# Pradeep M

# DevOps Engineer

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# SUMMARY

* Certified Kubernetes ,AWS, GCP, and Terraform with 7+ years of professional experience in full software development life cycle implementation, including Business interaction, Requirement Analysis, Design, Development, Testing and Documentation phases to improve system reliability and reducing Downtime.
* Experience in Configuring and Integrating the Servers with different environments to automatically provisioning and creating new machines using Configuration management/provisioning tools like Ansible.
* Excellent experience architecting and designing search applications with Solr and Zookeeper Setting up the Solr cluster, Elasticsearch cluster and writing applications to index data in Solr/ES design and develop APIs for querying against Solr/ES index, search optimization, relevancy tuning.
* Experienced in implementing different search features – Faceting, Highlighting, fielded search, relevancy and performance tuning, pagination, Machine learning module, index and query analysis & debugging.
* Hands on experience on working with Emerging technologies like Amazon web services(AWS), Google Cloud Platform(GCP), Docker and Kubernetes, EKS.
* Designed and developed RESTful APIs using Python flask framework. The APIs support JSON format for the responses and successfully integrated with third party platforms.
* Built and deployed various Ansible playbooks and modules in the Production and pre-prod Environment.
* Worked extensively on automation engine Ansible that automates cloud provisioning, configuration management, application deployment and intra-service orchestration.
* Handled installation, administration and configuration of ELK stack (Elastic Search, Logstash, Kibana) on AWS and on-premises & performed Log Analysis.
* Ability to work independently and in a team, take initiative, and communicate effectively.
* Exceptional problem solving and sound decision-making capabilities, recognized by associates for quality of data, alternative solutions, and confident, accurate, decision making.
* Strong experience in System Administration, Installation, Upgrading Patches, Configuration, Troubleshooting, Security, Backup, Disaster Recovery, Performance Monitoring and Fine-tuning on Red Hat Linux Systems.
* Capable of handling multiple tasks and work effectively both in group and as an individual to meet deadlines.
* Research and develop automation method to support the platform provisioning, maintenance and operations of large-scale products and services.

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# KEY SKILLS & EXPERIENCE

* **Languages**: Python, Shell, JavaScript
* **Configuration Management:** Ansible, Terraform
* **Monitoring/Alerting tools:** Splunk, ELK Stack, Prometheus, Grafana, OpsCenter.
* **Containers & virtualization:** Docker
* **Orchestration:** Kubernetes, Amazon EKS
* **Databases:** Cassandra
* **Search Server:** Elasticsearch, Solr, OpenSearch

**CERTIFICATIONS:**

* Certified Kubernetes Administrator (**CKA**)
* GCP Associate Cloud Engineer ( **GCP-ACE**)
* AWS Certified Cloud Practitioner ( **CLF-C01**)
* Certified Terraform Associate (**002**)

**EDUCATION**

* **Master of Science Energy Management New York Institute of Technology**, New York

Work Experience



**DevOps/SRE Engineer**

**Apple** – Austin, TX

Jun 2022 to Present

**Responsibilities:**

* Design and Develop **RESTful** web services using Python flask framework that will allow a presentation layer to submit query requests to Elastic Search.
* Configuring, Automating and Deploying Ansible for configuration management to existing Infrastructure.
* Experience in Kubernetes to deploy scale, load balance and manage Docker containers with multiple name spaced versions and good understanding and managing Docker Containers and Kubernetes Clusters.
* Designed and implemented a search solution to extract, transform and index the source data into ES & Solr.
* Designed AWS lambda functions to monitor and alert system resources to identify issues proactively with faster resolution times.
* Experienced in cloud technologies like GCP & AWS. EC2/Compute Instances to build Fault-Tolerant and High availability.
* Setting up and maintenance of On-premise Solr clusters with sharding, replication & schema design.
* Used Kubernetes to orchestrate the deployment, scaling and management of Docker Containers.
* Created shell & Python scripts to monitor the applications health and install database solutions.
* Good knowledge and experience in using Elasticsearch, Kibana, CloudWatch, Metric beat, Splunk, Prometheus and Grafana for logging and monitoring.
* Worked on SOLR performance improvement aspects. Analyzed the cause of SOLR performance-related issues, worked iteratively tuning SOLR performance by modifying SOLR configuration, cache settings, reducing response size. Finally achieving faster search response times even for peak loads.
* Worked closely with different stakeholders to make sure that the required functionality provided by Lucene is achieved in Solr and define future releases.
* Collaborated on developing AWS CloudFormation templates, improving infrastructure provisioning at speed.
* Supported a wide variety of queries: simple, fields, proximity, scope, wildcards, MLT, Booleans etc.
* Integrated SonarQube with Jenkins for continuous inspection of code quality and analysis.
* Worked with the system admins in setting up the server architecture in all kinds of Environments.
* Managed and deployed 2,000+ hosts with Ansible infrastructure( AWS, GCP, Apple Cloud & On-premises).
* Actively manage, enhance, and monitor cloud infra on GCP, AWS & On-prem including backups, patches, and scaling.
* Utilized Cloud Watch to monitor resources such as EC2, CPU memory, EBS volumes; to set alarms for notification or automated actions; and to monitor logs for a better understanding and operation of the system.
* Setup Elasticsearch and indexed log data, configured dashboards using Kibana and setup watchers alerts on timely basis.
* Collaborate with various other teams in the project (web application development, content management system, program management and testing teams) in successfully implementing the application integration and played a key role in coordinating and establishing a great working relationship between the search team and other teams.
* Consumed and produced REST and SOAP webservices within various applications.
* Blue-green deployment strategy used to reduce downtime and prioritize high availability and low-risk deployments for mission-critical applications.
* Enforced database compliance to restrict access controls by enabling MTLS, SSL and Basic AUTH to ensure that applications are secure and accessible.
* Responsible for managing all aspects of the Vulnerability Risk Management Program including vulnerability identification, analysis, remediation coordination and reporting.
* Good understanding of network and web related protocols (e.g., TCP/IP, UDP, HTTP, HTTPS, FTP, SMTP, DNS).
* Identify underlying root causes for reoccurring problems, and pro-actively suggest improvements and simplifications that could improve the overall service of the team and reduce service outages.
* Monitored CPU, memory, physical disk, hardware and software raid, multipath, file systems, network.
* Monitored Linux servers round the clock and identified, troubleshooting the system issues and finding the optimal solution to resolve future occurrences.
* Good knowledge of managing and integrating code Quality tools like SonarQube, managing sonar rules, and Quality gates.
* Ability to work independently and in a team, take initiative, and communicate effectively.

**Environment:** Python, Solr, Elasticsearch, Kibana, JSON, Agile, AWS S3, EC2, JMeter, JavaScript, GCP, Couchbase, DevOps Automation, Docker, Kubernetes, GIT, Ansible, Splunk, Metric beat, Prometheus, Grafana, Jenkins, SonarQube.

**Sr. SRE Engineer**

**Apple** – Sunnyvale, CA

Feb 2018 to Jun 2022

**Responsibilities:**

* Design and implemented a continuous build-test-deployment(CI/CD) system with multiple component pipelines using Jenkins to support weekly releases and out-of-cycle releases based on business needs.
* Experience in developing Docker file to containerized applications to deploy on managed Kubernetes service EKS.
* Experience in monitoring System/Application Logs of servers using Splunk & Kibana to detect Prod issues.
* Used Kubernetes to orchestrate the deployment, scaling and management of Docker Containers.
* Involved in performance tuning, search optimization, relevancy tuning and monitoring of the health of the cluster.
* Used JMeter, YCSB & Solr Meter for performance & Load testing.
* Performed Solr Upgrades from 4.x to 9.x versions in incremental manner to support Lucene segments.
* Building distributed systems and running scalable applications in the production environment.
* Ability to debug complex systems and monitor the expiry date for our TLS/SSL certificates.
* Improved application logging structure for log4j.xml and log printing format to be easily picked by Splunk.
* Maintained Multi-Datacenter Cassandra cluster. Build Cassandra DSE cluster on both the On Prem and on AWS.
* Developed Dev/Test/Prod environments of different applications on AWS by provisioning Kubernetes clusters on EC2.
* Customized Apache SOLR for complex search requirements.
* Created a dashboard in Grafana to monitor cluster resource usage and performance metrics to troubleshoot problems with in the infrastructure.
* Wrote custom search component to perform custom inline highlighting.
* Responsible for managing all aspects of the Vulnerability Risk Management Program including vulnerability identification, analysis, remediation coordination and reporting.
* Amazon Cloud, that involved working with ELB, internal load balancers using httpd etc.
* Designed and developed the front-end UI using AngularJS and Bootstrap.
* Good knowledge on managing and integrating code Quality tools like SonarQube, manage sonar rules, Quality gates.
* Introduced state-of-the-art monitoring tools for real-time system health checks, enhancing the team’s ability to preemptively address issues upfront.
* Promoted Continuous Integration, Continuous Delivery culture collaborating with Development, DBA, QA, Support and Business Operations.
* Capable of handling multiple tasks and work effectively both in group and as an individual to meet deadlines.
* Built and deployed various Ansible playbooks and modules in the Production and pre-prod Environment.
* Assisted at all levels of the engineering process, including analysis, development, documentation, integration and testing.

**Environment:** Kubernetes, Python, Bash Scripting, Linux, Apache Solr, Elasticsearch, Kibana, AngularJS, Bootstrap, HTML, JSON, Agile, AWS S3, EC2, GCP, DevOps Automation, Docker, SVN, Ansible, Splunk, Metric beat, Prometheus, Grafana, Jenkins, SonarQube.

**System Engineer**

BCG – Piscataway, NJ

Sep 2017 to Feb 2018

**Responsibilities:**

* Worked with DevOps and project management team to build and release software package in timely manner by the end of sprint.
* Participate in the design, implementation and maintenance of infrastructure services
* Write custom monitoring and integrated monitoring methods into deployment processes to develop self-healing solutions.
* Experience in Nexus and Artifactory – repository managers for managing artifacts.
* Maintained the Shell and Python scripts for the automation purposes.
* Responsible for day to day Build and Deployments in pre-production and production environments.
* Deployed code to different environments like Dev, QA and production.
* Experience in building Continuous Integration platform using Jenkins.
* Implemented Shell scripts for release and build automation. Manipulated and automated scripts to suit requirement.
* Worked in cross-platform environments like Linux, UNIX and Windows.
* Engaging in quality control procedures to ensure that systems are efficient and operational.
* Analysis of Existing application and identifying improvements.
* Developed automation framework for application deployment to the remote servers also using custom scripts to monitor repositories, server storages.
* Connected continuous integration system with GIT version control repository and continually build as the check-ins come from the developer.

**Environment:** Linux, Unix, Ansible, Jenkins, ANT, Maven, Shell Scripting, GIT, JIRA.

**System Administrator**

Choice Software Limited – Hyderabad, India

May 2014 to Jan 2015

**Responsibilities:**

* Involved in design, configuration, installation, implementation, management, maintain and support for the Corporate Linux servers like Red Hat Enterprise Linux (RHEL).
* Worked on FTP servers for sending and receiving files between local and remote servers. Administer NFS on Red Hat Linux servers. Involved with the SSL certificate missing issues and installed certificates from backups.
* Perform Linux Performance tuning for web, database and application servers.
* Writing shell scripts for Automated Back- ups and Cron Jobs using sh and bash.
* Responsible for OS installs, system configuration and upgrades. Weekly & periodically changes implementation and quarterly power down maintenance (Patching, Upgrading, Reboot development servers on request of client).
* Automated system management tasks like user account creation, file system size monitoring, monitor system resources and system maintenance using Shell scripts.
* Performed security, users, group's administration and daily backup and restore operations, networking service, performance, and resource monitoring.
* Worked with DBA team for database performance issues, network related issues on Linux Servers.

**Environment:** Red Hat Enterprise Linux (RHEL), shell scripting