Ziauddin Saeed

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Education

Bahauddin Zakariya University Multan   BS Information Technology

Experience

➢ **AKODES IT SOLUTIONS(Internship)**   **Sep-dec (2024)**

Projects

Cloud Infrastructure (AWS CI/CD, Ansible, Terraform, Docker, EKS, Kubernetes, Jenkins)

➢ **Production Ready VPC**

- ❖ Designed a **secure, scalable VPC** on AWS with private subnets, bastion host, load balancing, auto-scaling, and NAT gateways.
- ❖ Ensured **high availability, fault tolerance, and security** for enterprise applications.
- ❖ Optimized infrastructure for **cost efficiency and scalability** using AWS services (VPC, EC2, ELB, CloudWatch).

➢ **CI/CD Pipeline for Java Application Using Jenkins, ArgoCD, and Minikube.**

- ❖ **CI Process (Jenkins):**
  - Automated code checkout, build, testing, and static code analysis (**SonarQube**).
  - Built and pushed **Docker images** to Docker Hub with unique tags.
  - Updated Kubernetes manifests in GitHub for **GitOps-based** deployments.
- ❖ **CD Process (ArgoCD**):
  - **Monitored** GitHub manifest repository for changes.
  - Automated deployments to a **Minikube** Kubernetes cluster.
  - Technologies: **Jenkins, ArgoCD, Docker, Kubernetes (Minikube), SonarQube, GitHub**.
- ❖ **Outcome**:
  - Achieved end-to-end automation, reducing deployment time and errors.
  - Improved scalability and reliability using Docker and Kubernetes.
  - Demonstrated expertise in CI/CD, GitOps, and DevOps tools.

➢ **CI/CD Pipeline Automation Project**

- ❖ Developed and implemented a fully automated CI/CD pipeline for a Flask-based web application using AWS services (**CodePipeline, CodeBuild, CodeDeploy**, **Systems Manager, EC2**), **Docker, and GitHub.**
- ❖ This pipeline streamlines the development, testing, and deployment process, improving efficiency and reducing manual effort.

Three Tier App with Docker Compose

- ❖ Deployed a Flask frontend, Flask backend, and PostgreSQL database using Docker Compose.
- ❖ Containerized services, automated DB setup, and enabled secure inter-service communication.
- ❖ **Tech**: Docker, Flask, PostgreSQL.

➢ **Terraform Automation Project**

- ❖ Designed and deployed a **secure, scalable web infrastructure** on AWS using Terraform.
- ❖ Created **VPC**, **public subnets**, **EC2 instances**, and an **S3 bucket** for backups.
- ❖ Configured an **Application Load Balancer (ALB)** for high availability.
- ❖ Automated provisioning with **IAM roles** and **user data scripts**, ensuring cost efficiency and security.

➢ **Infrastructure as Code (CloudFormation)**

- ❖ Automated provisioning of EC2 instances and S3 buckets using CloudFormation templates

➢ **AWS EKS CLUSTER PROJECT**

- ❖ **EKS Cluster Setup**: Created an **EKS cluster** using eksctl with **Fargate** for serverless container deployment.
- ❖ **OIDC Integration**: Integrated **OIDC** with **IAM** to enable secure identity management for the cluster.
- ❖ **Load Balancer Configuration**:
  - Created an **IAM role** and **policies** for the AWS Load Balancer Controller.
  - Deployed the **AWS Load Balancer Controller** using Helm for managing ALB resources.
- ❖ **Application Deployment**:
  - Deployed a sample **NGINX application** using deployment.yml and service.yml manifests.
  - Configured **Fargate profiles** to run the application in a serverless environment.
  - Exposed the application publicly using an **Application Load Balancer (ALB)**.

➢ **Configuration Management (Ansible)**

- ❖ Automated tasks including security hardening, firewall configuration, SSH enhancements, and file permissions management.

Skill & Certifications

Languages & Tools: Python Programming | Flutter Framework (app development) | Dart Programming | Terraform| Docker & Docker Compose | Kubernetes | AWS | Ansible | SQL | PostgreSQL | Flask | Django | Django Rest Framework | Git hub & Git (CI & CD) | Firebase | HTML, CSS & Bootstrap | Linux & shell scripting.

Certifications: Udemy Python 100 days Boot Camp | Flutter & Dart the complete guide.