**Mohan A**

**Email: mohanal739@gmail.com**

**Phone: 913-336-7191**



**PROFESSIONAL SUMMARY:**

* Around **8+ years** of experience as **Linux(RHEL, CentOS, Fedora, Ubuntu), Cloud(AWS, Azure), DevOps** Engineer with extensive skill in System Administration, Network Administration, design and implementation strategies for end to end deployments(**CI/CD**), **Automation**, Configuration Management and cloud services includes IaaS, SaaS adapting scaled agile- methodologies ensuring high availability and scaled environment.
* Configured, supported applications in **AWS Cloud environment** that are hosted on **PaaS** Environment like services **(Elastic Beanstalk, ECS etc.)** to have end-end automation created and integrated with Terraform, GitLab and AWS.
* Hands-on experience in **Azure** Development, worked on **Azure web applications, Virtual Machines, Azure Key Vault, Azure AD, Azure search, and Azure Notification hub.**
* Played a pivotal role in implementing **DevOps Model** across the organization and implemented vulnerability checks at different phases which is in-support of Dev-SecOps model for pipelines running in **GitLab**.
* Experience in **Developing automated continuous integration/continuous delivery pipeline** for code deployment using **Jenkins**. Used Jenkins as Continuous Integration tool for creating new jobs, managing required plug-ins, build trigger, build system, and post build actions, scheduled automation builds.
* Experience in **Docker container orchestration framework** using Kubernetes to create pods, Config Maps, and deployments into cluster, Containerized Java and Nodejs applications, run it in **AWS Elastic Kubernetes Service**.
* Worked with **Jenkins jobs** **Maven, Multibranch, MultiJob, Jenkins declarative pipelines** for **Infrastructure and Application Integration platforms**.
* Designed multiple VPC’s and public/private subnets with required number of IP’s using **CIDR blocks, Route Tables, Security groups and Elastic Load Balancer**.
* Worked with **AWS IAM** for granular permissions to specific AWS Users, Groups and Roles by creating IAM policies,Automated AWS deployment and configuration tasks using Lambda.
* Knowledge in Installing, configuring, and managing full end-to-end **GitLab setup**, **Pipeline Management**. Also, managed and utilized GitLab runners to support application testing and fill system level to support GitLab.
* Experienced in **Installing, Configuration and management** in **HA Ansible Centralized Server (Tower)** and creating the playbooks to support various **middleware application servers** and involved in configuring the **Ansible tower as a configuration management tool** to automate repetitive tasks.
* Involved in integrating chef cookbooks into **Jenkins jobs for CD framework**, and worked with various custom resources**,** created roles & environments, and using chef handlers for different auto kickoff requirement jobs.
* Transferred **Terraform** from as an enterprise level cloud infrastructure automation solution by maintaining prewritten Cloud Formation scripts and converting **Python BOTO3 CLI** scripts as a custom wrapper in Terraform null resources.
* Integrated the **AWS** **Elastic Kubernetes Service** with AWS CloudWatch, Auto Scaling Groups, **SQS** and **VPC** for monitoring, scaling, and load-balancing the application and used **AWS Fargate** Engine for container services, **security** is improved through application isolation by design.
* Created Application Microservices using On-Premises **Kubernetes** with Helm Charts that supports Dev, Stage, POC and Prod Environments for different Application needs.
* Deployed On-Premises/Cloud based **Kubernetes Clusters** with Terraform/Jenkins for deployment Strategies using **Blue/Green and Canary.**
* Proficient in writing automation scripts using **Python, Shell, Bash and Parsing languages using Yaml/Json** thereby **automating build and deployment process** in various enterprise environments.
* Worked on implementing test cases to follow **DevSecOps strategy** model that supports microservice applications via Jenkins pipelines.
* Strong **Analytical, Diagnostics, troubleshooting skills** to consistently deliver, support, administer productive technological solutions.

**TECHNICAL SKILLS:**

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| --- | --- |
| Operating Systems | Linux (RedHat, CENTOS), Unix, Solaris, Ubuntu, Windows, MacOS. |
| Version Control | GIT, GITHUB, Bitbucket, GitLab, AWS Code Commit |
| Configuration and Management Tools | Puppet, Ansible, Chef, Terraform |
| Cloud Environments | AWS, Azure, GCP |
| Virtual Servers | VSphere, VMware Virtual Center and VMware ESX Servers. |
| Scripting Languages | Shell Scripting, Bash, Python and YAML, JavaScript, JSON. |
| Logging and Monitoring Tools | Splunk, Nagios, ELK, AWS Cloud Watch, New Relic, Prometheus, Grafana |
| Database | MySQL, Oracle, DB2, MongoDB, SQLite, PostgreSQL. |
| Web Server/Application Servers | Tomcat, Apache, Application Server, IIS, Oracle WebLogic. |
| Container Orchestration | Kubernetes, Docker, Docker Swarm, AWS Fargate. |
| CI/CD and build Tools | Jenkins, Maven, Gradle, Gitlab |
| Ticketing and collaboration tools | JIRA, Confluence |

**WORK EXPERIENCE:**

**Etrade, Arlington, VA May 2019 – Present**

**Role: Sr. DevOps/Cloud Engineer**

**Responsibilities**:

* Worked with Cloud infrastructure based of **VPC**, **EC2, Route53, S3, RDS, Dynamo DB, SNS, SQS, Lambda**, **Redshift, ELB, NLB, Autoscaling, IAM** on **AWS** using **Cloud Formation Templates** and **Terraform**.
* Used AWS **Fargate** in collaboration with **AWS ECS** and **AWS EKS** for container-based application running to provide high security and reliability.
* Implemented **DevSecOps** with **Jenkins** to reduce threats, vulnerabilities and performed risk assessments to detect and analyze threats during the CI/CD process.
* Implemented **CI/CD** strategy in involving **Jenkins**, **Terraform Enterprise** and **AWS** that tracks the Security Vulnerabilities for applications running in AWS **ECS** using **Amazon Security Hub**.
* Worked on **Terraform** modules, providers, and resources to setup vault elements like **LDAP** Authentication Methods, Namespaces, and Secret Engines etc.
* Worked on **AWS CloudWatch**, **CloudFormation, Cloud Trail** services and **CloudFront** to set up and manage cached content delivery.
* Responsible for writing reusable **Infrastructure as a Code** **(IaaC)** Modules by using **Terraform** for **IaaS, PaaS and SaaS** AWS cloud resources and mentoring the peers to write consumable code to automate the infrastructure provisioning for cloud applications.
* Implemented Security Scans like Static and Dynamic Application testing at each layer of DevOps life cycle and converted the existing DevOps methodologies/workflows to **DevSecOps** model.
* Created function in **Lambda** that aggregates the data from incoming events, then stored result data in **Amazon Dynamo DB** and **S3.**
* Expertise in using **Boto3** python libraries integrating with **Ansible** and **Terraform** for Managing EBS volumes and scheduling **Lambda** functions for AWS tasks.
* Migrating existing AWS infrastructure to **Serverless Architecture (AWS Lambda)** by deploying **Terraform (IaaC) code** from **GitHub repositories** to implement **AWS Lambda functions** to run scripts in response to **CloudWatch** events in the **Amazon DynamoDB table and S3 bucket** to HTTP requests using **Amazon API gateway** and **AWS SDK’s**.
* Authored **Cloud formation** JSON templates**, Terraform** Templatesand Configured **S3** buckets with various **Life Cycle Policies** to archive the data to storage classes based on requirement.
* Experience in **Configuration Automation** and **Centralized Management** with **Ansible** and Implemented **Ansible** to manage all existing servers and automate the build/configuration of new servers.
* Experience in writing various Custom **Ansible Playbooks** for deployment orchestration and developed **Ansible Playbooks** to simplify and automate day-to-day server administration tasks.
* Created **Terraform** templates for provisioning AWS resources and used **Terraform graph** to visualize execution plan. Used **Terraform** to deploy the infrastructure necessary to create development, test, and production environments for software development projects.
* Automated Datadog Dashboards with the stack through **Terraform** Scripts. Configured **CloudWatch** and **Datadog** to monitor real-time granular metrics of all the AWS Services and configured individual dashboards for each resource Agents.
* Used **Jenkins and Pipelines** to drive all **micro services** builds out to the **Docker Registry and then deployed to Kubernetes**, Created Pods and managed using Kubernetes.
* Developed **dashboards for alarms on Dynatrace** for Application performance monitoring of **MicroServices**, help understanding the possible **source of the problem** and **prevent outages.**
* Experience in infrastructure architecture and design of complex distributed systems environments, including failover techniques, recovery/rollback, and application partitioning.
* Configuring, automation and maintaining build and deployment **CI/CD** tools **Git/Git Lab, Jenkins, Bit Bucket, Docker Registry, Nexus, and JIRA** for Multi-Environment.

**Environment:** AWS EC2, S3, EBS, VPC, Elastic search, Route53 (DNS), API Gateway, HashiCorp, Cloud Formation, Dynamo DB, RDS, Redshift, SNS, Docker, Kubernetes, Ansible, Maven, Jenkins, Docker, Terraform, Shell scripts, Python, Git, GitHub, Jira.

**Sprint, Kansas City, MO Dec 2017 – Apr 2019**

**Role: DevOps Engineer**

**Responsibilities**:

* Strong Knowledge and expertise on **AWS**, specifically in **EC2, Route53, S3, IAM, RDS, Dynamo DB, SNS, SQS, Lambda**, **EMR, ECS,** **Redshift, Aurora, CodePipeline, CodeBuild, Codedeploy, Autoscaling, CloudFormation,** focusing on high-availability, fault tolerance in **AWS Cloud Formation**.
* Integrated **AWS Dynamo DB** using **AWS Lambda** to store the values the items and backup the **Dynamo DB streams** for Analytics.
* Expertise in managing the **system state** and log **AWS API** events to trigger cloud watch & cloud trail alerts by using **AWS Lambda**.
* Expertise triggering **AWS Lambda** in **Amazon S3**, **Redshift**, **Kinesis** for transitioning the data and filtering data on the fly and Implemented **AWS Lambda** to schedule events for creating backups, checking idle services.
* Experience in migration, bursting, storage tiering of Multi-Tier Environments using **AWS Server Migration service** into **Hybrid cloud** on **AWS** and involved in **TCO** to estimate cost saving in **AWS** and created a detailed set of reports used in executive presentations.
* Involved in build and maintain Highly Available secure multi-zone AWS cloud infrastructure utilizing **Chef with AWS Cloud Formation** and **Jenkins** for continuous integration.
* Hands on experience in writing **Terraform API** modules to manage infrastructure, for automatic creation of **AWS services** like **RDS instances, VPC’s, Autoscaling groups, load balancers, SQS, S3 buckets**.
* Worked on **Hashicorp Vault** secret tool to provide **security** for credentials, tokens, and API keys.
* Experience in creating and managing **Azure** resource groups, VMSS, **Availability Set**, storage accounts, virtual networks, and **App Services**.
* Migrated Windows Active directories and .net applications from **AWS** to **Azure cloud** by implementing **POC’s** in the organization and performing **POT’s** in Azure implementation.
* Migrated On-prem Windows Application to **Azure VM’s** and worked with **Vnet** engineer to configure traffic routing’s and manage Transit Hub Workflows.
* Involved in writing **Chef** Cookbooks and Recipes to automate the deployment process and to integrating **Chef Cookbooks** into **Jenkins** jobs for **CD framework**.
* Installing and configuration of an automated tool Puppet that included installation and configuration of **Puppet Master,** Agents and Module Development and Dashboard Setup.
* Involved in Modifying the **Puppet forge** as per the requirement on **Puppet and** involved in creating modules and manifests in Puppet using Ruby.
* **Installed** and used **Chef Server Enterprise** on premise, workstation and bootstrapped the nodes using knife and automated by writing ruby scripts in **Chef Recipes** and **Cookbooks** with test-kitchen/chef spec.
* **Ansible** and Packer to build **Jenkins** Master AMI. This includes Groovy to configure plugins, configuration files and jobs deployed with DSL plug-in, Ruby and Vagrant file to help with testing of that AMI and a Python Script to help to rotate old version of the AMI.
* Used **Ansible** and **Ansible Tower** as Configuration management tool, to automate repetitive tasks, quickly deploys critical applications, and proactively manages change.
* Developed CI/CD system with **Jenkins** on Google's **Kubernetes** container environment, utilizing **Kubernetes** and **Docker** for the runtime environment for the CI/CD system to build and test and deploy.
* Implemented **Istio** as a service mesh in **Kubernetes** for secure communication across pods from ingress to service and to pods and implemented Nginx for providing **reverse proxy**.
* Managed local Deployments in **Kubernetes** using Open shift platform, creating local cluster, and deploying application containers and Implemented **Kubernetes** to deploy scale, load balance, scale and manage Docker containers with multiple names spaced versions.
* Maintained Infrastructure using the virtualization tools like **VMware** and **Cloud Computing** Service like **AWS** in all environments & extensively worked with Remedy ticketing system and provided 24/7 on call support for production.

**Environment:** AWS including EC2, S3, ELB, Lambda, Aurora, Kubernetes, Maven, Jenkins, Ansible, Git, Chef, Docker, Docker Hub, Bit Bucket, Bash, Ruby, JIRA, Service Now, Linux.

**Evolent Health, Arlington, VA Aug 2016 – Nov 2017**

**Role: Devops Engineer**

**Responsibilities:**

* As the member of the release engineer group, redefined processes and implemented various tools for software builds, patch creation, source control, and release tracking and reporting, on **Linux** platform.
* Worked Primarily on **RHEL, CentOS** Operating Systems.
* Experience in using **Boto3 python libraries** integrating with **Ansible** and **Terraform** for managing EBS volumes and scheduling Lambda functions for AWS tasks.
* Worked closely with the Development team to maintain proper versioning of the source code in GIT to revert whenever required.
* Worked in all areas of Jenkins setting up CI for new branches, build automation, plugin management and securing Jenkins and setting up master/slave configurations.
* Handling the day-to-day Operations, install software, apply patches, manage file systems, monitoring performance and troubleshoot alerts.
* Experience in **Centralized Automation** and **Centralized Management** with **Ansible** and implemented **Ansible** to manage all existing servers and automate the build configuration of the new servers.
* Experience in troubleshooting on **Ansible** related implementation and **playbook** executions.
* Handling **LVM** related tasks, Creating, resizing LVM, Veritas Volume manager and managing Cluster environment using Veritas Cluster suite.
* Handling the day-to-day Operations, Troubleshooting& Solve Server Problems in **LINUX**.
* Installing and configuring **RedHat** Linux locally or over the network-kick start- (nfs, ftp, and http).
* Managed **patches** configuration, version control, service pack and reviews connectivity issues regarding security problems.
* Maintaining Server and Systems, provide IT support to Users, regularly manage **backup** **process** for Server and Client data.
* Monitoring **system performance, Server load** and **bandwidth** issues.
* Work with DBAs on installation of DB, restoration, and performance tuning.
* Installed and configured **VNC** server/client.
* Implement the policies for the users of the computer system and network.

**Environment:** Linux, GitHub/Bit Bucket, Yaml, Json, Shell and Perl scripts, SAN, SUSE 9,10, RHEL 5.x, RAID, CentOS 5, Windows2008, Logical Volume Manager, FTP, SFTP, SSH, RPM, YUM, LAN, VMware.

# APL, Hyderabad, India Dec 2014 – July 2016

**Role: Systems Engineer**

**Responsibilities**:

* Installed, Configurated and Managed **RedHat** **Enterprise Linux**, **Windows Server 2003 Active Directory**, Servers like **WebSphere** and Web servers like **Web Logic, Apache, HTTP** and **Tomcat**.
* Wrote **UNIX** shell scripts for automated installations, to extract logs using **Bash, Perl**, and **Python**.
* Managed users, groups and permissions, configured LDAP and given SUDO Access in test and development servers and allowed password less logins for authorized users on servers.
* Setting up user and group login ID's, printing parameters, network configuration, password, resolving permissions and access related issues via **ACL**.
* Developed **Linux, UNIX, Perl** and **Shell Scripts** and **AWT** programming for manual deployment of the code to various environments.
* Worked on setting up NIC bonding on Linux Enterprise servers for high availability, redundancy and Increased bandwidth.
* Installed, configured, performance tuning, security, backup, recovery and upgrade/patches of Linux and UNIX servers using **Crontab**.
* Installing **Red Hat** Linux using kick-start and applying security policies for hardening the server based on the company policies.
* Administered and supported application servers, responsibilities included troubleshooting and monitoring servers using **Nagios**.
* Assisted project management team with design issues, troubleshoot technical issues, rotating on-call pager, Install OS patches, NFS mounts and Automount.
* Setting up network environments using **TCP/IP, NIS, NFS, DNS, SNMP, VSFTP** and **DHCP**.
* Worked in setting up **LDAP, DNS, DHCP** Server along with effective group and System Level policies and roaming profile features by using Samba and **NFS servers**.

**Environment:** RedHat Enterprise Linux 5.x, YUM, User and Group management, Bash, Firewall, Apache, Volume Groups, LVM, NFS, FTP, SAMBA, SSH, DHCP, DNS, VERITAS Cluster Server (VCS), Windows Server 2003 Active Directory, Kickstart server, TCP/IP, IP addressing & Subnetting, routing.

# Wipro, Hyderabad, India June 2012 – Nov 2014

**Role: Linux System Admin**

**Responsibilities**:

* Installed and administration of **windows and Linux (Centos, Ubuntu, and RedHat) servers**.
* **Troubleshooting booting** related issues, creating boot records, working with **system maintenance mode**, **recovering root password, fixing booting related issues, working with boot list**.
* Created **Bash, shell scripts for various Systems Administration tasks** to automate repeated processes.
* Involved in **Setup/Installing and configuring Centos, SUSE servers on HP x86 servers** and other Commodity Hardware.
* Customized and compiling the **Linux kernel** according to the application/user requirements and various communication protocols by creating and maintaining new VM boxes using Linux virtual machine templates.
* **Administration** and support of **Unix Servers including SUSE, Solaris, HP-UX & Red Hat Linux, and CentOS** for different application needs.
* **Release/Change Management interface** through the staging phase, during and after full implementation of

**System software up-gradation** including database and website applications.

* **Creating** and maintaining **users, profiles, security, privileges, disk space** and process monitoring.
* User **account management, worked with shell scripting (ksh, bash)** to automate administration tasks.
* Creating, maintaining, and removing users and groups. Security settings on user accounts and groups. Working on **System Management Services SMS** and changing boot list order etc.
* Installation, Configuration, Maintenance of **DNS/DHCP/NFS/SMB/LDAP Servers**, Design and Configuration of Active Directory, Domain Controllers (Primary and Backup), Organizational Units, Sites and Domains, Group Policies, Users and Groups, Permissions.
* **RPM package installation & upgrade** released by **Red Hat from repository & Support** for application upgrade & rollback, services start/stop on Linux Servers.
* Handled hardware issues like **Memory, hard disk, Motherboard, and Processor etc. & Performed processes**

**Administration** and management like monitoring, start/stop various processes/sub processes.

**Environment:** Linux-RHEL 4.x and 5.x, VM Ware, vSphere, ESXi, Java, .NET, J2EE, Shell (bash), Active Directory, Apache Tomcat Application Server, SQL, LVM, DNS, DHCP, HTTP, TFTP, Apache Tomcat, RPM, YUM, RAID.