

# Karthik Nalapatla

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## Professional Summary:

- Experienced IT professional with 10 years of experience as a DevOps Engineer, Site Reliability Engineer and Build and Release.
- Experienced in software development life cycle (SDLC) with Waterfall, Agile in the successful delivery of several high-quality projects.
- Provisioning EC2 instances and expert knowledge on resource areas like EC2 like Instances, Dedicated hosts, volumes, Keypairs, Elastic IPs, Snapshots, Load Balancers, and Security Groups.
- Managed Amazon Web Services like EC2, ECS, EKS, S3, RDS, EBS, ELB, Auto-Scaling, AMI, IAM, Route53, SNS, SQS, and Amazon Cloud Watch through AWS Console and Terraform.
- Hands-on-experience with monitoring tools like CloudWatch, Grafana, AppDynamics, Splunk, Kibana, Dynatrace, DataDog.
- Experience with configuring the monitoring tools like DataDog and installing Dynatrace OneAgent and Fluent bit.
- Experienced in branching, tagging, and maintaining the version across the environments using GIT.
- Experience with HAProxy cookie-based sticky session logic to enable safe application migration, ensuring zero session loss and seamless user experience during the transition.
- Experience in Moniting and tuned HAProxy performance with Splunk, DataDog and Dynatrace, achieving real-time insights and proactive service adjustments.
- Automated HAProxy deployments in CI/CD pipelines, reducing deployment times and human errors through scripting and tool integration.
- Experienced in database environments like MySQL, Oracle, and NoSQL databases like DynamoDB, Aurora DB and Cassandra DB.
- Extensively worked on Administered and Implemented CI tools Jenkins and Bamboo for continuous integration and for End-to-End automation for all build and deployments and used cucumber for testing the application.
- Experience in creating and managing the EKS cluster using HELM Chart
- Experience in managing the Kubernetes on EKS for scalability, availability and zero downtime.

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## Professional Certifications:

- AWS Certified Solution Architect – Associate
- HashiCorp Certified Terraform – Associate

## Technical Skills:

SOFTWARE DELIVERY MODELS	Waterfall Model, Agile Methodologies (SCRUM)
OPERATING SYSTEMS	Windows server 2008/12, Linux (Ubuntu, RHEL, Amazon), Unix
CLOUD/VIRTUALIZATION	Amazon Web Services (AWS), AZURE, VMware, Docker
CONTAINER ORCHESTRATION	Kubernetes, EKS
DATABASES	Oracle, Aurora DB, Mongo DB, Cassandra DB
CI and CD TOOLS	Jenkins, Maven, Hudson
VERSION CONTROLS	Subversion (SVN), CVS, Git and GitHub
SCRIPTING LANGUAGES	Python, Bash/Shell, YAML
CONFIGURATION MANAGEMENT	Ansible
PROVISIONING TOOL	Terraform
MONITORING TOOLS	Grafana, Splunk, DataDog, Dynatrace and AppDynamics
Web/Application Servers	Tomcat, WebLogic, JBoss and Nginx

## Professional Experience:

**Organization:** Chewy Inc, Minneapolis, Minnesota

**Role:** Senior Site Reliability Engineer

**December 2021 – Present**

## Responsibilities:

- Developed and maintained automation scripts and tools using Jenkins and Terraform, resulting in a 70% reduction in manual effort.
- Conducted detailed analysis of Chewy's cloud spend using Datadog, identifying and eliminating underutilized resources that led to a 25% reduction in monthly AWS costs.
- Implemented Dynatrace as a monitoring solution and configured it with 100+ applications as a sidecar container for the services running on ECS using Terraform.
- Migrated alerts from Splunk to Dynatrace and discontinued logging to Splunk for cost optimization.

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- Implemented zero-touch deployment for the HAProxy service running on EC2 using GitHub Actions.
- Lead delivery of application development for new projects / program to be aligned with strategic direction, collaborating with implementation teams.
- Lead teams with core agile values of focus, commitment, openness into the teams ground rules.
- Managing activities for the IT application developments, testing, implementation, support and maintenance of assigned projects.
- Managing team and proving weekly and monthly status updates and performance reviews.
- Facilitating agile ceremonies including planning, interaction review, retrospective and daily standups.
- Worked with terraform to create infrastructure in AWS with services like ECS, S3, VPC, ELB, EC2, ASG.
- Experience in Infrastructure Development and Operations, involved in designing and deploying utilizing almost all the AWS stack like EC2, EBS, S3, VPC, RDS, SES, ELB, Autoscaling, CloudFront, Lambda, CloudWatch, SNS, Route 53.
- Used AWS CLI command line client and management console to interact with AWS resources and APIs.
- Responsible for User Management, Plugin Management and end-end automation of Build and deploy using Jenkins using Groovy.
- Designed and implemented a highly available and scalable architecture for a critical web application using AWS and Terraform.
- Designed and implemented a containerized infrastructure using ECS and Haproxy to improve scalability and reduce costs.
- Implemented a CI/CD pipeline using Jenkins to automate the deployment process and increase the frequency of deployments.
- Enhanced security and compliance by configuring Akamai's Edge Security features, significantly reducing the risk of web attacks and data breaches.
- Developed and implemented Datadog monitoring dashboards, improving visibility across Chewy's cloud infrastructure and enabling proactive resource optimization.
- Utilized Dynatrace to automate Chewy's application performance baselines, allowing for real-time anomaly detection and immediate performance improvements.

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- Optimized the performance of the web application by identifying and resolving bottlenecks in the infrastructure and code.
- Implemented and maintained the monitoring and altering of production servers using AWS cloud watch and Data Dog.
- Conducted incident management and root cause analysis, resulting in a 40% reduction in incident frequency.
- Worked on creation of Ansible manifest files to install tomcat instances and to manage configuration files for multiple applications.
- Experience with integrating Apache Airflow with AWS to monitor multistage ML workflows with task running on Amazon sagemaker.
- Participated in on-call rotation, ensuring the availability and reliability of critical systems outside of business hours.

**Environment:** Linux (RHEL 6.x/7), AWS, OpenShift, Ansible, Jenkins, Terraform, GitHub Actions, ECS, Haproxy, Akamai, Tomcat (8.x, 9.x), MongoDB, Shell Scripting, Python, Java, Git, Maven, Splunk, Kibana, CloudWatch, Apache Airflow, Data Dog, Dynatrace.

**Organization:** BestBuy, Minneapolis, Minnesota

**Role:** Sr. DevOps Engineer

**August 2018 – December 2021**

## Responsibilities:

- Experience in AWS services like VPC, EC2, S3, ELB, Auto Scaling Groups (ASG), EBS, RDS, IAM, CloudFormation, Route 53, CloudWatch, CloudFront, CloudTrail.
- Configured the Auto scaling and ELB groups in AWS to main high scalable and secure environment.
- Experience in Software Integration, configuration, building, automating, managing and release code across all the environments.
- Involved in supporting cloud instances running Linux on AWS.
- Experience with Elastic IP, Security Groups and Virtual Private Cloud in AWS.
- Participating in the deployment of the applications into existing systems, Cloud environment and databases using CI/CD methodologies, Maven and Jenkins.

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- Experience in creating Snapshots and Amazon Machine Images (AMI's) of EC2 Instance for snapshots and creating clone's instances.
- Used Jenkins for automating Builds and Automating Deployments.
- Documented process documents for Jenkins, Bit bucket, CD Pipeline and Code deployment guide for Developers, Testers and Production Management.
- Implemented Jenkins Code Deploy plugin to deploy to AWS and used to automate the build process and deploy the application to Tomcat server.
- Implemented Kubernetes to deploy scale, load balance, scale and manage docker containers with multiple name spaced versions.
- Maintaining Docker container clusters orchestrated by Kubernetes, Linux, Bash, GIT, Docker, on AWS platform. Utilized Kubernetes and Docker for the runtime environment of the CI/CD system to build, test deploy.
- Container management using Docker by writing Docker files and set up the automated build on Docker HUB, installed and configured Kubernetes.
- Responsible for build and deployment automation using AWS, Docker, Kubernetes containers and Ansible.
- Managed Ansible Playbooks in Ansible and implemented environments, roles, and playbooks in ansible for better environment management.
- Used Shell and Python scripts to day-to-day activities and task automating.
- Scripting of administration tasks using CLI, Shell and Python.
- Built upstream and downstream jobs in Jenkins to build and deploy onto different environments.
- Automated the continuous integration and deployments using Jenkins, Docker.
- Worked on Docker container to create Docker images for different environments.
- Deployed the applications in Docker containers and managed the containers in enterprise level.
- Managed Git for branching, merging, and tagging, resolved merging issues.
- Experience in building new application and deployment through Ansible and managing them in production environment.
- Worked on creation of Ansible manifest files to install tomcat instances and to manage configuration files for multiple applications.

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- Managing existing infrastructure and created new infrastructure using Ansible as Configuration Management Tool.
- Responsible for automated identification of application server and database server using Ansible Scripts.
- Ran Ansible playbooks and created various roles for applications, then deployed the Applications/Services on hosts.

**Environment:** Linux (RHEL 6.x/7), AWS, OpenShift, Ansible, Jenkins, JBoss, Tomcat (8.x, 9.x), MongoDB, MySQL, Shell Scripting, Python, Java, Git, Maven, VMware ESX 2.x & 3.x., Splunk, Kibana, CloudWatch.

**Organization:** ValourUSA, Irving, Texas

**Role:** Sr. DevOps Engineer

**July 2016 – August 2018**

## Responsibilities:

- Involved in DevOps migration/automation processes for build and deploy systems.
- Create and maintain documentation of deployment plans, test plans, infrastructure diagrams and other technical documentation.
- Trouble shoot and identify root cause for issues and implement permanent corrective actions for incidents.
- Experience in Infrastructure Development and Operations, involved in designing and deploying utilizing almost all the AWS stack like EC2, EBS, S3, VPC, RDS, SES, ELB, Autoscaling, CloudFront, CloudFormation, CloudWatch, SNS, Route 53.
- Involved in maintaining the user accounts (IAM), RDS, Route 53, VPC, RDB, DynamoDB, SES, SQS and SNS services in AWS cloud.
- Experience in managing large-scale, geographically distributed database systems, including relational (Oracle, MySQL) and NoSQL (MongoDB), DynamoDB databases.
- Worked on Auto scaling, Cloud watch(monitored), AWS Elastic Beanstalk (app deployments), Amazon S3 (storage) and Amazon EBS (persistent disk storage).
- Used IAM to create new accounts, roles and groups and policies in enabling lambda functions for dynamic creation of Roles.

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- Experience in continuous integration technologies Jenkins. Designed and created multiple deployment strategies using CI and CD Pipelines and configuration management tools with remote execution to ensure zero downtime and shortened deployment cycles via automated deployments.
- Developed microservices onboarding tools leveraging Python and Jenkins allowing for easy creation and maintenance of build jobs and Kubernetes deploy and services.
- Experience with container-based deployments using Docker, working with Docker images, DockerHub, Docker registries and Kubernetes.
- Installing Red hat Linux using kick start and applying security polices for hardening the server based on the company policies.
- Used Nexus tool to manage the repository in Maven and used the same to share the snapshots and releases of internal projects.
- Created Branches, Labels and performed Merges in Stash and GIT.
- Using Ansible playbooks to configure systems to a specified state.

**Environment: Linux (RHEL 5.x/6.x/7), AWS, Jenkins, Python, VMWare, Docker, Shell Scripting, ANT, MAVEN, GIT, Python, Docker, Kubernetes, Ansible, SQL server, NOSQL.**