Practical Assignment

Deploying and Scaling a Kubernetes Application with Terraform

Task

Your company is launching a new product, and you are responsible for deploying and managing the infrastructure. You need to create a Kubernetes cluster to run the application, use Terraform to automate the creation of the necessary cloud resources, and deploy a database to store data generated by the application.

Requirements

- The application should be accessible via a publicly accessible domain.
- The application should use a database to store data generated by the application.
- The database should be scalable and able to handle a large number of concurrent users.
- The infrastructure should be secure and follow best practices.

Instructions

- Use Terraform to create the necessary cloud resources (e.g., VMs, load balancers, databases) to run the application and the database.
- Deploy the application to the Kubernetes cluster.
- Deploy the database to the infrastructure and configure it for high availability and scalability.
- Ensure that the application is accessible via a publicly accessible domain.

- Scale the application and the database to handle a large number of concurrent users.
- Secure the infrastructure and follow best practices.

Submission

Please submit your Terraform and Kubernetes configuration files, along with a README explaining your architecture choices and how you ensured the infrastructure is secure. Additionally, please include the scripts or commands used to deploy and configure the database.