Creating EKS Cluster using Terraform
AND
Accessing it from windows machine

Choco installation using PowerShell:

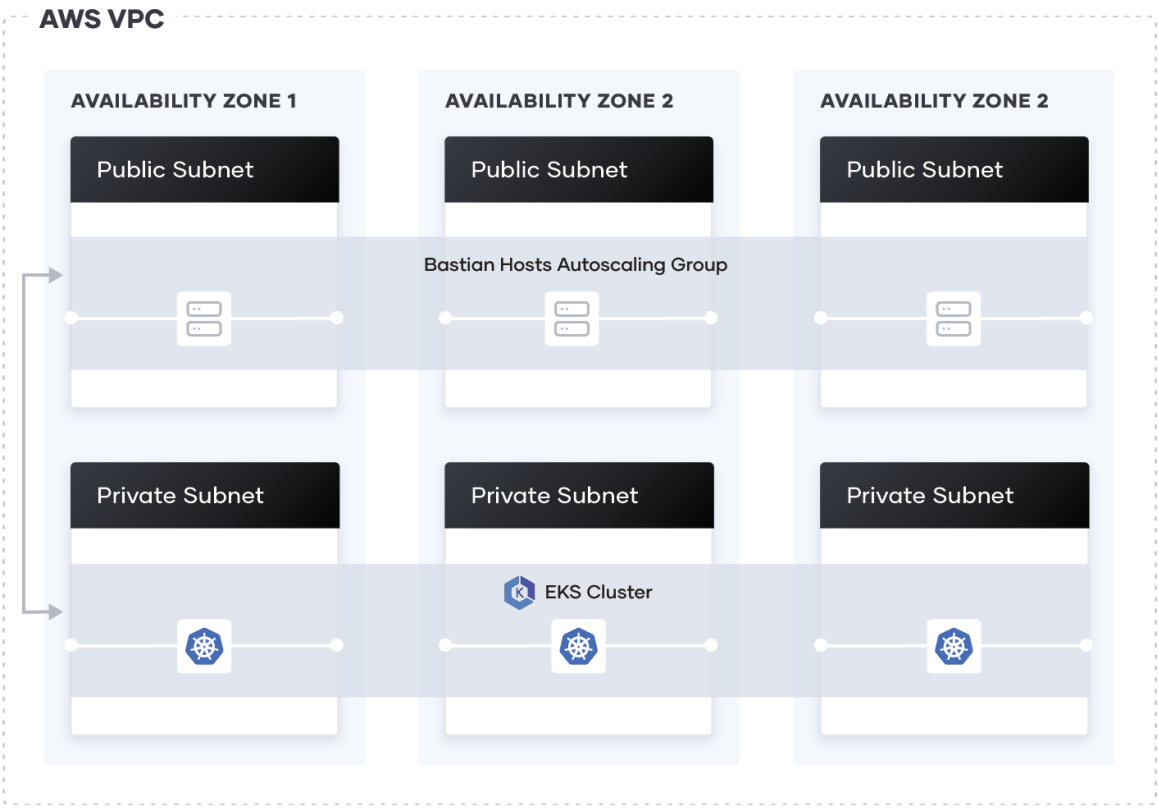
1. Open the powershell with Administrator permission then run below command:
   Set-ExecutionPolicy Bypass -Scope Process -Force;
   [System.Net.ServicePointManager]::SecurityProtocol =
   [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))
2. Reopen the powershell with administrator permission
3. Verify choco installation using below command:
   choco --version

Prerequisites:

- An AWS IAM programmatic User.
- A configured AWS CLI
  - Command: *choco install awscli*
- AWS IAM Authenticator
  - Command: *choco install aws-iam-authenticator*
- kubectl
  - Command: *choco install kubernetes-cli*
- wget (required for EKS module)
  - Command: *choco install wget*
- Git installation if not installed:
  - Command: *choco install git*
- Terraform installation:
  - Command: *choco install terraform*

Setup EKS cluster with Terraform:

- Download the terraform script from git to create EKS cluster(perform all the below from location C:\User\<user-name>):
  git clone https://github.com/hashicorp/learn-terraform-provision-eks-cluster
  cd learn-terraform-provision-eks-cluster
  terraform init
  terraform apply



Syntax:

aws eks --region $(terraform output -raw region) update-kubeconfig --name $(terraform output -raw cluster_name)

Commands:

- *$ aws eks --region us-east-2 update-kubeconfig --name education-eks-ovYmoSlN*
- *$ wget -O v0.3.6.tar.gz https://codeload.github.com/kubernetes-sigs/metrics-server/tar.gz/v0.3.6*
- *$ tar -xzf v0.3.6.tar.gz*
- *$ kubectl apply -f metrics-server-0.3.6/deploy/1.8+/*
- *$ kubectl get deployment metrics-server -n kube-system*
- *$ kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.0.0-beta8/aio/deploy/recommended.yaml*
- *$ Start-Job -ScriptBlock{kubectl proxy}* – to run the job in background

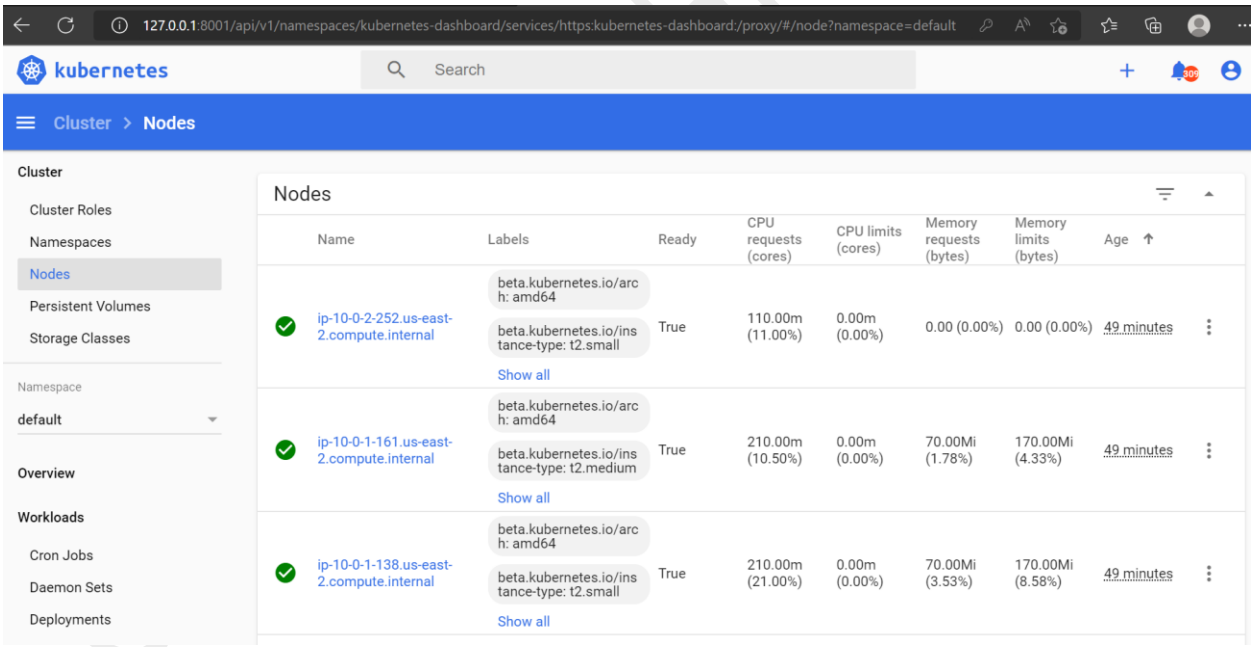
You should be able to access the Kubernetes dashboard here (http://127.0.0.1:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/).

But we will get an authentication issue, to resolve the issue we have to generate a token using below commands in a new powershell window:

- *kubectl apply -f https://raw.githubusercontent.com/hashicorp/learn-terraform-provision-eks-cluster/main/kubernetes-dashboard-admin.rbac.yaml*
- *kubectl -n kube-system describe secret $(kubectl -n kube-system get secret | grep service-controller-token | awk '{print $1}')*

Select "Token" on the Dashboard UI then copy and paste the entire token you receive into the dashboard authentication screen to sign in. You are now signed in to the dashboard for your Kubernetes cluster.

Navigate to the "Cluster" page by clicking on "Cluster" in the left navigation bar. You should see a list of nodes in your cluster.



- Once your work is complete
  - ***$ Stop-Job Job1*** in powershell to stop the dashboard
  - *$ Terraform destroy* → to destroy EKS cluster

Reference Link: https://learn.hashicorp.com/tutorials/terraform/eks