Mohammed Uzair Mohiuddin

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Professional Summary

Skilled engineer with over 3.5 years of experience in designing, implementing, and maintaining cloud infrastructure solutions across various platforms. My aim is to design highly scalable and fault-tolerant systems for an esteemed organization, which would be rewarding in terms of learning experience and contribute to organizational and personal growth.

Experience

- **HashiCorp**
  Lead Support Engineer - Secure Backline *Aug. 2022 – Present*
  - Led high-impact customer escalations involving complex technical issues with Vault and Boundary, significantly improving customer retention.
  - Played a key role in the initial deployment of the Kubernetes Vault Secrets Operator for a significant customer, leading to organizational-wide adoption.
  - Collaborated closely with engineering teams to reproduce critical bugs before GA and contributed to the improvement of Vault's resilience at scale through supportability requests such as addressing lease explosions.
  - Developed an internal automation tool using Terraform to help junior engineers spin up reproduction environments quickly.
  - Set up monitoring for HashiCorp Boundary using Prometheus and Grafana, creating actionable dashboards that enhanced visibility into system performance.
  - Participated in the Bring Your Questions initiative, offering deep technical insights into HashiCorp Vault and Boundary to both internal teams and customers.
  - Partnered in authoring "Vault on Kubernetes Deployment Guide", provided multiple training sessions to increase team's efficiency to handle production-grade kubernetes issues.
- **WALTLabs.io**
  Cloud Engineer *Apr. 2022 – Aug. 2022*
  - Developed and maintained Kubernetes-based infrastructure on both on-prem and AWS environments, managing over 50+ nodes.
  - Developed a POC custom automation tool that monitors the health of nodes in a Kubernetes cluster, detecting issues such as high resource usage and node failures.
  - Automated infrastructure provisioning and configuration using Terraform, and Ansible reducing manual intervention by 70%.
  - Created Helm charts for Kubernetes to automate the deployment of microservices and ensure consistency across environments.
  - Tested disaster recovery (DR) plans with AWS Route 53 and Multi-AZ RDS, ensuring near-zero downtime in failover scenarios.
- **BETSOL**
  Associate Site Reliability Engineer *Jan. 2021 – Jan. 2022*
  - Automated the creation of AKS clusters using Terraform Templates.
  - Designed and implemented an Azure Web Application Gateway to perform path-based routing based on the content present in the HTTP request headers.
  - Setup Cloudflare DNS zones via Terraform and was actively involved in performing CURD operations for DNS A records, Page rules and SSL certificates.
  - Automated the creation of an Azure Compute Image with the help of Packer, Jenkins, and Nexus.
  - Created Ansible roles to call web services which configured the Virtual Machines on First Boot.
  - Designed and implemented the networking model of the project including partitioning the VNETs into component-based subnets, implementing VNET peering across regions to facilitate communication across the different entities of the solution.
  - Worked on Terraform Cloud in order to setup Infra on Azure such as VNETs, Subnets, VMSS, KeyVaults and Created a CI/CD Pipeline for the same via Jenkins.

- Observability as Code - DataDog Alerts creation using Terraform to monitor the health of AKS nodes, Container restarts etc.
- Was involved in making hot fixes, Provided support in the roll-out and deployment of new application features to facilitate iterative development.

Projects

- **Vault Integration in Kubernetes**
  HashiCorp Vault, Kubernetes, Terraform
  - Implemened HashiCorp Vault within Kubernetes for secure secrets management and automated secret injection into application pods at runtime.
  - Leveraged Vault's capability to generate dynamic secrets for databases (e.g., PostgreSQL) on-the-fly, reducing the risk of credential exposure and ensuring secure database connections.
  - Defined and managed various secret engines in Vault, including key/value stores and cloud-based secrets engines such as AWS and Azure.
  - Created policies and access controls to limit the exposure of secrets, ensuring that only authorized applications and users could access sensitive data.
- **Avaya Proactive Outreach Manager - Component of CCaaS**
  Packer, Jenkins, Ansible, Terraform, Azure
  - The goal of this project was to migrate an application which was hosted on-prem to Microsoft Azure.
  - Since the application was a monolith, The decision was made to use Packer create an Image via a Jenkins Pipeline which was then stored in the Azure Shared Image Gallery.
  - Once the image was created, Terraform was used to deploy the image as a VM onto Azure. The application also had an external Azure Postgres Server for storing the created Databases.
  - Post VM deployment, The configuration of the machine was handled by Ansible roles which were fed into a Linux Daemon to be run whenever the VM restarted or on its first boot. In a nut shell, the configuration of the VM included calls to the API's handling the product and also performed certificate exchange to establish trust with the clients.
- **Terraform Cloud Workspace Creation - Automation**
  Terraform Cloud, Shell Scripting, Jenkins
  - The goal of this project was to create Terraform Cloud Workspaces without any manual intervention.
  - Here, I wrote a bash script which established an API Driven workflow for Terraform Cloud, thereby creating workspaces and populating them with workspace-specific variables.
- **Azure Kubernetes Cluster Creation and Upgrades - Automation**
  Terraform Cloud, Azure AKS, Shell Scripting, Jenkins, Terratest
  - The goal of this project was to automate the process of creating and upgrading Azure Kubernetes Clusters.
  - Terraform Scripts were written by using native terraform resources provided on their official website. A wrapper shell script was added to call the Terraform scripts via Jenkins. Finally, Testing of the entire approach was performed via Terratest.
- **Migrating from a Relational Database to AWS DynamoDB**
  AWS DMS, AWS EC2, AWS DynamoDB
  - The goal of this project was to migrate a normalized relational database to an Amazon DynamoDB table in order to optimize on cost savings.
  - The various tasks involved were investigating the source database(relational), designing the data model and creating the DynamoDB table, creating the DMS task mapping rules and finally testing the access patterns.
- **AWS Site-to-Site VPN**
  AWS EC2, AWS VPC
  - Created an AWS Site-to-Site VPN connection using 2 AWS VPC's in different regions altogether.
  - The process of creating the VPN connection was carried out by installing and configuring a software-based customer VPN gateway running on an EC2 instance. Openswan was used as the VPN solution as it provides a complete IPsec implementation.
- **Monitoring Kubernetes Applications using Prometheus and Grafana**
  Kubernetes, Prometheus, Grafana
  - Installed and configured prometheus and grafana in a kubernetes cluster.
  - Setup basic grafana dashboards to chalk out application specific as well as cluster specific performance details.
  - Prometheus was used to collect raw data from the cluster whereas Grafana was used to display graphs, heatmaps etc.

Certifications

- AWS Certified Solutions Architect - Professional
- Google Cloud Certified Professional Cloud Architect
- HashiCorp Certified - Vault Operations Professional
- HashiCorp Certified - Consul Associate
- HashiCorp Certified - Vault Associate
- HashiCorp Certified - Terraform Associate
- CNCF Certified Kubernetes Security Specialist
- Microsoft Certified - Azure Administrator Associate
- AWS Certified Solutions Architect Associate
- CNCF Certified Kubernetes Administrator
- HackerRank-REST API(Intermediate Level)
- Coursera-Specialization Certification- Cloud Architecture with Google Cloud
- Scored **170/190** in *Cambridge Business English Certificate - Vantage Level*
- Database Management Systems and Cloud Computing certified by NPTEL

Technical Skills

- **Languages**: Go, Python, Bash, HCL
- **Cloud Services**: Amazon Web Services, Azure, Google Cloud Platform
- **Version Control**: Git
- **Container Technologies**: Kubernetes, Docker, Service Meshes(Consul, Istio)
- **Monitoring Tools**: Prometheus, Grafana
- **DevOps**: Linux, Jenkins, Ansible, Chef, Packer
- **HashiCorp Suite**: Vault, Boundary, Terraform and Consul
- **Others**: Public Key Infrastructure, OpenID Connect

Education

- **Vardhaman College Of Engineering** Hyderabad, India
  Bachelor of Technology in Information Technology; CGPA: 9.13 *Aug. 2016 – Sept. 2020*