Create an Amazon EKS Cluster and install kubectl using Terraform

Level: **Fundamental**

Amazon Web Services Amazon Elastic Kubernetes Service Terraform

Required Points 10

Start Lab →

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Lab Overview

Cloud Developer, Cloud DevOps Engineer

Containers, Infrastructure

Lab Details

1. This lab provides a step-by-step guide on how to create an EKS Cluster using Terraform and install kubectl to obtain the cluster IP address.

2. Duration of the Lab: **60 minutes**
3. AWS Region: **US East (N. Virginia) us-east-1**

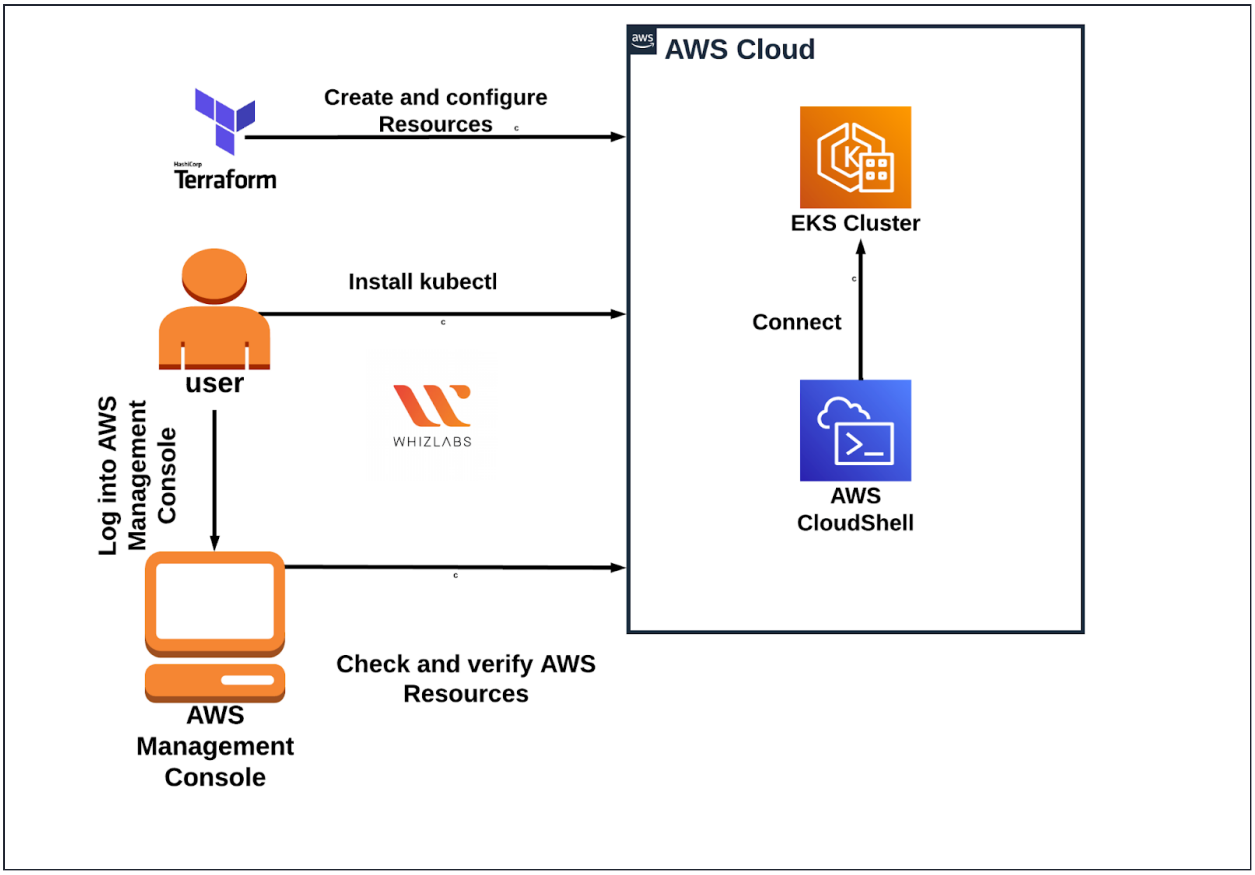
What is Terraform?

1. It is an open-source IaaC (Infrastructure as a code) software tool where you define and create resources using providers in the declarative configuration language example JSON.
2. With Terraform, You can package and reuse the code in the form of modules.
3. It supports a number of cloud infrastructure providers such as AWS, Azure, GCP, IBM Cloud, OCI, etc.
4. terraform has four major commands:
    1. terraform init
    2. terraform plan
    3. terraform apply
    4. terraform destroy

Prerequisites

1. Install Terraform in your local machine using this official guide by Hashicorp.
2. To install Terraform using CLI, use this guide https://learn.hashicorp.com/tutorials/terraform/install-cli
3. To install Terraform by downloading, use this guide https://www.terraform.io/downloads.html
4. Download and Install Visual Studio code editor using this guide https://code.visualstudio.com/download
5. If you prefer not to install Terraform locally, you can utilize the Cloud9 service to perform the lab https://www.whizlabs.com/labs/support-document/how-to-create-cloud9-faq

Architecture Diagram



Task Details

1. Sign in to AWS Management Console.
2. Setup Visual Studio Code
3. Create a variable file.
4. Create an EKS Cluster in the main.tf file
5. Create an output file
6. Confirm the installation of Terraform by checking the version.
7. Apply terraform configurations
8. Check the resources in AWS Console
9. Create an Environment in CloudShell.
10. Install kubectl on AWS CloudShell.
11. Configure your AWS CloudShell to communicate with your cluster.
12. Delete AWS Resources

Launching Lab Environment

1. To launch the lab environment, Click on the **Start Lab** button.
2. Please wait until the cloud environment is provisioned. It will take less than a minute to provision.
3. Once the Lab is started, you will be provided with an **IAM username**, **Password**, **Access Key**, and **Secret Access Key**.

Note: You can only start one lab at any given time