

**SHYAM KOTHA**

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**Professional Summary:**

**Overview**:

**DevOps Engineer** with around 9 years of total IT experience encompassing a thorough understanding and hands-on experience of **DevOps** methodology and workflow, **Continuous Integration (CI) / Continuous Delivery (CD)** oriented **Build & Release Management**, **Configuration Management, Containerization**, **Cloud Services** and **System Administration**.

**Expertise:**

* Extensive experience in the design and implementation of Continuous Integration, Continuous Delivery, Continuous Deployment (CI/CD) and DevOps processes.
* Experienced in Terraform extensively to **build** and **provision** the **infrastructure** involving writing modules for a variety of services such as APIs, queues, functions, and others.
* Experience with implementing monitoring solutions in Ansible, Terraform, Docker, and Jenkins.
* Hands on experience working with **Configuration Management** tools like **Ansible,** Puppet, Chef.
* Experienced in creating Branches, Merging, Rebasing, Reverting, Tagging, and maintaining the version across the environments using SCM tools like **GIT** on Linux and Windows environments.
* Experienced in managing software artifacts required for development using repository managers like **ECR**, Nexus and **JFrog** Artifactory.
* Hands-on experience in container-based technologies **Kubernetes**, **Docker** and **ECS**.
* Experience with CI/CD in a containerized micro services environment.
* Involved in the design and deployment of a multitude of cloud services on **AWS** stack such as **EC2**, **Route53**, **S3**, **RDS**, **DynamoDB**, **IAM**, while focusing on high-availability, fault tolerance, and auto-scaling.
* Worked on **VAULT**, **Secret Manager** tool for storing Secrets, Key Value pairs and other security parameters.
* Experience with automating **Build, Test** and **Deployment** processesusing **CI/CD pipelines** in **Jenkins** by developing scripts using **Groovy, Bash** etc.
* Automate using **Ansible** and **Python** the configuration, installation and deployment set up of many systems within Cloud Services including the monitoring system
* Ability and experience to meld development and operations to ensure quick delivery of an effective and efficient end-product.

Adapt to new, evolving technologies and implement them in current projects. Good interpersonal skills, quick learning, problem resolving and meeting technical and business needs.

**Skills:**

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| --- | --- |
| **Cloud Technologies:** | GCP/ AZURE / AWS EC2, IAM, AMI, Elastic Load Balancer (EBL), DynamoDB, S3, SNS, Cloud formation, Route53, VPC, VPN, Security groups, Cloud watch, EBS, Athena, EWR |
| **Operating System:** | Linux, Unix, Ubuntu, Centos, Windows |
| **Scripting:** | Python, Bash. |
| **CI-Automation/Build Tools:** | GIT, Maven, Ant, Jenkins, Bamboo, Nexus, Artifactory, Docker, Ansible. |
| **Application Servers:** | Apache Tomcat, WebLogic, WebSphere |
| **Web Server:** | Apache, Nginx |
| **Containerization Tools:** | Docker, Kubernetes |
| **Cloud Computing:** | AWS, GCP, Azure |
| **Configuration Management** | Ansible, Puppet |

**Education**

* Bachelor of Engineering and Technology in Computer Science from Jawaharlal Nehru Technological University, INDIA. (July 2014)
* Master’s in Computer Science from New England College - New Hampshire, USA. (December 2017)

**Work Experience:**

**IBM |** Plano, Texas **April 2022 to Present**

**Role: DevOps Engineer**

**Responsibilities:**

* Completing assignments in a high volume, dynamic environment with **CI/CD** and **Monitoring**.
* Implemented a **CD** pipeline involving **Jenkins**, **GIT** to setup automation from commit to deployment.
* Use **Kubernetes** to orchestrate the deployment, scaling and management of **Docker** Containers.
* Managed Kubernetes charts using **Helm**, and Created reproducible builds of the Kubernetes applications, managed Kubernetes deployment and service files and managed releases of Helm packages.
* Developed **Helm charts** for the containerized version of the application running on-premise, deployed it to EKS Kubernetes.
* Integrated **Ansible Playbooks** with the **Terraform** templates to provision the Infrastructure in cloud platforms.
* Experienced with operations of cloud services **PaaS/SaaS/IaaS** in designing and automating the infrastructures and deploying in cloud platform **Azure**.
* Hands-on experience on Ansible and **Ansible Tower** as Configuration management tool, to automate repetitive tasks, quickly deploys critical applications, and proactively manages change
* Implemented **Ansible Tower** for managing complex network deployments by adding control, knowledge, and delegation to Ansible powered environments.
* Used Ansible to Setup/teardown of **ELK** stack ( Elasticsearch, Log stash, Kibana ) and troubleshoot the build issues with ELK and work towards the solution.
* A good understanding of agile practices and have experience in different **Agile methodologies** such as Scrum, KanBan
* Experienced in **JIRA & Confluence** administration involving creation and management of custom, complex projects, workflows, security schemes, custom fields, dashboards and reports configurations.
* Automated the IAM secrets policy management for Hashicorp Vault by integrating it with **Jenkins**, deployment of **PostgreSQL** databases, load balancers for **AquaSec** container security tool using CloudSDK and Python.
* Used a stock image gallery where we stored the generated images and developed Azure pipelines in **Azure** **DevOps** to implement these **Azure** services
* Administration of **Azure** DevOps Services virtual machines, SQL databases, Azure Active Directory, and storage.
* Designed, implemented, and validated moving workflows from desktop to **Azure** Cloud on ARM
* Created and maintained cross-environment CI using VSTS, enabling code to be deployed securely to **Azure Kubernetes** (AKS) using **YAML** scripting
* Experienced in migrating on-premises, .Net apps, DevOps platform to **Azure** CI/CD processes by utilizing ARM templates, **Azure DevOps**, **Azure CLI**, App services to build Repos, Pipelines, Web Apps, and monitoring applications using Application Insights.
* Expertise in deploying microservices, application development, and upgradation using **Azure** services such as **Azure DevOps**, Kubernetes Service (AKS), Container Services, MySQL DB, and Grafana, Azure pipelines, RBAC, and monitoring clusters.
* Developed an **ARM** template that allowed resources to be deployed to **Azure** using PowerShell and CI using VSTS.
* Implemented tracking tools for **Azure** monitoring, including an alert system
* Updated **python** code For testing/working on multiple repositories. By adding more orgs to the list on file the script does the scanning for all the added orgs.
* Updated **Python** scripts as it takes Input as the Organization name and fetches the repositories in that org and scans for Teams and their permission/access, Programming Languages of that repository, File Extensions, Existence of Python based.
* Worked for the Python upgrade, as **CICD** is scanning repos looking for **Python** code to determine potential changes.
* Developed applications using **RESTful** architecture using Node.js and Python as backend languages
* Implemented **RESTful** Web services for sending and receiving the data between multiple systems
* Migrate Database from SQL Databases to NO SQL Databases

**Environment:** Ansible, Python, Kubernetes, Azure, GIT, Jenkins,, Terraform, Docker

**Work Experience:**

**MOTOCHO |** San Jose, CA  **August 2021 to March 2022**

**DevOps Engineer**

**Responsibilities:**

* Work in setting up the **CI/CD** pipelines using **Jenkins**, **GitHub**, **GitOps, Helm and AWS**.
* Monitoring and managing **Kibana** logs on Environments like Dev, QA, Prod
* Use Kubernetes to orchestrate the deployment, scaling and management of Docker Containers.
* Maintaining container-based deployments using **Docker**, working with Docker images, Docker Hub and Docker-registries and Kubernetes.
* Using **Jenkins** pipelines to drive all **microservices** builds out to the Docker registry and then deployed to Kubernetes, Created Pods and managed using Kubernetes
* Extensively working with Scheduling, deploying, managing container replicas onto a node using Kubernetes and experience in creating Kubernetes clusters work with **Helm charts** running on the same cluster resources.
* Developed **Helm charts** for infrastructure services inside Kubernetes for dynamic DNS names in Amazon Route 53. Created an SSL certificate on demand for Ingress endpoints and a persistent volume controller for EFS and Ingress Controller.
* Point team player on **Openshift** for creating new Projects, Services for load balancing and adding them to Routes to be accessible from outside, troubleshooting pods through ssh and logs, modification of Buildconfigs, templates, Imagestreams, etc
* Managing the **Openshift** cluster that includes scaling up and down the AWS app nodes.
* Managing logs, splitting logs to EKS where we can analyze the logs, query the logs. Setup and manage Elastic search to manage its cluster.
* Experienced on **FluentBit**, where every node has a Fluent Bit agent running deployed on a daemonset. This daemonset will keep an Eye on Logs generated and keep pushing logs to Elastic search.
* Work heavily with AWS and its infrastructure, including **EC2**, ECS, ElasticCache, **ElasticSearch**, RDS, **VPC** implementation, IAM, S3, ELB, Route 53,and Security group management.
* Implemented **ArgoCD** UI on all the environments like Dev, QA, Prod where default **ArgoCD** controllers control and sync up with Git automatically and deploys our applications.
* Manage multiple AWS accounts with multiple **VPC's** for both production and non-prod where primary objectives included automation, build out, integration and cost control.
* Developed infrastructure as a code using **Terraform** with a modular approach, deployed infrastructure in Amazon cloud, performed migration of on-premise resources into the cloud and debugged all migration issues in the cloud.
* Provisioned **AWS** services and resources using Terraform: **EC2, EBS, S3, VPC, Auto Scaling, Cloud Formation, Elastic Load Balancing, RDS, Route 53, CloudWatch, Identity and Access Management (IAM)**.
* Maintaining strong code hygiene (Groovy, **Terraform**, Python, Java) and doing peer code reviews on a daily basis.
* Running a cron job on Aiven Kafka exposes a metrics end-point. Connected to the end-point, get the metrics and push to Cloudwatch at every minute.
* Aiven **Kafka** exposes metrics via Prometheus Integrations enabled. Metrics are pulled by a cron job running on Kubernetes and pushed to Cloudwatch.
* Used **Kafka** to collect Website activity and Stream Processing.
* Experienced with **SQL** and relational databases (**PostgreSQL, MySQL**) and **NoSQL** databases **(MongoDB, Redis**)
* Assisted in designing and management of **PostgreSQL** database schemas and tables.
* Established GIT Structure for IasS Code with **Ansible** and **Ansible Tower** components as well
* Involved in writing Java API for **Amazon Lambda** to manage some of the AWS services.
* Created functions and assigned roles in **AWS Lambda** to run python scripts and AWS Lambda using Java to perform event driven processing.
* Implemented a server-less architecture using **API Gateway, Lambda** and **DynamoDB** and deployed **AWS Lambda** code from Amazon S3 buckets. Created a Lambda Deployment function and configured it to receive events from S3 bucket.

**Environment:** Jenkins, Terraform, AWS,EC2, Route53, S3, VPC, EBS, Auto scaling, Lambda, Kubernetes, Helm, Elastic Search, Kibana, FluxCD/ArgoCD, GIT, AWS, Unix/ Linux environment, bash scripting, Github Actions.

**MediaAgility** | San Jose, CA

Clients:

**Roswell** | San Diego, CA

**Roche molecular solutions |** San Jose, CA

**INTRADO |** Omaha | NE **Nov 2019 to August 2021**

**DevOps Engineer/Site Reliability Engineer**

**Responsibilities:**

* Responsible for working on a multitude of applications and working with different team members and managers on maintaining end to end **CI/CD** processes.
* Worked on developing automation scripts, **Terraform** Scripts, **Google Cloud Platform**, **Kubernetes**, analyzing the current build, release and deployment process and implementing **CI/CD** pipelines in **Jenkins**.
* Coordinate with the team to handle the challenges during script development, which includes libraries and software development kits to run the software on various OS and as well for deployment.
* Good understanding of storage, load balancers, virtualization, web, database and messaging services with the ability to dive deep into any of these areas when necessary
* Ensure availability of Production and Development systems based on **Google Cloud Platform** - EC2 and EKS
* Migrated the existing infrastructure in DFW Datacenter to **AWS** and **GCP** cloud. It started with creation of landing zones, governance and IAM policies and setting up the VPCs and security. Created these infrastructure components using CloudFormation templates and AWS Vending Machines. The Containerized applications are migrated to **GCP GKE** along with Secrets management with **KMS**. After the migration is done, deployed the infrastructure as per project requirements and supported project teams
* Worked with Security teams to integrate complete AWS access and IAM roles and permissions with Okta. Managed secrets with **GCP’s** **KMS**.
* Worked on a POC to deploy the API components on **GKE** cluster on **GCP** for flexibility.
* Create clusters in **Google Cloud** and manage the clusters using **Kubernetes**(k8s) and work on setting up Kubernetes (k8s) Clusters for running microservices.
* Automated the provisioning of infrastructure and created infrastructure as code using **Terraform** Scripts and maintained **Docker** container clusters managed by **Kubernetes**, **Linux**, **Bash**, **GIT**, **Docker**, on **Google Cloud Platform**.
* Designed, Configured, Maintained &amp; Managed Google Cloud Virtual Datacenter Cloud computing platform which hosted Enterprise applications. Used **Compute, Storage, Networking, Stackdriver**, other Google Cloud tools for various operations.
* Deployed and monitored scalable infrastructure on Google cloud & configuration management using Docker and **Google Kubernetes Engine** (**GKE**).
* Performed installation and configuration of secrets management tool (**Hashicorp Vault**) inside Google Cloud Platform for managing the user and system credentials.
* Creating **Google cloud storage (GCS)** buckets, maintaining and utilizing the policy management of these buckets and using GCS coldline for storage and backup on Google cloud.
* Leveraged Cloud SDK and Google Cloud CLI to package and deploy containerized web applications on to the Google Cloud Platform and using **Google Kubernetes Engine (GKE)** to manage clusters and implemented autoscaling conditions to accommodate traffic variance.
* Worked in setting up the **CI/CD** pipelines using **Jenkins**, **Maven**, **Nexus**, **GitHub**, and **AWS**.
* Involved in the maintenance of source code in GIT, branching, creating LABELS, merging of code on **GIT** for QA, Testing and Release.
* Setting Kafka using terraform, managing MSK Kafka, monitoring parameters, checking performance, manage excess on Kafka, giving Kafka access to developers
* Used **Stackdriver** for monitoring **CPU Utilization**, **Memory Management and** Database**.**
* Increased stability and availability for live production sites,
* Configured 24/7 monitoring for live sites, Scheduled maintenance to warm up the infrastructure and involved in offtime deployments with releases
* Experience developing APIs published through multiple interfaces (messaging, **RESTful** services, and client libraries)
* Worked in setting up **datadog** monitoring across different servers and aws services.
* Created **datadog** dashboards for various applications and monitored real-time and historical metrics.
* Created system alerts using various **datadog** tools and alerted application teams based on the escalation matrix.
* Monitored performance and history of infrastructure with tools such as **CloudWatch**, **Datadog** etc

**Environment:** Terraform, GCP, Kubernetes, Ansible, GIT, Jenkins, CI/CD, Docker, GIT, AWS EC2, Route53, S3, VPC, EBS, Auto scaling, Nagios, Unix/ Linux environment, bash scripting.

**CISCO** | San Jose, CA

**DevOps Engineer** **Mar 2019 to Nov 2019**

**Responsibilities:**

* Launching Amazon EC2 Cloud Instances using Amazon Images (Linux/ Ubuntu) and Configuring launched instances with respect to specific applications.
* Responsible for day to day Build and deployments in Dev, Test, pre-production, and production environments. Implemented **AWS** high availability using **AWS** Elastic Load Balancing (ELB), which performed balance across instances in multiple availability zones.
* Used EBS stores for persistent storage and performed access management using **IAM** service.
* Created alarms in CloudWatch service for monitoring the server's performance, CPU Utilization, disk usage, maintained user accounts **IAM**, RDS, and Route53 services in **AWS** Cloud.
* Creating **S3** buckets and managing policies for **S3** buckets and Utilized **S3** bucket and Glacier for Archival storage and backup on **AWS**.
* Strong Experience on **AWS** platform and its dimensions of scalability including **VPC**, EC2, ELB, **S3**, and EBS, **ROUTE53**.
* Designed **AWS** Cloud Formation templates to create custom sized **VPC**, subnets, NAT to ensure successful deployment of Web applications and database templates.
* Setup and build **AWS** infrastructure various resources, **VPC** EC2, **S3**, **IAM**, EBS, Security Group, Auto Scaling, and RDS in CloudFormation JSON templates.
* Working in an implementation team to build and engineer servers for Linux & AIX operating systems.
* Working on **AWS** cloud to provision new instances. **S3** Storage Services. **AWS** EC2 & Cloud watch services. CI/CD pipeline management through **Jenkins**.
* Written Templates for AWS infrastructure as a code using Terraform and CloudFormation to build staging and production environments.
* Worked in Configuration management with Ansible and **Ansible tower**.
* Experienced using **Ansible tower,** which provides an easy-to-use dashboard, role-based access control, so it is easier to allow individual teams access to use ansible for their deployment.
* Used **AWS** BeanStalk for deploying and scaling web applications and services developed with Java, Node.js, Python and Ruby on familiar servers such as Apache, and IIS.
* Developed server-based web traffic using **RESTful API’s** statistical analysis tool using **Flask**, **Pandas**
* Setup Elastic Load Balancer for distributing traffic among multiple Web Logic servers and involved in deploying the content cloud platform on Amazon Web Services using EC2, **S3** and EBS.
* Creating the **AWS** Security groups to enable firewalls.
* Administration and maintenance of **Docker** runtime environment, Versioning and lifecycle management of **Docker** images, Experienced in **Docker** orchestration framework.
* Managed **Maven** project dependencies by creating parent-child relationships between Projects.
* Implemented a **GIT** mirror for SVN repository, which enables users to use both **GIT** and SVN.
* Worked on **VMware** related issues such as creation, migration, performance, and monitoring, resizing, RDP, Disk, and connectivity issues.
* **Openshift** virtualized PaaS provider - useful in automating the provisioning of commodity computing resources for cost and performance efficiency.
* Automated **AWS** volumes snapshot backups for enterprises using Lambda.
* Experienced with event-driven and scheduled AWS Lambda functions to trigger various AWSresources.
* Used lambda function for Infrastructure automations like EC2 automated snapshot creation, Daily automated reporting of list of EC2 instance etc

**Environment:** AWS (EC2, VPC, ELB, S3, RDS, Cloud watch and Route53, Lambda), Kubernetes, GIT, Maven, Jenkins, Ansible, Terraform, Docker

**BCSM** | Richmond, VA

**DevOps Engineer**   **Jan 2017 to Feb 2019**

**Responsibilities:**

* Implemented a **CD** pipeline involving **Jenkins**, **GIT** to setup automation from commit to deployment.
* Worked on various Cloud services, AWS being the cloud partner.
* Implemented **CI/CD** pipelines using **Jenkins**, **Maven**, **Nexus**, **GitHub**, and **AWS**.
* Installed and configured Jenkins for Automating Builds and Deployments through integration of to automate the code check-out.
* Developed build and deployment scripts using **Ant** and **Maven** as build tools and integrated with Jenkins to move from one environment to other environments.
* Administered multiple Pre-Production environment configurations, controls, code deployments and code integrity using tools such as **GIT**, **Jenkins**.
* Configured **Build** and **Release** pipeline for application servers such as **Apache** **Tomcat**, client Java based applications and **Jenkins**.
* Worked closely with development teams to understand and support build environments and integration requirements for application.
* Prepared installation and troubleshooting documents, including build and deployment process documents, production active plan and application release cycle activity.
* Involved in all the activities related to **build**, **packaging**, **deployment,** and maintenance of the applications.
* Single point of contact for any **Build-Release** and **Environment** related requirement or issues.
* Worked on replicating production environments to lower-level environments such as Development environments to conduct performance testing with latest code fixes.
* Handled the build and release of software baselines, code merges, branch and label creation in **Subversion/GIT** and interfaced between development and infrastructure.

**Environment:** AWS, GCP, Ansible, GIT, Jenkins, CI/CD, Docker, Linux, Nexus, Maven

**Ace Software Solutions** | Hyderabad, India

Linux Administrator **Jul 2013 to June 2015**

**Responsibilities:**

* Implemented enterprise-level standards for the Installation, Configuration and Management of **LINUX** servers and to design and select the pertinent hardware to support server installation/upgradation.
* Planned and performed upgrades to **Linux** operating system and hardware maintenance like changing memory modules, replacing disk drives.
* Performed failover and integrity tests on new servers before rolling out to production.
* Handled OS build failures and Performed Operating System hardening based on industry standards.
* Configured Kickstart server for RedHat Linux, operating system image installations through Network.
* Implemented **SUDO**, **SSH** and other security tools.
* Installed, configured, and managed virtual machines using **VMware** ESX 3.5, Xen Virtualization (vir-install & vir-manager).
* Developed **Cron jobs** and **Shell scripts** for automation of administration tasks like file system management, process management, backup and restore.
* Handled the Installation, configuration, and customization of Sendmail services and FTP servers to meet the user needs and requirements.