

Senior DevOps Engineer

Case Study Assignment

Scenario

You have been assigned the responsibility of establishing a resilient and expandable infrastructure on AWS to support a WordPress eCommerce application.

The application is structured as a containerized Docker image and necessitates deployment on AWS EKS using a HELM chart.

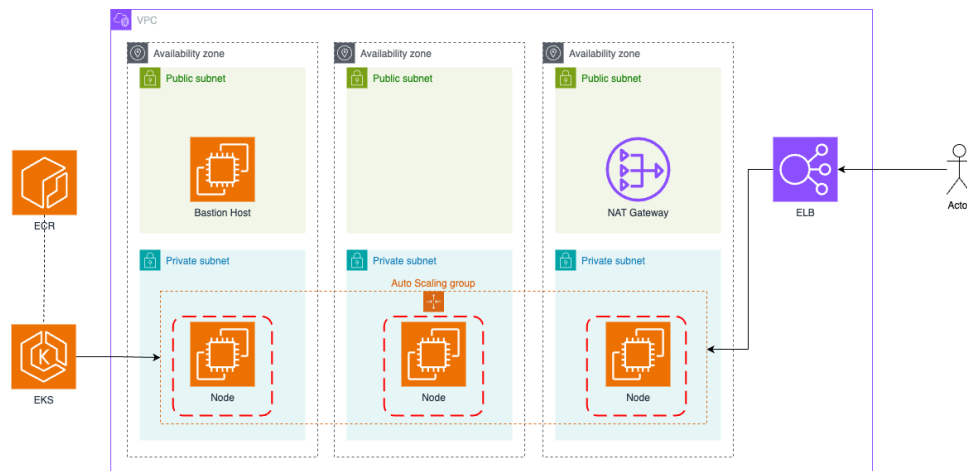
Your task encompasses provisioning the essential AWS services to successfully achieve this objective.

Requirements

- The entire infrastructure setup should exclusively rely on Terraform for provisioning purposes. This includes the creation of essential AWS resources such as the Virtual Private Cloud (VPC), the Kubernetes cluster (EKS), etc.
- When designing the infrastructure, deliberate attention should be given to network topology and security considerations. These elements play a crucial role in ensuring the robustness and integrity of the setup.
- Specifically, regarding the EKS cluster, it must be configured with a minimum of 3 nodes and should be capable of scaling out to accommodate up to 5 nodes. This scalability ensures adaptability to varying workload demands.
- Emphasize the implementation of comprehensive security measures across all facets of the infrastructure setup. This involves securing access, data, and communication channels, and adhering to AWS security best practices and standards.
- The modularity and maintainability must be considered within the Terraform codebase. This approach ensures that the code is organized into cohesive, reusable modules, simplifying management, updates, and future modifications to the infrastructure setup.

Target Architecture

The following diagram is the high-level architecture that you should use it as a guidance in your task.



Deliverables

- A GitHub repository containing organized and well-documented Terraform code.
 - The name of the public GitHub repository must not contain or refer to the company name (Cloud Softway) but only your name.
 - This document assignment text must not be added to the GitHub repository.
- Documentation outlining the setup instructions and explanations of the implemented components.