**Helm Commands**

Wednesday, May 22, 2024

10:34 AM

**General Helm Commands:**

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**Remove a Helm Repo From My Local Repo List:**

**------------------------------------------------------------------**

**khaled.elsayed at ~ ❯ helm repo list**

NAME         URL

cloudbees         <https://charts.cloudbees.com/public/cloudbees>

jfrog         <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

sonarqube         <https://SonarSource.github.io/helm-chart-sonarqube>

**blackfire**[**https://warxcell.github.io/helm-chart/**](https://warxcell.github.io/helm-chart/)

docker-selenium        <https://www.selenium.dev/docker-selenium>

**khaled.elsayed at ~ ❯ helm repo remove blackfire**

"blackfire" has been removed from your repositories

**khaled.elsayed at ~ ❯ helm repo list**

NAME         URL

cloudbees         <https://charts.cloudbees.com/public/cloudbees>

jfrog         <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

sonarqube         <https://SonarSource.github.io/helm-chart-sonarqube>

docker-selenium        <https://www.selenium.dev/docker-selenium>

**Delete a Helm Chart:**

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**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm uninstall artifactory-ha -n artifactory-ha**

**release "artifactory-ha" uninstalled**

**OR**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm delete artifactory-ha -n artifactory-ha**

**release "artifactory-ha" uninstalled**

**Search Helm Repo:**

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**khaled.elsayed at ~ ❯ helm search repo grafana**

NAME         CHART VERSION        APP VERSION         DESCRIPTION

grafana/grafana         7.3.11         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana-agent         0.39.0         v0.40.5         Grafana Agent

grafana/grafana-agent-operator         0.3.22         0.40.5         A Helm chart for Grafana Agent Operator

grafana/grafana-sampling         0.1.1         v0.40.2         A Helm chart for a layered OTLP tail sampling a...

**khaled.elsayed at ~ ❯ helm search repo grafana --versions**

NAME         CHART VERSION        APP VERSION         DESCRIPTION

grafana/grafana         7.3.11         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana         7.3.10         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana         7.3.9         10.4.1         The leading tool for querying and visualizing t...

**khaled.elsayed at ~ ❯ helm search repo grafana/loki**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

grafana/loki         6.6.2         3.0.0         Helm chart for Grafana Loki and Grafana Enterpr...

grafana/loki-canary         0.14.0         2.9.1         Helm chart for Grafana Loki Canary

grafana/loki-distributed         0.79.0         2.9.6         Helm chart for Grafana Loki in microservices mode

grafana/loki-simple-scalable        1.8.11         2.6.1         Helm chart for Grafana Loki in simple, scalable...

grafana/loki-stack         2.10.2         v2.9.3         Loki: like Prometheus, but for logs.

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**Cloudbees Helm Commands:**

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**Search for the Latest Helm Version for Cloudbees:**

**---------------------------------------------------------------------**

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii **~/Documents/Repos/Helm/Cloudbees/helm** **helm repo add cloudbees** [**https://charts.cloudbees.com/public/cloudbees**](https://charts.cloudbees.com/public/cloudbees)

"cloudbees" already exists with the same configuration, skipping

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii **~/Documents/Repos/Helm/Cloudbees/helm** **helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "cloudbees" chart repository

Update Complete. ⎈Happy Helming!⎈

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii  **~/Documents/Repos/Helm/Cloudbees/helm** **helm search repo cloudbees-core --versions**

NAME         CHART VERSION         APP VERSION        DESCRIPTION

**cloudbees/cloudbees-core        3.16720.0+8c1db08cd647        2.440.1.4         Enterprise Continuous Integration with Jenkins**

cloudbees/cloudbees-core        3.16714.0+b91b06c4042e        2.440.1.3         Enterprise Continuous Integration with Jenkins

cloudbees/cloudbees-core        3.16155.0+bdcd96dc9444        2.426.3.3         Enterprise Continuous Integration with Jenkins

cloudbees/cloudbees-core        3.15666.0+5ea03547ce92        2.426.2.2         Enterprise Continuous Integration with Jenkins

**List the Added Repos of your Helm Client:**

**----------------------------------------------------------**

**khaled.elsayed at ~ ❯ helm repo list**

NAME         URL

cloudbees        <https://charts.cloudbees.com/public/cloudbees>

jfrog          <https://charts.jfrog.io>

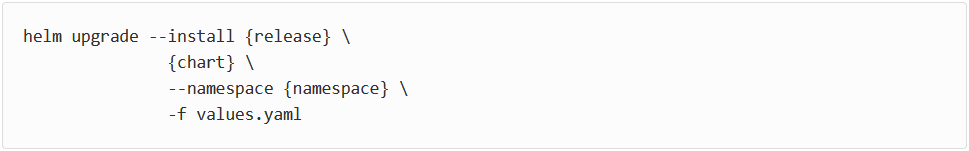
**Download the Latest Helm Version for Cloudbees using the Above Chart Version:**

**---------------------------------------------------------------------------------------------------------------**

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii **~/Documents/Repos/Helm/Cloudbees/helm** **helm pull cloudbees/cloudbees-core --version 3.16720.0+8c1db08cd647**

**Use the helm template command to test your configuration and generate a output.yaml file before actual deployment to EKS:**

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Note that we defined the **Release Name** as "**cloudbees-core**", and the **Chart Name & Location** as "**./cloudbees-core**", and the **Namespace** as "**cloudbees**". The **Chart Name & Location** is "**./cloudbees-core**" because we downloaded the chart inside the **helm** directory.

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii  **~/Documents/Repos/Helm/Cloudbees/helm** **ls -ltr**

total 96

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 86769 Mar 20 11:48 **cloudbees-core-3.16720.0+8c1db08cd647.tgz**

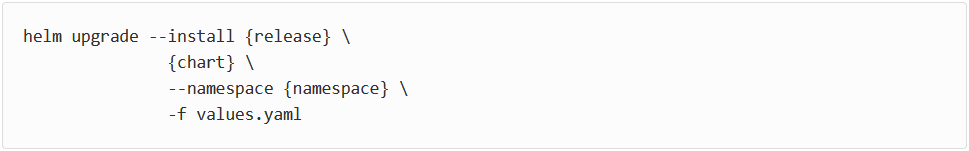
drwxr-xr-x 4 workspaces\khaled.elsayed workspaces\domain users 4096 Mar 20 11:49 **cloudbees-core**

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 278 Mar 20 12:14 **cloudbees.lz-dev.dev-nonprd-eks-cluster.values.yaml**

➜ workspaces\khaled.elsayed@a-1spquvzhx6ii  **~/Documents/Repos/Helm/Cloudbees/helm** **helm template cloudbees-core ./cloudbees-core --namespace cloudbees -f cloudbees.lz-dev.dev-nonprd-eks-cluster.values.yaml > output.yaml**

**Run the helm upgrade --install command:**

**---------------------------------------------------------**



➜ workspaces\khaled.elsayed@a-1spquvzhx6ii  **~/Documents/Repos/Helm/Cloudbees/helm helm upgrade --install cloudbees-core ./cloudbees-core --namespace cloudbees -f cloudbees.lz-dev.dev-nonprd-eks-cluster.values.yaml**

Release "cloudbees-core" does not exist. Installing it now.

NAME: cloudbees-core

LAST DEPLOYED: Wed Mar 20 11:21:22 2024

NAMESPACE: cloudbees

STATUS: deployed

REVISION: 1

TEST SUITE: None

NOTES:

1. Once Operations Center is up and running, get your initial admin user password by running:

**kubectl rollout status sts cjoc --namespace cloudbees**

**kubectl exec cjoc-0 --namespace cloudbees -- cat /var/jenkins\_home/secrets/initialAdminPassword**

2. Visit <https://cloudbees.dev.lz.us-cert.gov/cjoc/>

3. Login with the password from step 1.

For more information on running CloudBees Core on Kubernetes, visit:

<https://go.cloudbees.com/docs/cloudbees-core/cloud-admin-guide/>

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**Artifactory Helm Commands:**

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**Search for the Latest Helm Version for Artifactory:**

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**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm repo add jfrog** [**https://charts.jfrog.io**](https://charts.jfrog.io)

"jfrog" has been added to your repositories

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "**cloudbees**" chart repository

...Successfully got an update from the "**jfrog**" chart repository

Update Complete. ⎈Happy Helming!⎈

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm search repo jfrog**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

jfrog/jfrog-common         0.0.7         0.0.7         A Library Helm Chart for grouping common logic ...

jfrog/jfrog-platform         10.17.3         7.77.7         The Helm chart for JFrog Platform (Universal, h...

jfrog/jfrog-registry-operator        1.0.0         1.0.0         JFrog Registry Operator to manage JFrog applica...

jfrog/artifactory         107.77.9         7.77.9         Universal Repository Manager supporting all maj...

jfrog/artifactory-cpp-ce         107.77.9         7.77.9         JFrog Artifactory CE for C++

**jfrog/artifactory-ha         107.77.9         7.77.9         Universal Repository Manager supporting all maj…**

**Search for the Latest Helm Version for Grafana:**

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**This will show you all helm versions of Grafana which includes grafana/loki and many others.**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm search repo grafana --versions**

NAME         CHART VERSION        APP VERSION         DESCRIPTION

grafana/grafana         7.3.11         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana         7.3.10         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana         7.3.9         10.4.1         The leading tool for querying and visualizing t...

grafana/grafana         7.3.8         10.4.1         The leading tool for querying and visualizing t...

**Search for the Latest Helm Version for Grafana/Loki:**

**-------------------------------------------------------------------------**

**This will show you all helm versions of just grafana/loki.**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm search repo grafana/loki --versions**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

grafana/loki         6.6.2         3.0.0         Helm chart for Grafana Loki and Grafana Enterpr...

grafana/loki         6.6.1         3.0.0         Helm chart for Grafana Loki and Grafana Enterpr...

grafana/loki         6.6.0         3.0.0         Helm chart for Grafana Loki and Grafana Enterpr...

**List the Added Repos of your Helm Client:**

**----------------------------------------------------------**

**khaled.elsayed at ~ ❯ helm repo list**

NAME         URL

cloudbees        <https://charts.cloudbees.com/public/cloudbees>

jfrog          <https://charts.jfrog.io>

**Use the helm template command to test your configuration and generate a output.yaml file before actual deployment to EKS:**

**-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm template artifactory jfrog/artifactory > output.yaml**

**OPTIONAL - Install Loki Manually using Helm Chart and Values config file:**

**-----------------------------------------------------------------------------------------------------**

This step is **OPTIONAL**, and is no longer needed.

We did it to install **loki manually** at some point before incorporating the **loki** package inside our **terraform code**.

This Loki installation is a workaround to install **loki** manually, but Loki should be installed using Terraform while using the main config file

"**sbx-artifactory-ha.yaml**" that is used for Artifactory installation.

**helm add repo grafana** [**https://grafana.github.io/helm-charts**](https://grafana.github.io/helm-charts)

**helm upgrade --install loki --values sbx-loki-artifactory-ha.yaml.yaml grafana/loki -n artifactory-ha**

**Uninstall Helm Loki Chart:**

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**helm uninstall loki -n artifactory-ha**

**Install Helm Promtail Chart:**

**---------------------------------------**

**helm upgrade --install --values loki-promtail.yaml loki-promtail grafana/promtail -n artifactory-ha**

**Uninstall Helm Promtail Chart:**

**-------------------------------------------**

**helm uninstall loki-promtail -n artifactory-ha**

**Pulling Artifactory Helm Chart Locally:**

**-----------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ✗ ❯ helm repo update**

**Pulling Artifactory-ha helm chart from Jfrog**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ✗ ❯ helm pull jfrog/artifactory-ha**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ✗ ❯ ls -l**

total 436

drwxr-xr-x 8 workspaces\khaled.elsayed workspaces\domain users 4096 May 14 18:27 **artifactory-ha**

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 165089 May 14 18:26 **artifactory-ha-107.84.10.tgz**

**Pulling Loki helm Chart from Grafana**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm pull grafana/loki**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ ls -ltr**

total 652

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 165089 May 16 17:52 artifactory-ha-107.84.10.tgz

drwxr-xr-x 8 workspaces\khaled.elsayed workspaces\domain users 4096 May 16 17:52 artifactory-ha

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 223279 May 20 09:48 **loki-6.5.2.tgz**

**Pulling Loki helm Chart v.5.48.0 from Grafana**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/helm (master) ❯ helm pull grafana/loki --version 5.48.0**

**Helm Delete Artifactory-ha & Loki:**

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This step is needed when you need to **destroy your terraform environment**, because **Helm isn't tracked** by **terraform**.

So, you need to do this step anytime you want to destroy your environment, before running **terraform destroy**.

Then, We should delete all the existing **Persistent Volume Claims**.

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm delete artifactory-ha -n artifactory-ha**

**release "artifactory-ha" uninstalled**

**khaled.elsayed at ~/Documents/Repos/Terraform/artifactory-master/terraform (master) ✗ ❯ helm delete loki -n artifactory-ha**

**release "loki" uninstalled**

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**Xray Helm Commands:**

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**Search for the Latest Helm Version for Xray:**

**-------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Terraform/xray-master (master) ❯ mkdir helm**

**khaled.elsayed at ~/Documents/Repos/Terraform/xray-master (master) ❯ cd helm**

**khaled.elsayed at ~/Documents/Repos/Terraform/xray-master/helm (master) ❯ helm repo add jfrog** [**https://charts.jfrog.io**](https://charts.jfrog.io)

"jfrog" has been added to your repositories

**khaled.elsayed at ~/Documents/Repos/Terraform/xray-master/helm (master) ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "**cloudbees**" chart repository

...Successfully got an update from the "**jfrog**" chart repository

Update Complete. ⎈Happy Helming!⎈

**List the Added Repos of your Helm Client:**

**----------------------------------------------------------**

**khaled.elsayed at ~ ❯ helm repo list**

NAME         URL

cloudbees        <https://charts.cloudbees.com/public/cloudbees>

jfrog          <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

**Search for the Latest Helm Version for Jfrog:**

**--------------------------------------------------------------**

**khaled.elsayed at ~ ❯ helm search repo jfrog**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

jfrog/jfrog-common         0.0.7         0.0.7         A Library Helm Chart for grouping common logic ...

jfrog/jfrog-platform         10.18.1         7.84.12         The Helm chart for JFrog Platform (Universal, h...

jfrog/jfrog-registry-operator        1.0.0         1.0.0         JFrog Registry Operator to manage JFrog applica...

jfrog/artifactory         107.84.12         7.84.12         Universal Repository Manager supporting all maj...

**Search for the Latest Helm Version for Xray:**

**--------------------------------------------------------------**

**This will show you all helm versions of just jfrog/xray.**

**khaled.elsayed at ~ ❯ helm search repo jfrog/xray --versions**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

jfrog/xray        103.96.1         3.96.1         Universal component scan for security and licen...

jfrog/xray        103.95.7         3.95.7         Universal component scan for security and licen...

jfrog/xray        103.95.4         3.95.4         Universal component scan for security and licen...

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**SonarQube Helm Commands:**

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**Adding SonarQube Helm Chart:**

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**khaled.elsayed at ~/Documents/Repos/Terraform/sonarqube-master/helm (master) ✗ ❯ helm repo add sonarqube** [**https://SonarSource.github.io/helm-chart-sonarqube**](https://SonarSource.github.io/helm-chart-sonarqube)

"sonarqube" has been added to your repositories

**khaled.elsayed at ~/Documents/Repos/Terraform/sonarqube-master/helm (master) ✗ ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "sonarqube" chart repository

...Successfully got an update from the "grafana" chart repository

...Successfully got an update from the "cloudbees" chart repository

...Successfully got an update from the "jfrog" chart repository

Update Complete. ⎈Happy Helming!⎈

**khaled.elsayed at ~/Documents/Repos/Terraform/sonarqube-master/helm (master) ✗ ❯ helm repo list**

NAME         URL

cloudbees        <https://charts.cloudbees.com/public/cloudbees>

jfrog         <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

**sonarqube**        [**https://SonarSource.github.io/helm-chart-sonarqube**](https://SonarSource.github.io/helm-chart-sonarqube)

**Search for the Latest Helm Version for SonarQube:**

**----------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Scripts & Logs/Test-1 ❯ helm search repo sonarqube --versions**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

sonarqube/sonarqube         10.5.1+2816         10.5.1         SonarQube is a self-managed, automatic code rev...

sonarqube/sonarqube         10.5.0+2748         10.5.0         SonarQube is a self-managed, automatic code rev...

sonarqube/sonarqube         10.4.1+2389         10.4.1         SonarQube is a self-managed, automatic code rev...

sonarqube/sonarqube         10.4.0+2288         10.4.0         SonarQube is a self-managed, automatic code rev...

sonarqube/sonarqube         10.3.0+2009         10.3.0         SonarQube is a self-managed, automatic code rev...

sonarqube/sonarqube         10.2.1+800         10.2.1         SonarQube is a self-managed, automatic code rev...

**Pulling the SonarQube Helm Chart Locally:**

**-----------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Terraform/sonarqube-master/helm (master) ✗ ❯ helm pull sonarqube/sonarqube**

**khaled.elsayed at ~/Documents/Repos/Terraform/sonarqube-master/helm (master) ✗ ❯ ls -l**

total 144

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 143566 May 28 10:50 **sonarqube-10.5.1+2816.tgz**

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**Selenium Helm Commands:**

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**Adding Selenium Grid Helm Chart:**

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**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm repo add docker-selenium** [**https://www.selenium.dev/docker-selenium**](https://www.selenium.dev/docker-selenium)

"docker-selenium" has been added to your repositories

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm repo list**

NAME         URL

cloudbees         <https://charts.cloudbees.com/public/cloudbees>

jfrog         <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

sonarqube         <https://SonarSource.github.io/helm-chart-sonarqube>

**docker-selenium**[**https://www.selenium.dev/docker-selenium**](https://www.selenium.dev/docker-selenium)

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "sonarqube" chart repository

...Successfully got an update from the "docker-selenium" chart repository

...Successfully got an update from the "grafana" chart repository

...Successfully got an update from the "cloudbees" chart repository

...Successfully got an update from the "jfrog" chart repository

Update Complete. ⎈Happy Helming!⎈

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm search repo docker-selenium --versions**

NAME         CHART VERSION        APP VERSION         DESCRIPTION

docker-selenium/selenium-grid        0.31.1         4.21.0-20240522        A Helm chart for creating a Selenium Grid Serve...

docker-selenium/selenium-grid        0.31.0         4.21.0-20240517        A Helm chart for creating a Selenium Grid Serve...

docker-selenium/selenium-grid        0.30.2         4.20.0-20240505        A Helm chart for creating a Selenium Grid Serve...

docker-selenium/selenium-grid        0.30.1         4.20.0-20240505        A Helm chart for creating a Selenium Grid Serve...

docker-selenium/selenium-grid        0.30.0         4.20.0-20240425        A Helm chart for creating a Selenium Grid Serve...

**Pulling the Selenium Helm Chart Locally:**

**---------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm pull docker-selenium/selenium-grid**

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ ls -l**

total 32

drwxr-xr-x 6 workspaces\khaled.elsayed workspaces\domain users 4096 May 29 15:19 **selenium-grid**

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 1057602 May 29 15:19 **selenium-grid-0.31.1.tgz**

**Use the helm template command to test your configuration and generate a output.yaml file before actual deployment to EKS:**

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**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm template selenium-grid docker-selenium/selenium-grid -n selenium-grid -f sbx-selenium-values.yaml > output.yaml**

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ ls -l**

total 1112

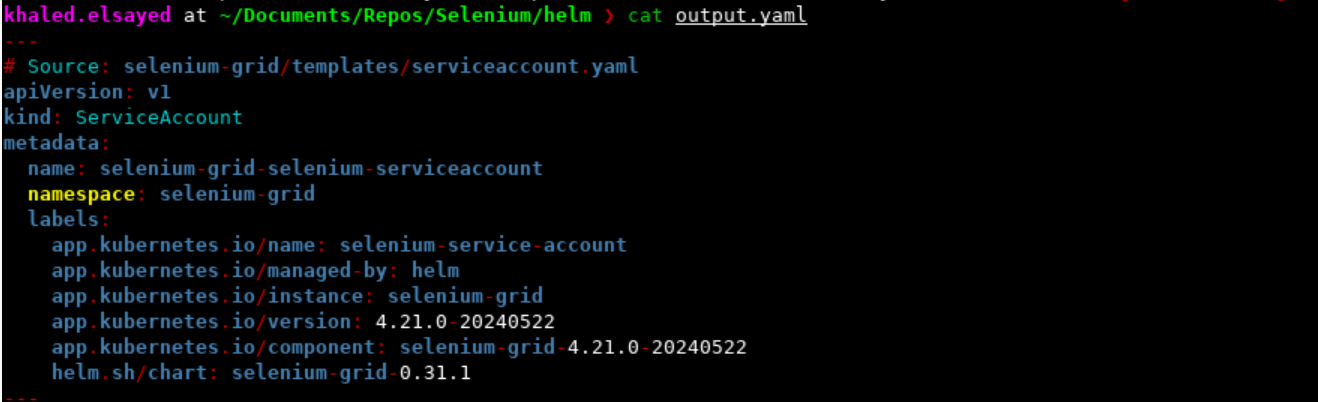
**-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 35372 May 29 15:31 output.yaml**

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 553 May 29 15:29 **sbx-selenium-values.yaml**

drwxr-xr-x 6 workspaces\khaled.elsayed workspaces\domain users 4096 May 29 15:19 selenium-grid

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 1057602 May 29 15:19 selenium-grid-0.31.1.tgz

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ cat output.yaml**



**Install Selenium-Grid using the Helm Install Command:**

**----------------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Selenium-Grid/helm ❯ helm install selenium-grid docker-selenium/selenium-grid -n selenium-grid -f sbx-selenium-values.yaml**

**NAME: selenium-grid**

LAST DEPLOYED: Wed May 29 15:39:48 2024

**NAMESPACE: selenium-grid**

**STATUS: deployed**

REVISION: 1

TEST SUITE: None

NOTES:

Selenium Grid Server deployed successfully.

1. Ingress is enabled, and it exposes the Grid Hub or Grid Router with the hostname you supplied.

To access Selenium from outside of Kubernetes, simply open <http://admin:admin@selenium-grid.dev.lz.us-cert.gov>.

2. Within Kubernetes cluster, you can use following Service endpoint:

<http://selenium-grid-selenium-hub.selenium-grid.svc:4444>

**=================================================================================================**

**Prometheus Grafana Helm Commands:**

**------------------------------------------------------**

**Adding Prometheus Grafana Helm Chart:**

**---------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm repo add prometheus-community** [**https://prometheus-community.github.io/helm-charts**](https://prometheus-community.github.io/helm-charts)

"prometheus-community" has been added to your repositories

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "sonarqube" chart repository

...Successfully got an update from the "docker-selenium" chart repository

...Successfully got an update from the "grafana" chart repository

...Successfully got an update from the "prometheus-community" chart repository

...Successfully got an update from the "cloudbees" chart repository

...Successfully got an update from the "jfrog" chart repository

Update Complete. ⎈Happy Helming!⎈

**Search for the Latest Helm Version for Prometheus Grafana:**

**-----------------------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm search repo kube-prometheus-stack --versions**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

prometheus-community/kube-prometheus-stack        59.0.0         v0.74.0         kube-prometheus-stack collects Kubernetes manif...

prometheus-community/kube-prometheus-stack        58.7.2         v0.73.2         kube-prometheus-stack collects Kubernetes manif...

prometheus-community/kube-prometheus-stack        58.7.1         v0.73.2         kube-prometheus-stack collects Kubernetes manif...

**OR**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm search repo prometheus-community/kube-prometheus-stack --versions**

NAME         CHART VERSION        APP VERSION        DESCRIPTION

prometheus-community/kube-prometheus-stack        59.0.0         v0.74.0         kube-prometheus-stack collects Kubernetes manif...

prometheus-community/kube-prometheus-stack        58.7.2         v0.73.2         kube-prometheus-stack collects Kubernetes manif...

prometheus-community/kube-prometheus-stack        58.7.1         v0.73.2         kube-prometheus-stack collects Kubernetes manif...

**Pulling a Local Copy of Prometheus Grafana Helm Chart:**

**-----------------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm pull prometheus-community/kube-prometheus-stack**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm upgrade --install "prometheus" prometheus-community/kube-prometheus-stack -n artifactory-ha**

Release "**prometheus**" does not exist. Installing it now.

**NAME: prometheus**

LAST DEPLOYED: Thu May 30 17:00:38 2024

**NAMESPACE: artifactory-ha**

**STATUS: deployed**

REVISION: 1

NOTES:

kube-prometheus-stack has been installed. Check its status by running:

kubectl --namespace artifactory-ha get pods -l "release=prometheus"

Visit <https://github.com/prometheus-operator/kube-prometheus> for instructions on how to create & configure Alertmanager and Prometheus instances using the Operator.

**Use the helm template command to test your configuration and generate a output.yaml file before actual deployment to EKS:**

**-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ helm template grafana-prometheus prometheus-community/kube-prometheus-stack -n grafana-prometheus -f ../grafana.yaml > output.yaml**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ ls -l**

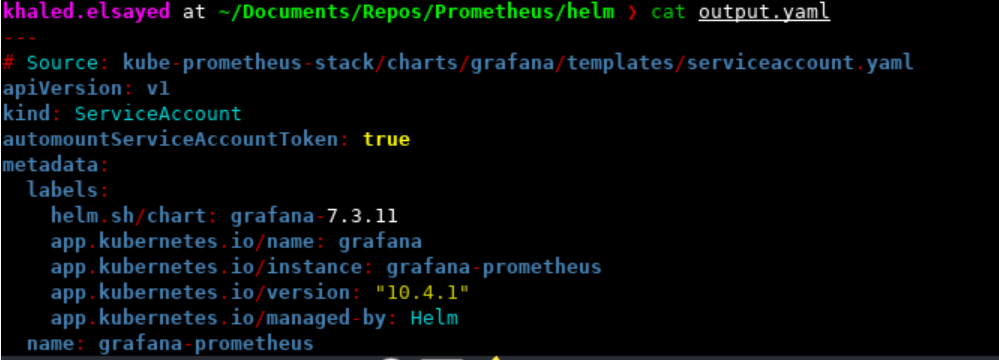
total 1136

drwxr-xr-x 4 workspaces\khaled.elsayed workspaces\domain users 4096 May 31 12:38 kube-prometheus-stack

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 513548 May 31 12:38 kube-prometheus-stack-59.0.0.tgz

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 639956 May 31 12:53 **output.yaml**

**khaled.elsayed at ~/Documents/Repos/Helm/Prometheus-Grafana/helm ❯ cat output.yaml**



**=================================================================================================**

**ArgoCD Helm Commands:**

**-------------------------------------**

**This is the helm template command with --debug option:**

**helm template --debug -n argocd argo-cd charts/argo-cd -f values/argo-cd/sbx-dso-values.yaml > output.yaml**

**Adding ArgoCD Helm Chart:**

**---------------------------------------**

**khaled.fouad at ~ ❯ helm repo add argo** [**https://argoproj.github.io/argo-helm**](https://argoproj.github.io/argo-helm)

"argo" has been added to your repositories

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD (master) ✗ ❯ helm repo list**

NAME         URL

cloudbees         <https://charts.cloudbees.com/public/cloudbees>

jfrog         <https://charts.jfrog.io>

grafana         <https://grafana.github.io/helm-charts>

sonarqube         <https://SonarSource.github.io/helm-chart-sonarqube>

docker-selenium         <https://www.selenium.dev/docker-selenium>

prometheus-community        <https://prometheus-community.github.io/helm-charts>

**argo**[**https://argoproj.github.io/argo-helm**](https://argoproj.github.io/argo-helm)

**khaled.fouad at ~ ❯ helm search repo argo**

NAME         CHART VERSION        APP VERSION         DESCRIPTION

argo/argo         1.0.0         v2.12.5         A Helm chart for Argo Workflows

**argo/argo-cd         7.3.7         v2.11.5         A Helm chart for Argo CD, a declarative, GitOps...**

argo/argo-ci         1.0.0         v1.0.0-alpha2        A Helm chart for Argo-CI

argo/argo-events         2.4.7         v1.9.2         A Helm chart for Argo Events, the event-driven ...

argo/argo-lite         0.1.0                  Lighweight workflow engine for Kubernetes

argo/argo-rollouts         2.37.2         v1.7.1         A Helm chart for Argo Rollouts

argo/argo-workflows         0.41.11         v3.5.8         A Helm chart for Argo Workflows

argo/argocd-applicationset        1.12.1         v0.4.1         A Helm chart for installing ArgoCD ApplicationSet

argo/argocd-apps         2.0.0                  A Helm chart for managing additional Argo CD Ap...

argo/argocd-image-updater         0.11.0         v0.14.0         A Helm chart for Argo CD Image Updater, a tool ...

argo/argocd-notifications         1.8.1         v1.2.1         A Helm chart for ArgoCD notifications, an add-o...

khaled.fouad at ~/Documents/Repos ❯

**khaled.fouad at ~/Documents/Repos ❯ helm repo update**

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "sonarqube" chart repository

...Successfully got an update from the "docker-selenium" chart repository

...Successfully got an update from the "argo" chart repository

...Successfully got an update from the "grafana" chart repository

...Successfully got an update from the "prometheus-community" chart repository

...Successfully got an update from the "cloudbees" chart repository

...Successfully got an update from the "jfrog" chart repository

Update Complete. ⎈Happy Helming!⎈

**Pulling the ArgoCD Chart Locally:**

**----------------------------------------------**

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD/helm (master) ✗ ❯ helm pull argo/argo-cd**

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD/helm (master) ✗ ❯ ls -l**

total 168

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 168647 Jul 15 13:55 **argo-cd-7.3.7.tgz**

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD/helm (master) ✗ ❯ tar xvzf argo-cd-7.3.7.tgz**

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD/helm (master) ✗ ❯ ls -l**

total 172

drwxr-xr-x 4 workspaces\khaled.elsayed workspaces\domain users 4096 Jul 15 13:55 **argo-cd**

-rw-r--r-- 1 workspaces\khaled.elsayed workspaces\domain users 168647 Jul 15 13:55 **argo-cd-7.3.7.tgz**

**Successful Installation:**

**---------------------------------**

**khaled.fouad at ~/Documents/Repos/Helm/ArgoCD (master) ✗ ❯ helm install -n argocd -f values/argo-cd/sbx/dso-values.yaml argo-cd charts/argo-cd/**

**NAME: argo-cd**

LAST DEPLOYED: Wed Jul 17 13:20:06 2024

**NAMESPACE: argocd**

**STATUS: deployed**

REVISION: 1

TEST SUITE: None

===============================================================================================================================================================================

**Helm Pipeline:**

**-----------------------**

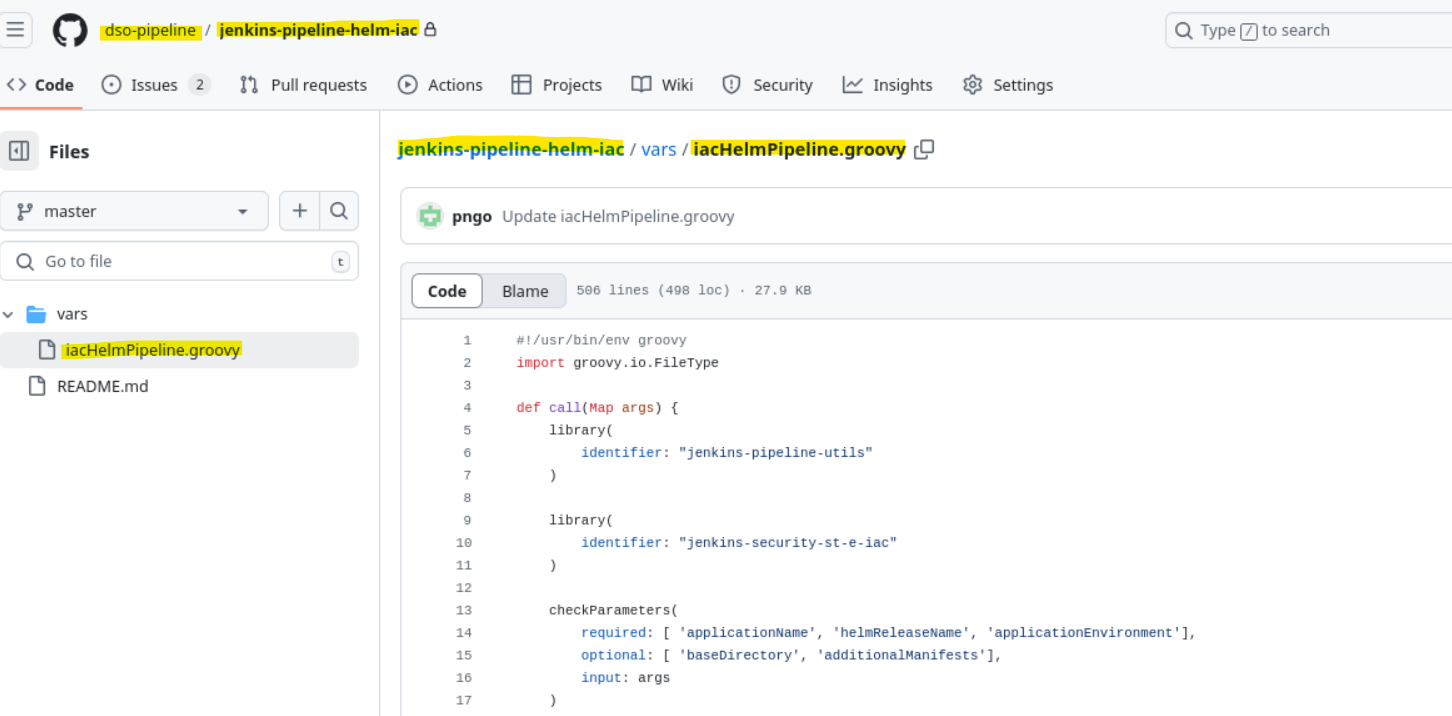
This pipeline is used **ONLY** for **applications** that **don't build anything** for their environments and they rely on **open source applications**.

These applications just need to **pull** the **required docker image** for their **open source applications** from **docker hub**.

**Example:**

* **Betsie-iac**
  + They use **Confluent Operator** Open Source Application.

* **ECK** 
  + They use **Elastic Search** open source application.

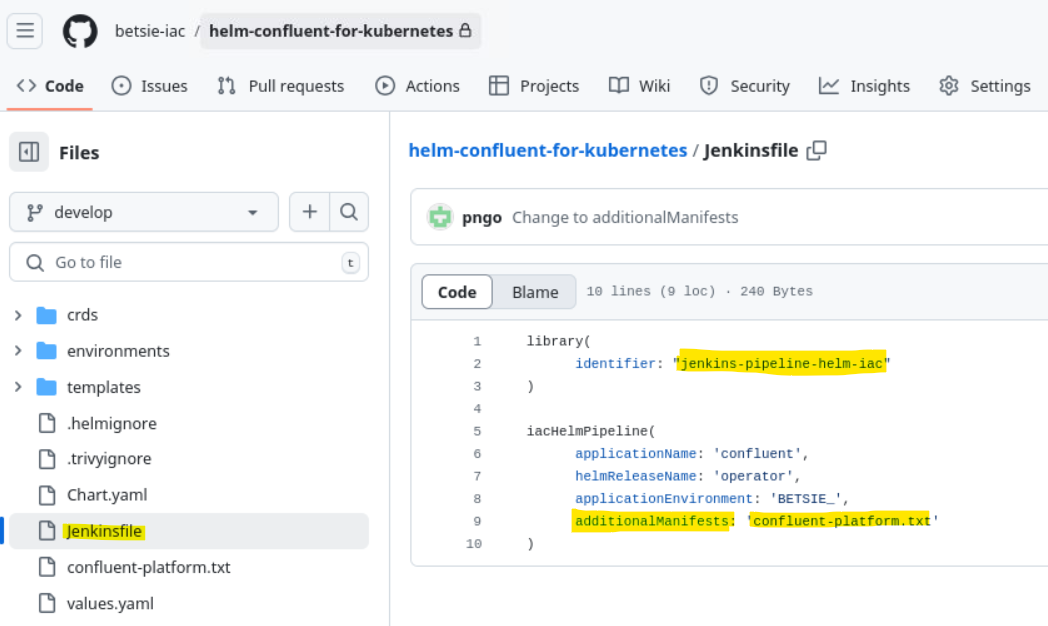


**Betsie Helm Configuration:**

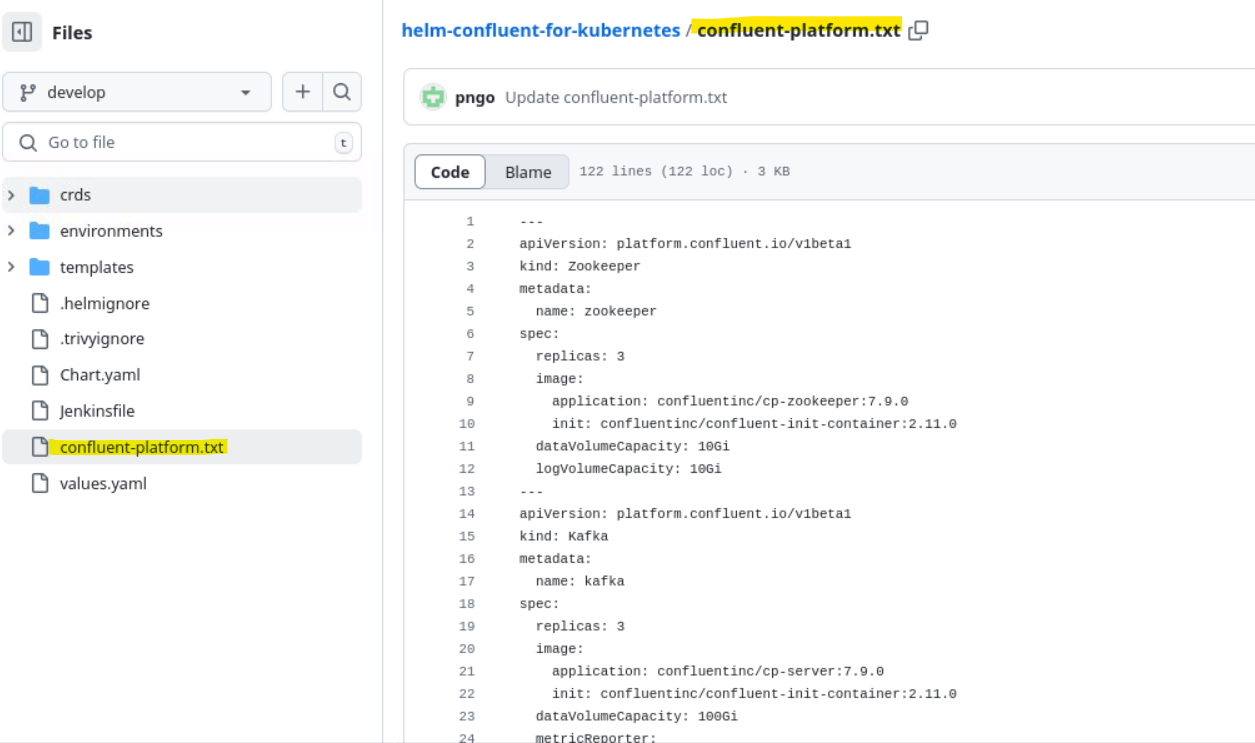
**-------------------------------------**

* Note that **Betsie** has the following **Jenkinsfile**, where they have the **option** for **additionalManifest** file, which is used to **configure** their **Confluent Operator**.

* **additionalManifests**: '**confluent-platform.txt**'



* **additionalManifests**: '**confluent-platform.txt**'  **Config File.**



If the **CUSTOM\_HELM\_VALUE\_FILE** is **not provided**, the **pipeline** will **continue** to **build successfully** without any issue.

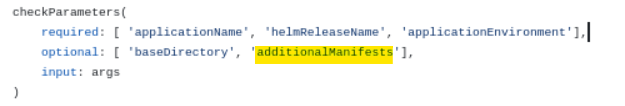
* The pipeline will use the "**values.yaml**" file located under **/environments/dev/confluent/values.yaml**
* **Otherwise,** if it is provided then It will use the **CUSTOM\_HELM\_VALUE\_FILE instead of /environments/dev/confluent/values.yaml**

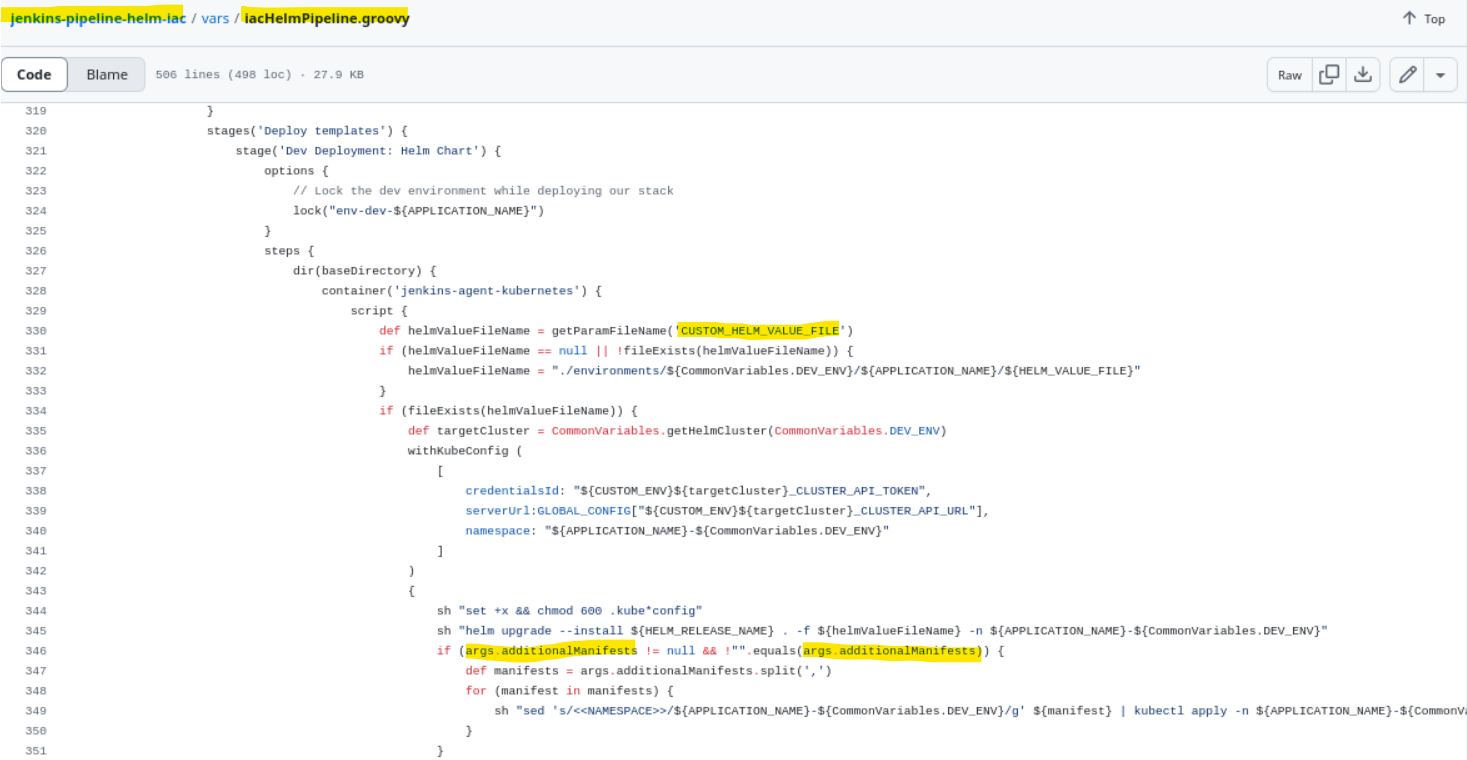




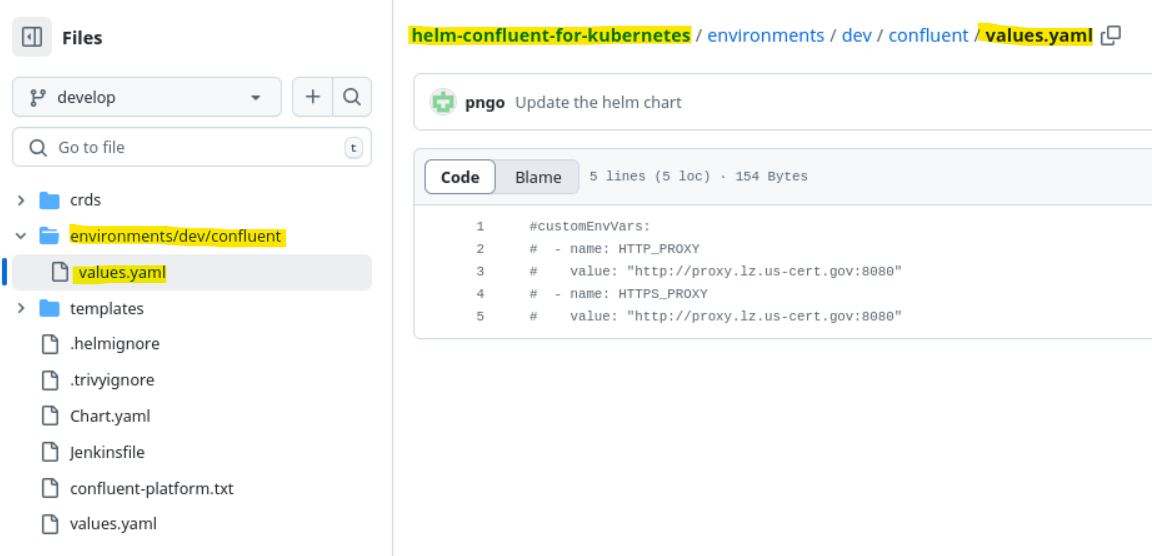
**Also**, If the **additionalManifest** file is **blank** or **not provided**, the **pipeline** will **continue** to **build successfully** without any issue.

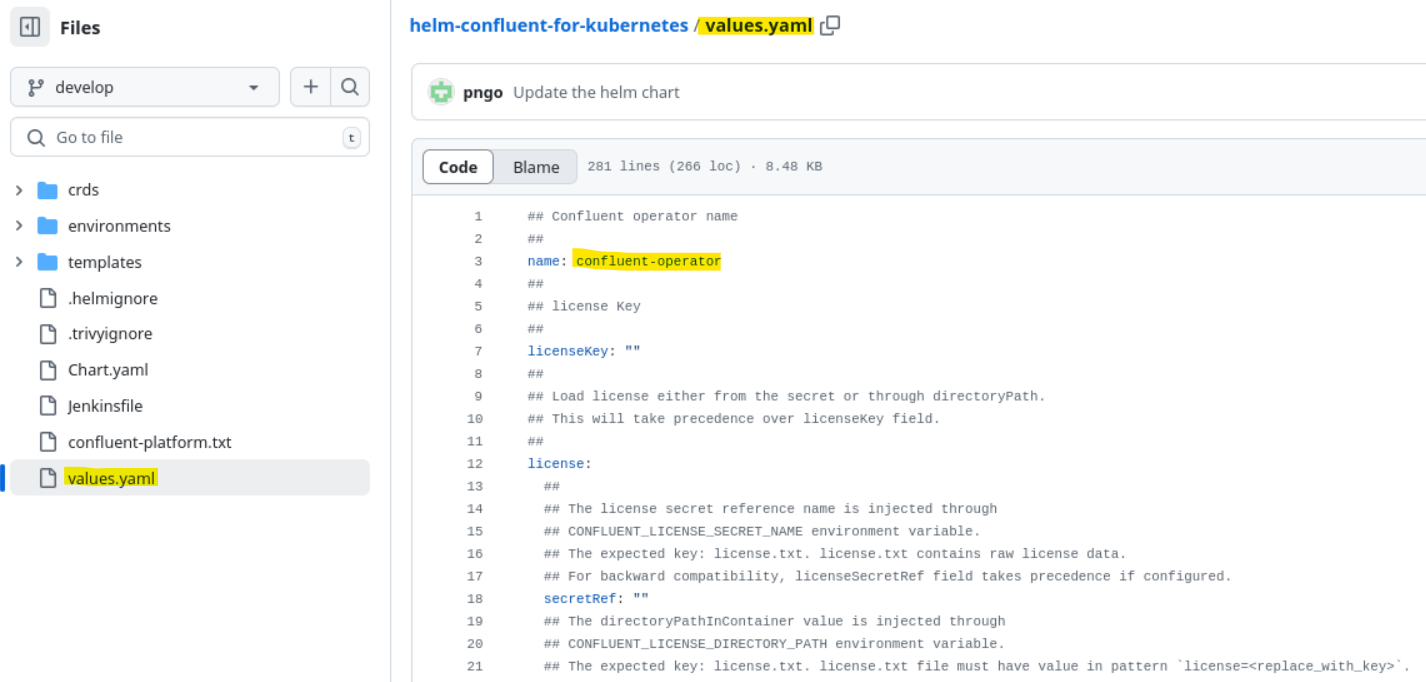
* The **additionalManifest file** is considered **optional parameter** in the pipeline code.





* **Note that**, the **original "values.yaml" file** is **used** to **layout** the **foundation** for the **Helm Configuration** to **enable** all the **required services** for **Confluent Operator** such as **telemetry, service account, container security, docker image, Pod annotations, webhooks, container security**. **However**, the **other values.yaml** file **located** inside the  **/environments/dev/confluent/values.yaml** has some **custom proxy settings** that can added as needed.

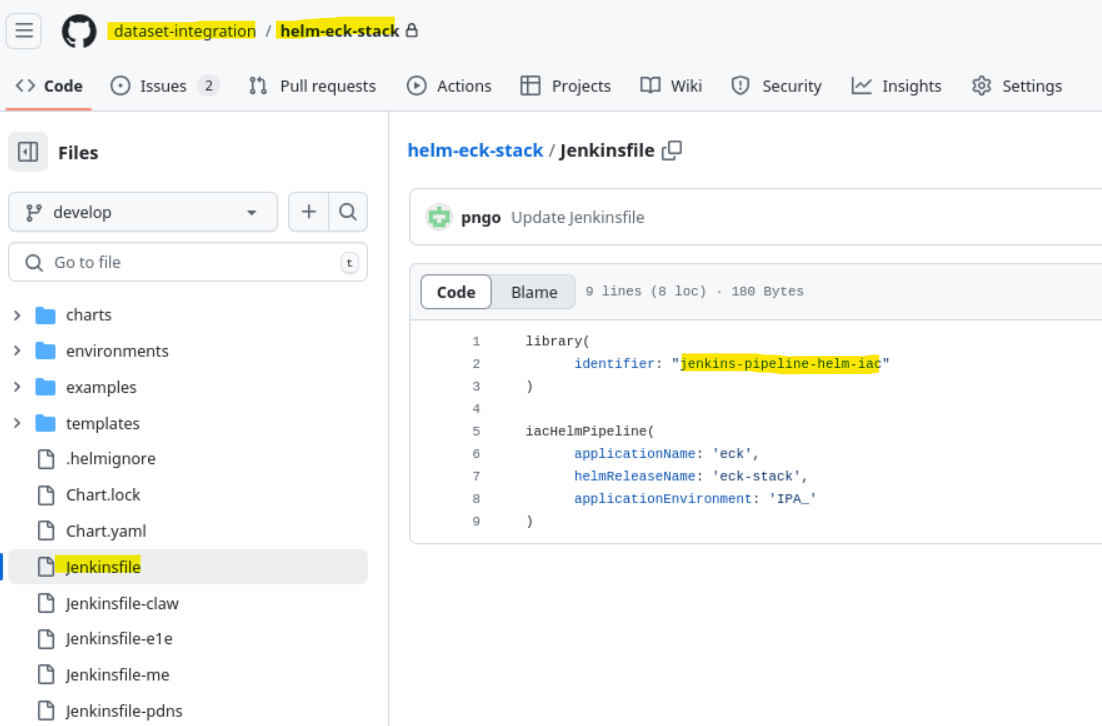




**ECK Helm Configuration:**

**----------------------------------**

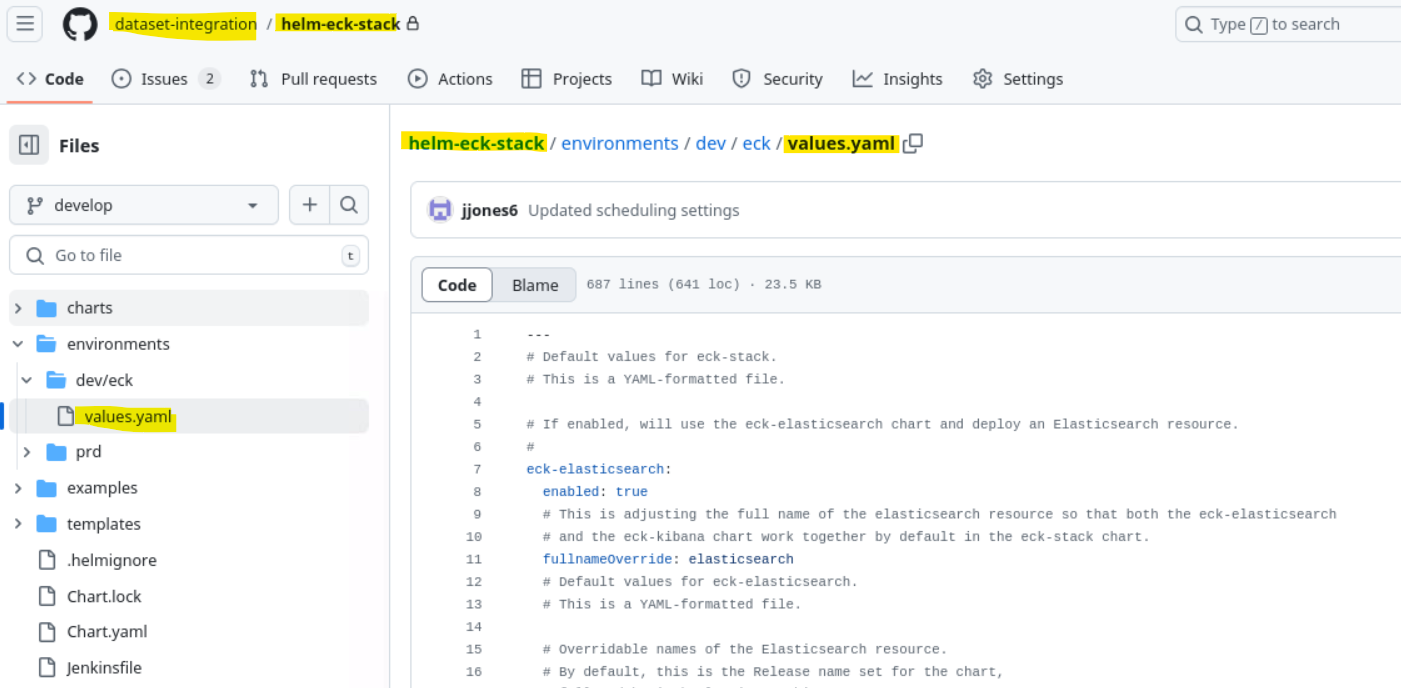
* Note that **ECK** has the following **Jenkinsfile**, where they have the **don't** have an **option** for **additionalManifest** file.



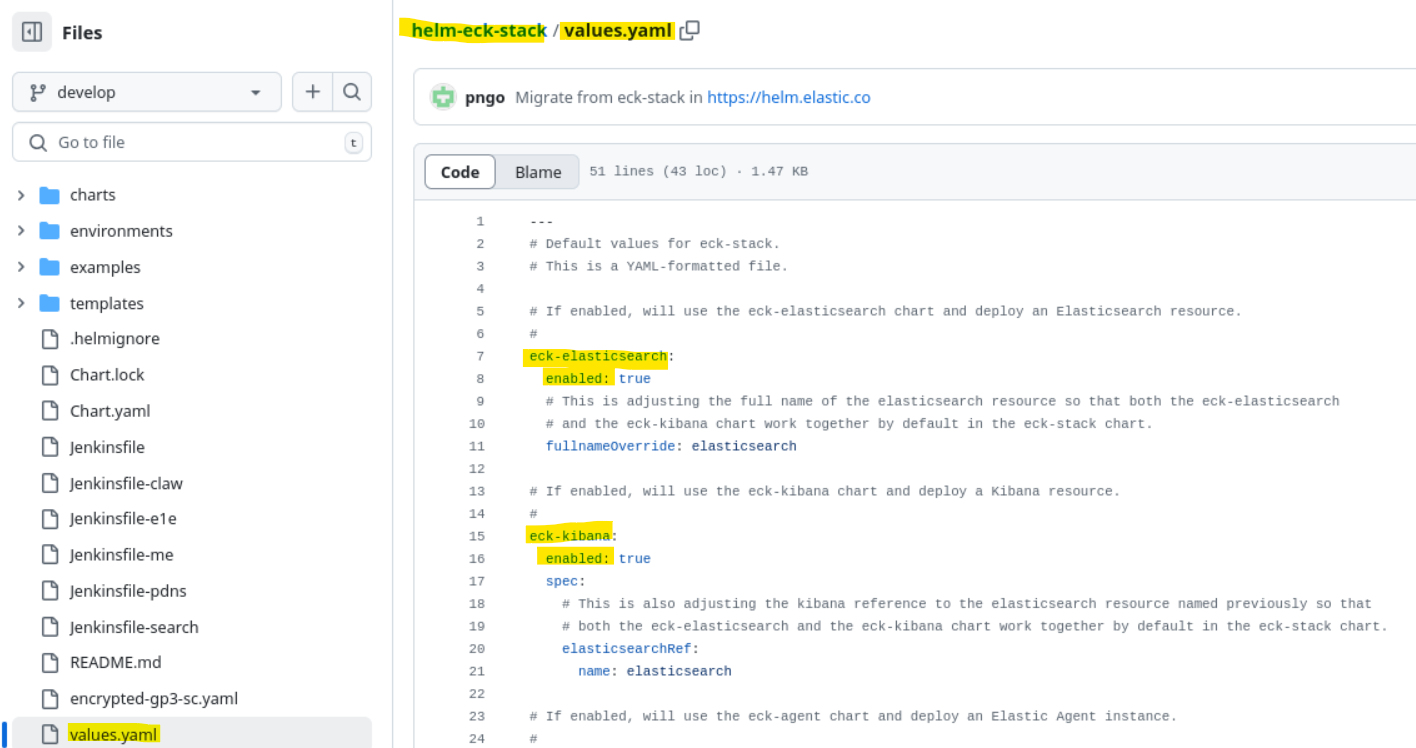
**If the CUSTOM\_HELM\_VALUE\_FILE** is **not provided**, the **pipeline** will **continue** to **build successfully** without any issue.

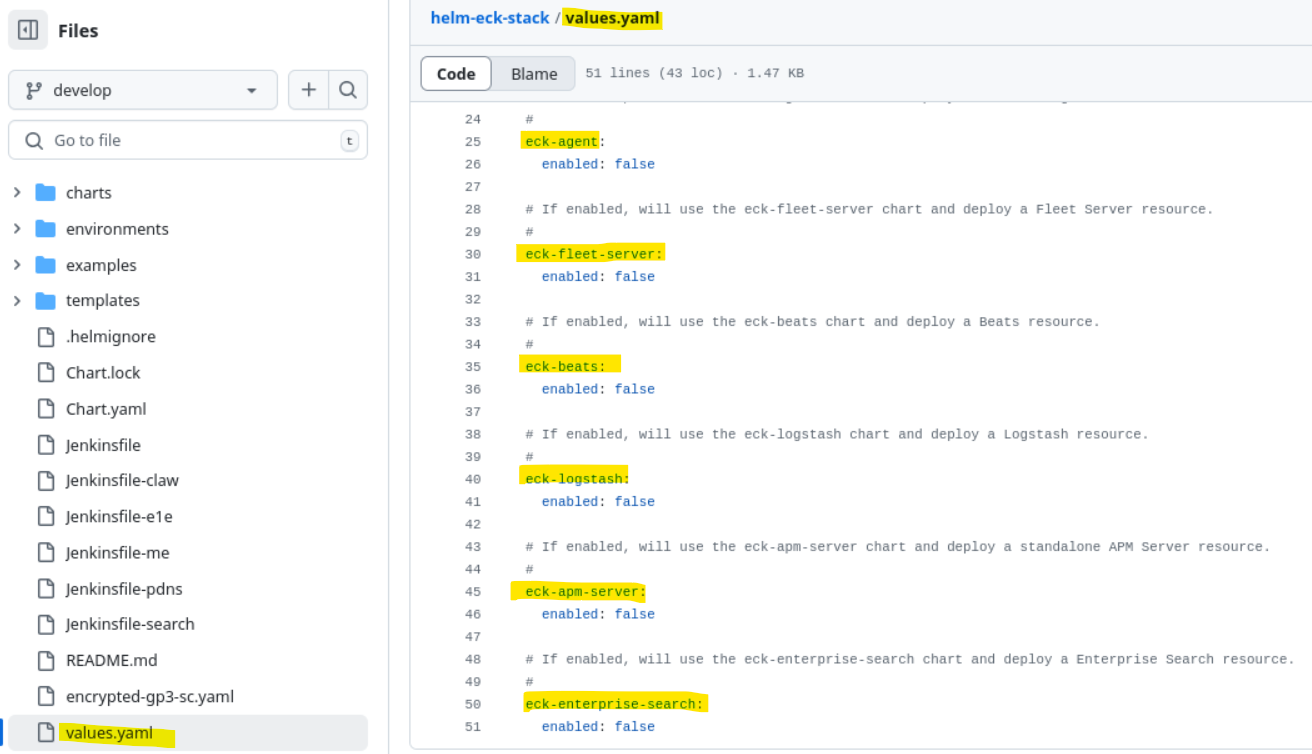
* The pipeline will use the "**values.yaml**" file located under **/environments/dev/eck/values.yaml**
* Note this **values.yaml** file is the **main configuration file** which **contains** all the **load balancer annotation configurations** that are **required** for the **application**.
* Also, Note that the original "values.yaml" file located at the
* **Otherwise,** if it is provided then It will use the **CUSTOM\_HELM\_VALUE\_FILE instead of /environments/dev/eck/values.yaml**





* **Note that**, the **original "values.yaml" file** is **used** to **layout** the **foundation** for the **Helm Configuration** to **enable** all the **required services** for **Elastic Search** such as **Elasticsearch, Kibana, agent, fleet-server, beats, logstash, apm-server**. **However**, the **other values.yaml** file **located** inside the  **/environments/dev/eck/values.yaml** has **all** the **actual configurations** for **everything** including all the **load balancers** to be **provisioned** for **Elasticsearch & Kibana.**





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**How to Install a New Ingress Controller for VINCE:**

**---------------------------------------------------------------------**

**helm install <Ingress-Controller-Resource-Name> <Chart-Name> -n <Namespace> -f Filename.yaml**

**helm install ingress-nginx-cisa ingress-nginx/ingress-nginx -n ingress-nginx-cisa -f ingress-nginx-cisa-values.yaml**

**ingress-nginx-cisa-values.yaml:**

**controller:**

service:

annotations:

service.beta.kubernetes.io/aws-load-balancer-internal: "true"

service.beta.kubernetes.io/aws-load-balancer-cross-zone-load-balancing-enabled: 'true'

service.beta.kubernetes.io/aws-load-balancer-ssl-cert: >-

**arn:aws-us-gov:acm:us-gov-east-1:066232052045:certificate/2891050b-366a-44d6-a210-17938960a181**

service.beta.kubernetes.io/aws-load-balancer-ssl-ports: '443'

loadBalancerSourceRanges:

- 10.232.32.0/21

- 10.224.0.0/16

- 10.234.80.0/21

electionID: ingress-nginx-cisa-leader

ingressClass: nginx-cisa # default: **nginx**

ingressClassResource:

name: **nginx-cisa**

enabled: true

default: false

controllerValue: "**k8s.io/ingress-nginx-cisa**"

**How to Uninstall Ingress Controller for VINCE:**

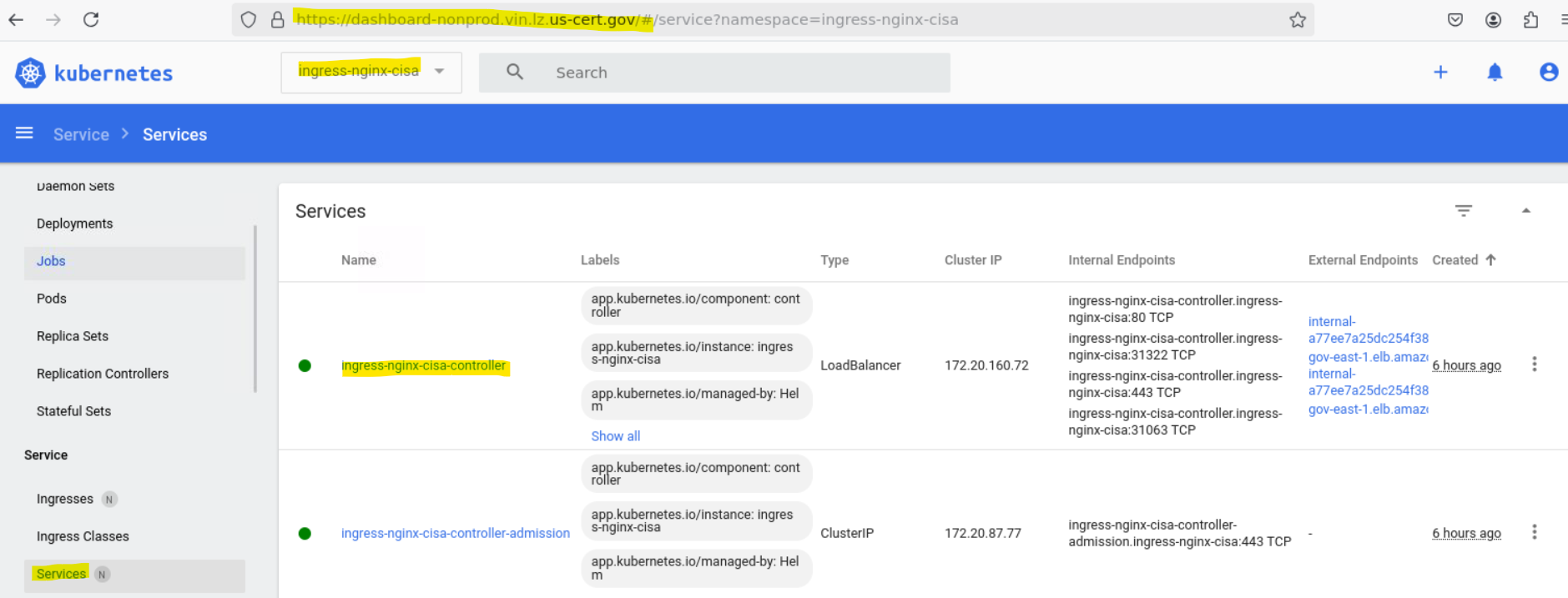
**-----------------------------------------------------------------------**

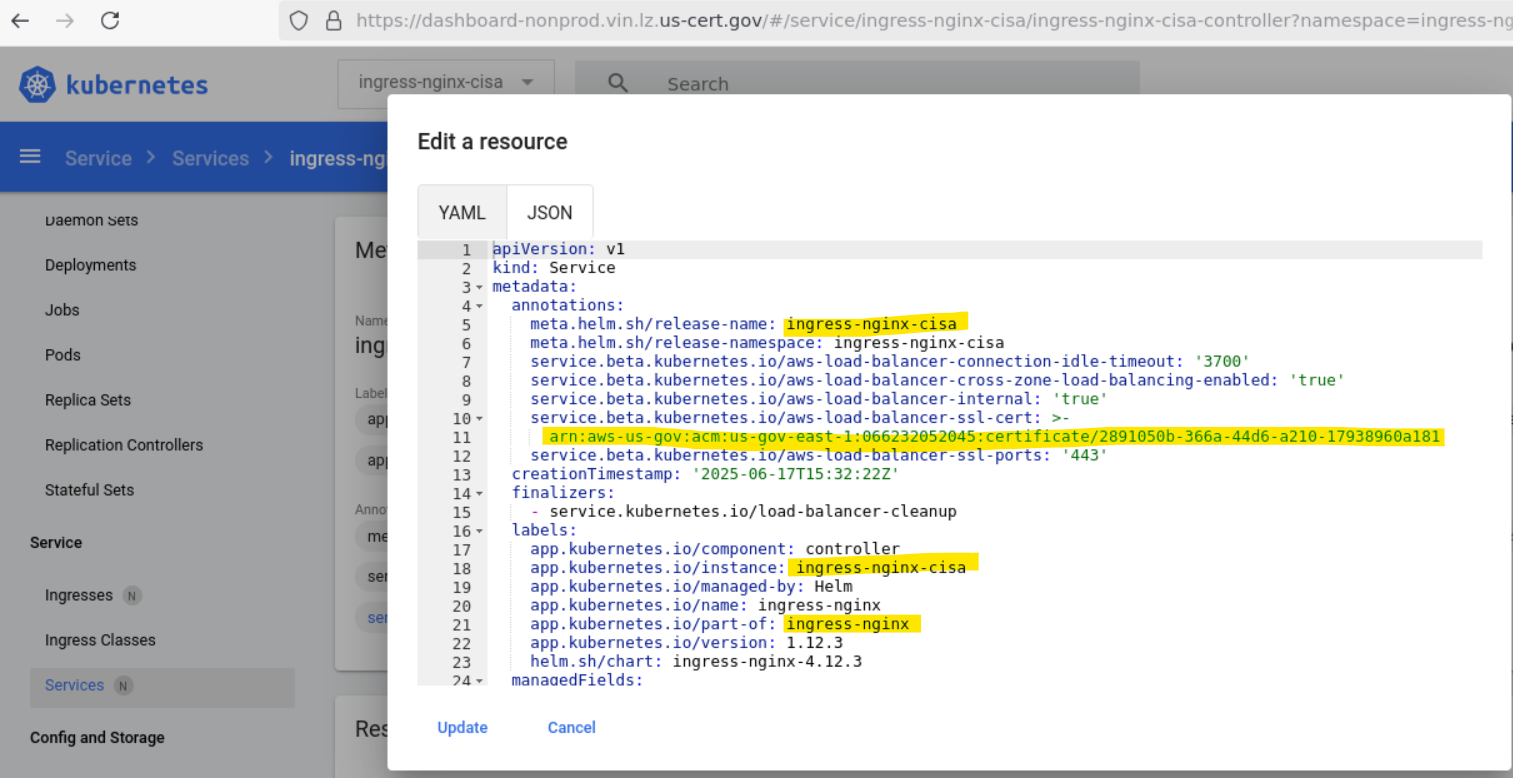
**helm uninstall ingress-nginx-cisa -n ingress-nginx-cisa**

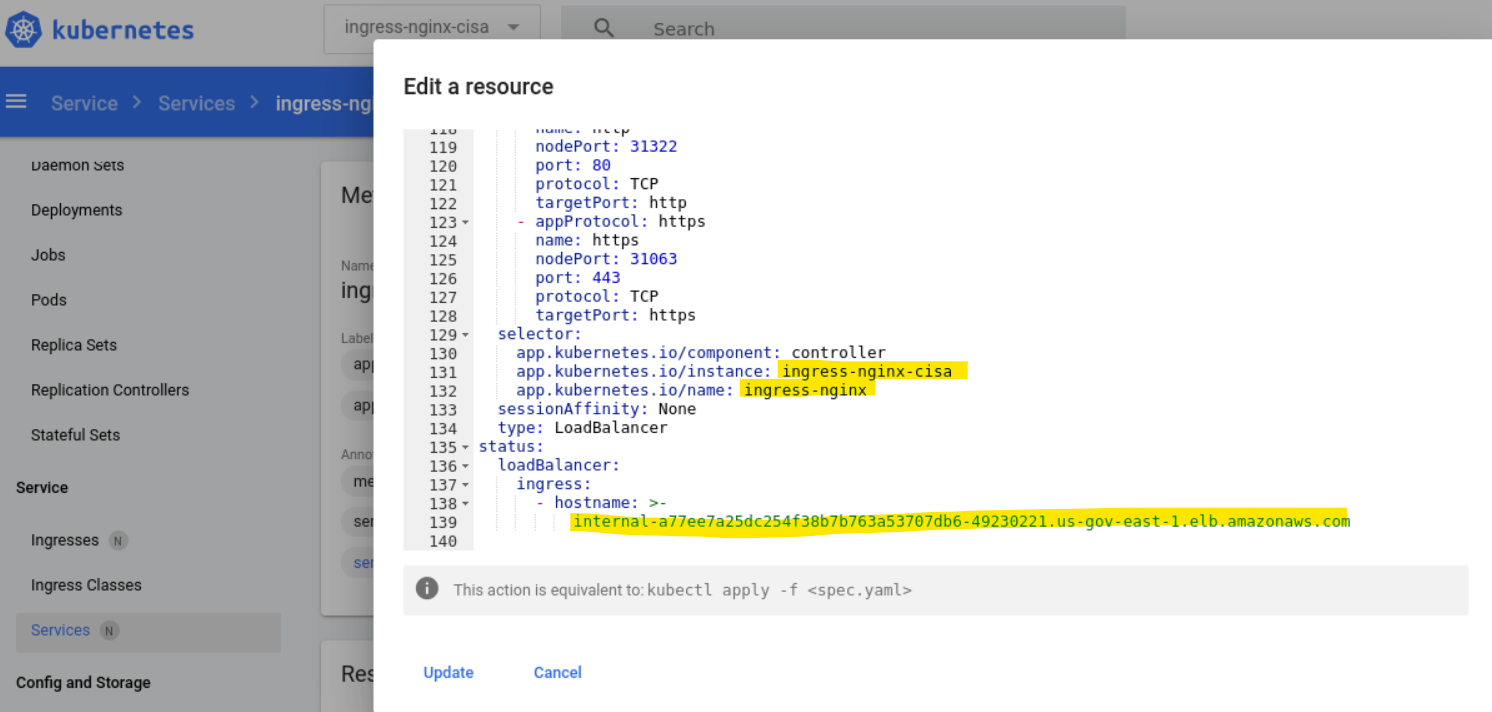
**Services:**

**-------------**

**This is the created ingress-nginx-cisa-controller ingress class with the Loadbalancer configuration.**



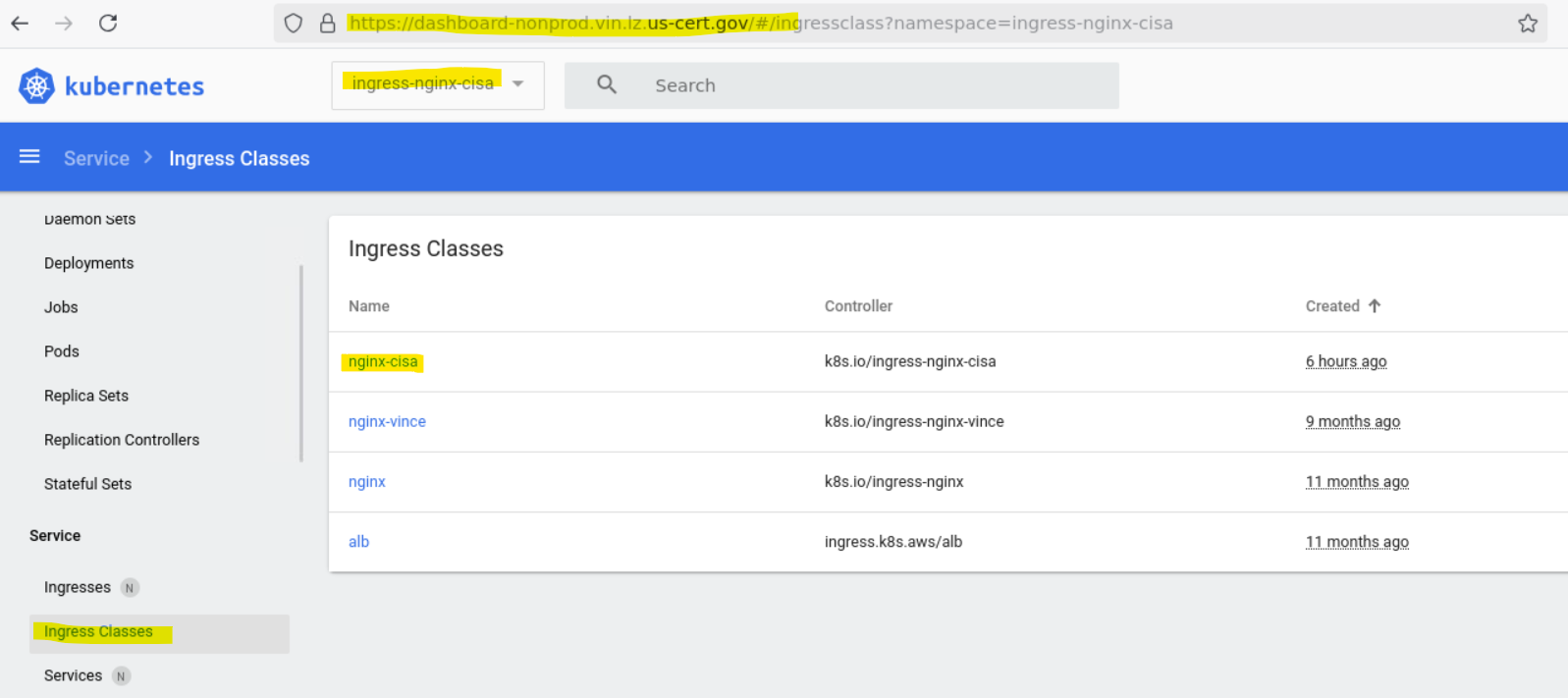


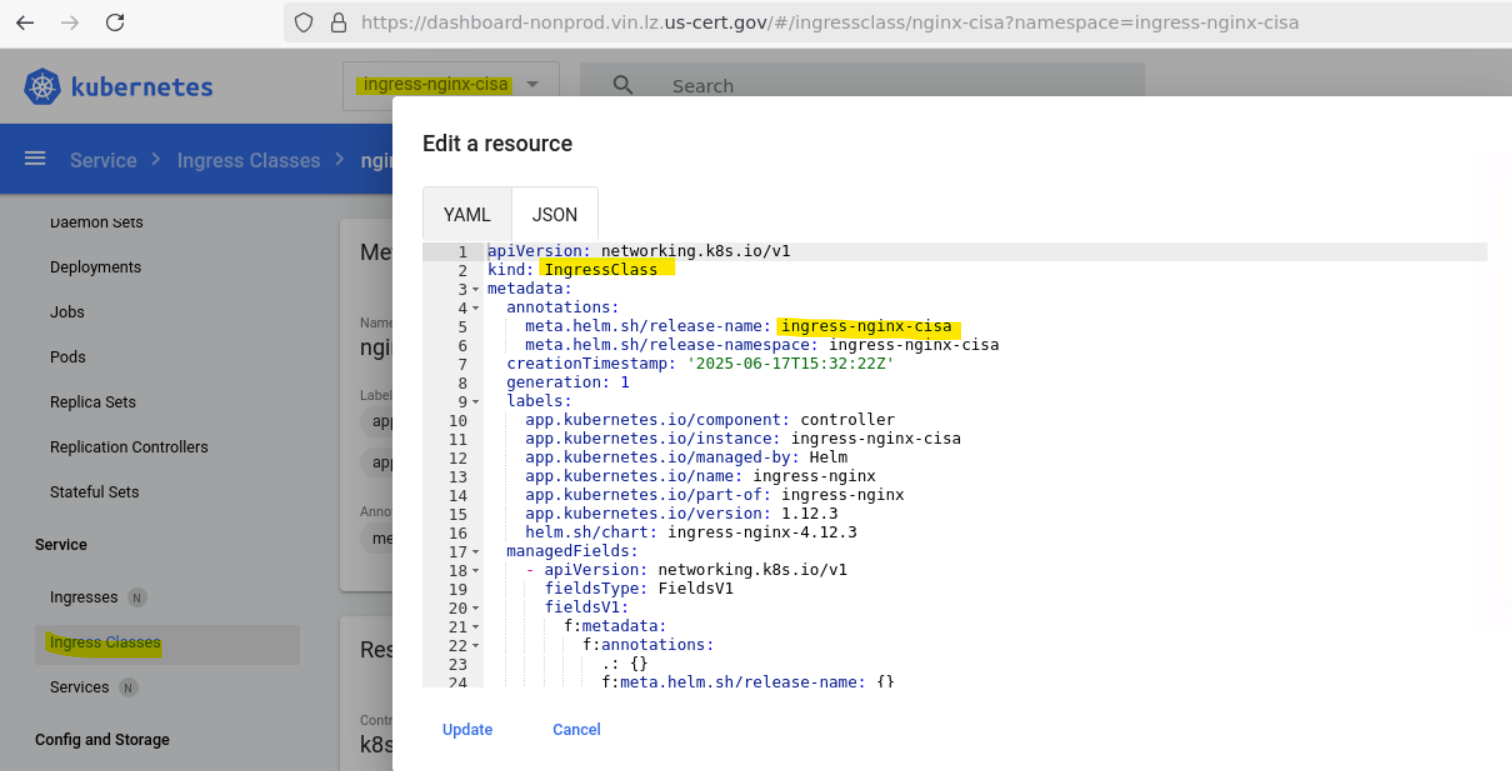


**Ingress Class:**

**-------------------**

**This is the created nginx-cisa ingress class.**





**Adding Ingress-Nginx Repo:**

**---------------------------------------**

**khaled.fouad ~/Documents/Repos/Scripts-Logs/EKS-Vince ❯ helm repo add ingress-nginx** [**https://kubernetes.github.io/ingress-nginx**](https://kubernetes.github.io/ingress-nginx)

"ingress-nginx" has been added to your repositories

khaled.fouad ~/Documents/Repos/Scripts-Logs/EKS-Vince ❯ helm repo update

Hang tight while we grab the latest from your chart repositories...

...Successfully got an update from the "ingress-nginx" chart repository

...Successfully got an update from the "sonarqube" chart repository

...Successfully got an update from the "docker-selenium" chart repository

...Successfully got an update from the "argo" chart repository

...Successfully got an update from the "grafana" chart repository

...Successfully got an update from the "prometheus-community" chart repository

...Successfully got an update from the "cloudbees" chart repository

...Successfully got an update from the "jfrog" chart repository

Update Complete. ⎈Happy Helming!⎈

**Deploying Ingress-Nginx-Test for Testing Purposes:**

**----------------------------------------------------------------------**

**khaled.fouad ~/Documents/Repos/Scripts-Logs/EKS-Vince ❯ helm install ingress-nginx-cisa-test ingress-nginx/ingress-nginx -n ingress-nginx-cisa -f ingress\_cisa\_test.yaml**

**NAME: ingress-nginx-cisa-test**

LAST DEPLOYED: Fri Jun 20 15:18:37 2025

**NAMESPACE: ingress-nginx-cisa**

**STATUS: deployed**

REVISION: 1

TEST SUITE: None

NOTES:

**The ingress-nginx controller has been installed.**

**It may take a few minutes for the load balancer IP to be available.**

You can watch the status by running 'kubectl get service --namespace ingress-nginx-cisa ingress-nginx-cisa-test-controller --output wide --watch'

An example Ingress that makes use of the controller:

apiVersion: networking.k8s.io/v1

kind: Ingress

metadata:

name: example

namespace: foo

spec:

ingressClassName: nginx-cisa-test

rules:

- host: [www.example.com](http://www.example.com)

http:

paths:

- pathType: Prefix

backend:

service:

name: exampleService

port:

number: 80

path: /

# This section is only required if TLS is to be enabled for the Ingress

tls:

- hosts:

- [www.example.com](http://www.example.com)

secretName: example-tls

If TLS is enabled for the Ingress, a Secret containing the certificate and key must also be provided:

apiVersion: v1

kind: Secret

metadata:

name: example-tls

namespace: foo

data:

tls.crt: <base64 encoded cert>

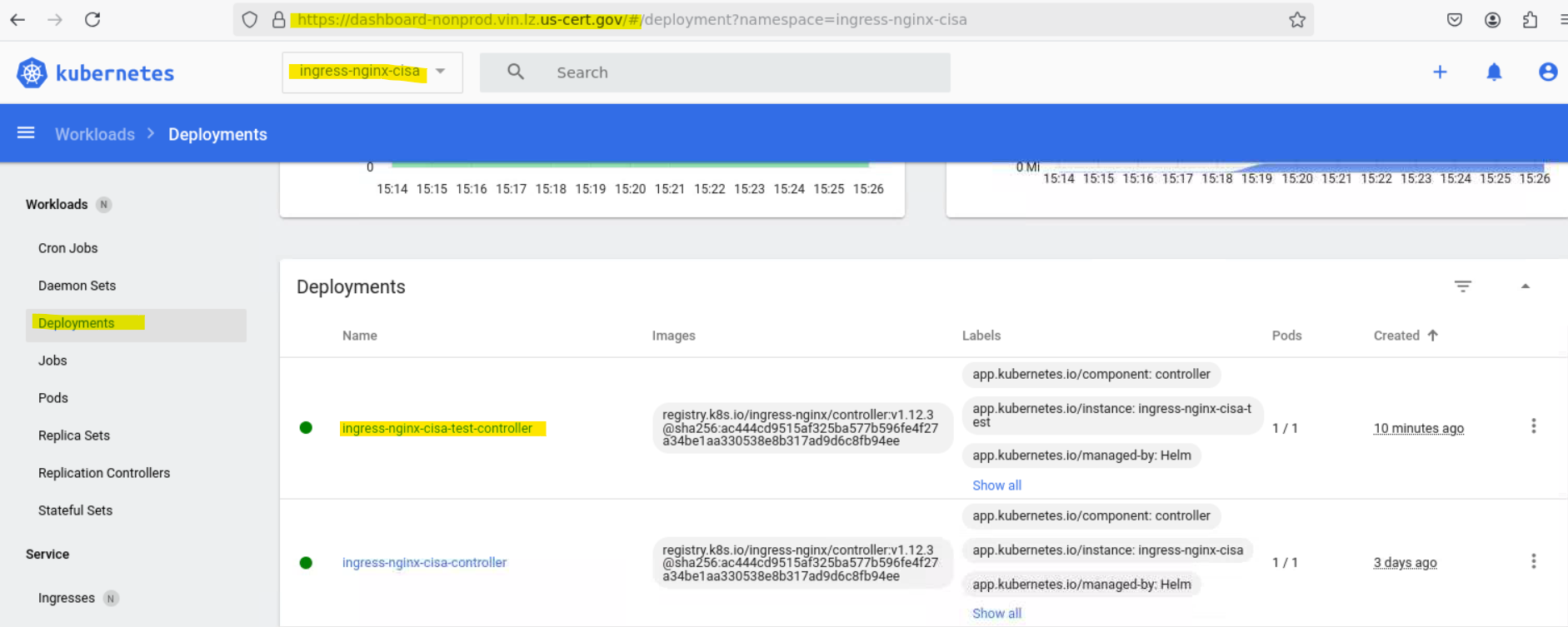
tls.key: <base64 encoded key>

type: kubernetes.io/tls

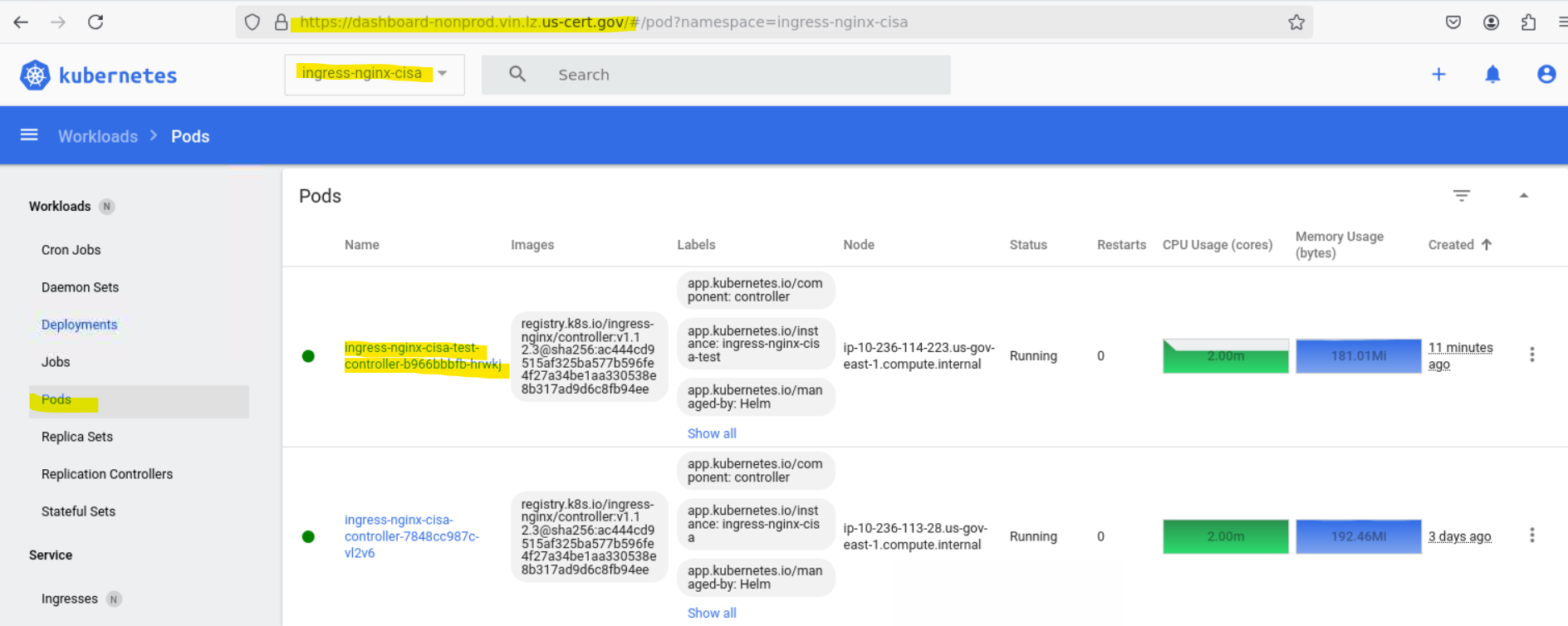
**Kubernetes Resources Created After Deploying the Ingress-Nginx-Test:**

**-------------------------------------------------------------------------------------------------**

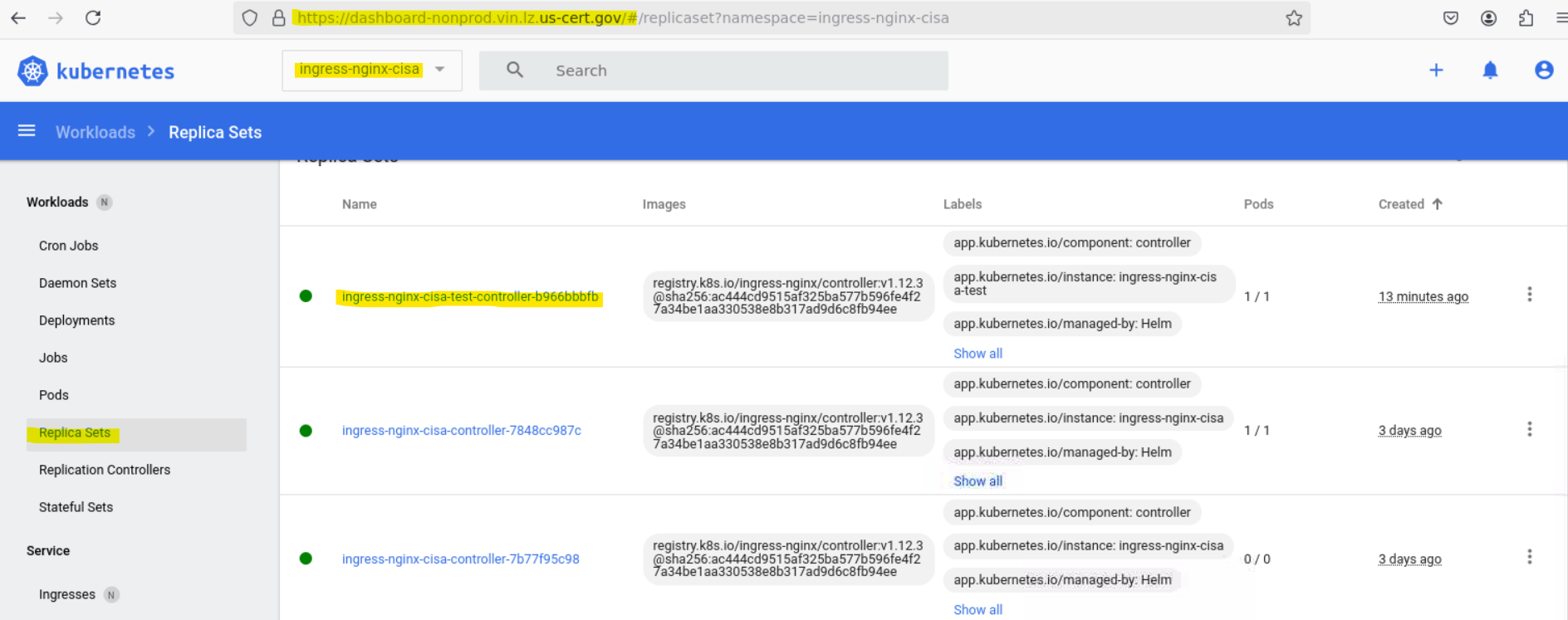
**Deployment: ingress-nginx-cisa-test-controller**



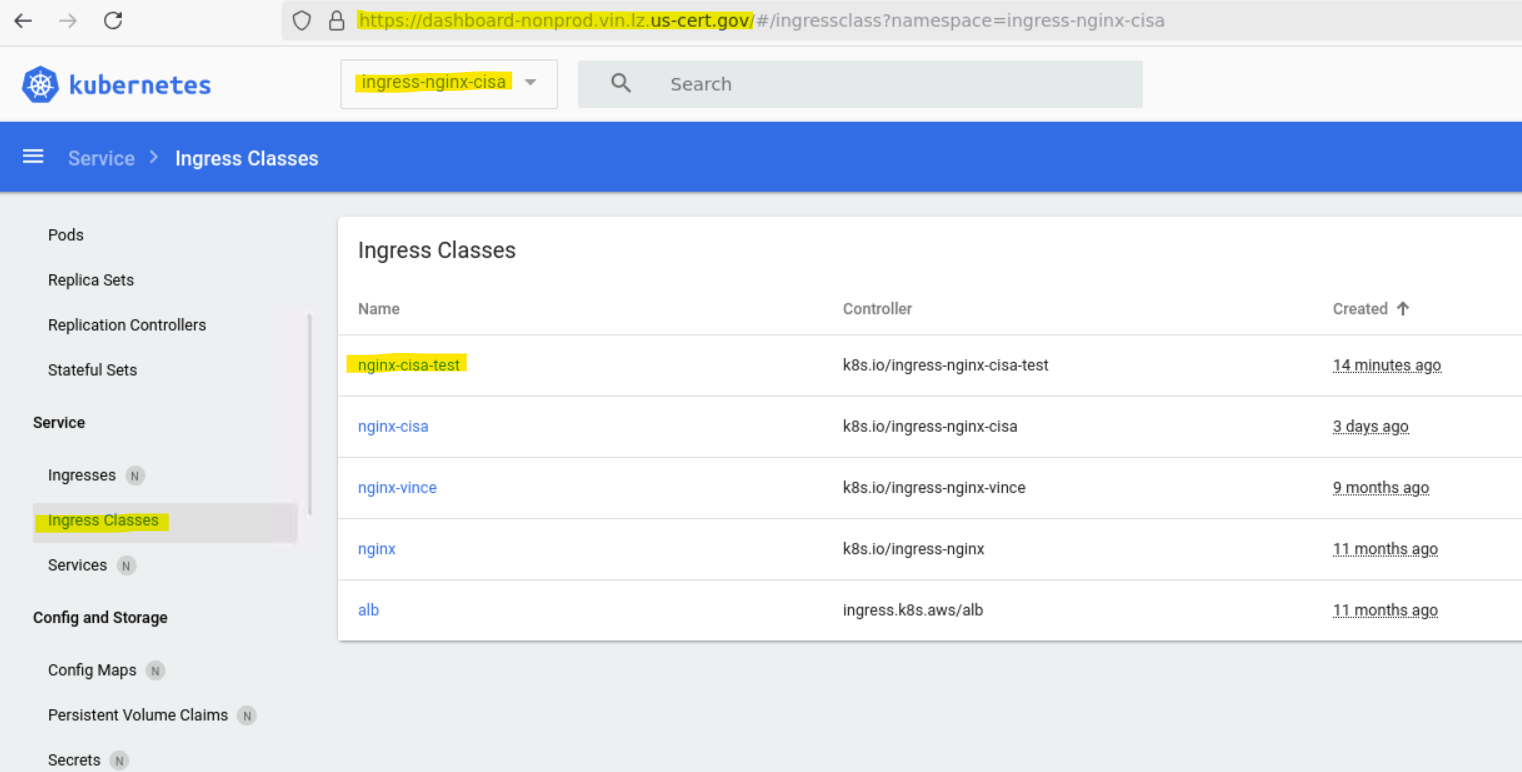
**Pod: ingress-nginx-cisa-test-controller-b966bbbfb-hrwkj**



**Replica Sets: ingress-nginx-cisa-test-controller-b966bbbfb**

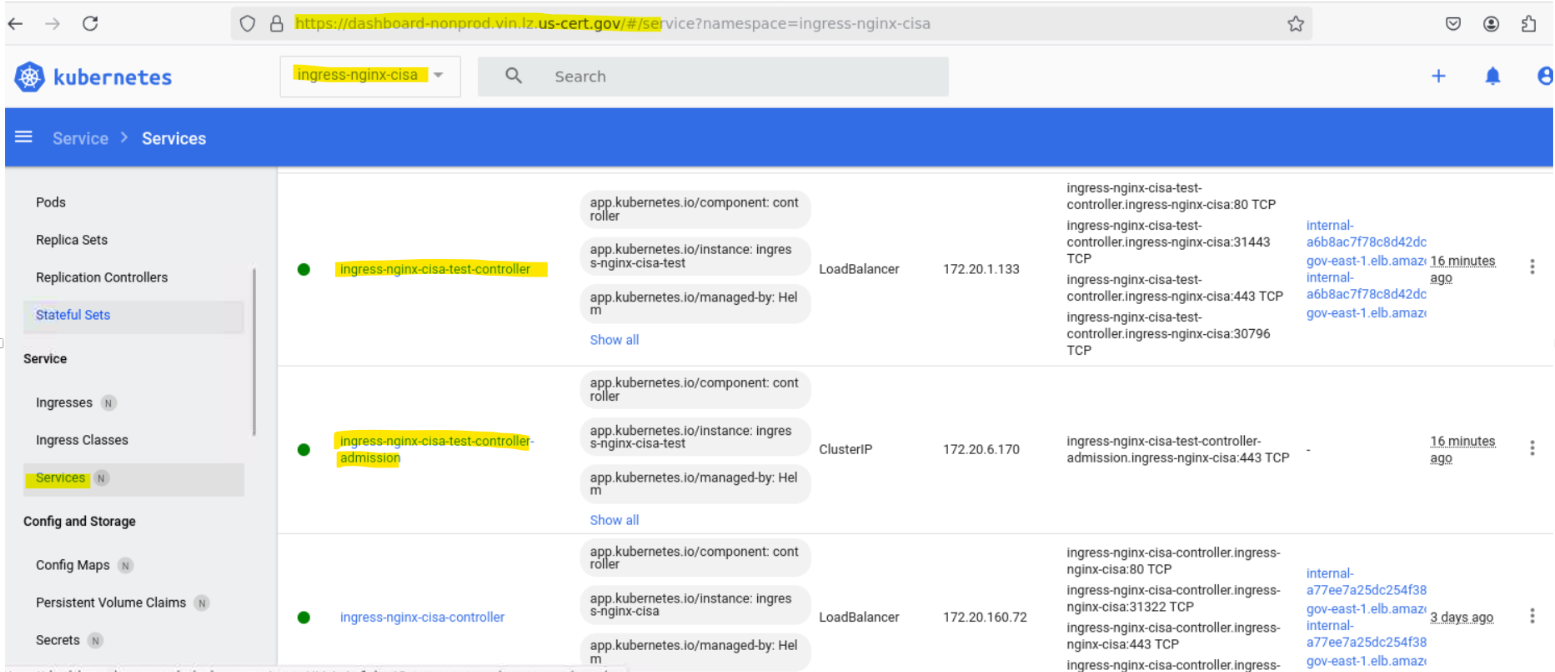


**Ingress Class: nginx-cisa-test**

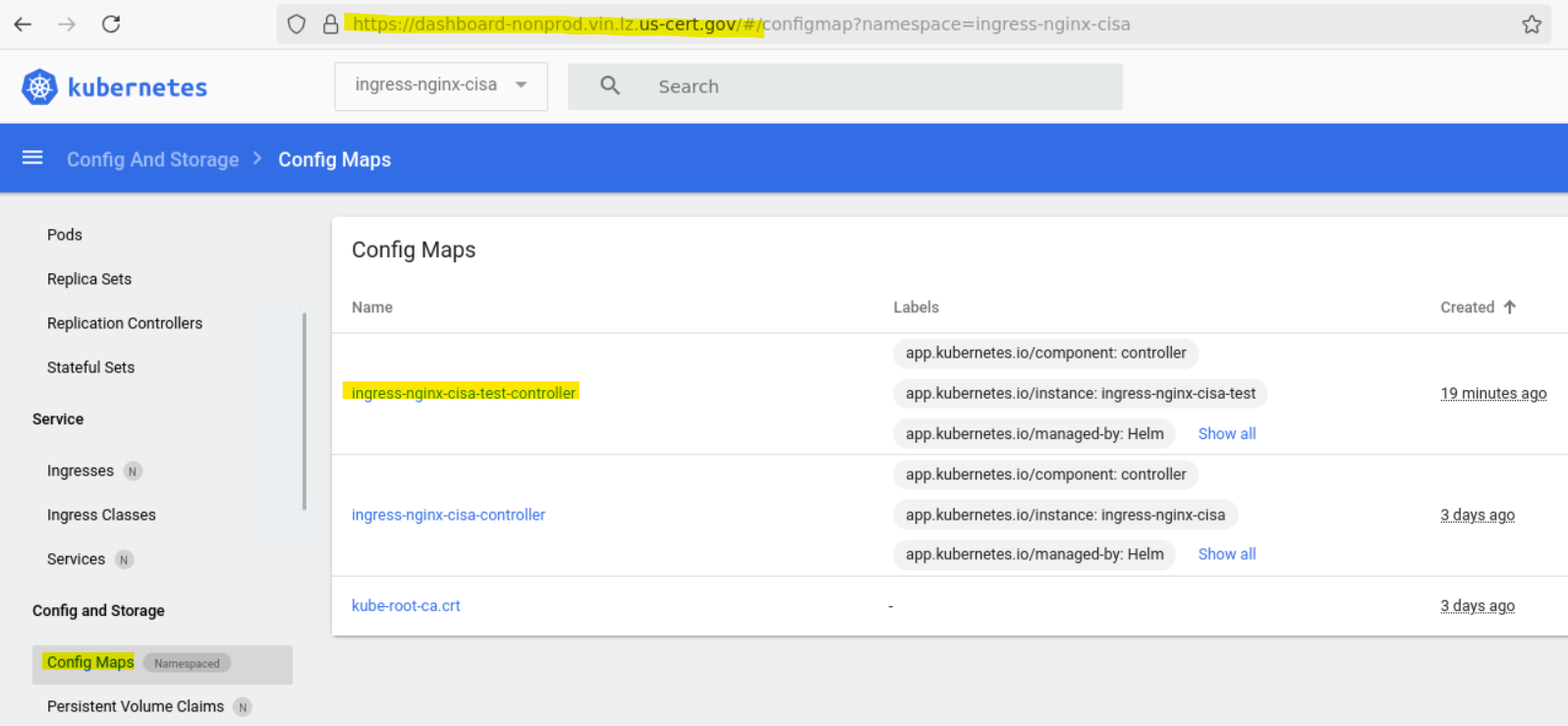


**Services:**

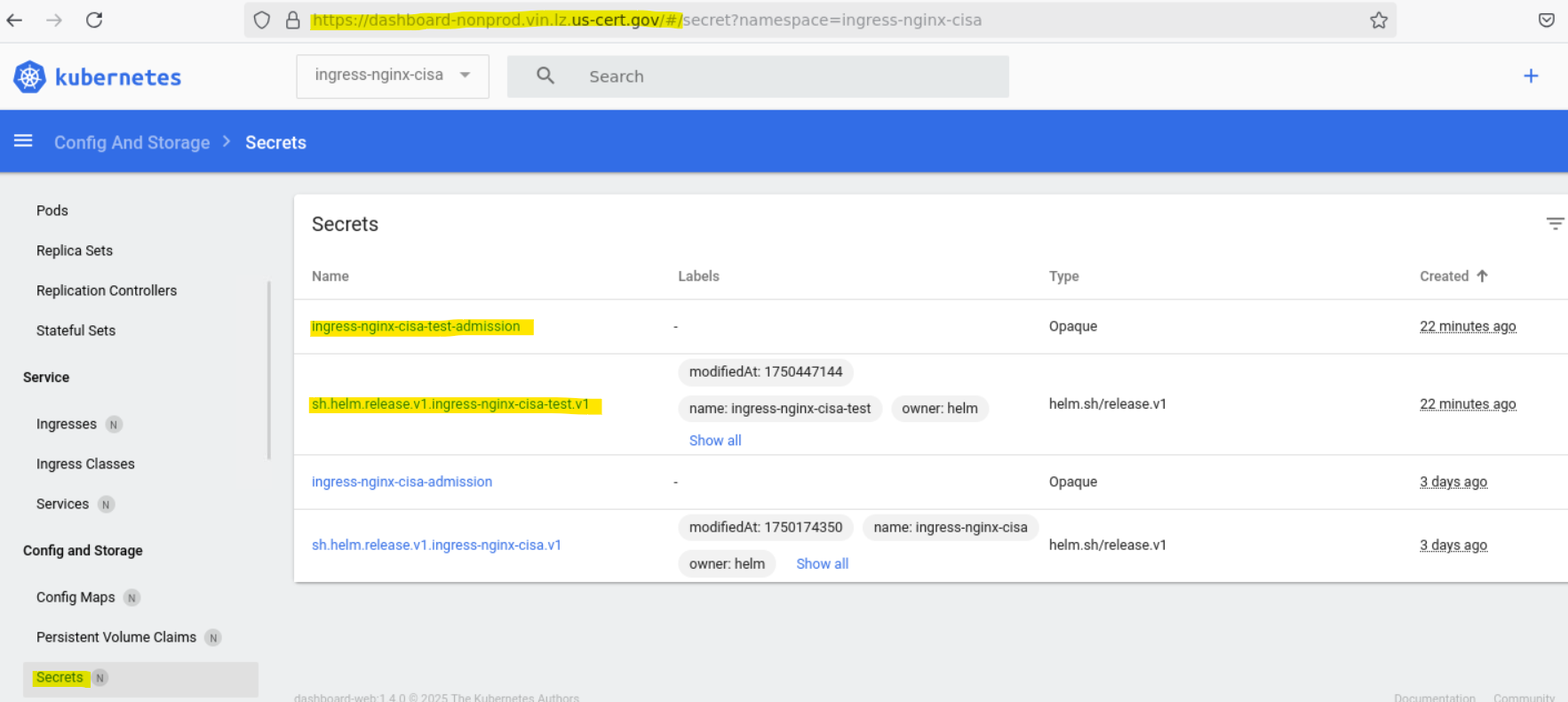
* **ingress-nginx-cisa-test-controller**
* **ingress-nginx-cisa-test-controller-admission**



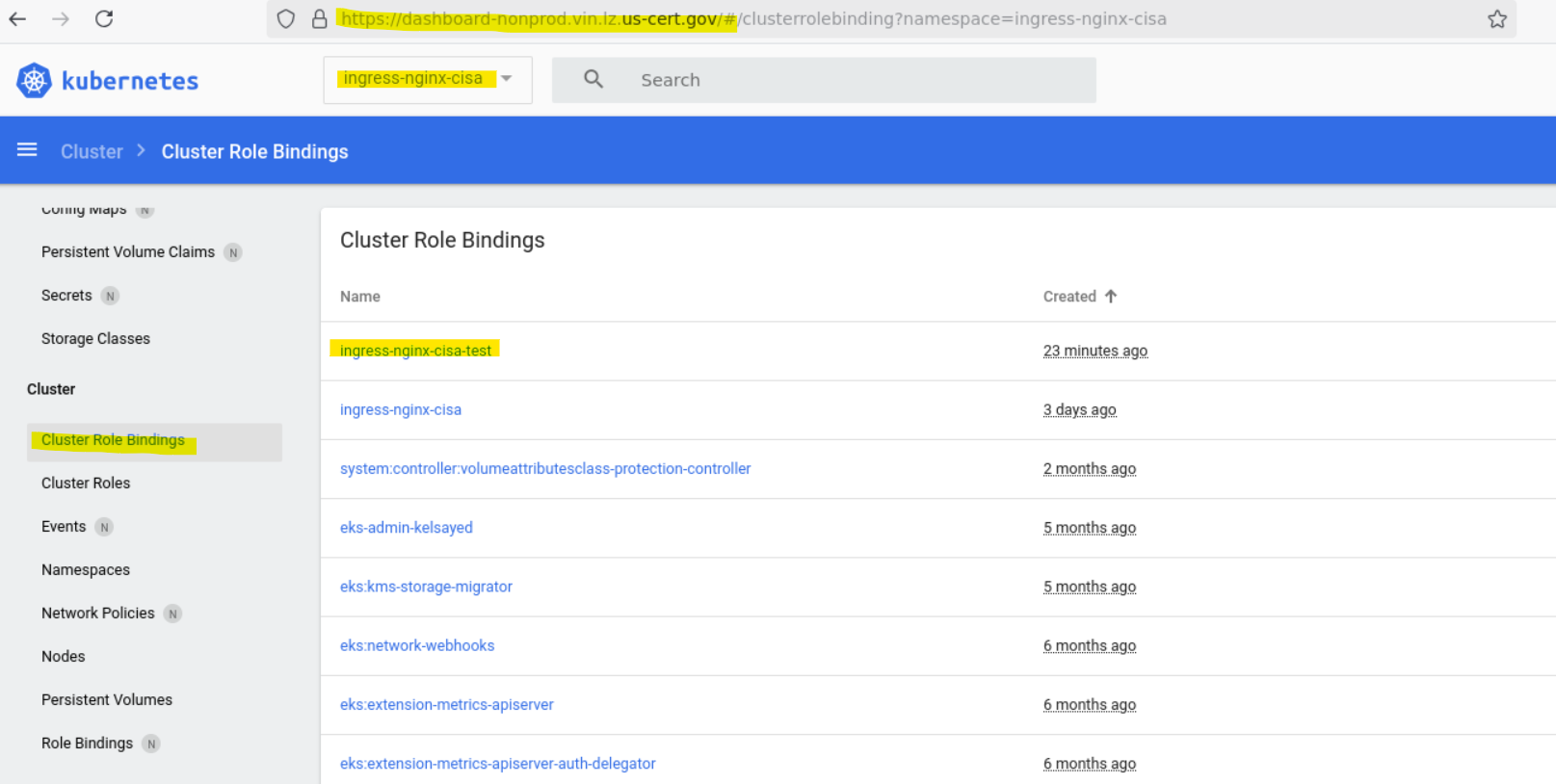
**Config Maps: ingress-nginx-cisa-test-controller**



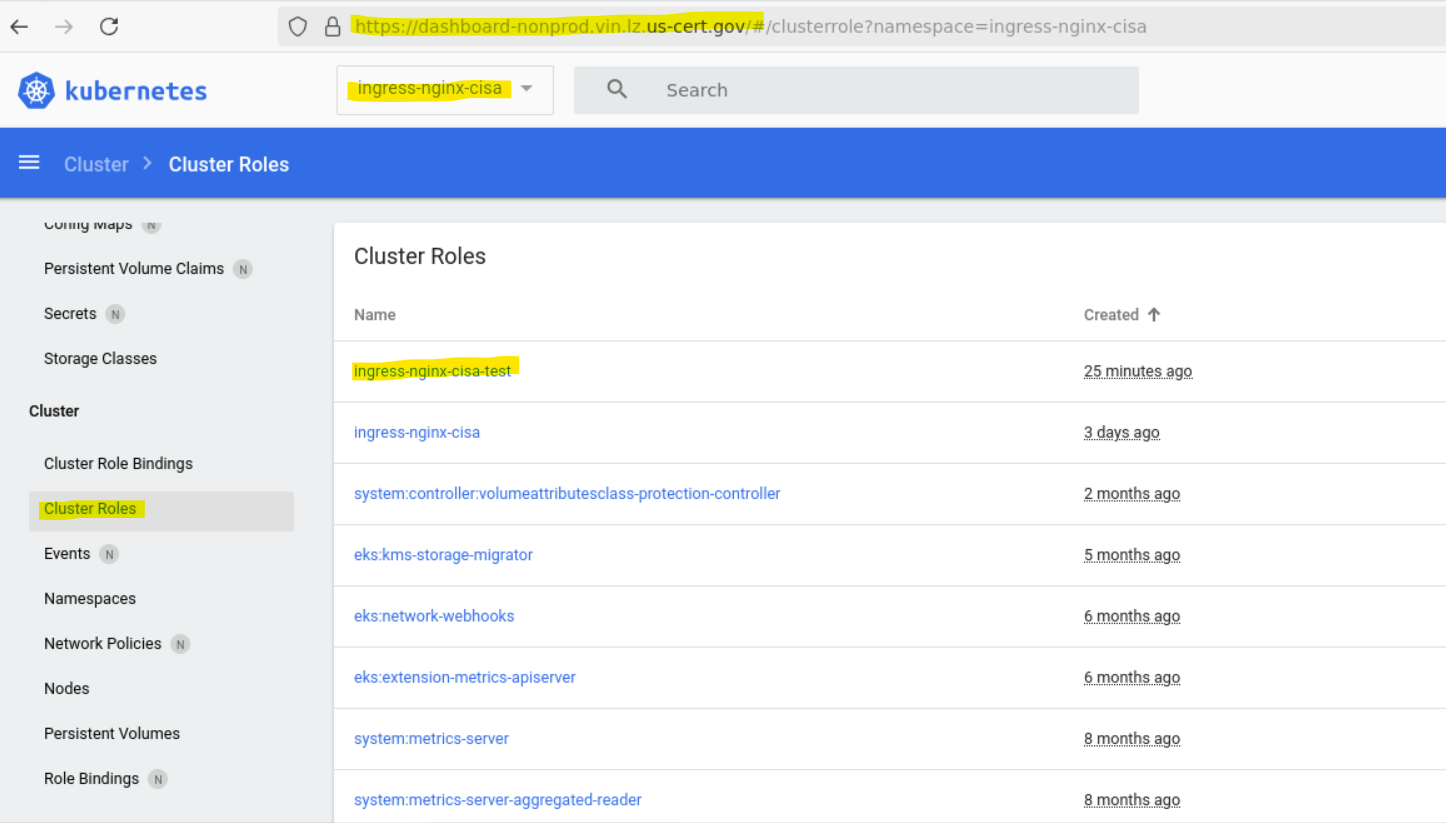
**Secrets: ingress-nginx-cisa-test-admission**



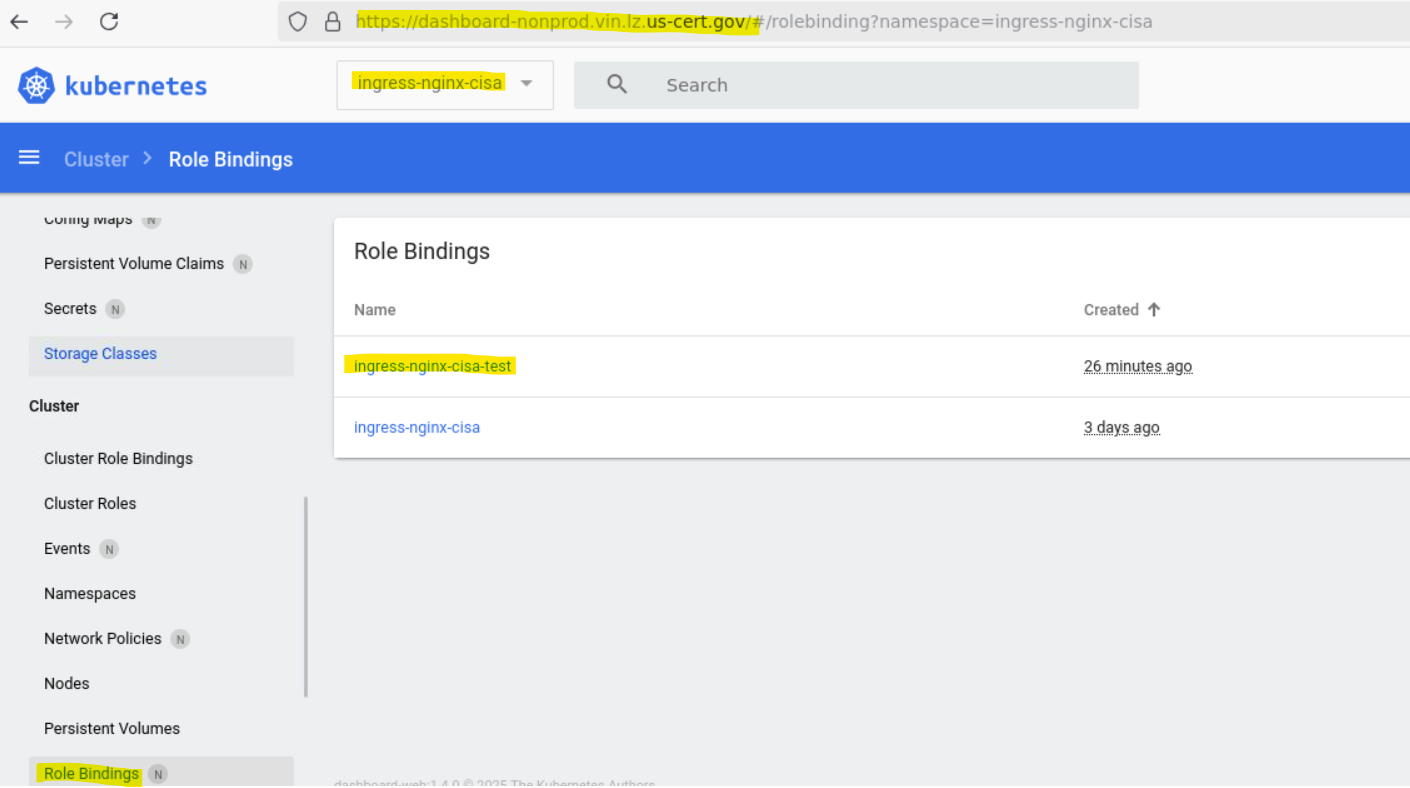
**Cluster Role Bindings: ingress-nginx-cisa-test**



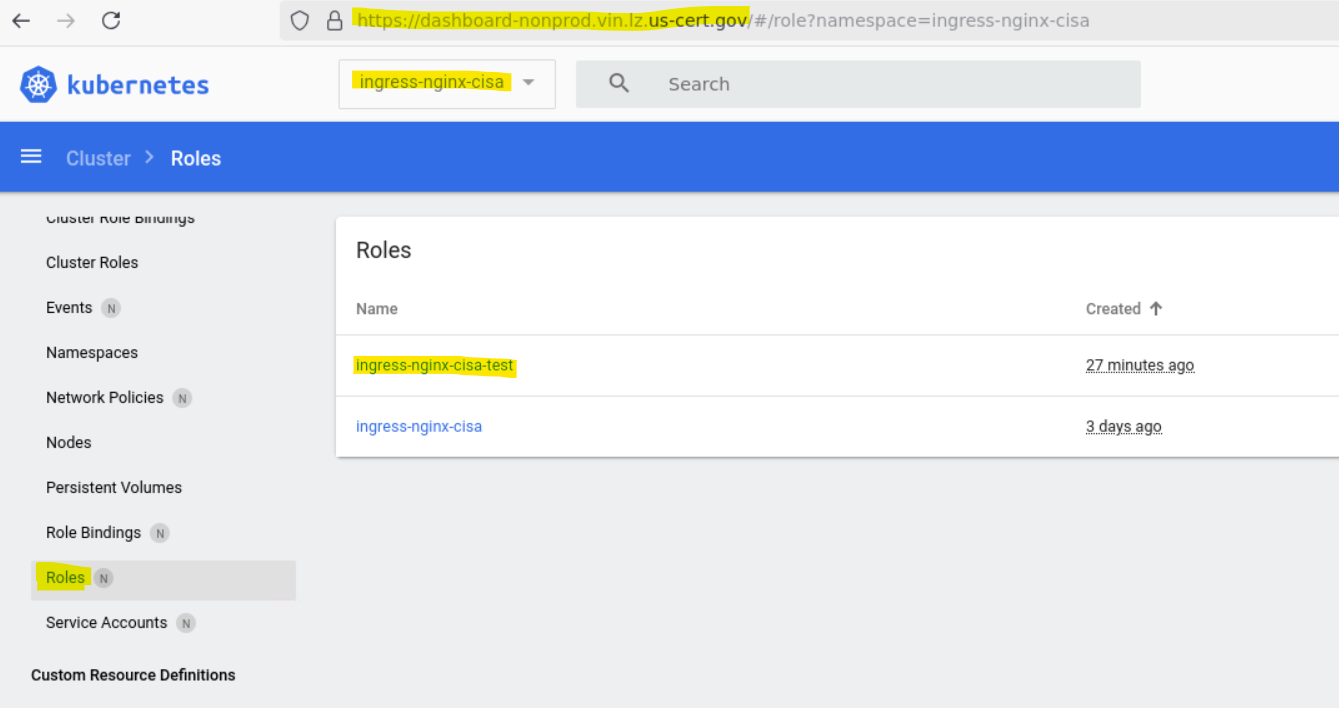
**Cluster Roles: ingress-nginx-cisa-test**



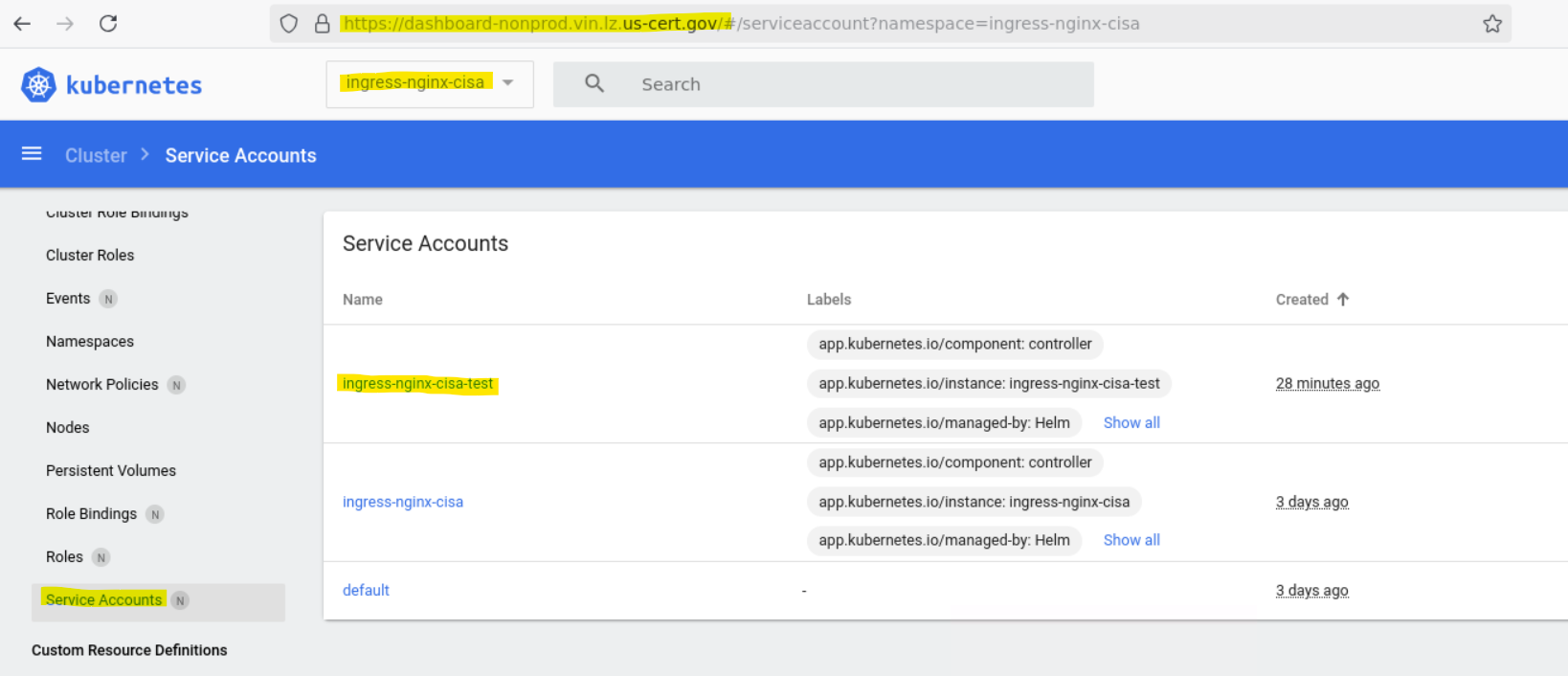
**Role Bindings: ingress-nginx-cisa-test**



**Roles: ingress-nginx-cisa-test**



**Service Account: ingress-nginx-cisa-test**



**Explanation:**

**------------------**

**Absolutely — you've done a solid job integrating your \*\*Ingress Controller\*\* (NGINX with AWS ALB) and \*\*Ingress Resource\*\* via Helm templates. Let's break this down step-by-step to explain \*\*what’s happening\*\* based on your configuration.**

---

## 🔧 1. You Installed the Ingress Controller via Helm

```bash

helm install ingress-nginx-cisa ingress-nginx/ingress-nginx \

-n ingress-nginx-cisa \

-f ingress-inginx-cisa-values.yaml

```

### Inside `ingress-inginx-cisa-values.yaml`:

\* You're configuring the \*\*NGINX Ingress Controller\*\* to:

\* Use a \*\*custom IngressClass\*\* called `nginx-cisa`

\* Associate it with the controller value: `k8s.io/ingress-nginx-cisa`

\* Enable \*\*SSL termination using ACM certs\*\* in an \*\*internal AWS ALB\*\*

\* Restrict access via `loadBalancerSourceRanges`

\* Allow traffic only on port `443`

This \*\*sets up the router\*\* that listens to Ingress resources using the class `nginx-cisa`.

**✅ \*\*Outcome\*\*: You now have a dedicated, secure ingress controller in namespace `ingress-nginx-cisa`.**

---

## 📦 2. You Defined an Ingress Resource in Your Helm Chart

This is your `templates/ingress.yaml` file, which:

\* Creates an Ingress object only if `.Values.ingress\_cisa.enabled` is `true`

\* Dynamically sets the API version (`v1`, `v1beta1`, etc.) based on Kubernetes version

\* Uses `.Values.ingress\_cisa.className` to associate the Ingress resource with your `nginx-cisa` IngressClass

\* Dynamically builds:

\* `metadata.annotations`

\* `tls` block

\* `rules` block with hostnames based on environment (`dev`, `prd`)

\* a `defaultBackend` pointing to your service

**✅ \*\*Outcome\*\*: This template ensures that the resulting Ingress object will be handled by your `nginx-cisa` controller only, and routed securely with TLS support (optional).**

---

**## 📄 3. Your `values.yaml` controls the behavior**

```yaml

ingress\_cisa:

enabled: true

annotations:

nginx.ingress.kubernetes.io/proxy-body-size: 100m

nginx.ingress.kubernetes.io/enable-cors: "true"

...

kubernetes.io/ingress.class: nginx-cisa

hosts:

prod:

- host: ""

dev:

- host: vincent-dev.cisa.gov

tls: []

```

### Breakdown:

\* `enabled: true`: Tells the template to render the Ingress object.

\* `annotations`: Configures CORS, timeouts, body size, and disables forced SSL redirect (useful if ALB handles SSL).

\* `kubernetes.io/ingress.class: nginx-cisa`: Legacy annotation to ensure backward compatibility (<1.19).

\* `className: nginx-cisa`: (inferred from elsewhere in your values or template) used as `ingressClassName` for K8s 1.19+

\* `hosts`: Lists domains per environment (`prd` and `dev`); empty `""` falls back to a default constructed domain.

\* `tls: []`: If populated, adds TLS config per host with secrets (right now, TLS is disabled since the list is empty).

✅ \*\*Outcome\*\*: This provides full control via `values.yaml`, enabling ArgoCD or Helm CLI to deploy environment-specific ingress rules.

---

## 🧠 What’s Happening When Deployed

When ArgoCD (or Helm) applies your Helm chart:

1. The `Ingress` resource is created in your target namespace.

2. It’s labeled and annotated as defined, and \*\*picked up only by the `nginx-cisa` controller\*\* (thanks to `ingressClassName`).

3. It builds the rule:

\* If you're in \*\*`dev`\*\*, the domain is: `vincent-dev.cisa.gov`

\* If you're in \*\*`prd`\*\*, it defaults to `<namespace>.apps\_subdomain`

4. TLS is skipped unless you provide secrets.

---

## ✅ Result

\* You’ve deployed a \*\*multi-environment aware\*\*, \*\*secure\*\*, and \*\*controller-targeted\*\* ingress system.

\* Traffic routed to `vincent-dev.cisa.gov` (in dev) will hit your AWS ALB, terminate SSL using the ACM cert, and forward to your service.

\* All ingress traffic is scoped to the `nginx-cisa` IngressClass only.

---

## 🔍 Next Steps (Suggestions)

1. \*\*Add TLS Secrets\*\* in the `tls` block:

```yaml

tls:

- hosts:

dev:

- host: vincent-dev.cisa.gov

secretName: my-tls-secret

```

2. \*\*Set `controller.ingressClassResource.default: true`\*\* \*only\* if this will be the default class (you set it to false, which is correct if you're running multiple ingress controllers).

3. \*\*Validate deployment\*\*:

```bash

kubectl describe ingress <ingress-name>

kubectl get ingressclass

kubectl get svc -n ingress-nginx-cisa

```

Let me know if you want help generating the `tls` secrets or converting this into a reusable pattern across multiple services.

=========

**So, when I run the helm install command, will that create the ingress class nginx-cisa inside Kubernetes and the Service ingress-nginx-cisa-controller ?**

**Or what is created by the helm install command and what is created by the helm chart ?**

**I want to know how each part is being created in Kubernetes dashboard.**

=========

Great — you're asking exactly the right question. Let's \*\*break this down clearly\*\*:

---

## 🎯 You ran:

**helm install ingress-nginx-cisa ingress-nginx/ingress-nginx \**

**-n ingress-nginx-cisa \**

**-f ingress-inginx-cisa-values.yaml**

This installs the \*\***Ingress Controller**\*\*, specifically the \*\***NGINX ingress controller**\*\*, into its own namespace (`**ingress-nginx-cisa**`), using the official Helm chart.

---

**## ✅ What gets created by \*\*this Helm install command\*\*?**

> These resources are created inside \*\*namespace: `**ingress-nginx-cisa**`\*\*

**### 1. \*\*IngressClass\*\***

```yaml

**kind: IngressClass**

metadata:

**name: nginx-cisa**

spec:

**controller: k8s.io/ingress-nginx-cisa**

```

**This tells Kubernetes:**

**> "There’s a controller called `k8s.io/ingress-nginx-cisa`, and if an Ingress uses class `nginx-cisa`, it should be handled by this controller."**

☑️ This is created \*\*because\*\* you included this in your `values.yaml`:

```yaml

**controller:**

**ingressClass: nginx-cisa**

ingressClassResource:

**name: nginx-cisa**

enabled: true

**controllerValue: "k8s.io/ingress-nginx-cisa"**

```

---

### 2. \*\*Service\*\* (exposing the ingress controller)

```yaml

kind: Service

metadata:

name: ingress-nginx-cisa-controller

```

This is a \*\*LoadBalancer\*\*-type service that:

\* Exposes ports 80 and 443

\* Has the AWS ALB annotations you specified

\* Creates an \*\*internal ALB\*\* due to:

```yaml

service.beta.kubernetes.io/aws-load-balancer-internal: "true"

```

✅ This service allows traffic from the AWS load balancer to reach the ingress controller pods.

---

### 3. \*\*Deployment\*\*

```yaml

kind: Deployment

metadata:

name: ingress-nginx-cisa-controller

```

This runs the actual NGINX ingress controller — the software that watches for Ingress resources and routes traffic accordingly.

---

### 4. \*\*ConfigMap, RBAC, etc.\*\*

Other supporting resources also created include:

\* `ClusterRole`, `RoleBinding`, `ServiceAccount`

\* `ConfigMap` for controller settings

\* Optional `ValidatingWebhookConfiguration`

---

## ✅ What gets created by \*\*your application Helm chart\*\*?

This is the Helm chart that contains your own app + the Ingress resource template (`ingress.yaml`).

> These resources go into your \*\*application namespace\*\* (e.g., `dev-advise`, `prd-advise`, etc.)

### 1. \*\*Ingress resource\*\*

```yaml

kind: Ingress

metadata:

name: advise-cisa

spec:

ingressClassName: nginx-cisa

...

```

This is what tells Kubernetes:

> "Please expose this app via the `nginx-cisa` ingress controller."

This object \*\*does not do any routing or load balancing by itself\*\*. It's just a declaration of intent.

---

## ✅ Visual Summary (Kubernetes Dashboard)

Here’s what you’d see in the dashboard, split by namespace:

### Namespace: `ingress-nginx-cisa`

| Kind | Name | Notes |

| ------------ | ------------------------------- | --------------------------------- |

| Deployment | `ingress-nginx-cisa-controller` | Runs the NGINX ingress controller |

| Service | `ingress-nginx-cisa-controller` | Exposes via internal AWS ALB |

| IngressClass | `nginx-cisa` | Handles Ingress resources |

| ConfigMap | `ingress-nginx-cisa-controller` | Optional controller config |

### Namespace: `dev-advise` (your app)

| Kind | Name | Notes |

| ------- | ------------- | ---------------------------------- |

| Ingress | `advise-cisa` | Routes external traffic to service |

| Service | `advise` | Backend for Ingress |

| Pods | Your app pods | Serve the actual app |

---

## 🚦Final Routing Flow

```text

[Browser/User]

↓

[Internal AWS ALB] ← LoadBalancer Service (443)

↓

[NGINX Controller Pod]

↓

[Ingress Rule: advise-cisa]

↓

[Service: advise]

↓

[Pod: your app]

```

---

## ✅ TL;DR

| Resource | Created By | Namespace |

| ------------------------------------------- | ------------------- | -------------------- |

| `IngressClass: nginx-cisa` | NGINX Helm Chart | (cluster-scoped) |

| `Service: ingress-nginx-cisa-controller` | NGINX Helm Chart | `ingress-nginx-cisa` |

| `Deployment: ingress-nginx-cisa-controller` | NGINX Helm Chart | `ingress-nginx-cisa` |

| `Ingress: advise-cisa` | Your App Helm Chart | Your app’s namespace |

Let me know if you'd like a live command checklist to verify these in your cluster.

=========

**Where does this name come from ? for the service & deployment ?**

**kind: Service**

**metadata:**

**name: ingress-nginx-cisa-controller**

=========

Great question. The name `ingress-nginx-cisa-controller` is \*\*not arbitrary\*\* — it is automatically generated by the \*\*official `ingress-nginx` Helm chart\*\* based on the release name you provide during `helm install`.

Let’s break this down:

---

## 🧱 Naming Convention in the `ingress-nginx` Helm chart

When you run:

```bash

helm install ingress-nginx-cisa ingress-nginx/ingress-nginx \

-n ingress-nginx-cisa \

-f ingress-inginx-cisa-values.yaml

```

You're doing two things:

\* Setting the \*\*Helm release name\*\* to `ingress-nginx-cisa`

\* Using the `ingress-nginx` chart, which has hardcoded naming templates like:

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }}

```

And internally, this resolves to:

```yaml

{{ .Release.Name }}-controller

```

So if your release name is `ingress-nginx-cisa`, the full name of the controller \*\*Service\*\*, \*\*Deployment\*\*, and \*\*other resources\*\* becomes:

```bash

ingress-nginx-cisa-controller

```

---

## 🛠 Examples from the chart

\* \*\*Service\*\*

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }} # → ingress-nginx-cisa-controller

```

\* \*\*Deployment\*\*

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }} # → ingress-nginx-cisa-controller

```

\* \*\*Labels/selectors\*\*

Also use `.Release.Name` to match pods and services.

---

## ✅ How to Confirm in Your Cluster

Run:

```bash

kubectl get svc -n ingress-nginx-cisa

kubectl get deploy -n ingress-nginx-cisa

```

You'll see:

```bash

NAME TYPE CLUSTER-IP EXTERNAL-IP

ingress-nginx-cisa-controller LoadBalancer 10.x.x.x internal-xxxxx.elb.amazonaws.com

NAME READY UP-TO-DATE AVAILABLE

ingress-nginx-cisa-controller 1/1 1 1

```

---

## 💡 So in short:

\* The name `ingress-nginx-cisa-controller` comes from:

```yaml

{{ .Release.Name }}-controller

```

\* You \*\*control the prefix\*\* (`ingress-nginx-cisa`) via the Helm install:

```bash

helm install ingress-nginx-cisa ...

```

If you used a different release name, like `foo`, you'd get `foo-controller`.

---

Let me know if you want to override these names or change the naming template — that’s also possible.

=========

**So which template name has this in the chart inginx-cisa chart ?**

**metadata:**

**name: {{ include "ingress-nginx.controller.fullname" . }}**

=========

Great follow-up! You're asking: \*\*where in the official `ingress-nginx` Helm chart is the line\*\*:

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }}

```

Let's break it down based on the chart's structure.

---

## 📦 Chart Source: `ingress-nginx` official Helm chart

You can browse it at:

> [[https://github.com/kubernetes/ingress-nginx/tree/main/charts/ingress-nginx](https://github.com/kubernetes/ingress-nginx/tree/main/charts/ingress-nginx)](https://github.com/kubernetes/ingress-nginx/tree/main/charts/ingress-nginx%5d(https:/github.com/kubernetes/ingress-nginx/tree/main/charts/ingress-nginx))

---

## 🔍 Template Path for the Controller

The controller-related resources live in:

```

charts/ingress-nginx/templates/controller/

```

Specifically:

### ✅ `templates/controller-deployment.yaml`

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }}

```

This creates the \*\*Deployment\*\* resource.

---

### ✅ `templates/controller-service.yaml`

```yaml

metadata:

name: {{ include "ingress-nginx.controller.fullname" . }}

```

This creates the \*\*Service\*\* resource.

---

### ✅ How the name is defined

The `include` function pulls from `charts/ingress-nginx/templates/\_helpers.tpl`:

```tpl

{{/\*

Expand the name of the controller.

\*/}}

{{- define "ingress-nginx.controller.fullname" -}}

{{- printf "%s-controller" .Release.Name }}

{{- end }}

```

So, when you do:

```bash

helm install ingress-nginx-cisa ingress-nginx/ingress-nginx ...

```

It evaluates:

```yaml

metadata:

name: ingress-nginx-cisa-controller

```

✅ `{{ .Release.Name }}` = `ingress-nginx-cisa`

---

## 📌 Summary

| File | Purpose | Line |

| -------------------------------------- | -------------------- | ----------------------------- |

| `templates/controller-deployment.yaml` | NGINX Controller Pod | Sets name of Deployment |

| `templates/controller-service.yaml` | LoadBalancer Service | Sets name of Service |

| `templates/\_helpers.tpl` | Name template logic | Defines `controller.fullname` |

So when you install the chart, Helm renders those templates using your release name and generates the final Kubernetes resource names.

---

Let me know if you want to override this behavior with a custom name or `fullnameOverride`.