**Praveen Reddy**

**DevOps/Cloud Engineer**

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A motivated individual with a keen interest in technology and business, eager to transition into the field of DevOps Cloud engineering. Possessing strong analytical skills and a proactive approach to problem-solving, I aim to leverage my educational background and enthusiasm to contribute effectively to projects. I am adaptable to new challenges and committed to learning and developing innovative solutions that deliver maximum business value.

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**Executive Summary**

* Familiar with Software Testing Life Cycle **(STLC)**, **Jira** project management, and **agile principles**, eager to learn and contribute effectively to software development projects.
* Proficient in **Blue-Green deployment** concepts, enabling efficient and risk-free software releases with zero downtime, while ensuring high availability and minimizing disruptions.
* Good Understanding of Financial Technology concepts like **Crypto Payment gateways, Buy Now Pay Later (BNPL) services**, and the broader **payment technology ecosystem**, **Credit card processing, Mobile banking ,PIX , UPI**.
* Good understanding of **OSI Model, TCP/IP** protocol suite (**IP, ARP, TCP, UDP, SMTP, FTP, and TFTP).**
* Familiar with **DMZ architecture**, creating a secure buffer zone between internal networks and the internet for enhanced cybersecurity.
* Familiar with modern DevOps practices and tools.
* Good Knowledge on Networking (**IP , Https, TLS, Subnets , VPC , NAT , Internet Gateway, Ports**)
* Proficient in developing **Continuous Integration / Continuous Delivery** pipelines.
* Good experience on build tool and packaging the source code using **Maven**.
* Integrated **GIT** as Version Control tool, **Jenkin**s as continuous integration tool and **SonarQube** and, **Nexus repository** and **Docker Hub** for Code Analysis and storing the **Docker images** and artifactories.
* Experienced on **Branching, Merging, and Tagging concepts** in Version Control tool like **GIT/GitHub**.
* Experienced in creating **IAM policies, Roles and user management** for delegated access within AWS.
* Experience in working on AWS and its services like **AWS IAM, VPC, EC2, EKS, EBS, ECS, ECR ,S3, ELB, Auto Scaling, Route 53, Cloud Front, Cloud Watch, Cloud Trail, and SNS.**
* Good Knowledge on **Containerization** and **Micro service Concepts.**
* Experience with container-based deployments using Docker, working with **Docker images, Docker Hub** and **Docker-registries** and **Kubernetes.**
* Installed, tested and deployed monitoring solutions with **Splunk** services
* Troubleshooting **event viewer logs/ application logs** for solving issues.
* Installing/Configuring , Provisioning & Maintaining Resources in **Local and Cloud** (AWS)
* Understanding of **REST APIs** and **SOAP** protocols for facilitating communication between systems and enabling integration of diverse software applications.
* Experience in designing **cloud security VPC, Network Security, VPC peering, MFA** and private disk encryptions.
* Working experience on operating systems like **Linux, Windows**.
* User and Group administration: Adding New Users, Deleting Existing users.
* Good Knowledge on **Linux** and **Bash Scripting**
* Knowledge on Site Reliability Engineer concepts SLO/SLI/On call/Error Budget
* Possess good Knowledge on **Terraform & Cloud Formation** for building infrastructure on AWS.
* Basic understanding of **Ansible** for automation tasks, with experience in developing simple **playbooks and roles.**
* Demonstrated Good Knowledge in creating and managing disaster recovery plans, including **EBS snapshots**, local data file mounting in Kubernetes clusters, and **S3 backups** for databases and EC2 instances.
* Ability to learn new skills quickly
* Excellent communicative, interpersonal, intuitive, analysis and leadership skills with ability to work efficiently in both independent and team work environments.

**Technical Summary**

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| **Cloud Platform** | AWS |
| **Configuration Management** | Ansible |
| **Languages/Scripting** | Python Basics , Linux Basics , Basic bash scripting, YAML, JSON |
| **Operating System** | Ubuntu, Centos, Amazon Linux, Windows, Alma Linux |
| **Web Servers** | Tomcat, Apache Web Server, Httpd |
| **Container Technology** | Docker , Kubernetes |
| **Monitoring Tools** | Splunk , cloud watch |
| **CI/CD** | Jenkins , GIT/GitHub, Nexus OSS Sonatype , SonarQube , AWS CI/CD Tools |
| **Automation** | Cloud Formation , Terraform |

**Certifications**

**AWS** - AWS *Cloud Practitioner* - **ID - AWS04146608**

**Education**

Masters in Information Technology Management – **(Sep/22 – May/2024)**

Masters in International Business Management - (Sep/19 -

**Capstone Project:**

**Topic: *Exploring Diverse Deployment Patterns in DevOps/Cloud (AWS) (WEBSTER - St. Louis, USA)***

*(March/2024 - May/2024)*

**Project Description**

The objective of the project is to investigate and optimize deployment workflows within the DevOps paradigm, specifically focusing on Amazon Web Services (AWS). Through hands-on exploration of modules covering various deployment strategies, including manual and automated deployment, migration to AWS Cloud, VPC setup, CI/CD pipelines, modernization with PaaS and SaaS solutions, and containerization with Kubernetes, this project aims to enhance practical understanding and proficiency in deploying applications in cloud environments, contributing to advancements in DevOps practices.

**Project Stack:** Vagrant ,Virtual box, Nginx, Tomcat, Rabbit MQ, Memcached, MySQL (Maria DB), Maven , JDK -11 , Linux VMs (Centos & Ubuntu), Docker ,Kubernetes, Terraform , Khops, SonarQube, Docker Hub, Jenkins , GitHub, Nexus Repository ,Virtual Machines , Ubuntu , Centos.

**AWS Stack:** AWS IAM, VPC, EC2, EKS, EBS, ECS, ECR ,S3, ELB, ASG, Route 53, Cloud Front, Cloud Watch, Cloud Trail, SNS, RDS (MySQL), Route Tables, Code Commit, AWS Deploy, AWS Pipeline ,Code Build , ACM, ,Elastic Beanstalk, Elastic Cache , Security Groups , Key Pairs, NAT Gateway , Bastion Host, AWS Cli, AMI, AMI Templates.

**Responsibilities**

* Created a local environment **(VMs with Ubuntu & CentOS**) using **Vagrant and Virtual Box** for a multi-tier Java Web app and successfully deployed a web application on **Tomcat Server.**
* **Migrated** the local environment to the **cloud (specifically Amazon Web Services**) using the **Lift and Shift strategy**.
* Re-architected the Web App using **AWS Services** for improved infrastructure management. Leveraged **AWS Elastic Beanstalk (a Platform as a Service or PaaS offering)** to simplify deployment, scaling, and monitoring of the web application.
* Set up **a Kubernetes (K8) cluster** and deployed the **containerized web application**. Ensured high availability by isolating services within the cluster.
* Implemented a **proxy server (Nginx)** to handle incoming requests and efficiently **upstream** them to the web server. This enhances security and load balancing.
* Created Jobs in Jenkins, and set up global permission and scheduled jobs.
* Mapping the ports **(VM - Container ).**
* Created S3 and Stored **K8s Cluster State** in **S3 Bucket.**
* creating customized **multistage builds** for reducing image size.
* Written basic **Playbooks** for provisioning the Linux Servers.
* Created **namespaces, configmaps, secrets, service, and ingress,** in **kubernetes.**
* Created AWS CI/CD Pipeline Using AWS CI/CD Tools
* Created a **VPC** and Hosted a Webpage on Private Subnet using **Bastion Host** and Allowing traffic using **NAT, Route Tables and Internet gateway**
* Creating EBS Volumes and snapshots and attaching to the EC2 instances
* Create ACM Certificates and Updated it with go daddy
* **Route 53** -Created Hosted zone and updated the ns records in the Go Daddy for DNS Resolving.
* Created and Successfully Associated Public Subnets to **Route Table** along with Internet Gateway to access Internet
* Successfully transitioned **EC2 logs to Cloud Watch** using the Cloud Watch Logs
* Identify, troubleshoot and resolve issues related to **build** and deploy process.
* Created a **CI/CD** process and integrated **GitHub**, **Nexus, SonarQube**, **Maven** artifacts build, Docker hub with **Jenkins** for Building and Delivering the Docker Images and Build Artifacts.
* Automated Build artifacts (WAR’s) and deployed into a Tomcat using Shell Scripts.
* Created and Configured Self signed Secure **Sockets Layers (SSL)** for data encryption.
* Used **MySQL Client (Maria dB)** for Initializing the DB in **RDS**

**Capstone Project Modules:**

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| **Module 1** : "Build & Deploying (Manual & Automated) a Multi-Tier Java Web Application Locally using Vagrant and Virtual Box"  **Module Description:** "Build & Deploying a Multi-Tier Java Web App Locally with Vagrant and Virtual Box": Gain hands-on experience in deploying a Java web app locally using Vagrant and Virtual Box, exploring manual and automated deployment processes.  **Module Stack:** Vagrant, Virtual Box, Nginx, Tomcat, RabbitMQ, Memcached, MySQL (Maria DB), Maven, JDK -11, Linux VMs (Centos & Ubuntu) |
| **Module 2** : "Migrating a Java Web Application to AWS Cloud Using Lift and Shift Strategy"  **Module Description:** "Migrating a Java Web App to AWS Cloud Using Lift and Shift": Learn to migrate a Java web app to AWS Cloud efficiently using the lift and shift strategy, leveraging various AWS services for scalability and cost-effectiveness.  **Module Stack:** EC2, ELB, ASG, S3, Route 53, IAM, ACM, EBS, Nginx, Tomcat, RabbitMQ, Memcached, MySQL, Maven, JDK -11, Linux VMs (Centos & Ubuntu) |
| **Module 3 :** "VPC Setup and Secure Website Deployment with EC2 Bastion Host in AWS VPC"  **Module Description:** "VPC Setup and Secure Website Deployment with EC2 Bastion Host": Understand best practices for setting up a secure Virtual Private Cloud (VPC) on AWS and deploying a website using a bastion host and EC2 instances  **Module Stack:** EC2, VPC, Bastion Host, NAT Gateway, Route Tables, Security Groups, Nginx, Tomcat, MySQL, JDK -11, Linux VMs (Centos & Ubuntu) |
| **Module 4** : "**AWS CI/CD Pipeline for Beanstalk Deployment"**  **Module Description:** "AWS CI/CD Pipeline for Beanstalk Deployment": Configure a comprehensive CI/CD pipeline on AWS for deploying artifacts to Elastic Beanstalk, streamlining software deployment processes.  **Module Stack:** Code Commit, Code Build, AWS Deploy, AWS Pipeline, Elastic Beanstalk, S3, RDS |
| **Module 5 : "**Modernizing Web Application Architecture with PaaS and SaaS on AWS"  **Module Description:** "Modernizing Web App Architecture with PaaS and SaaS on AWS": Explore modernization of web app architecture with Platform as a Service (PaaS) and Software as a Service (SaaS) solutions on AWS, focusing on managed services and innovation.  **Module Stack:** RDS, Elastic Cache, Amazon MQ, Elastic Beanstalk, Cloud Front, |
| **Module 6** : "Enhancing Scalability and Portability through Containerization and Kubernetes Deployment"  **Module Description:** "Enhancing Scalability and Portability through Containerization and Kubernetes Deployment": Containerize and deploy a web app on Kubernetes (K8s) to enhance scalability and portability, enabling agility and cost-efficiency in software delivery.  **Module Stack:** EC2, Docker, Kubernetes, S3, Docker Hub, EBS, Kubernetes Definition File, Nginx, Tomcat, Memcached, RabbitMQ |