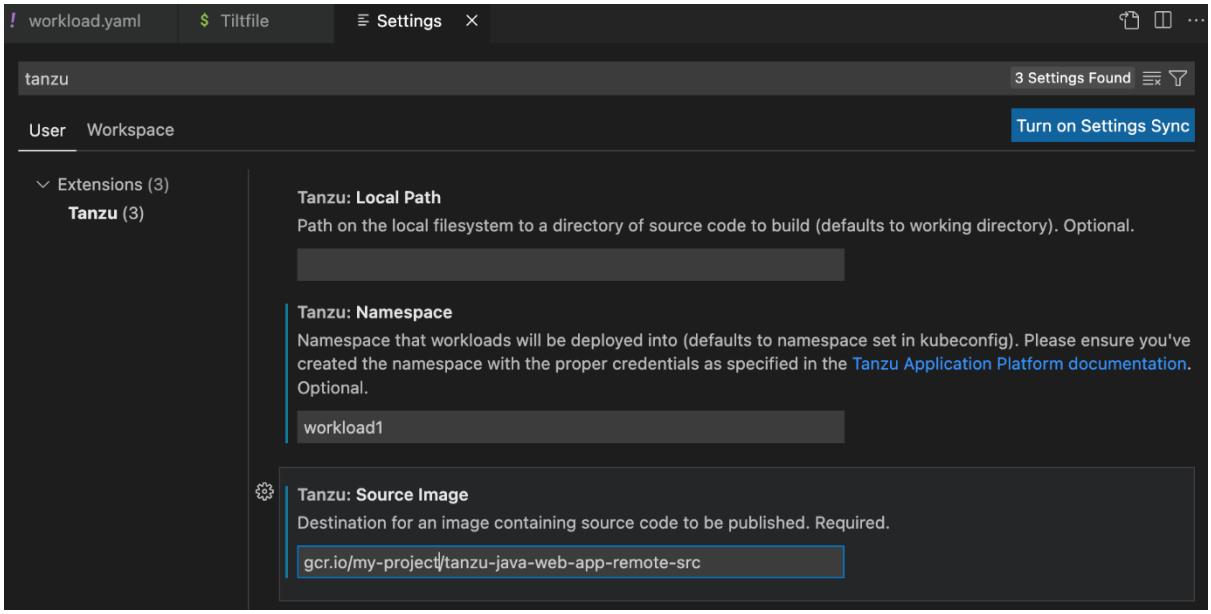


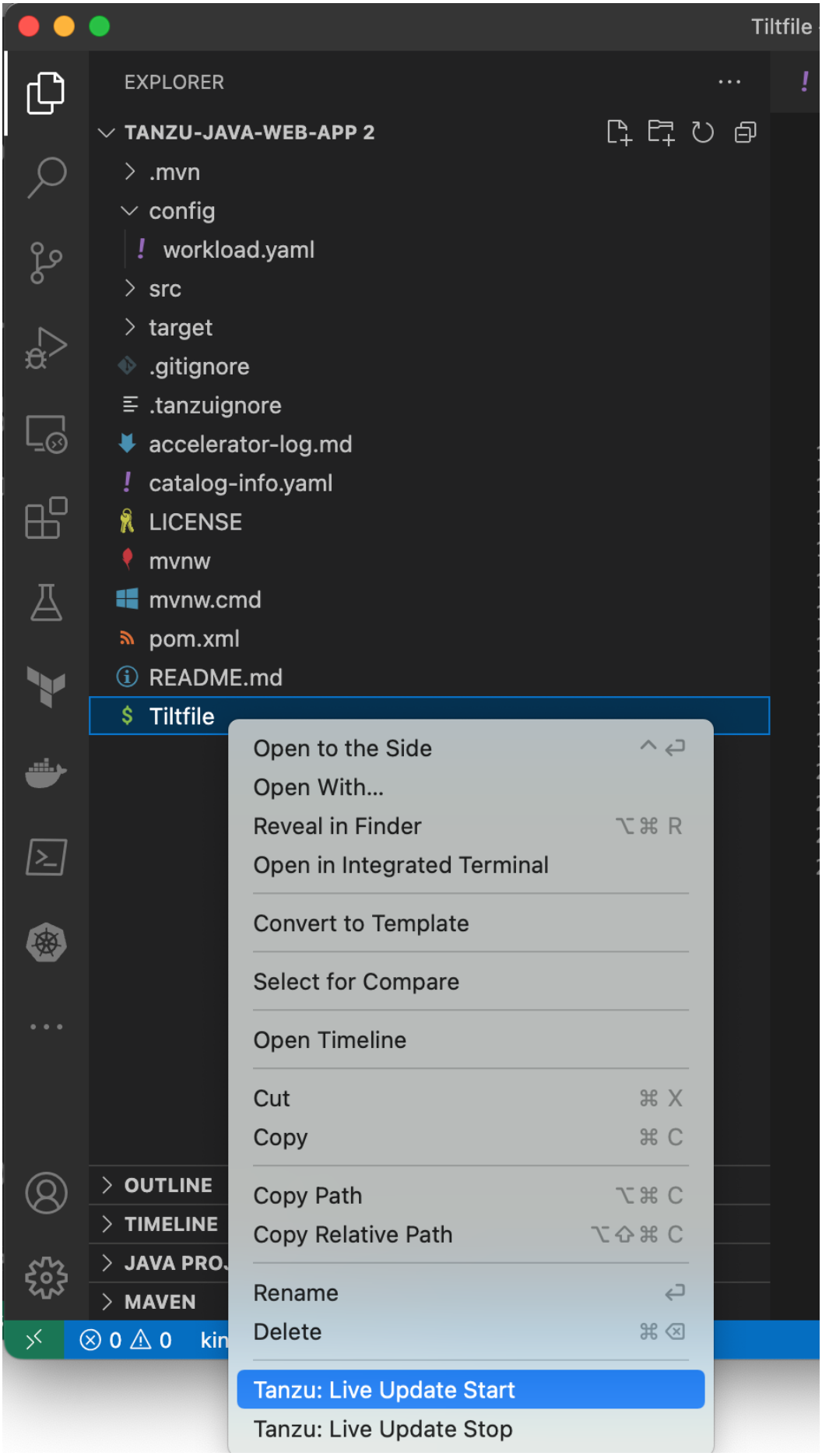

VMware Tanzu Application Platform
Home
Docs
Create
APIs
Supply Chains
Settings
Overview
Dependencies
API
Runtime Resources
About
VIEW SOURCE
VIEW TECHDOCS
VIEW API
DESCRIPTION
Tanzu Java Web App
OWNER
default-team
SYSTEM
No System
TYPE
service
LIFECYCLE
experimental
TAGS
app-accelerator
java
spring
web
tanzu
Links
No links defined for this entity. You can add links to your entity YAML as shown in the highlighted example below:
metadata:
name: example
links:
- url: https://dashboar
title: My Dashboard
icon: dashboard
READ MORE
Has subcomponents
Name
Owner
Type
Lifecycle
Description
No subcomponent is part of this component
Learn how to change this.


vmw Learning Center for Tanzu Application Platform
Embedded Code Editor
Editors vi and nano are provided for working from the terminal, however not everyone will be familiar with using these editors. For that reason a GUI based IDE usually provides a better experience for workshops as you don't have to worry so much about the users experience level.
The embedded IDE which can be enabled for the workshop environments is VS Code. This runs in the same container that the workshop session uses and is available under the "Editor" tab, or you can provide a clickable action to expose the tab.
Dashboard: Open dashboard "Editor"
In order to help guide users when viewing, creating or editing files, a range of clickable actions are provided which can act directly on the VS Code editor.
Actions include being able to open a file:
TERMINAL
CONSOLE
EDITOR
22:43
EXPLORER
EXERCISES
nginx-files
nginx-sample
deployment.yaml
service.yaml
deployment.yaml 1
nginx-sample > deployment.yaml > apiVersion
apiVersion: apps/v1
kind: Deployment
metadata:
name: nginx
labels:
app: nginx
spec:
selector:
matchLabels:
app: nginx
template:
metadata:
labels:
app: nginx
spec:
containers:
- name: nginx
image: bitnami/nginx:latest
ports:
- containerPort: 8080


VMware Tanzu Application Platform
Home
Docs
Create
APIs
Supply Chains
Settings
Your Organization Catalog
Components
REGISTER ENTITY
SUPPORT
TYPE
All
PERSONAL
Ownec 4
Starrec 0
YOUR ORGANIZATION
All 4
OWNER
LIFECYCLE
Owned (4)
Filter
Name System Owner Type Lifecycle Description Tags Actions
redis-server yelb team-a service experimental Redis Server... nosql redis
yelb-appserver yelb team-a service experimental Yelb App Se... python
yelb-db yelb team-a service experimental Yelb... sql
yelb-ui yelb team-a service experimental Yelb UI App javascript


VMware Tanzu Application Platform
Home
Docs
Create
APIs
Supply Chains
Settings
Generate Accelerator
Tanzu Java Web App
A sample Spring Boot web application built with Tanzu supply-chain
1
Configure accelerator
Name *
tanzu-java-web-app
Provide a name for your new project
Prefix for the container image repository *
gcr.io/my-gcp-project/tanzu-java-web-app
EXPLORE FILE
NEXT
2
Review and generate
CANCEL

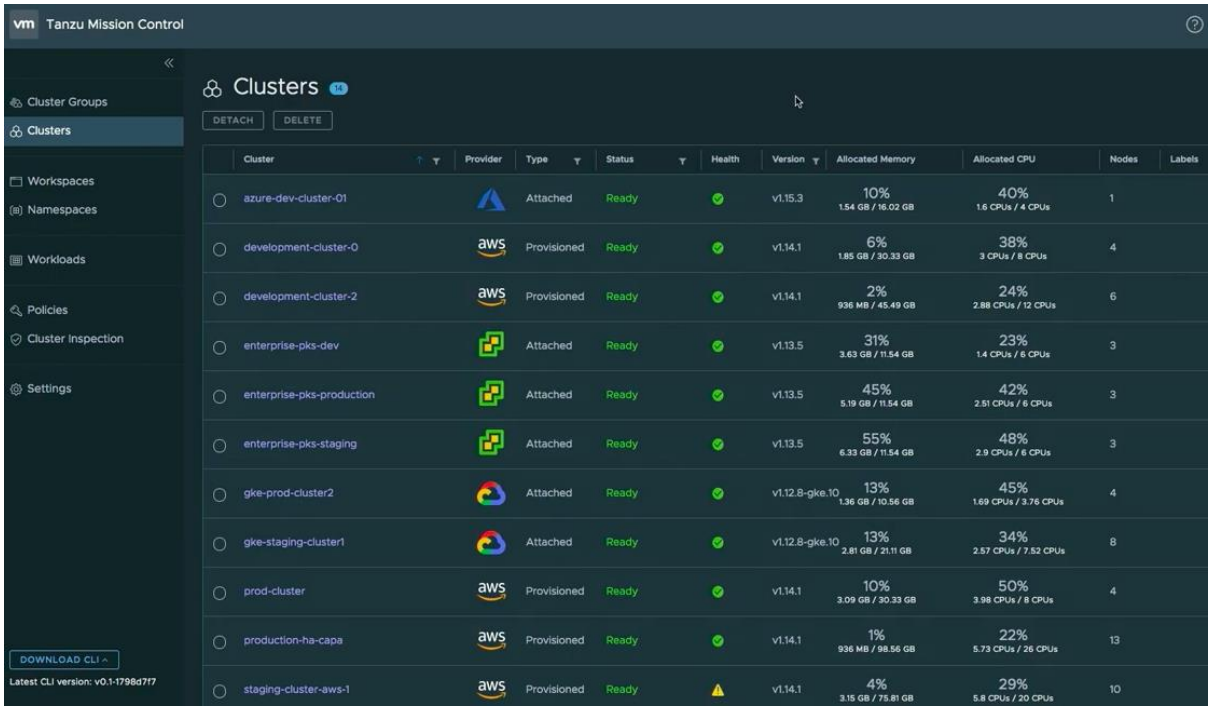

workload.yaml
Tiltfile
Settings
tanzu
3 Settings Found
User
Workspace
Turn on Settings Sync
Extensions (3)
Tanzu (3)
Tanzu: Local Path
Path on the local filesystem to a directory of source code to build (defaults to working directory). Optional.
Tanzu: Namespace
Namespace that workloads will be deployed into (defaults to namespace set in kubeconfig). Please ensure you've created the namespace with the proper credentials as specified in the Tanzu Application Platform documentation. Optional.
workload1
Tanzu: Source Image
Destination for an image containing source code to be published. Required.
gcr.io/my-project/tanzu-java-web-app-remote-src

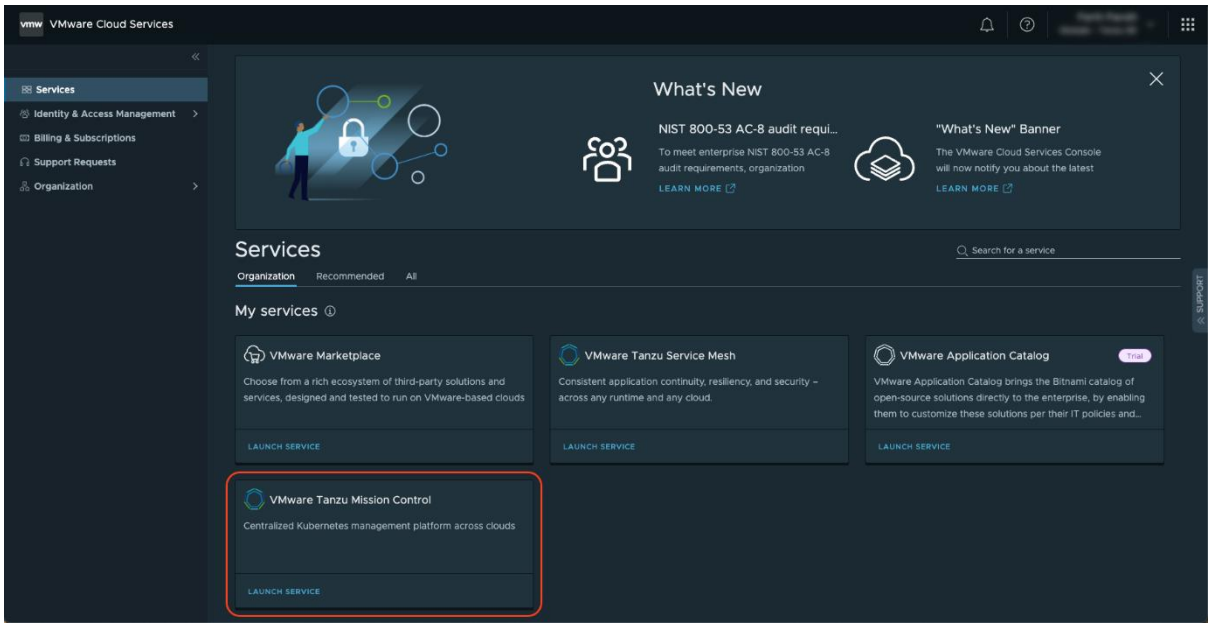

Tiltfile
EXPLORER
TANZU-JAVA-WEB-APP 2
.mvn
config
workload.yaml
src
target
.gitignore
.tanzuignore
accelerator-log.md
catalog-info.yaml
LICENSE
mvnw
mvnw.cmd
pom.xml
README.md
Tiltfile
Open to the Side
Open With...
Reveal in Finder
Open in Integrated Terminal
Convert to Template
Select for Compare
Open Timeline
Cut
Copy
Copy Path
Copy Relative Path
Rename
Delete
Tanzu: Live Update Start
Tanzu: Live Update Stop
OUTLINE
TIMELINE
MAVEN

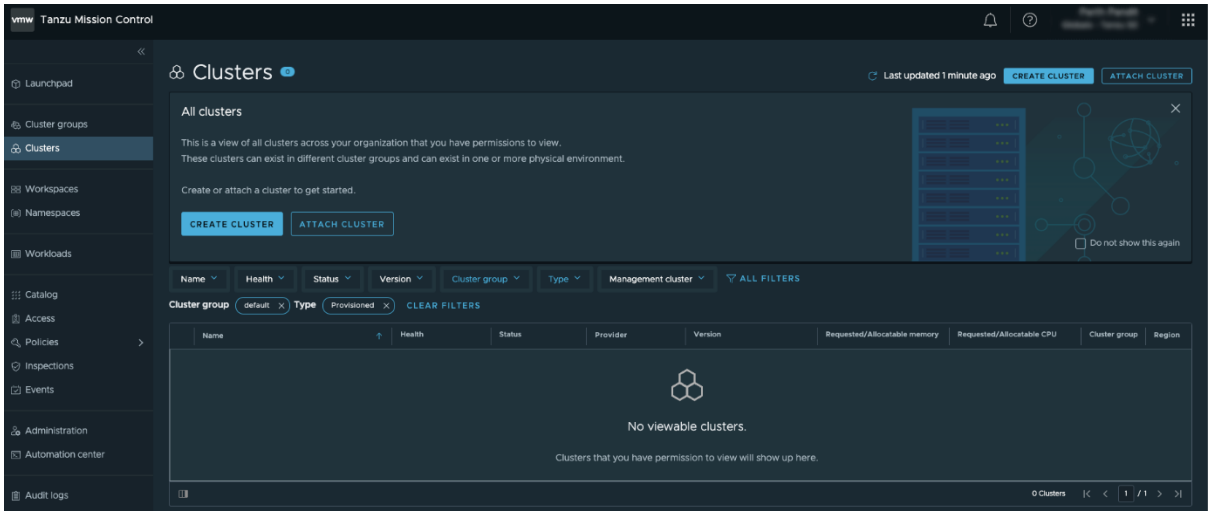
```
[I]  (⎈ acmedemo-tkg@tap-install.us-west-2.eksctl.io|default) ~/D/tanzu-java-web-app> kube
NAME                                                READY   STATUS      RESTARTS   AGE
tanzu-java-web-app-00002-deployment-85bbdf95c9-hv78t   2/2     Running     0          6m56s
tanzu-java-web-app-build-1-build-pod                0/1     Completed   0          15m
tanzu-java-web-app-build-2-build-pod                0/1     Completed   0          8m53s
tanzu-java-web-app-config-writer-dqcfl-pod          0/1     Completed   0          7m29s
tanzu-java-web-app-config-writer-fzhdt-pod          0/1     Completed   0          14m
[I]  (⎈ acmedemo-tkg@tap-install.us-west-2.eksctl.io|default) ~/D/tanzu-java-web-app> ⎈
```

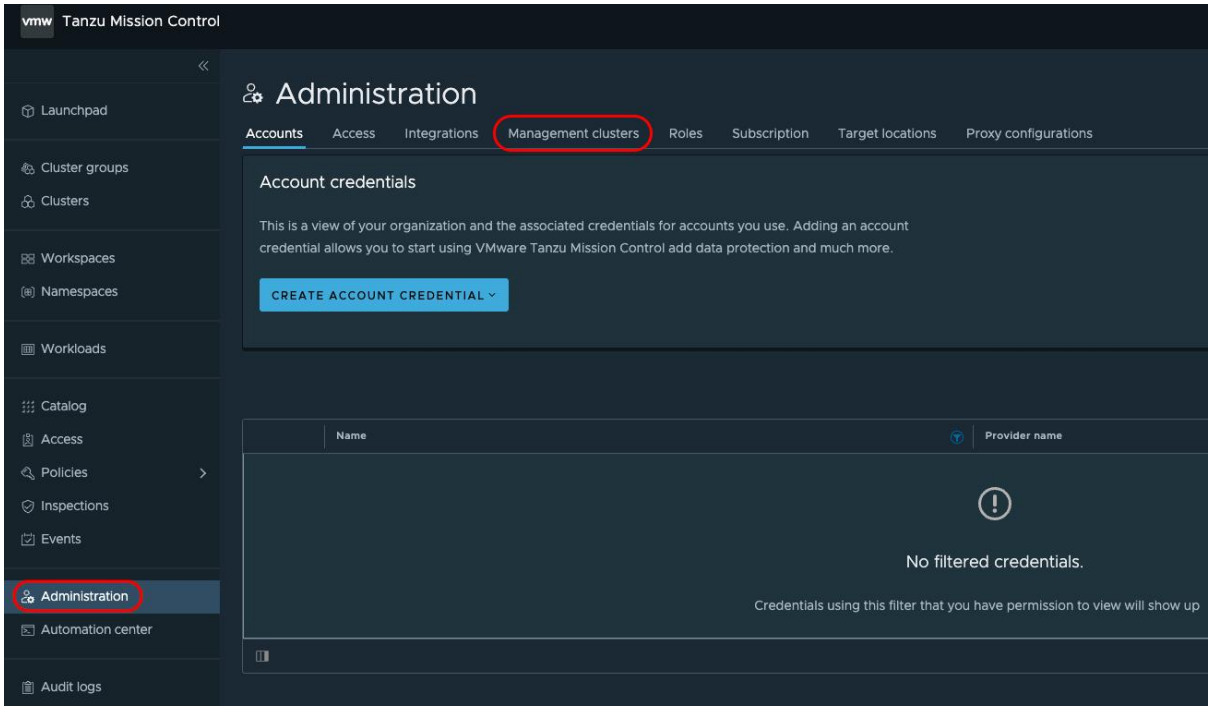
Greetings from Spring Boot + Tanzu!

Chapter 9: Managing and Controlling Kubernetes Clusters with Tanzu Mission Control






Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Clusters
Last updated 1 minute ago
CREATE CLUSTER
ATTACH CLUSTER
All clusters
This is a view of all clusters across your organization that you have permissions to view.
These clusters can exist in different cluster groups and can exist in one or more physical environment.
Create or attach a cluster to get started.
CREATE CLUSTER
ATTACH CLUSTER
Do not show this again
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Cluster group
default
Type
Provisioned
CLEAR FILTERS
Name
Health
Status
Provider
Version
Requested/Allocatable memory
Requested/Allocatable CPU
Cluster group
Region
No viewable clusters.
Clusters that you have permission to view will show up here.
0 Clusters
1 / 1


Tanzu Mission Control
Launchpad
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Clusters
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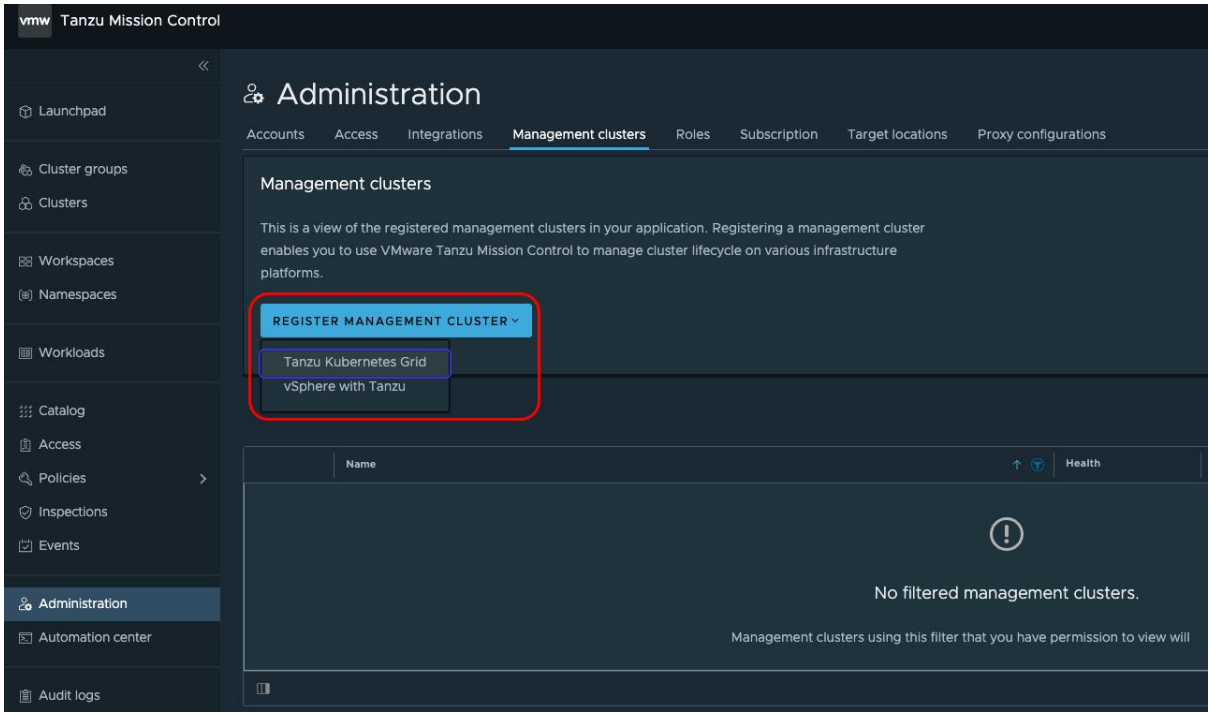
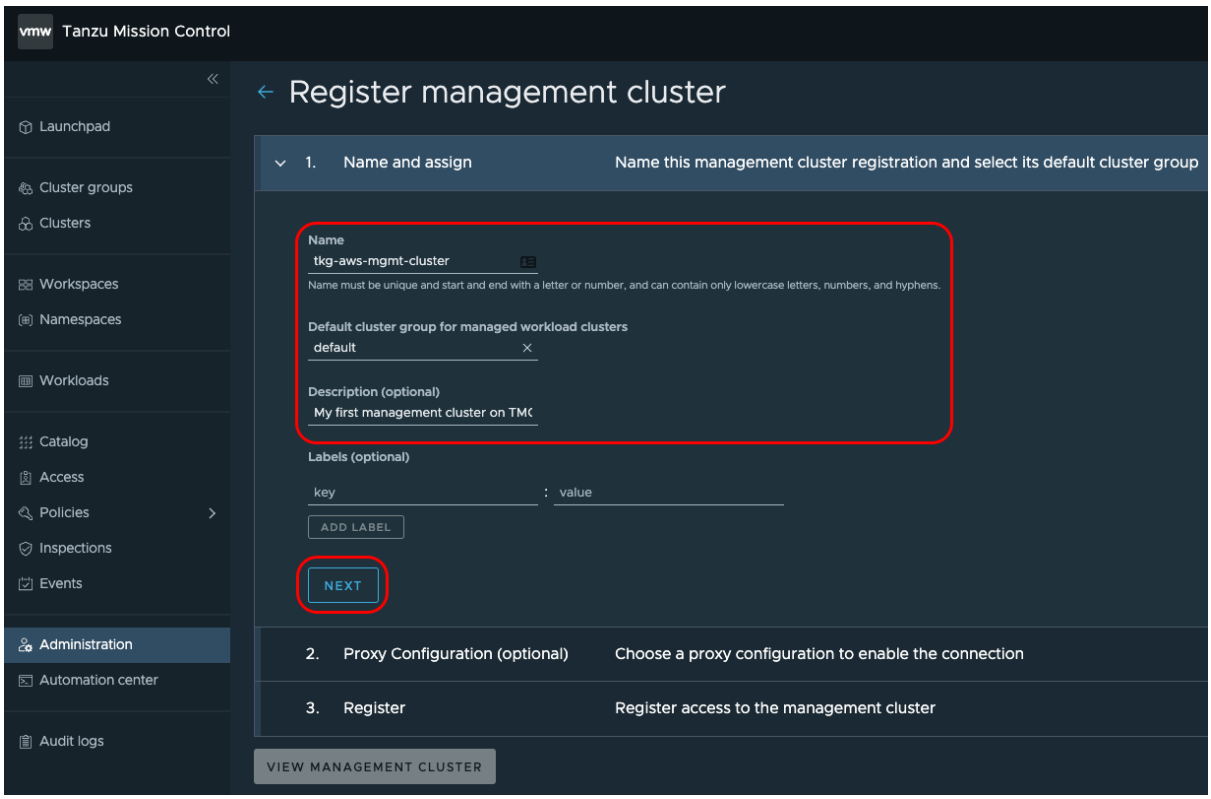
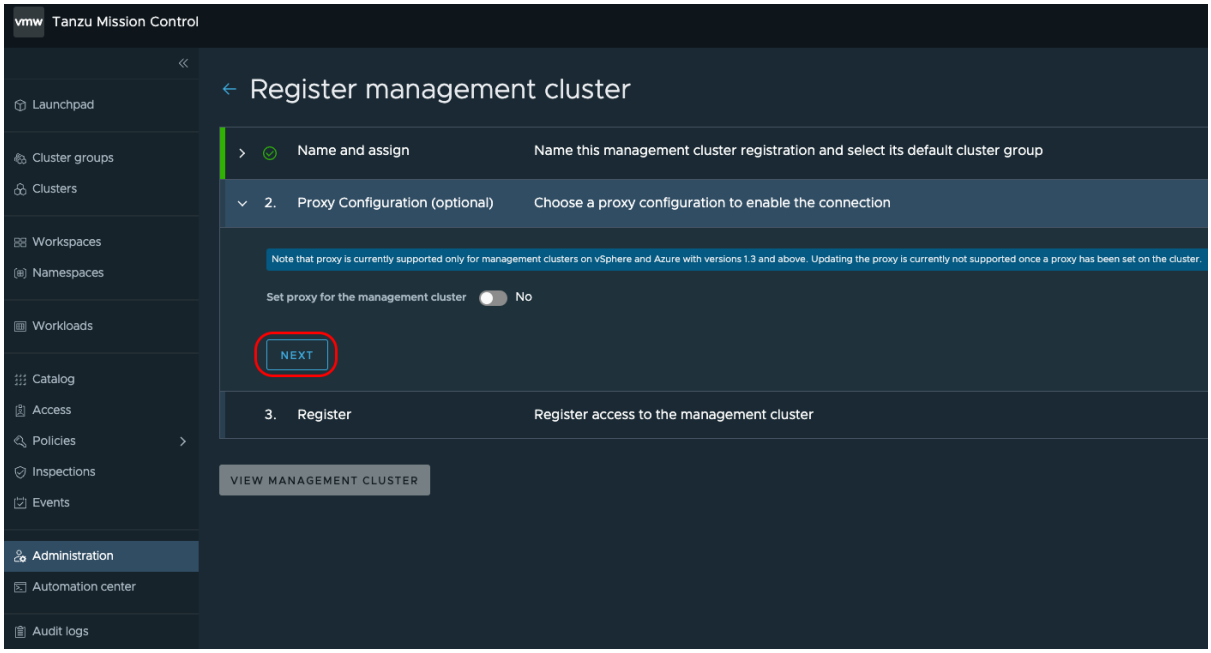
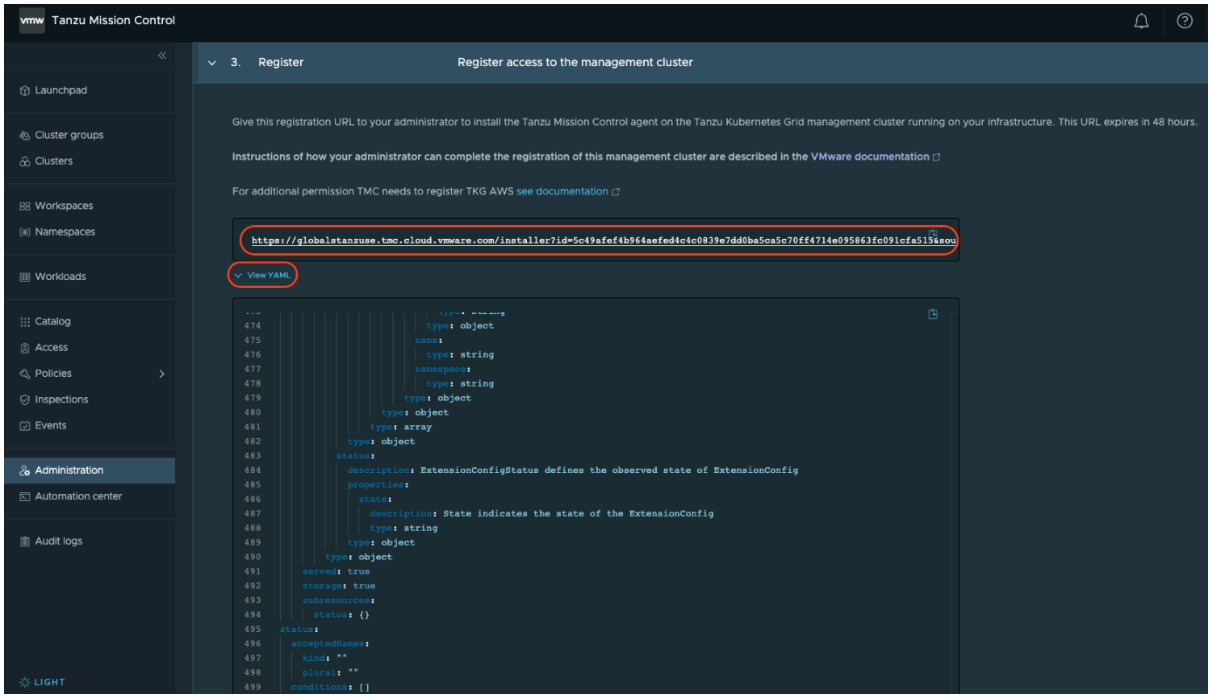
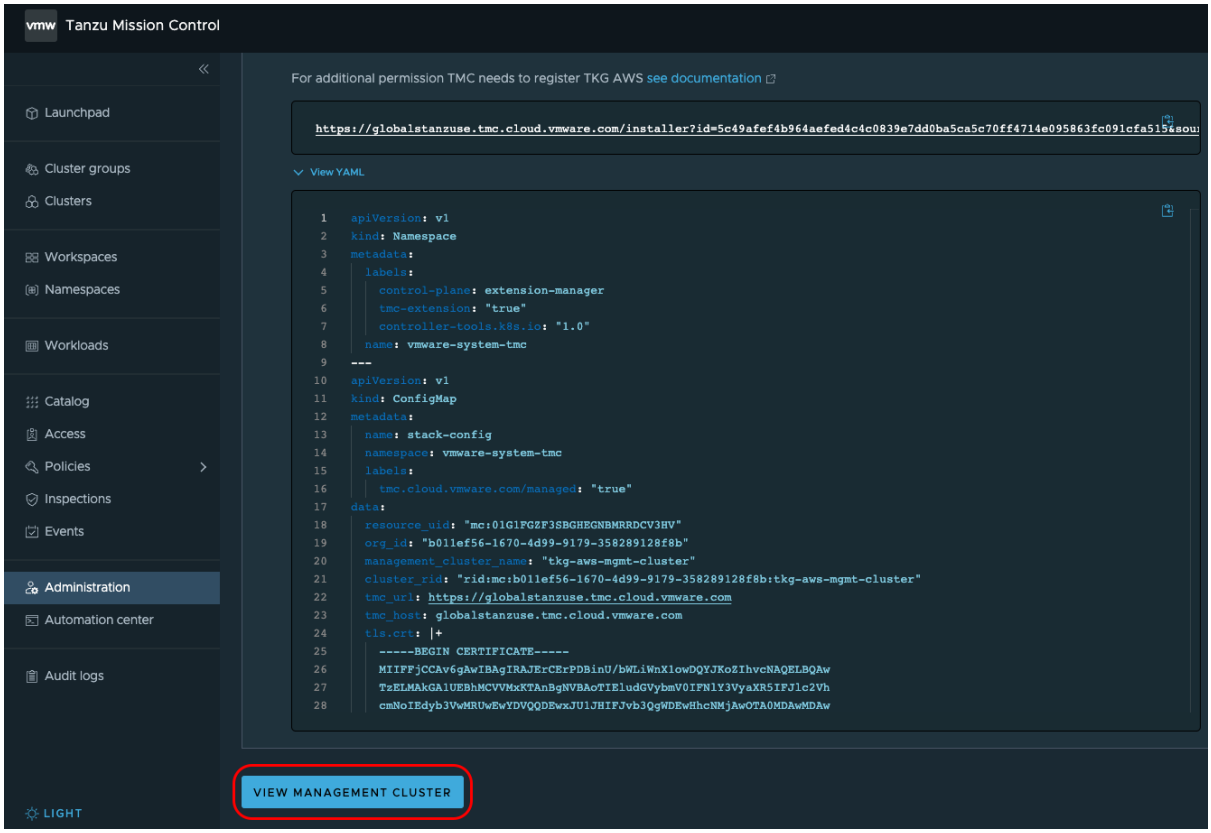
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Administration
Accounts
Access
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Account credentials
This is a view of your organization and the associated credentials for accounts you use. Adding an account credential allows you to start using VMware Tanzu Mission Control add data protection and much more.
CREATE ACCOUNT CREDENTIAL
Name
Provider name
No filtered credentials.
Credentials using this filter that you have permission to view will show up

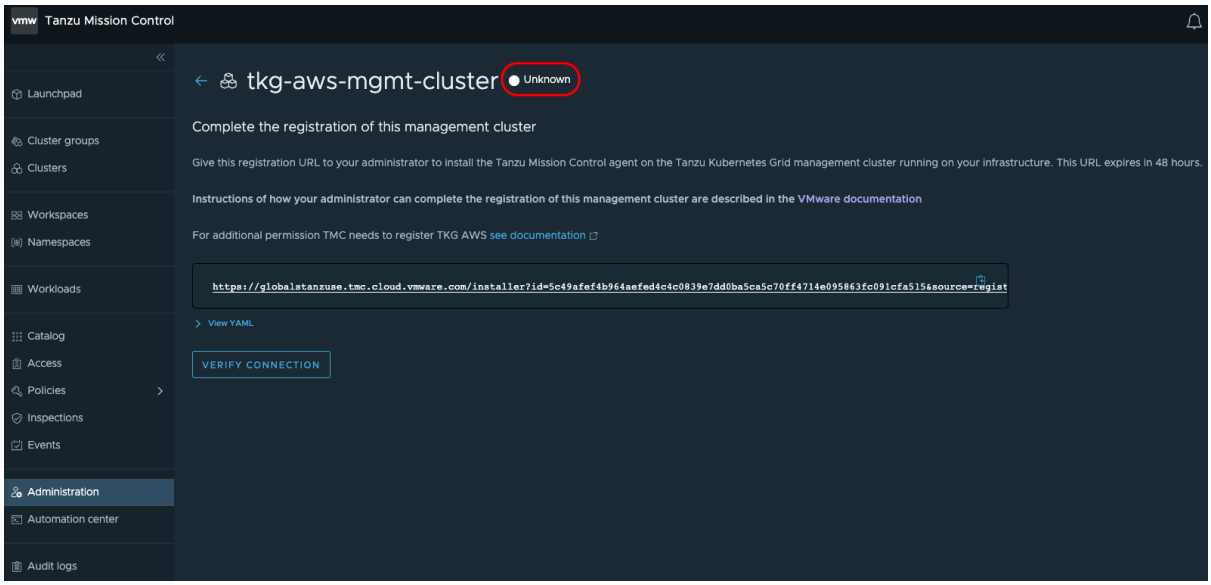

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Administration
Accounts
Access
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Management clusters
This is a view of the registered management clusters in your application. Registering a management cluster enables you to use VMware Tanzu Mission Control to manage cluster lifecycle on various infrastructure platforms.
REGISTER MANAGEMENT CLUSTER
Tanzu Kubernetes Grid
vSphere with Tanzu
Name
Health
No filtered management clusters.
Management clusters using this filter that you have permission to view will

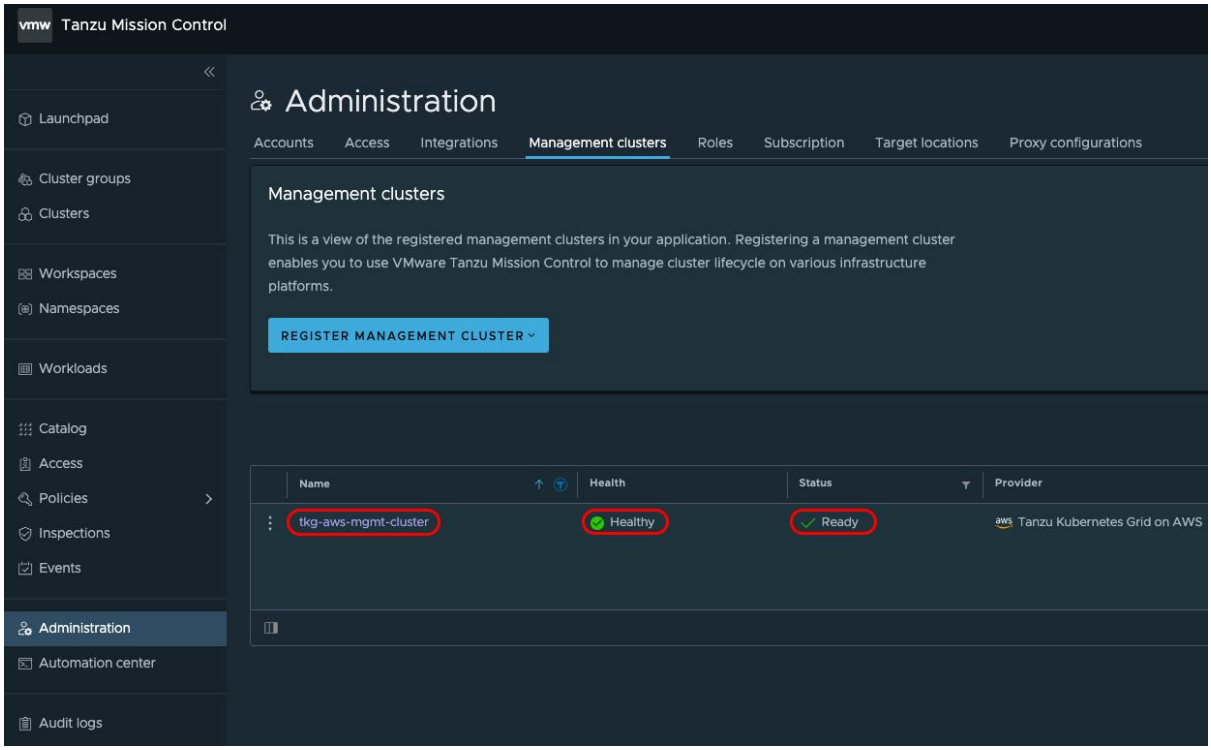

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Register management cluster
1. Name and assign
Name this management cluster registration and select its default cluster group
Name
tkg-aws-mgmt-cluster
Name must be unique and start and end with a letter or number, and can contain only lowercase letters, numbers, and hyphens.
Default cluster group for managed workload clusters
default
Description (optional)
My first management cluster on TMC
Labels (optional)
key
value
ADD LABEL
NEXT
2. Proxy Configuration (optional)
Choose a proxy configuration to enable the connection
3. Register
Register access to the management cluster
VIEW MANAGEMENT CLUSTER

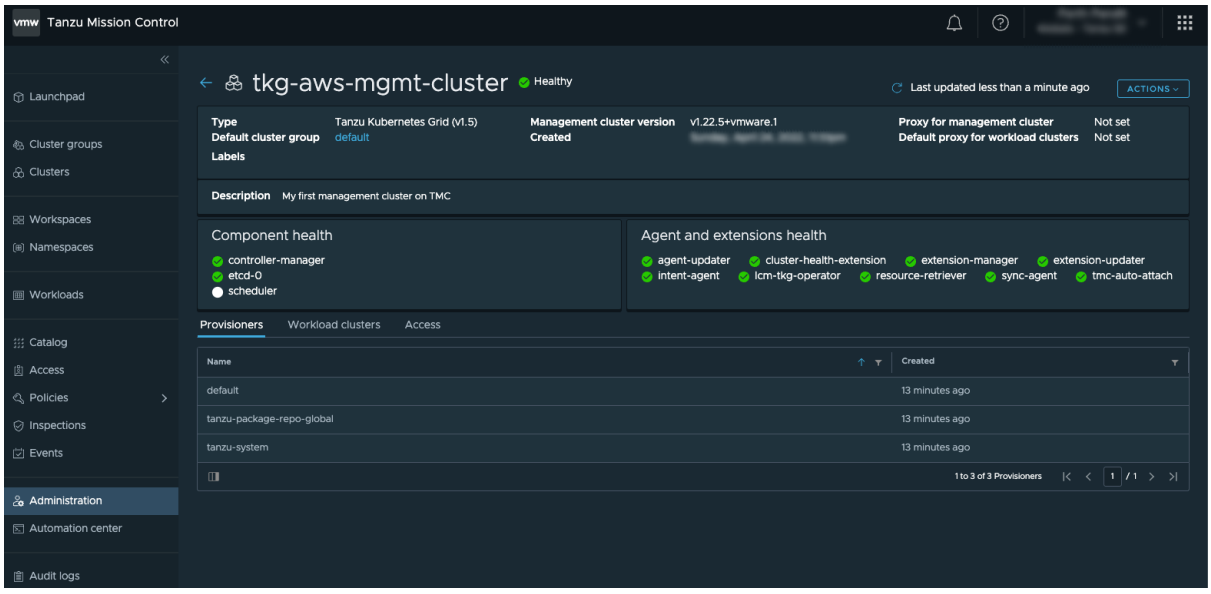

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Register management cluster
Name and assign
Name this management cluster registration and select its default cluster group
2. Proxy Configuration (optional)
Choose a proxy configuration to enable the connection
Note that proxy is currently supported only for management clusters on vSphere and Azure with versions 1.3 and above. Updating the proxy is currently not supported once a proxy has been set on the cluster.
Set proxy for the management cluster
No
NEXT
3. Register
Register access to the management cluster
VIEW MANAGEMENT CLUSTER

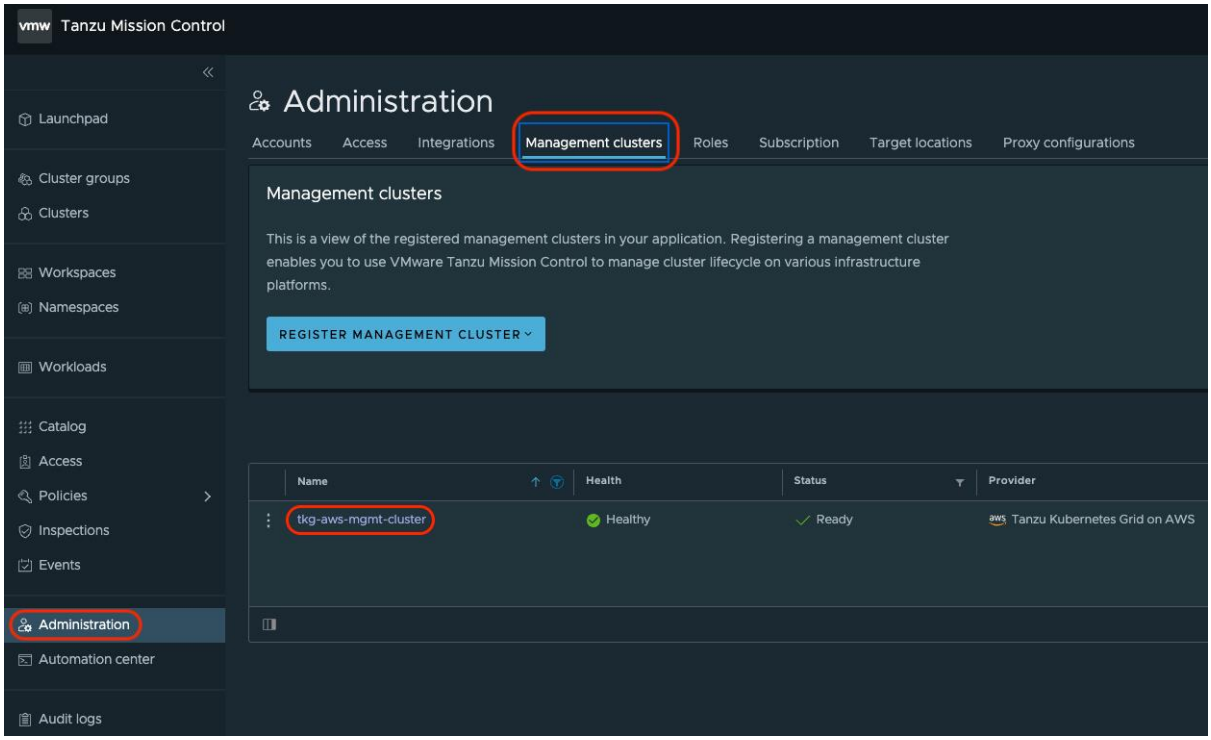

Tanzu Mission Control
3. Register
Register access to the management cluster
Give this registration URL to your administrator to install the Tanzu Mission Control agent on the Tanzu Kubernetes Grid management cluster running on your infrastructure. This URL expires in 48 hours.
Instructions of how your administrator can complete the registration of this management cluster are described in the VMware documentation
For additional permission TMC needs to register TKG AWS see documentation
https://globalstanzuse.tmc.cloud.vmware.com/installer?id=5c49afef4b964aefed4c4c0839e7dd0ba5ca5c70ff4714e095863fc091cfa515&mou
View YAML
type: object
name:
type: string
namespace:
type: string
type: object
type: object
type: array
type: object
status:
description: ExtensionConfigStatus defines the observed state of ExtensionConfig
properties:
state:
description: State indicates the state of the ExtensionConfig
type: string
type: object
type: object
served: true
storage: true
subresources:
status: {}
status:
acceptedNames:
kind: ""
plural: ""
conditions: []

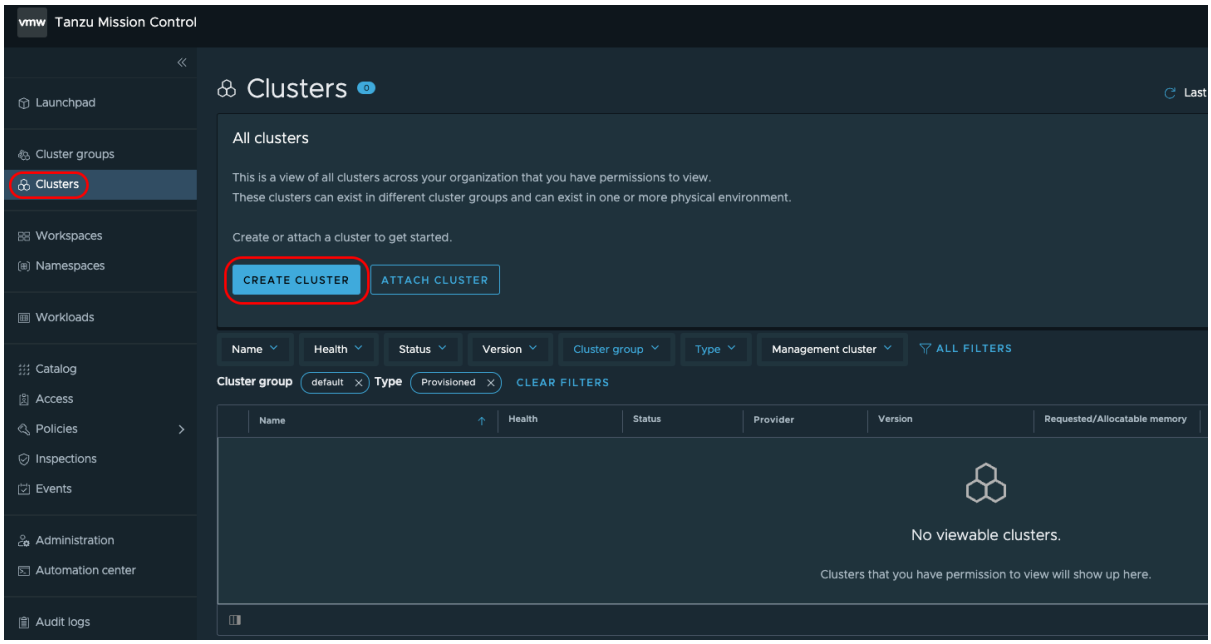

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
LIGHT
For additional permission TMC needs to register TKG AWS see documentation
https://globalstanzuse.tmc.cloud.vmware.com/installer?id=5c49afef4b964aefed4c4c0839e7dd0ba5ca5c70ff4714e095863fc091cfa515&sou
View YAML
apiVersion: v1
kind: Namespace
metadata:
labels:
control-plane: extension-manager
tmc-extension: "true"
controller-tools.k8s.io: "1.0"
name: vmware-system-tmc
---
apiVersion: v1
kind: ConfigMap
metadata:
name: stack-config
namespace: vmware-system-tmc
labels:
tmc.cloud.vmware.com/managed: "true"
data:
resource_uid: "mc:01G1PGZF3SBGHEGNBMRRDCV3HV"
org_id: "b011ef56-1670-4d99-9179-358289128f8b"
management_cluster_name: "tkg-aws-mgmt-cluster"
cluster_rid: "rid:mc:b011ef56-1670-4d99-9179-358289128f8b:tkg-aws-mgmt-cluster"
tmc_url: https://globalstanzuse.tmc.cloud.vmware.com
tmc_host: globalstanzuse.tmc.cloud.vmware.com
tls.crt: |+
-----BEGIN CERTIFICATE-----
MIIFFjCCAv6gAwIBAgIRAJErCErPDBinU/bWLiWnX1owDQYJKoZIhvcNAQELBQAw
TzELMAkGA1UEBhMCVVMxKTAnBgNVBAoTIEludGVybmV0IFNlY3VyaXR5IFJlc2Vh
cmNoIEdyb3VwMRUwEwYDVQQDEwxJU1JHIFJvb3QgWDEwHhcNMjAwOTA0MDAwMDAw
VIEW MANAGEMENT CLUSTER


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
tkg-aws-mgmt-cluster
Unknown
Complete the registration of this management cluster
Give this registration URL to your administrator to install the Tanzu Mission Control agent on the Tanzu Kubernetes Grid management cluster running on your infrastructure. This URL expires in 48 hours.
Instructions of how your administrator can complete the registration of this management cluster are described in the VMware documentation
For additional permission TMC needs to register TKG AWS see documentation
https://globalstanzuse.tmc.cloud.vmware.com/installer?id=5c49afef4b964aefed4c4c0839e7dd0ba5ca5c70ff4714e095863fc091cfa515&source=regist
View YAML
VERIFY CONNECTION


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Administration
Accounts
Access
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Management clusters
This is a view of the registered management clusters in your application. Registering a management cluster enables you to use VMware Tanzu Mission Control to manage cluster lifecycle on various infrastructure platforms.
REGISTER MANAGEMENT CLUSTER
Name
Health
Status
Provider
tkg-aws-mgmt-cluster
Healthy
Ready
Tanzu Kubernetes Grid on AWS


Tanzu Mission Control
tkg-aws-mgmt-cluster
Healthy
Last updated less than a minute ago
ACTIONS
Type
Tanzu Kubernetes Grid (v1.5)
Default cluster group
default
Labels
Management cluster version
v1.22.5+vmware.1
Created
Proxy for management cluster
Not set
Default proxy for workload clusters
Not set
Description
My first management cluster on TMC
Component health
controller-manager
etcd-0
scheduler
Agent and extensions health
agent-updater
cluster-health-extension
extension-manager
extension-updater
intent-agent
lcm-tkg-operator
resource-retriever
sync-agent
tmc-auto-attach
Provisioners
Workload clusters
Access
Name
Created
default
13 minutes ago
tanzu-package-repo-global
13 minutes ago
tanzu-system
13 minutes ago
1 to 3 of 3 Provisioners


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Administration
Accounts
Access
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Management clusters
This is a view of the registered management clusters in your application. Registering a management cluster enables you to use VMware Tanzu Mission Control to manage cluster lifecycle on various infrastructure platforms.
REGISTER MANAGEMENT CLUSTER
Name
Health
Status
Provider
tkg-aws-mgmt-cluster
Healthy
Ready
Tanzu Kubernetes Grid on AWS


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
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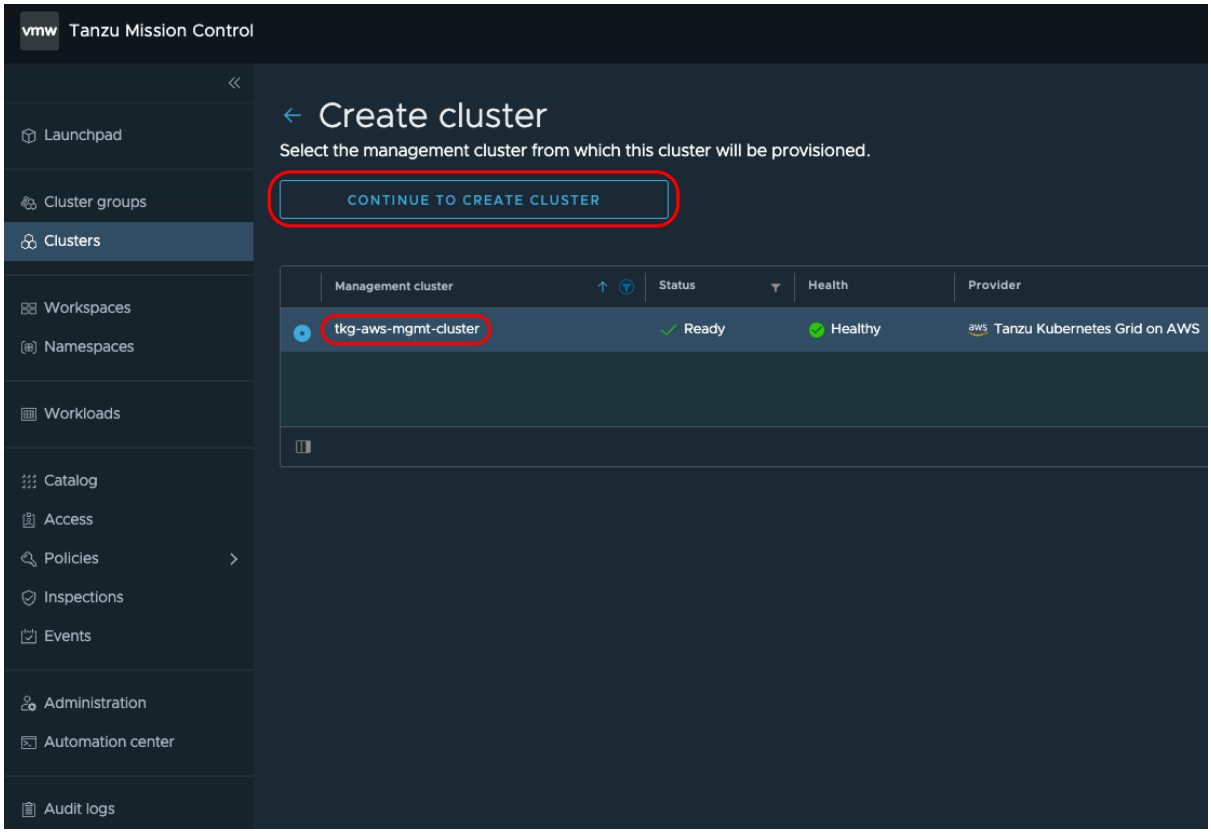
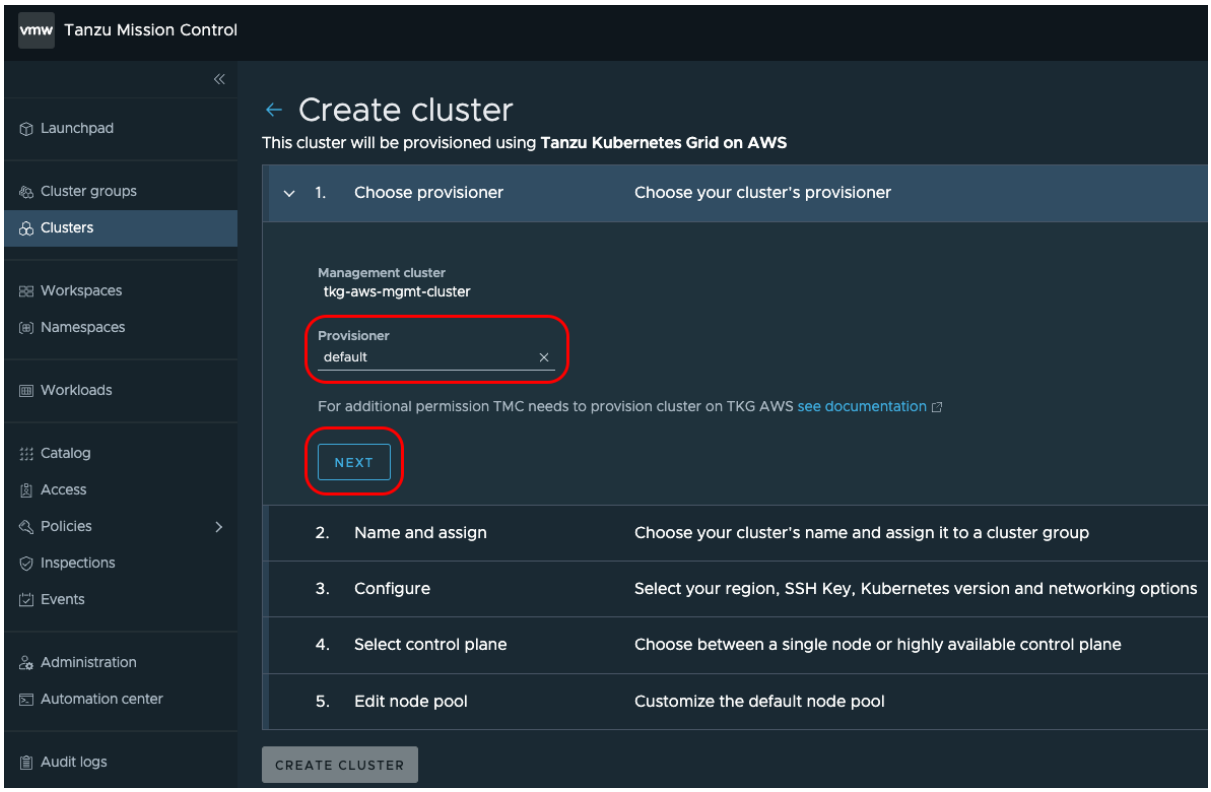
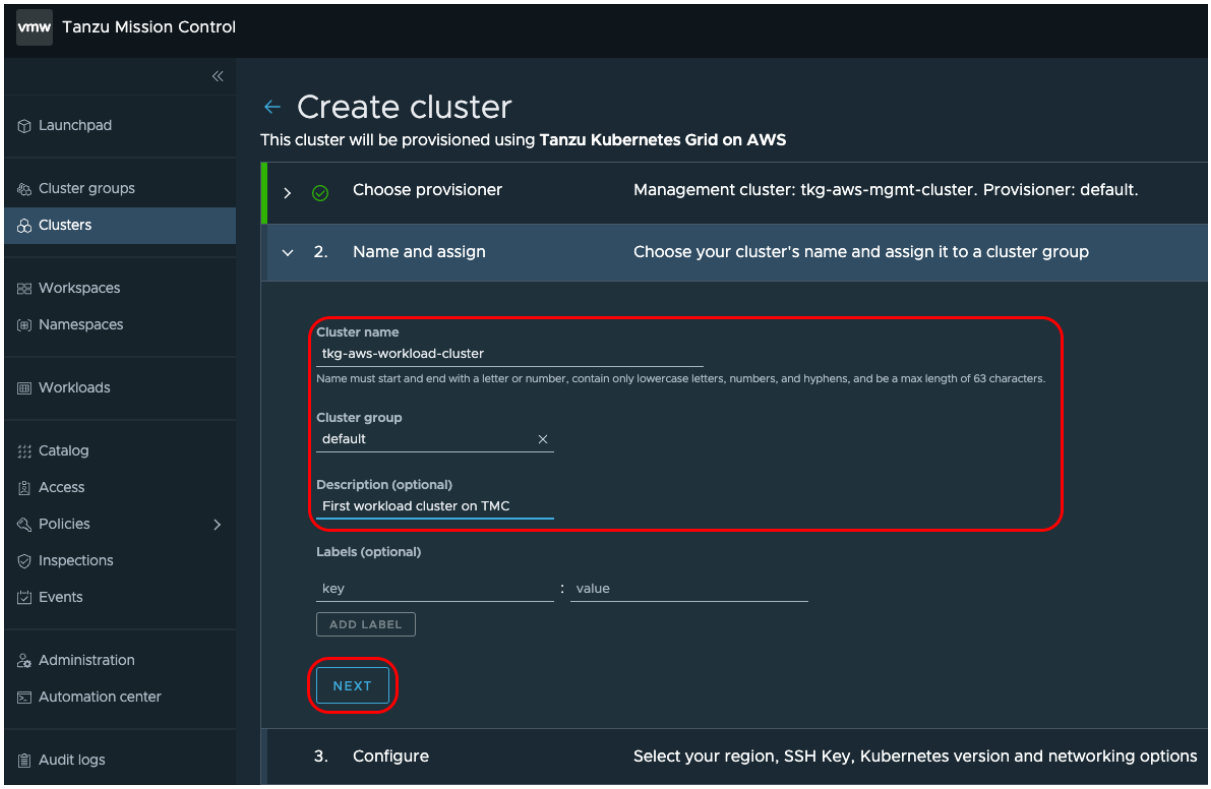
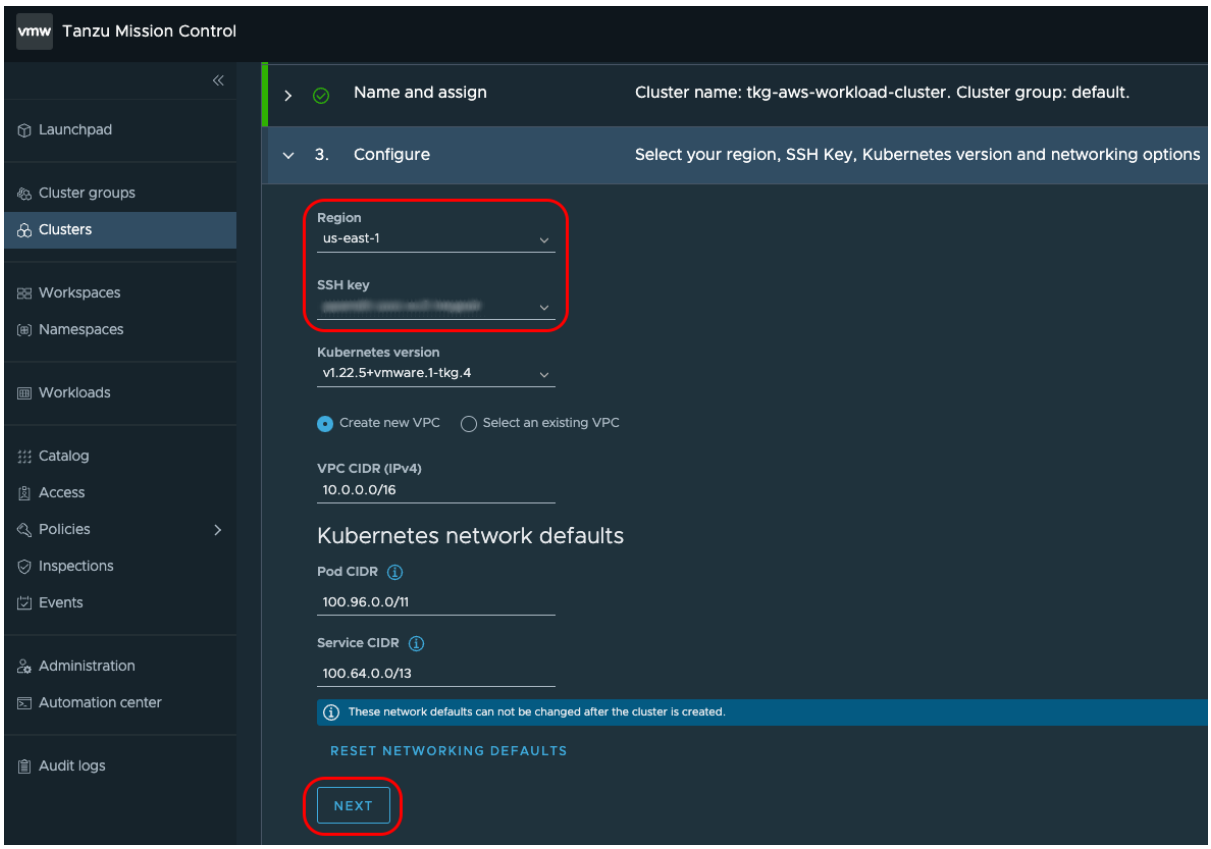
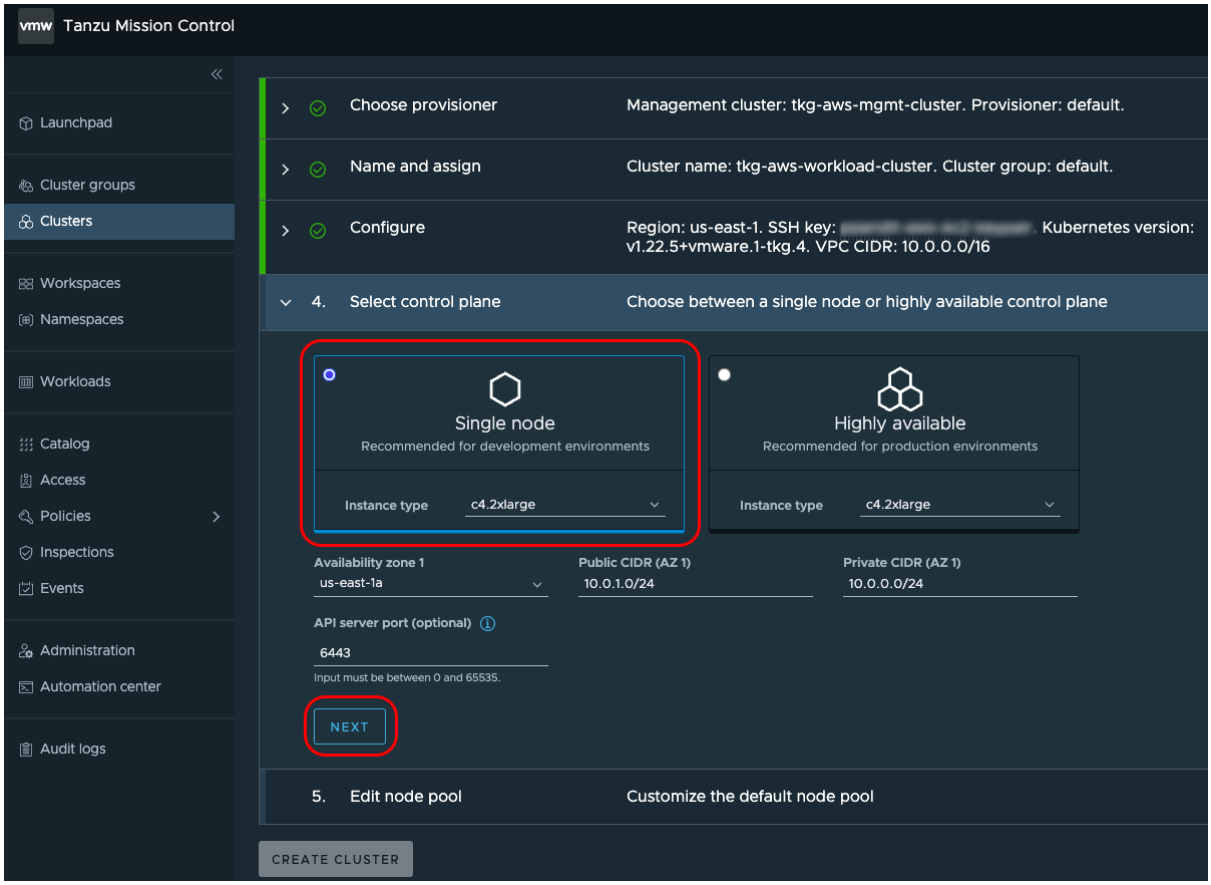
Automation center
Audit logs
Clusters
All clusters
This is a view of all clusters across your organization that you have permissions to view.
These clusters can exist in different cluster groups and can exist in one or more physical environment.
Create or attach a cluster to get started.
CREATE CLUSTER
ATTACH CLUSTER
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Cluster group
default
Type
Provisioned
CLEAR FILTERS
Name
Health
Status
Provider
Version
Requested/Allocatable memory
No viewable clusters.
Clusters that you have permission to view will show up here.

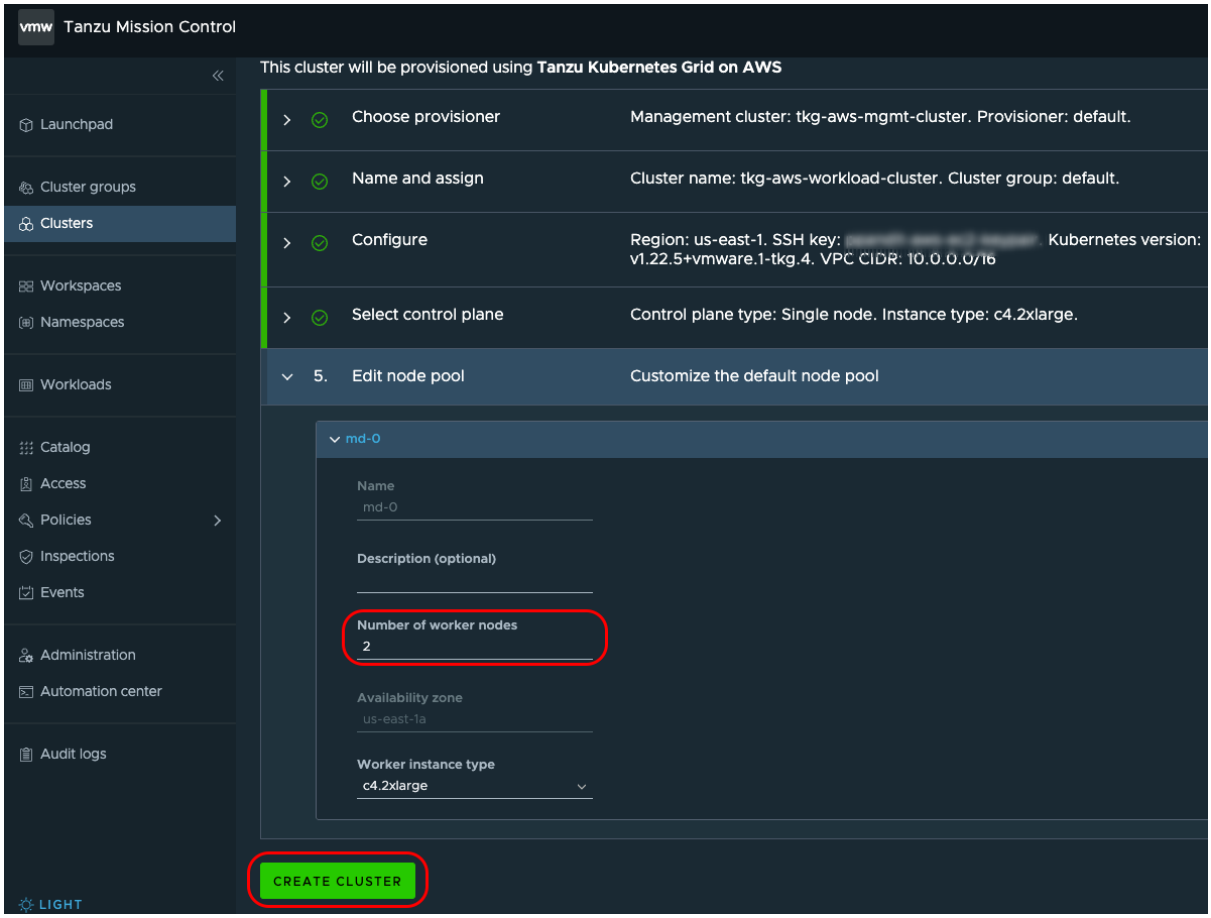

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Create cluster
Select the management cluster from which this cluster will be provisioned.
CONTINUE TO CREATE CLUSTER
Management cluster
Status
Health
Provider
tkg-aws-mgmt-cluster
Ready
Healthy
Tanzu Kubernetes Grid on AWS

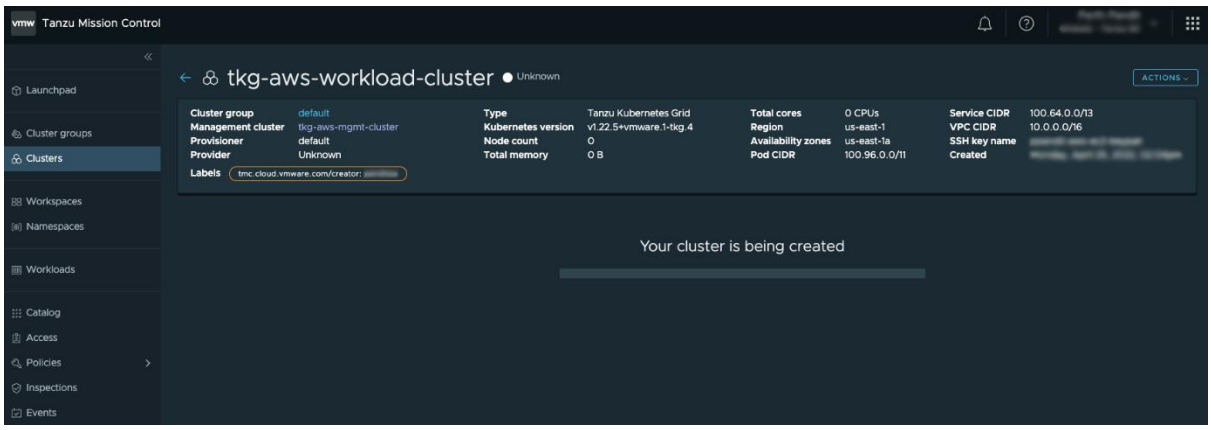

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Create cluster
This cluster will be provisioned using Tanzu Kubernetes Grid on AWS
1. Choose provisioner
Choose your cluster's provisioner
Management cluster
tkg-aws-mgmt-cluster
Provisioner
default
For additional permission TMC needs to provision cluster on TKG AWS see documentation
NEXT
2. Name and assign
Choose your cluster's name and assign it to a cluster group
3. Configure
Select your region, SSH Key, Kubernetes version and networking options
4. Select control plane
Choose between a single node or highly available control plane
5. Edit node pool
Customize the default node pool
CREATE CLUSTER

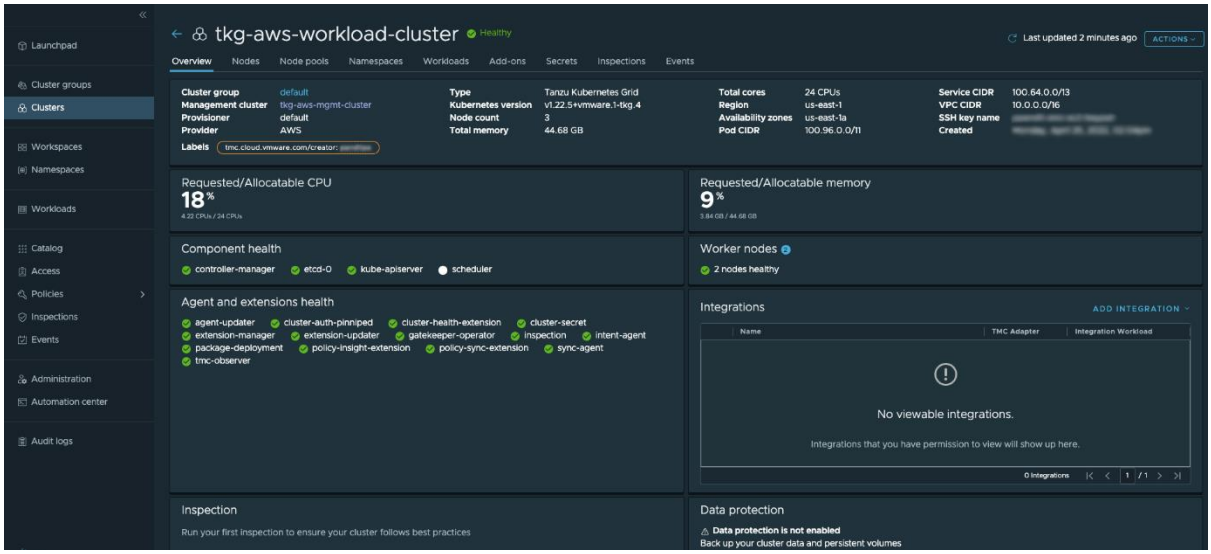

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Create cluster
This cluster will be provisioned using Tanzu Kubernetes Grid on AWS
Choose provisioner
Management cluster: tkg-aws-mgmt-cluster. Provisioner: default.
2. Name and assign
Choose your cluster's name and assign it to a cluster group
Cluster name
tkg-aws-workload-cluster
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
Cluster group
default
Description (optional)
First workload cluster on TMC
Labels (optional)
key
value
ADD LABEL
NEXT
3. Configure
Select your region, SSH Key, Kubernetes version and networking options

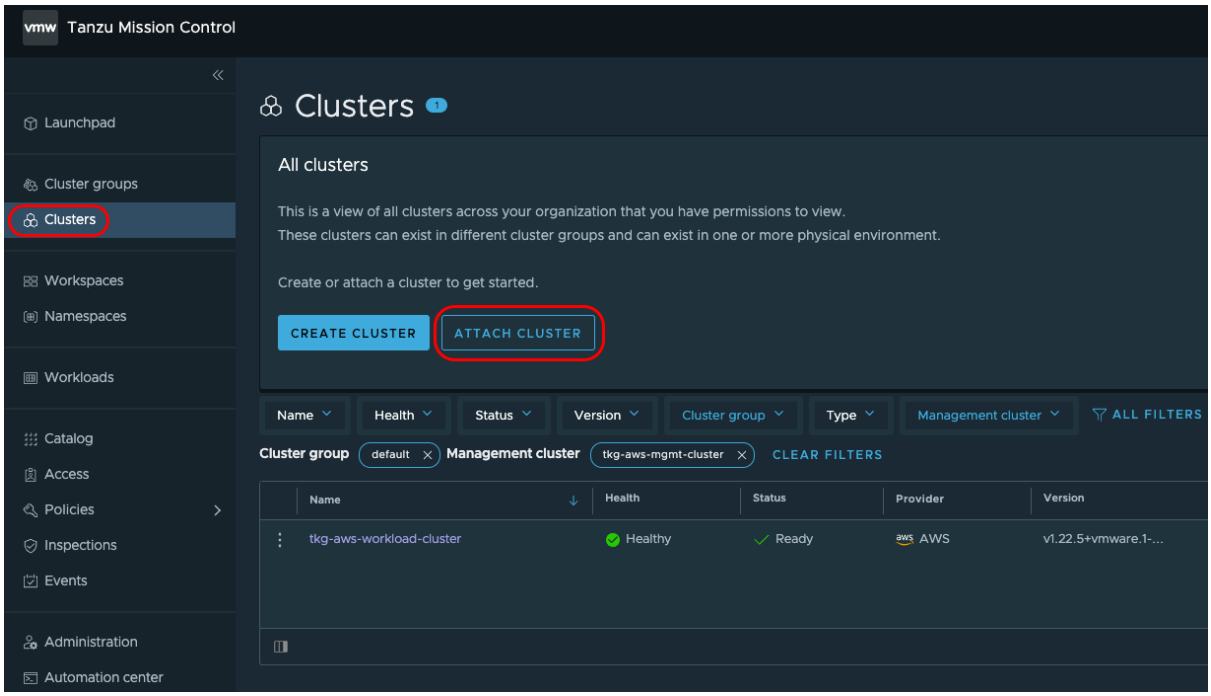

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Name and assign
Cluster name: tkg-aws-workload-cluster. Cluster group: default.
3. Configure
Select your region, SSH Key, Kubernetes version and networking options
Region
us-east-1
SSH key
Kubernetes version
v1.22.5+vmware.1-tkg.4
Create new VPC
Select an existing VPC
VPC CIDR (IPv4)
10.0.0.0/16
Kubernetes network defaults
Pod CIDR
100.96.0.0/11
Service CIDR
100.64.0.0/13
These network defaults can not be changed after the cluster is created.
RESET NETWORKING DEFAULTS
NEXT

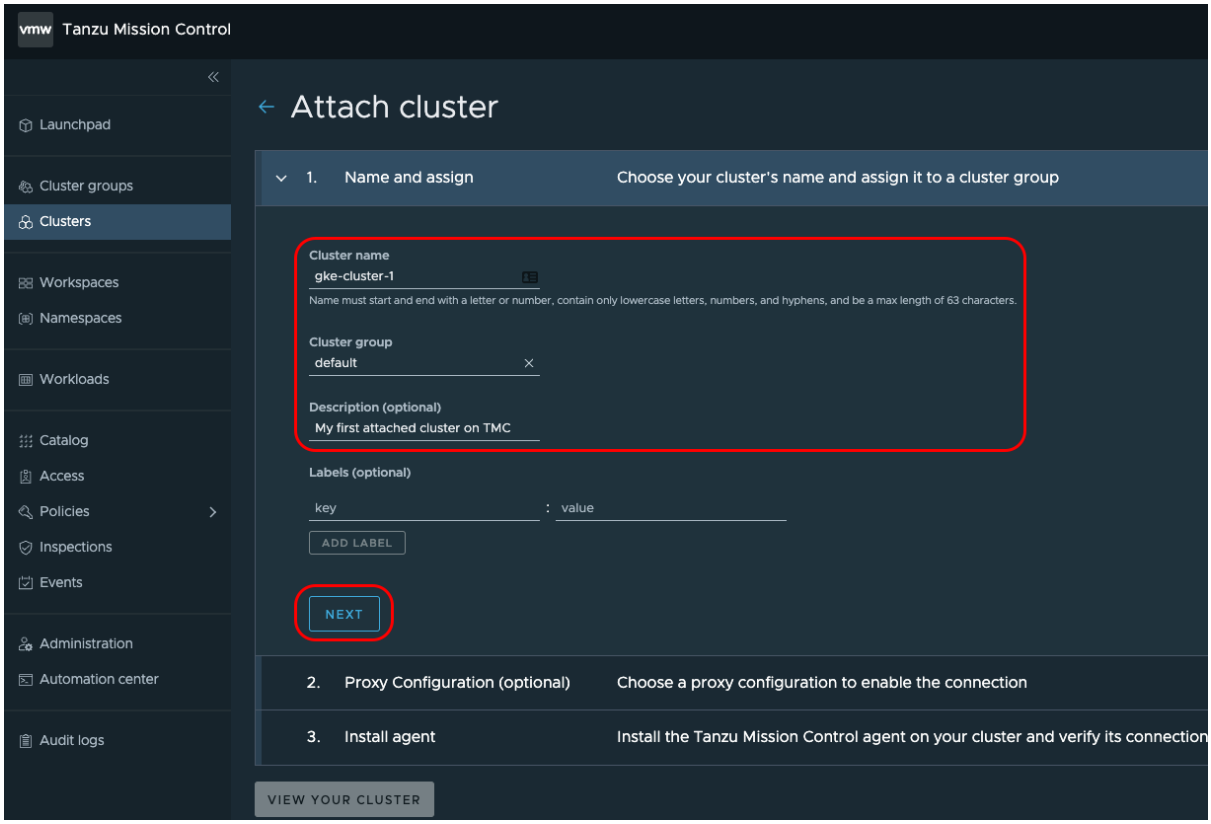

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Choose provisioner
Management cluster: tkg-aws-mgmt-cluster. Provisioner: default.
Name and assign
Cluster name: tkg-aws-workload-cluster. Cluster group: default.
Configure
Region: us-east-1. SSH key: [redacted]. Kubernetes version: v1.22.5+vmware.1-tkg.4. VPC CIDR: 10.0.0.0/16
4. Select control plane
Choose between a single node or highly available control plane
Single node
Recommended for development environments
Instance type
c4.2xlarge
Highly available
Recommended for production environments
Instance type
c4.2xlarge
Availability zone 1
us-east-1a
Public CIDR (AZ 1)
10.0.1.0/24
Private CIDR (AZ 1)
10.0.0.0/24
API server port (optional)
6443
Input must be between 0 and 65535.
NEXT
5. Edit node pool
Customize the default node pool
CREATE CLUSTER

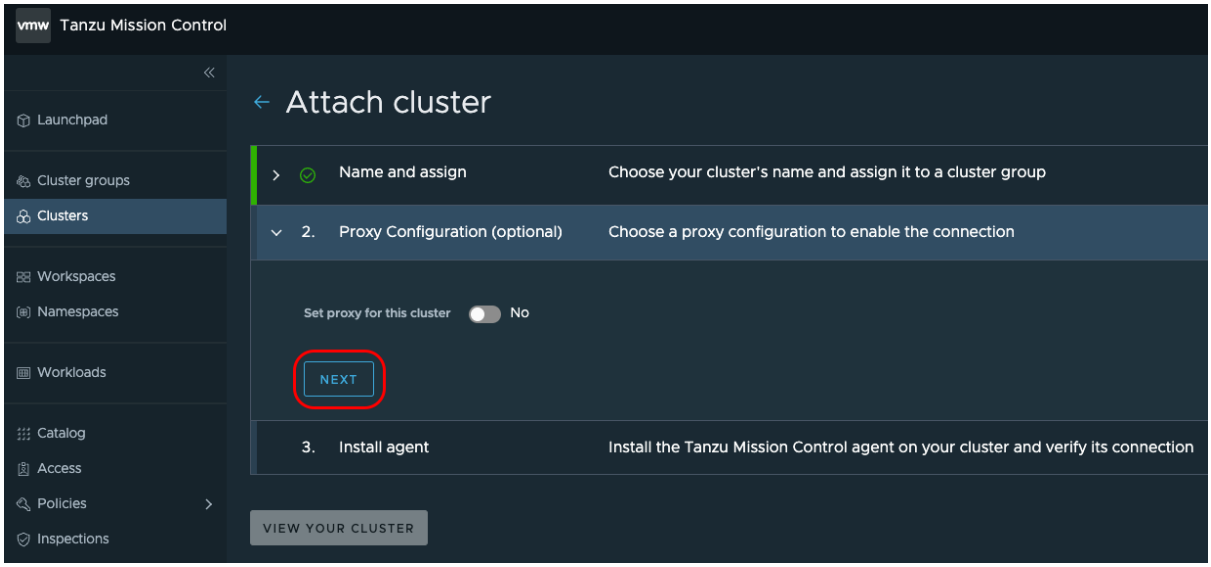

Tanzu Mission Control
This cluster will be provisioned using Tanzu Kubernetes Grid on AWS
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
LIGHT
Choose provisioner
Management cluster: tkg-aws-mgmt-cluster. Provisioner: default.
Name and assign
Cluster name: tkg-aws-workload-cluster. Cluster group: default.
Configure
Region: us-east-1. SSH key:
Kubernetes version: v1.22.5+vmware.1-tkg.4. VPC CIDR: 10.0.0.0/16
Select control plane
Control plane type: Single node. Instance type: c4.2xlarge.
5. Edit node pool
Customize the default node pool
md-0
Name
md-0
Description (optional)
Number of worker nodes
2
Availability zone
us-east-1a
Worker instance type
c4.2xlarge
CREATE CLUSTER

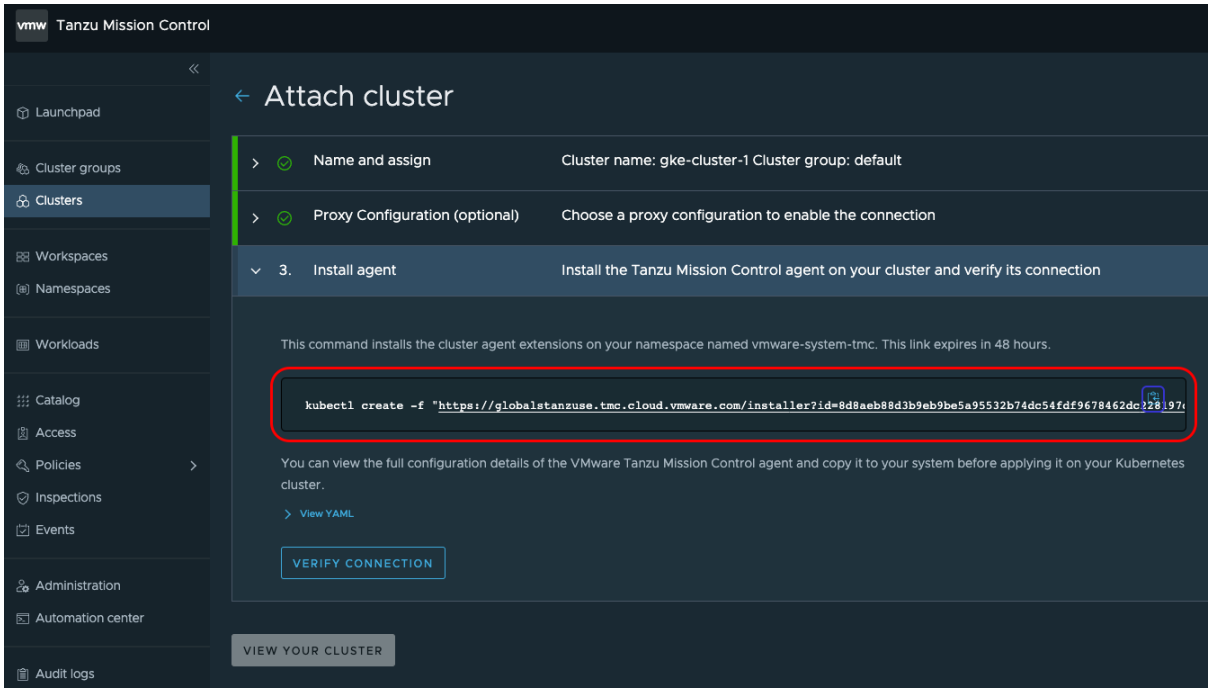

Tanzu Mission Control
tkg-aws-workload-cluster
Unknown
ACTIONS
Cluster group default
Management cluster tkg-aws-mgmt-cluster
Provisioner default
Provider Unknown
Labels tmc.cloud.vmware.com/creator:
Type Tanzu Kubernetes Grid
Kubernetes version v1.22.5+vmware.1-tkg.4
Node count 0
Total memory 0 B
Total cores 0 CPUs
Region us-east-1
Availability zones us-east-1a
Pod CIDR 100.96.0.0/11
Service CIDR 100.64.0.0/13
VPC CIDR 10.0.0.0/16
SSH key name
Created
Your cluster is being created

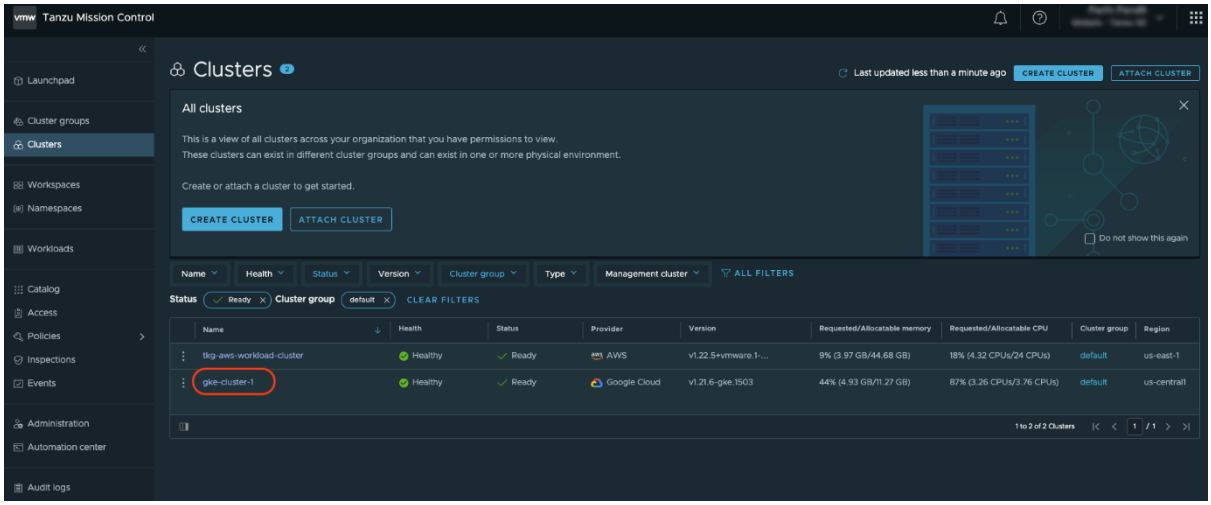

tkg-aws-workload-cluster
Healthy
Last updated 2 minutes ago
ACTIONS
Overview
Nodes
Node pools
Namespaces
Workloads
Add-ons
Secrets
Inspections
Events
Cluster group default
Management cluster tkg-aws-mgmt-cluster
Provisioner default
Provider AWS
Type Tanzu Kubernetes Grid
Kubernetes version v1.22.5+vmware.1-tkg.4
Node count 3
Total memory 44.68 GB
Total cores 24 CPUs
Region us-east-1
Availability zones us-east-1a
Pod CIDR 100.96.0.0/11
Service CIDR 100.64.0.0/13
VPC CIDR 10.0.0.0/16
SSH key name
Created
Labels
Requested/Allocatable CPU
18%
Requested/Allocatable memory
9%
Component health
controller-manager
etcd-0
kube-apiserver
scheduler
Worker nodes
2 nodes healthy
Agent and extensions health
agent-updater
cluster-auth-pinniped
cluster-health-extension
cluster-secret
extension-manager
extension-updater
gatekeeper-operator
inspection
intent-agent
package-deployment
policy-insight-extension
policy-sync-extension
sync-agent
tmc-observer
Integrations
ADD INTEGRATION
Name
TMC Adapter
Integration Workload
No viewable integrations.
Integrations that you have permission to view will show up here.
0 integrations
Inspection
Run your first inspection to ensure your cluster follows best practices
Data protection
Data protection is not enabled
Back up your cluster data and persistent volumes
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs

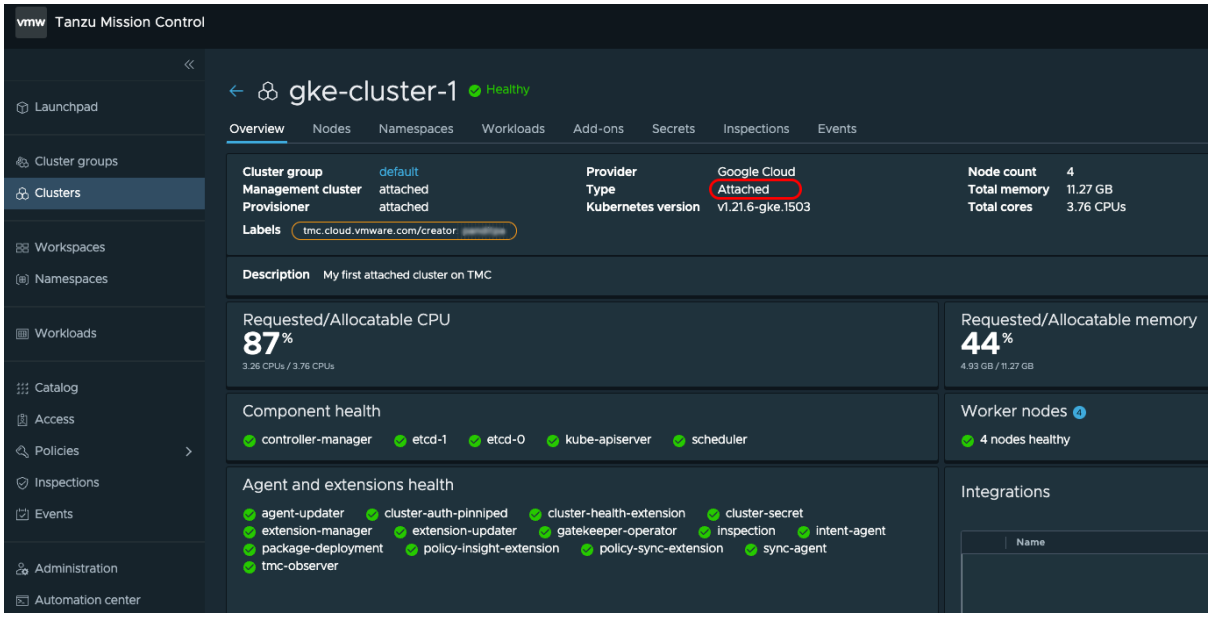

vmw Tanzu Mission Control
Clusters
1
All clusters
This is a view of all clusters across your organization that you have permissions to view.
These clusters can exist in different cluster groups and can exist in one or more physical environment.
Create or attach a cluster to get started.
CREATE CLUSTER
ATTACH CLUSTER
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Cluster group default
Management cluster tkg-aws-mgmt-cluster
CLEAR FILTERS
Name
Health
Status
Provider
Version
tkg-aws-workload-cluster
Healthy
Ready
AWS
v1.22.5+vmware.1-...
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center

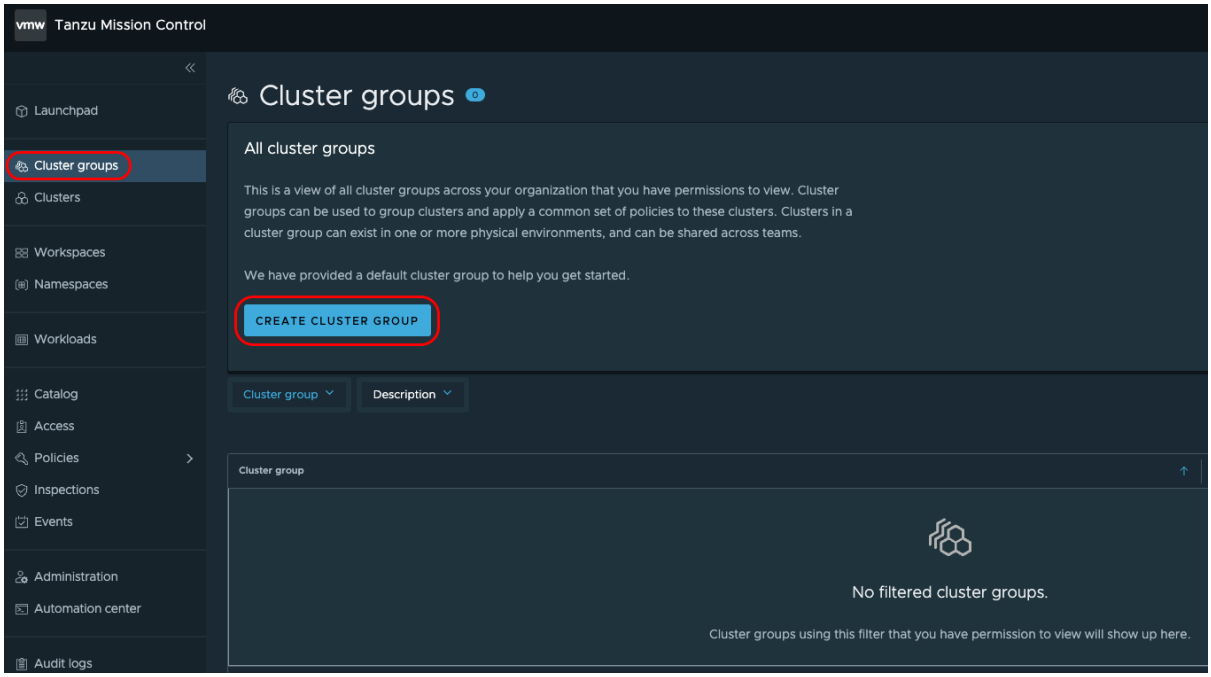

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Attach cluster
1. Name and assign
Choose your cluster's name and assign it to a cluster group
Cluster name
gke-cluster-1
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
Cluster group
default
Description (optional)
My first attached cluster on TMC
Labels (optional)
key
value
ADD LABEL
NEXT
2. Proxy Configuration (optional)
Choose a proxy configuration to enable the connection
3. Install agent
Install the Tanzu Mission Control agent on your cluster and verify its connection
VIEW YOUR CLUSTER

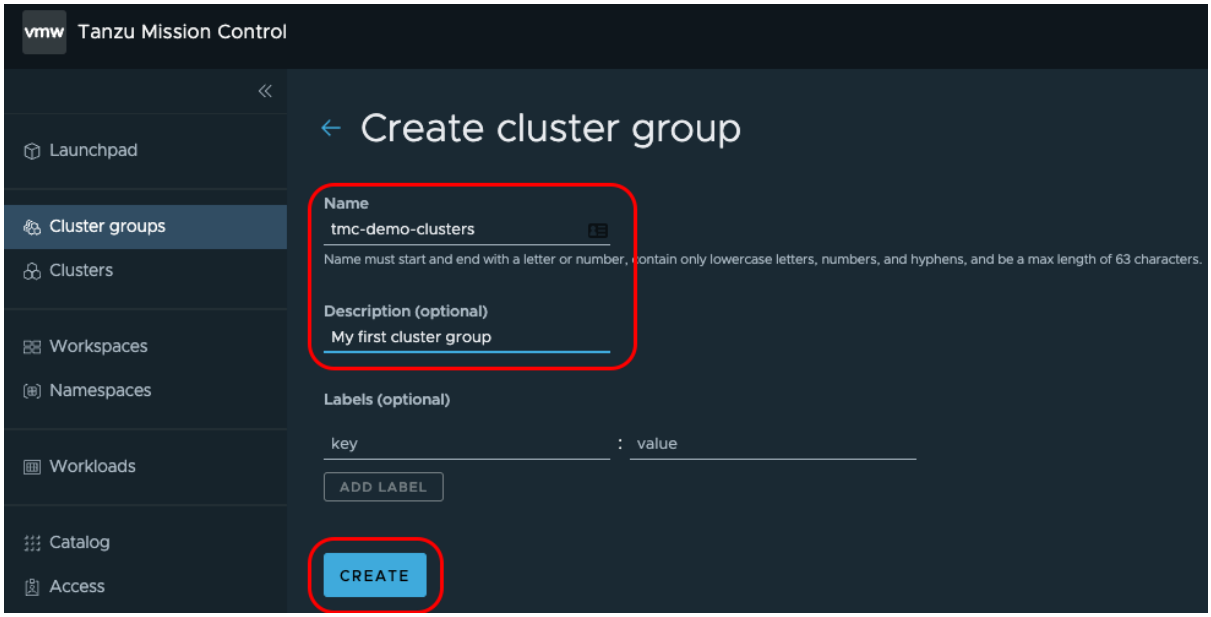

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Attach cluster
Name and assign
Choose your cluster's name and assign it to a cluster group
2. Proxy Configuration (optional)
Choose a proxy configuration to enable the connection
Set proxy for this cluster
No
NEXT
3. Install agent
Install the Tanzu Mission Control agent on your cluster and verify its connection
VIEW YOUR CLUSTER

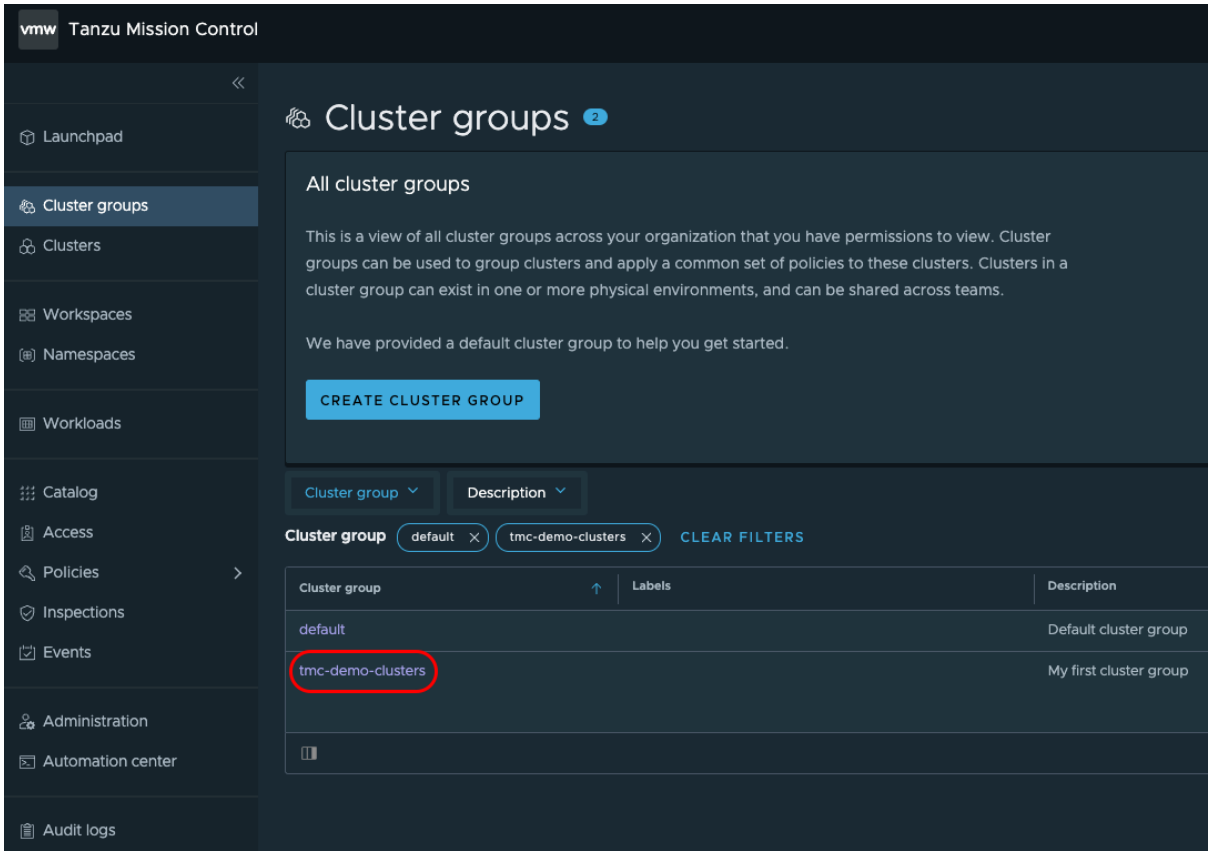

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Attach cluster
Name and assign
Cluster name: gke-cluster-1 Cluster group: default
Proxy Configuration (optional)
Choose a proxy configuration to enable the connection
3. Install agent
Install the Tanzu Mission Control agent on your cluster and verify its connection
This command installs the cluster agent extensions on your namespace named vmware-system-tmc. This link expires in 48 hours.
kubectl create -f "https://globalstanzuse.tmc.cloud.vmware.com/installer?id=8d8aeb88d3b9eb9be5a95532b74dc54fdf9678462dc228197
You can view the full configuration details of the VMware Tanzu Mission Control agent and copy it to your system before applying it on your Kubernetes cluster.
View YAML
VERIFY CONNECTION
VIEW YOUR CLUSTER

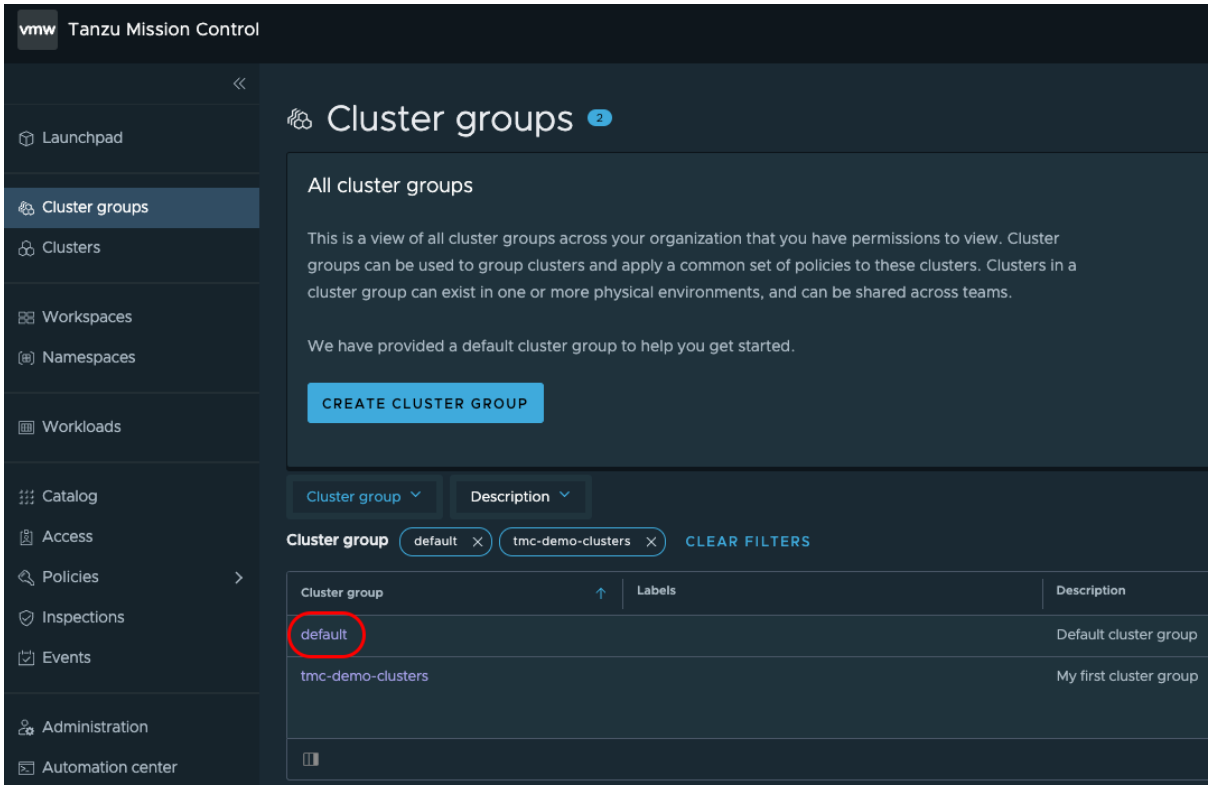

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Clusters
Last updated less than a minute ago
CREATE CLUSTER
ATTACH CLUSTER
All clusters
This is a view of all clusters across your organization that you have permissions to view.
These clusters can exist in different cluster groups and can exist in one or more physical environment.
Create or attach a cluster to get started.
CREATE CLUSTER
ATTACH CLUSTER
Do not show this again
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Status
Ready
Cluster group
default
CLEAR FILTERS
Name
Health
Status
Provider
Version
Requested/Allocatable memory
Requested/Allocatable CPU
Cluster group
Region
tkg-aws-workload-cluster
Healthy
Ready
AWS
v1.22.5+vmware.1-...
9% (3.97 GB/44.68 GB)
18% (4.32 CPUs/24 CPUs)
default
us-east-1
gke-cluster-1
Healthy
Ready
Google Cloud
v1.21.6-gke.1503
44% (4.93 GB/11.27 GB)
87% (3.26 CPUs/3.76 CPUs)
default
us-central1
1 to 2 of 2 Clusters

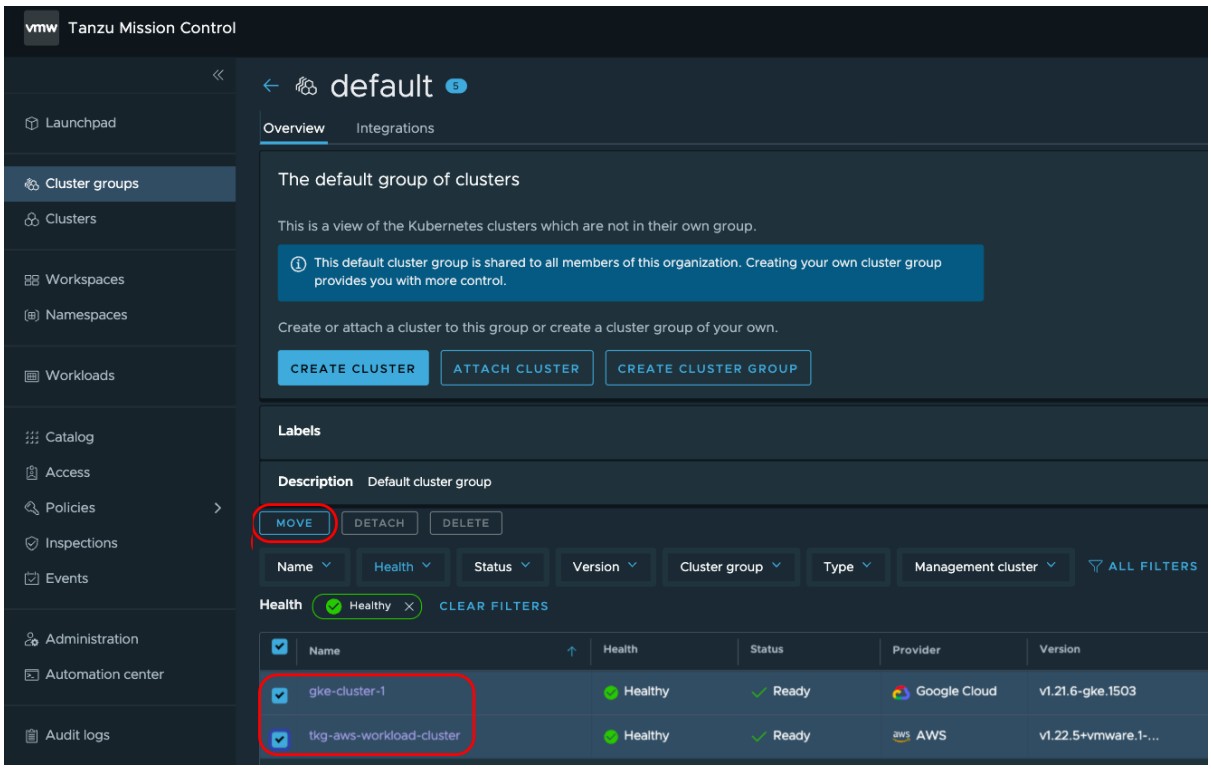

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Events
Cluster group default
Management cluster attached
Provisioner attached
Labels tmc.cloud.vmware.com/creator
Provider Google Cloud
Type Attached
Kubernetes version v1.21.6-gke.1503
Node count 4
Total memory 11.27 GB
Total cores 3.76 CPUs
Description My first attached cluster on TMC
Requested/Allocatable CPU
87%
3.26 CPUs / 3.76 CPUs
Requested/Allocatable memory
44%
4.93 GB / 11.27 GB
Component health
controller-manager
etcd-1
etcd-0
kube-apiserver
scheduler
Worker nodes
4 nodes healthy
Agent and extensions health
agent-updater
cluster-auth-pinniped
cluster-health-extension
cluster-secret
extension-manager
extension-updater
gatekeeper-operator
inspection
intent-agent
package-deployment
policy-insight-extension
policy-sync-extension
sync-agent
tmc-observer
Integrations
Name

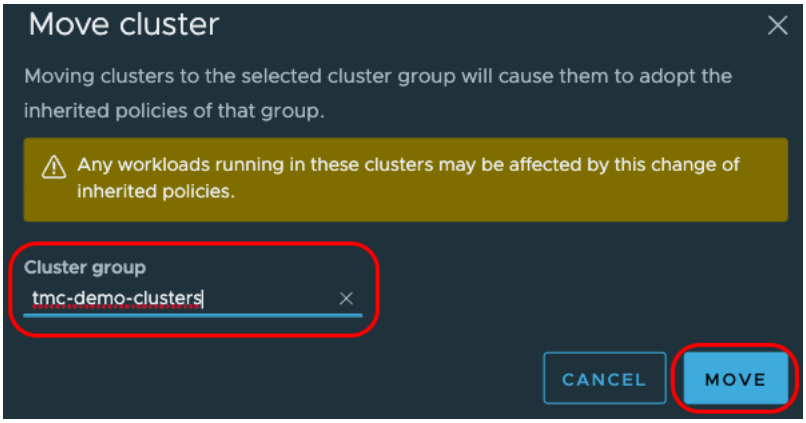

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Cluster groups
All cluster groups
This is a view of all cluster groups across your organization that you have permissions to view. Cluster groups can be used to group clusters and apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
We have provided a default cluster group to help you get started.
CREATE CLUSTER GROUP
Cluster group
Description
Cluster group
No filtered cluster groups.
Cluster groups using this filter that you have permission to view will show up here.

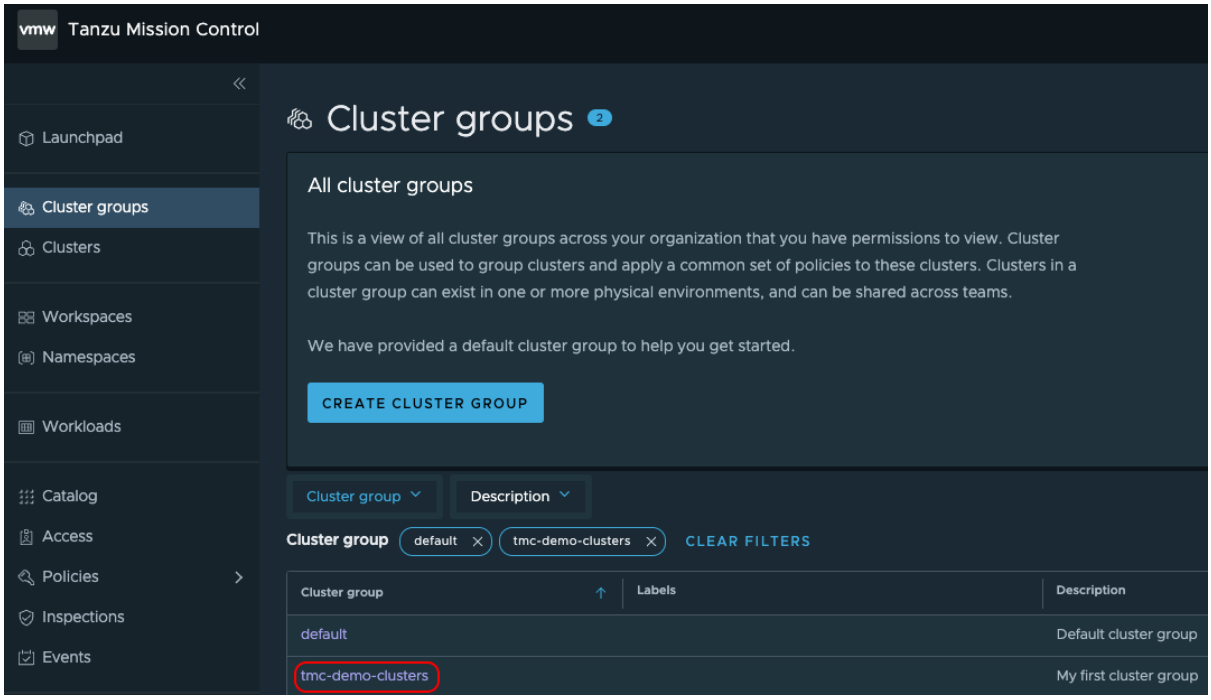

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Create cluster group
Name
tmc-demo-clusters
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
Description (optional)
My first cluster group
Labels (optional)
key
value
ADD LABEL
CREATE

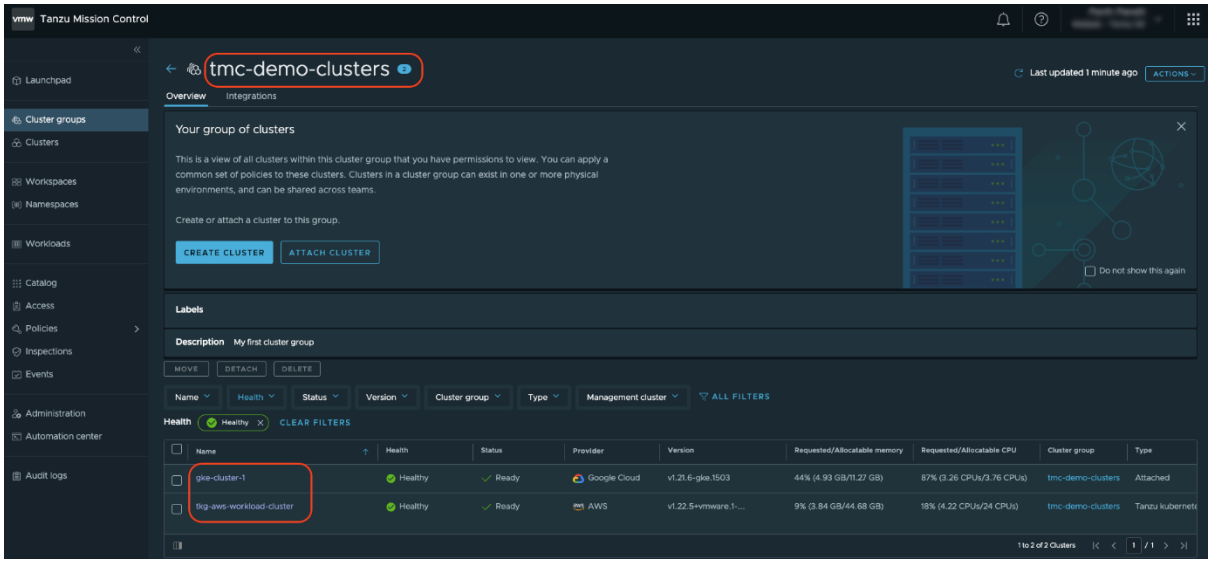

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Cluster groups
2
All cluster groups
This is a view of all cluster groups across your organization that you have permissions to view. Cluster groups can be used to group clusters and apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
We have provided a default cluster group to help you get started.
CREATE CLUSTER GROUP
Cluster group
Description
Cluster group
default
tmc-demo-clusters
CLEAR FILTERS
Cluster group
Labels
Description
default
Default cluster group
tmc-demo-clusters
My first cluster group

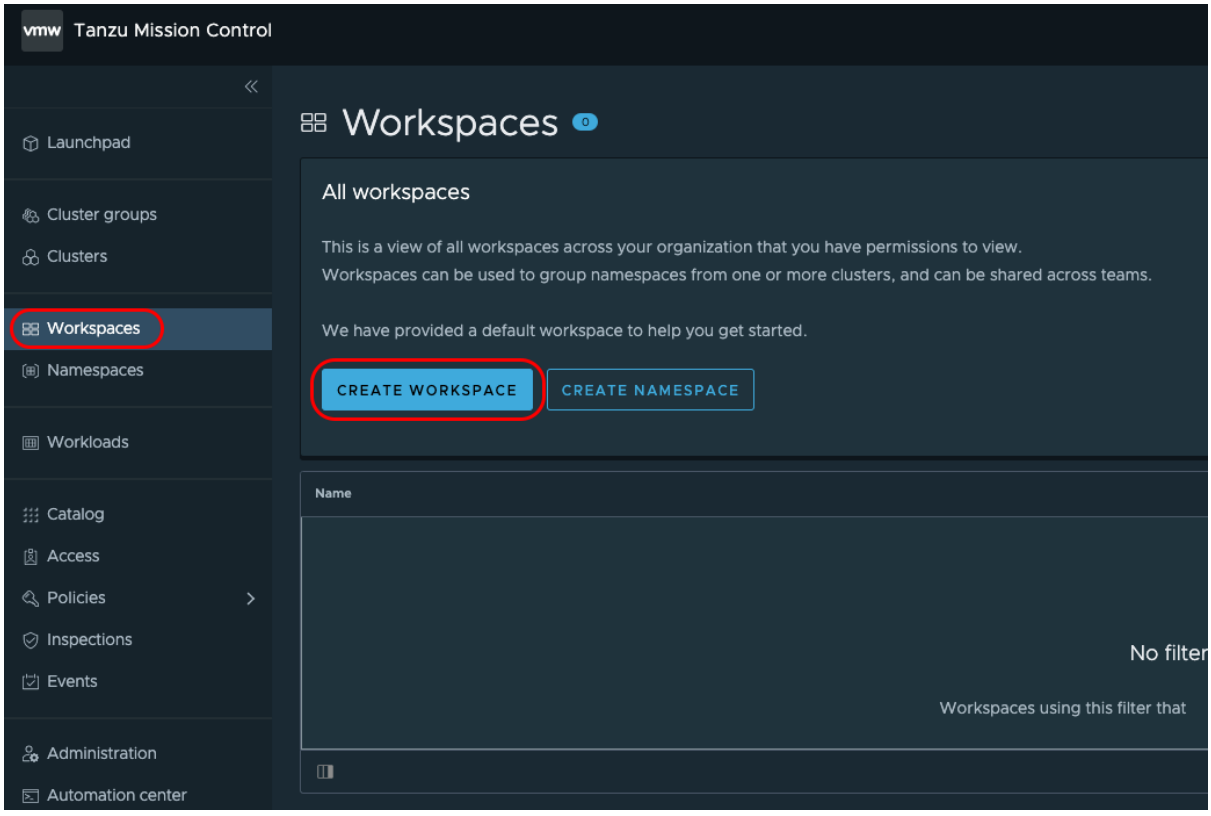

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Cluster groups
2
All cluster groups
This is a view of all cluster groups across your organization that you have permissions to view. Cluster groups can be used to group clusters and apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
We have provided a default cluster group to help you get started.
CREATE CLUSTER GROUP
Cluster group
Description
Cluster group
default
tmc-demo-clusters
CLEAR FILTERS
Cluster group
Labels
Description
default
Default cluster group
tmc-demo-clusters
My first cluster group

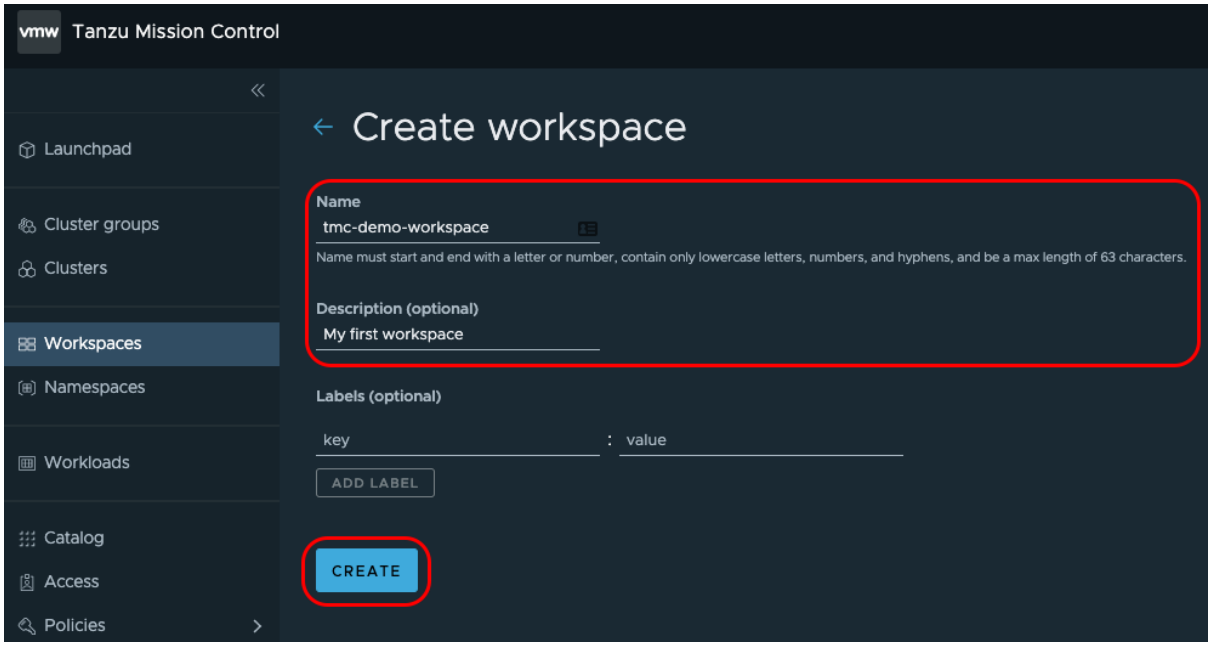

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
default
5
Overview
Integrations
The default group of clusters
This is a view of the Kubernetes clusters which are not in their own group.
This default cluster group is shared to all members of this organization. Creating your own cluster group provides you with more control.
Create or attach a cluster to this group or create a cluster group of your own.
CREATE CLUSTER
ATTACH CLUSTER
CREATE CLUSTER GROUP
Labels
Description
Default cluster group
MOVE
DETACH
DELETE
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Health
Healthy
CLEAR FILTERS
Name
Health
Status
Provider
Version
gke-cluster-1
Healthy
Ready
Google Cloud
v1.21.6-gke.1503
tkg-aws-workload-cluster
Healthy
Ready
AWS
v1.22.5+vmware.1-...

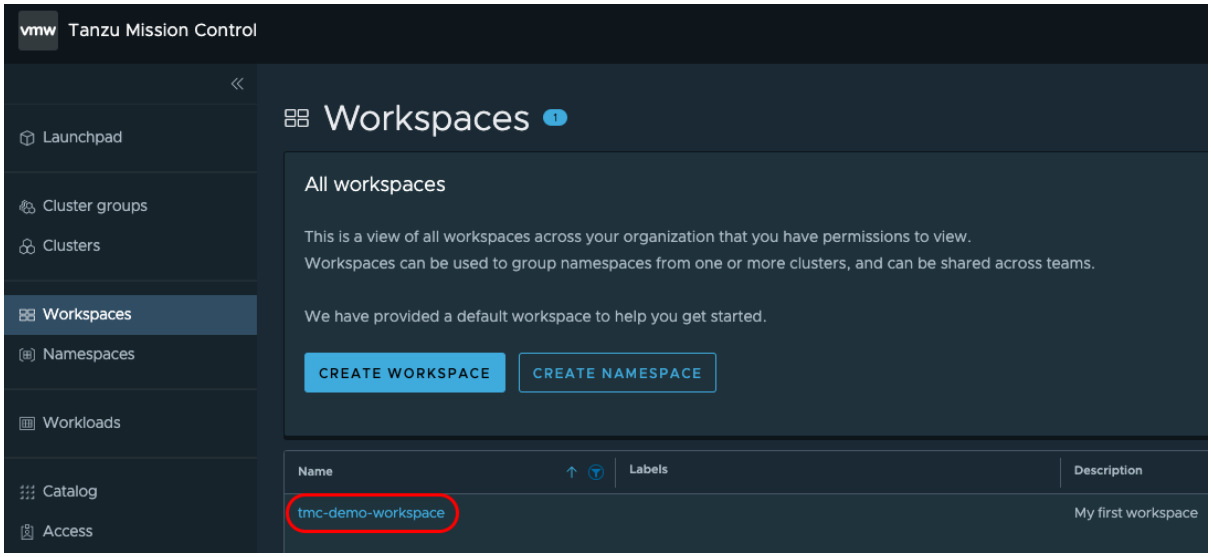

Move cluster
Moving clusters to the selected cluster group will cause them to adopt the inherited policies of that group.
Any workloads running in these clusters may be affected by this change of inherited policies.
Cluster group
tmc-demo-clusters
CANCEL
MOVE

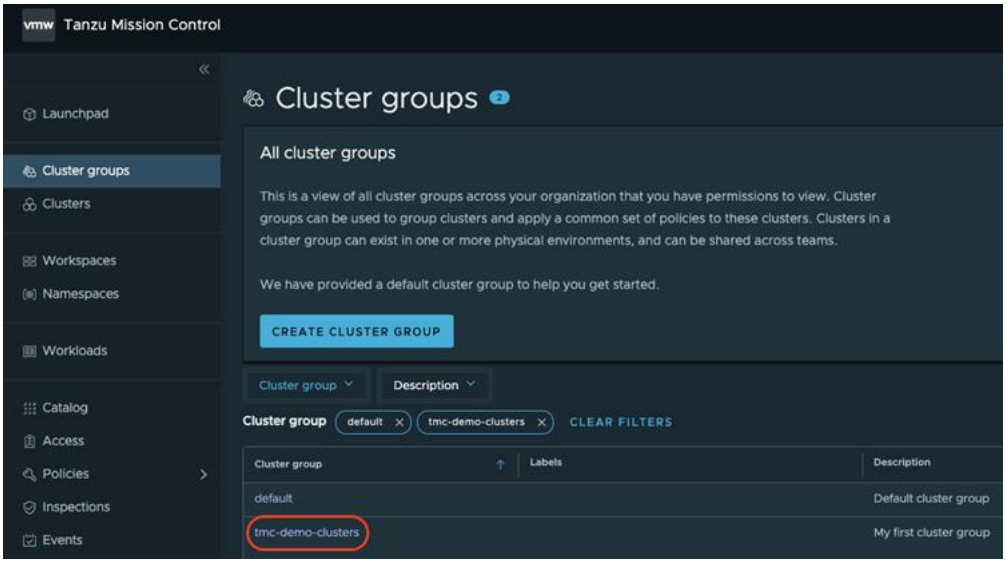

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Cluster groups 2
All cluster groups
This is a view of all cluster groups across your organization that you have permissions to view. Cluster groups can be used to group clusters and apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
We have provided a default cluster group to help you get started.
CREATE CLUSTER GROUP
Cluster group
Description
Cluster group default tmc-demo-clusters CLEAR FILTERS
Cluster group
Labels
Description
default
Default cluster group
tmc-demo-clusters
My first cluster group

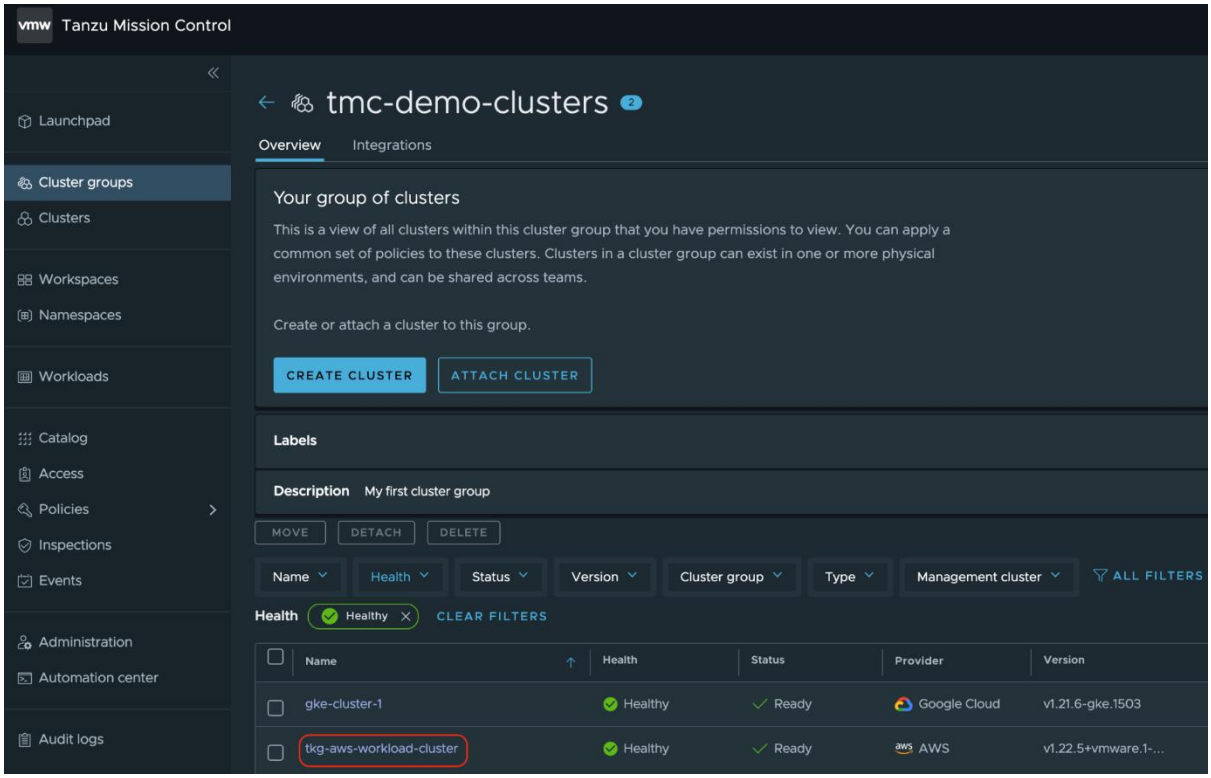

Tanzu Mission Control
tmc-demo-clusters
Last updated 1 minute ago
ACTIONS
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Overview
Integrations
Your group of clusters
This is a view of all clusters within this cluster group that you have permissions to view. You can apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
Create or attach a cluster to this group.
CREATE CLUSTER
ATTACH CLUSTER
Do not show this again
Labels
Description My first cluster group
MOVE
DETACH
DELETE
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
CLEAR FILTERS
Provider
Requested/Allocatable memory
Requested/Allocatable CPU
gke-cluster-1
tkg-aws-workload-cluster
Healthy
Ready
Google Cloud
AWS
v1.21.6-gke.1503
44% (4.93 GB/11.27 GB)
87% (3.26 CPUs/3.76 CPUs)
9% (3.84 GB/44.68 GB)
18% (4.22 CPUs/24 CPUs)
tmc-demo-clusters
Attached
1 to 2 of 2 Clusters


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Workspaces
0
All workspaces
This is a view of all workspaces across your organization that you have permissions to view.
Workspaces can be used to group namespaces from one or more clusters, and can be shared across teams.
We have provided a default workspace to help you get started.
CREATE WORKSPACE
CREATE NAMESPACE
Name
No filter
Workspaces using this filter that


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Create workspace
Name
tmc-demo-workspace
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
Description (optional)
My first workspace
Labels (optional)
key
value
ADD LABEL
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Workspaces
All workspaces
This is a view of all workspaces across your organization that you have permissions to view.
Workspaces can be used to group namespaces from one or more clusters, and can be shared across teams.
We have provided a default workspace to help you get started.
CREATE WORKSPACE
CREATE NAMESPACE
Name
Labels
Description
tmc-demo-workspace
My first workspace


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Cluster groups
All cluster groups
This is a view of all cluster groups across your organization that you have permissions to view. Cluster groups can be used to group clusters and apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
We have provided a default cluster group to help you get started.
CREATE CLUSTER GROUP
Cluster group
Description
Cluster group
default
tmc-demo-clusters
CLEAR FILTERS
Cluster group
Labels
Description
default
Default cluster group
tmc-demo-clusters
My first cluster group


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
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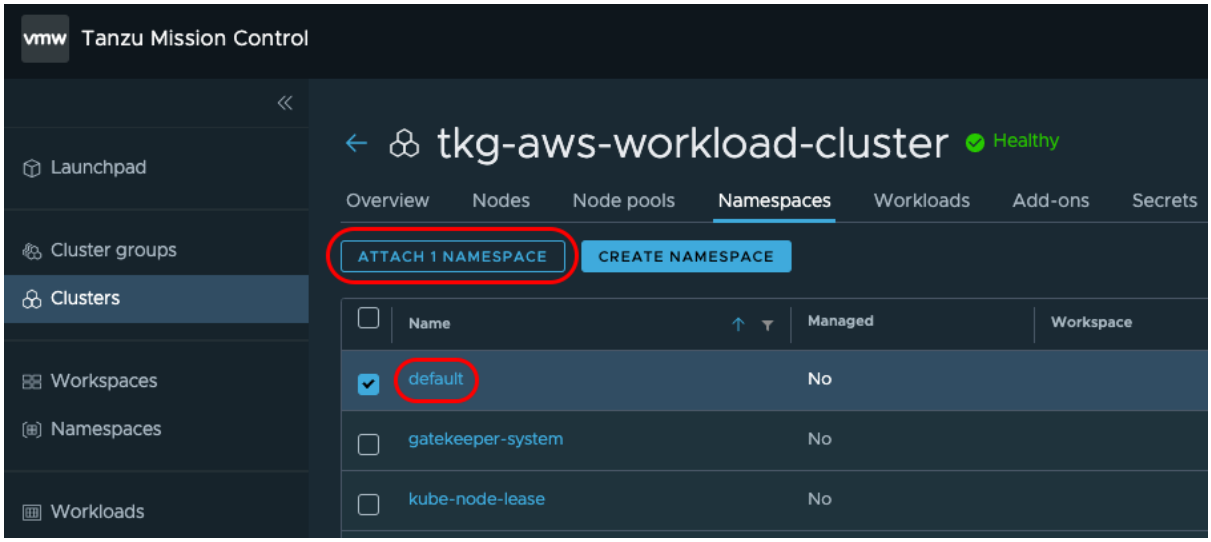
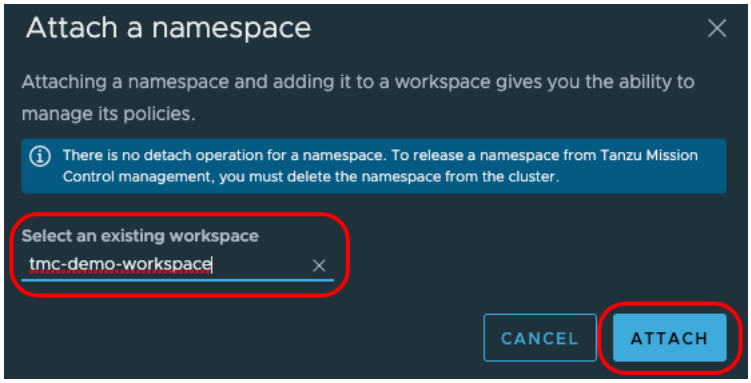
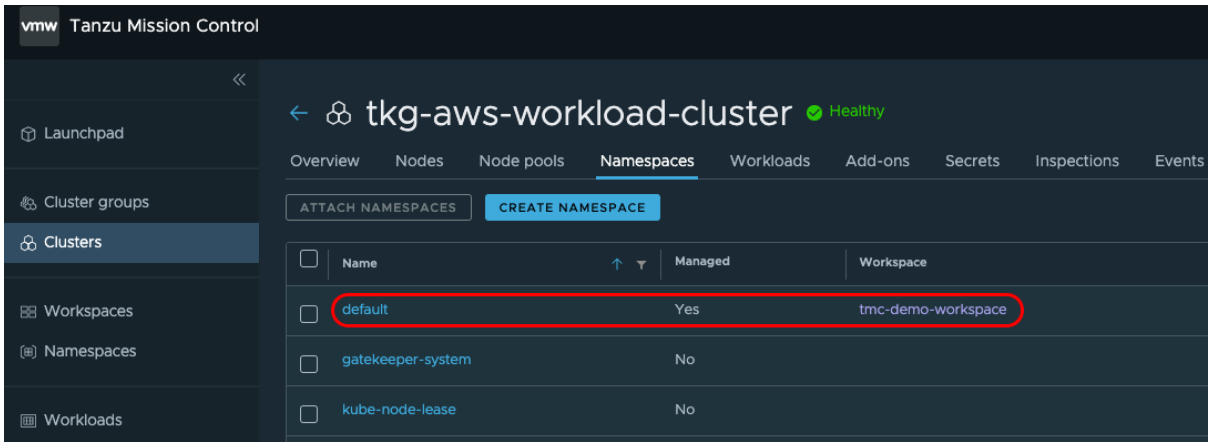
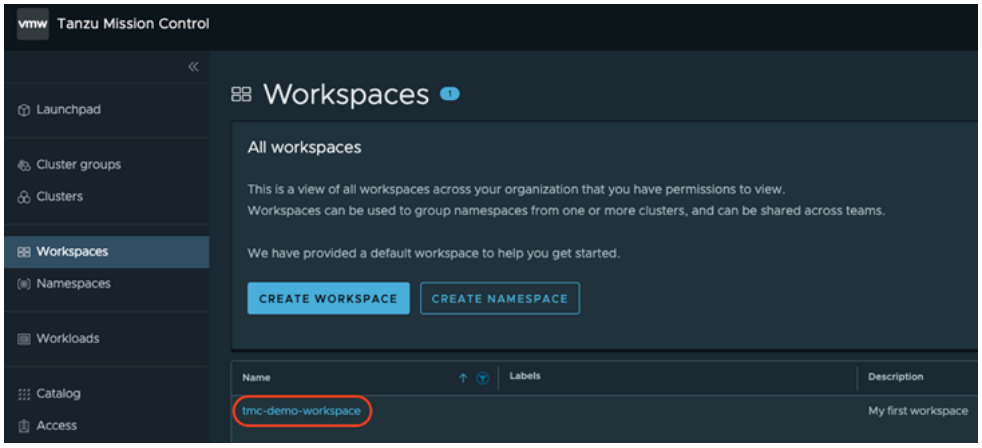
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
tmc-demo-clusters
Overview
Integrations
Your group of clusters
This is a view of all clusters within this cluster group that you have permissions to view. You can apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
Create or attach a cluster to this group.
CREATE CLUSTER
ATTACH CLUSTER
Labels
Description
My first cluster group
MOVE
DETACH
DELETE
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Health
Healthy
CLEAR FILTERS
Name
Health
Status
Provider
Version
gke-cluster-1
Healthy
Ready
Google Cloud
v1.21.6-gke.1503
tkg-aws-workload-cluster
Healthy
Ready
AWS
v1.22.5+vmware.1-...


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
tkg-aws-workload-cluster
Healthy
Overview
Nodes
Node pools
Namespaces
Workloads
Add-ons
Secrets
ATTACH 1 NAMESPACE
CREATE NAMESPACE
Name
Managed
Workspace
default
No
gatekeeper-system
No
kube-node-lease
No


Attach a namespace
Attaching a namespace and adding it to a workspace gives you the ability to manage its policies.
There is no detach operation for a namespace. To release a namespace from Tanzu Mission Control management, you must delete the namespace from the cluster.
Select an existing workspace
tmc-demo-workspace
CANCEL
ATTACH


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
tkg-aws-workload-cluster
Healthy
Overview
Nodes
Node pools
Namespaces
Workloads
Add-ons
Secrets
Inspections
Events
ATTACH NAMESPACES
CREATE NAMESPACE
Name
Managed
Workspace
default
Yes
tmc-demo-workspace
gatekeeper-system
No
kube-node-lease
No


Tanzu Mission Control
Launchpad
Cluster groups
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Workspaces
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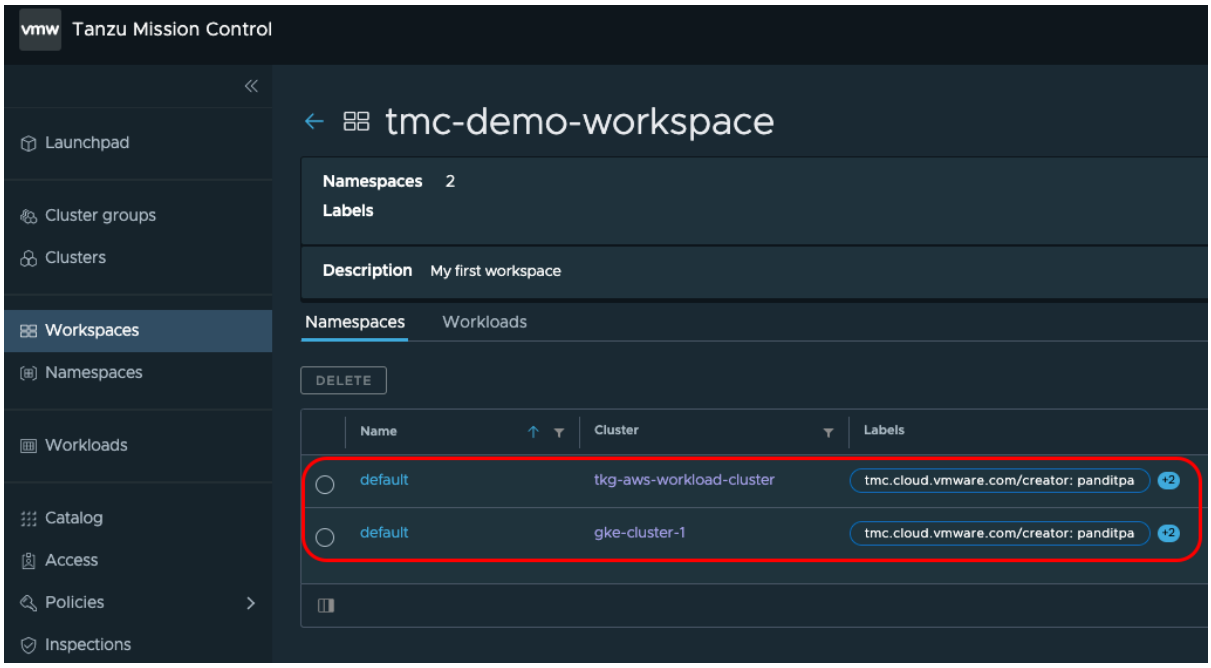
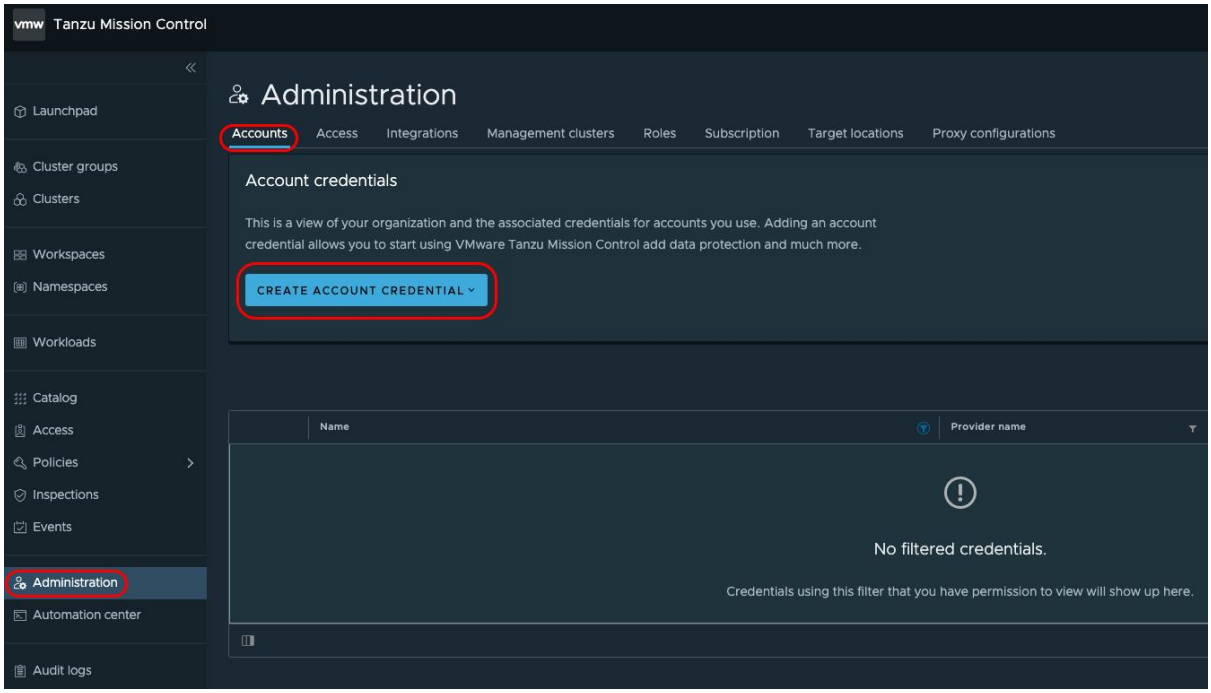
Workloads
Catalog
Access
Workspaces
All workspaces
This is a view of all workspaces across your organization that you have permissions to view.
Workspaces can be used to group namespaces from one or more clusters, and can be shared across teams.
We have provided a default workspace to help you get started.
CREATE WORKSPACE
CREATE NAMESPACE
Name
Labels
Description
tmc-demo-workspace
My first workspace


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
tmc-demo-workspace
Namespaces 2
Labels
Description My first workspace
Namespaces
Workloads
DELETE
Name
Cluster
Labels
default
tkg-aws-workload-cluster
tmc.cloud.vmware.com/creator: panditpa
+2
default
gke-cluster-1
tmc.cloud.vmware.com/creator: panditpa
+2


Tanzu Mission Control
Launchpad
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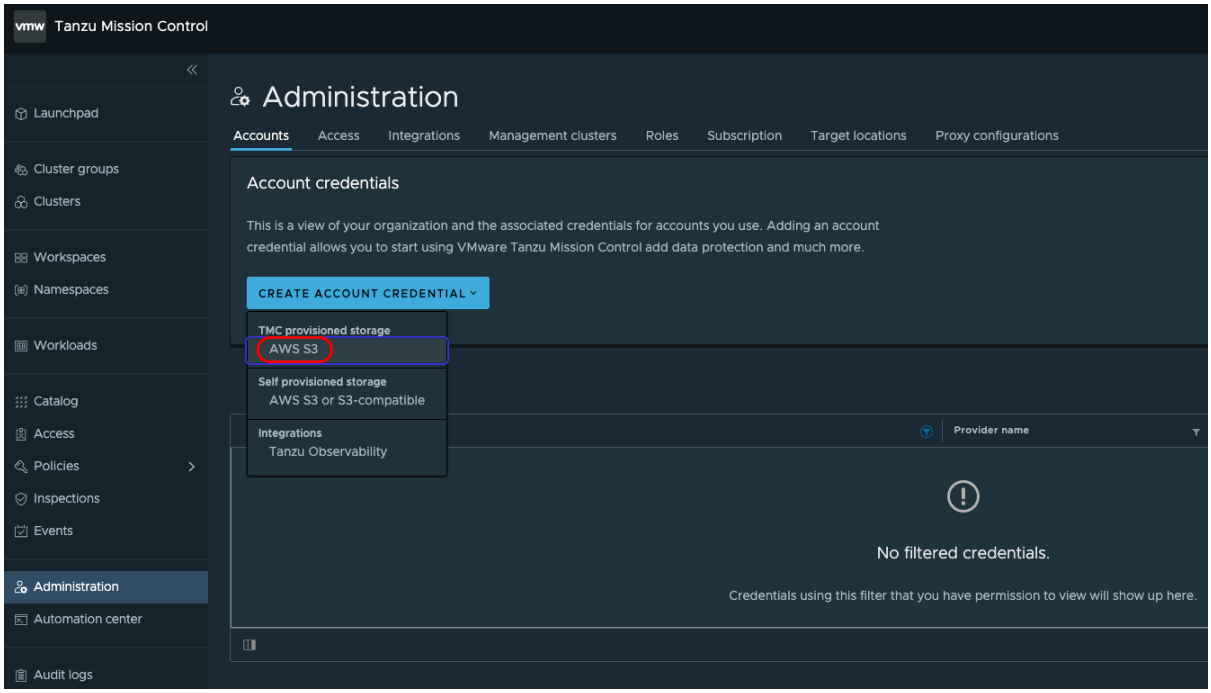
Inspections
Events
Administration
Automation center
Audit logs
Administration
Accounts
Access
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Account credentials
This is a view of your organization and the associated credentials for accounts you use. Adding an account credential allows you to start using VMware Tanzu Mission Control add data protection and much more.
CREATE ACCOUNT CREDENTIAL
Name
Provider name
No filtered credentials.
Credentials using this filter that you have permission to view will show up here.


Tanzu Mission Control
Launchpad
Cluster groups
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Policies
Inspections
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Automation center
Audit logs
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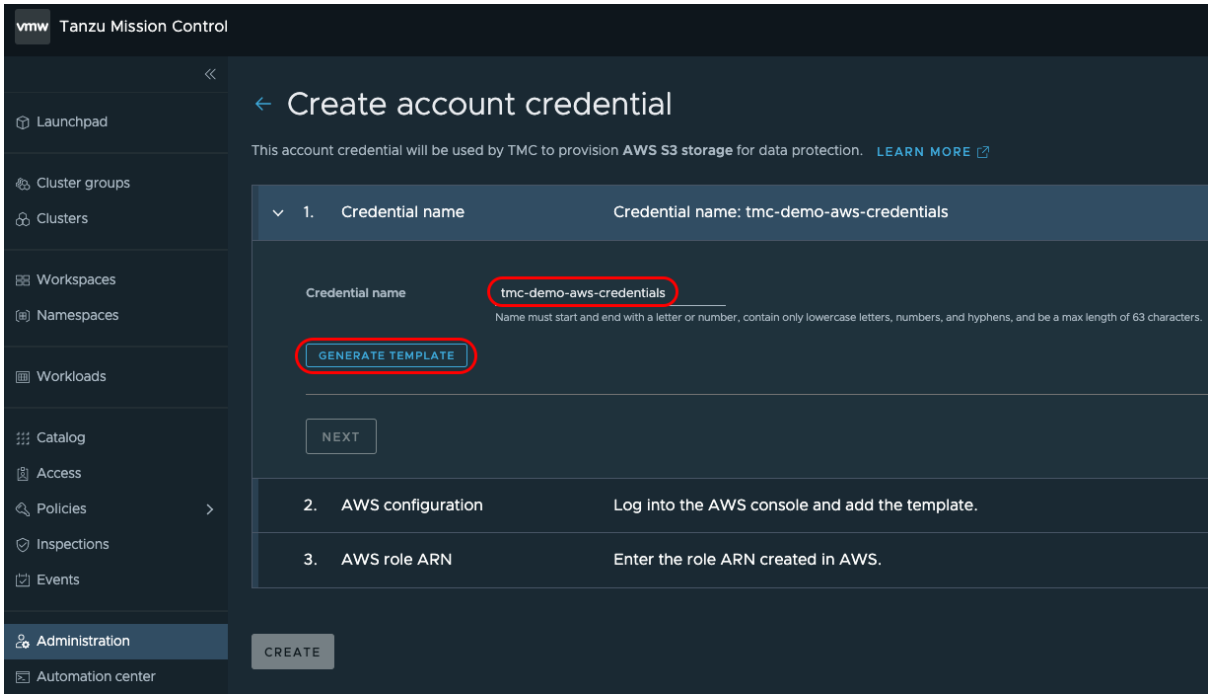
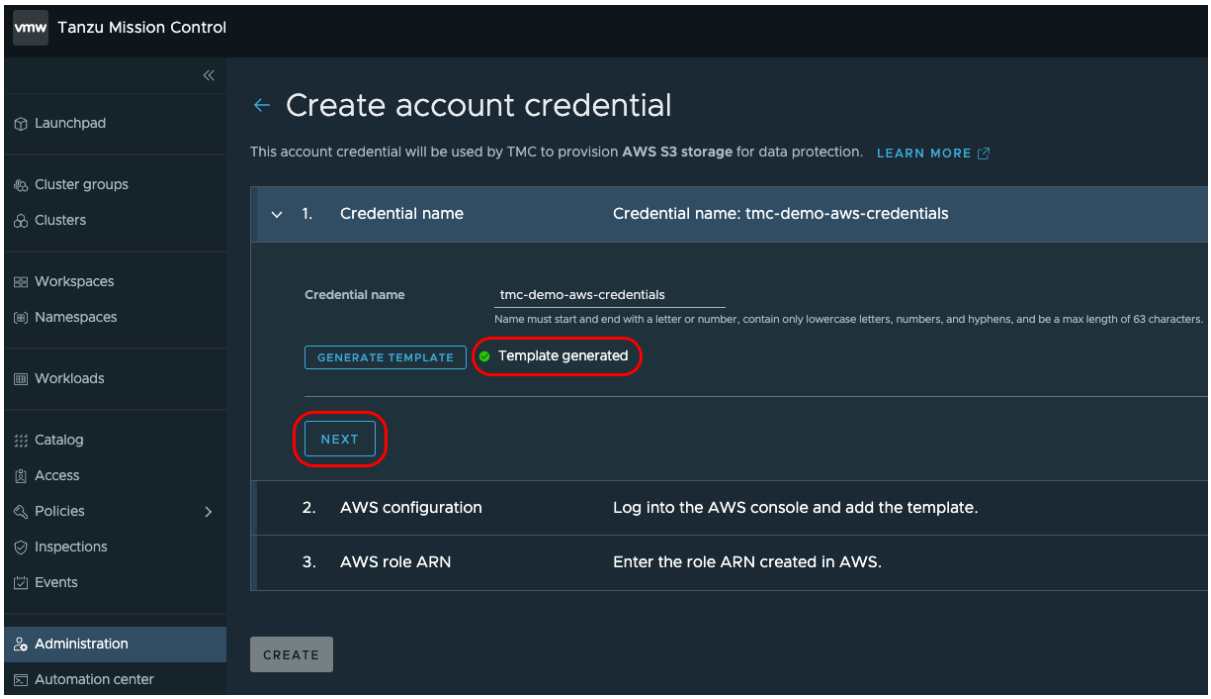
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Account credentials
This is a view of your organization and the associated credentials for accounts you use. Adding an account credential allows you to start using VMware Tanzu Mission Control add data protection and much more.
CREATE ACCOUNT CREDENTIAL
TMC provisioned storage
AWS S3
Self provisioned storage
AWS S3 or S3-compatible
Integrations
Tanzu Observability
Provider name
No filtered credentials.
Credentials using this filter that you have permission to view will show up here.


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Create account credential
This account credential will be used by TMC to provision AWS S3 storage for data protection. LEARN MORE
1. Credential name
Credential name: tmc-demo-aws-credentials
Credential name
tmc-demo-aws-credentials
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
GENERATE TEMPLATE
NEXT
2. AWS configuration
Log into the AWS console and add the template.
3. AWS role ARN
Enter the role ARN created in AWS.
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
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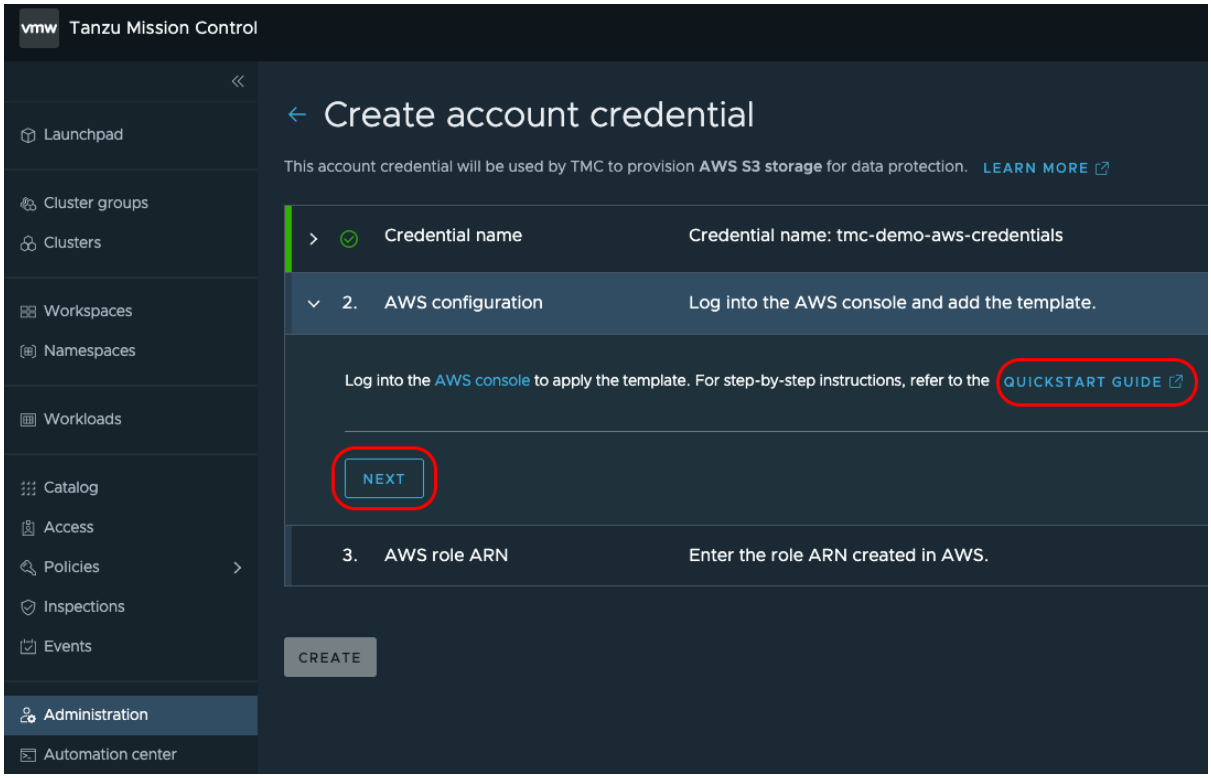
Automation center
Create account credential
This account credential will be used by TMC to provision AWS S3 storage for data protection. LEARN MORE
1. Credential name
Credential name: tmc-demo-aws-credentials
Credential name
tmc-demo-aws-credentials
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
GENERATE TEMPLATE
Template generated
NEXT
2. AWS configuration
Log into the AWS console and add the template.
3. AWS role ARN
Enter the role ARN created in AWS.
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
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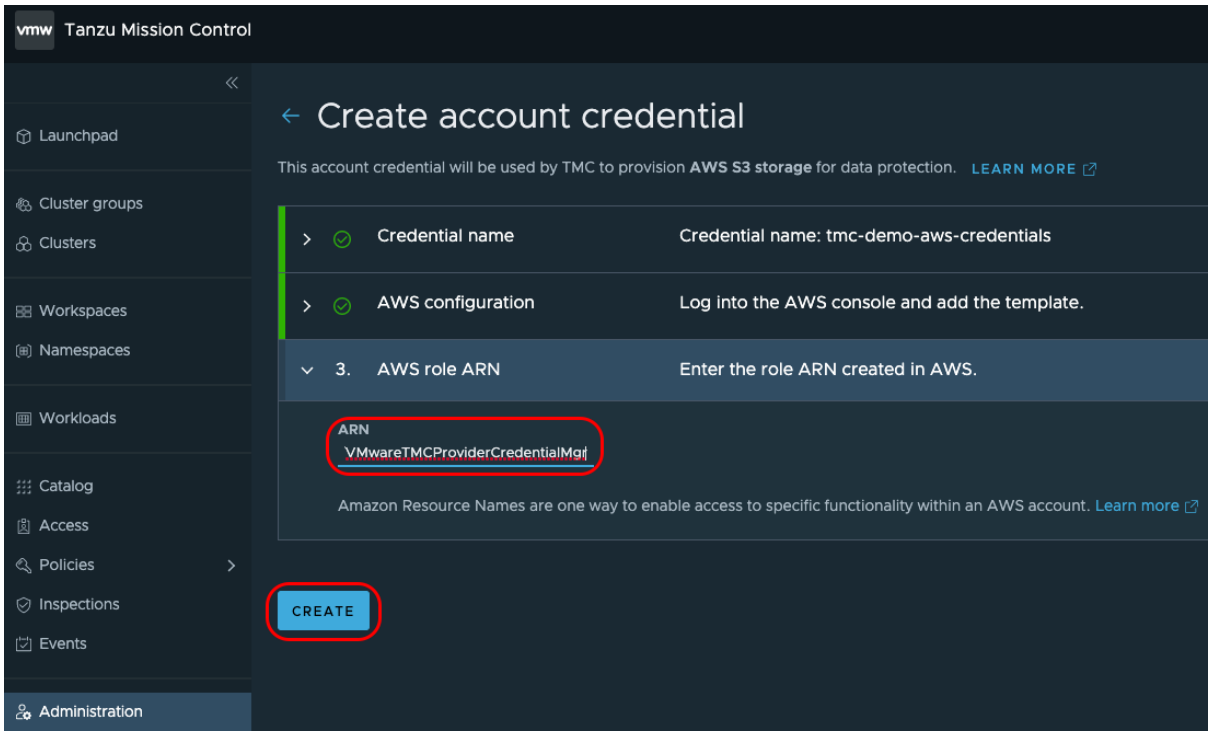
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Create account credential
This account credential will be used by TMC to provision AWS S3 storage for data protection. LEARN MORE
Credential name
Credential name: tmc-demo-aws-credentials
2. AWS configuration
Log into the AWS console and add the template.
Log into the AWS console to apply the template. For step-by-step instructions, refer to the QUICKSTART GUIDE
NEXT
3. AWS role ARN
Enter the role ARN created in AWS.
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
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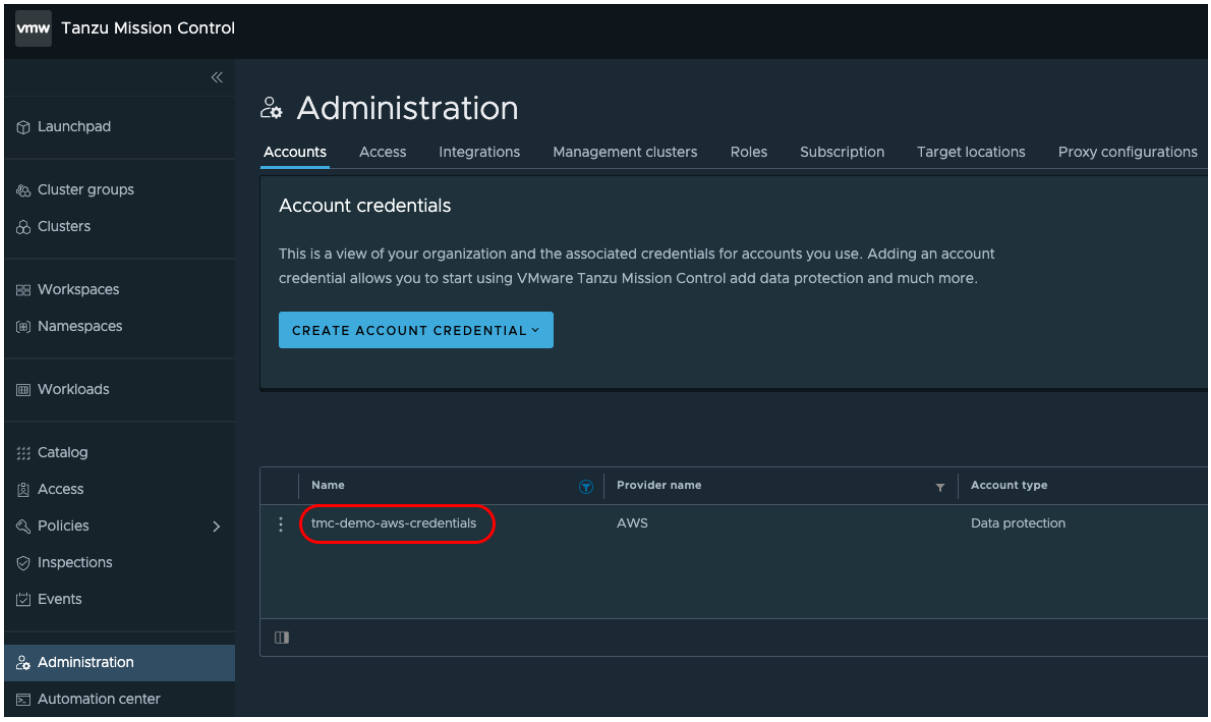
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Create account credential
This account credential will be used by TMC to provision AWS S3 storage for data protection. LEARN MORE
Credential name
Credential name: tmc-demo-aws-credentials
AWS configuration
Log into the AWS console and add the template.
3. AWS role ARN
Enter the role ARN created in AWS.
ARN
VMwareTMCProviderCredentialMgr
Amazon Resource Names are one way to enable access to specific functionality within an AWS account. Learn more
CREATE


Tanzu Mission Control
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Automation center
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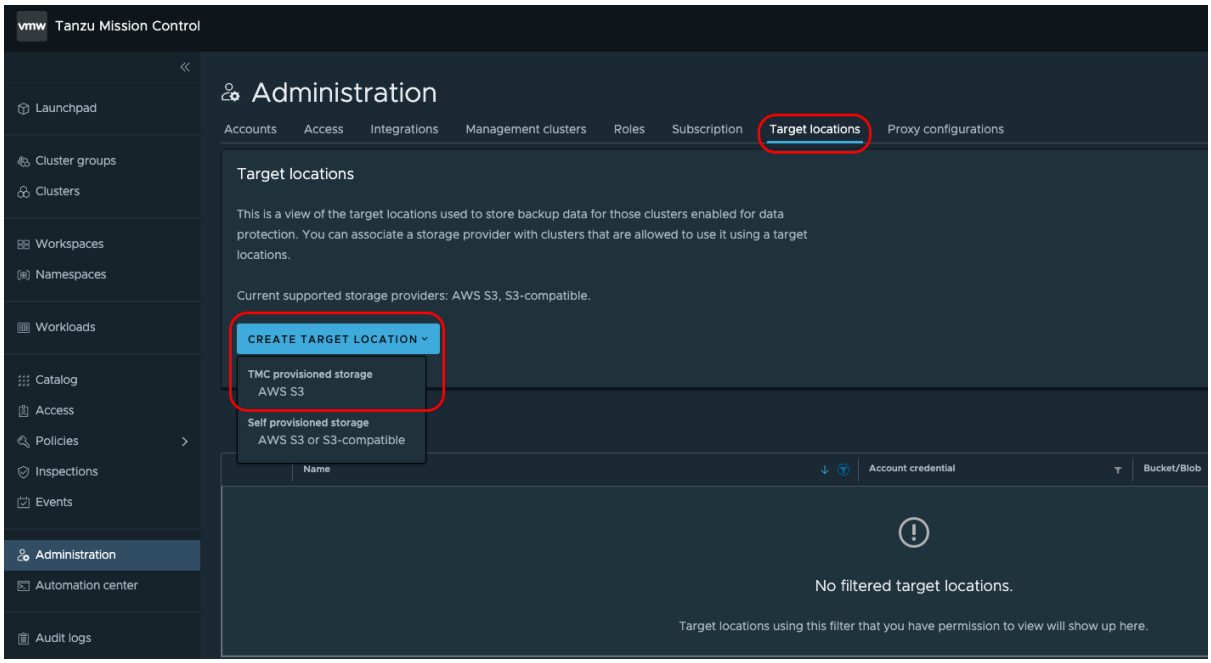
Subscription
Target locations
Proxy configurations
Account credentials
This is a view of your organization and the associated credentials for accounts you use. Adding an account credential allows you to start using VMware Tanzu Mission Control add data protection and much more.
CREATE ACCOUNT CREDENTIAL
Name
Provider name
Account type
tmc-demo-aws-credentials
AWS
Data protection


Tanzu Mission Control
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Automation center
Audit logs
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Management clusters
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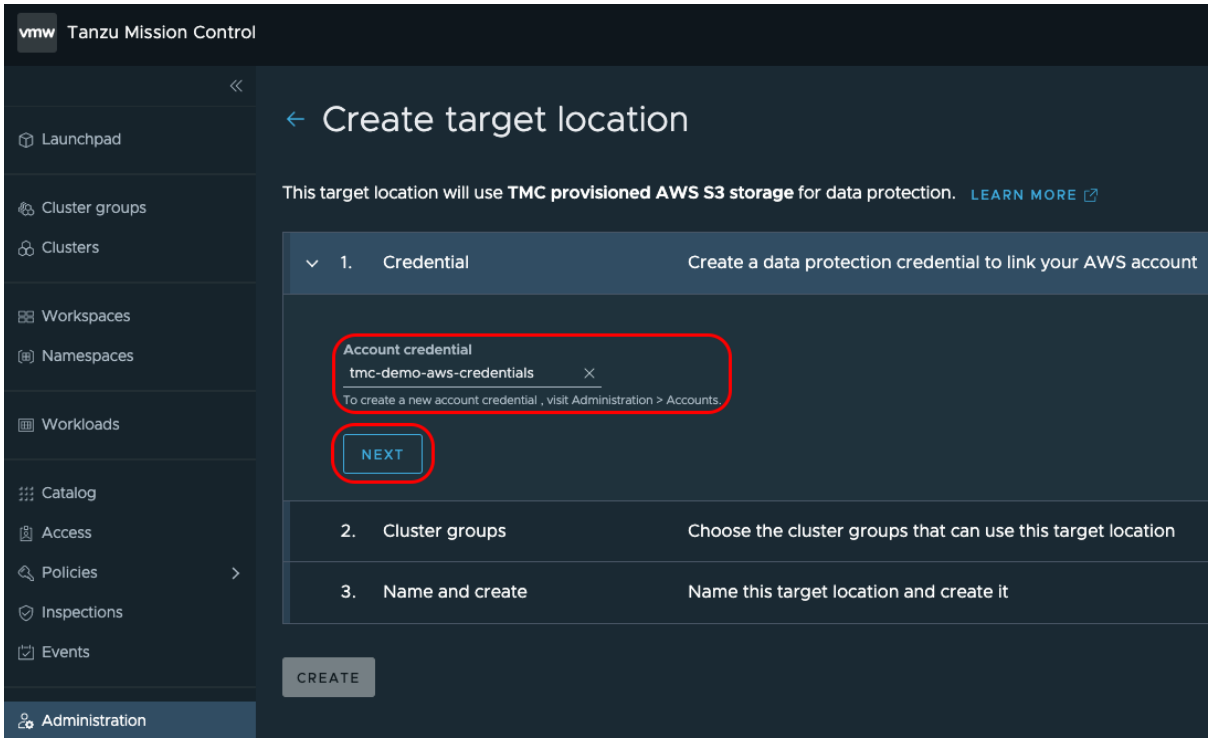
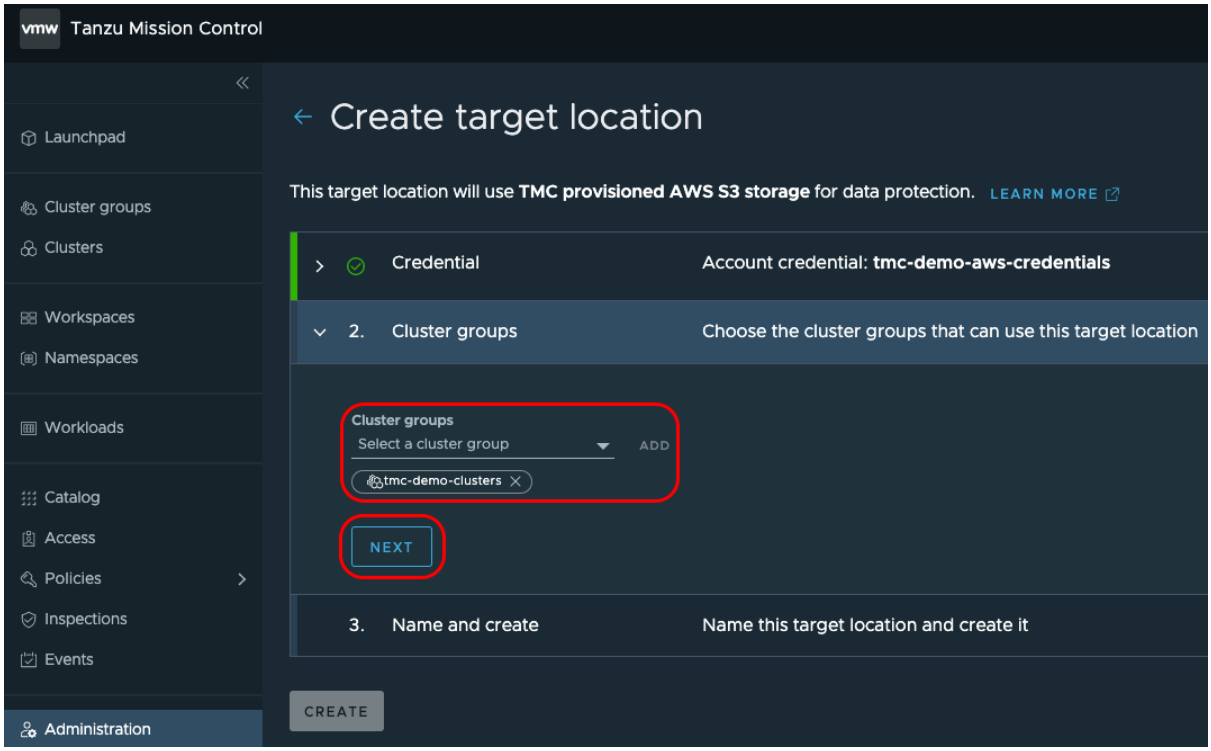
Target locations
Proxy configurations
Target locations
This is a view of the target locations used to store backup data for those clusters enabled for data protection. You can associate a storage provider with clusters that are allowed to use it using a target locations.
Current supported storage providers: AWS S3, S3-compatible.
CREATE TARGET LOCATION
TMC provisioned storage
AWS S3
Self provisioned storage
AWS S3 or S3-compatible
Name
Account credential
Bucket/Blob
No filtered target locations.
Target locations using this filter that you have permission to view will show up here.


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Create target location
This target location will use TMC provisioned AWS S3 storage for data protection. LEARN MORE
1. Credential
Create a data protection credential to link your AWS account
Account credential
tmc-demo-aws-credentials
To create a new account credential , visit Administration > Accounts.
NEXT
2. Cluster groups
Choose the cluster groups that can use this target location
3. Name and create
Name this target location and create it
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
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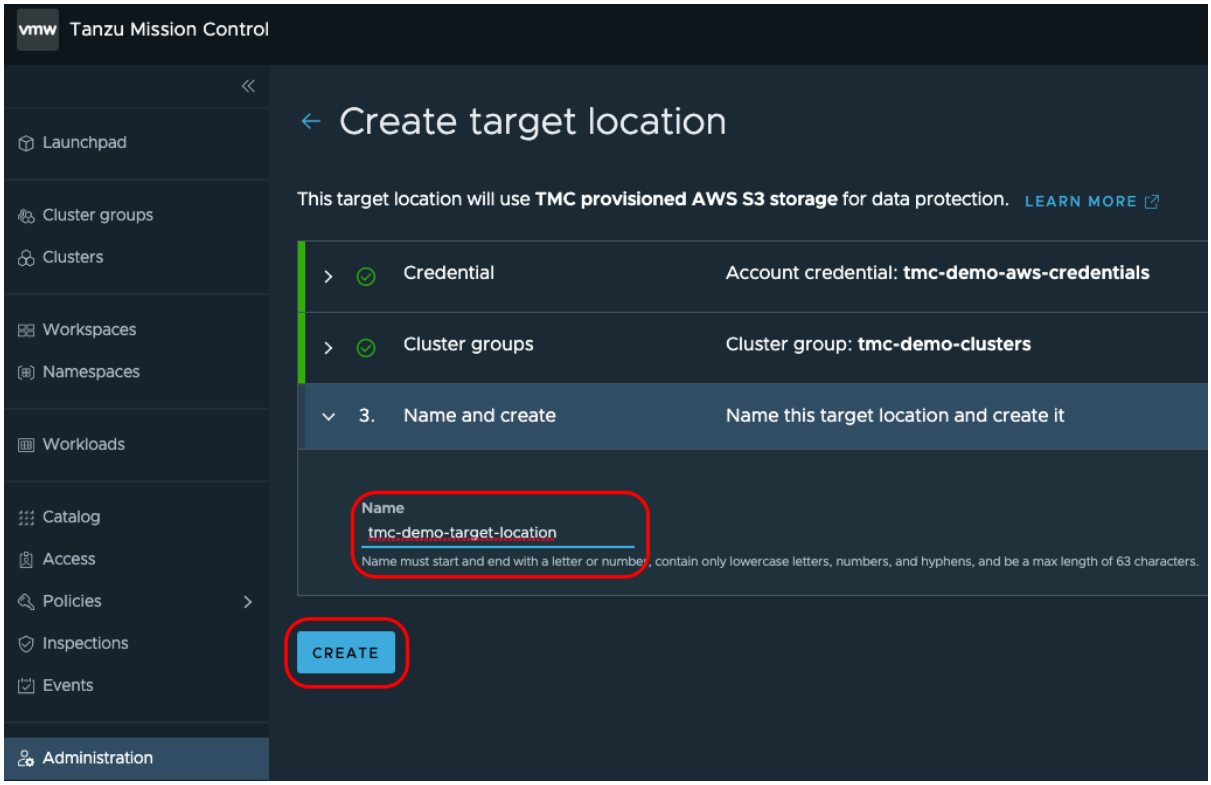
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Create target location
This target location will use TMC provisioned AWS S3 storage for data protection. LEARN MORE
Credential
Account credential: tmc-demo-aws-credentials
2. Cluster groups
Choose the cluster groups that can use this target location
Cluster groups
Select a cluster group
ADD
tmc-demo-clusters
NEXT
3. Name and create
Name this target location and create it
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
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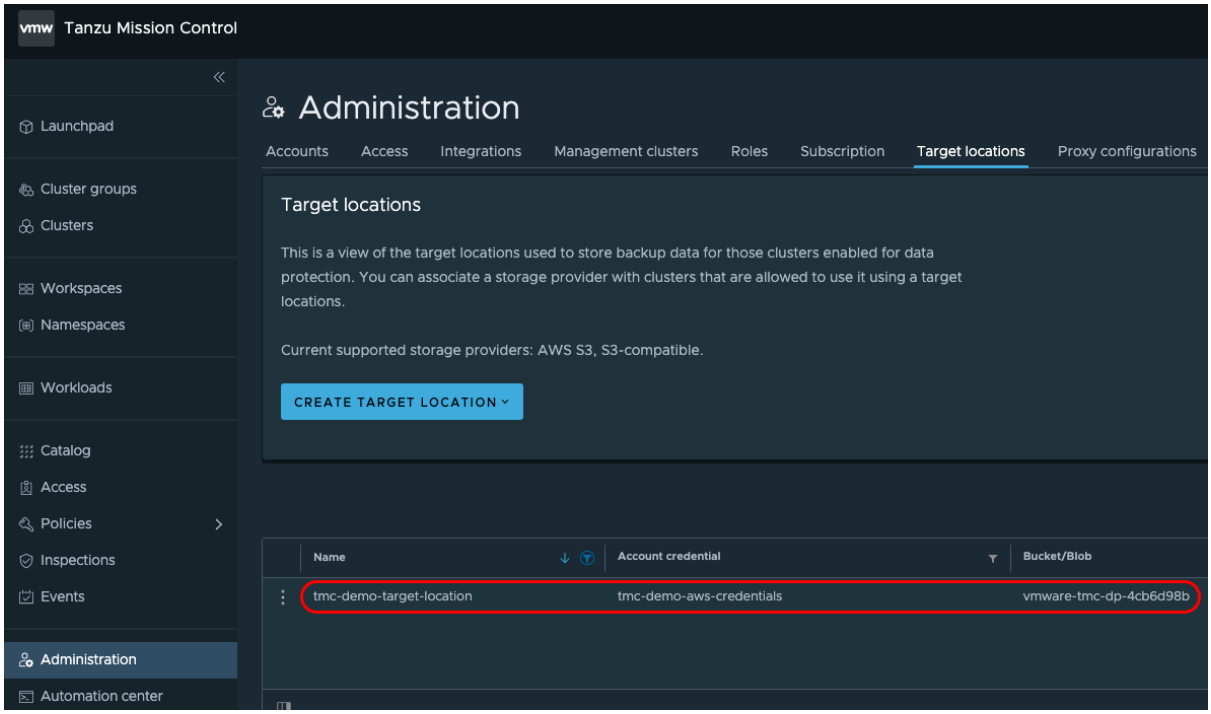
Catalog
Access
Policies
Inspections
Events
Administration
Create target location
This target location will use TMC provisioned AWS S3 storage for data protection.
LEARN MORE
Credential
Account credential: tmc-demo-aws-credentials
Cluster groups
Cluster group: tmc-demo-clusters
3. Name and create
Name this target location and create it
Name
tmc-demo-target-location
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
CREATE


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
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Catalog
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Inspections
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Administration
Automation center
Administration
Accounts
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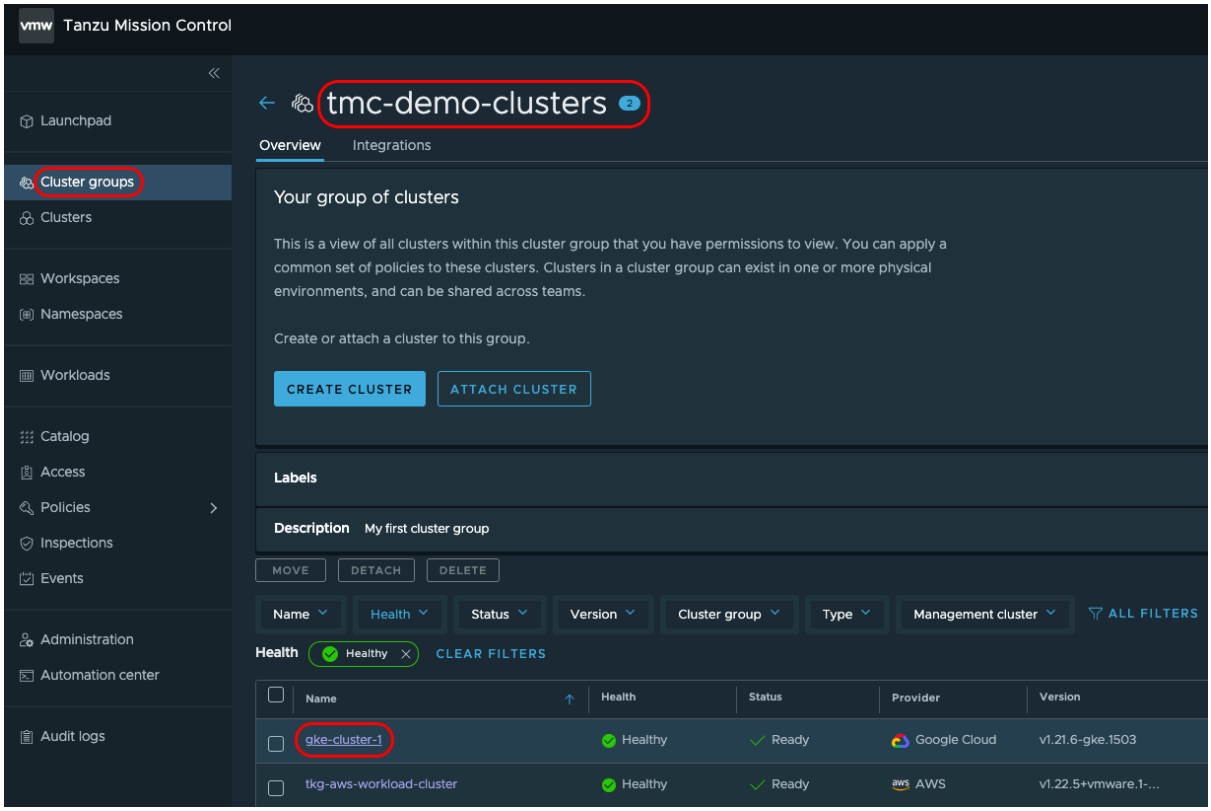
Integrations
Management clusters
Roles
Subscription
Target locations
Proxy configurations
Target locations
This is a view of the target locations used to store backup data for those clusters enabled for data protection. You can associate a storage provider with clusters that are allowed to use it using a target locations.
Current supported storage providers: AWS S3, S3-compatible.
CREATE TARGET LOCATION
Name
Account credential
Bucket/Blob
tmc-demo-target-location
tmc-demo-aws-credentials
vmware-tmc-dp-4cb6d98b


Tanzu Mission Control
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Workloads
Catalog
Access
Policies
Inspections
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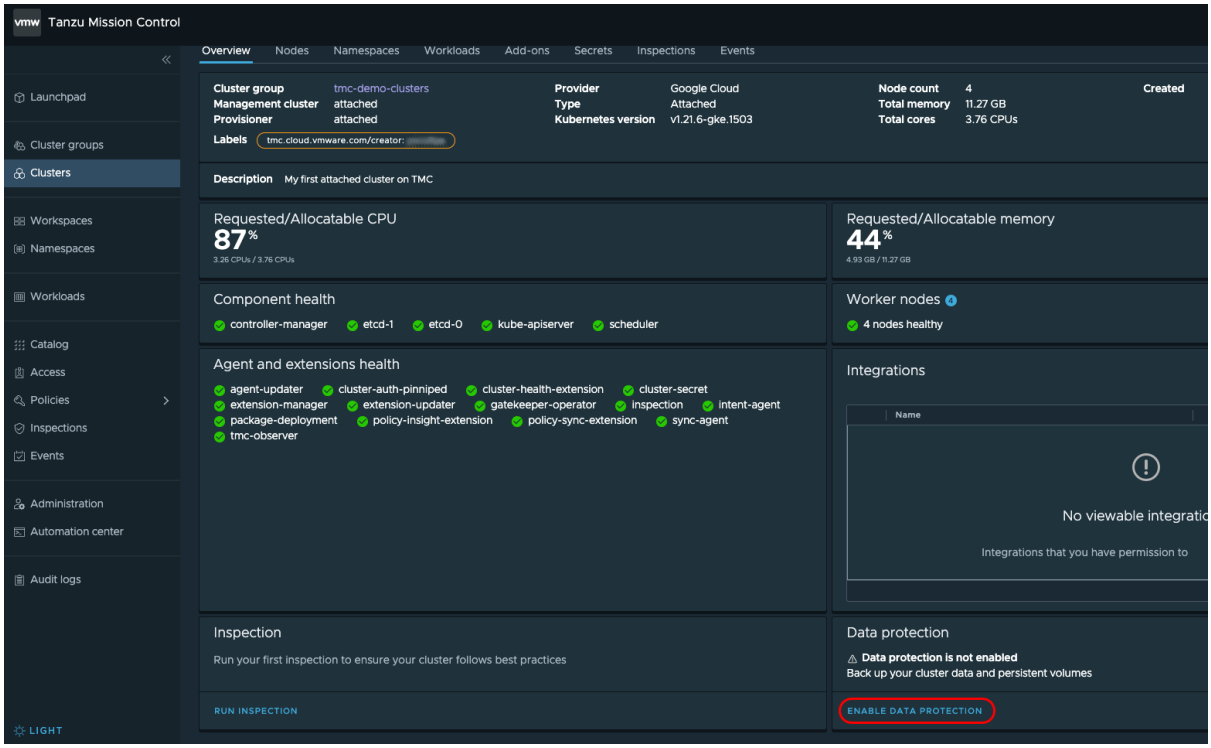
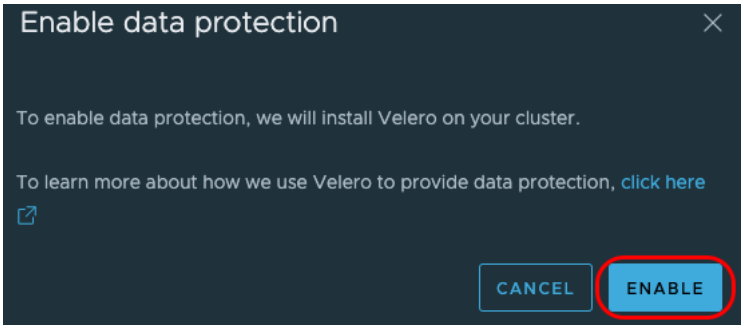
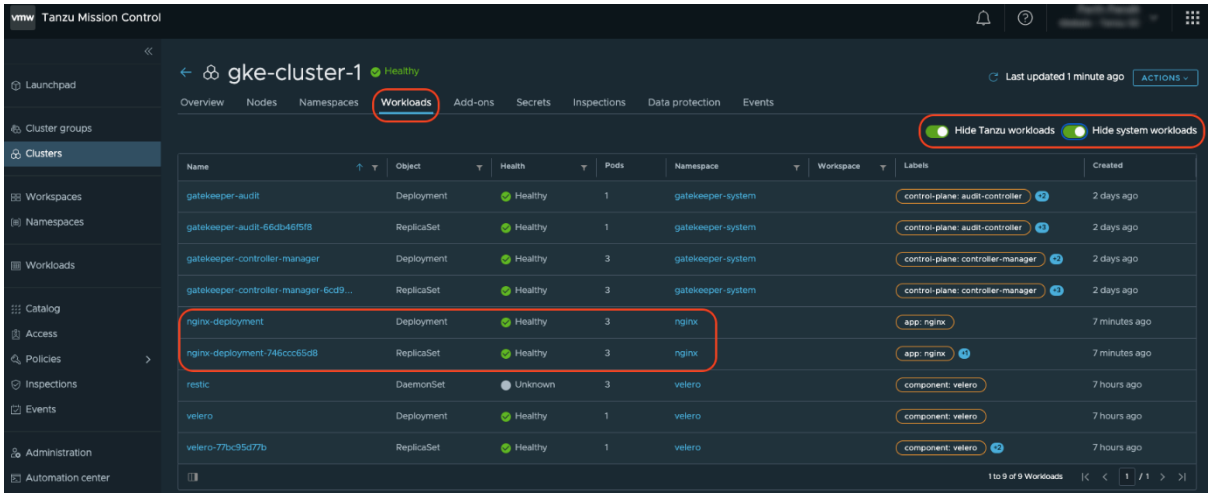
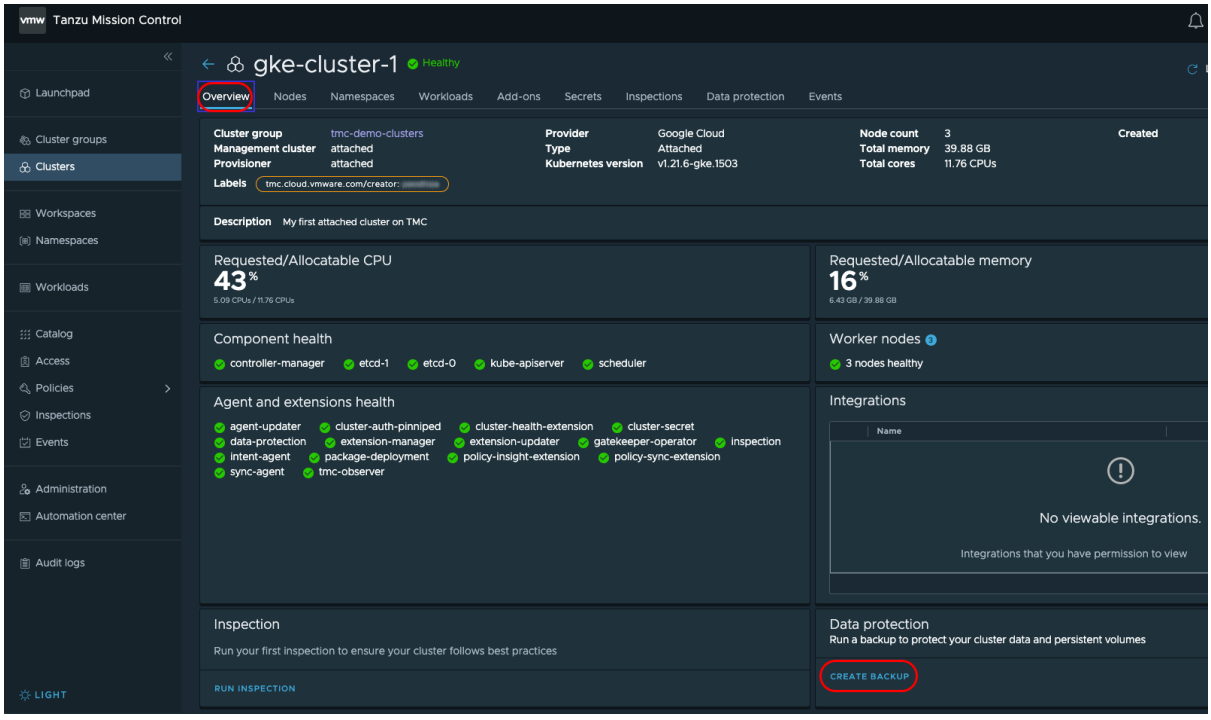
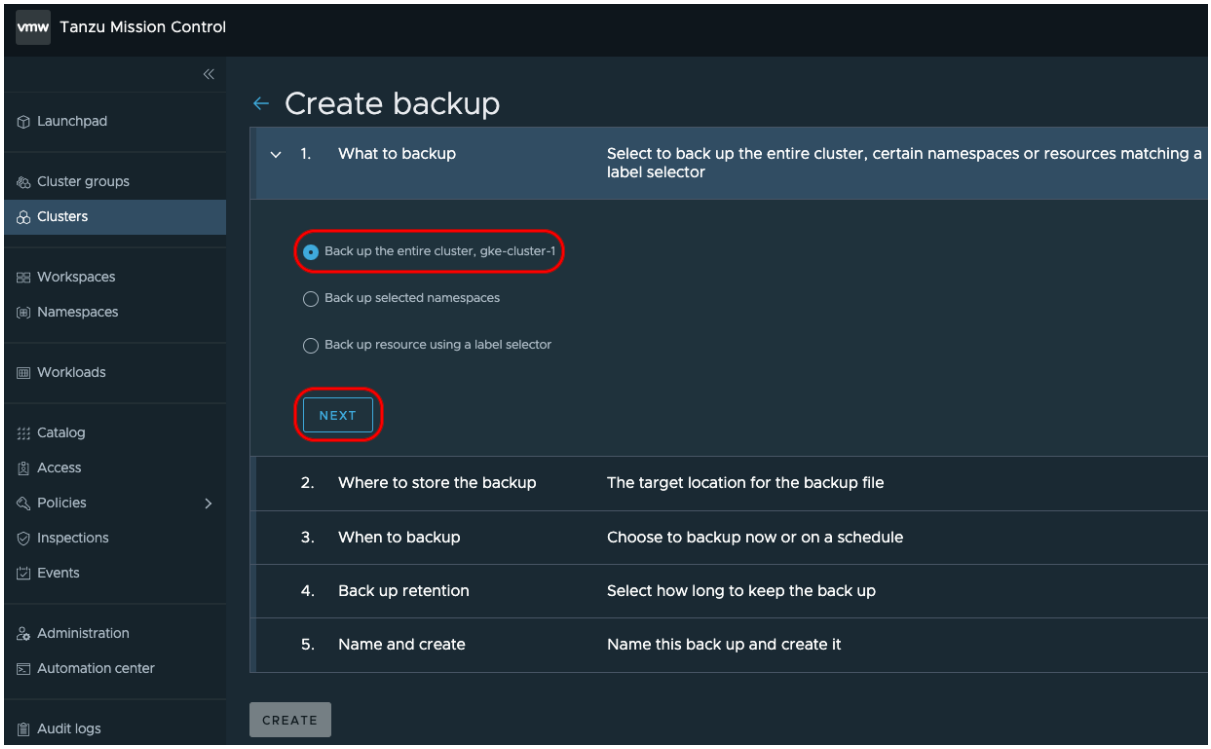
Administration
Automation center
Audit logs
tmc-demo-clusters
2
Overview
Integrations
Your group of clusters
This is a view of all clusters within this cluster group that you have permissions to view. You can apply a common set of policies to these clusters. Clusters in a cluster group can exist in one or more physical environments, and can be shared across teams.
Create or attach a cluster to this group.
CREATE CLUSTER
ATTACH CLUSTER
Labels
Description My first cluster group
MOVE
DETACH
DELETE
Name
Health
Status
Version
Cluster group
Type
Management cluster
ALL FILTERS
Health
Healthy
CLEAR FILTERS
Name
Health
Status
Provider
Version
gke-cluster-1
Healthy
Ready
Google Cloud
v1.21.6-gke.1503
tkg-aws-workload-cluster
Healthy
Ready
AWS
v1.22.5+vmware.1-...

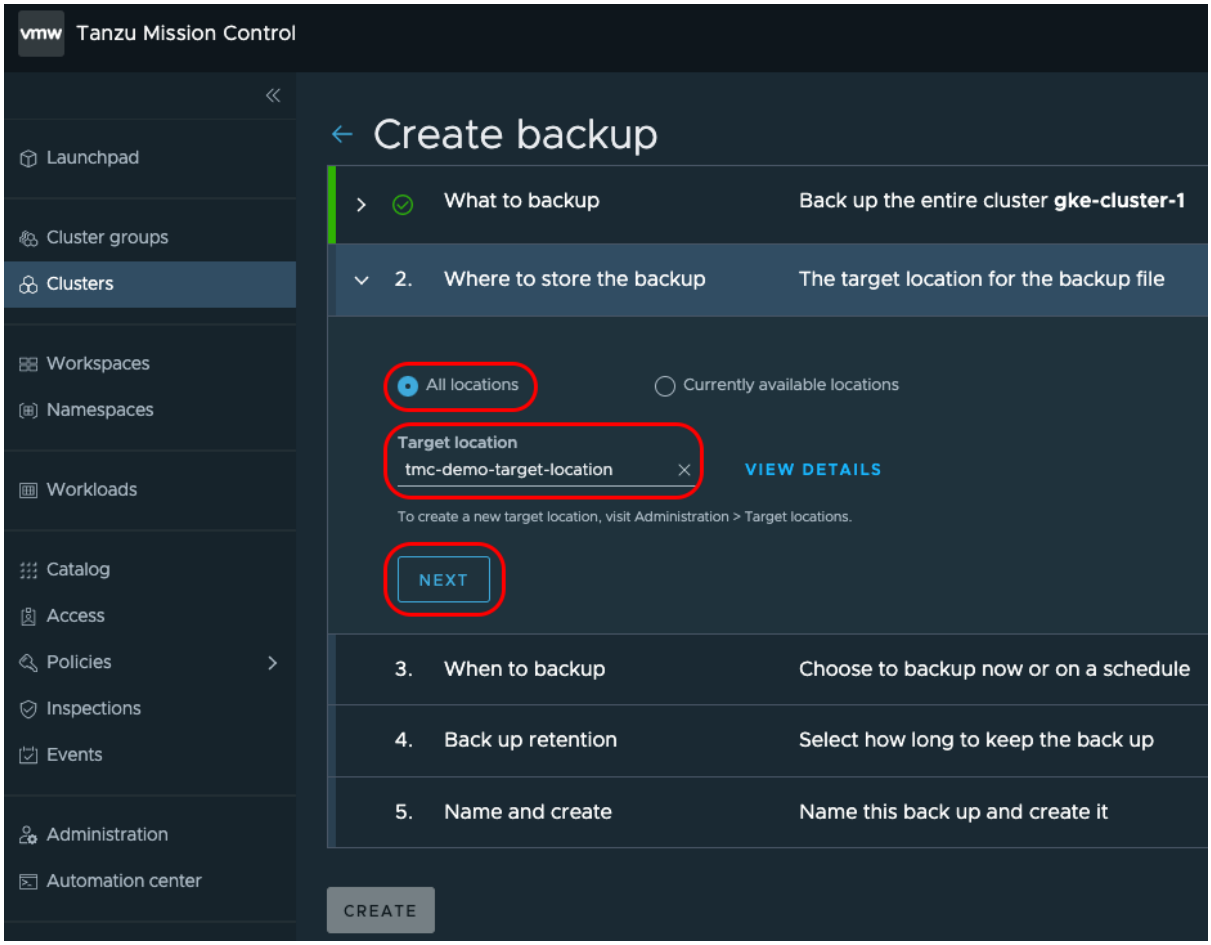

Tanzu Mission Control
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Events
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
LIGHT
Cluster group tmc-demo-clusters
Management cluster attached
Provisioner attached
Labels tmc.cloud.vmware.com/creator:
Provider Google Cloud
Type Attached
Kubernetes version v1.21.6-gke.1503
Node count 4
Total memory 11.27 GB
Total cores 3.76 CPUs
Created
Description My first attached cluster on TMC
Requested/Allocatable CPU
87%
3.26 CPUs / 3.76 CPUs
Requested/Allocatable memory
44%
4.93 GB / 11.27 GB
Component health
controller-manager
etcd-1
etcd-0
kube-apiserver
scheduler
Worker nodes
4 nodes healthy
Agent and extensions health
agent-updater
cluster-auth-pinniped
cluster-health-extension
cluster-secret
extension-manager
extension-updater
gatekeeper-operator
inspection
intent-agent
package-deployment
policy-insight-extension
policy-sync-extension
sync-agent
tmc-observer
Integrations
Name
No viewable integrati
Integrations that you have permission to
Inspection
Run your first inspection to ensure your cluster follows best practices
RUN INSPECTION
Data protection
Data protection is not enabled
Back up your cluster data and persistent volumes
ENABLE DATA PROTECTION

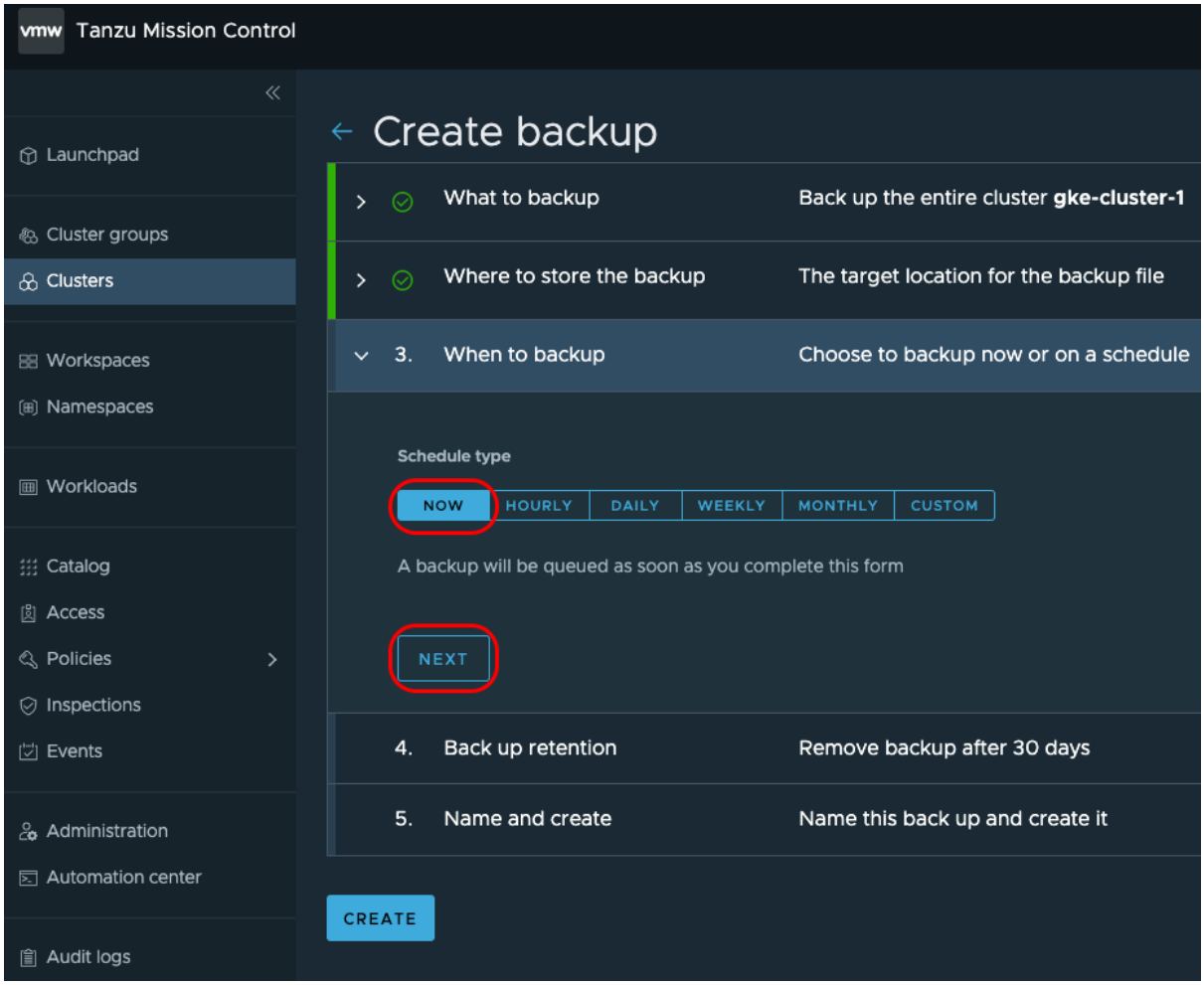

Enable data protection
To enable data protection, we will install Velero on your cluster.
To learn more about how we use Velero to provide data protection, click here
CANCEL
ENABLE

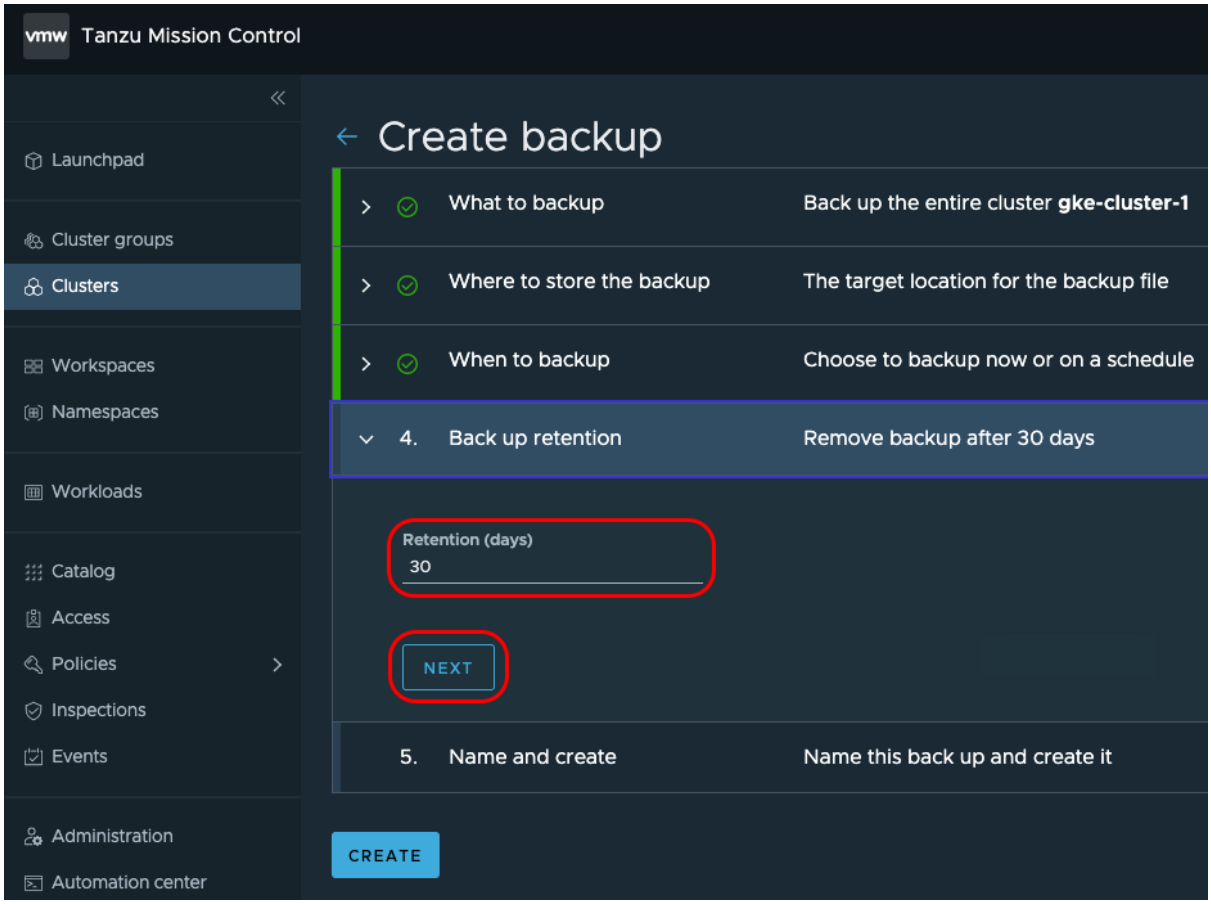

Tanzu Mission Control
gke-cluster-1
Healthy
Last updated 1 minute ago
ACTIONS
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Hide Tanzu workloads
Hide system workloads
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Name
Object
Health
Pods
Namespace
Workspace
Labels
Created
gatekeeper-audit
Deployment
gatekeeper-system
2 days ago
gatekeeper-audit-66db46f5f8
ReplicaSet
gatekeeper-system
2 days ago
gatekeeper-controller-manager
Deployment
gatekeeper-system
2 days ago
gatekeeper-controller-manager-6cd9...
ReplicaSet
gatekeeper-system
2 days ago
nginx-deployment
Deployment
nginx
7 minutes ago
nginx-deployment-746ccc65d8
ReplicaSet
nginx
7 minutes ago
restic
DaemonSet
Unknown
velero
7 hours ago
velero
Deployment
velero
7 hours ago
velero-77bc95d77b
ReplicaSet
velero
7 hours ago
1 to 9 of 9 Workloads

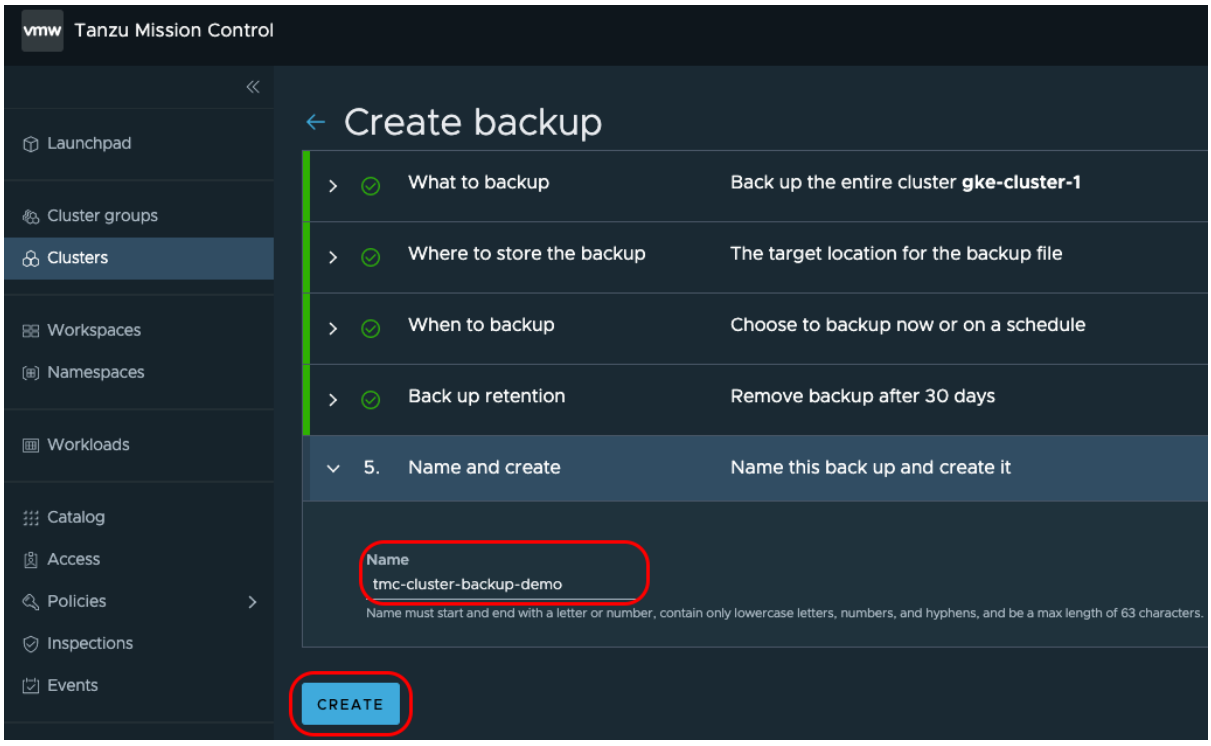

Tanzu Mission Control
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
LIGHT
Cluster group tmc-demo-clusters
Management cluster attached
Provisioner attached
Provider Google Cloud
Type Attached
Kubernetes version v1.21.6-gke.1503
Node count 3
Total memory 39.88 GB
Total cores 11.76 CPUs
Created
Labels tmc.cloud.vmware.com/creator:
Description My first attached cluster on TMC
Requested/Allocatable CPU
43 %
5.09 CPUs / 11.76 CPUs
Requested/Allocatable memory
16 %
6.43 GB / 39.88 GB
Component health
controller-manager
etcd-1
etcd-0
kube-apiserver
scheduler
Worker nodes
3 nodes healthy
Agent and extensions health
agent-updater
cluster-auth-pinniped
cluster-health-extension
cluster-secret
data-protection
extension-manager
extension-updater
gatekeeper-operator
inspection
intent-agent
package-deployment
policy-insight-extension
policy-sync-extension
sync-agent
tmc-observer
Integrations
Name
No viewable integrations.
Integrations that you have permission to view
Inspection
Run your first inspection to ensure your cluster follows best practices
RUN INSPECTION
Data protection
Run a backup to protect your cluster data and persistent volumes
CREATE BACKUP

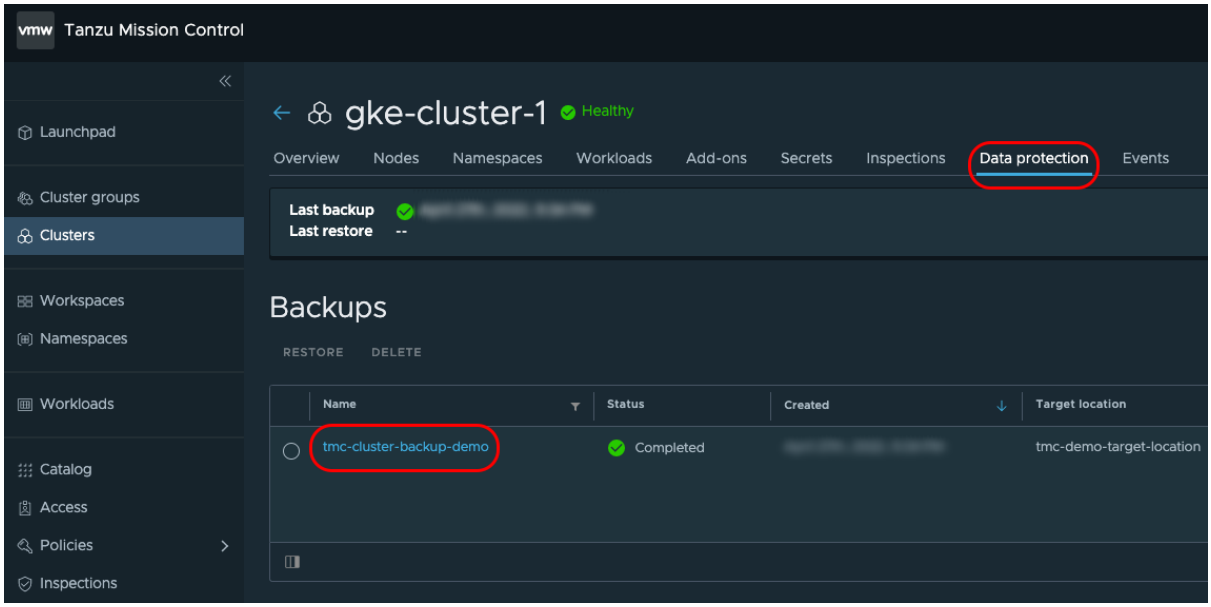

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Create backup
1. What to backup
Select to back up the entire cluster, certain namespaces or resources matching a label selector
Back up the entire cluster, gke-cluster-1
Back up selected namespaces
Back up resource using a label selector
NEXT
2. Where to store the backup
The target location for the backup file
3. When to backup
Choose to backup now or on a schedule
4. Back up retention
Select how long to keep the back up
5. Name and create
Name this back up and create it
CREATE

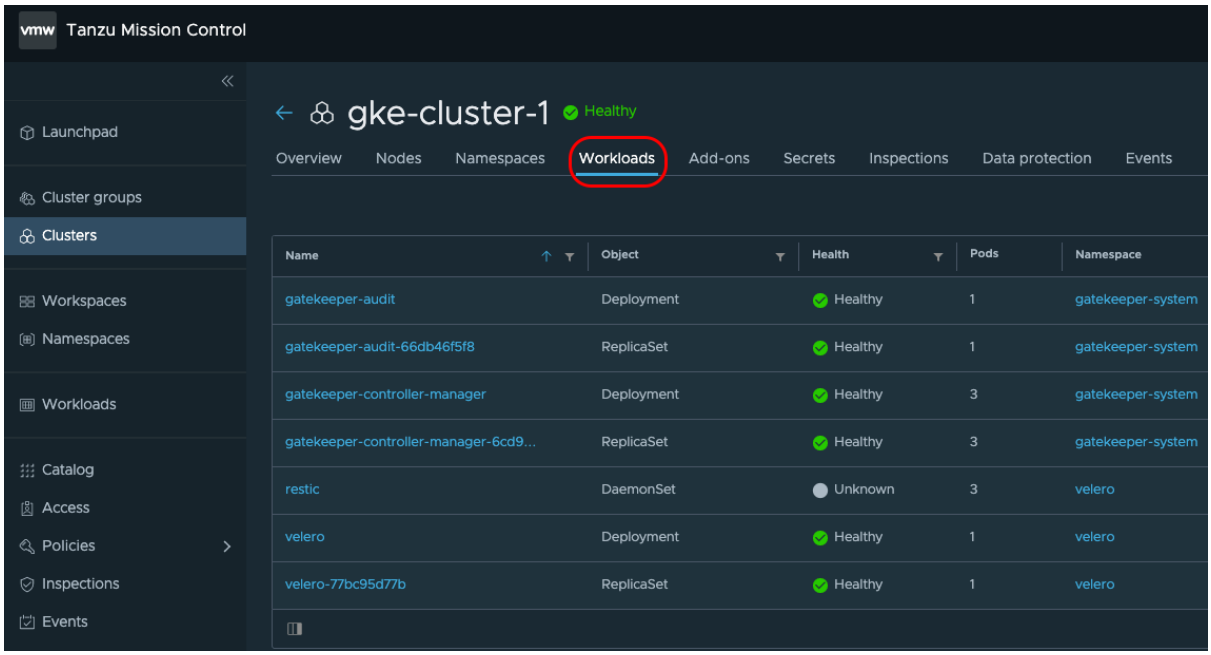

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Create backup
What to backup
Back up the entire cluster gke-cluster-1
2. Where to store the backup
The target location for the backup file
All locations
Currently available locations
Target location
tmc-demo-target-location
VIEW DETAILS
To create a new target location, visit Administration > Target locations.
NEXT
3. When to backup
Choose to backup now or on a schedule
4. Back up retention
Select how long to keep the back up
5. Name and create
Name this back up and create it
CREATE

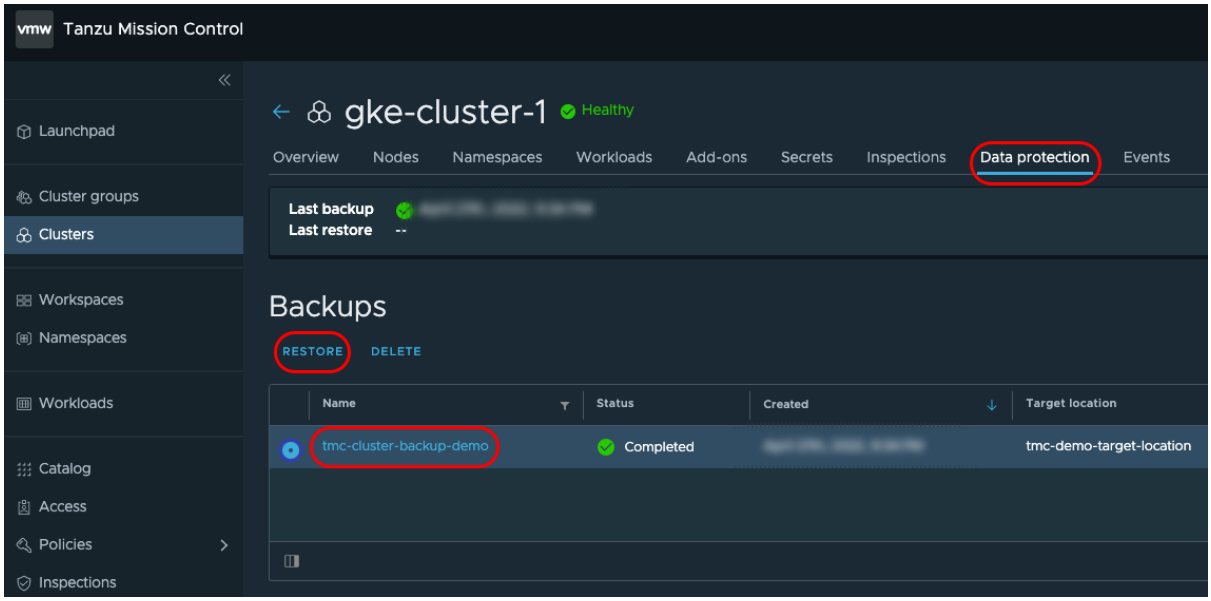

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Create backup
What to backup
Back up the entire cluster gke-cluster-1
Where to store the backup
The target location for the backup file
3. When to backup
Choose to backup now or on a schedule
Schedule type
NOW
HOURLY
DAILY
WEEKLY
MONTHLY
CUSTOM
A backup will be queued as soon as you complete this form
NEXT
4. Back up retention
Remove backup after 30 days
5. Name and create
Name this back up and create it
CREATE

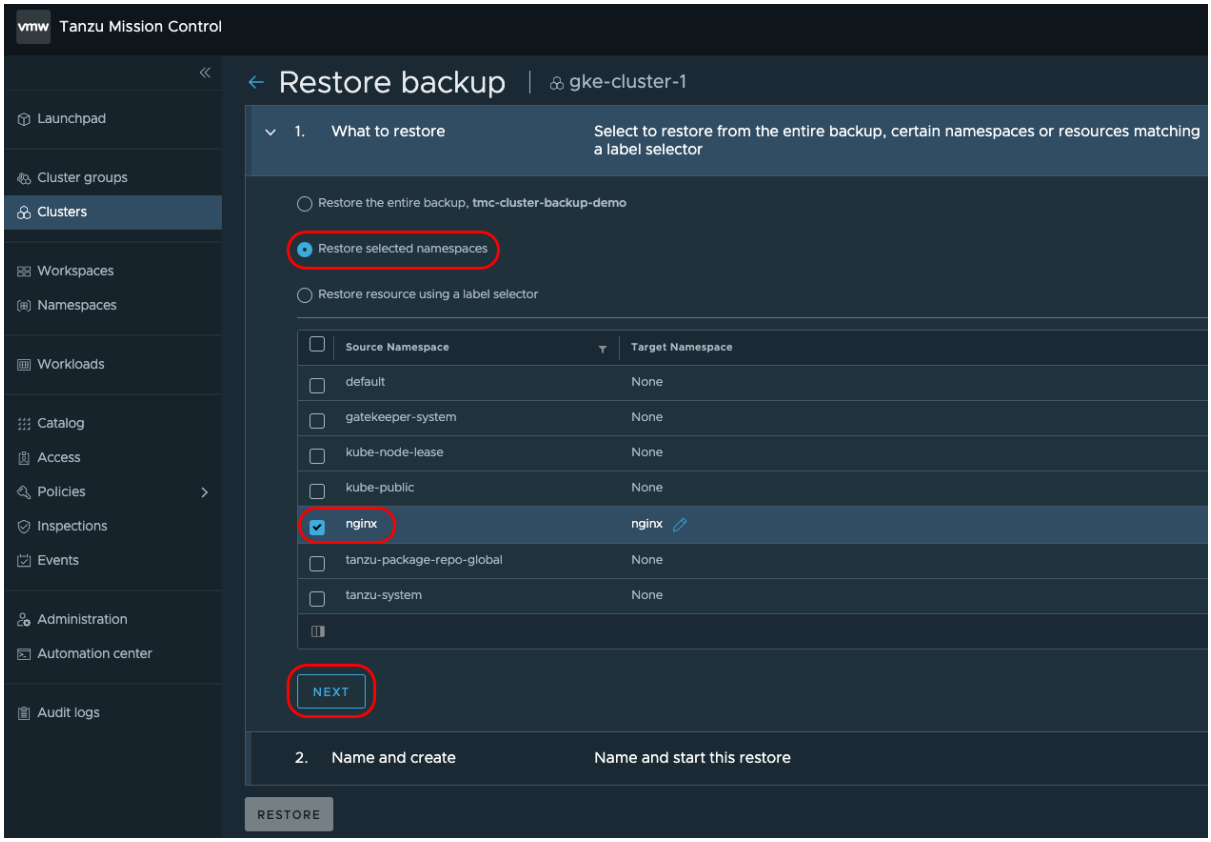

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Create backup
What to backup
Back up the entire cluster gke-cluster-1
Where to store the backup
The target location for the backup file
When to backup
Choose to backup now or on a schedule
4. Back up retention
Remove backup after 30 days
Retention (days)
30
NEXT
5. Name and create
Name this back up and create it
CREATE

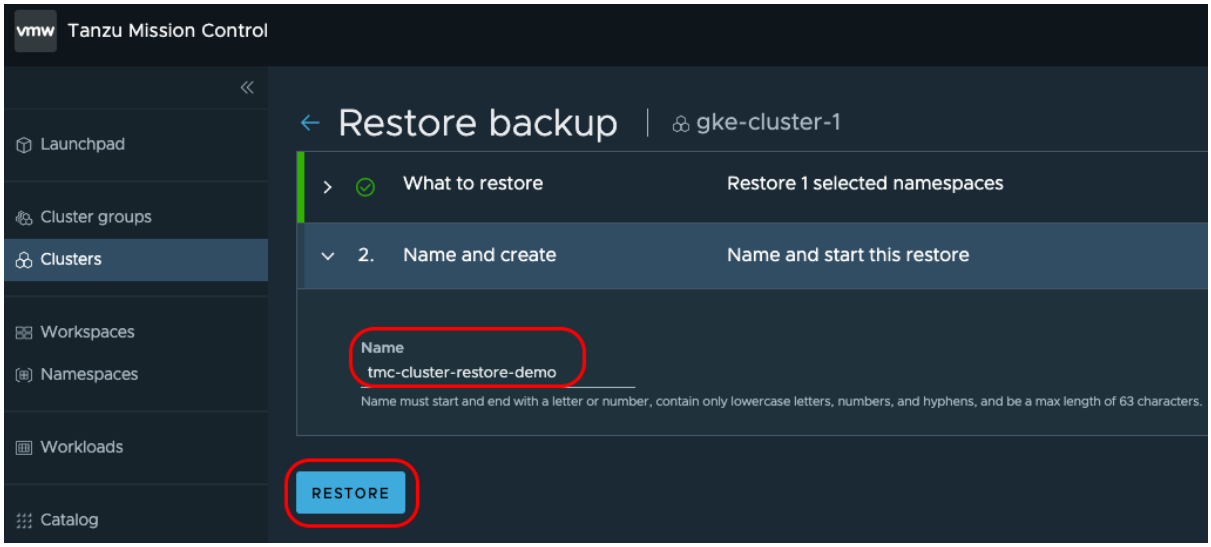

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Create backup
What to backup
Back up the entire cluster gke-cluster-1
Where to store the backup
The target location for the backup file
When to backup
Choose to backup now or on a schedule
Back up retention
Remove backup after 30 days
5. Name and create
Name this back up and create it
Name
tmc-cluster-backup-demo
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
CREATE

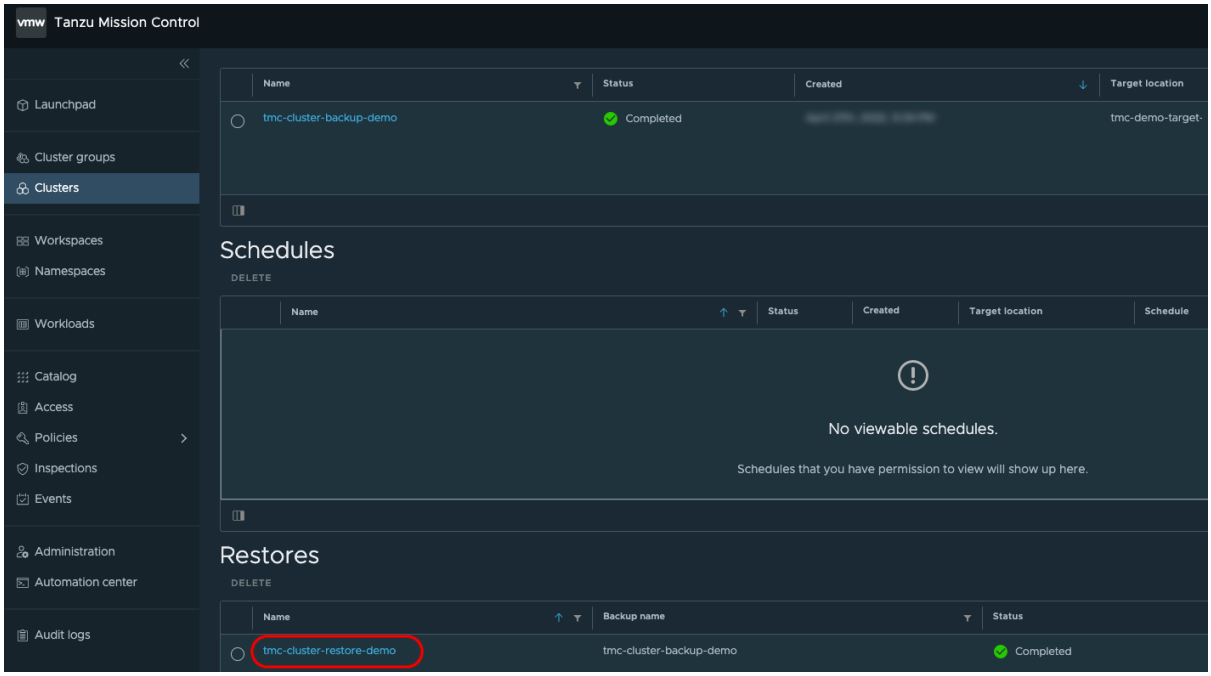

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Last backup
Last restore
--
Backups
RESTORE
DELETE
Name
Status
Created
Target location
tmc-cluster-backup-demo
Completed
tmc-demo-target-location

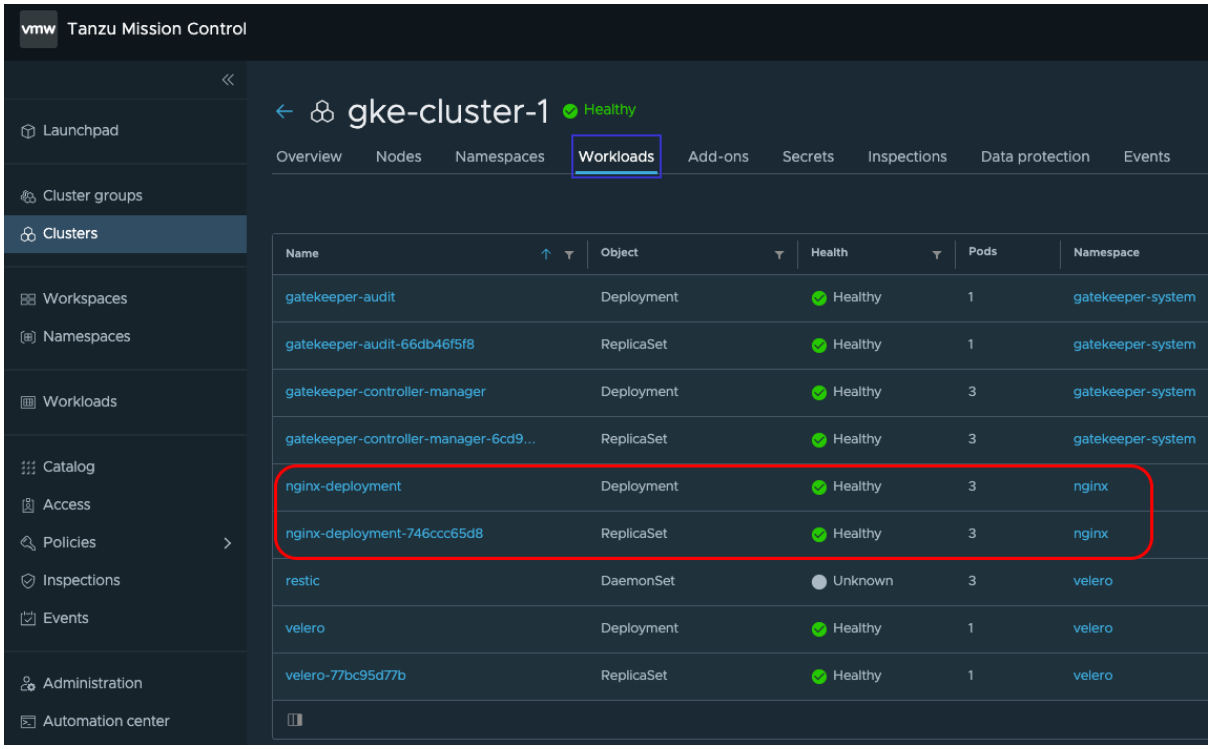

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Name
Object
Health
Pods
Namespace
gatekeeper-audit
Deployment
Healthy
1
gatekeeper-system
gatekeeper-audit-66db46f5f8
ReplicaSet
Healthy
1
gatekeeper-system
gatekeeper-controller-manager
Deployment
Healthy
3
gatekeeper-system
gatekeeper-controller-manager-6cd9...
ReplicaSet
Healthy
3
gatekeeper-system
restic
DaemonSet
Unknown
3
velero
velero
Deployment
Healthy
1
velero
velero-77bc95d77b
ReplicaSet
Healthy
1
velero

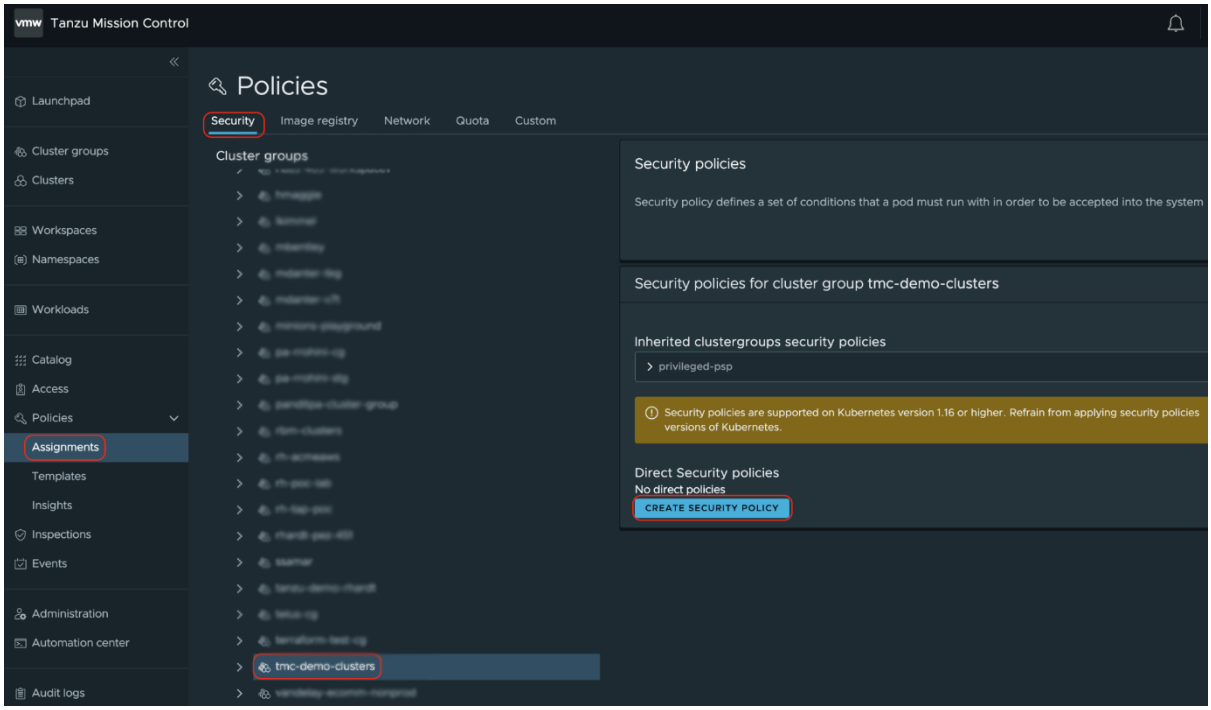

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Last backup
Last restore
--
Backups
RESTORE
DELETE
Name
Status
Created
Target location
tmc-cluster-backup-demo
Completed
tmc-demo-target-location

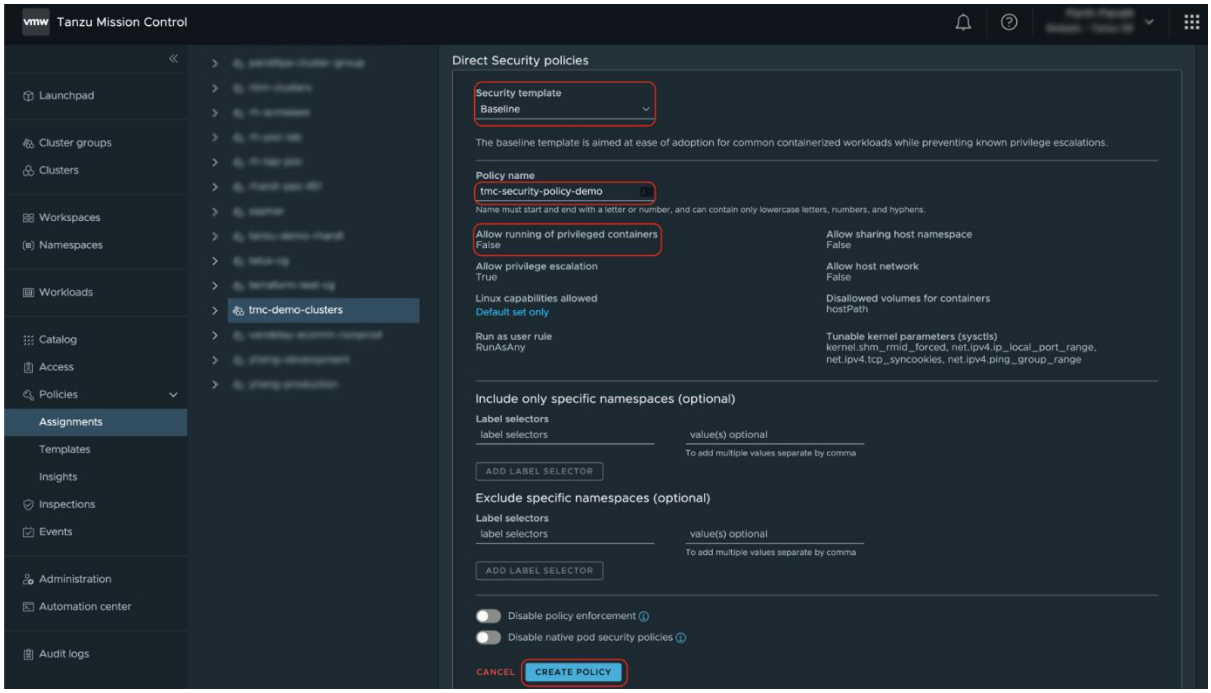

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Restore backup
gke-cluster-1
1. What to restore
Select to restore from the entire backup, certain namespaces or resources matching a label selector
Restore the entire backup, tmc-cluster-backup-demo
Restore selected namespaces
Restore resource using a label selector
Source Namespace
Target Namespace
default
None
gatekeeper-system
None
kube-node-lease
None
kube-public
None
nginx
nginx
tanzu-package-repo-global
None
tanzu-system
None
NEXT
2. Name and create
Name and start this restore
RESTORE

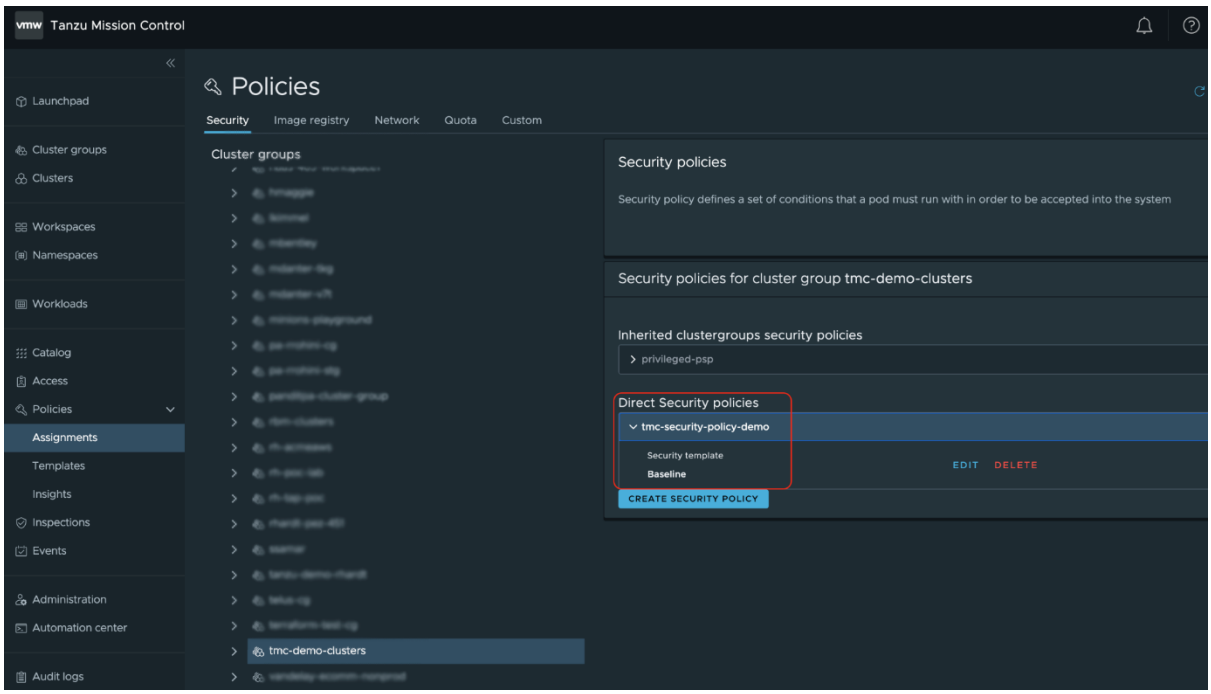

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Restore backup
gke-cluster-1
What to restore
Restore 1 selected namespaces
2. Name and create
Name and start this restore
Name
tmc-cluster-restore-demo
Name must start and end with a letter or number, contain only lowercase letters, numbers, and hyphens, and be a max length of 63 characters.
RESTORE


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
Name
Status
Created
Target location
tmc-cluster-backup-demo
Completed
tmc-demo-target-
Schedules
DELETE
Name
Status
Created
Target location
Schedule
No viewable schedules.
Schedules that you have permission to view will show up here.
Restores
DELETE
Name
Backup name
Status
tmc-cluster-restore-demo
tmc-cluster-backup-demo
Completed


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Name
Object
Health
Pods
Namespace
gatekeeper-audit
Deployment
Healthy
1
gatekeeper-system
gatekeeper-audit-66db46f5f8
ReplicaSet
Healthy
1
gatekeeper-system
gatekeeper-controller-manager
Deployment
Healthy
3
gatekeeper-system
gatekeeper-controller-manager-6cd9...
ReplicaSet
Healthy
3
gatekeeper-system
nginx-deployment
Deployment
Healthy
3
nginx
nginx-deployment-746ccc65d8
ReplicaSet
Healthy
3
nginx
restic
DaemonSet
Unknown
3
velero
velero
Deployment
Healthy
1
velero
velero-77bc95d77b
ReplicaSet
Healthy
1
velero


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Audit logs
Policies
Security
Image registry
Network
Quota
Custom
Cluster groups
tmc-demo-clusters
Security policies
Security policy defines a set of conditions that a pod must run with in order to be accepted into the system
Security policies for cluster group tmc-demo-clusters
Inherited clustergroups security policies
privileged-psp
Security policies are supported on Kubernetes version 1.16 or higher. Refrain from applying security policies versions of Kubernetes.
Direct Security policies
No direct policies
CREATE SECURITY POLICY


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Audit logs
tmc-demo-clusters
Direct Security policies
Security template
Baseline
The baseline template is aimed at ease of adoption for common containerized workloads while preventing known privilege escalations.
Policy name
tmc-security-policy-demo
Name must start and end with a letter or number, and can contain only lowercase letters, numbers, and hyphens.
Allow running of privileged containers
False
Allow sharing host namespace
False
Allow privilege escalation
True
Allow host network
False
Linux capabilities allowed
Default set only
Disallowed volumes for containers
hostPath
Run as user rule
RunAsAny
Tunable kernel parameters (sysctls)
kernel.shm_rmid_forced, net.ipv4.ip_local_port_range, net.ipv4.tcp_syncookies, net.ipv4.ping_group_range
Include only specific namespaces (optional)
Label selectors
label selectors
value(s) optional
To add multiple values separate by comma
ADD LABEL SELECTOR
Exclude specific namespaces (optional)
Label selectors
label selectors
value(s) optional
To add multiple values separate by comma
ADD LABEL SELECTOR
Disable policy enforcement
Disable native pod security policies
CANCEL
CREATE POLICY


vmw Tanzu Mission Control
Launchpad
Cluster groups
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Workspaces
Namespaces
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Catalog
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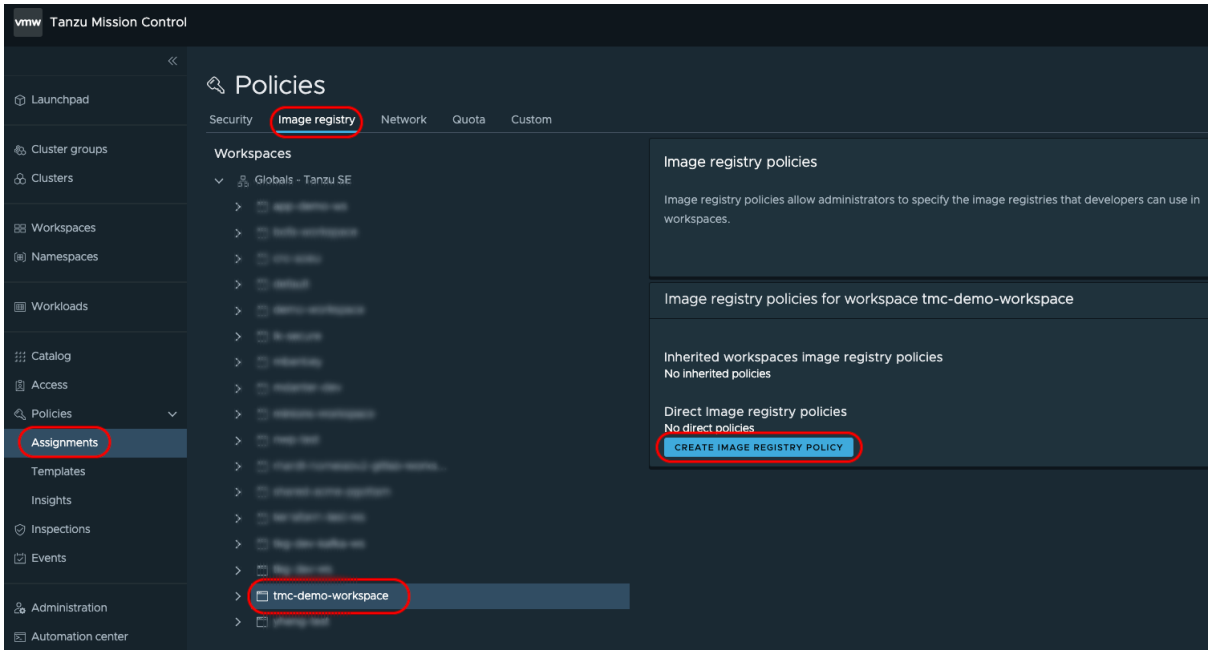
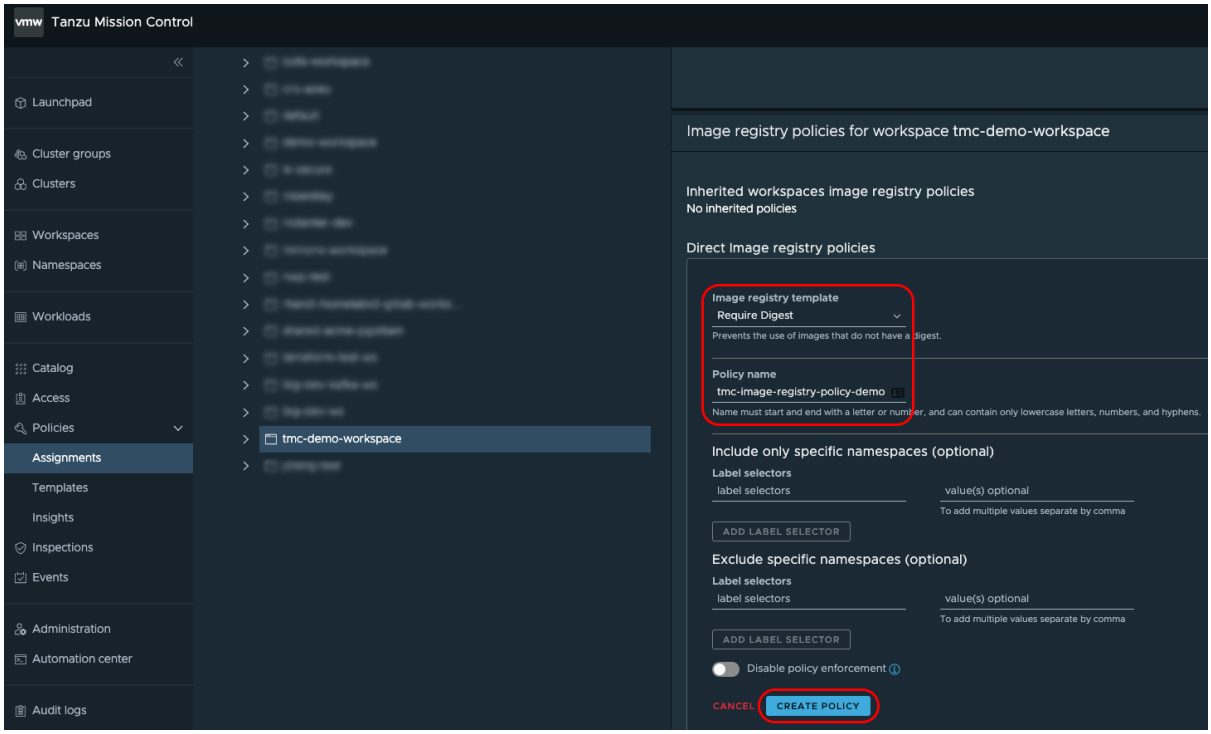
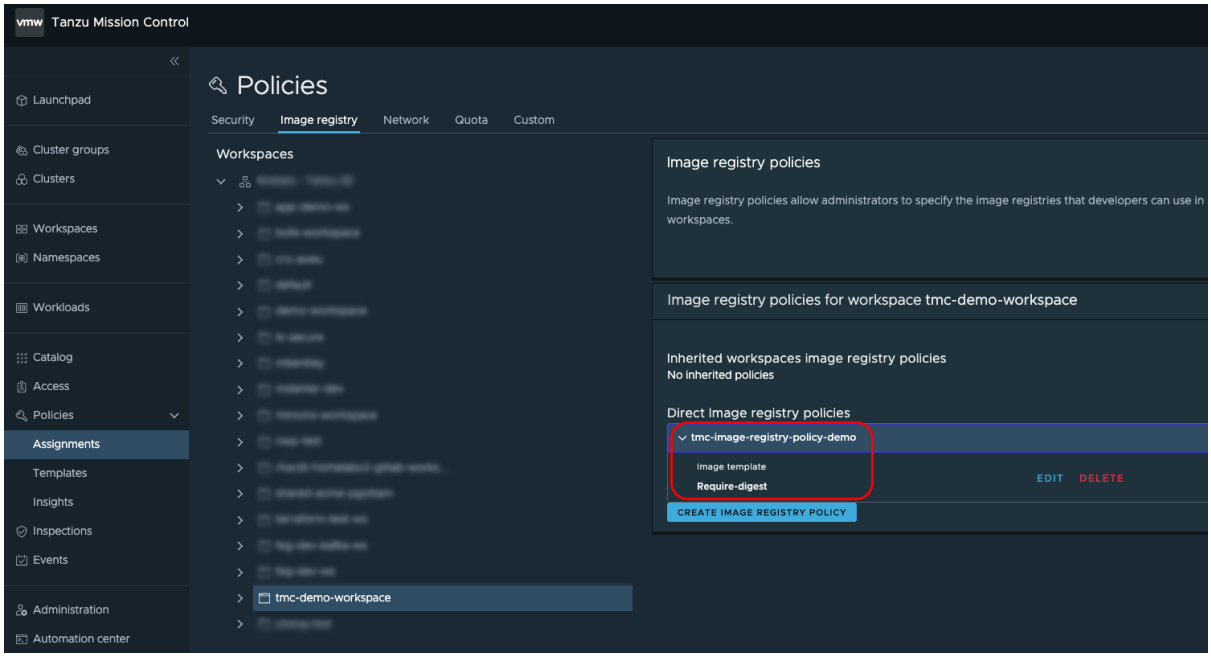
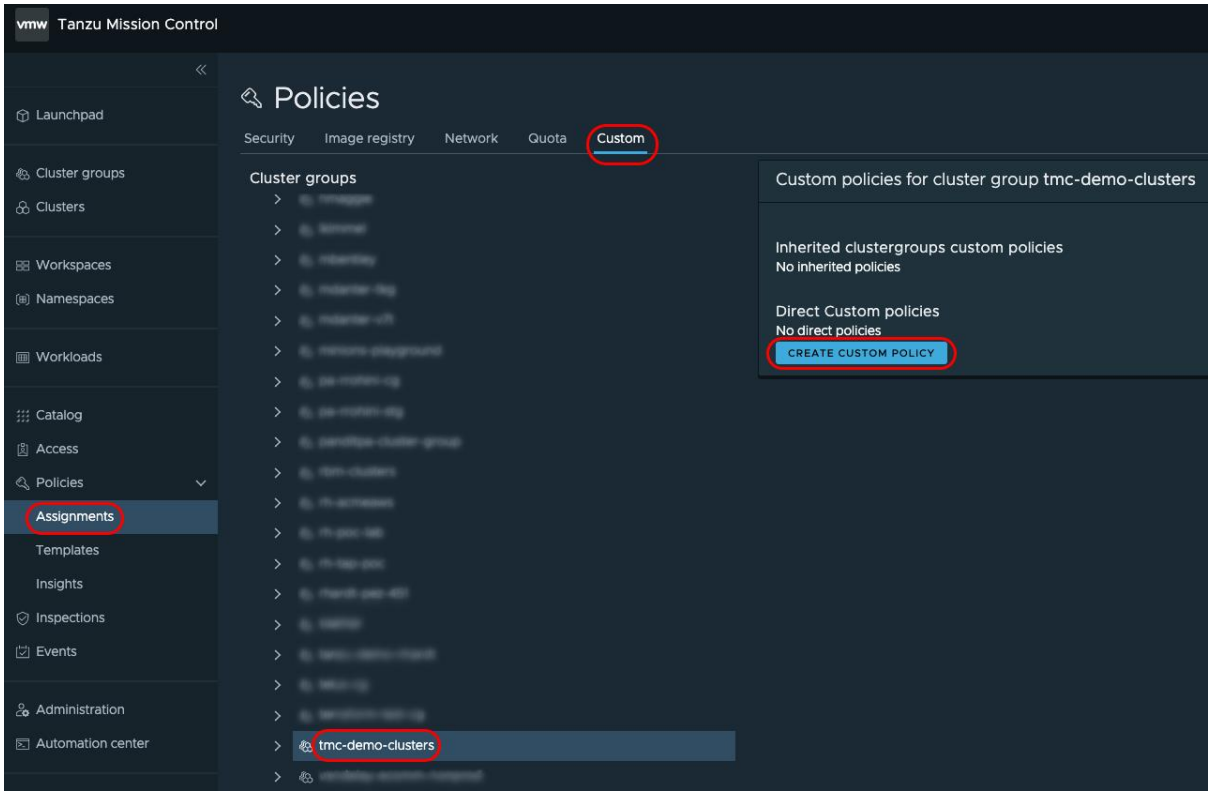
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Audit logs
tmc-demo-clusters
Policies
Security
Image registry
Network
Quota
Custom
Cluster groups
Security policies
Security policy defines a set of conditions that a pod must run with in order to be accepted into the system
Security policies for cluster group tmc-demo-clusters
Inherited clustergroups security policies
privileged-psp
Direct Security policies
tmc-security-policy-demo
Security template
Baseline
EDIT
DELETE
CREATE SECURITY POLICY


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Policies
Security
Image registry
Network
Quota
Custom
Workspaces
Globals - Tanzu SE
tmc-demo-workspace
Image registry policies
Image registry policies allow administrators to specify the image registries that developers can use in workspaces.
Image registry policies for workspace tmc-demo-workspace
Inherited workspaces image registry policies
No inherited policies
Direct Image registry policies
No direct policies
CREATE IMAGE REGISTRY POLICY


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Audit logs
tmc-demo-workspace
Image registry policies for workspace tmc-demo-workspace
Inherited workspaces image registry policies
No inherited policies
Direct Image registry policies
Image registry template
Require Digest
Prevents the use of images that do not have a digest.
Policy name
tmc-image-registry-policy-demo
Name must start and end with a letter or number, and can contain only lowercase letters, numbers, and hyphens.
Include only specific namespaces (optional)
Label selectors
label selectors
value(s) optional
To add multiple values separate by comma
ADD LABEL SELECTOR
Exclude specific namespaces (optional)
Label selectors
label selectors
value(s) optional
To add multiple values separate by comma
ADD LABEL SELECTOR
Disable policy enforcement
CANCEL
CREATE POLICY


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Policies
Security
Image registry
Network
Quota
Custom
Workspaces
tmc-demo-workspace
Image registry policies
Image registry policies allow administrators to specify the image registries that developers can use in workspaces.
Image registry policies for workspace tmc-demo-workspace
Inherited workspaces image registry policies
No inherited policies
Direct Image registry policies
tmc-image-registry-policy-demo
Image template
Require-digest
EDIT
DELETE
CREATE IMAGE REGISTRY POLICY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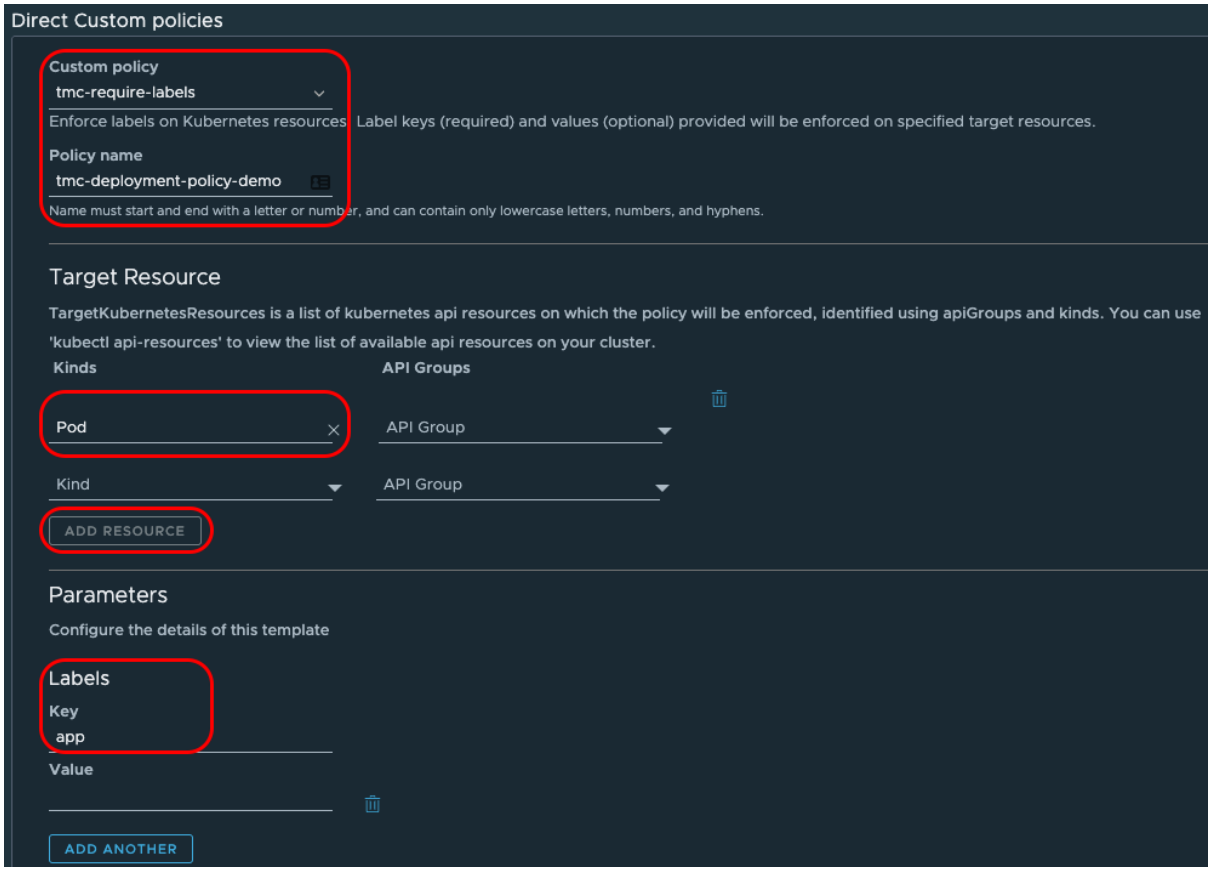
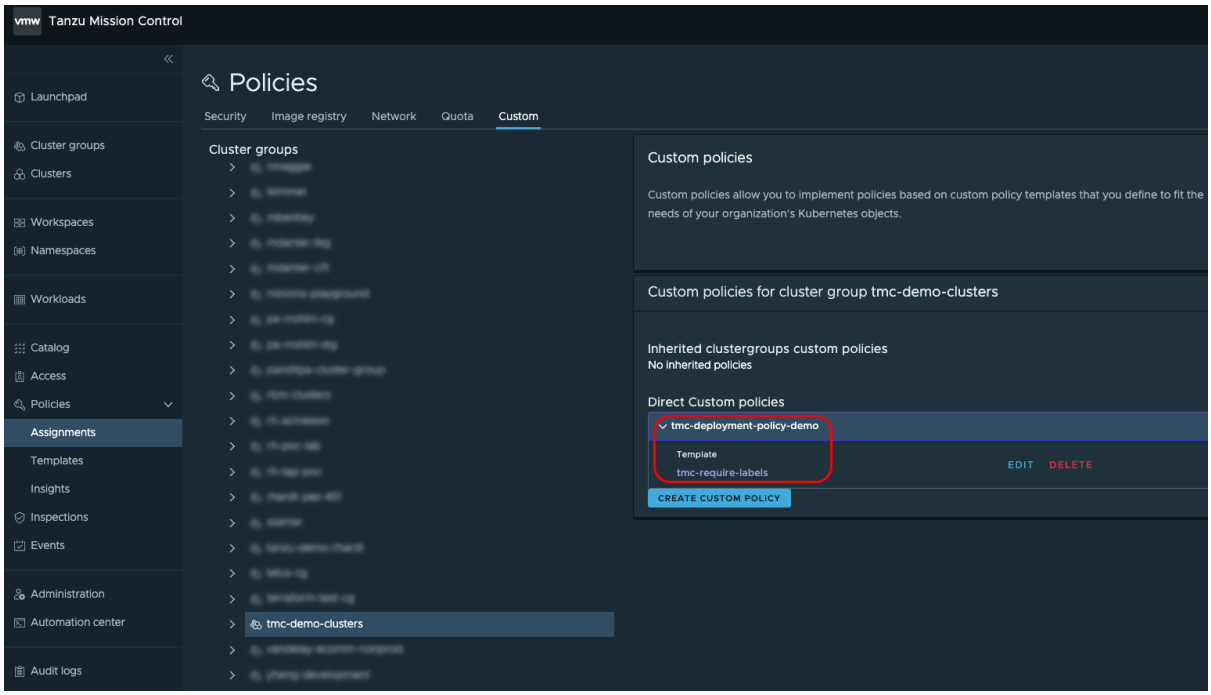
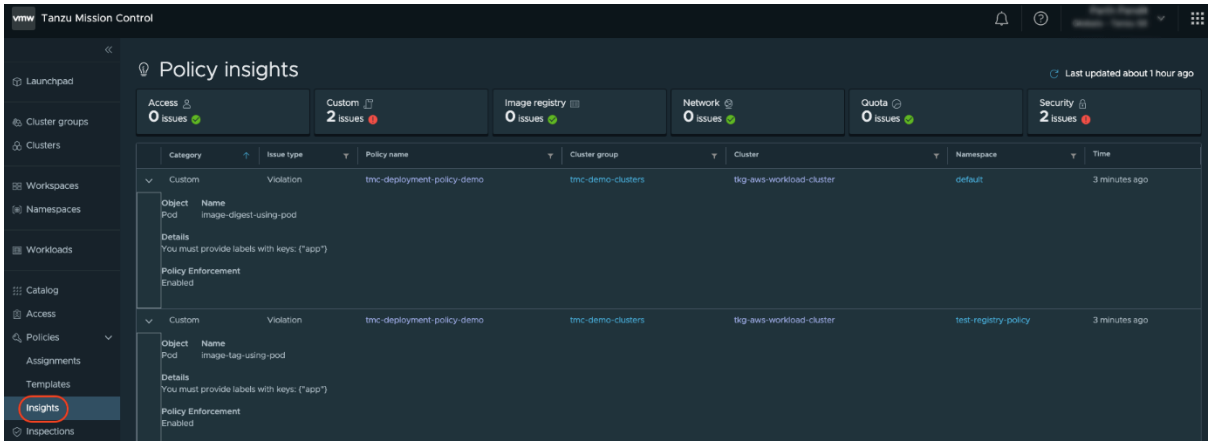
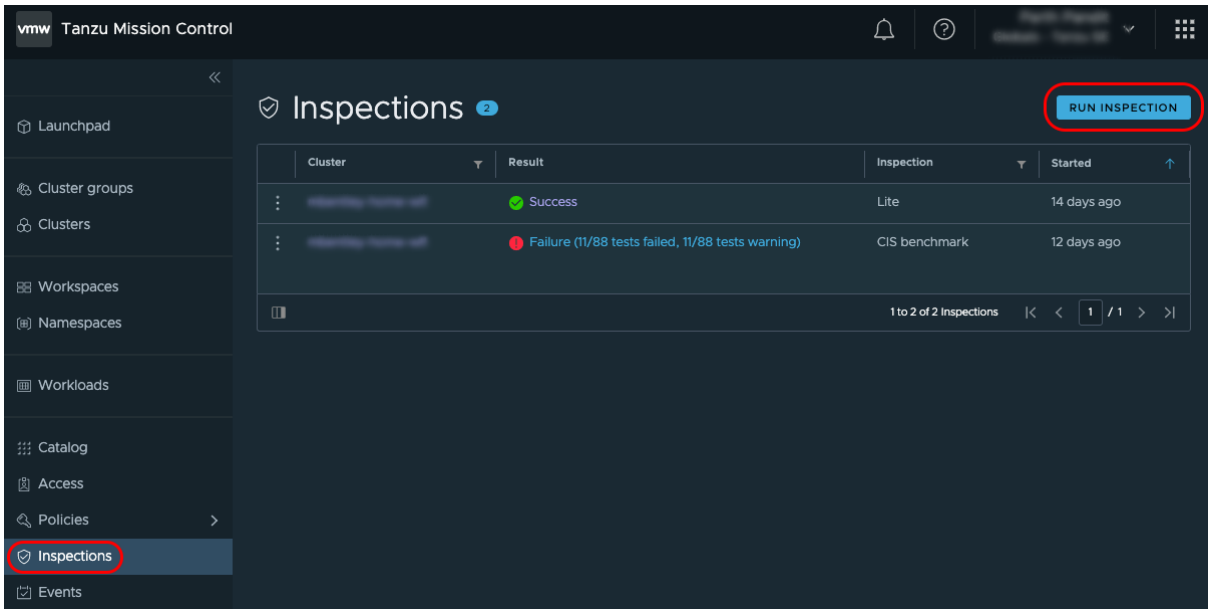
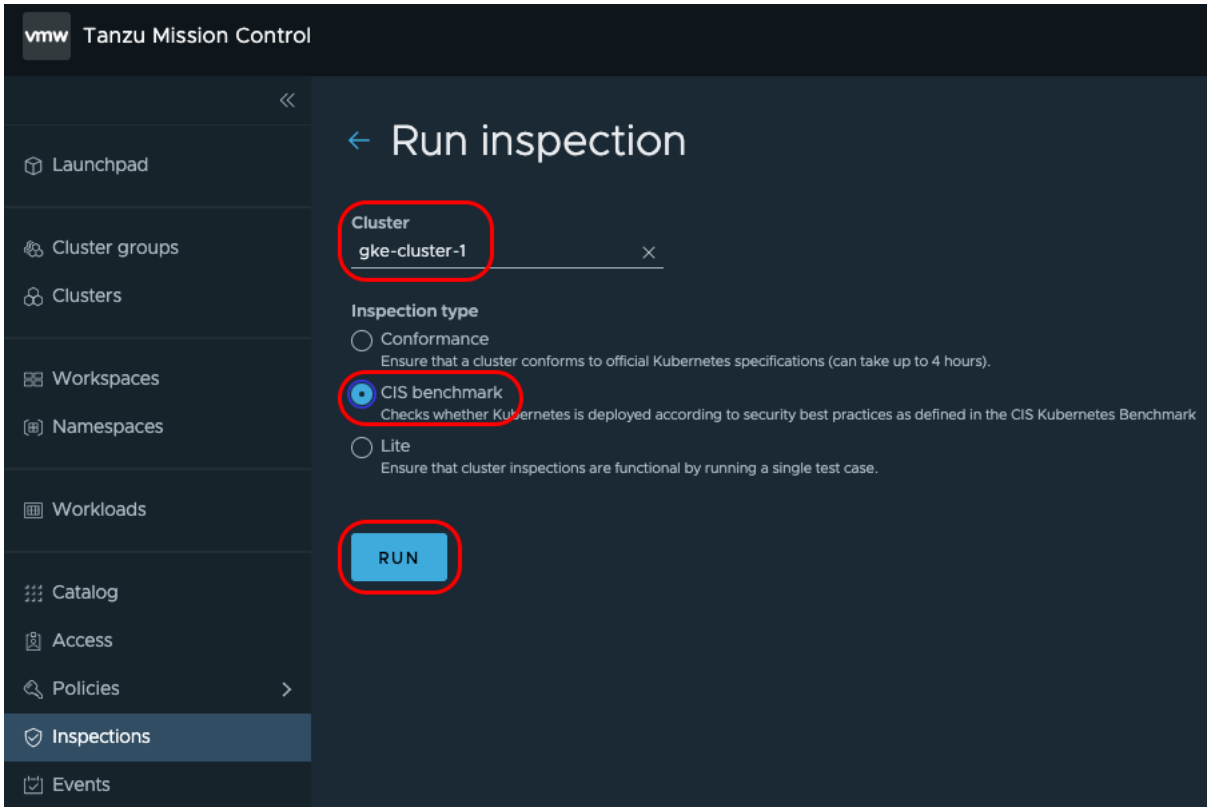
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Policies
Security
Image registry
Network
Quota
Custom
Cluster groups
tmc-demo-clusters
Custom policies for cluster group tmc-demo-clusters
Inherited clustergroups custom policies
No inherited policies
Direct Custom policies
No direct policies
CREATE CUSTOM POLICY

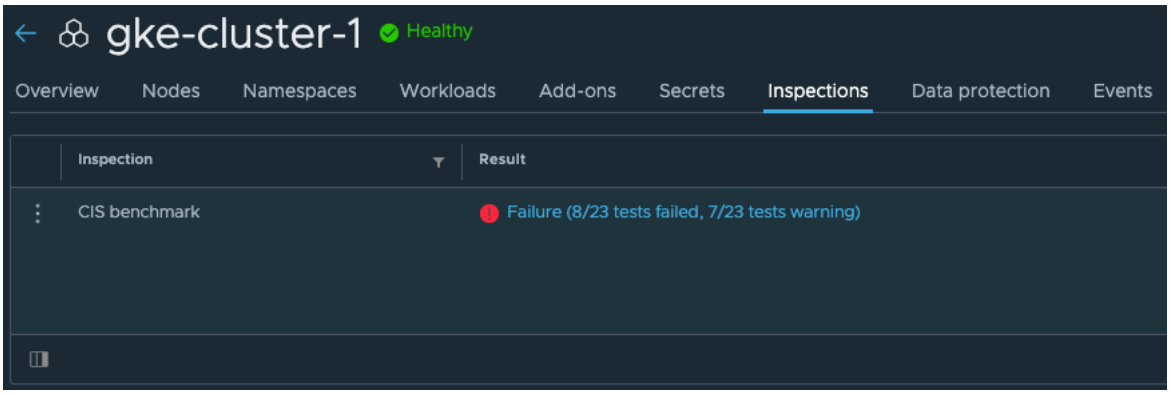

Direct Custom policies
Custom policy
tmc-require-labels
Enforce labels on Kubernetes resources. Label keys (required) and values (optional) provided will be enforced on specified target resources.
Policy name
tmc-deployment-policy-demo
Name must start and end with a letter or number, and can contain only lowercase letters, numbers, and hyphens.
Target Resource
TargetKubernetesResources is a list of kubernetes api resources on which the policy will be enforced, identified using apiGroups and kinds. You can use 'kubectl api-resources' to view the list of available api resources on your cluster.
Kinds
API Groups
Pod
API Group
Kind
API Group
ADD RESOURCE
Parameters
Configure the details of this template
Labels
Key
app
Value
ADD ANOTHER

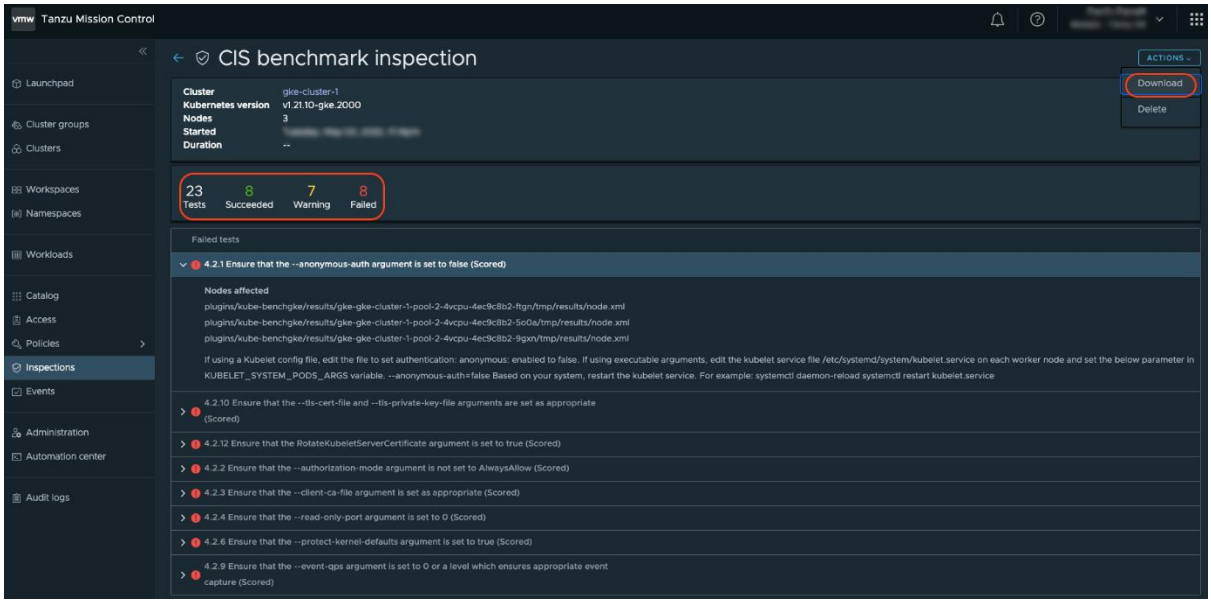

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Events
Administration
Automation center
Audit logs
Policies
Security
Image registry
Network
Quota
Custom
Cluster groups
tmc-demo-clusters
Custom policies
Custom policies allow you to implement policies based on custom policy templates that you define to fit the needs of your organization's Kubernetes objects.
Custom policies for cluster group tmc-demo-clusters
Inherited clustergroups custom policies
No inherited policies
Direct Custom policies
tmc-deployment-policy-demo
Template
tmc-require-labels
EDIT
DELETE
CREATE CUSTOM POLICY


Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Assignments
Templates
Insights
Inspections
Policy insights
Last updated about 1 hour ago
Access 0 issues
Custom 2 issues
Image registry 0 issues
Network 0 issues
Quota 0 issues
Security 2 issues
Category
Issue type
Policy name
Cluster group
Cluster
Namespace
Time
Custom
Violation
tmc-deployment-policy-demo
tmc-demo-clusters
tkg-aws-workload-cluster
default
3 minutes ago
Object
Name
Pod
image-digest-using-pod
Details
You must provide labels with keys: ("app")
Policy Enforcement
Enabled
Custom
Violation
tmc-deployment-policy-demo
tmc-demo-clusters
tkg-aws-workload-cluster
test-registry-policy
3 minutes ago
Object
Name
Pod
image-tag-using-pod
Details
You must provide labels with keys: ("app")
Policy Enforcement
Enabled

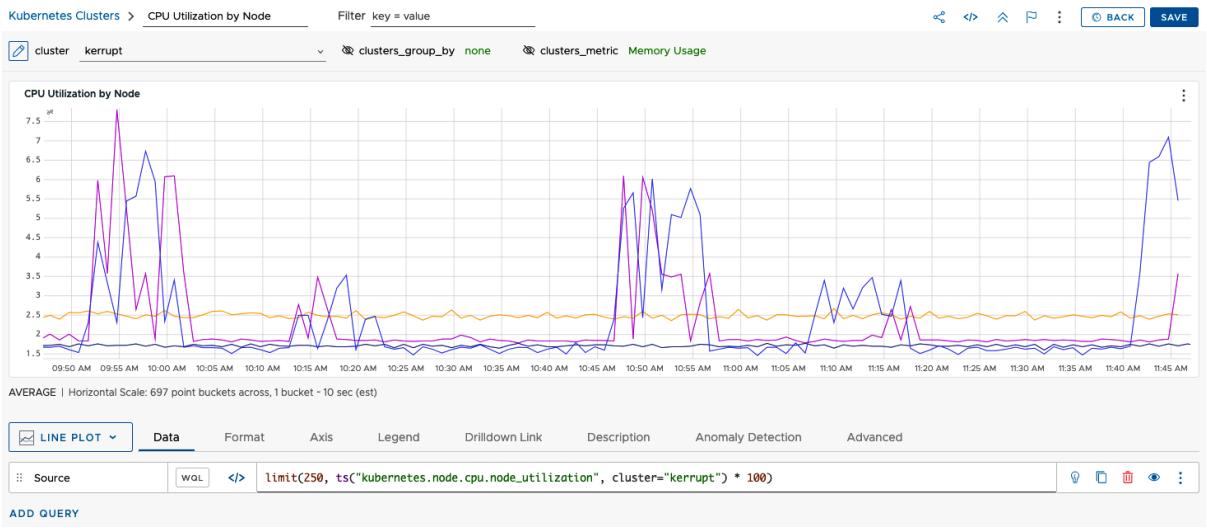

Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Inspections 2
RUN INSPECTION
Cluster
Result
Inspection
Started
Success
Lite
14 days ago
Failure (11/88 tests failed, 11/88 tests warning)
CIS benchmark
12 days ago
1 to 2 of 2 Inspections
1 / 1

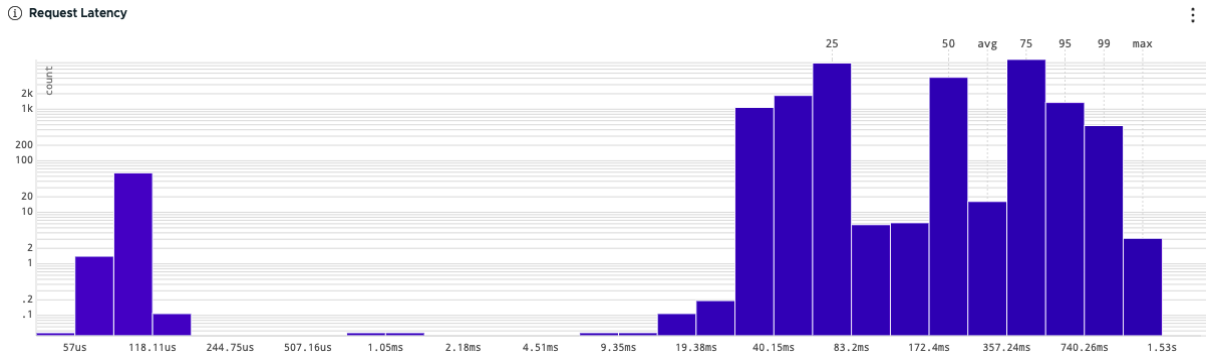

vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Run inspection
Cluster
gke-cluster-1
Inspection type
Conformance
Ensure that a cluster conforms to official Kubernetes specifications (can take up to 4 hours).
CIS benchmark
Checks whether Kubernetes is deployed according to security best practices as defined in the CIS Kubernetes Benchmark
Lite
Ensure that cluster inspections are functional by running a single test case.
RUN


gke-cluster-1
Healthy
Overview
Nodes
Namespaces
Workloads
Add-ons
Secrets
Inspections
Data protection
Events
Inspection
Result
CIS benchmark
Failure (8/23 tests failed, 7/23 tests warning)


vmw Tanzu Mission Control
Launchpad
Cluster groups
Clusters
Workspaces
Namespaces
Workloads
Catalog
Access
Policies
Inspections
Events
Administration
Automation center
Audit logs
CIS benchmark inspection
ACTIONS
Download
Delete
Cluster gke-cluster-1
Kubernetes version v1.21.10-gke.2000
Nodes 3
Started
Duration --
23 Tests
8 Succeeded
7 Warning
8 Failed
Failed tests
4.2.1 Ensure that the --anonymous-auth argument is set to false (Scored)
Nodes affected
plugins/kube-benchgke/results/gke-gke-cluster-1-pool-2-4vcpu-4ec9c8b2-ftgn/tmp/results/node.xml
plugins/kube-benchgke/results/gke-gke-cluster-1-pool-2-4vcpu-4ec9c8b2-5o0a/tmp/results/node.xml
plugins/kube-benchgke/results/gke-gke-cluster-1-pool-2-4vcpu-4ec9c8b2-9gxn/tmp/results/node.xml
If using a Kubelet config file, edit the file to set authentication: anonymous: enabled to false. If using executable arguments, edit the kubelet service file /etc/systemd/system/kubelet.service on each worker node and set the below parameter in KUBELET_SYSTEM_PODS_ARGS variable. --anonymous-auth=false Based on your system, restart the kubelet service. For example: systemctl daemon-reload systemctl restart kubelet.service
4.2.10 Ensure that the --tls-cert-file and --tls-private-key-file arguments are set as appropriate (Scored)
4.2.12 Ensure that the RotateKubeletServerCertificate argument is set to true (Scored)
4.2.2 Ensure that the --authorization-mode argument is not set to AlwaysAllow (Scored)
4.2.3 Ensure that the --client-ca-file argument is set as appropriate (Scored)
4.2.4 Ensure that the --read-only-port argument is set to 0 (Scored)
4.2.6 Ensure that the --protect-kernel-defaults argument is set to true (Scored)
4.2.9 Ensure that the --event-qps argument is set to 0 or a level which ensures appropriate event capture (Scored)

Chapter 10: Realizing Full-Stack Visibility with VMware Aria Operations for Applications





High CPU usage

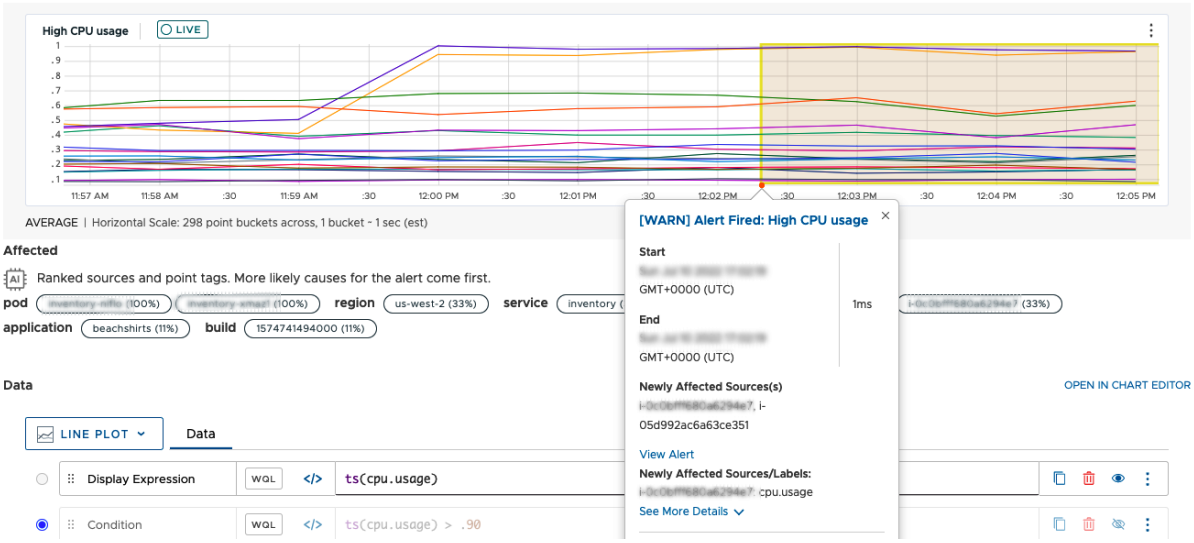
ONGOING For 5 minutes WARN

Current Status FIRING

Description Runbook: https://www.wavefront.com/resolve

Setting Alert **fires** if Condition is true for **2** minutes. Alert **resolves** if Condition is false for **2** minutes.

Alert Targets



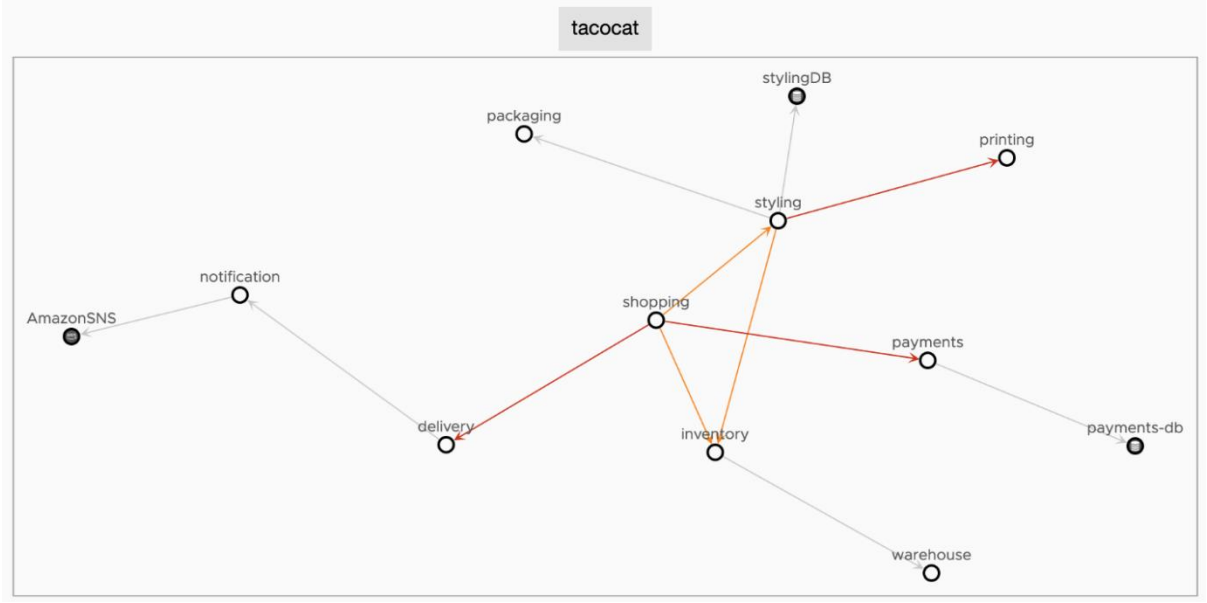
Affected

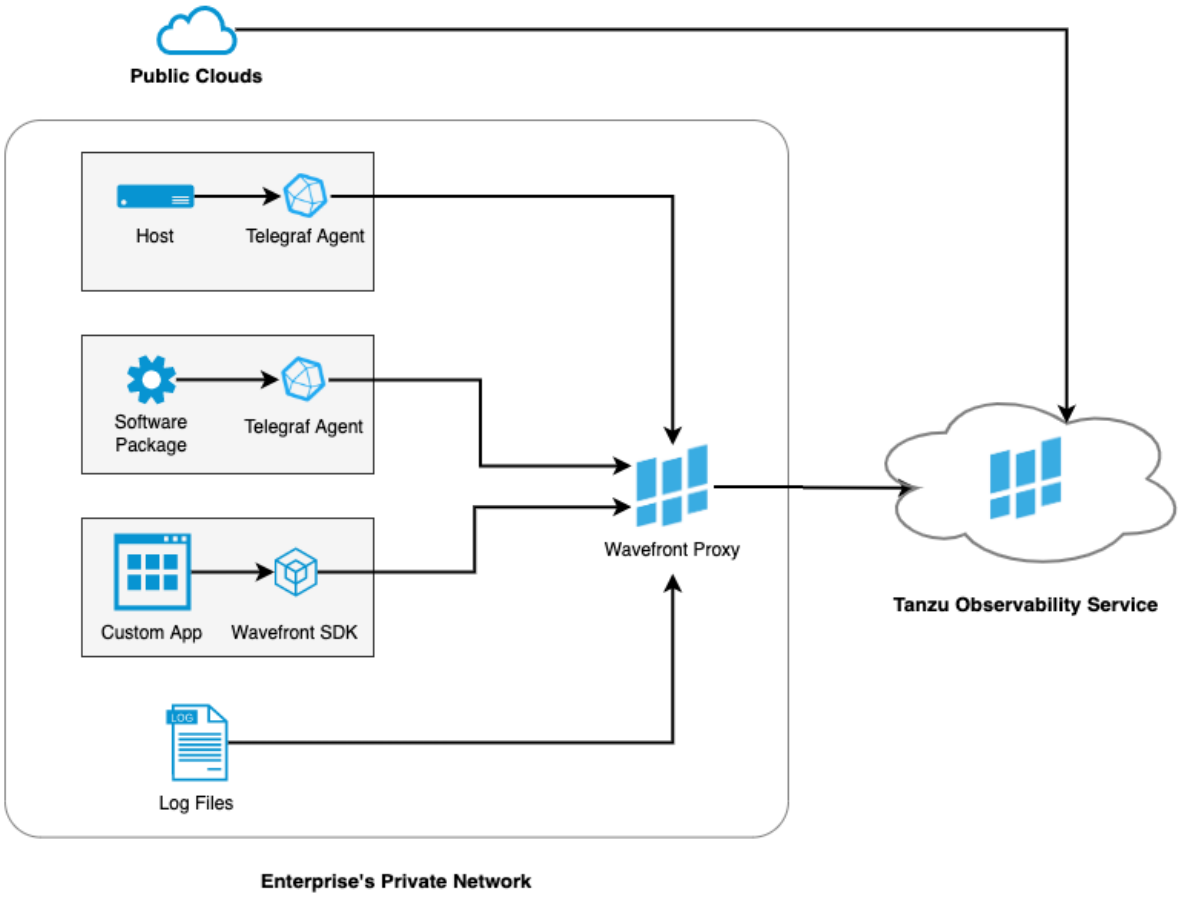
Ranked sources and point tags. More likely causes for the alert come first.

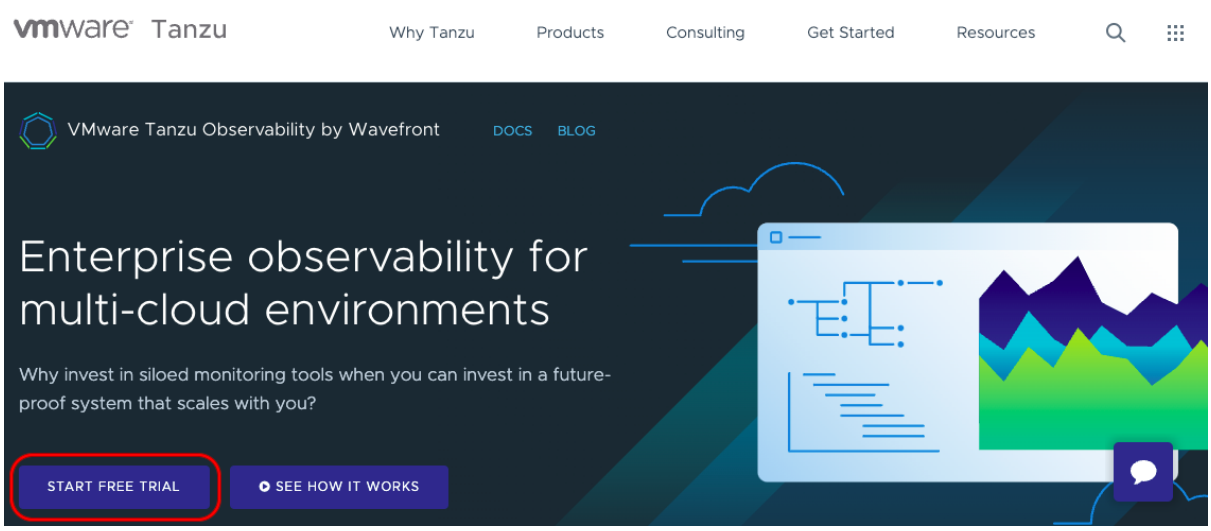
pod (100%) (100%) **region** us-west-2 (33%) **service** (33%)

application beachshirts (11%) **build** 1574741494000 (11%)

Data OPEN IN CHART EDITOR




Public Clouds
Host
Telegraf Agent
Software Package
Telegraf Agent
Custom App
Wavefront SDK
Log Files
Wavefront Proxy
Tanzu Observability Service
Enterprise's Private Network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Why Tanzu
Products
Consulting
Get Started
Resources
VMware Tanzu Observability by Wavefront
DOCS
BLOG
Enterprise observability for multi-cloud environments
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Get your login credentials right after sign up and begin to visualize and analyze your data immediately.

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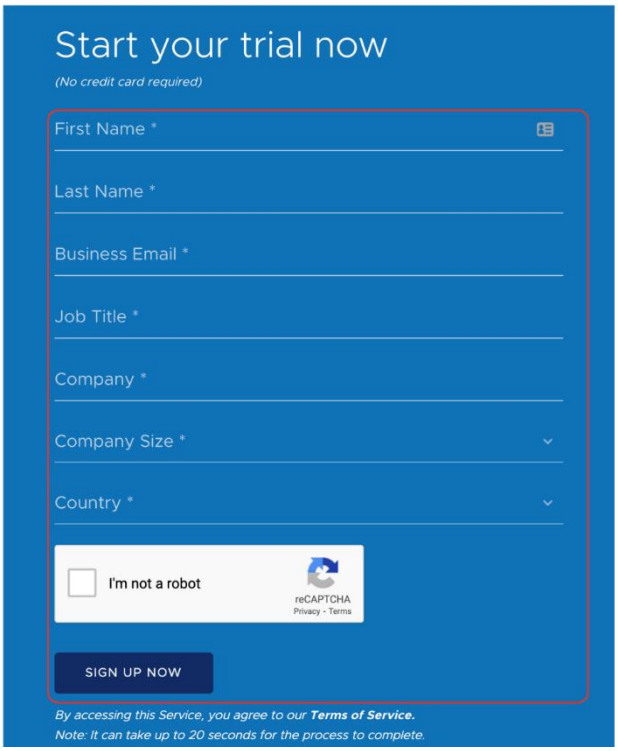


Welcome to

VMware Tanzu Observability

Set Your Password

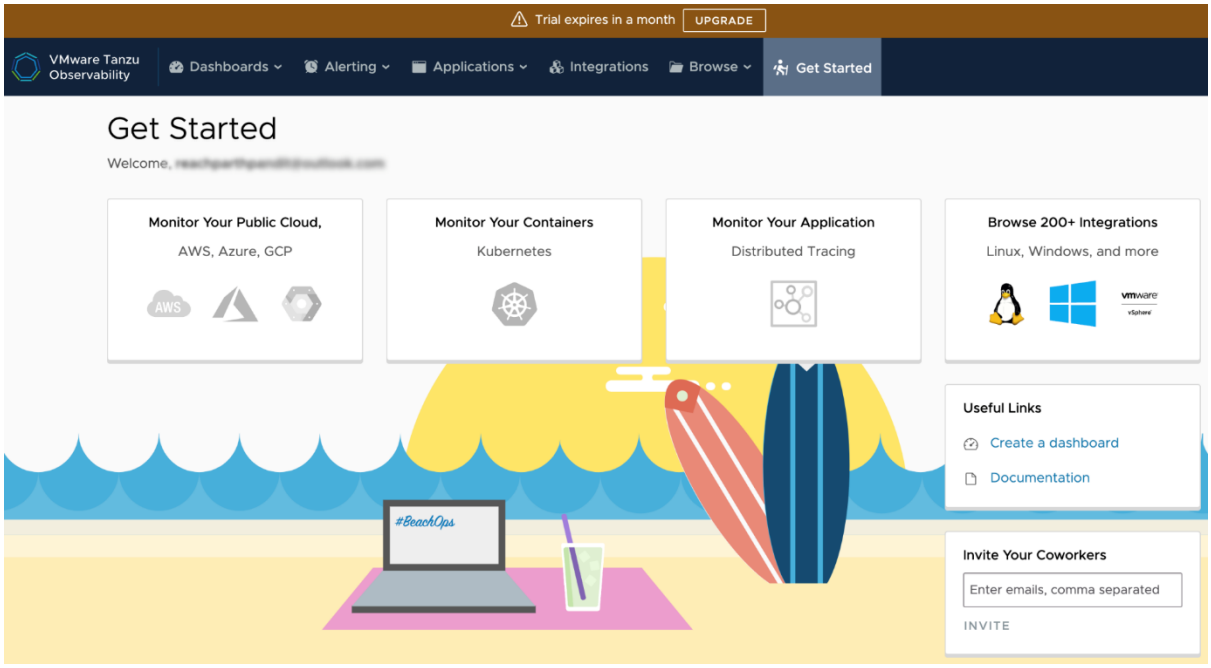
- Minimum 8 characters.
- At least 1 digit.
- At least 1 special character (!@#$%...).
- At least 1 letter.

Password

Confirm Password

REGISTER

By accessing this Service, you agree to the Terms of Service


Trial expires in a month
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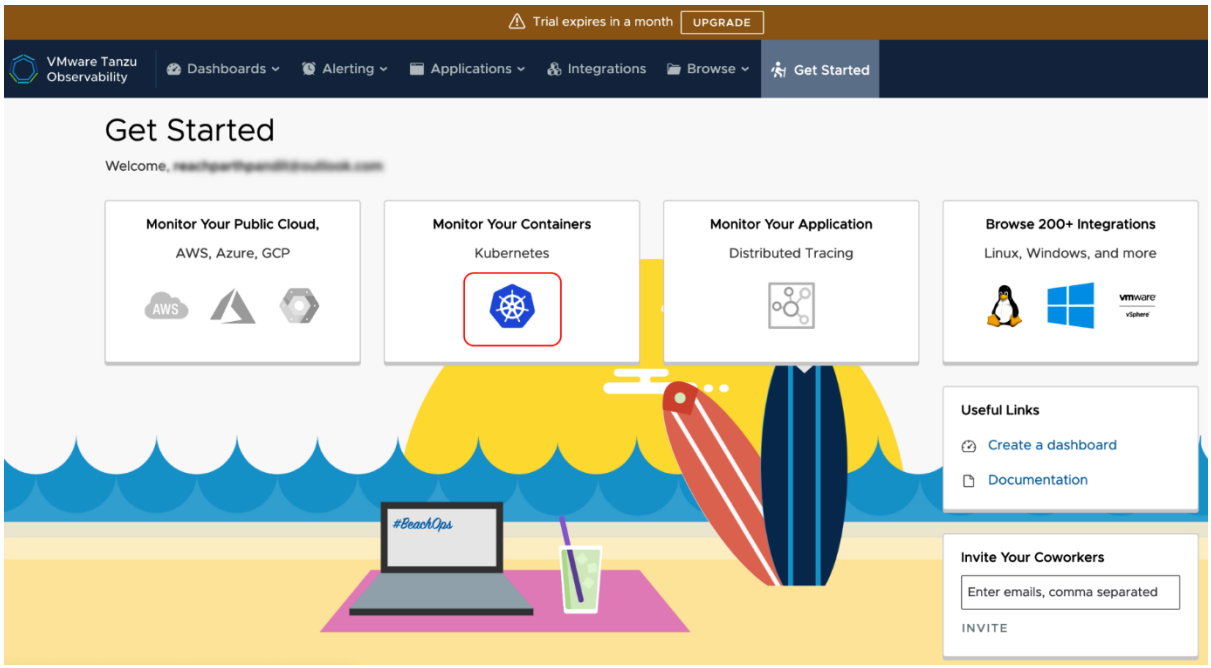
Browse
Get Started
Get Started
Welcome,
Monitor Your Public Cloud,
AWS, Azure, GCP
Monitor Your Containers
Kubernetes
Monitor Your Application
Distributed Tracing
Browse 200+ Integrations
Linux, Windows, and more
Useful Links
Create a dashboard
Documentation
Invite Your Coworkers
Enter emails, comma separated
INVITE
#BeachOps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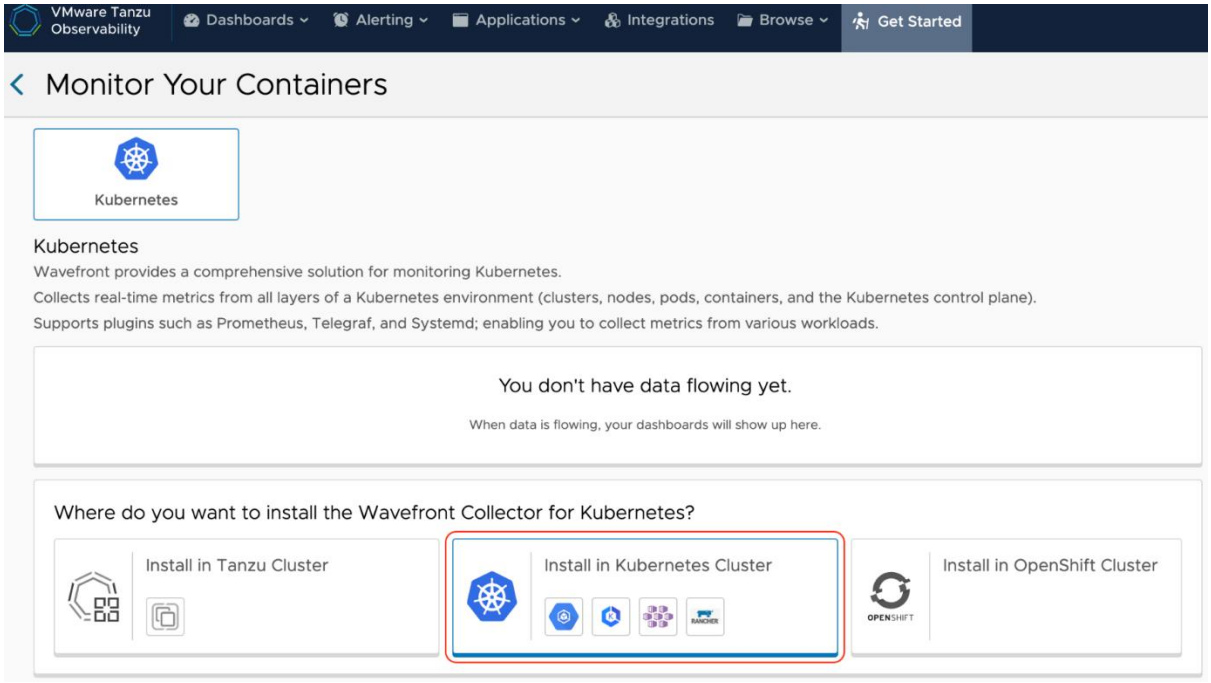


Kubernetes Quick Install using Helm

If you prefer not to use Helm, follow the manual installation instructions.

Step 1 Install Helm: Ensure that you have Helm installed. This is a one-time install.

Step 2 After you have Helm installed, copy and run the following command in the command line.

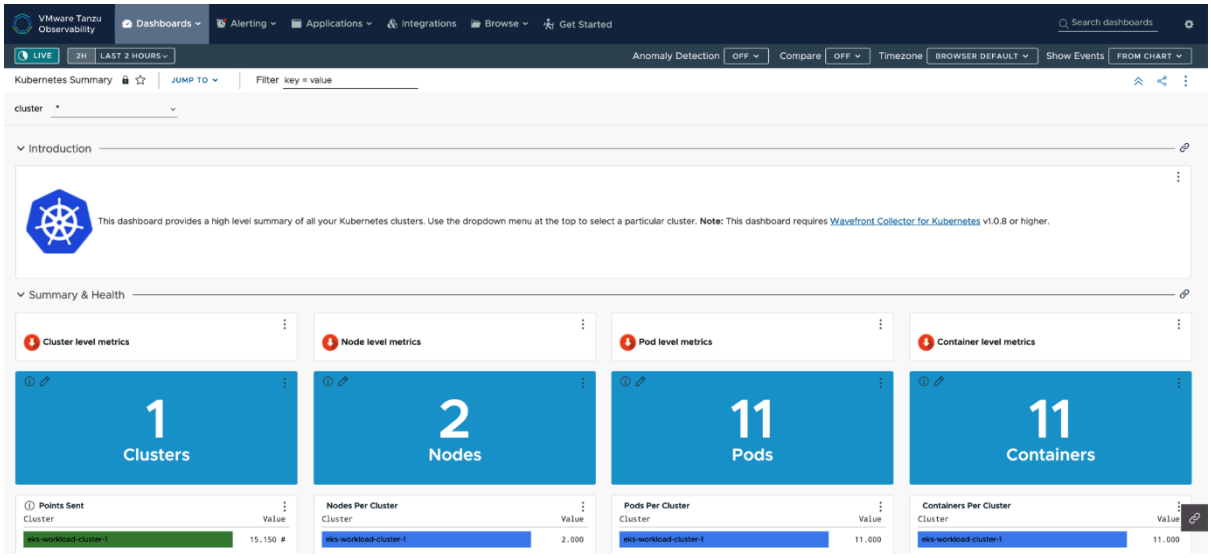
```
helm repo add wavefront https://wavefronthq.github.io/helm/ && helm repo update
```

Step 3 Enter your cluster name, then copy and run the following command in the command line.

Cluster Name: Your cluster name

> ADDITIONAL SETTINGS

```
kubectl create namespace wavefront && helm install wavefront wavefront/wavefront \
    --set wavefront.url=https://longboard.wavefront.com \
    --set wavefront.token=[redacted] \
    --set clusterName="<YOUR_CLUSTER_NAME>" --namespace wavefront
```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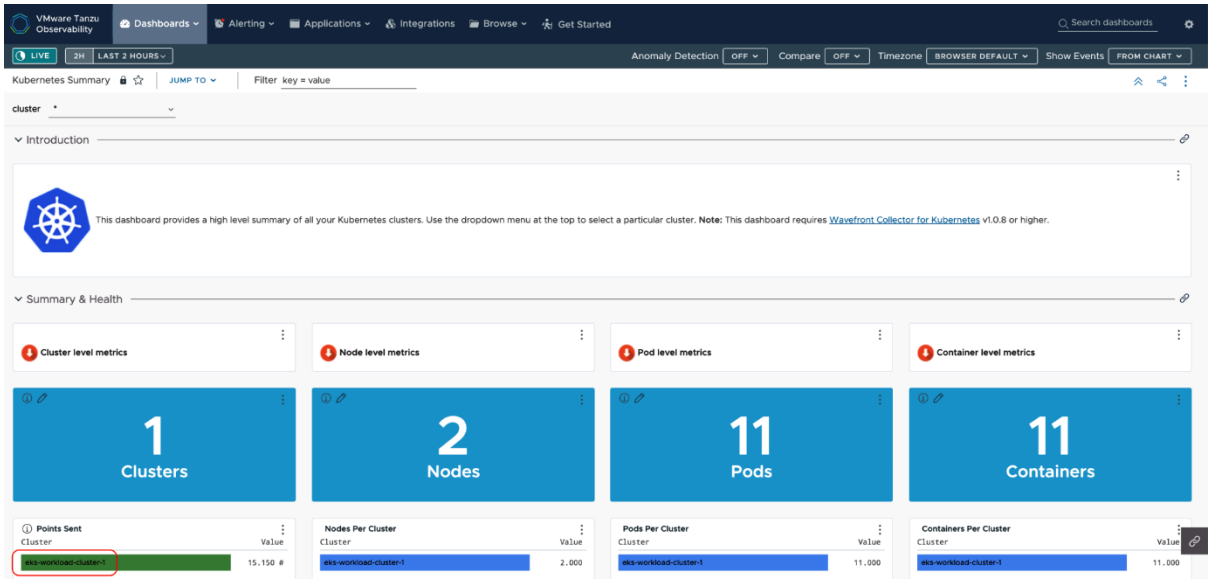
Search dashboards
LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Summary
JUMP TO
Filter key = value
cluster
*
Introduction
This dashboard provides a high level summary of all your Kubernetes clusters. Use the dropdown menu at the top to select a particular cluster. Note: This dashboard requires Wavefront Collector for Kubernetes v1.0.8 or higher.
Summary & Health
Cluster level metrics
Node level metrics
Pod level metrics
Container level metrics
1
Clusters
2
Nodes
11
Pods
11
Containers
Points Sent
Cluster
Value
eks-workload-cluster-1
15.150 #
Nodes Per Cluster
Cluster
Value
eks-workload-cluster-1
2.000
Pods Per Cluster
Cluster
Value
eks-workload-cluster-1
11.000
Containers Per Cluster
Cluster
Value
eks-workload-cluster-1
11.000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2H
LAST 2 HOURS
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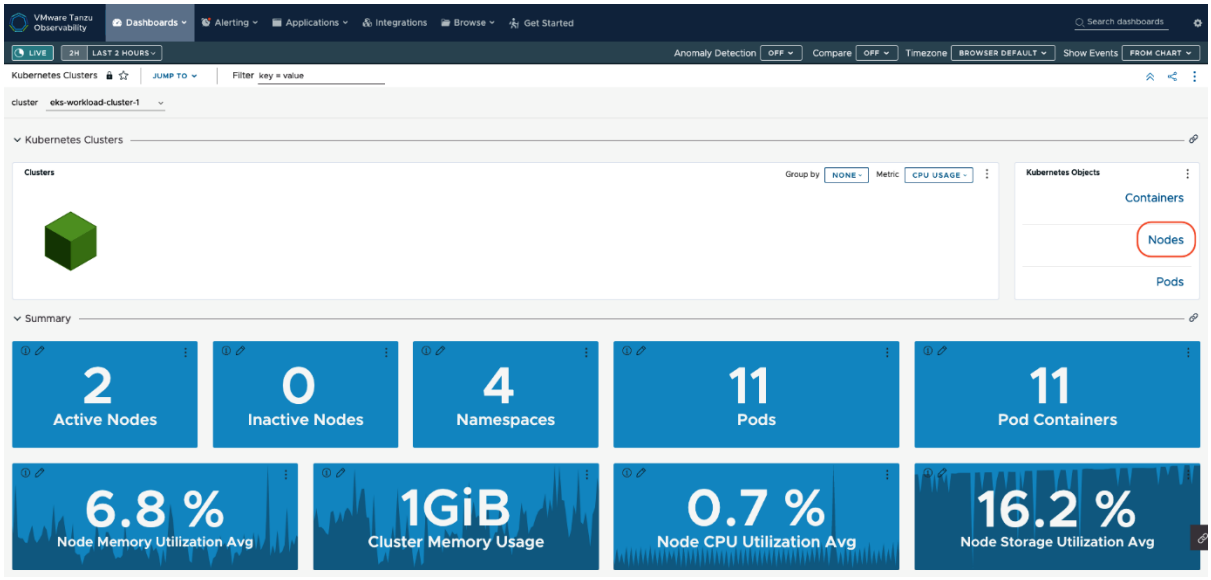
Pod level metrics
Container level metrics
1
Clusters
2
Nodes
11
Pods
11
Containers
Points Sent
Cluster
Value
eks-workload-cluster-1
15.150 #
Nodes Per Cluster
Cluster
Value
eks-workload-cluster-1
2.000
Pods Per Cluster
Cluster
Value
eks-workload-cluster-1
11.000
Containers Per Cluster
Cluster
Value
eks-workload-cluster-1
11.000


VMware Tanzu Observability
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2H
LAST 2 HOURS
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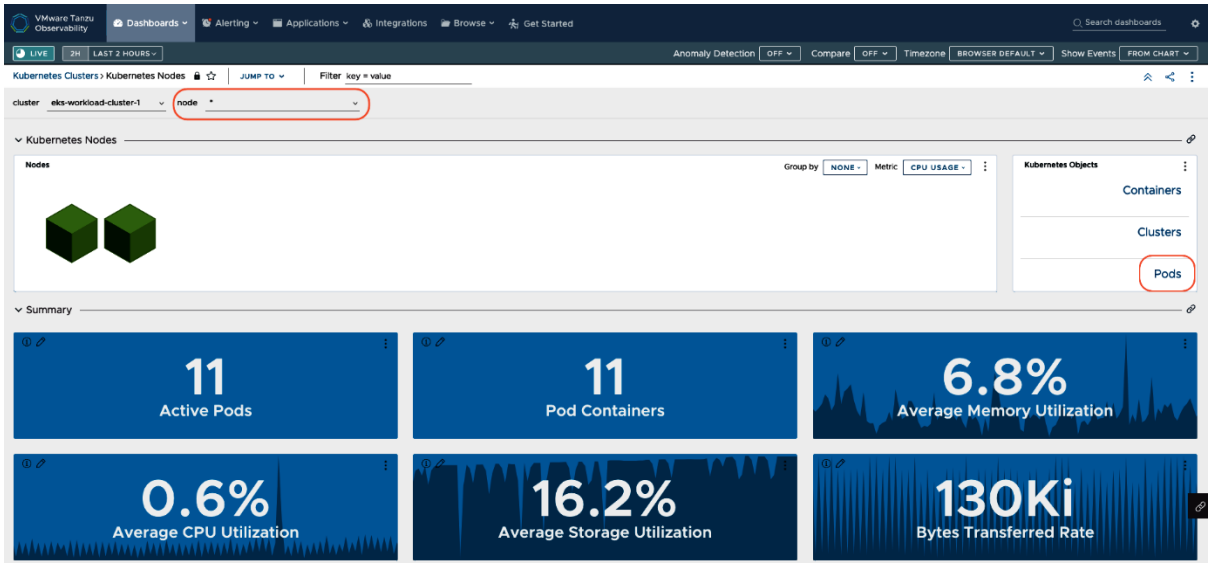
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Clusters
JUMP TO
Filter key = value
cluster
eks-workload-cluster-1
Kubernetes Clusters
Clusters
Group by
NONE
Metric
CPU USAGE
Kubernetes Objects
Containers
Nodes
Pods
Summary
2
Active Nodes
0
Inactive Nodes
4
Namespaces
11
Pods
11
Pod Containers
6.8 %
Node Memory Utilization Avg
1GiB
Cluster Memory Usage
0.7 %
Node CPU Utilization Avg
16.2 %
Node Storage Utilization Avg


VMware Tanzu Observability
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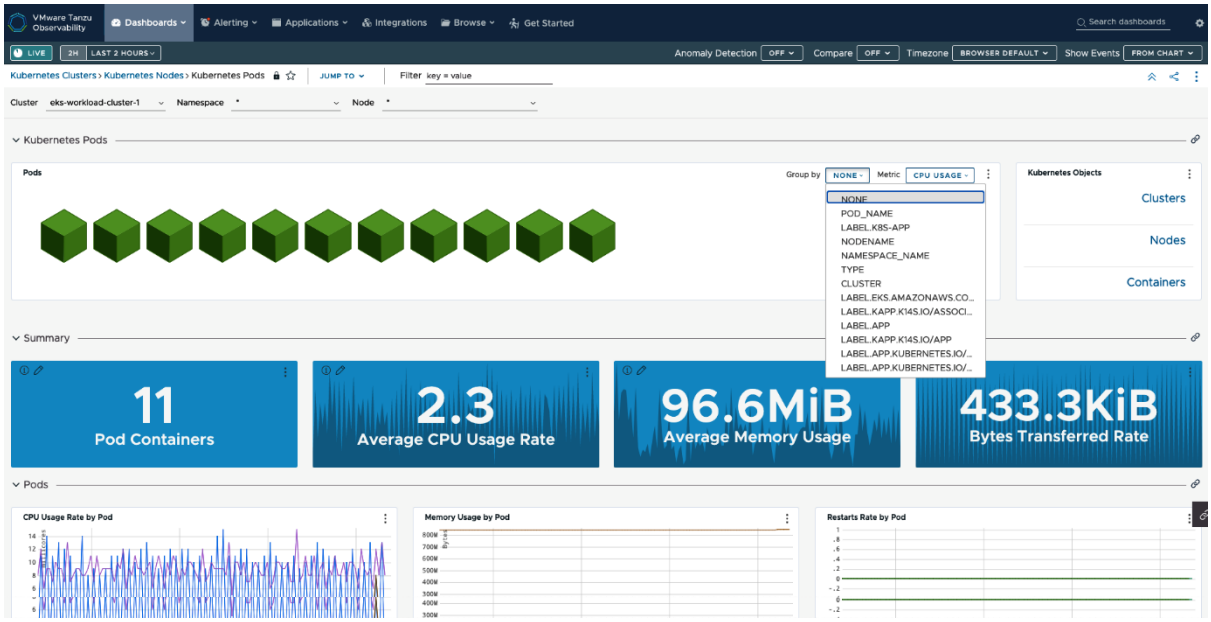
LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Clusters › Kubernetes Nodes
JUMP TO
Filter key = value
cluster
eks-workload-cluster-1
node
*
Kubernetes Nodes
Nodes
Group by
NONE
Metric
CPU USAGE
Kubernetes Objects
Containers
Clusters
Pods
Summary
11
Active Pods
11
Pod Containers
6.8%
Average Memory Utilization
0.6%
Average CPU Utilization
16.2%
Average Storage Utilization
130Ki
Bytes Transferred Rate


VMware Tanzu Observability
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Alerting
Applications
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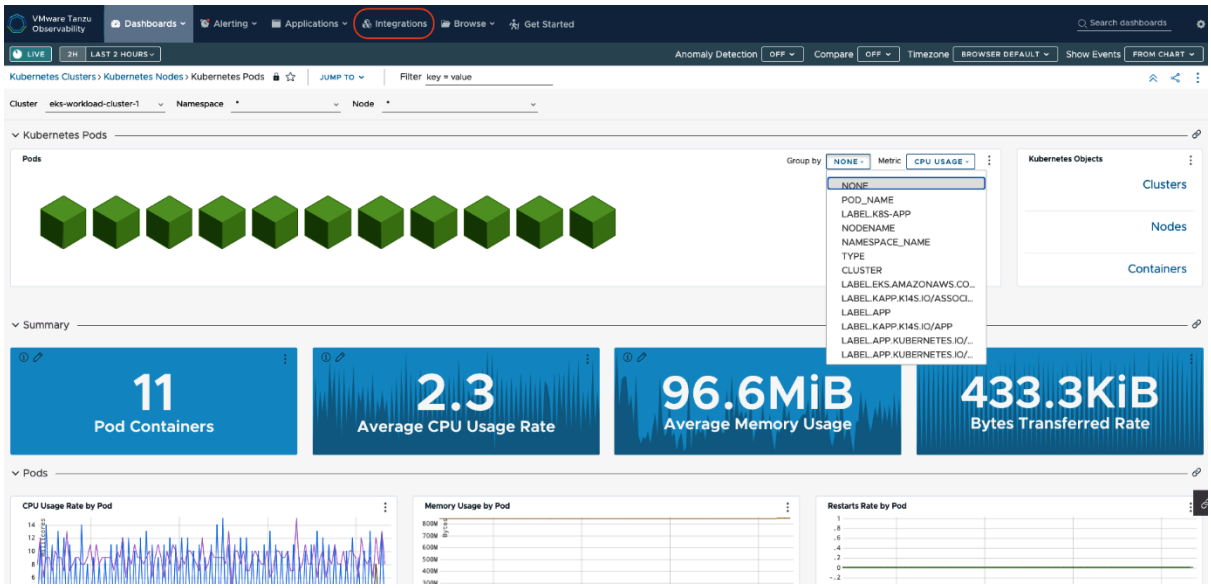
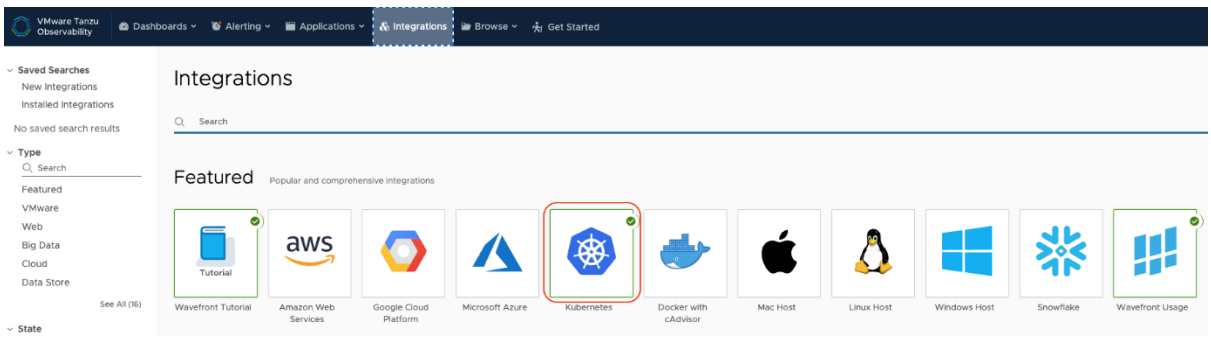
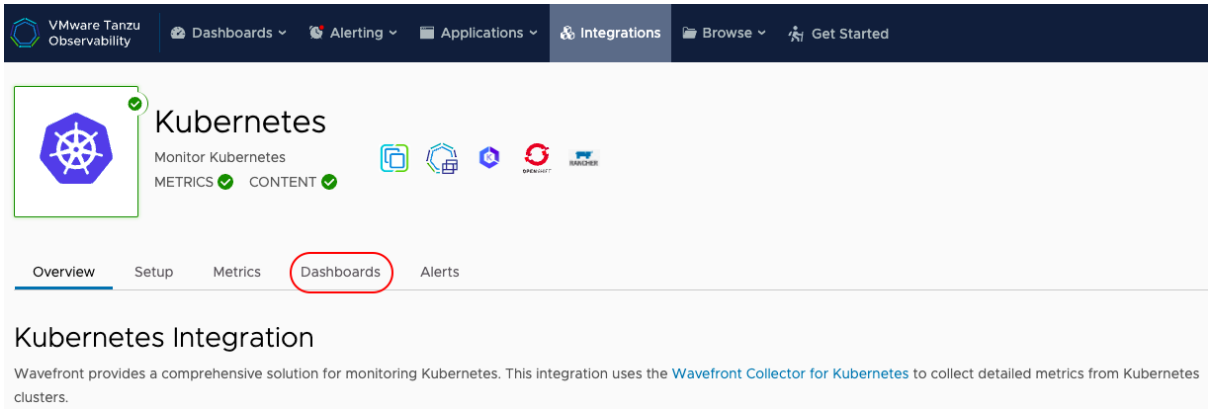
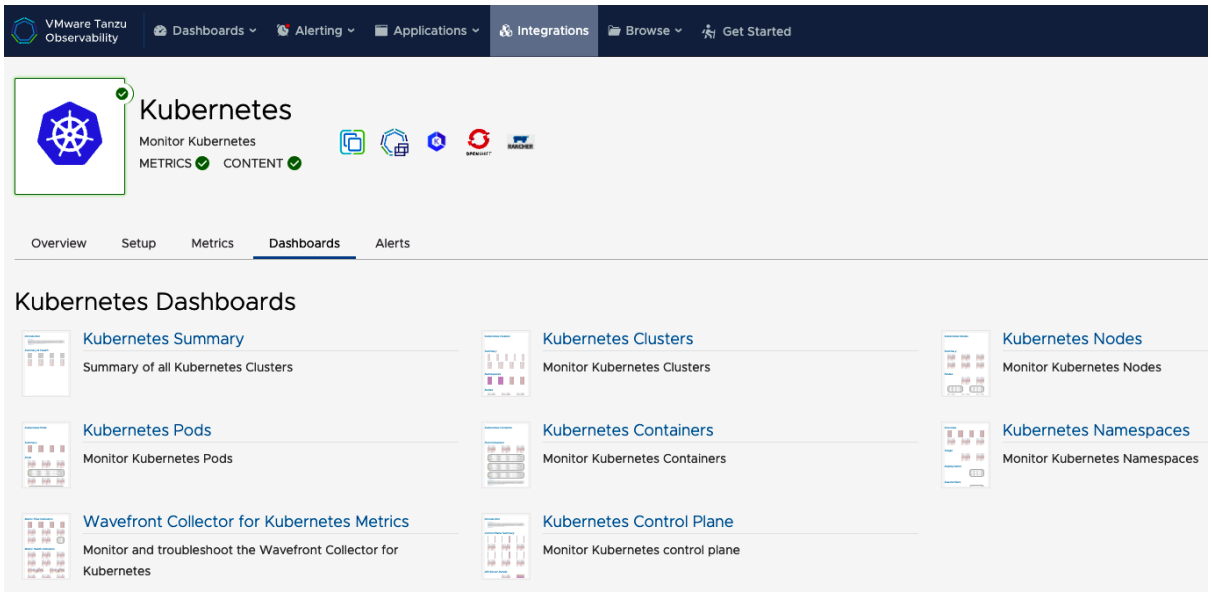
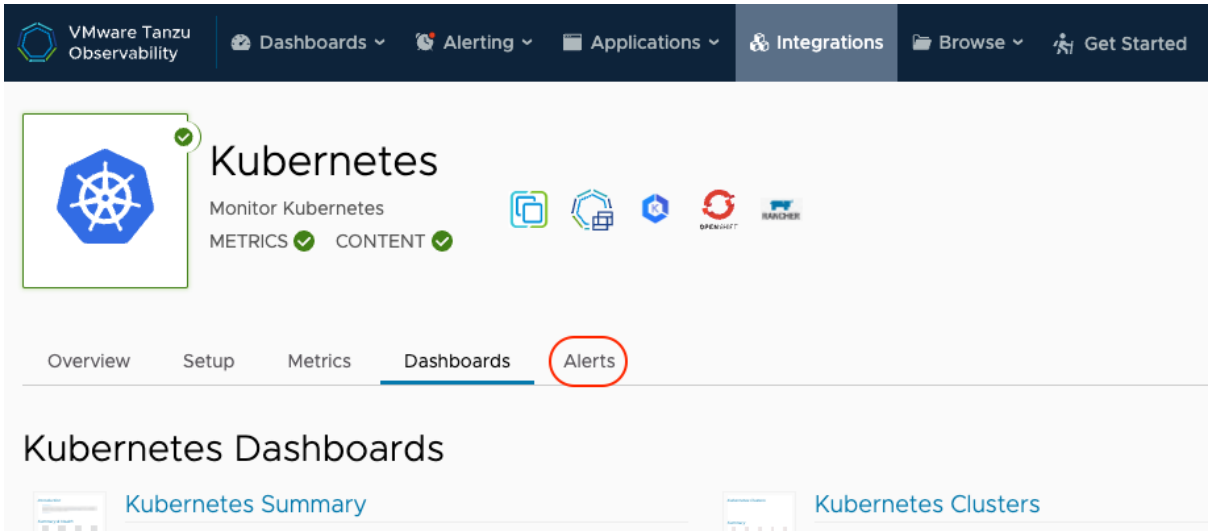
Browse
Get Started
Search dashboards
LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Clusters › Kubernetes Nodes › Kubernetes Pods
JUMP TO
Filter key = value
Cluster
eks-workload-cluster-1
Namespace
Node
Kubernetes Pods
Pods
Group by
NONE
Metric
CPU USAGE
NONE
POD_NAME
LABEL_K8S-APP
NODENAME
NAMESPACE_NAME
TYPE
CLUSTER
LABEL_EKS_AMAZONAWS_CO...
LABEL_KAPP_K14S_IO/ASSOCI...
LABEL_APP
LABEL_KAPP_K14S_IO/APP
LABEL_APP_KUBERNETES_IO/...
LABEL_APP_KUBERNETES_IO/...
Kubernetes Objects
Clusters
Nodes
Containers
Summary
11
Pod Containers
2.3
Average CPU Usage Rate
96.6MiB
Average Memory Usage
433.3KiB
Bytes Transferred Rate
Pods
CPU Usage Rate by Pod
Memory Usage by Pod
Restarts Rate by Pod

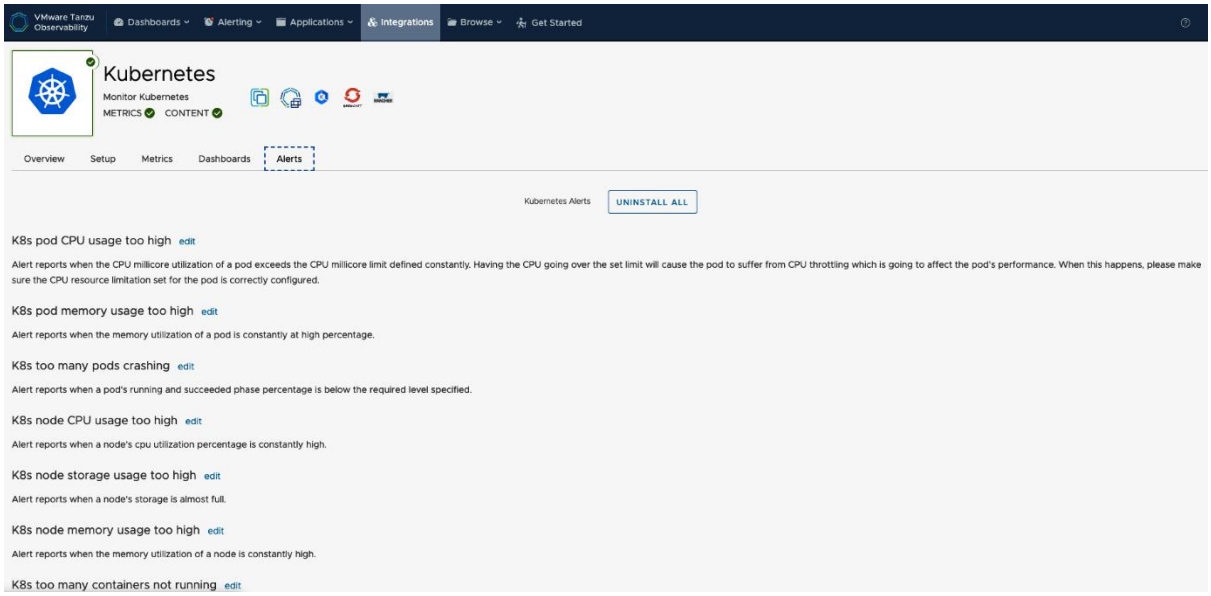

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Search dashboards
LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Clusters › Kubernetes Nodes › Kubernetes Pods
JUMP TO
Filter key = value
Cluster
eks-workload-cluster-1
Namespace
Node
Kubernetes Pods
Pods
Group by
NONE
Metric
CPU USAGE
NONE
POD_NAME
LABEL_K8S-APP
NODENAME
NAMESPACE_NAME
TYPE
CLUSTER
LABEL_EKS_AMAZONAWS_CO...
LABEL_KAPP_K14S_IO/ASSOCI...
LABEL_APP
LABEL_KAPP_K14S_IO/APP
LABEL_APP_KUBERNETES_IO/...
LABEL_APP_KUBERNETES_IO/...
Kubernetes Objects
Clusters
Nodes
Containers
Summary
11
Pod Containers
2.3
Average CPU Usage Rate
96.6MiB
Average Memory Usage
433.3KiB
Bytes Transferred Rate
Pods
CPU Usage Rate by Pod
Memory Usage by Pod
Restarts Rate by Pod

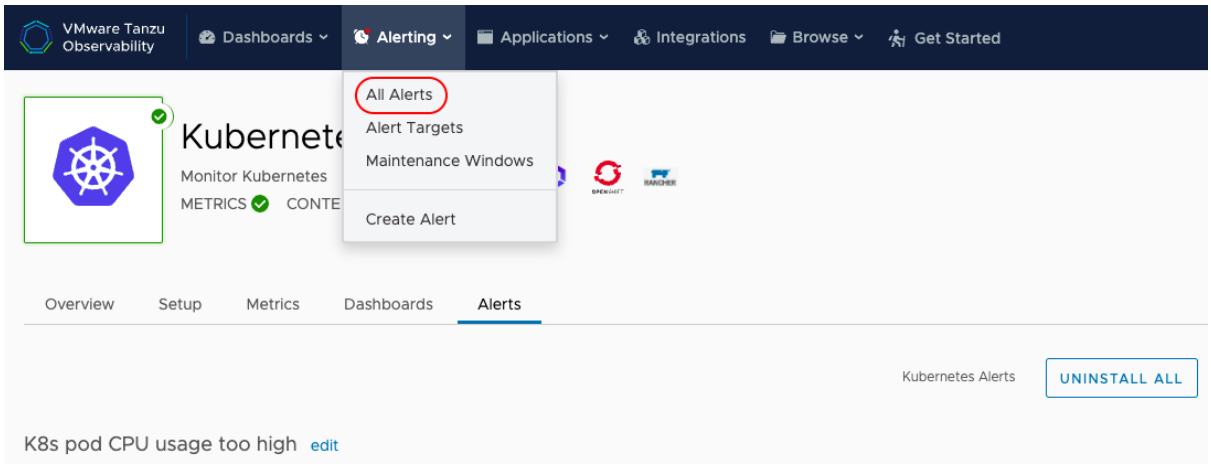

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Saved Searches
New Integrations
Installed Integrations
No saved search results
Type
Search
Featured
VMware
Web
Big Data
Cloud
Data Store
See All (16)
State
Integrations
Search
Featured
Popular and comprehensive integrations
Tutorial
Wavefront Tutorial
aws
Amazon Web Services
Google Cloud Platform
Microsoft Azure
Kubernetes
Docker with cAdvisor
Mac Host
Linux Host
Windows Host
Snowflake
Wavefront Usage

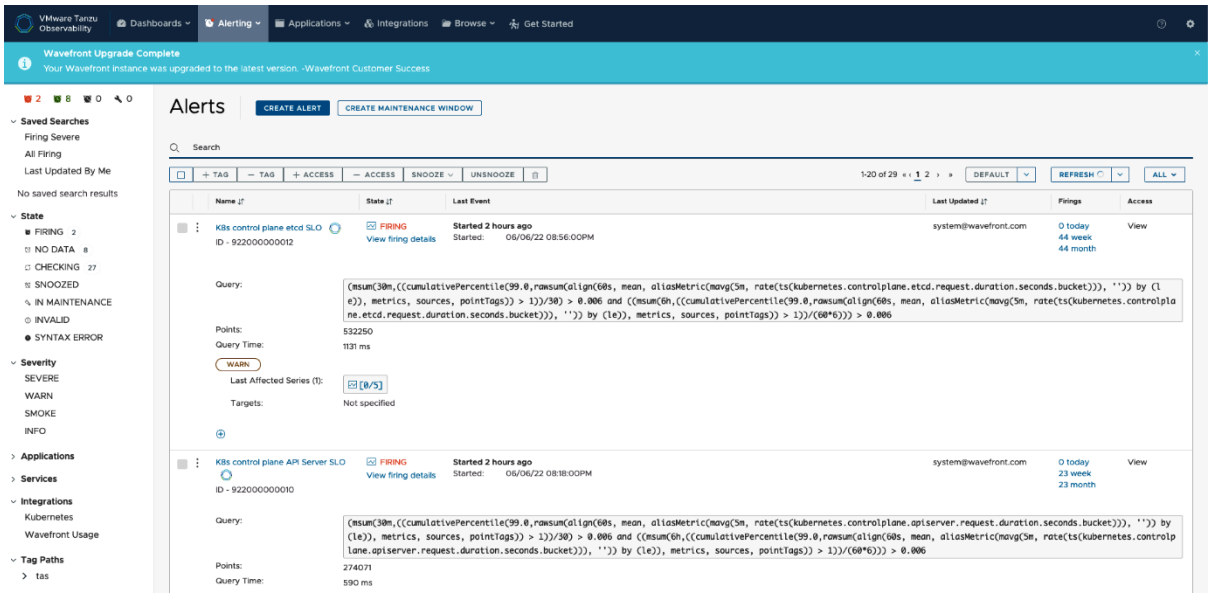

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Kubernetes
Monitor Kubernetes
METRICS
CONTENT
Overview
Setup
Metrics
Dashboards
Alerts
Kubernetes Integration
Wavefront provides a comprehensive solution for monitoring Kubernetes. This integration uses the Wavefront Collector for Kubernetes to collect detailed metrics from Kubernetes clusters.

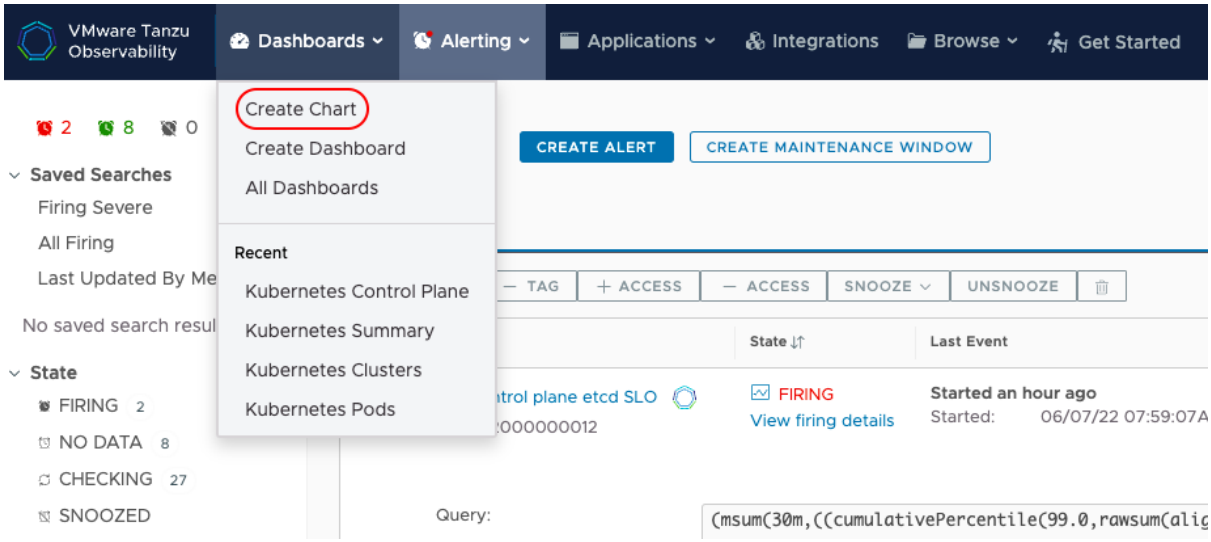

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Kubernetes
Monitor Kubernetes
METRICS
CONTENT
Overview
Setup
Metrics
Dashboards
Alerts
Kubernetes Dashboards
Kubernetes Summary
Summary of all Kubernetes Clusters
Kubernetes Clusters
Monitor Kubernetes Clusters
Kubernetes Nodes
Monitor Kubernetes Nodes
Kubernetes Pods
Monitor Kubernetes Pods
Kubernetes Containers
Monitor Kubernetes Containers
Kubernetes Namespaces
Monitor Kubernetes Namespaces
Wavefront Collector for Kubernetes Metrics
Monitor and troubleshoot the Wavefront Collector for Kubernetes
Kubernetes Control Plane
Monitor Kubernetes control plane


VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Kubernetes
Monitor Kubernetes
METRICS
CONTENT
Overview
Setup
Metrics
Dashboards
Alerts
Kubernetes Dashboards
Kubernetes Summary
Kubernetes Clusters


VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Kubernetes
Monitor Kubernetes
METRICS
CONTENT
Overview
Setup
Metrics
Dashboards
Alerts
Kubernetes Alerts
UNINSTALL ALL
K8s pod CPU usage too high edit
Alert reports when the CPU millicore utilization of a pod exceeds the CPU millicore limit defined constantly. Having the CPU going over the set limit will cause the pod to suffer from CPU throttling which is going to affect the pod's performance. When this happens, please make sure the CPU resource limitation set for the pod is correctly configured.
K8s pod memory usage too high edit
Alert reports when the memory utilization of a pod is constantly at high percentage.
K8s too many pods crashing edit
Alert reports when a pod's running and succeeded phase percentage is below the required level specified.
K8s node CPU usage too high edit
Alert reports when a node's cpu utilization percentage is constantly high.
K8s node storage usage too high edit
Alert reports when a node's storage is almost full.
K8s node memory usage too high edit
Alert reports when the memory utilization of a node is constantly high.
K8s too many containers not running edit


VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
All Alerts
Alert Targets
Maintenance Windows
Create Alert
Monitor Kubernetes
METRICS
Overview
Setup
Metrics
Dashboards
Alerts
Kubernetes Alerts
UNINSTALL ALL
K8s pod CPU usage too high edit


Wavefront Upgrade Complete
Your Wavefront instance was upgraded to the latest version. -Wavefront Customer Success
Alerts
CREATE ALERT
CREATE MAINTENANCE WINDOW
Search
Saved Searches
Firing Severe
All Firing
Last Updated By Me
No saved search results
State
FIRING 2
NO DATA 8
CHECKING 27
SNOOZED
IN MAINTENANCE
INVALID
SYNTAX ERROR
Severity
SEVERE
WARN
SMOKE
INFO
Applications
Services
Integrations
Kubernetes
Wavefront Usage
Tag Paths
K8s control plane etcd SLO
ID - 922000000012
FIRING
View firing details
Started 2 hours ago
Started: 06/06/22 08:56:00PM
system@wavefront.com
0 today
44 week
44 month
View
Query:
Points: 532250
Query Time: 1131 ms
WARN
Last Affected Series (1):
Targets: Not specified
K8s control plane API Server SLO
ID - 922000000010
Started 2 hours ago
Started: 06/06/22 08:18:00PM
0 today
23 week
23 month
Points: 274071
Query Time: 590 ms


VMware Tanzu Observability
Dashboards
Alerting
Applications
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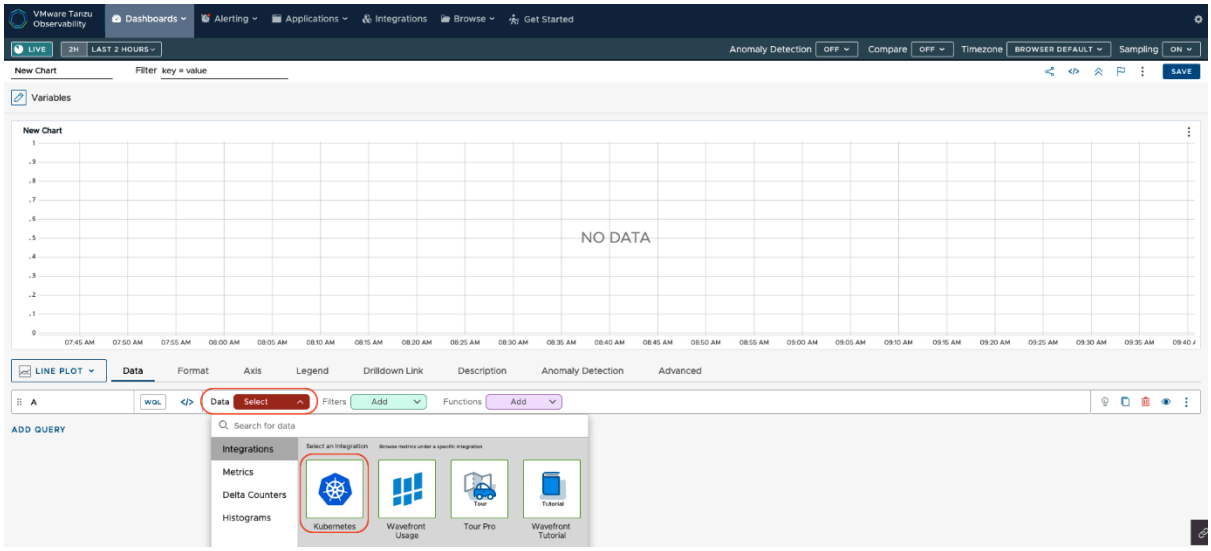
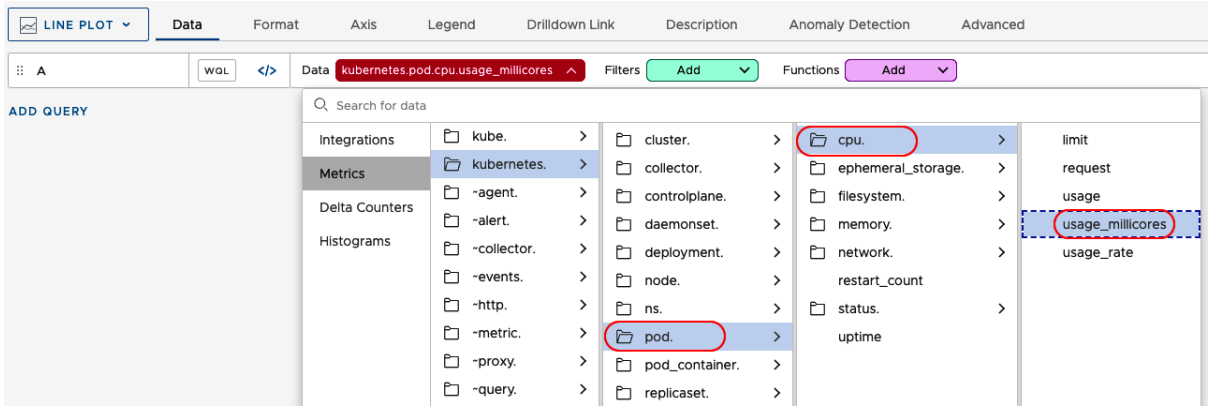
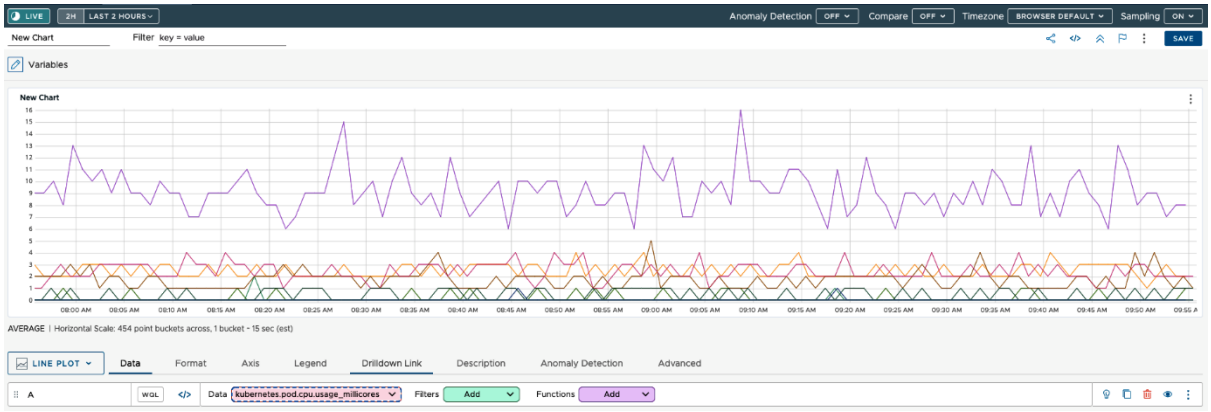
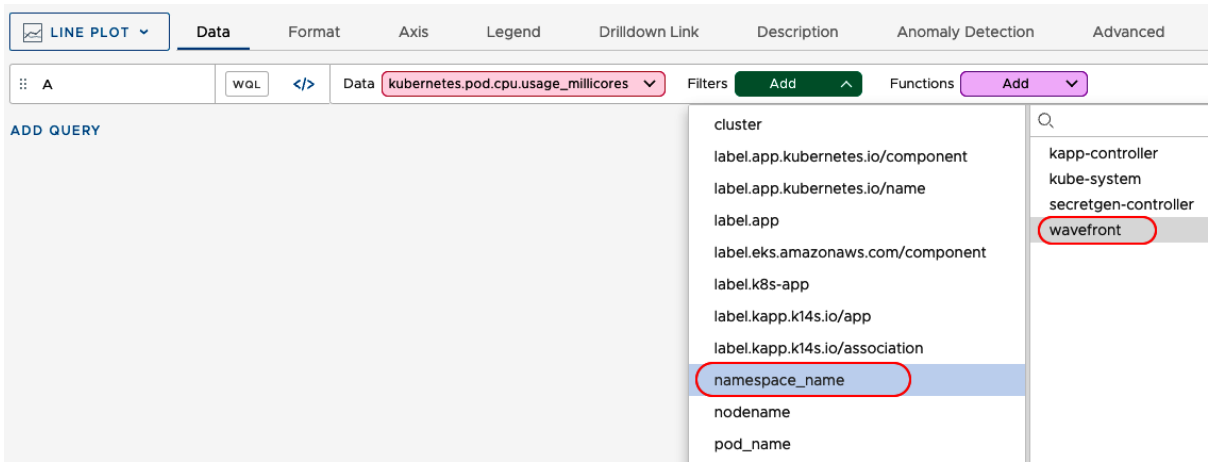
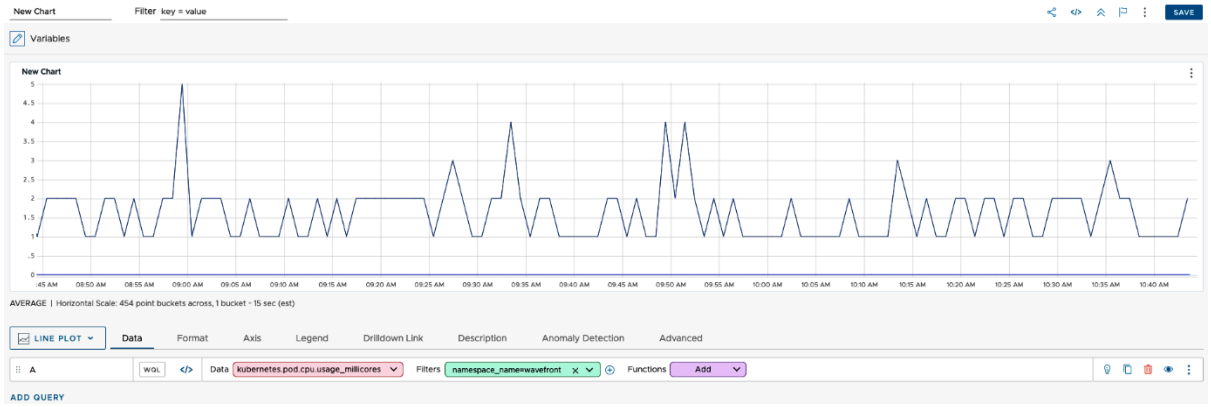
Browse
Get Started
Create Chart
Create Dashboard
All Dashboards
Recent
Kubernetes Control Plane
Kubernetes Summary
Kubernetes Clusters
Kubernetes Pods
CREATE ALERT
CREATE MAINTENANCE WINDOW
Saved Searches
Firing Severe
All Firing
Last Updated By Me
No saved search resul
State
FIRING 2
NO DATA 8
CHECKING 27
SNOOZED
TAG
ACCESS
ACCESS
SNOOZE
UNSNOOZE
State
Last Event
FIRING
View firing details
Started an hour ago
Started: 06/07/22 07:59:07A
Query:

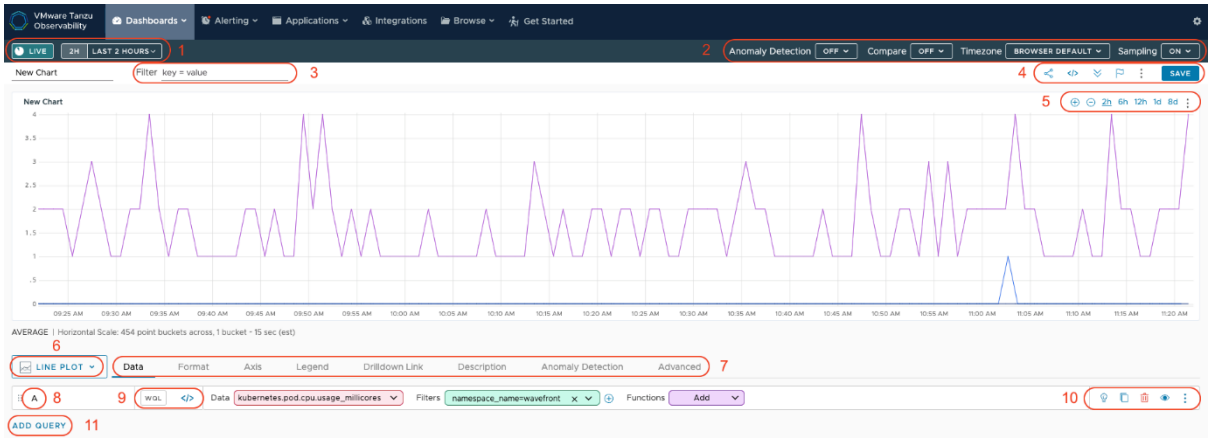

New Chart
NO DATA
LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
ADD QUERY
Integrations
Metrics
Delta Counters
Histograms
Kubernetes
Wavefront Usage
Tour Pro
Wavefront Tutorial


LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
ADD QUERY
Data
kubernetes.pod.cpu.usage_millicores
Filters
Add
Functions
Add
Search for data
Integrations
Metrics
Delta Counters
Histograms
kube.
kubernetes.
~agent.
~alert.
~collector.
~events.
~http.
~metric.
~proxy.
~query.
cluster.
collector.
controlplane.
daemonset.
deployment.
node.
ns.
pod.
pod_container.
replicaset.
cpu.
ephemeral_storage.
filesystem.
memory.
network.
restart_count
status.
uptime
limit
request
usage
usage_millicores
usage_rate


LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Sampling
ON
New Chart
Filter key = value
SAVE
Variables
New Chart
AVERAGE | Horizontal Scale: 454 point buckets across, 1 bucket - 15 sec (est)
LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
A
WQL
Data
kubernetes.pod.cpu.usage_millicores
Filters
Add
Functions
Add


LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
A
WQL
Data
kubernetes.pod.cpu.usage_millicores
Filters
Add
Functions
Add
ADD QUERY
cluster
label.app.kubernetes.io/component
label.app.kubernetes.io/name
label.app
label.eks.amazonaws.com/component
label.k8s-app
label.kapp.k14s.io/app
label.kapp.k14s.io/association
namespace_name
nodename
pod_name
kapp-controller
kube-system
secretgen-controller
wavefront


New Chart
Filter key = value
SAVE
Variables
New Chart
AVERAGE | Horizontal Scale: 454 point buckets across, 1 bucket - 15 sec (est)
LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
A
WQL
Data
kubernetes.pod.cpu.usage_millicores
Filters
namespace_name=wavefront
Functions
Add
ADD QUERY


VMware Tanzu Observability
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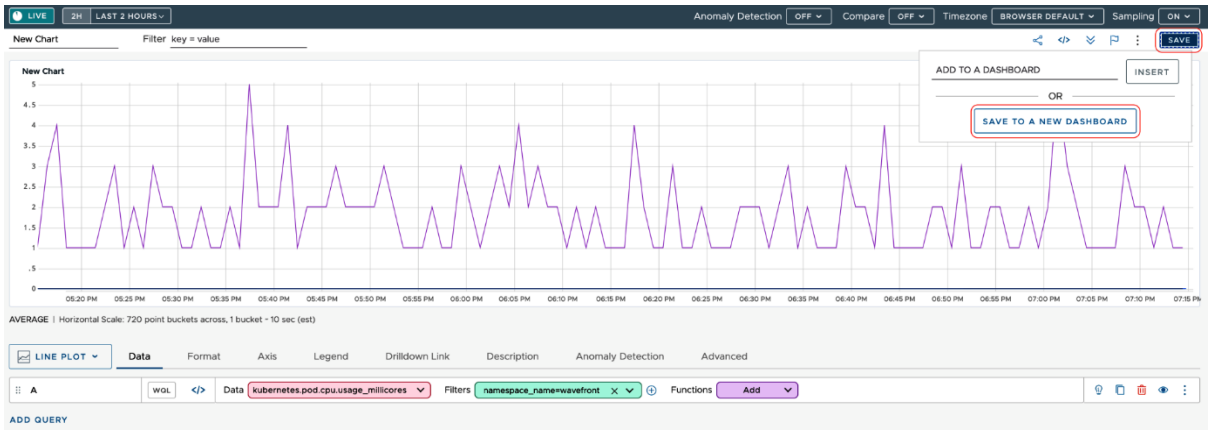
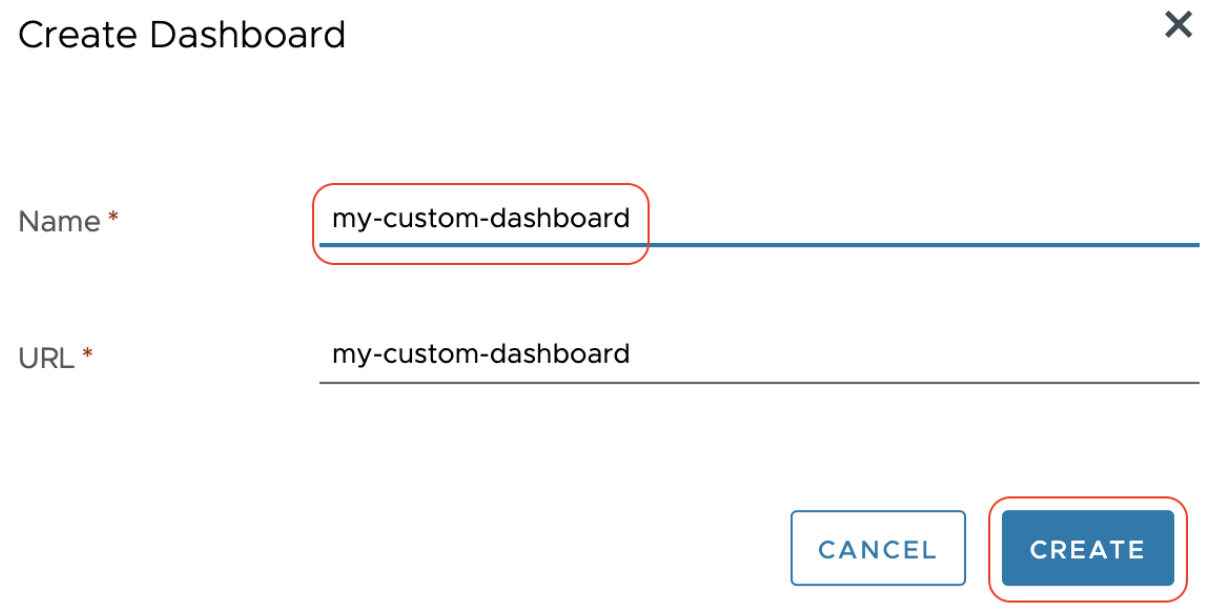
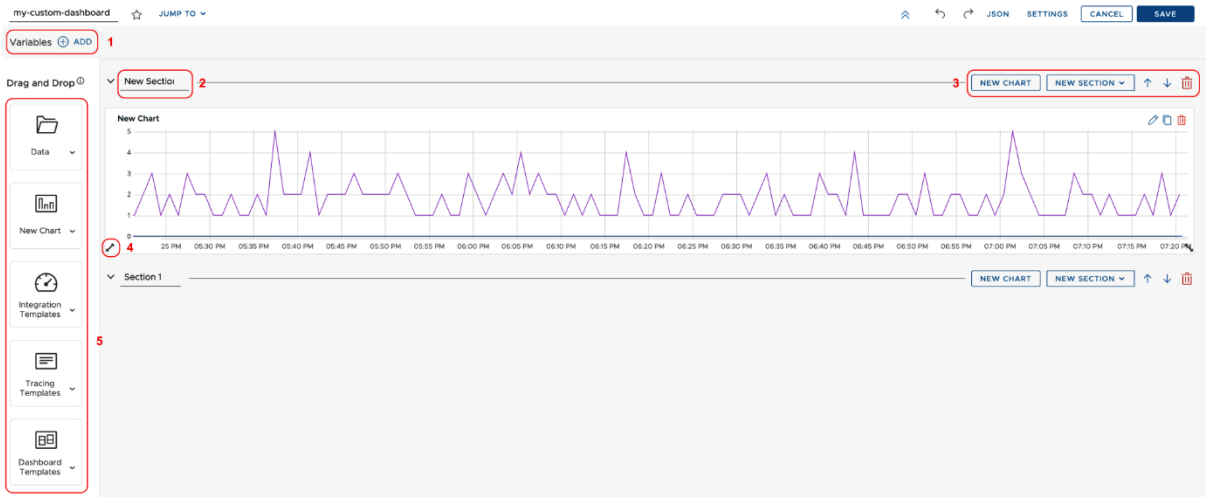
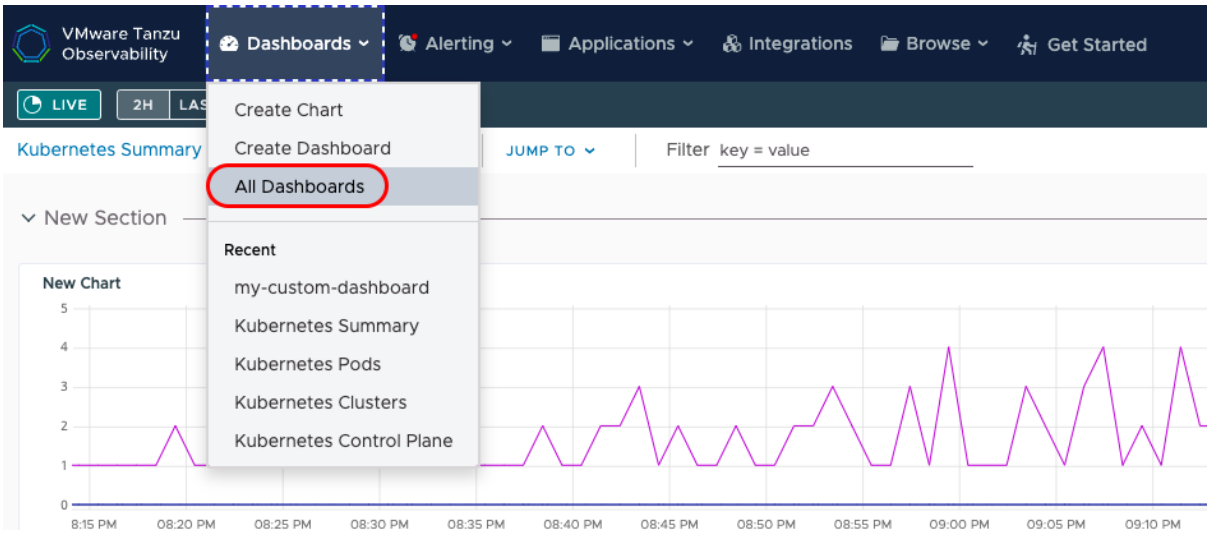
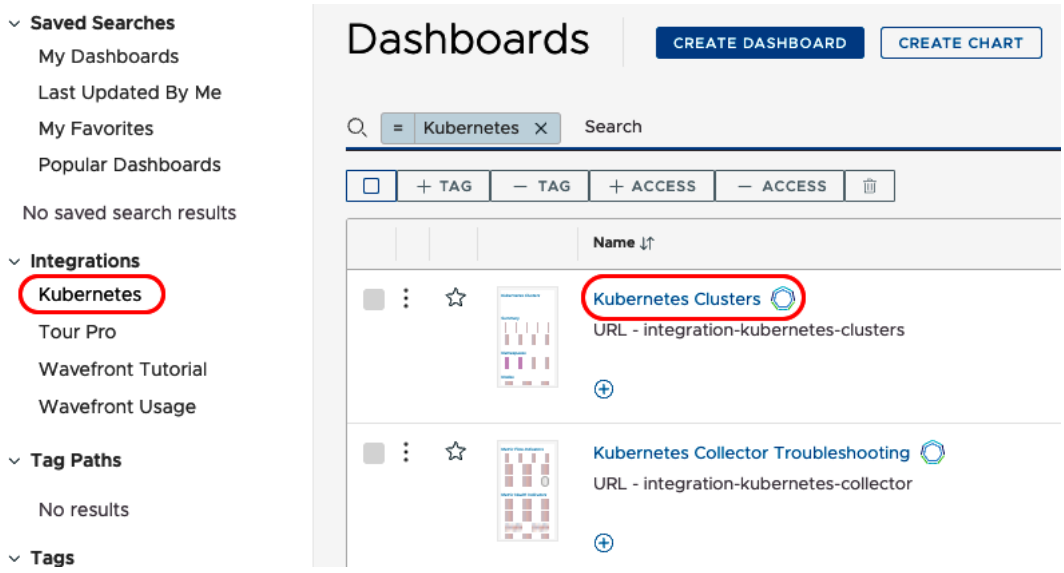
Browse
Get Started
LIVE
2H
LAST 2 HOURS
1
2
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Sampling
ON
New Chart
Filter key = value
3
4
SAVE
New Chart
5
2h 6h 12h 1d 8d
AVERAGE | Horizontal Scale: 454 point buckets across, 1 bucket - 15 sec (est)
6
LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
7
A
8
9
WQL
Data
kubernetes.pod.cpu.usage_millicores
Filters
namespace_name=wavefront
Functions
Add
10
ADD QUERY
11

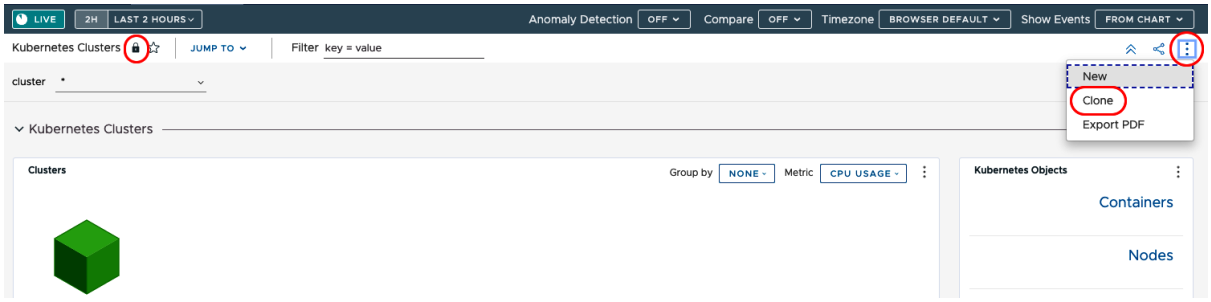

LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Sampling
ON
New Chart
Filter key = value
SAVE
ADD TO A DASHBOARD
INSERT
OR
SAVE TO A NEW DASHBOARD
New Chart
AVERAGE | Horizontal Scale: 720 point buckets across, 1 bucket - 10 sec (est)
LINE PLOT
Data
Format
Axis
Legend
Drilldown Link
Description
Anomaly Detection
Advanced
A
WQL
Data
kubernetes.pod.cpu.usage_millicores
Filters
namespace_name=wavefront
Functions
Add
ADD QUERY

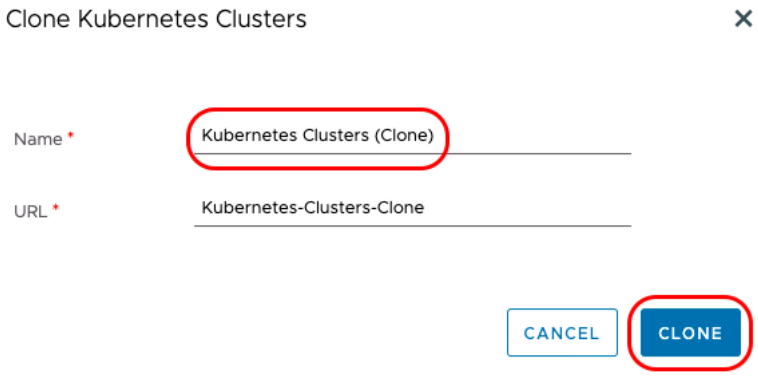

Create Dashboard
Name *
my-custom-dashboard
URL *
my-custom-dashboard
CANCEL
CREATE

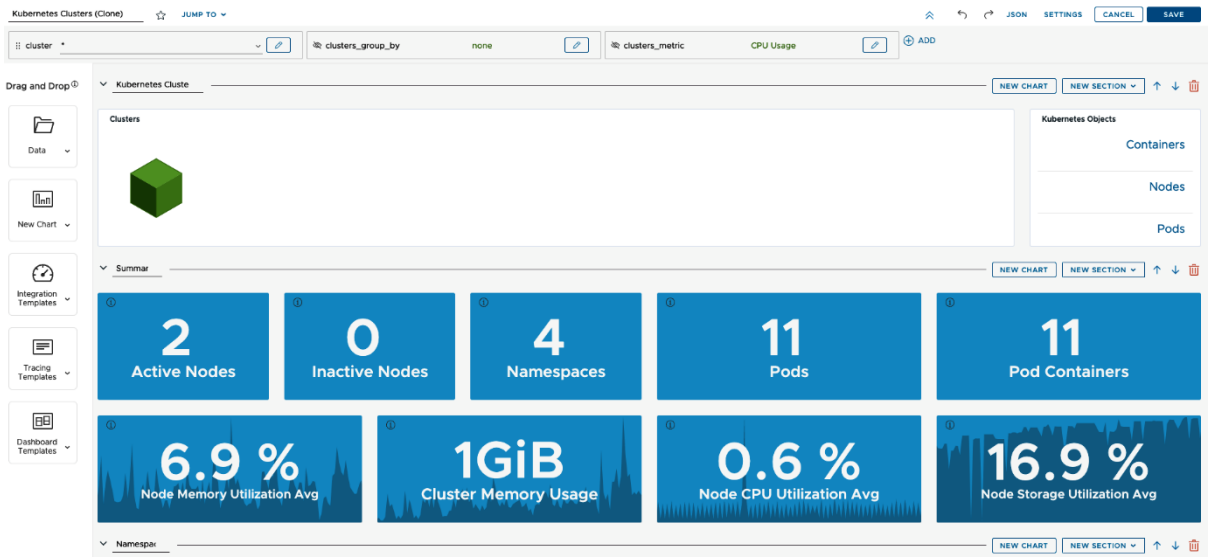

my-custom-dashboard
JUMP TO
JSON
SETTINGS
CANCEL
SAVE
Variables
ADD
1
Drag and Drop
New Section
2
3
NEW CHART
NEW SECTION
Data
New Chart
Integration Templates
Tracing Templates
Dashboard Templates
New Chart
4
Section 1
5

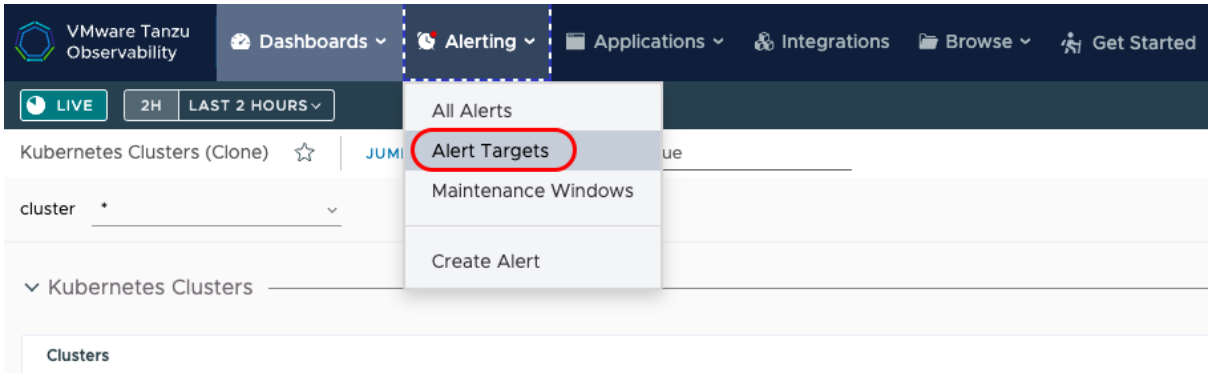

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
LIVE
2H
Create Chart
Create Dashboard
All Dashboards
Recent
my-custom-dashboard
Kubernetes Summary
Kubernetes Pods
Kubernetes Clusters
Kubernetes Control Plane
Kubernetes Summary
JUMP TO
Filter key = value
New Section
New Chart
8:15 PM
08:20 PM
08:25 PM
08:30 PM
08:35 PM
08:40 PM
08:45 PM
08:50 PM
08:55 PM
09:00 PM
09:05 PM
09:10 PM

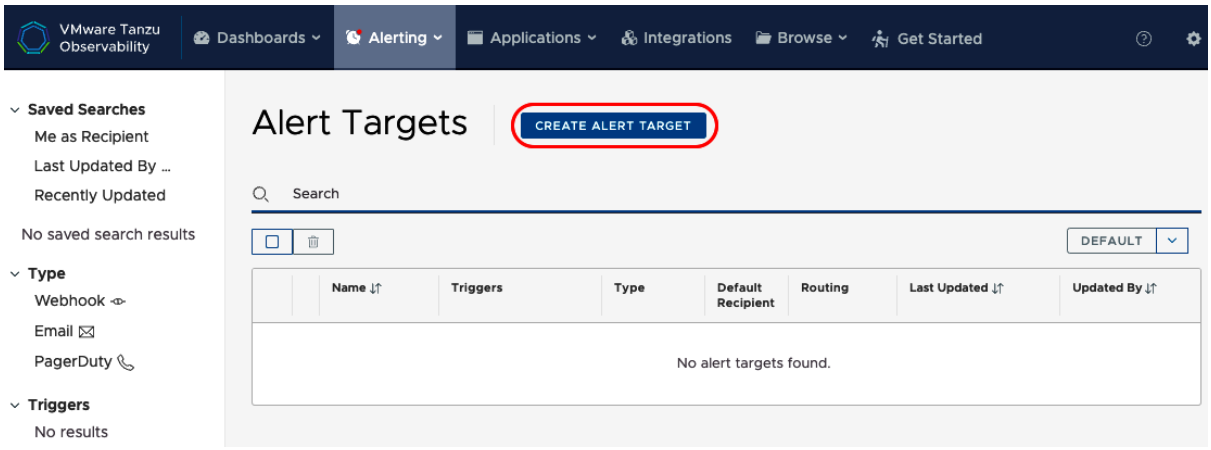

Saved Searches
My Dashboards
Last Updated By Me
My Favorites
Popular Dashboards
No saved search results
Integrations
Kubernetes
Tour Pro
Wavefront Tutorial
Wavefront Usage
Tag Paths
No results
Tags
Dashboards
CREATE DASHBOARD
CREATE CHART
Kubernetes
Search
TAG
TAG
ACCESS
ACCESS
Name
Kubernetes Clusters
URL - integration-kubernetes-clusters
Kubernetes Collector Troubleshooting
URL - integration-kubernetes-collector

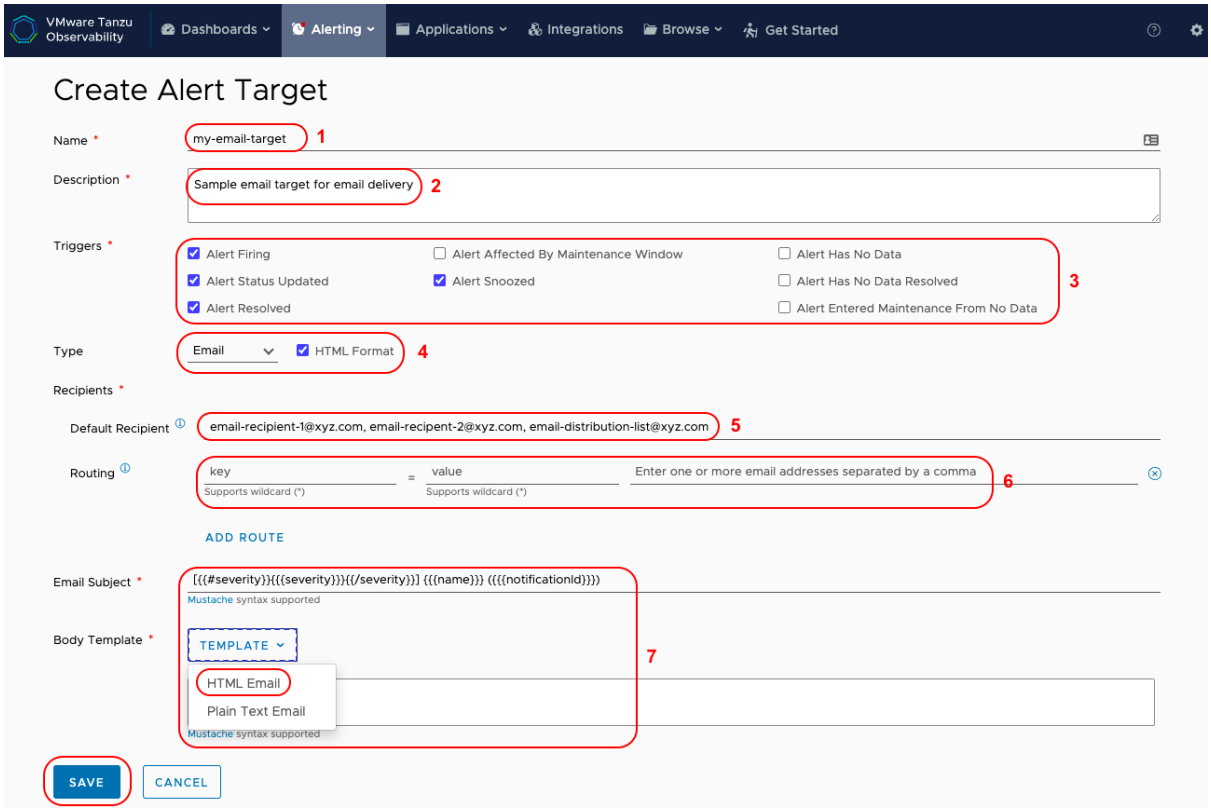

LIVE
2H
LAST 2 HOURS
Anomaly Detection
OFF
Compare
OFF
Timezone
BROWSER DEFAULT
Show Events
FROM CHART
Kubernetes Clusters
JUMP TO
Filter key = value
cluster
New
Clone
Export PDF
Kubernetes Clusters
Clusters
Group by
NONE
Metric
CPU USAGE
Kubernetes Objects
Containers
Nodes

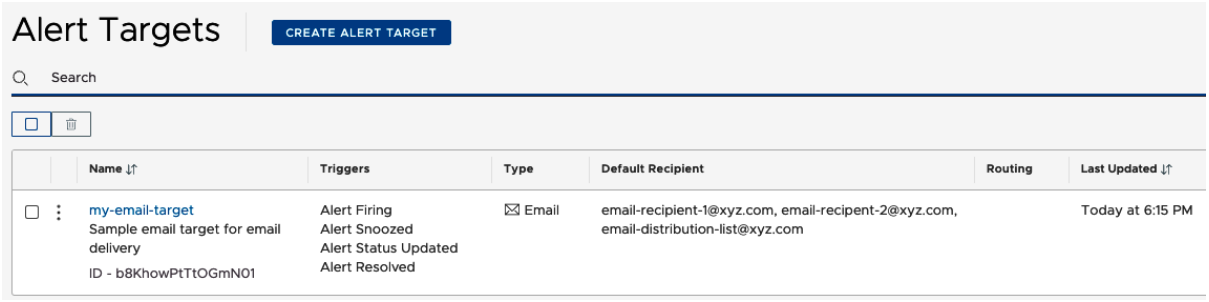

Clone Kubernetes Clusters
Name *
Kubernetes Clusters (Clone)
URL *
Kubernetes-Clusters-Clone
CANCEL
CLONE

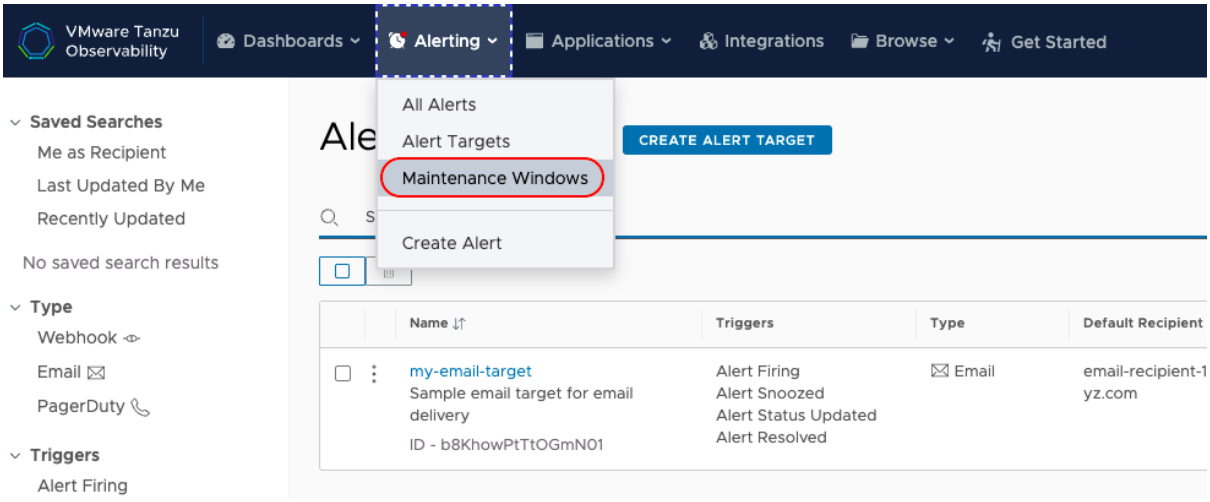

Kubernetes Clusters (Clone)
JUMP TO
JSON
SETTINGS
CANCEL
SAVE
cluster
clusters_group_by
none
clusters_metric
CPU Usage
ADD
Drag and Drop
Data
New Chart
Integration Templates
Tracing Templates
Dashboard Templates
Kubernetes Cluste
NEW CHART
NEW SECTION
Clusters
Kubernetes Objects
Containers
Nodes
Pods
Summar
2
Active Nodes
0
Inactive Nodes
4
Namespaces
11
Pods
11
Pod Containers
6.9 %
Node Memory Utilization Avg
1GiB
Cluster Memory Usage
0.6 %
Node CPU Utilization Avg
16.9 %
Node Storage Utilization Avg
Namespac

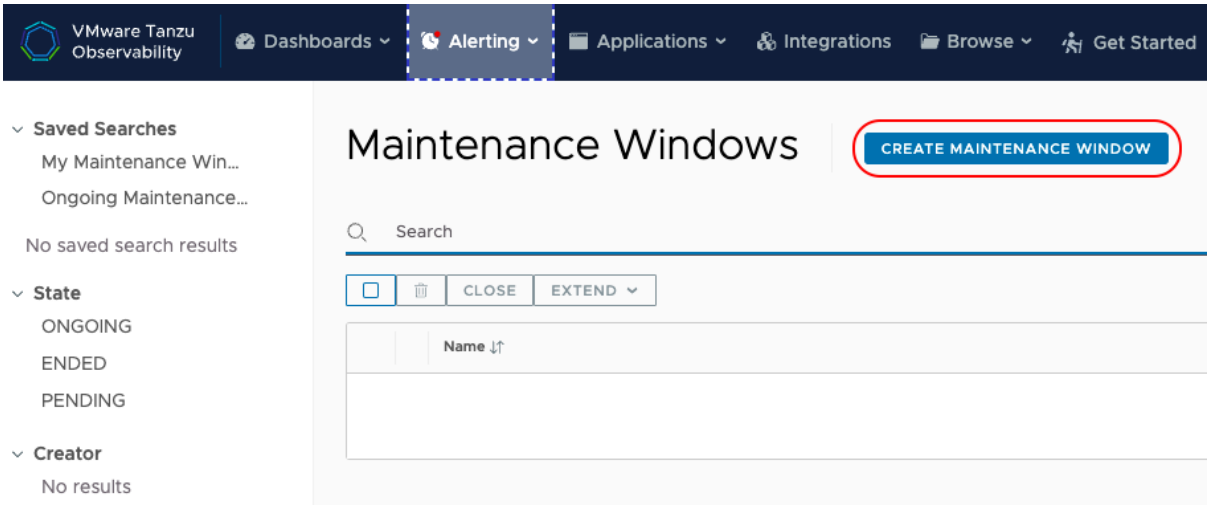

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
LIVE
2H
LAST 2 HOURS
All Alerts
Alert Targets
Maintenance Windows
Create Alert
Kubernetes Clusters (Clone)
cluster
Kubernetes Clusters
Clusters

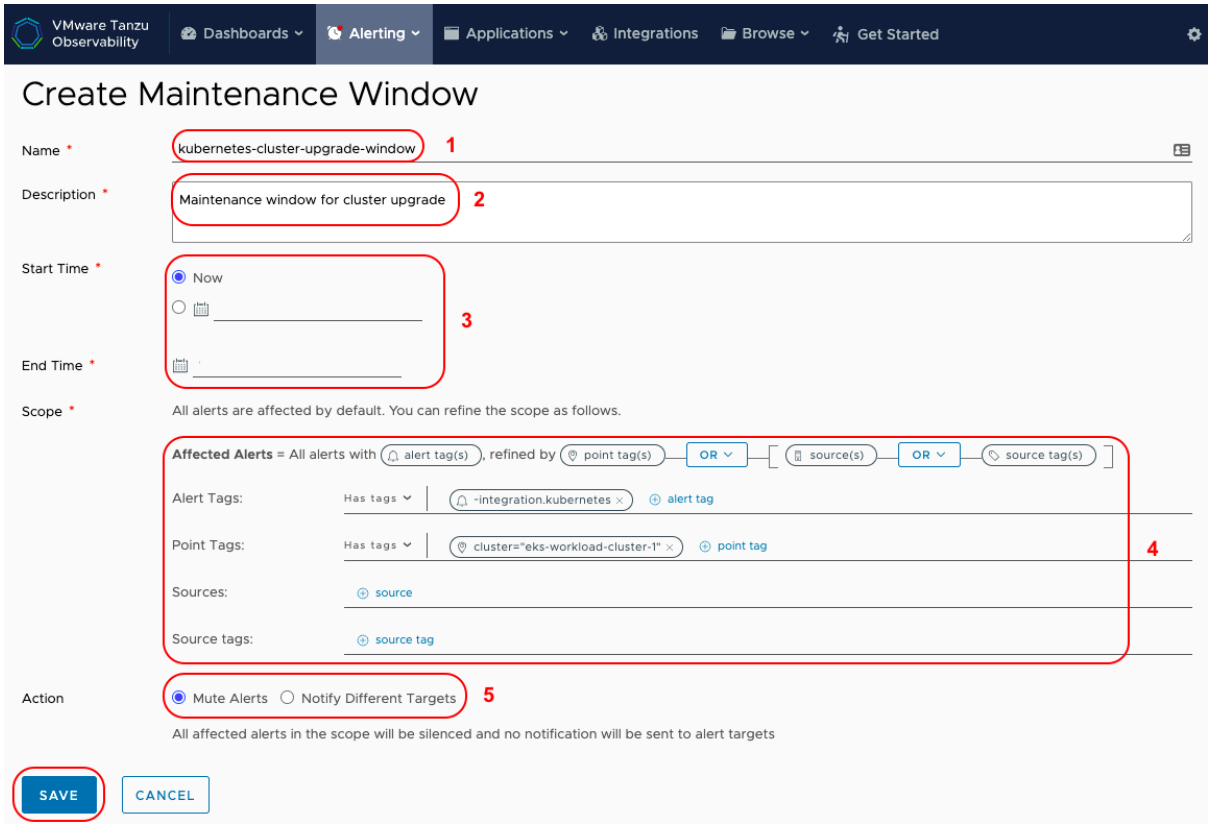

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Saved Searches
Me as Recipient
Last Updated By ...
Recently Updated
No saved search results
Type
Webhook
Email
PagerDuty
Triggers
No results
Alert Targets
CREATE ALERT TARGET
Search
DEFAULT
Name
Triggers
Type
Default Recipient
Routing
Last Updated
Updated By
No alert targets found.

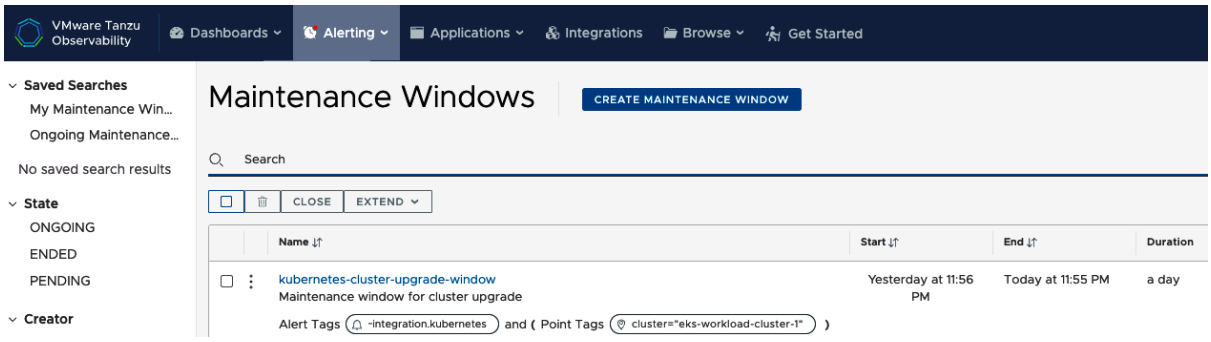

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Create Alert Target
Name *
my-email-target
1
Description *
Sample email target for email delivery
2
Triggers *
Alert Firing
Alert Affected By Maintenance Window
Alert Has No Data
Alert Status Updated
Alert Snoozed
Alert Has No Data Resolved
Alert Resolved
Alert Entered Maintenance From No Data
3
Type
Email
HTML Format
4
Recipients *
Default Recipient
email-recipient-1@xyz.com, email-recipent-2@xyz.com, email-distribution-list@xyz.com
5
Routing
key
Supports wildcard (*)
value
Supports wildcard (*)
Enter one or more email addresses separated by a comma
6
ADD ROUTE
Email Subject *
[{{#severity}}{{{severity}}}{{/severity}}] {{{name}}} ({{{notificationId}}})
Mustache syntax supported
Body Template *
TEMPLATE
7
HTML Email
Plain Text Email
Mustache syntax supported
SAVE
CANCEL

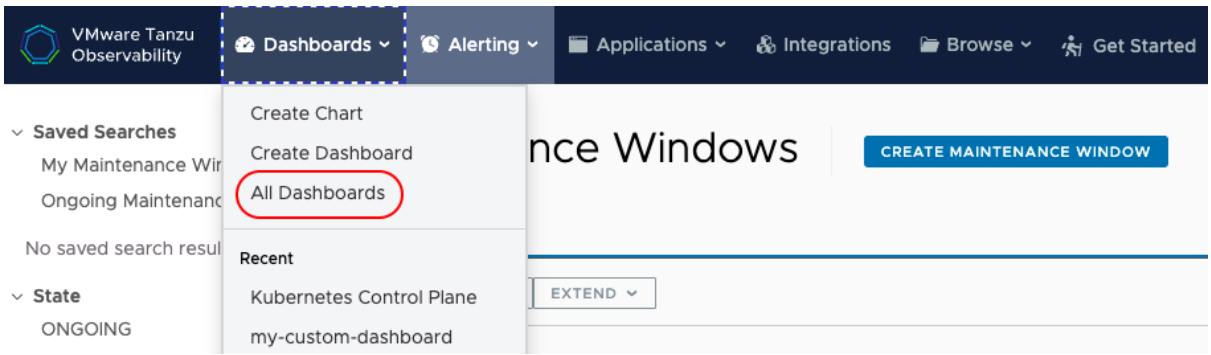

Alert Targets
CREATE ALERT TARGET
Search
Name
Triggers
Type
Default Recipient
Routing
Last Updated
my-email-target
Sample email target for email delivery
ID - b8KhowPtTtOGmN01
Alert Firing
Alert Snoozed
Alert Status Updated
Alert Resolved
Email
email-recipient-1@xyz.com, email-recipent-2@xyz.com, email-distribution-list@xyz.com
Today at 6:15 PM

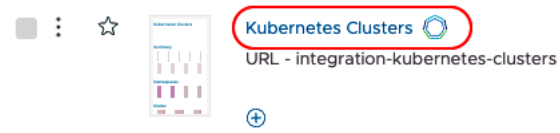

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
All Alerts
Alert Targets
Maintenance Windows
Create Alert
CREATE ALERT TARGET
Saved Searches
Me as Recipient
Last Updated By Me
Recently Updated
No saved search results
Type
Webhook
Email
PagerDuty
Triggers
Alert Firing
Name
Triggers
Type
Default Recipient
my-email-target
Sample email target for email delivery
ID - b8KhowPtTtOGmN01
Alert Firing
Alert Snoozed
Alert Status Updated
Alert Resolved
Email

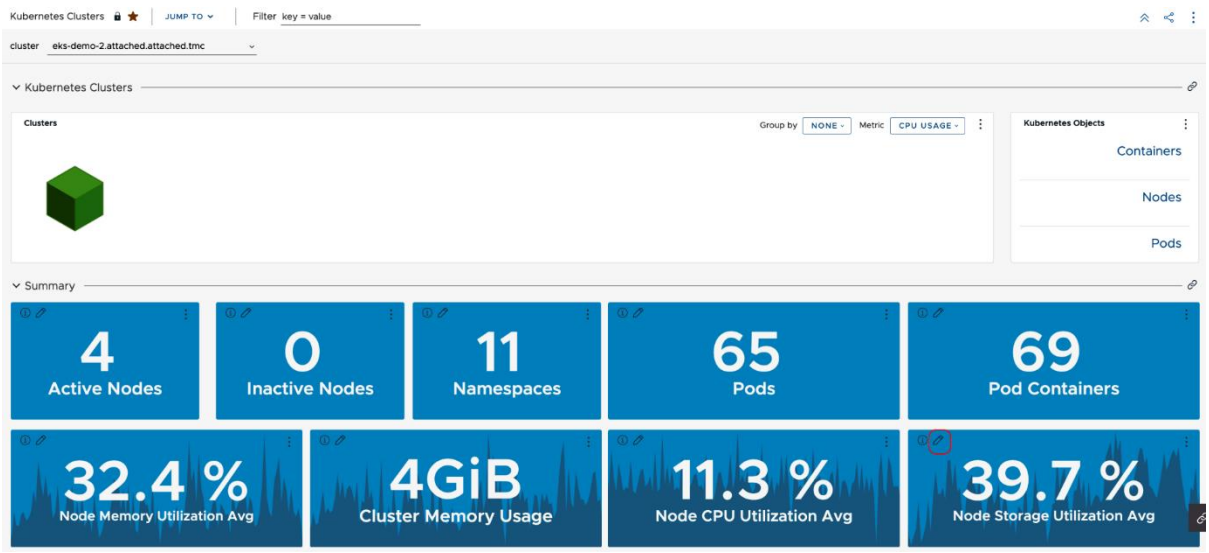

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Saved Searches
My Maintenance Win...
Ongoing Maintenance...
No saved search results
State
ONGOING
ENDED
PENDING
Creator
No results
Maintenance Windows
CREATE MAINTENANCE WINDOW
Search
CLOSE
EXTEND
Name

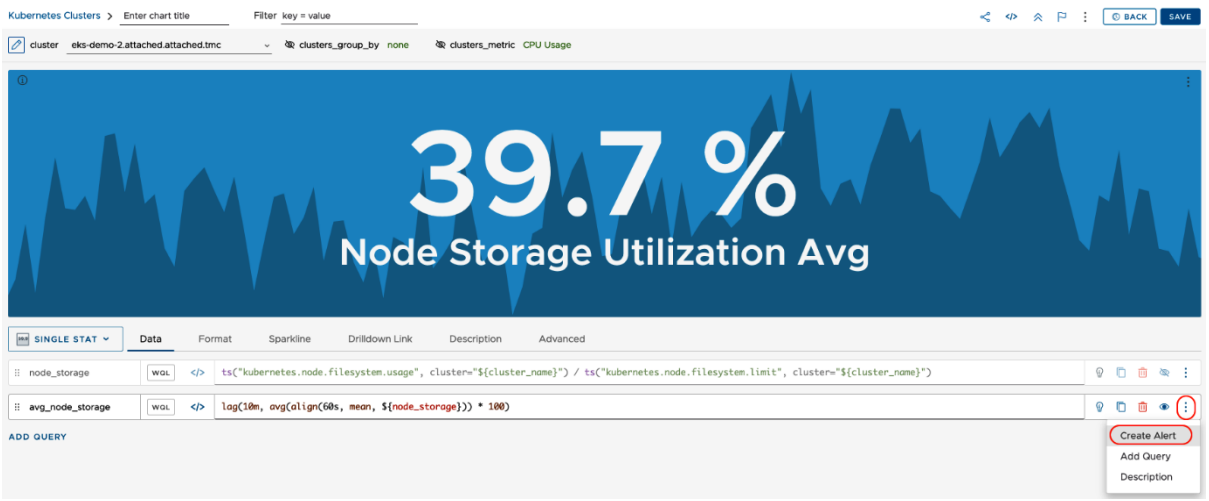

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Create Maintenance Window
Name *
kubernetes-cluster-upgrade-window
1
Description *
Maintenance window for cluster upgrade
2
Start Time *
Now
3
End Time *
Scope *
All alerts are affected by default. You can refine the scope as follows.
Affected Alerts = All alerts with alert tag(s), refined by point tag(s) OR source(s) OR source tag(s)
Alert Tags:
Has tags
-integration.kubernetes
alert tag
Point Tags:
Has tags
cluster="eks-workload-cluster-1"
point tag
4
Sources:
source
Source tags:
source tag
Action
Mute Alerts
Notify Different Targets
5
All affected alerts in the scope will be silenced and no notification will be sent to alert targets
SAVE
CANCEL


VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Saved Searches
My Maintenance Win...
Ongoing Maintenance...
No saved search results
State
ONGOING
ENDED
PENDING
Creator
Maintenance Windows
CREATE MAINTENANCE WINDOW
Search
CLOSE
EXTEND
Name
Start
End
Duration
kubernetes-cluster-upgrade-window
Maintenance window for cluster upgrade
Yesterday at 11:56 PM
Today at 11:55 PM
a day
Alert Tags -integration.kubernetes and (Point Tags cluster="eks-workload-cluster-1")

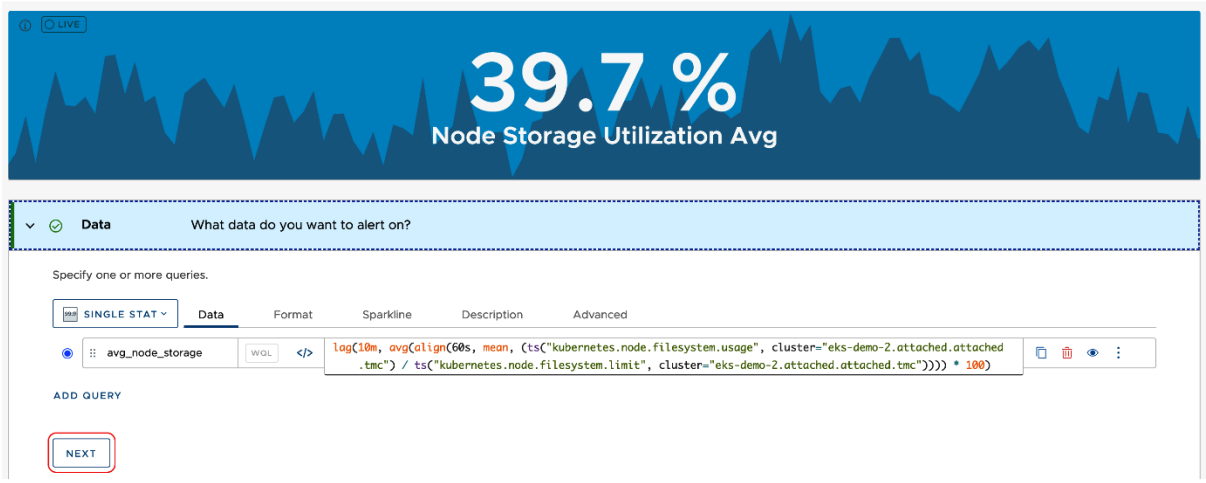

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Saved Searches
My Maintenance Wir
Ongoing Maintenanc
No saved search resul
State
ONGOING
Create Chart
Create Dashboard
All Dashboards
Recent
Kubernetes Control Plane
my-custom-dashboard
nce Windows
CREATE MAINTENANCE WINDOW
EXTEND

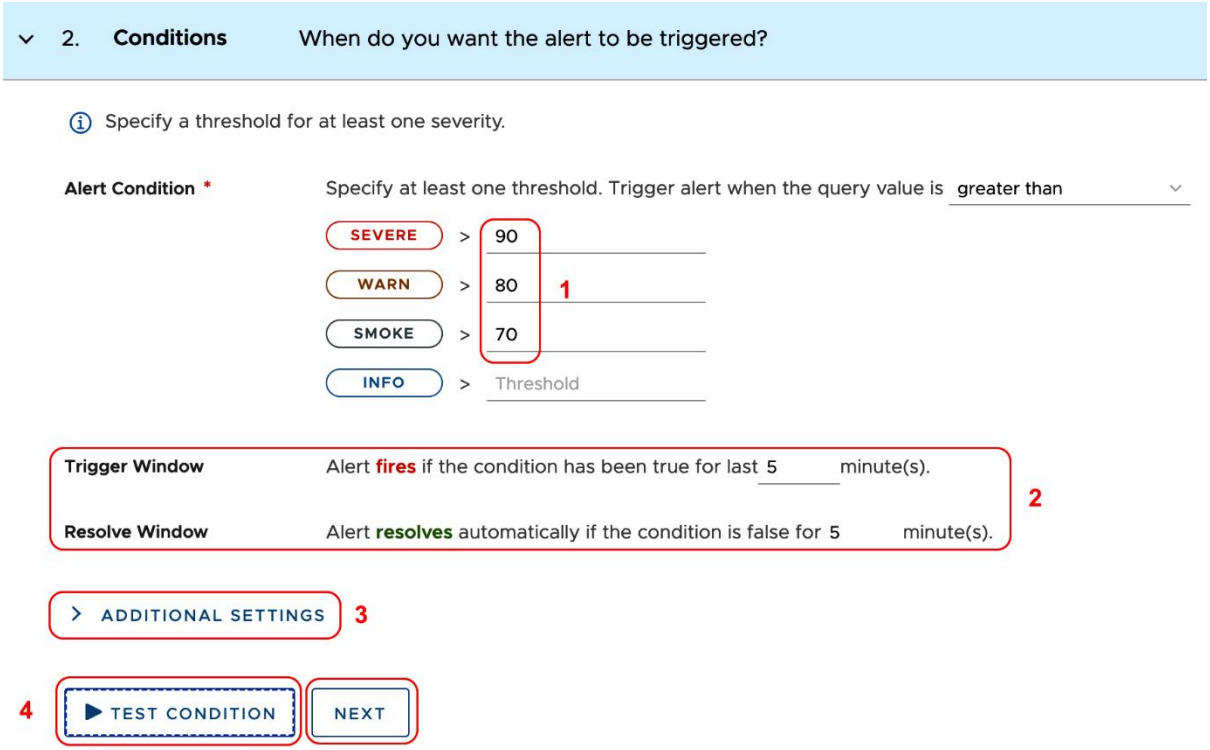

Kubernetes Clusters
URL - integration-kubernetes-clusters

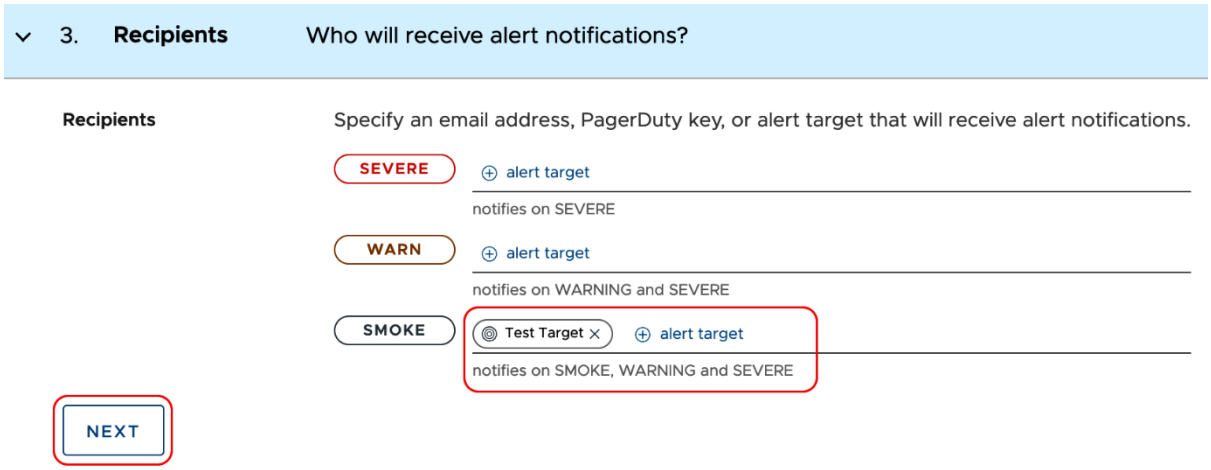

Kubernetes Clusters
JUMP TO
Filter key = value
cluster eks-demo-2.attached.attached.tmc
Kubernetes Clusters
Clusters
Group by NONE
Metric CPU USAGE
Kubernetes Objects
Containers
Nodes
Pods
Summary
4
Active Nodes
0
Inactive Nodes
11
Namespaces
65
Pods
69
Pod Containers
32.4 %
Node Memory Utilization Avg
4GiB
Cluster Memory Usage
11.3 %
Node CPU Utilization Avg
39.7 %
Node Storage Utilization Avg

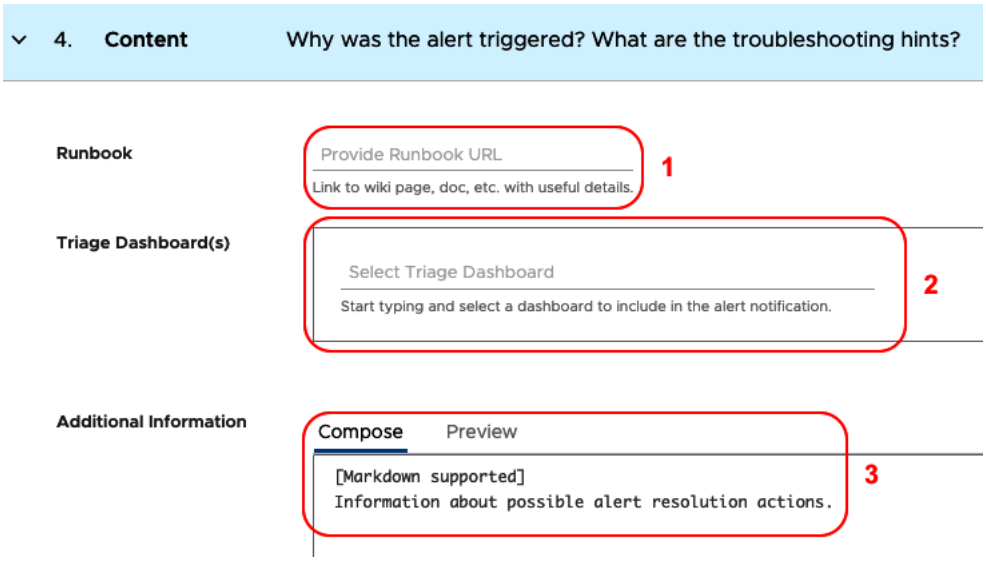

Kubernetes Clusters
Enter chart title
Filter key = value
BACK
SAVE
cluster eks-demo-2.attached.attached.tmc
clusters_group_by none
clusters_metric CPU Usage
39.7 %
Node Storage Utilization Avg
SINGLE STAT
Data
Format
Sparkline
Drilldown Link
Description
Advanced
node_storage
WQL
ts("kubernetes.node.filesystem.usage", cluster="${cluster_name}") / ts("kubernetes.node.filesystem.limit", cluster="${cluster_name}")
avg_node_storage
WQL
lag(10m, avg(align(60s, mean, ${node_storage})) * 100)
ADD QUERY
Create Alert
Add Query
Description

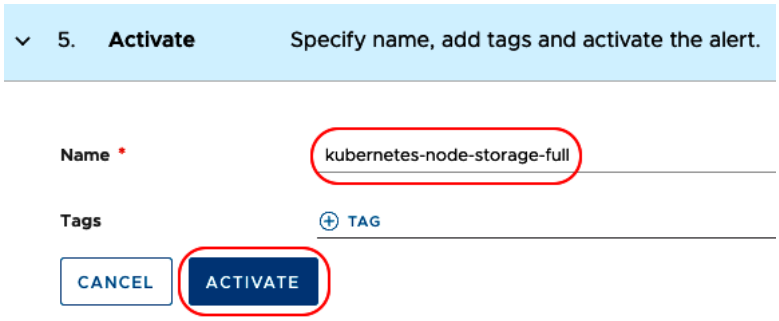
← Create Alert

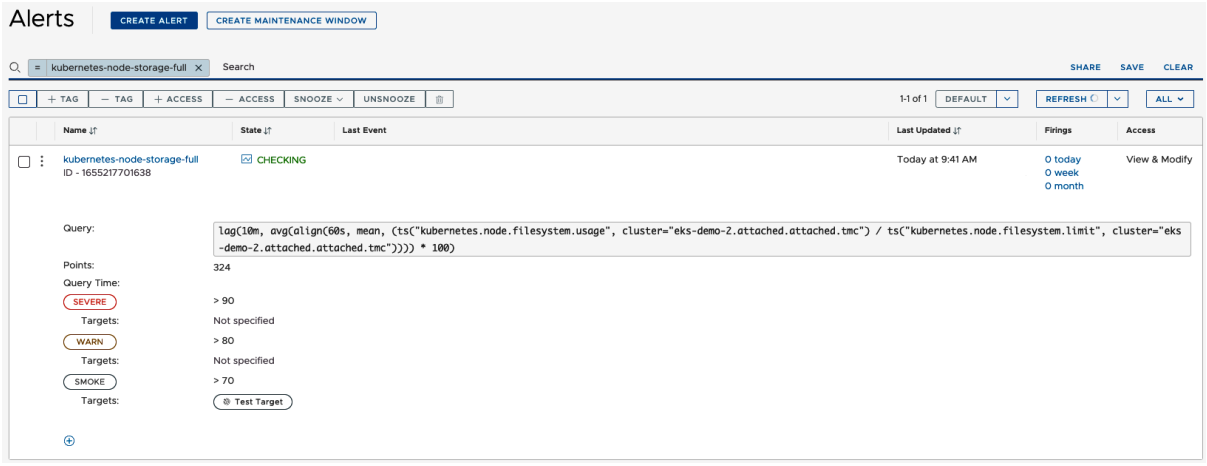


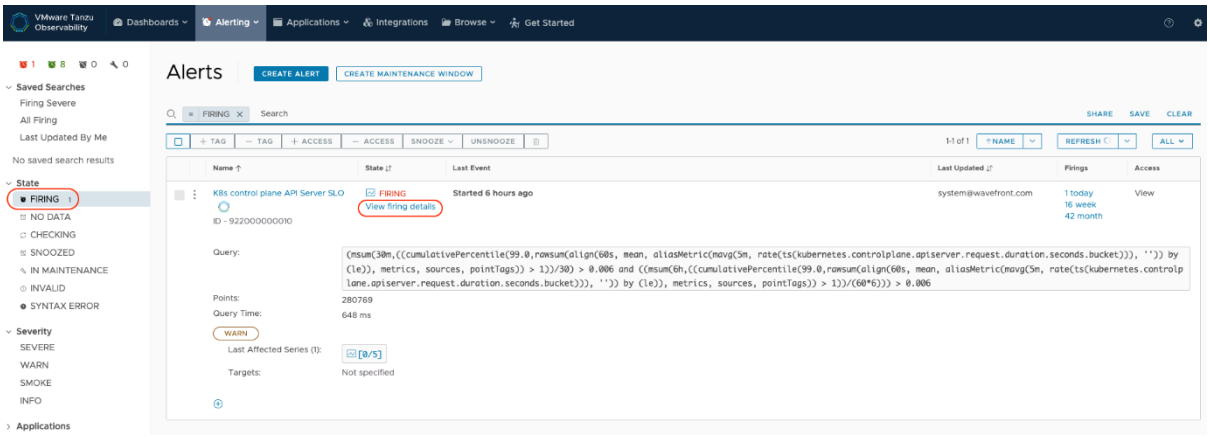


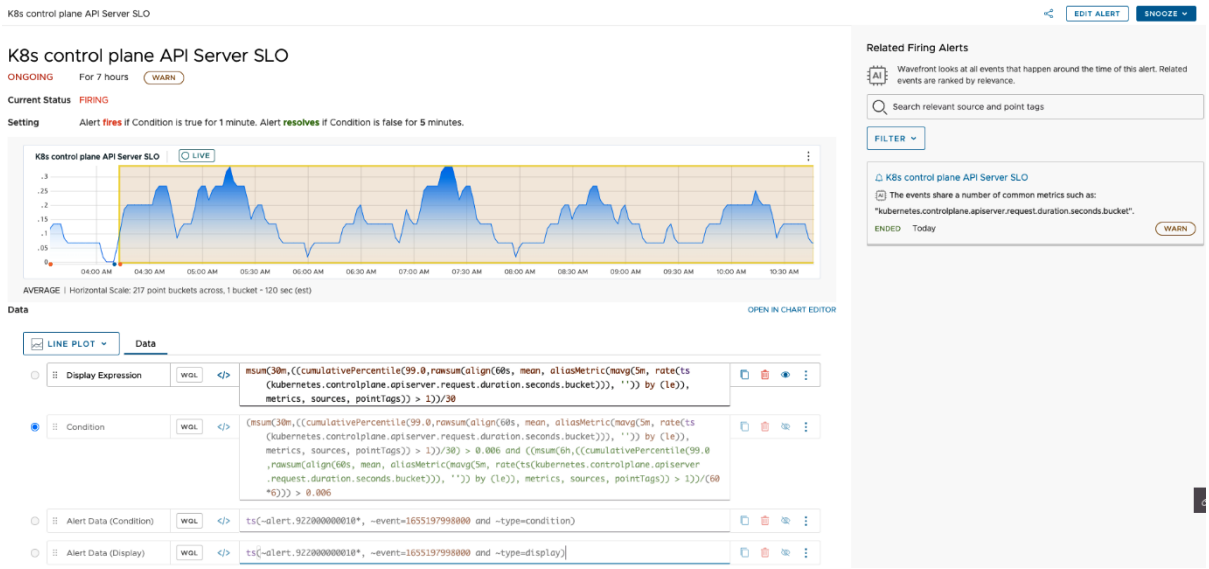

3. Recipients
Who will receive alert notifications?
Recipients
Specify an email address, PagerDuty key, or alert target that will receive alert notifications.
SEVERE
alert target
notifies on SEVERE
WARN
alert target
notifies on WARNING and SEVERE
SMOKE
Test Target
alert target
notifies on SMOKE, WARNING and SEVERE
NEXT


4. Content
Why was the alert triggered? What are the troubleshooting hints?
Runbook
Provide Runbook URL
Link to wiki page, doc, etc. with useful details.
1
Triage Dashboard(s)
Select Triage Dashboard
Start typing and select a dashboard to include in the alert notification.
2
Additional Information
Compose
Preview
[Markdown supported]
Information about possible alert resolution actions.
3

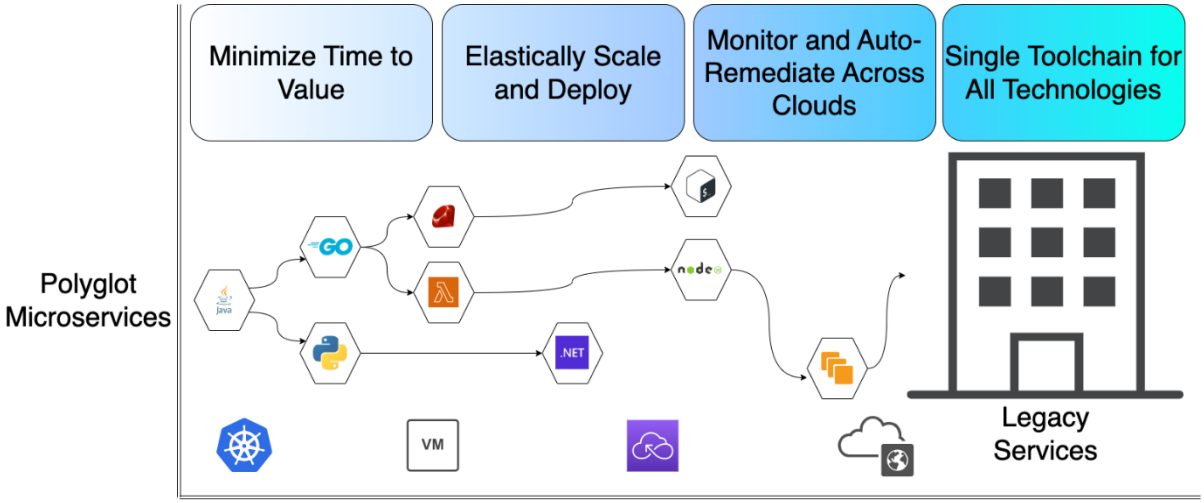

5. Activate
Specify name, add tags and activate the alert.
Name *
kubernetes-node-storage-full
Tags
TAG
CANCEL
ACTIVATE

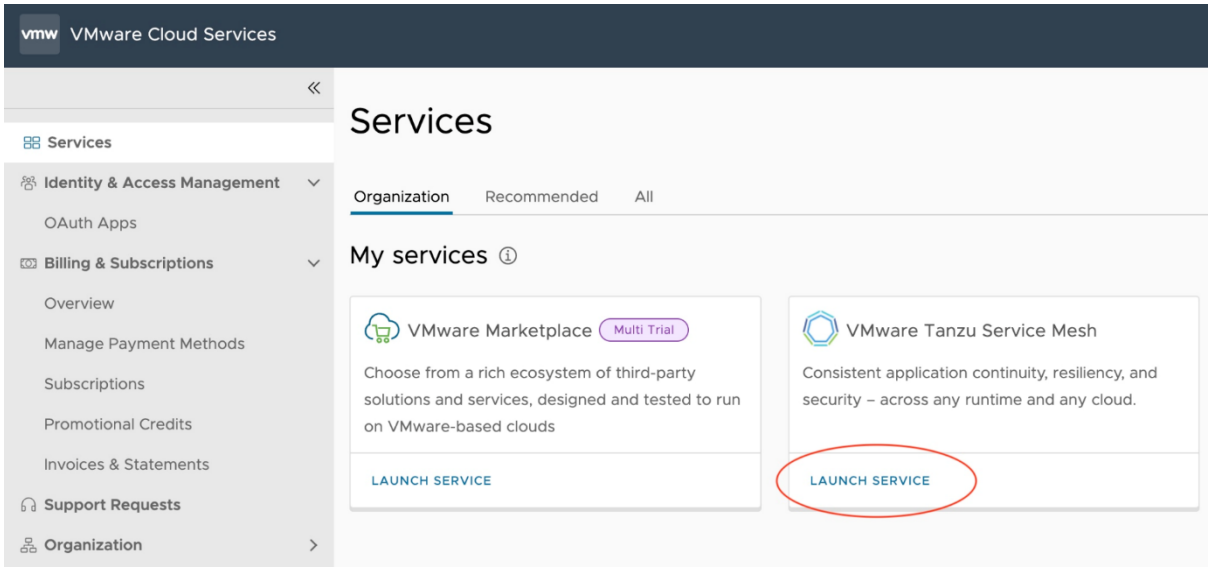

Alerts
CREATE ALERT
CREATE MAINTENANCE WINDOW
kubernetes-node-storage-full
Search
SHARE
SAVE
CLEAR
+ TAG
– TAG
+ ACCESS
– ACCESS
SNOOZE
UNSNOOZE
1-1 of 1
DEFAULT
REFRESH
ALL
Name
State
Last Event
Last Updated
Firings
Access
kubernetes-node-storage-full
ID - 1655217701638
CHECKING
Today at 9:41 AM
0 today
0 week
0 month
View & Modify
Query:
lag(10m, avg(align(60s, mean, (ts("kubernetes.node.filesystem.usage", cluster="eks-demo-2.attached.attached.tmc") / ts("kubernetes.node.filesystem.limit", cluster="eks-demo-2.attached.attached.tmc")))) * 100)
Points:
324
Query Time:
SEVERE
> 90
Targets:
Not specified
WARN
> 80
Targets:
Not specified
SMOKE
> 70
Targets:
Test Target

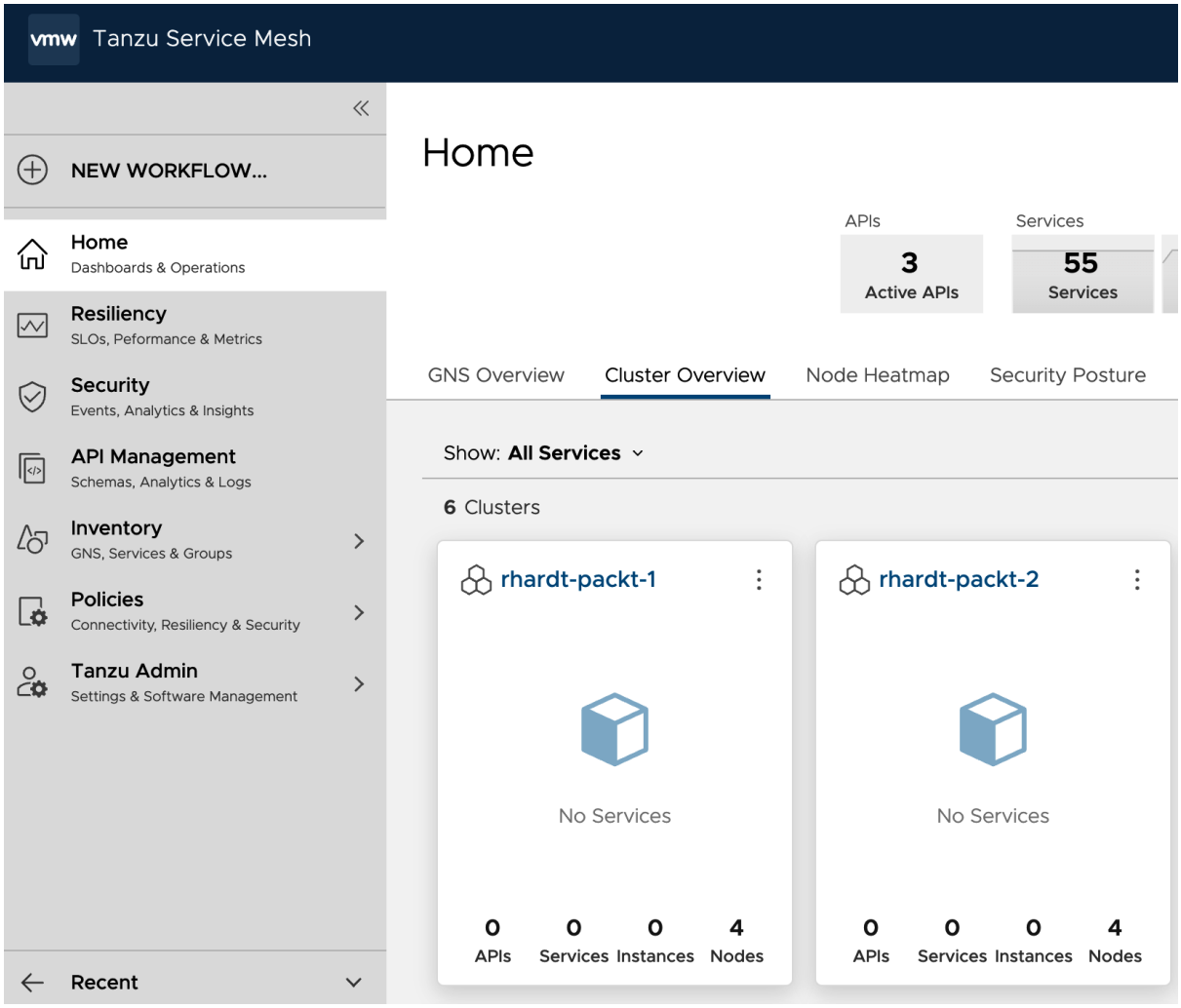

VMware Tanzu Observability
Dashboards
Alerting
Applications
Integrations
Browse
Get Started
Alerts
CREATE ALERT
CREATE MAINTENANCE WINDOW
Saved Searches
Firing Severe
All Firing
Last Updated By Me
No saved search results
State
FIRING
NO DATA
CHECKING
SNOOZED
IN MAINTENANCE
INVALID
SYNTAX ERROR
Severity
SEVERE
WARN
SMOKE
INFO
Applications
FIRING
Search
SHARE
SAVE
CLEAR
K8s control plane API Server SLO
ID - 922000000010
FIRING
View firing details
Started 6 hours ago
system@wavefront.com
1 today
16 week
42 month
View
Query:
Points:
280769
Query Time:
648 ms
WARN
Last Affected Series (1):
[0/5]
Targets:
Not specified

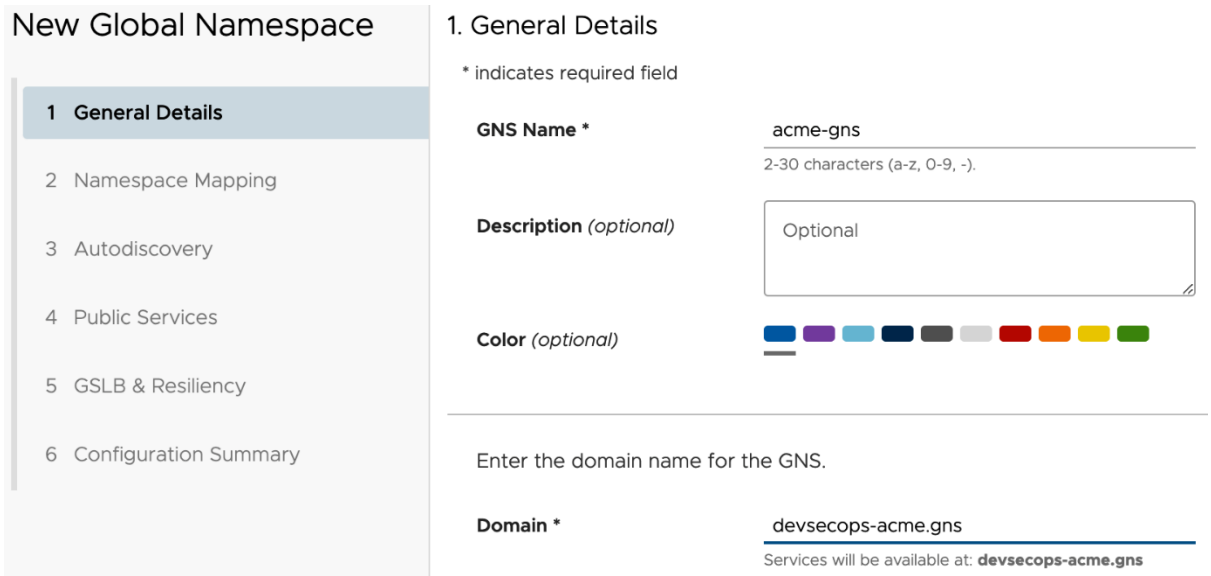

K8s control plane API Server SLO
EDIT ALERT
SNOOZE
K8s control plane API Server SLO
ONGOING
For 7 hours
WARN
Current Status
FIRING
Setting
Alert fires if Condition is true for 1 minute. Alert resolves if Condition is false for 5 minutes.
LIVE
AVERAGE | Horizontal Scale: 217 point buckets across, 1 bucket - 120 sec (est)
Data
OPEN IN CHART EDITOR
LINE PLOT
Data
Display Expression
Condition
Alert Data (Condition)
Alert Data (Display)
Related Firing Alerts
Wavefront looks at all events that happen around the time of this alert. Related events are ranked by relevance.
Search relevant source and point tags
FILTER
K8s control plane API Server SLO
The events share a number of common metrics such as:
"kubernetes.controlplane.apiserver.request.duration.seconds.bucket".
ENDED
Today
WARN

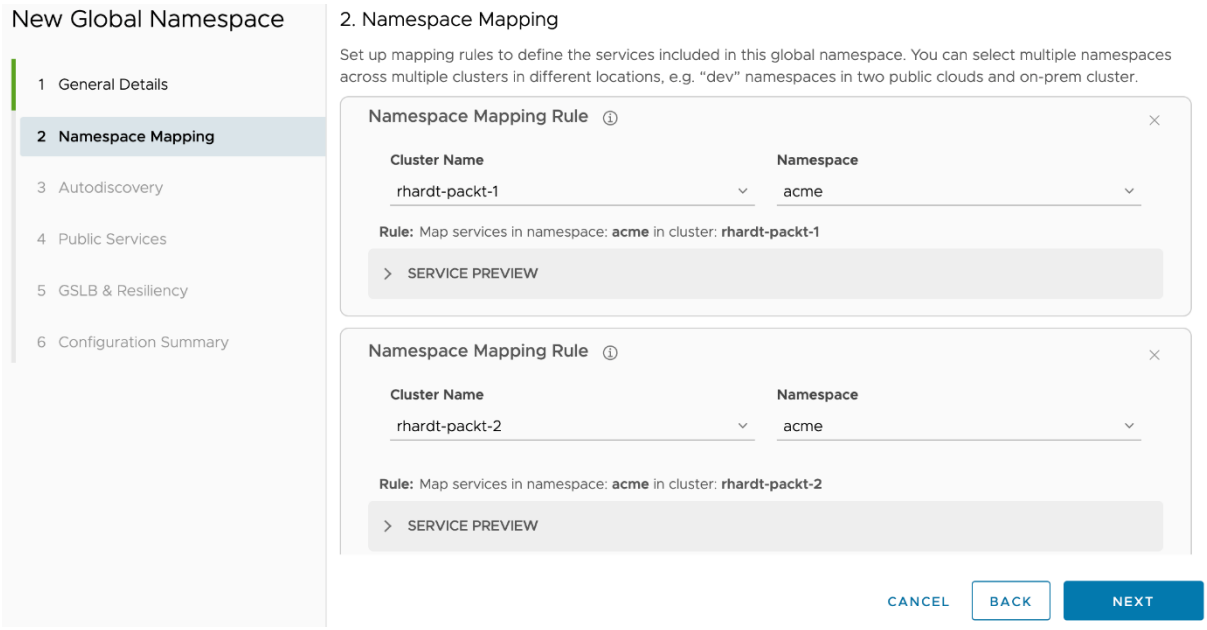
Chapter 11: Enabling Secure Inter-Service Communication with Tanzu Service Mesh

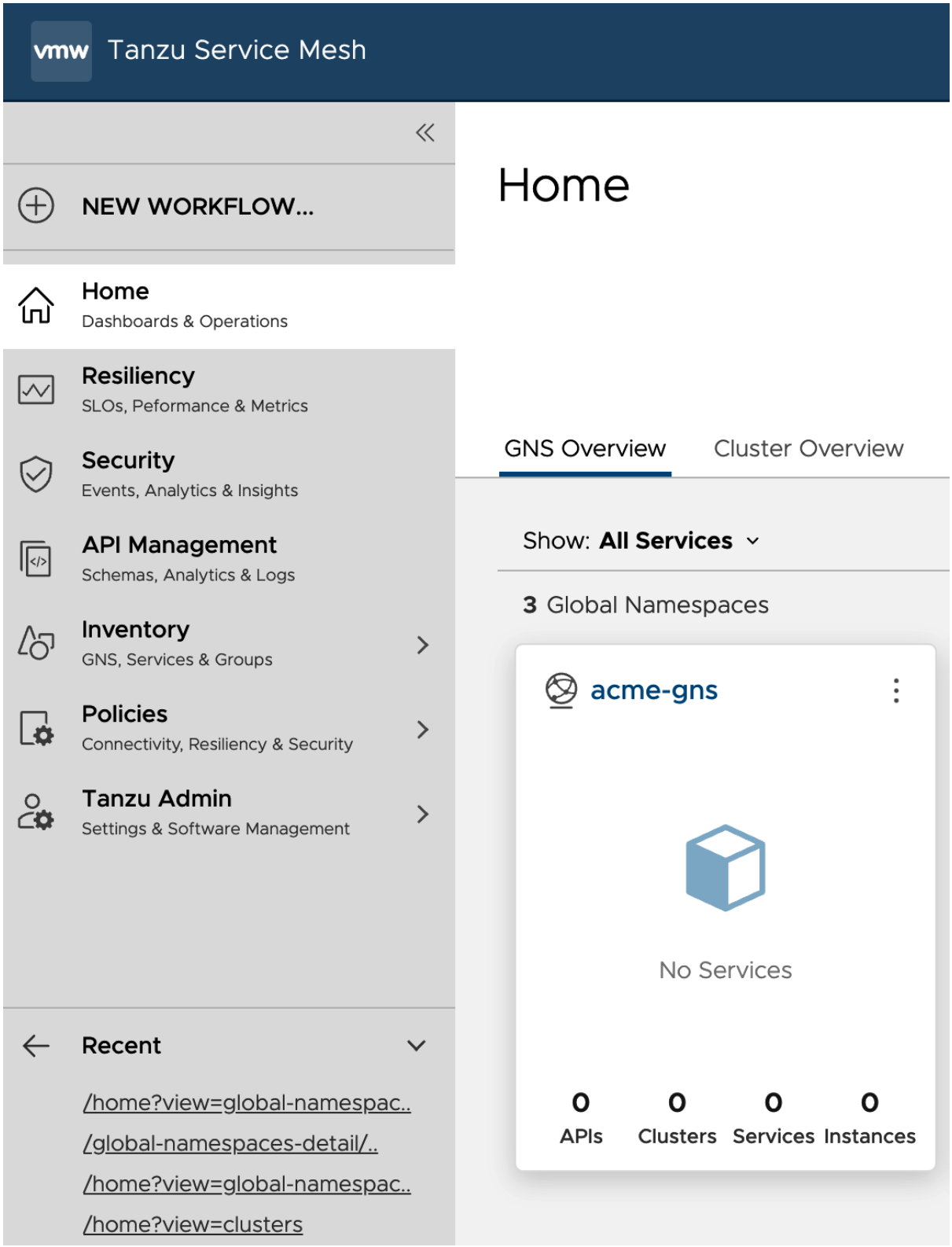


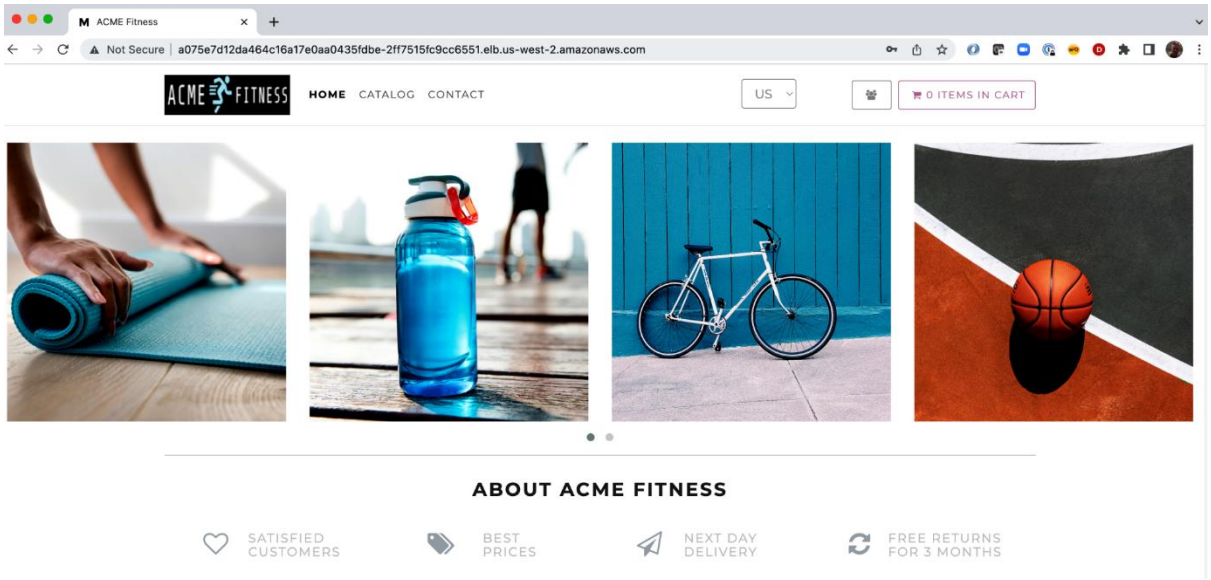


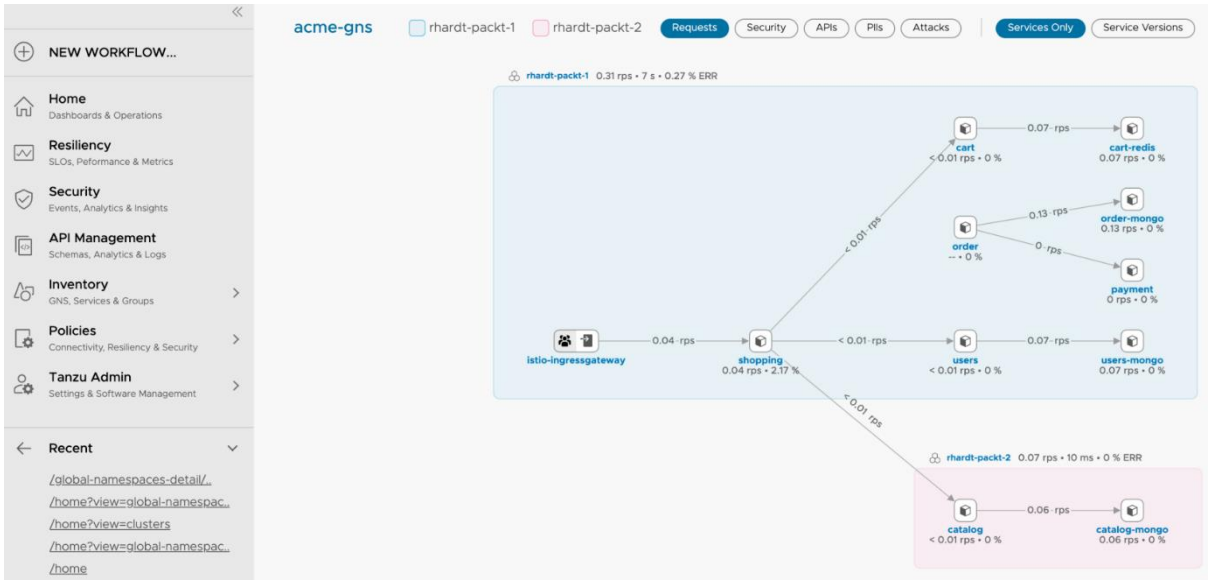

vmw Tanzu Service Mesh
NEW WORKFLOW...
Home
Dashboards & Operations
Resiliency
SLOs, Peformance & Metrics
Security
Events, Analytics & Insights
API Management
Schemas, Analytics & Logs
Inventory
GNS, Services & Groups
Policies
Connectivity, Resiliency & Security
Tanzu Admin
Settings & Software Management
Recent
Home
APIs
3
Active APIs
Services
55
Services
GNS Overview
Cluster Overview
Node Heatmap
Security Posture
Show: All Services
6 Clusters
rhardt-packt-1
No Services
0 APIs
0 Services
0 Instances
4 Nodes
rhardt-packt-2
No Services
0 APIs
0 Services
0 Instances
4 Nodes

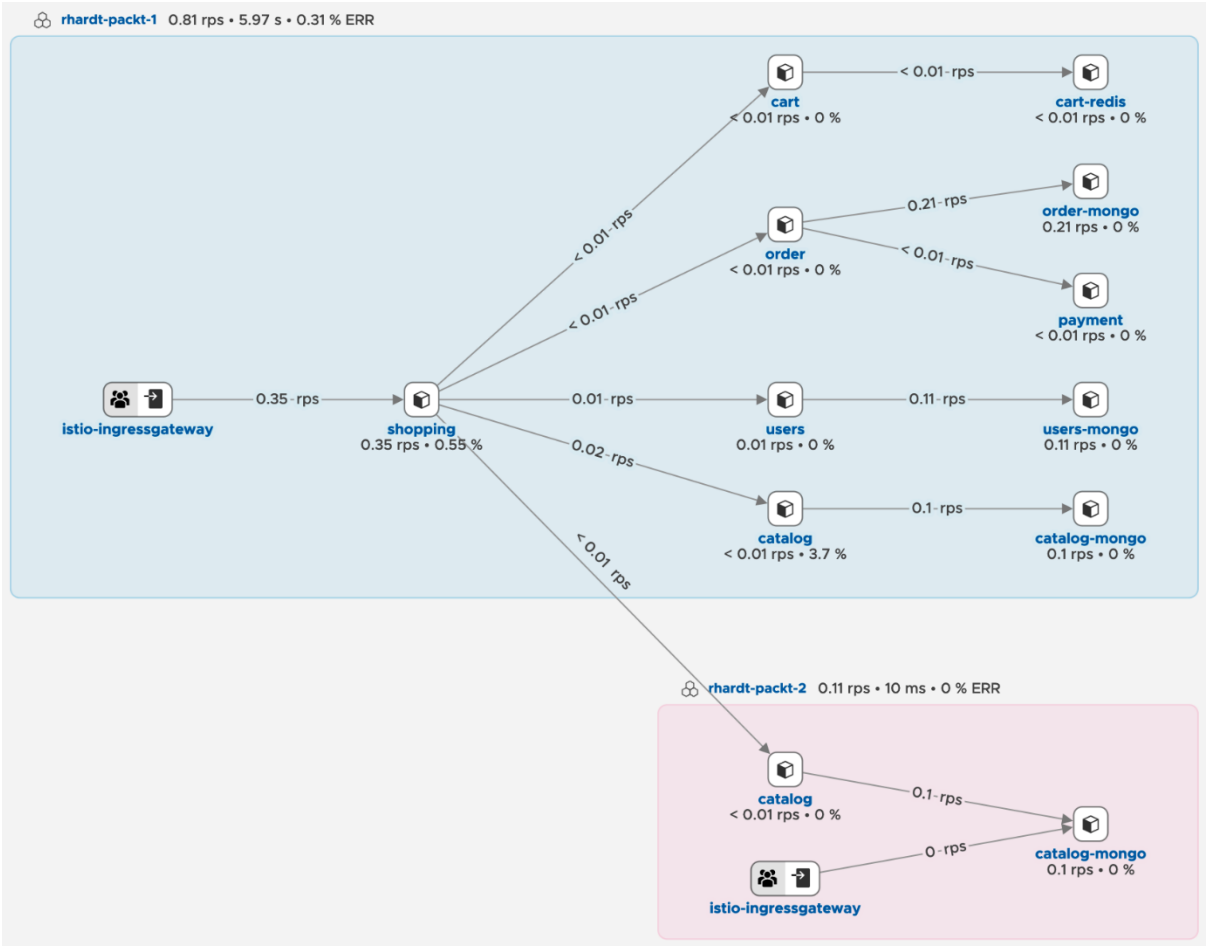

New Global Namespace
1 General Details
2 Namespace Mapping
3 Autodiscovery
4 Public Services
5 GSLB & Resiliency
6 Configuration Summary
1. General Details
* indicates required field
GNS Name *
acme-gns
2-30 characters (a-z, 0-9, -).
Description (optional)
Optional
Color (optional)
Enter the domain name for the GNS.
Domain *
devsecops-acme.gns
Services will be available at: devsecops-acme.gns


New Global Namespace
1 General Details
2 Namespace Mapping
3 Autodiscovery
4 Public Services
5 GSLB & Resiliency
6 Configuration Summary
2. Namespace Mapping
Set up mapping rules to define the services included in this global namespace. You can select multiple namespaces across multiple clusters in different locations, e.g. “dev” namespaces in two public clouds and on-prem cluster.
Namespace Mapping Rule
Cluster Name
rhardt-packt-1
Namespace
acme
Rule: Map services in namespace: acme in cluster: rhardt-packt-1
SERVICE PREVIEW
Namespace Mapping Rule
Cluster Name
rhardt-packt-2
Namespace
acme
Rule: Map services in namespace: acme in cluster: rhardt-packt-2
SERVICE PREVIEW
CANCEL
BACK
NEXT


vmw Tanzu Service Mesh
NEW WORKFLOW...
Home
Dashboards & Operations
Resiliency
SLOs, Peformance & Metrics
Security
Events, Analytics & Insights
API Management
Schemas, Analytics & Logs
Inventory
GNS, Services & Groups
Policies
Connectivity, Resiliency & Security
Tanzu Admin
Settings & Software Management
Recent
/home?view=global-namespac..
/global-namespaces-detail/..
/home?view=global-namespac..
/home?view=clusters
Home
GNS Overview
Cluster Overview
Show: All Services
3 Global Namespaces
acme-gns
No Services
0 APIs
0 Clusters
0 Services
0 Instances


ACME Fitness
Not Secure | a075e7d12da464c16a17e0aa0435fdbe-2ff7515fc9cc6551.elb.us-west-2.amazonaws.com
ACME FITNESS
HOME CATALOG CONTACT
US
0 ITEMS IN CART
ABOUT ACME FITNESS
SATISFIED CUSTOMERS
BEST PRICES
NEXT DAY DELIVERY
FREE RETURNS FOR 3 MONTHS


NEW WORKFLOW...
Home
Dashboards & Operations
Resiliency
SLOs, Peformance & Metrics
Security
Events, Analytics & Insights
API Management
Schemas, Analytics & Logs
Inventory
GNS, Services & Groups
Policies
Connectivity, Resiliency & Security
Tanzu Admin
Settings & Software Management
Recent
/global-namespaces-detail/..
/home?view=global-namespac..
/home?view=clusters
/home?view=global-namespac..
/home
acme-gns
rhardt-packt-1
rhardt-packt-2
Requests
Security
APIs
PIIs
Attacks
Services Only
Service Versions
rhardt-packt-1 0.31 rps • 7 s • 0.27 % ERR
0.07 rps
cart
< 0.01 rps • 0 %
cart-redis
0.07 rps • 0 %
0.13 rps
order-mongo
0.13 rps • 0 %
< 0.01 rps
order
-- • 0 %
0 rps
payment
0 rps • 0 %
0.04 rps
istio-ingressgateway
shopping
0.04 rps • 2.17 %
< 0.01 rps
users
< 0.01 rps • 0 %
0.07 rps
users-mongo
0.07 rps • 0 %
< 0.01 rps
rhardt-packt-2 0.07 rps • 10 ms • 0 % ERR
0.06 rps
catalog
< 0.01 rps • 0 %
catalog-mongo
0.06 rps • 0 %


rhardt-packt-1 0.81 rps • 5.97 s • 0.31 % ERR
istio-ingressgateway
0.35 rps
shopping
0.35 rps • 0.55 %
< 0.01 rps
cart
< 0.01 rps • 0 %
< 0.01 rps
cart-redis
< 0.01 rps • 0 %
< 0.01 rps
order
< 0.01 rps • 0 %
0.21 rps
order-mongo
0.21 rps • 0 %
< 0.01 rps
payment
< 0.01 rps • 0 %
0.01 rps
users
0.01 rps • 0 %
0.11 rps
users-mongo
0.11 rps • 0 %
0.02 rps
catalog
< 0.01 rps • 3.7 %
0.1 rps
catalog-mongo
0.1 rps • 0 %
< 0.01 rps
rhardt-packt-2 0.11 rps • 10 ms • 0 % ERR
catalog
< 0.01 rps • 0 %
0.1 rps
0 rps
istio-ingressgateway
catalog-mongo
0.1 rps • 0 %

New Monitored SLO Policy

1 Definition

2 Services

3 Summary

3. Summary

Definition EDIT

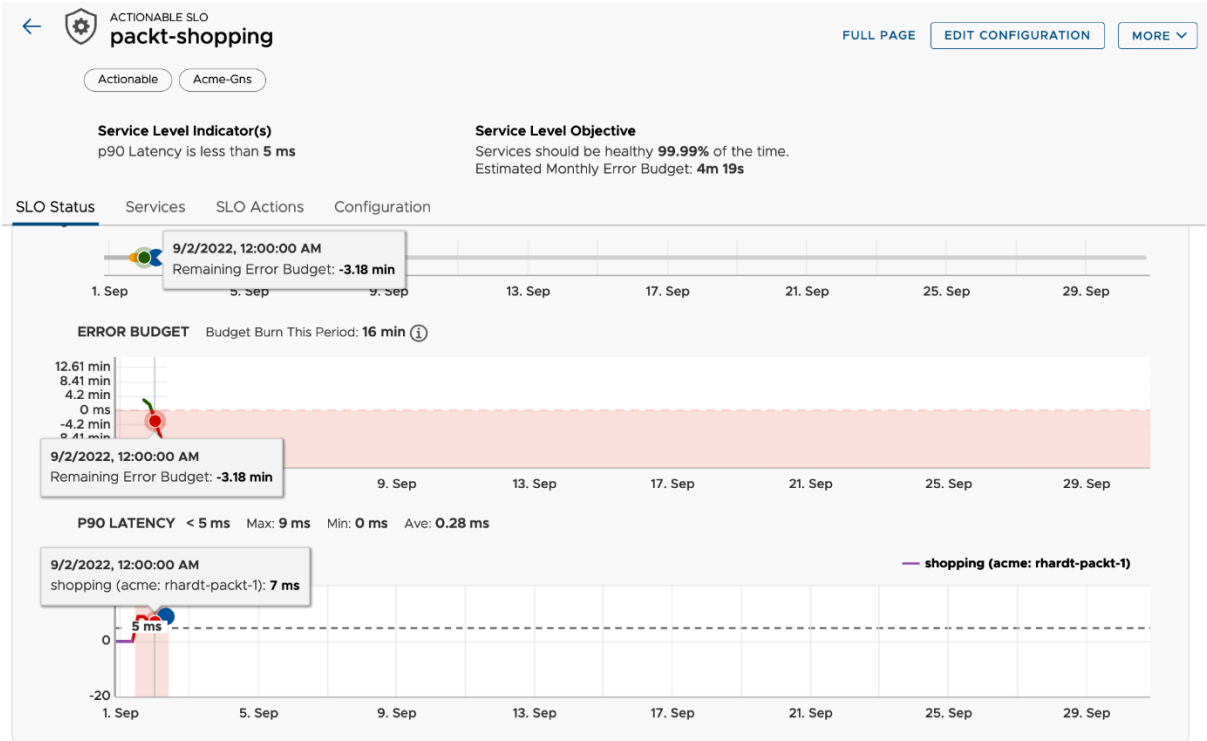
SLO Name	acme-catalog-health
Description	--
Policy Scope	GNS Policy
GNS Scope	acme-gns
Labels	--
Service Level Indicator(s)	p90 Latency is less than **100** ms
Service Level Objective	The service should be healthy **99.99%** of the time Estimated Monthly Error Budget: **4m 19s**

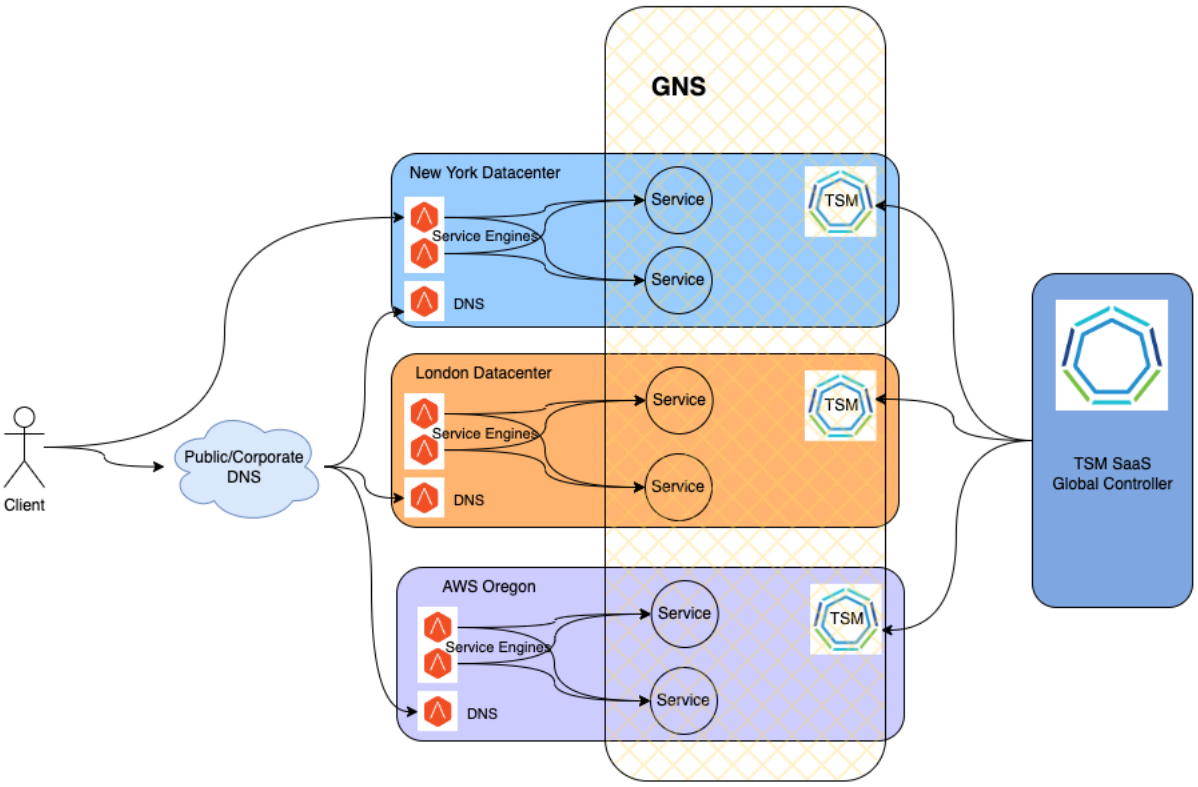
Services EDIT

Service(s)

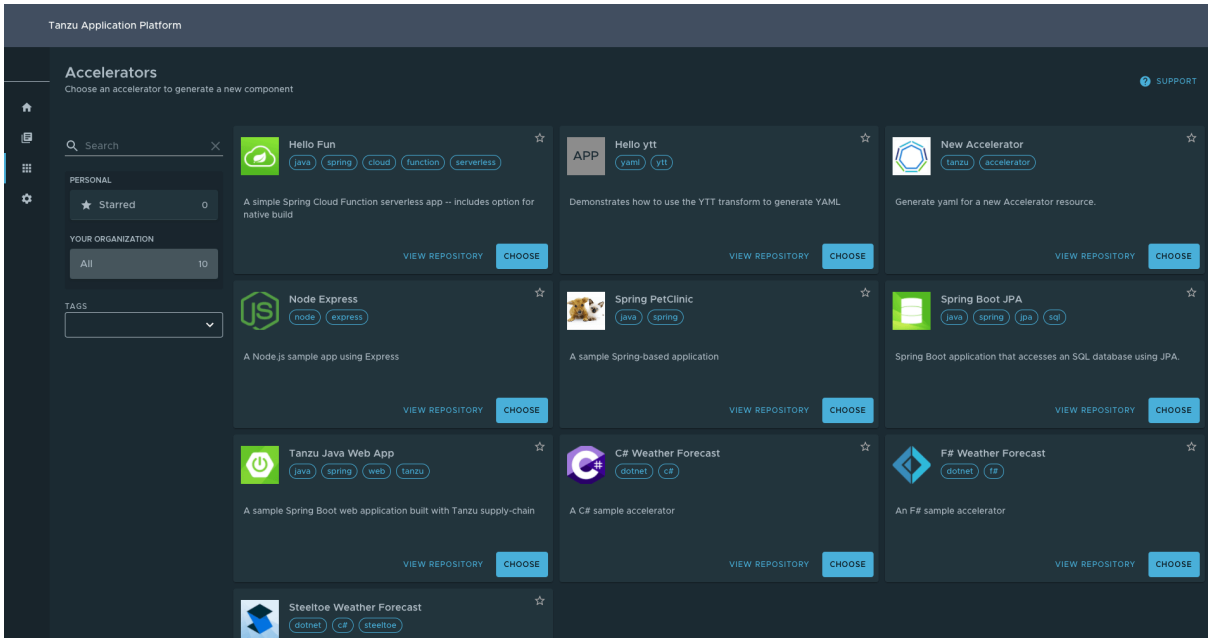
catalog

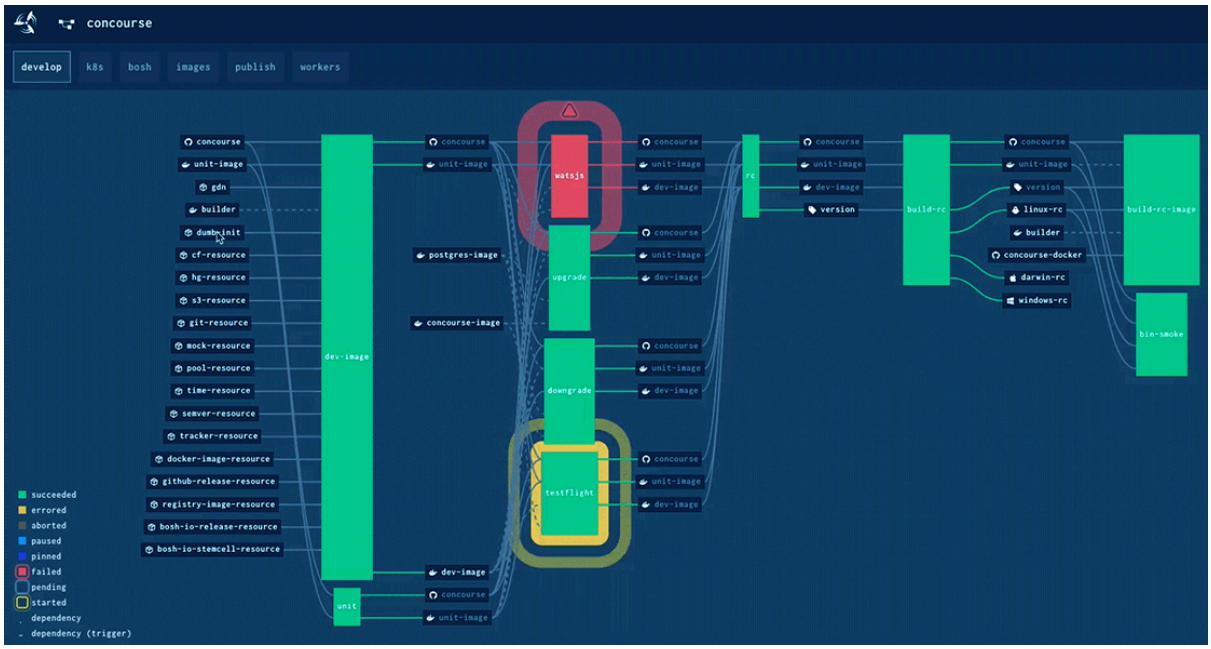
CANCEL BACK SAVE

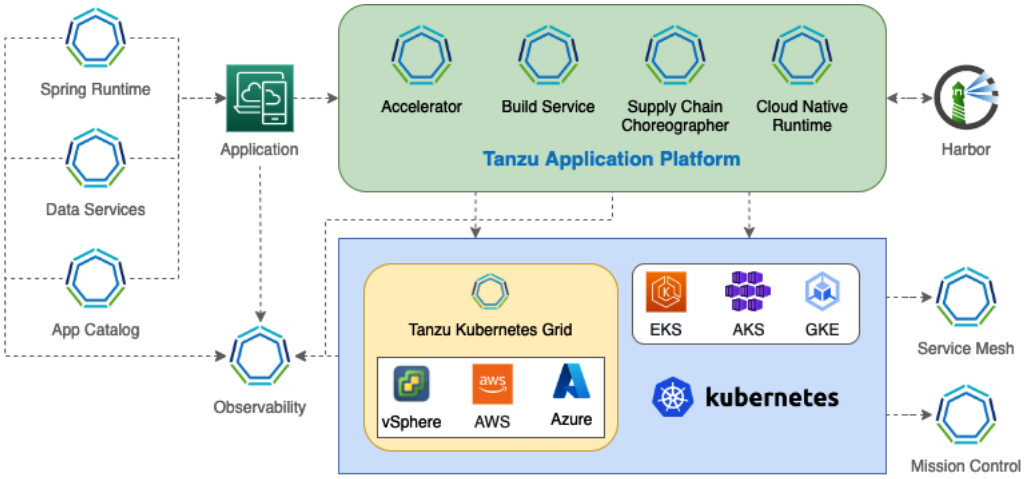



GNS
New York Datacenter
Service Engines
DNS
Service
Service
TSM
London Datacenter
Service Engines
DNS
Service
Service
TSM
AWS Oregon
Service Engines
DNS
Service
Service
TSM
TSM SaaS
Global Controller
Client
Public/Corporate
DNS

Chapter 12: Bringing It All Together






Spring Runtime
Data Services
App Catalog
Application
Observability
Accelerator
Build Service
Supply Chain Choreographer
Cloud Native Runtime
Tanzu Application Platform
Harbor
Tanzu Kubernetes Grid
vSphere
AWS
Azure
EKS
AKS
GKE
kubernetes
Service Mesh
Mission Control