**Balaji N.K**

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**Sr. Cloud & DevOps Engineer**



**Professional Summary:**

* **Around 12+** years of experience as a **DevOps/Build & Release Engineer** framework in application configurations, code compilation, packaging, building, managing and releasing code from one environment to another environment.
* Experienced in various **SDLC** project phases: **Requirement/System gathering, Requirement/System Analysis, Functional Specification, Business Logic's, Design, Layered Architecture, Test plans, Coding, Code review, Testing, Performance tuning, Documentation, Implementation and Maintenance**.
* Involved in Developing and maintaining Continuous Integration and Continues Delivery process (**CI/CD**).
* Experienced working as a **DevOps Engineer** on various technologies/applications like **TFS, VSTS, SVN, GIT, Ant, Maven, Artifactory, Jenkins, Chef, Docker, Azure cloud, App services, Function Apps, Storage accounts, Data Lake, Event Hubs, Event Grids, Azure DevOps, and AWS DevOps.**
* Experienced in version control tools like **TFS, VSTS, SVN, Bitbucket and GITHUB.**
* Extensive experience using **MAVEN, ANT** as build tools for the building of deployable Artifacts from source code.
* Experience worked on **Groovy, Jenkins, Azure DevOps, AWS DevOps, Build Pipelines, Release pipelines** for continuous integration and for End-to-End automation for all build and deployments.
* Proficient with container systems like Docker and container orchestration like EC2 Container Service, Kubernetes and Managed Docker orchestration and **Docker** containerization using **Kubernetes**.
* Day to day activities like building and deploying code in different environments like DEV, SIT, UTA, Pre-Prod and Prod using **GitHub**, **Jenkins**, **HELM, Ansible, Terraforms to Docker**, **Kubernetes**, **EKS and AKS**.
* Experience in **kafka** to build real-time streaming data pipelines and applications that adapt to the data streams.
* Experience in working on **Ansible** Playbooks, Inventory files, **Vault feature** to configure the servers, **deploy** **software**, encryption of data file & orchestrate continuous deployments or zero downtime rolling updates.
* Experienced working in Cloud Computing Models like **IAAS, PAAS, SAAS**.
* Experienced working with application management services like **Azure App Services.**
* Experienced in setting up **namespaces, policies, secrets**, **Roles** and integrations with **HashiCorp** **Vault** for VM and Microservices.
* Experienced in creating **Kubernetes Secrets** to manage credentials and certificates.
* Experienced in **Kubernetes Blue Green Deployment** Architecture design and implementations.
* Experienced in running static code analysis tools like **SonarQube, Fortify, CheckMarx, and Blackduck.**
* Experienced working in cloud platforms like **AWS**, and **AZURE.**
* Experienced working in **Creating Azure Cloud Resource like, Virtual Network, Subnets, Virtual Machines, Storage accounts, Log Analytics, Application Insights, Azure Data Lake, Function Apps, NSG’s, ASG’s, Network Watcher.**
* Experienced in **AWS** Cloud Infrastructure as a Service platform with features **EC2, VPC, ELB, Auto-Scaling, Security Groups, Route53, IAM, EBS, AMI, RDS, S3, SNS, SQS, Cloud Formation, and Cloud Front**.
* Experienced in writing Infrastructure as a code (**IaC**) in **Terraform, Azure resource management, AWS Cloud formation. Created reusable** **Terraform** modules in both Azure and AWS cloud environments.
* Experienced in configuring gateways and virtual services.
* Experienced in requesting and configuring **SSL certificates** for application security and **mTLS certificates**.
* Experienced in maintaining applications by Monitoring logs information, Resources usage and performance and get the Health and Security notifications from **AWS** nodes by using Monitoring tools like **Splunk**, ELK (**Elastic search**, **Log Stash**, and **Kibana**),**Nagios** and **AppDynamics** and created monitors, alarms & notifications for **EC2** hosts using **Cloud Watch and DataDog.**
* Experienced working with **Backups & Disaster Recovery** planning and processes.
* Experienced working on **Disaster Recovery**. Strong hands-on expertise in designing highly available, cost effective and fault tolerant systems using **EC2 instances**, **Auto Scaling, Elastic Load Balancing** and Amazon Machine Images (**AMI**). Utilized Amazon Elastic Block Store (**EBS**) to store persistent data and mitigate failure by using snapshots.
* Have knowledge of working with **ARM templates** for provisioning automation.
* Experience with **Linux/UNIX environments** and scripting.
* Experienced working in Micro Service Architecture design and deployments.
* Experience in using IIS, **Tomcat** app server, **Apache HTTPD** web server, **Spring Boot** applications, **spring cloud Netflix** tools.
* Having knowledge on Firewall Appliances like **Palo Alto**.
* Experience working with Reverse Proxy and Load Balances like **F5**, **Azure Load Balancer, AWS ELB**.
* Experienced working with **NSG’s** (Network Security Groups).
* Extensively involved in setting up JIRA as defect tracking system and configured various workflows and involved in release planning and executed the release build request from the project team through **JIRA** Ticket.
* Excellent communicative, interpersonal, intuitive, analysis and leadership skills with ability to work efficiently in both independent and team work environments.

**Technical Skills:**

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| --- | --- |
| **Version Control Systems:** | GIT, Subversion (SVN), TFS (Team Foundation Server) |
| **Operating Systems:** | RHEL/CentOs5.x/6.x/7.x/8.x.Ubuntu/Debian/Fedora, Windows 2008/2012/2016/2019 |
| **CI/CD Tools:** | Jenkins, Artifactory, Nexus, Azure DevOps, kafka, Groovy |
| **Containers:** | Docker, Kubernetes, Packer. |
| **Scripting Languages:** | Shell, PowerShell, Azure CLI, Arm Templates, AWS CLI, Terraform |
| **Web Servers:** | Tomcat, Apache, IIS, JBOSS, Spring boot |
| **Cloud Platforms:** | Azure, AWS |
| **Virtualization:** | Nutanix, Hyper-VMware, vSphere, Oracle Virtual box. |
| **Configuration Management:** | Chef Server, Client Dk, Chef client, Ansible |
| **Log Management:** | Log Analytics, Qradar, Cloud Trail |
| **Performance Monitoring:** | App Insights, JProfiler, App Dynamics, Cloud Watch |
| **Firewalls:** | Palo Alto, CISCO, Meraki, Fortinet, Ubiquiti |
| **Storage Types:** | Storage accounts, Blob Storage, File Storage, S3, Simple Queue Service |
| **Databases:** | MS SQL, Mongo DB, Cosmos, MySQL |
| **Project Management Tools:** | MS Office, MS Project |
| **Bug Tracking Tools** | JIRA, Remedy, IBM clear Quest, Bugzilla |

**PROFESSIONAL EXPERIENCES:**

**AT&T – Atlanta**

**Sr. Cloud/DevOps Engineer May 2021 – Present**

* As part of the Healthcare Web application development project, was responsible for setting the Infrastructure and CI/CD pipelines for having the build and deployment process automated.
* Automated Infrastructure as Service (**IaC**) using **Terraform, Azure CLI** & **Arm Templates**.
* Created the **Build** and **Release Pipelines** on **Azure DevOps**.
* Was responsible for creating **Azure Subscriptions**, **Virtual Network**, **Subnets** and **Vnet Peering’s**.
* Deployed custom build agent for performing the **CI/CD** activities.
* Involved in infrastructure as code, execution plans, and resource graph and change automation using **Terraform** and implemented through **Azure** pipeline (ADO).
* Deployed the **Virtual networks, Network Security groups, Subnets,** and **assigning** the **NSG’s** to appropriate Subnets was automated using **Terraform** and **Arm Templates**.
* Deployed **Virtual machines**, **Disks, Storage accounts, Azure App Service, App Service Environments, Function Apps. Logic apps,** using **Arm templates & terraform.**
* Deployed **Azure Kubernetes Cluster** (**AKS) and nodes** on **Azure Cloud.**
* Worked on creating the Docker Images and uploaded the **Docker** images to **Azure Container registry** (**ACR**)
* **Installed Minikube** performed the deployments of the **Docker images** on to the clusters by updating the **Labels** and **selectors** in the **Pod** definition.
* Automated Configuration management process by using **Ansible Playbooks** for **installing** and **configuring** the Applications, Hardening the Operating systems like Domain Joining, attaching AD Groups to the servers, adding the privileges to the groups.
* Installed and configured Azure RDS, DNS servers, MacAfee anti-virus tool, Log Analytics, App Insights, and Power BI.
* Responsible for setting the various Environments like **DEV, QA, INT, SID, SIT, UAT, Pre-prod** and **Production** environments.
* Requested and Configured **SSL Certificates** and **Client certificates**, to implement secure communication.
* Deployed **PaaS** services using the **Azure Release pipelines**.
* Worked on groovy scripting.
* Managed tickets using **JIRA** ticketing tool, created projects, assigning permissions to users and groups for the projects & created notification schemes for **JIRA**.
* Deployed the build Artifacts into environments like **DEV, QA, UAT, and PROD** according to the build life cycle and coordinated in end-end release process from the planning of release content to deployment and production.
* Configured **Application Insights** and **Log Analytics** for having the logging and monitoring enabled on Applications and Infrastructure.
* Configured A**lerts on Azure Application insights and Log Analytics** workspace to send notification if the performance of the server or performance of the Application is above the configured threshold of system resources.
* Configured **Azure Backups** using **Azure Recovery vault** and configured the automated daily backups for the Production environments.
* Provided L1 support for all managed environments.
* Involved in Troubleshooting application issues by looking into the application and software logs and escalate it to the L2 support team.
* Support the full life cycle **SDLC** of cloud-based solutions including tools, technologies, and best practices for development, deployment, and maintenance of cloud hosted services.
* Lead the team of six Release Engineer’s and mentor then technically.

**AT&T – Atlanta, GA**

**Azure Cloud DevOps Engineer Feb 2020- April 2021**

* Created recommendations on how to duplicate a subset of on-premises machines to the **Azure** Infrastructure as a Service (**IAAS**) offering which will be used for disaster recovery. This analysis included the specifics to synchronize on-premises data with SQL Server and SharePoint instances hosted in VMs.
* Worked on **Azure Site Recovery** and **Azure Backup- Deployed** Instances on Azure environments and in Data centres and migrating to Azure using **Azure Site Recovery** and collecting data from all Azure Resources using **Log Analytics** and analysed the data to resolve issues.
* Configured **Azure Multi-Factor Authentication** (MFA) as a part of **Azure AD Premium** to securely authenticate users and worked on creating custom Azure templates for quick deployments and advanced PowerShell scripting.
* Deployed **Azure SQL DB** with **GEO Replication, Azure SQL DB** Sync to standby database in another region & fail over configuration.
* Worked on Server less services, created and configured **HTTP** Triggers in the Azure Functions with application insights for monitoring and performing load testing on the applications using the **Visual Studio Team Services** (**VSTS**) also called as **Azure DevOps** Services.
* Created Azure Automation Assets, Graphical runbook, PowerShell runbook that will automate specific tasks, deployed **Azure AD Connect**, configuring **Active Directory Federation Service** (AD FS) authentication flow, ADFS installation using Azure AD Connect, and involved in administrative tasks that include **Build**, **Design**, **Deploy** of **Azure** environment.
* Configure Continuous Integration from source control, setting up build definition within **Visual Studio Team Services** (**VSTS**) and configure continuous delivery to automate the deployment of ASP.NET MVC applications to Azure web apps and managed **Azure Active Directory, Office 365** and applied upgrades on a regular basis.
* Implemented a **CI/CD** pipeline with **Docker**, **Jenkins** (**TFS Plugin installed**), **Team Foundation Server** (**TFS**), **GitHub** and **Azure** Container Service, whenever a new **TFS/GitHub** branch gets started, Jenkins, our Continuous Integration (CI) server, automatically attempts to build a new **Docker** container from it.
* Worked with Terraform Templates to automate the **Azure Iaas** virtual machines using terraform modules and deployed virtual machine scale sets in production environment.
* Managed Azure Infrastructure **Azure Web Roles, Worker Roles, VM Role, Azure SQL, Azure Storage, Azure** AD Licenses, Virtual Machine Backup and Recover from a **Recovery Services Vault** using **Azure PowerShell and Azure Portal**.
* Written Templates for Azure Infrastructure as code using **Terraform** to build staging and production environments. Integrated **Azure Log Analytics** with Azure VMs for monitoring the log files, store them and track metrics and used Terraform as a tool, Managed different infrastructure resources Cloud, VMware, and Docker containers.
* Worked on OpenShift for container orchestration with **Kubernetes** container storage, automation to enhance container platform multi-tenancy also worked on with **Kubernetes** architecture and design troubleshooting issues and multi-regional deployment models and patterns for large-scale applications.
* Deploying windows **Kubernetes** (**K8s**) cluster with **Azure Container Service** (**ACS**) from **Azure CLI** and Utilized **Kubernetes** and **Docker** for the runtime environment of the **CI/CD** system to build, test and Octopus Deploy.
* Using **Ansible** created multiple playbooks for machine creations and **SQL server**, cluster server and my **SQL installations**.
* Written **Ansible** handlers with multiple tasks to trigger multiple handlers and to decouple handlers from their names, making it easier to share handlers among Playbooks and Roles.
* Managed **Kubernetes** charts using Helm, Created reproducible builds of the Kubernetes applications, managed Kubernetes manifest files and managed releases of **Helm** packages.
* Implemented Docker -maven-plugin in Maven pom.xml files to build Docker images for all microservices and later used Docker file to build the Docker images from the Java jar files.
* Designed, wrote and maintained systems in Python scripting for administering GIT, by using Jenkins as a full cycle continuous delivery tool involving package creation, distribution, and deployment onto Tomcat application servers via shell scripts embedded into Jenkins jobs.
* Maintained Artifacts in binary repositories using JFrog Artifactory and pushed new Artifacts by configuring the Jenkins project Jenkins Artifactory plugin.
* Involved in Jira as defect tracking system and configure various workflows, customizations, and plugins for Jira bug/issue tracker integrated Jenkins with Jira, GitHub.

**TechMahindra – Chennai, Tamil Nadu**

**AWS Cloud/DevOps Engineer Nov 2018- Feb 2020**

* Administrated and automated **AWS infrastructure** and integrated services (**EC2, Lambda, Route53, ELB, Code Pipeline, IAM, VPC, SNS, SQS, S3, ECS, ECR, Kinesis, DynamoDB, CloudTrail, X-Ray, and CloudWatch**) using **CloudFormation/Terraform** to Provision serverless AWS Lambda functions and operating by involving in build & deploying using **CI/CD** pipeline tools using **GIT, Bamboo, Sonar, Nexus Artifact** to AWS regions.
* Worked on **AWS Lambda for** serverless implementations, where the functions were triggered when the S3, DynamoDB, ETLGluetables were updated and modified then used SNS, SQS, DLQ to notify AWS Lambda.
* Worked on a AWS **'serverless Lambda'** architecture enabling API’s by using AWS CFT and integrating with **S3**, **SNS**, **API Gateway, and Dynamo DB, etc** and deployed **AWS Lambda code** from **Amazon S3** buckets.
* Experience on **AWS lambda** to run function and infra without managing servers them and to trigger to run code by **Bitbucket, Bamboo,** Artifactto automate AWS native servicesusing **CloudFormation** templates and **terraform.**
* Wrote **python** scripts to manage AWS resources from API calls using **BOTO** SDK, worked with **AWS CLI** and **CloudFormation**.
* Using **Bash** and **Python** with **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.
* Hands on experience in writing **CloudFormation** API modules to manage infrastructure, for automatic creation of ECS Fargate, VPCs, Autoscaling groups, Load balancers, **S3** buckets in AWS also Automated various infrastructure activities like **CI/CD** process, Application Server setup, stack monitoring using **python** scripts.
* Provisioned **AWS** ECS **Fargate** through serverless lambda using CFT and integrated with Auto Scaling Groups, launch configurations, Load balancers, security groups in the defined VPC and implemented the AWS **Lambda** functions to run the scripts in response to events in Amazon **DynamoDB** and **S3** bucket.
* Worked on **Docker** container snapshots, attaching to a running container, removing images, managing directory structures and containers in **AWS ECS** and pushing images to **ECR**.
* Created a **Lambda** functions using **Python** Script to stop all the instances with a specific tag for **AWS** Instance and made it into Cloud Watch Scheduler to schedule it every night.
* Installed and configured **CI/CD** tools in AWS environment and deploying Lambda infrastructure and app functions using **IaC** and **FaaS** pipeline through **Bamboo** in Eng, Test and Production environments using **CloudFormation** templates and scripts**.**
* Building, Configuring and Maintaining **Kubernetes** Cluster to create pods, replication controllers, services, deployments, labels, health checks. Used **CI/CD** pipeline for system to build and deploy **Docker** containers on multiple environments.
* Managed deployments of **microservices** on containers using containerization tools like **Docker** compose and used Docker swarm for orchestration to build used **Jenkins** for continuous deployments into various environments.
* Implemented AWS **Code Pipeline**and Created Cloud formation **JSON**templates in **Terraform**for infrastructure as code.
* Wrote **Python** Scripts to Automate AWS services which include web servers, ELB, database, EC2 and database security groups, **S3** bucket and application configuration and deployed and configured Elastic search (ELK) for log analytics, full text search, application monitoring in integration with AWS **Lambda**.
* Worked on ITIL tool **ServiceNow** for production Incidents, creating Change Records and acknowledged through **PagerDuty**.
* Provided **24x7 on-call support** for various application teams on Development, testing and Production for serverless platforms.

**TechMahindra – Chennai, Tamil Nadu**

**AWS Cloud/DevOps Engineer June 2015- Oct 2018**

* Implemented **CI/CD pipeline** using **Jenkins** and **Chef** for the global development team, allowing them to copy multiple config files from multiple servers to **S3 bucket** and Git Repository.
* Worked on multiple shell scripts using **AWS cli** commands to fetch data from **AWS ec2** servers
* Wrote **Chef Cookbooks**, recipes and used them to configure **EC2** **instances** using Chef.
* Monitored AWS using AWS cloud watch and configured Splunk to monitor granular metrics of all the AWS services. Also configured dashboard for each **AWS resource**.
* Rewrote some of the **shell scripts** to make deployments more efficient and reduce the deployment time.
* Build Jenkins pipeline to upgrade Java version on Linux and Windows servers using shell script.
* Experience in Installing, Patching, and Configuring and **Administering RHEL servers** Worked on implementing backup methodologies by Power Shell Scripts for **Azure Services** like **Azure SQL Database**, **Key Vault**, **Storage blobs, App Services** etc.
* Major focus on **Configuration, SCM, Build/Release Management, Infrastructure as a code (IAAC)** and as **AWS DevOps** operations **Production** and cross platform environments.
* Configured **Grafana** tool to view instance **metrics** and **created Alerts** using queries to get notifications.
* Administered **DNS**, **DHCP** and Implemented DNS for external name resolution.
* Created Jobs in Jenkins to build application using Maven, In addition developed several scripts for deployment in several environment
* Involved in periodic archiving and storage of source code for disaster recover.
* Involved in migration applications from **on-prem legacy** model to **AWS EKS microservices** with **spring boot java.**
* Kept track of all the releases and requests of the developers through infrastructure management tools.
* Worked with the developers to rectify the common build errors.

***MARS SCP Regional Support -* Chennai, Tamil Nadu**

**DevOps Engineer May 2013- May 2015**

* Implemented new projects builds framework using Jenkins & maven as build framework.
* Worked with the Development team to create the **CICD** pipeline
* Implemented a Continuous Delivery framework using **Jenkins**, **Ansible**, **GIT**, **SVN,** **Docker**, **Kubernetes**, **Maven** and **Nexus** in Linux environments.
* Wrote and Implemented **Ansible Playbooks** and **Ansible Roles** for configuration management as part of **micro services** implementation and deployments.
* Applied new variables, secret files and application support files using Ansible playbooks and Ansible roles and Chef cookbooks. And supporting the team during implementation issues.
* Worked as a team member to install and configure **Kubernetes** cluster configuration.
* Created **Jenkins jobs** to build code and push to **Nexus Repository**.
* Built and configured various environments like **DEV, SIT, QA,** and **UAT** for every month release plans.
* Implemented pipelines to deploy the code into **DEV, CST** and **QC** servers for testing.
* Worked to support and build **Docker images** and push them to Docker repositories.
* Worked to create branches for release management and code merge and deployments using **GIT and SVN**.
* Implemented configuration changes using **GIT**, **Source Tree** for **Ansible playbooks**, **Ansible roles**.
* Wrote to write policy files in **SVN** for new code changes, and **SVN db** configuration changes.
* Supported **svn, Hudson** and **cfengine** workflow to pull configuration to the testing servers.
* Worked to create **SVN release configuration** and **Jenkins Release configuration** for release management.
* Created new workflows for **Kubernetes deployments**. Creating service and deployment configurations with **YML** files.
* Installed and Configured Jenkins Plugins to support the project specific tasks. Supporting team during **Jenkins deployments** issues.
* Supported creation of **Jenkins files**, **Groovy scripts** for deployments. And implemented **shell scripts** to support project level small functionalities.
* **Troubleshooting application** code issues Using **Splunk**.
* Implemented and supported **AJSC project** deployments.
* Worked as a team member to migrate the applications from **Tibco war** deployments to today’s **micro-Services implementation**.
* Troubleshooting build issues, configuration issues, implementation issues and testing issues.
* Performed health checkups of Nodes. Using tools like **Introscope** & **Nagios**
* Using **JIRA** to write user stories as a ticketing tool in release planning and to execute release build requests from the project team.
* Using **Remedy** and **HP QC** for troubleshooting and ticket handling
* Diligently worked with developers, project managers and product owners to set up the road map and supported day to day build issues.

**Environment:**

SVN, GIT, Jenkins, Ansible, Chef, Docker, Kubernetes, Nexus, groovy, shell, GRM, LRM, Cassandra, GRID, Zookeeper, Maven, Nagios, Splunk and Introscope.

**Client: TechMahindra, Chennai**

***Middleware tools, Build and Release Manager* Dec 2010- April 2013**

* Responsible for all Administrative tasks including **WebSphere Application Server** domain configuration which includes components like **WebSphere Application Server**, **WebSphere MQ**, **IHS Web Server**, **ESB**, **RTC**
* Monitoring health of all various applications and servers in all environments
* Ensure that all Middleware components are at a supporting level. By upgrading with **Fix Packs** and upgraded versions on **WAS**, **JDK**, **IHS** **(from 6.x, 7.x and 8.5) and MQ, MB (from 6.x to 7.x).**
* Configured **SSL** and worked on runtime/implementation issues.
* Configured and Enabled the **Global Security System** for **WAS Administration** for Console users and Console Groups
* Configured **LDAP** user Registries with **Document Management server Xythos**
* Configured Web Sphere resources like **JDBC providers, JDBC data sources, connection pooling.**
* Troubleshooting various problems in different stages of development using log files.
* **Iteration** and **Release creations** creation and Code Merging with **IBM RTC**.
* Responsible for setting up **user access** and setting up control for specific resources.
* **Installed** and **configured** **Web Sphere MQ and MB** for the project requirement.
* Configured **TCP monitor** window and created execution groups for message flow.
* Creation and managing **MQ objects in Distributed Environment**.
* Troubleshooting **MQ series with MQ error log, JMS logs and trace logs**.
* Creating, deploying, administrating **Qmgr and different MQ series objects** on AIX and Windows.
* **Managing Installation of MQ series** software in requested servers.
* Creating, Deploying & Administering Queue Manager & different **MQSeries** object in AIX & Windows.

**Environment:**

Java, J2EE, Shell Scripting, ANT, struts, Hibernates, Oracle, DB2, IBM RTC, Xythos, Remedy, LDAP,UNIX, Linux, AIX, WebSphere Application Server 6.x/7.x/8.x, WebSphere MQ 6.x/7.x, WebSphere MB 6.x/7.x

* **Education Details:** Bachelor of Computer Science Engineering.