Pradeep Kumar

Senior Aws DevOps Engineer

H1 B

# Senior Cloud & DevOps professional with 8+ years of IT Experience as Cloud/DevOps Engineer comprising of Linux Administration with major focus on AWS, Continuous Integration, Continuous Deployment, Configuration Management, with expertise in Private, Public and Hybrid Cloud platforms along with using various tools.

**Education**

# Central Michigan University Aug 2021 - Dec 2022

Master of Science in Information Systems CGPA: 3.67/4.00

**Skills**

**Version Control Systems:** GitHub, Bitbucket

**Configuration Management:** Chef, Ansible, Kafka, Zookeeper

**Containerization:** Docker, Kubernetes

**Modules and Libraries**: NumPy, Pandas, Seaborn, SciPy, Matplotlib, Selenium

**Database Technologies:** MySQL, Oracle, SQL Server, PostgreSQL, MongoDB

**CI/CD and Build Tools:** Ant, Maven, Jenkins (CI), Vault, SonarQube

**Cloud Computing Platforms:** Amazon Web Services (AWS), Microsoft Azure

**Infrastructure as code (IAC):** Terraform, AWS CloudFormation

**Monitoring Tools:** ELK, Prometheus, Cloud Watch, Splunk, Grafana, Azure Monitor, Dynatrace, Datadog

**Certifications:** Python course (Google), AWS Certified Solutions Architect (AWS), Associate, Certified Kubernetes Administrator

**Core Skills:** Exceptional analytical and problem-solving capabilities complemented by keen attention to detail. Demonstrates robust communication and collaboration skills, coupled with an innate curiosity and eagerness to embrace new technologies.

**Work Experience**

# Senior Cloud & DevOps Engineer, Kaiser Permanente, Tracy, CA Apr 2022 - Present

* Collaborating in the development of requirements, user stories, use cases, and test cases.
* Implementing automation and processes to enable efficient deployment, management, configuration, scaling, and monitoring of applications in data centers.
* Creating automation scripts using Python, Shell, to streamline operations.
* Utilizing GitHub for version control, including branching, tagging, and maintenance across Linux and Windows platforms.
* Deploying applications using Jenkins server, troubleshooted build and release failures, and collaborated with engineers for resolution.
* Automating Jenkins pipelines using Groovy scripts and integrating SonarQube for code quality inspection in the CI process.
* For the entire State of Maryland applications, implementing Launch Darkly feature toggling tool, which enables teams to modify system behavior without changing the code.
* Utilizing Maven as a build tool to containerize Docker images with source code.
* Configuring and managing Nexus as a repository manager for Docker images.
* Implementing infrastructure automation using Ansible for auto provisioning, code deployments, software installations, and configuration updates.
* Hands on experience on using Terraform along with packer to create custom machine images and automation tools like Ansible to install software's after the infrastructure is provisioned.
* Worked with Terraform for automating VPCs, ELBs, security groups, SQS queues, and continuing to replace the rest of our infrastructure.
* Performed the automation deployments using AWS by creating the IAMs and used the code pipeline plugin to integrate Jenkins with AWS

And created the EC2 instances to provide the VMs.

* Written Templates for AWS infrastructure as a code using terraform to build staging and production environments and defined Terraform modules such as Compute, Network, Operations, and Users to reuse in different environments.
* Developing CloudFormation templates to automate the creation of infrastructure in AWS.
* Install and manage security reporting tools to monitor any Active directory changes. Plan and manage all the migrations and upgrades related to Active Directory and Domain controllers.
* Delivering support 24 hours a day, 7 days a week, including low-level and systemic debugging of both distributing and standalone systems.
* Managing Kubernetes manifest files and releases of Helm packages, ensuring reproducible builds of Kubernetes applications.
* Creating Kafka clusters in AWS, leveraging Kafka brokers and Zookeepers to process messages generated by the user interface.
* Monitoring and tracking Splunk performance problems, administrations, and open tickets with Splunk.
* Implemented and managed APM solutions such as New Relic, AppDynamics, or Dynatrace to monitor and analyze the performance of critical applications.
* Conducted thorough performance profiling, identifying and addressing bottlenecks to ensure optimal application responsiveness.
* Migrate Data from Elasticsearch- 1.4.3 Cluster to Elasticsearch-5.6.4 using Logstash, Kafka for all environments.
* Deploying and configuring the ELK (Elasticsearch, Logstash, Kibana) stack for log analytics.

# DevOps Engineer /SRE, Sinch, Bangalore, India Feb 2016 - May 2021

* Experience in Azure DevOps for end-to-end CI/CD pipeline orchestration, infrastructure as code (IaC), and application lifecycle management.
* Proficient in Azure Kubernetes Service (AKS) for containerized applications, demonstrating expertise in deploying, scaling, and managing containerized workloads.
* Skilled in Azure Active Directory (Azure AD) for identity and access management, ensuring secure and compliant access to resources.
* Experience in Azure App Service for hosting and scaling web applications, and proficient in configuring Azure Application Gateway and Azure VPN Gateway for seamless and secure connectivity.
* Experienced in implementing Web Application Firewall (WAF) solutions for enhanced security.
* Worked in optimizing application delivery through Azure Front Door for global load balancing, secure acceleration, and high availability.
* Architected and deployed fault-tolerant, highly available, cost-effective, and secure servers in AWS.
* Designed AWS CloudFormation templates for automated provisioning of AWS resources, ensuring successful deployment of web applications and database templates.
* Transitioned from CloudFormation to Terraform for multi-cloud provider support.
* Implemented deployment strategies like Blue-Green Deployment and Rolling Deployment.
* Utilized GitHub for version control, implementing branching and merging strategies.
* Implemented pipelines for automating application deployment on Kubernetes using Jenkins.
* Configured upstream and downstream jobs in Jenkins for building and deployment in different environments.
* Managed and administered PostgreSQL databases, ensuring high availability, performance, and data integrity.
* Used Maven as a build tool for Java projects, generating build artifacts from source code.
* Integrated SonarQube with Jenkins for continuous code quality inspection using SonarQube scanner for Maven.
* Configured and managed JFrog Artifactory and Nexus as repository managers.
* Created Docker images using Docker file, managed Docker containers, and maintained the image repository for development teams.
* Create pipelines for measuring data from distributed infrastructure systems.
* Using Jenkins pipelines to build and deploy microservices to Docker registry and Kubernetes, creating and managing Pods.
* Creating and installing instrumentation for tracking the health and accessibility of services, as well as fault identification, alerting, triage, and recovery (manual and automated), benchmarking, monitoring, and ensuring performance.
* Facilitating RCA for production-related incidents, defects, and corrective action plans as an SRE.
* Deploying and managing container replicas in EKS clusters, including the deployment of Nginx ingress controller for traffic routing.
* Implemented microservices on Kubernetes clusters, writing Kubernetes manifests for deployments and services. Deployed Calico project for pod networking in Kubernetes clusters.
* Integrated machine learning algorithms into monitoring and observability tools for advanced anomaly detection, providing early warnings for potential issues in the infrastructure.
* Implemented ML models within AIOps frameworks to automate and optimize incident response, reducing mean time to resolution (MTTR).
* Developed custom Ansible playbooks for deployment orchestration and server administration tasks.
* Wrote Shell and Python scripts for automating build and deployment processes.

# Linux Administrator Intern - ACL Mobile , Indore, India May 2014 - Dec 2015

* Worked on the installation, configuration, and maintenance of Red Hat 5.x, 6.x Servers, SUSE and

CentOS at various Data Centers.

* Responsible for installation and upgrade of patches and packages on RHEL 5/6 using RPM &amp; YUM.
* Production experience in large environments using configuration management tools Chef, Ansible,and Puppet supporting Chef Environment and involved in developing manifests.
* Proficient in the setup of Chef Servers, workstations for configuration management.
* Built, configured, and administered Jenkins Continuous Integration tool on Linux machines along with adding/updating plugins such as SVN, GIT, Maven, ANT, and Puppet. Installed, configured, and supported Puppet to create and enforce standardization across environments.
* Worked on Management of Puppet automation tool including installation of Puppet agent on client.
* Worked on Puppet extensively for deployment for servers, creating on custom scripts and managing changes through Puppet master server on its clients.
* Configured Puppet Server for monitoring and installing Puppet Agents in multiple Perform automated user management, installation and configuration of numerous services and backup-using Puppet.
* Performed Shell and Perl scripting for automotive tasks in Linux.
* Configured Puppet Server for monitoring and installing Puppet Agents in multiple Perform automated user management, installation and configuration of various services and backup-using Puppet.
* Performed Kickstart installations as well as Linux Kernel, memory upgrade and swaps area.
* Designed Puppet Modules to manage configurations and automate installation process.
* Set up Network Protocols, Network File service (NFS) and Network Information Services (NIS) inRed Hat Linux.
* Administer and Configure VERITAS Volume Manager/VERITAS File System.
* Performed installation and management of data backup and recovery solutions.
* Installed, configured, and maintained DNS, FTP, TCP/IP, on Red Hat Linux.
* Installed, configured, and maintained web servers like HTTP Web Server, Apache Web Server, Web
* Sphere Application Server, and Samba Server on Red Hat Linux.

**Academic Projects**

# Database Design of the Amazon Project

* Processed Designed and maintained normalized relational databases, enhancing data integrity, and reducing redundancy.
* Implemented constraints, primary keys, and foreign keys to ensure data accuracy and consistency.
* Developed efficient stored procedures and functions for data manipulation and automation.
* Designed and executed scripts for database schema creation, modification, and data insertion.
* Utilized SQL for data analysis, generating actionable insights, and producing reports..

# Travel Reservation Withdrawal Forecasting

* Processed a dataset of over 80000 entries and 33 attributes utilizing Pandas and NumPy for data refinement.
* Uncovered historical booking trends to forecast the likelihood of reservation cancellations.
* Constructed prediction models incorporating Logistic Regression, XGBoost, and SVM, achieving a remarkable 92% accuracy in anticipating reservation cancellations.