Lesson 08 Demo 10

Installing the NGINX Ingress Controller Using Helm

Objective: To install the NGINX Ingress controller on a Kubernetes cluster using Helm to manage the installation of necessary Kubernetes resources

Tools required: Azure management tools

Prerequisites: Configure an AKS cluster and a storage account (Refer to Lesson 08, Demo 01 and Demo 02)

Steps to be followed:

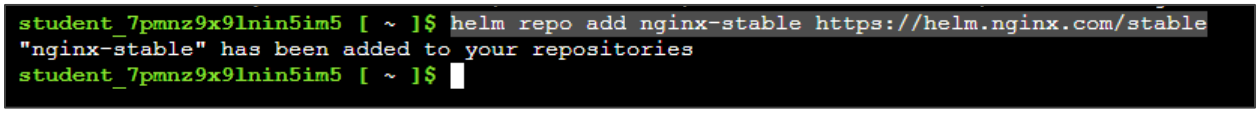
1. Install the NGINX Ingress controller using Helm
2. Validate the NGINX Ingress controller installation

Step 1: Install the NGINX Ingress controller using Helm

1.1 In the Azure Cloud Shell, execute the following command to check the installed version of Helm package:
helm version

This command verifies whether the machine has the Helm package installed.

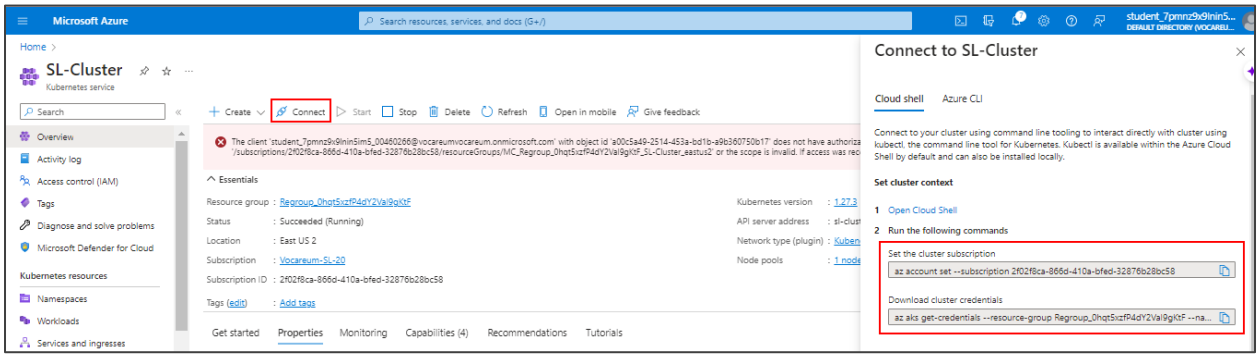
1.2 Run the following command to add the stable version of the NGINX repository to Helm:
helm repo add nginx-stable https://helm.nginx.com/stable



1.3 Update the repository using the following command:
helm repo update

```
student_7pmnz9x91nin5im5 [ ~ ]$ helm repo update
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "nginx-stable" chart repository
Update Complete. ⎈Happy Helming!⎈
student_7pmnz9x91nin5im5 [ ~ ]$
```

1.4 Connect the Azure Cloud Shell to the **SL-Cluster** using the connect commands shown in the screenshot below:




```
student_7pmnz9x91nin5im5 [ ~ ]$ az account set --subscription 2f02f8ca-866d-410a-bfed-32876b28bc58
student_7pmnz9x91nin5im5 [ ~ ]$ az aks get-credentials --resource-group Regroup_6etgh4OU6NzV --name SL-Cluster
Merged "SL-Cluster" as current context in /home/student_7pmnz9x91nin5im5/.kube/config
```

1.5 Install the NGINX Ingress controller using the following command:
helm install nginx-ingress nginx-stable/nginx-ingress --set rbac.create=true

```
student_7pmnz9x91nin5im5 [ ~ ]$ helm install nginx-ingress nginx-stable/nginx-ingress --set rbac.create=true
NAME: nginx-ingress
LAST DEPLOYED: Thu Oct 26 12:31:16 2023
NAMESPACE: default
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
The NGINX Ingress Controller has been installed.
```

The Ingress controller is successfully installed.

Step 2: Validate the NGINX Ingress controller installation

2.1 Run the following command to check the installation of the NGINX pod:
kubectl get pods --all-namespaces --show-labels | grep nginx

```
student_7pmnz9x9lnin5im5 [ ~ ]$ kubectl get pods --all-namespaces --show-labels | grep nginx
default          nginx-ingress-controller-74ddbfbdb7-t4n78   1/1     Running   0          115s   app.kubernetes.io/instance=nginx-ingress,app.kube
rnetes.io/name=nginx-ingress,app.kubernetes.io/version=3.3.1,app.nginx.org/version=1.25.2,pod-template-hash=74ddbfbdb7
```

2.2 Run the following command to view the NGINX Kubernetes service:
kubectl get services | grep nginx

```
student_7pmnz9x9lnin5im5 [ ~ ]$ kubectl get services | grep nginx
nginx-ingress-controller   LoadBalancer   10.0.242.109   4.157.219.138   80:30640/TCP,443:32335/TCP   4m52s
student_7pmnz9x9lnin5im5 [ ~ ]$
```

By following these steps, you have successfully installed the NGINX Ingress controller using Helm. Once installed, the NGINX Ingress controller will function as a load balancer, routing incoming HTTPS requests to the appropriate services within the cluster.