



# Deploy Helm Chart with Terraform to Aws EKS

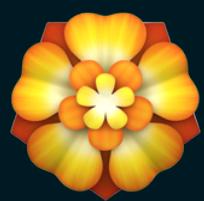




# Agenda



**Helm Provider**



**Helm Release Resource**

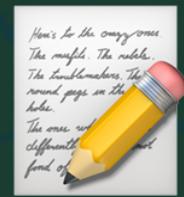


**Hands-on Demo**



# Helm Provider

● Deploy software packages in Kubernetes.



● Helm CLI request by Helm Provider



● Configuration options:



● Using a kubeconfig file



● Supplying credentials



● Executing plugins



# Helm Provider Config options



## Using a kubeconfig file :

```
provider "helm" {
  kubernetes {
    config_path = "~/.kube/config"
  }
}
```



**aws eks update-kubeconfig -- region [value] --name [value]**

```
resource "null_resource" "update_kubeconfig" {
  provisioner "local-exec" {
    command = "aws eks update-kubeconfig --region us-east-1 --name ${aws_eks_cluster.eks-demo-cluster-01.name}"
  }
  depends_on = [aws_eks_cluster.eks-demo-cluster-01]
}
```



# Helm Provider Config options



## Executing plugins:

```
provider "helm" {
  kubernetes {
    host           = aws_eks_cluster.eks-demo-cluster-01.endpoint
    cluster_ca_certificate = base64decode(aws_eks_cluster.eks-demo-cluster-01.certificate_authority[0].data)
    exec {
      api_version = "client.authentication.k8s.io/v1beta1"
      args        = ["eks", "get-token", "--cluster-name", "eks-demo-cluster-01"]
      command     = "aws"
    }
  }
}
```



# Helm Provider Config options



## Executing plugins:

```
provider "helm" {
  kubernetes {
    host           = aws_eks_cluster.eks-demo-cluster-01.endpoint
    cluster_ca_certificate = base64decode(aws_eks_cluster.eks-demo-cluster-01.certificate_authority[0].data)
    exec {
      api_version = "client.authentication.k8s.io/v1beta1"
      args        = ["eks", "get-token", "--cluster-name", "eks-demo-cluster-01"]
      command     = "aws"
    }
  }
}
```



# Helm Release Resource



## Helm Release Config:

```
resource "helm_release" "demo-nginx" {
  name      = "demo-nginx"
  repository = "https://lianduantrain.github.io/HelmTerraformEKS/stable"
  chart      = "demo-nginx-chart"
  version    = "0.2.0"
  depends_on = [aws_eks_node_group.eks-demo-ec2-node-group-01]
}
```



## Helm Commands:

- **helm repo add linas-demo https://lianduantrain.github.io/HelmTerraformEKS/stable**
- **helm install demo-nginx linas-demo/demo-nginx-chart --version=0.2.0**



# Hands-on Demo

## ● Prerequisites

● **AWS Free Tire Account**

● **Terraform v 1.6.6**

● **Kubectl v 1.29.3**

● **AWS CLI v 2.15.5**

● **Helm v 3.14.4**



# Overview Hands-on Demo

- **Terraform Main Config (main.tf)**
- **Create an AWS EKS cluster**
- **Helm Release Deploy a Nginx application**
- **Verify Deployment**
- **Clean up AWS Resources**

# Thanks

Any questions?

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