Akhil Bolli

DevOps Engineer | Cloud Engineer

Phone: (469) 927 4666

Location: Texas

Email: [akhilbolli07@gmail.com](mailto:akhilbolli07@gmail.com)

**Professional Summary:**

* IT Professional with around **9+ years** ofexperience in IT Infrastructure, cloud computing, Infrastructure as a service **(IaaS)** Virtualization, Linux System Administration, Network Administration, Configuration Management.
* In-depth understanding of the principles and best practices of Software Configuration Management (**SCM**).
* Strong understanding of modern, cloud architectures and **DevOps** principles.
* Good experience in provisioning different environments using **Chef, Puppet and Ansible** Configuration management tools.
* Experience in working within the Cloud platforms like **Azure, AWS** and **Open stack** for integration processes.
* Expertise in Amazon Cloud Services and its features **AWS EC2, VPC, EBS, AMI, snapshots, Auto scaling, Cloud Formation, Lambda, SES, SQS, SNS, RDS, ELB, EBS, CloudWatch, S3 etc.**
* Used Bash and python included **Boto3**to supplement automation provided by ansible and **terraform**for tasks such as encrypting **EBS volumes**backing **AMIs**and scheduling **Lambda**functions for routine **AWS tasks.**
* Expertise in providing security and managed user access using **AWS** Identity and Access Management (IAM), including creating new Policies for user management in **JSON.**
* Provision **AWS services** using infrastructure as code tools like **Cloud Formation & Terraform.**
* **Open stack** experience in both Red hat and Ubuntu servers. Experience in resolving issues after installation.
* Knowledge in **Terraform** as infrastructure providers, build images using Packer.
* Experience with developing containerization and clustering technologies like **Docker and Kubernetes.**
* Experience with container-based deployments using **Docke**r, working with Docker images, Docker hub and Docker registries, installation and configuring **Kubernetes** and clustering them.
* Experience in setting up Baselines, Branching, Merging and Automation Processes using **Shell, Perl, Scala, Ruby, Python and Bash Scripts.**
* **Experience with 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 Build configs, templates, Image streams, etc.
* Extensively worked with Scheduling, deploying, managing container replicas onto a node using Kubernetes and experienced in creating **Kubernetes** **clusters** work with **Helm** **charts** running on the same cluster resources.
* Proficient knowledge with **Helm** **charts** to manage and release of **helm** packages.
* Designed high availability environment for Application servers and database servers on Azure and Auto-scaling.
* Participated in release level discussions and gone through the total **SDLC and Agile process.**
* Extensive Experience in **Jenkins** master-slave for multi machine builds.
* Working and administrator experience of Continuous Integration strategies and tools (such as **Jenkins, TeamCity, Azure DevOps etc**.)
* Experience in using **Artifactory,** **Nexus** Repository Managers for **Maven** builds.
* Strong knowledge and experience in monitoring and logging tools like **Splunk and Nagios,** **App Dynamic** for monitoring network services and host resources.
* Expert in deploying the code through web application servers like **WebSphere, WebLogic, Apache Tomcat and JBOSS.**
* Extensive Experience using version control tools like **CVS, Subversion, GIT, Perforce, Bitbucket & ClearCase** on cross-platforms like **LINUX, UNIX,** and Windows environment.
* Installed Configured and Managed **NIS, NFS, DNS** and Send Mail. Configured **DHCP** Red Hat Linux server.
* Experienced in Querying RDBMS such as **Oracle, MY SQL and SQL Server by using SQL** for data integrity.
* Good understanding of Software Development Life Cycle (SDLC) like **Agile and Waterfall** Methodologies.
* Strong analytical skills and broad-based technical acumen, with extensive knowledge of routing, switching, security, and cloud management.

**Technical Skills:**

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| --- | --- |
| **DevOps Tools** | Chef, Ansible, Puppet, Terraform, Docker, SonarQube, Jenkins, GIT |
| **Cloud Technologies** | AWS, Azure, Open stack |
| **Languages/Scripting** | Java/J2EE, Python, Scala, Bash, Perl, Angular.js, Node.js, JavaScript |
| **Monitoring Tools** | Splunk, Nagios, Wireshark, CloudWatch, SolarWinds, Netcool, AppDynamics, Grafana |
| **Web Servers** | Apache Tomcat, JBoss, WebLogic, WebSphere, Nginx |
| **Build Tools** | Ant, Maven, Gradle |
| **Containerization Tools** | Docker, Docker swarm, Docker compose, Helm, Kubernetes, OpenShift |
| **Repositories** | Nexus, Artifactory |
| **VMware Products** | VMware ESXi, VirtualBox, vCenter, vSphere, Power VM |
| **Databases** | Oracle, SQL Server, MS Access, NO-SQL, Mongo DB, MongoDB, AmazonRDS |
| **Networking** | DHCP, DIG, DNS, SNMP, SMTP, Ethernet, Samba, LDAP, NFS, NIS, FTP, TFTP, SSH, TCP/IP |
| **Operating Systems** | Linux (RedHat Linux, SUSE, CentOS, Ubuntu) UNIX (IBM-AIX, Solaris) Microsoft Windows |

**Professional Experience:**

**Client: Ford, MI Jan 2023 – Till Date**

**Role: Sr. DevOps Engineer**

**Responsibilities:**

* Assist with development and implementation of **DevOps SRE** solutions for large scale distributed web applications across multiple tiers and data centers.
* Perform proactive daily system **monitoring** including reviewing system and application logs as well as responding to, triaging, troubleshooting and remediating incidents.
* Designed and documented **CI/CD** tools configuration management.
* Utilized Kubernetes for the runtime environment of the **CI/CD** system to build, test and deploy. Building Docker images by using **Docker-compose**.
* Installed and configured **Ansible** and wrote some Ansible playbooks to create the **Kubernetes** cluster on VM’s.
* Used **Ansible** as the Configuration Management tool and wrote Ansible Playbooks to automate the process of creating the Master and Worker nodes in **Kubernetes** Environment.
* Deployed **Kubernetes** Cluster on cloud/on-premises environments with master/minion architecture and wrote many YAML files to create many services like pods, deployments, auto scaling, load balancers, labels, health checks, Namespaces, Config Map, etc.
* Deployed Core OS **Kubernetes** Clusters to manage **Docker** containers in the production environment with light weight Docker Images as base files.
* Provided consistent environment using **Kubernetes** for deployment scaling and load balancing to the application from dev through production, easing the code development and deployment pipeline by implementing **Docker** containerization with multiple namespaces like Default and Metrics Namespaces.
* Integrated **Docker** container orchestration framework using **Kubernetes** by creating pods, config Maps and deployments.
* Created Docker Images and pulled the Images using **Nginx.**
* Managed and used some of the **Azure** services like creating the resource groups, Virtual Machines, Load Balancers, Subscriptions and **Azure** App services.
* Configuring Virtual Networks, Designing Subnets, Gateway Subnets, Setup **DNS** at the Virtual Network level, User Defined Routes (UDRs) in **Azure**.
* Configuration of dashboards for **Azure OMS** and **Azure** AppInsights to enable end-to-end monitoring solution.
* Responsible for day-to-day systems management and provisioning, front-line handling of product, system, and application alerts, troubleshooting, capacity planning, and **performance optimization**.
* Experience in both Red hat and Debian environments
* Perform technology watch and suggested for **cloud optimization** for efficient utilization of reserved instances and resources and provided documentation for the need and awareness of **cloud costs** and **cloud value**.
* Developed **Python** application to generate dynamic inventory for **Ansible from Terraform state**.
* Implementation and continuous delivery of **AWS** infrastructure using **Terraform.**
* Setup monitoring and alerts for all servers using **Nagios, Solar winds, CloudWatch.**
* Created quality gates in **SonarQube** dashboard and enforced them in the pipelines to fail the builds when conditions were not met.
* Installation, Configuration and Troubleshooting of **Linux Servers.**
* Performed weekly and on-call deployments of application codes to production environments.
* Active participant in software configuration and change management processes to improve build accuracy, time, version controlling, and migration of code onto different build environments.

**Tool/Technologies:** Jenkins, Maven, Ansible, Docker, Kubernetes, Azure, AWS, Nexus, Nagios, Bash, Python, GIT, Bitbucket, Agile, LINUX.

**Client:** Incomm, Alpharetta, GA **Oct 2021 - Dec 2022**

**Role: Sr. DevOps Engineer**

**Responsibilities:**

* Set up **CI/CD** pipelines for Micro-services and integrated tools such as **Maven and Bitbucket.**
* Responsible for Continuous Integration (**CI**) and Continuous Delivery (**CD**) process implementation-using Jenkins along with **Python**, **Bash, and Shell scripts** to automate routine jobs.
* Worked on **GIT** which includes **Git** branching strategy like developing branches, staging branches, master, push, pull requests and code reviews are performed.
* Installed and configured **Ansible** and wrote some Ansible playbooks to create the **Kubernetes** cluster on VM’s.
* Used **Ansible** as the Configuration Management tool and written Ansible Playbooks to automate the process of creating the Master and Worker nodes in **Kubernetes** Environment.
* Deployed **Kubernetes** Cluster on cloud/on-premises environments with master/minion architecture and wrote many **YAML** files to create many services like pods, deployments, auto scaling, load balancers, labels, health checks, Namespaces, Config Map, etc.
* Deployed Core OS **Kubernetes** Clusters to manage **Docker** containers in the production environment with light weight Docker Images as base files.
* Provided consistent environment using **Kubernetes** for deployment scaling and load balancing to the application from dev through production, easing the code development and deployment pipeline by implementing **Docker** containerization with multiple namespaces like Default and Metrics Namespaces.
* Integrated **Docker** container orchestration framework using **Kubernetes** by creating pods, config Maps and deployments.
* Created Docker Images and pulled the Images using **Nginx.**
* Created **Cloud Formation** templates and deployed **AWS** resources using it.
* Developed Amazon **AWS Cloud Formation templates** to create custom sized **VPC, subnets, EC2 instances, ELB, Security Groups, load balancer**, **Lambda and CloudWatch.**
* Deployed and monitored scalable infrastructure on Amazon Web Services (**AWS**).
* Implemented **Terraform** modules for deployment of applications across multiple cloud providers.
* Developed **Python** application to generate dynamic inventory for **Ansible from Terraform state**.
* Implementation and continuous delivery of AWS infrastructure using **Terraform.**
* Experience in alert handling, standard availability, and performance report generation. Experience in root cause analysis of post-production performance related issues through **Splunk** tool.
* Writing **Splunk** **Queries**, Expertise in searching, monitoring, analyzing and visualizing **Splunk** logs.
* Hands on experience in customizing **Splunk** dashboards, visualizations, configurations using customized **Splunk** **Queries**.
* Setup monitoring and alerts for all servers using **Nagios, Solar winds, CloudWatch.**
* Created quality gates in **SonarQube** dashboard and enforced them in the pipelines to fail the builds when conditions were not met.
* Installation, Configuration and Troubleshooting of **Linux Servers.**
* Performed weekly and on-call deployments of application codes to production environments.
* Active participant in software configuration and change management processes to improve build accuracy, time, version controlling, and migration of code onto different build environments.

**Tool/Technologies:** Jenkins, Maven, Ansible, Docker, Kubernetes, Terraform, AWS, Nexus, Nagios, Bash, Python, GIT, Bitbucket, Agile, LINUX, Splunk.

***Client: Qualcomm - San Diego, CA. Jan 2020 - Oct 2021***

**Role: Release Engineer**

**Responsibilities:**

* Design, deploy, monitor, and maintain **Open stack cloud** infrastructure consisting of multiple nodes as required in the environment.
* Manage **Open stack** components such as **keystone**, **nova**, **neutron**, **glance**, **swift**, **Heat** after deploying Open stack cloud.
* Worked on **HEAT** and designed **VNFs** according to business requirements.
* Responsible for Continuous Integration **(CI)** and Continuous Delivery **(CD**) process implementation-using Jenkins along with **Python**, **Bash,** and **Shell** scripts to automate routine jobs.
* Implemented **Terraform** modules for deployment of applications across multiple cloud providers.
* Developed Python application to generate dynamic inventory for **Ansible** from **Terraform** state.
* Integrated Juniper contrail to **Open stack** environment to manage neutron service in our Cloud.
* Deployed Core OS **Kubernetes** Clusters to manage **Docker** containers in the production environment with light weight Docker Images as base files.
* Proficient in the configuration, implementation and troubleshooting of Network Access Control Lists, Network **IPS** Filtering Policies, Web-Application **Firewall Policies.**
* Able to thoroughly analyze Infrastructure issues (Routing, Switching, WAN Optimization, Load Balancing Network Firewall, Network **IPS**, Internet Proxy, Network Access Control technologies, **VPN**, Web-Application Firewall and **AAA** Services)
* Experience in **SIP** Headers and **call handling**, Trace back (protocol and tools), **CSCF**, **TAS**, **TDM**, Call Processing, Flows, **Call Detail** Report
* Creating networks and assign floating IP for instances in **Open stack** **cloud** as requested by client.
* Perform post deployment steps after deploying **Open stack cloud** and support testing team to move environment to production.
* Supported Production environment and provided necessary resources requested by client.
* Running applications after deployment of **Open stack** **cloud** and automate them with **ansible** as per business requirements.
* Verify logs if there are any issues in **Open stack** Components and monitor all Open stack components using different type of monitoring tools like **Nagios**.
* Installation, Configuration and Troubleshooting of **Linux Servers.**
* Performed weekly and on-call deployments of application codes to production environments.
* Active participant in software configuration and change management processes to improve build accuracy, time, version controlling, and migration of code onto different build environments.

**Tool/Technologies:** Jenkins, Open stack, Ansible, Docker, Kubernetes, Nagios, Bash, Python, GIT, Bitbucket, Agile, LINUX.

**Client: Novartis, New Jersey July 2017 - Dec 2019**

**Role: Junior DevOps Engineer**

**Responsibilities:**

* Developed a migration approach to move workloads from On-Premises to Windows **Azure** for **Windows** machines & **AWS** for Linux machines. Administered **RHEL**, **Centos**, **Ubuntu**, UNIX & Windows servers.
* Designed and deployed Virtual Private Cloud within **AWS** Platform
* Designed and developed **AWS** Identity and Access Management Policies and Roles to manage and administrate resource access in **AWS** VPC
* Worked with **RHEL**.5.x/ 6.x,7.x **CentOS**, **Solaris** & **VMware** **ESX** environment. Administered **LDAP, NFS** & **NIS** in Linux, implemented Samba for sharing resources between Linux & windows environment, involved in Remediation & patching of Unix/Linux Servers.
* Configured **Apache web servers** & **Tomcat application** containers in a RedHat Linux/CentOS environment.
* Worked closely with development teams to integrate their projects into the production **AWS** environment and ensure their ongoing support.
* Created network architecture on **AWS VPS**, subnets, Internet Gateway, Route Table and **NAT** Setup.
* Designed high availability environment for application servers and database servers on **EC2** by using **ELB** and Auto-Scaling. Configured S3 versioning and lifecycle policies to and backup files and archive files in Glacier. Designed hive tables as per the requirement and stored them in **ORC** format for efficiency.
* Configured Elastic Load Balancers with **EC2** Autoscaling groups.
* Have done various POCs to explain and demonstrate the possibility of implementing **CI/CD** in various projects.
* Deployed and configured **GIT** repositories with branching, forks, tagging, merge requests, and notifications.
* Involved in Installing **Jenkins** on a Linux machine and created a master and slave configuration to implement multiple parallel builds.
* Created E1 Test and E2 Test environments for Unit, sanity, functional and performance testing, replicated all applications in **OpenShift**.
* Worked on **OpenShift** platform in managing Docker containers and Kubernetes Clusters and Created Kubernetes clusters using ansible playbooks (launch-instan deploy-docker.yml, deploy-kubernetes.yml) on Exoscale.
* Managed **OpenShift** master, nodes with upgrades, decommission them from active participation by evacuating the nodes and upgrading them.
* Implemented **AWS** **Code Pipeline**and Created Cloud formation **JSON**templates in **Terraform**for infrastructure as code.
* Developed **terraform** scripts from scratch for building Dev, Staging, Prod and DR environments.
* Hands on experience with Spinnaker for Continuous Deployment with **Kubernetes**. And used OpenShift for container orchestration with **Kubernetes**, Container Storage, automation, to enhance container platform multi-tenancy.
* Used **Ansible and Ansible Tower** as Configuration management tool, to automate repetitive tasks.
* Configured and managed **Ansible** playbooks with Ansible roles and created inventory in **Ansible** for automating the continuous deployment.
* Deployed microservices, including provisioning **AWS** environments using **Ansible Playbooks**.
* Implemented **Docker** to provision slaves dynamically as needed. Created and Maintained **Docker** files in Source Code Repository build images and ran **containers** for applications and testing purposes.
* Used **Kubernetes** to manage containerized applications using its nodes, Config Maps, selector services and deployed application containers as **Pods**.
* Created Clusters using **Kubernetes** and worked on creating many pods, replication controllers, services, deployments, labels, health checks and ingress by writing **YAML** files.
* Worked on **VMWare** cluster deployments to manage **Hybrid** cloud environment.
* Worked with RedHat **OpenShift**Container Platform for **Docker**and **Kubernetes.** Used **Kubernetes**to deploy scale, load balance, scale and manage **Docker**containers with multiple namespace versions.
* Responsible for debugging the project monitored on Bug tracking and ticketing tool **JIRA** (Agile).
* Integrated defect tracking tool JIRA with **Jenkins CI** server for identifying, logging, tracking & documenting defects/issues in real-time.
* Used **Zabbix** as monitoring tool and used Zabbix plugin for **Grafana** for analysis & visualization.
* Skilled in monitoring servers using **Nagios, Dynatrace and ELK** Stack (**Elastic Search Logstash**).
* Day-Day application support on production and written the technical documentation for production issues on **Confluence** page.
* Followed Agile/Waterfall methodologies for project development.

**Tool/Technologies:** Ansible, Docker, OpenShift, Kubernetes, Terraform, AWS, GIT, Maven, Jenkins, Nexus, Nagios, Jira, SonarQube, Terraform, Cloud Formation, Shell, Bash, Python, Windows, LINUX, Zabbix, Grafana, VMWare

**Client:** **Nevonex Solutions Private LTD, INDIA. June 2014 - June2017**

**Title: System Administrator**

**Roles & Responsibilities:**

* Configuring, managing, monitoring, and troubleshooting of all RedHat**,** CentOS servers.
* Creating Logical Volume Manager (**LVM**), creating Volume Groups, Logical volumes in **RHEL** and CentOS.
* Upgrade OS and Kernel for **LINUX** servers.
* Supporting Server and Desktop Management, Analysis and Maintenance.
* Configuring and monitoring of servers such as **Samba**, **NFS**, **DNS**, **DHCP** on **RedHat** Linux.
* Writing Script to automate repetitive administration and application tasks.
* Implementation of scheduled tasks as per management policies.
* Supporting Level 2 and Level 3 applications.
* Creating and Managing user and group accounts, Documents, and procedures.
* Maintaining and troubleshooting of server problems.
* Install and configure **VMware ESXi Hypervisor** on bare metal.
* Responsible for creating VM’s according to needs. Managing hosts using vSphere.
* Migrating VM’s from one host to other to obtain load balancing.
* Resolving issues related to **ESX** host, **Storage**, **Network** and **VMware** update manager.
* Experience in **storage, network, backup**.
* Responsible for performing health check, troubleshooting and upgrade of **VMware** environments to improve sustainability.
* Monitoring and management of server hardware.
* Installed, configured, and administered **Apache Tomcat** 6 on **Linux** (RHEL 6) and responsible for deploying **JAR** files.
* Deployed Puppet, **Puppet** Dashboard for configuration management to existing infrastructure.
* Installed **Oracle** on Linux and Windows servers.
* Ability to write Shell scripting.
* Installed and configured monitoring tools such as **Nagios**.
* Created branches in **GIT** implementing parallel development process.
* Experience installing packages using **YUM** and **RPM** on Nix.

**Tools/Technologies:** Red hat, Ubuntu, Nagios, git, Shell scripting, Perl, Python, Windows server, VMware ESX