

Test Task - DevOps

Instructions: Your task is to deploy a simple web application on a Kubernetes cluster using Terraform for infrastructure provisioning. Follow the steps outlined below:

Step 1: Infrastructure Setup with Terraform

- Write Terraform code to provision the necessary infrastructure on your chosen cloud provider or Kubernetes cluster. This infrastructure should include:
 - Kubernetes nodes.
 - Networking components such as Virtual Networks, Subnets, Security Groups, or Kubernetes services.
 - Any other required resources for hosting the application.

Step 2: Application Deployment on Kubernetes

- Containerize a simple web application (you can use a sample application or create your own, podinfo).
- Write Kubernetes manifests (YAML files) to deploy the containerized application onto the Kubernetes cluster provisioned in Step 1.
- Ensure the application is accessible externally, either through a LoadBalancer, NodePort, or Ingress resource.

Step 3: Documentation

- Provide clear documentation detailing the steps you followed to complete the task.
- Include explanations of the Terraform code, Kubernetes manifests, and any other relevant configurations.
- Provide possible improvements/trade offs that can be made
- Document any assumptions made during the process.

Submission:

- Share your Terraform code, Kubernetes manifests, and documentation as a compressed archive (e.g., .zip, .tar.gz) via email or a cloud storage link.
- Include any necessary instructions for running or testing the deployment.

Evaluation Criteria:

- Completeness and correctness of the Terraform code and Kubernetes manifests.
- Adherence to best practices in infrastructure as code (IaC) and Kubernetes deployment.
- Clarity and thoroughness of documentation.
- Efficiency and resource optimization in infrastructure provisioning.
- Robustness of the deployment (e.g., error handling, scalability considerations).
- Bonus points for implementing CI/CD pipelines or monitoring solutions.

Note: You have three days to complete the task from the time you receive these instructions. If you have any questions or need clarification, feel free to reach out via email. Good luck!