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**Geetalakshmi Javvadi**

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**Site Reliability Engineer/ DevOps Engineer**



**SUMMARY:**

* Around 10+ years of extensive professional experience as **SRE, Cloud Engineer, DevOps Engineer, Build and Release Management** and **Linux Systems**. Also, following **Agile/Waterfall methodology** in Software Development Life Cycle **(SDLC)** core areas such as **Analysis**, **Design**, **Implementation**, **Testing** and **Deployment** of **Object Oriented**, **Client Server**, **Web Based, Distributed** and Enterprise applications with Java/J2EE technologies.
* Strong experience on the system’s operations focusing on backend in domain areas such as **Banking and Finance**, **manufacturing**, **telecom**, and **healthcare**.
* Expertise in understanding and **troubleshooting** production issues by **continuous monitoring** with release management.
* Worked on building the platform cluster on **AWS** with **Kubernetes** and **docker** technologies.
* Improved the performance of the **orchestration** by identifying the random process to bring up the containers for SAP HANA Database.
* Executed **AWS** solution by designing the cloud formation template to bring up the on-premises database with BYOL.
* Involved in creating benchmarks for different **EBS/EFS** volumes in AWS to understand the cost optimizations.
* Implemented Hardware configuration tool check **on AWS, GCP and Azure infrastructure** with enhancements in python and porting that in C++.
* Worked with **pageDuty** for acknowledging the incidents while handing on-calls in prod.
* Created the TPCC/TPCE **performance** **benchmarks** for ASE database release.
* Created **pipelines** and involved in the ETL roles and data modeling with experience in **SQL queries** and **PL/SQL** in **Oracle** **11g** and **MySQL 5**.
* Wrote the scripts using **python**, **shell scripting** and **ansible** for application deployments and involved in production releases.
* Worked on deployments using a blue-green deployment pattern.
* Actively involved in the DevOps streamlining process through **Jenkins** **CI**.
* Experienced in spinning **AWS services** lice **EC2**, **EB load balancers**, **Auto Scaling Groups**, updating and creating **IAM** components, creating **RDS, S3, Elastic search, DynamoDB** etc using terraform and Cloud Formation Templates.
* Creating and Managing Virtual Machines in **Windows Azure** and Setting up communication with the selected ports and worked on designing, building and improving cloud environments on **Amazon Web Services** and **Azure Cloud**.
* Creating Lambda’s **ECS, EKS** and **Fargate** using terraform modules also, doing timely upgrades.
* Extensive experience in creating AMI using **PACKER** and chef/ansible to create custom AMIs for the infrastructure. Upgrading kernel and vulnerability fixes with application versions and **AMIs**.
* Developed an infrastructure as a code using **Terragrunt** with terraform while applying a fully modularized approach. Built networking infrastructure, **EKS (Kubernetes) clusters** and relational databases in AWS as a code. Used **Cloud formation template (CFT**) to implement auto scaling, cloud watch through **Jenkins** pipeline
* Building **docker** images and storing them into **AWS ECR** and **JFrog Artifactory** registry.
* Worked on creation of **Docker** containers and **Docker consoles** for managing the application life cycle. Implemented Docker automation solution for Continuous Integration / Continuous Delivery model. To achieve **Continuous Delivery (CD)** goal on high scalable environment, configured **Docker** coupled with load-balancing tool **Nginx.**
* Experience implementing Azure services such as **Azure Active Directory (AD),** **Azure Storage, Azure cloud services, IIS, Azure Resource Manager, Azure Blob Storage, Azure VM, SQL Database, Azure functions, Azure service fabric** and **azure service bus**.
* Worked with **version control, Build and Release management and deployments** of the solutions to the DEV, QA, PROD environments leveraging cloud solutions.
* Strong programming /scripting and troubleshooting skills with a background of extensive knowledge on **Unix/Linux** and **virtualization Cloud concepts**.
* Efficient in defect management for **resolving integration issues**, system testing issues, User acceptance issues and production issues and experience in **GIT**, **Bitbucket** and **Subversion** and familiar with project tracking tools like **JIRA**, **RALLY**, **ADO**.
* Experience in networking technologies such as **TCP/IP, DHCP and Active Directory** for troubleshooting issues.
* Experience in use of build tools like **Apache**, **Ant** and **Maven**.
* Experience in architecting and deploying monitoring solutions using **AppDynamics**, **Dynatrace**, **Splunk** and **Wavefront** **production** **environments**.
* Worked on Application development using various frameworks such as **spring framework 4**, **Spring MVC**, **Spring Boot**, **Spring** **batch** and **microservices**.
* A shift left security mindset and compliance standards such as **HIPAA** and PCI.
* Proven competencies in the areas of problem solving and analytical skills, excellent presentation and documentation skill, application development, project management and leadership.
* Highly motivated and a self-starter with effective communication and organization skills, combined with attention to detail and business process improvements.

**EDUCATION:**

**Master of Science in Computer Science-Univ of Missouri- Kansas City, USA-2014**

**Bachelor of Technology in Information Technology-Kakatiya University- Warangal, India-2009**

**TECHNICAL SKILLS:**

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| --- | --- | --- |
| **Operating Systems** | Windows 9X/2000/XP, Linux (Redhat/CentOS/Ubuntu), Unix, DOS, Mac | |
| **Build Tools** | Maven, SBT, Gradle, Ant, Docker, Packer | |
| **CI/CD Tools** | Ansible, Jenkins, Travis CI , Hudson, Bamboo, TeamCity, Artifactory |
| **Languages & IDE** | C, C++ with Data Structures, Java, Shell scripting, PHP, PERL, python, TCL, Golang & Eclipse, JetBrains, NetBeans | |
| **Databases** | Oracle, MySQL, SQL Server, Elastic Search, Influx DB, SAP HANA, Adaptive Server Enterprise (ASE) | |
| **Web/App Server** | Apache, Tomcat, WebSphere | |
| **Bug Tracking Tools** | JIRA, Remedy | |
| **Version Control Tools** | Subversion, GIT, GitHub, Bitbucket, Tortoise SVN, Visual SVN, Clearcase | |
| **Cloud/Container**  **Orchestration** | Amazon Web Service (AWS), GCP, Azure, Kubernetes, Openshift | |
| **Ticketing Tools** | PagerDuty, ServiceNow, JIRA | |
| **Content Delivery Networks** | AWS CloudFront, Cloudflare | |
| **Virtualization** | VMware ESXi V5.5, vSphere, Citrix Xenserver V6.5, V7.0,Xencenter, Proxmox | |
| **Networking Concepts** | FTP, SFTP, SCP, TCP/IP, UDP, SSH, RSYNC, Subnet Mask, Telnet, Static/DHCP IP, Http, Https | |
| **Performance Tools** | Jmeter, GCLogAnalyzer, Linux Perf, Wireshark, Pprof (Golang profiler), delve (Golang debugger) | |
| **Monitoring Tools** | Grafana, Wavefront, Dynatrace, Splunk | |
| **ETL & Reporting Tools** | SAS DI Studio 4.2.1, Informatica 9.0 & SAP Lumira, Workday, Tableau | |
| **Scheduling Tools** | SAS Flow Manager, Lsfadmin | |
| **Data warehousing Appliances** | Netezza, Green Plum, HBase | |
| **Query Languages** | PL/SQL, SPARQL, XPath, XQuery | |
| **Other Skills** | Software Engineering, Business Intelligence, Algorithms, HTML/CSS, XML, , VB, .NET, Apache Hadoop, Jena, IBM BigInsights Mapreduce, Gtests, Junit tests, JVM Internals, Kafka, Vault | |

**PROFESSIONAL EXPERIENCE:**

**Workday:**  **Pleasanton CA, US**

**Site Reliability Engineer / Performance Engineer Jun 2019 – Present.**

**Description:** Workday is one of the most global cloud companies in the world and a leading designer of enterprise software for HR finance and planning management. This software assists various corporations to manage their business operations and customer relations with the latest technologies. Workday software uses the OMS service as their core database engine with all the data in-memory for its fast processing.

**Platform:** Grafana, Wavefront, Workday UI, Influx DB, bash, Azul Zing, Kubernetes, Openshift, Docker, AWS, Jenkins, HashiCorp Consul, Workday UI, Influx DB, Dynatrace, JMeter, GCLogAalyzer, Wireshark, Tableau, Linux Perf, IntelliJ Debugger, Jprofiler, Jmap histo, Elastic Search, Workday Automation Testing System (WATS).

**Responsibilities:**

* Worked in an **agile** environment during the complete project life cycle and take part in daily **SCRUM** meetings, technical elaborations, weekly sprint meetings and sprint retrospective meetings.
* Interacted with the client, users and stakeholders, gathering business needs and converting them into technical specifications.
* Involved in Vulnerability resolutions for the issues and observing the metrics in the monitoring framework to take the decisions by coordinating with other team members.
* Created reports, alerts, advanced Splunk search and visualization in **Splunk** enterprise.
* Goal of the project is to evaluate the capacity planning of the GORS service to see if more than 2 GORS instances I.e 3\*100G can fit on 512G hosts. Also, recommending the combinations of 100G and 200G on 1.5T hosts.
  + Getting the perf lab analysis and this is accomplished by understanding how JOB and JOB2 ORSs work.
  + Wrote python code using **Ansible** **python** API to automate cloud deployment process.
  + Used **ansible** play books to set up a continuous delivery pipeline.
  + Used **Git** and **Bitbucket** for version control of the code repositories.
  + Written **Ansible** YAML scripts to configure the remote servers.
  + Used **Jenkins** as wrappers for deployment and configured using **python** and **ansible** scripts.
  + Configure **Jenkin** nodes and **CI/CD** pipelines.
  + Extensively involved in the Kafka ecosystem setup in a High Availability environment and developing self-healing services for **Kafka** services through Jenkins jobs.
  + Set up the environment with GORS and 1 tenant with 1 partition running on each GORS.
  + Created a multi **JVM** environment to have different tenants running on each GORS
  + Executed the pay-cal, accounting and cancellation jobs on GORS.
  + Ran different scenarios to evaluate the performance on the varying number of GORSs.
  + Set up a monitoring framework (XOLAF) for the analysis of the above executions.
  + **Analyzed** the results and **documented** them.
  + Getting the prod/impl analysis for GORS on 512G and 1.5T hosts
  + Created a Wavefront dashboard to keep all my analysis at one place.
  + Analyzed 200/400/600/800G GORS load, CMU, PPU and zing linux memory usage for all the hosts for a period of 1 month by writing different queries.
  + Done the analysis for 100G that we received for different tenants that can be downgraded.
* Goal of the project is to build the platform clusters for ML/EXTEND/WORKDAY services on the workday public cloud platform (SCYLLA).
  + Working experience with **Azure Resource Manager (ARM)** to deploy, update, and delete multiple Azure resources, as well as migrating on-premises resources to Azure with Azure site recovery (ASR), and **Azure backups**.
  + Interact with Product Managers to fine tune user stories and with the testing team to approve functional specification and test cases.
  + Provided Data integrity through **scheduled backup activities**, allowing access to critical data at all times
  + Worked with Clients and Development team to Implement ongoing changes in the environment.
  + Use **Maven** as a build tool for **application build and deployment.**
  + Monitoring the logs of transactions using Splunk and analyzing them to figure out the issues.
  + Working on Continuous Integration and Continuous Deployment using Jenkins.
  + Develop **CI/CD services** for the internal engineering teams and optimize CI build jobs with the help of **Jenkins**.
  + **Design and deploy** new features to streamline all the manual operations
  + **Execute and troubleshoot** the root cause of all the critical issues.
  + Creating requests to promote applications to higher environments after successful testing in **dev/stage environments**.
  + Creating jobs in Jenkins to deploy applications.
  + Implemented **Blue - green deployment** pattern for deployment.
  + Setup Continuous integration with Jenkins and make use of a wide range of plugins available to set up smooth developer friendly workflows.
  + Created **Restful Web Services** and worked on Migration of services from monolithic to Microservices.
  + Worked on Sql and PL/Sql scripts.
  + Designing and Developing **Dockerfile and Kubernetes deployment** YAML files to run the microservice-based application.
  + Worked on **Openshift containers** creating **pods** for deployment.
  + Integrated **EKS** with **Prometheus, Grafana dashboard** for monitoring and also worked with setting up splunk for sidecar etc.
  + Developed tools using **python, Shell scripting**, XML to automate some of the menial tasks.
  + Worked on **Vulnerabilities and its remediations.**
  + Worked with the Development team to deploy applications using Jenkins job by writing **python scripts**.
  + Experience in deploying multiple monitoring solutions using tools **Dynatrace, Splunk production environments.**
  + Identifying the Critical applications for System resource utilization (CPU, Memory, Threads etc.) & JVM heap size was monitored using **AppDynamics.**
  + Maintain current functional and technical knowledge of the Splunk platform and future products.
  + Used Azure DevOps services such as **Azure Repos, Azure Boards, and Azure Test Plans** to plan work and collaborate on code development, built and deployed applications.
  + Deploy, configure and maintain **Splunk forwarder** in different platforms.

Created **Reports, alerts**, advance **Splunk search** and Visualization in Splunk enterprise.

* + Used networking technologies such as **TCP/IP, DHCP** and Active Directory for troubleshooting issues.
  + Validating the partially built cluster (staging cluster).
  + Building a new cluster for workday service.
  + Building PROD clusters for ML service.
  + Troubleshooting the build issues.
  + Preparing the handover document after the build out processes.
  + Improving the performance by doing the build steps in parallel by 2x times.
  + Used Hashicorp vault in the platform build to have more security.
* Goal of this project is to evaluate the performance of the OTS/ORS service on docker compared with BM.
  + Experience in using **ARM templates** (JSON) to create Azure services, while ensuring no changes were made to the existing infrastructure.
  + Experience implementing Azure services such as **Azure Active Directory** (AD), **Azure storage**, **Azure cloud services**, **IIS**, **Azure Resource Manager** (ARM), **Azure Blob Storage**, **Azure VM**, **SQL Database**, **Azure Functions**, **Azure Service Fabric**, and **Azure Service Bus**.
  + Working knowledge in deploying CI/CD systems using Azure DevOps on **Kubernetes container** environment, and for the runtime environment of CI/CD system to build, test and Deployment we have utilized **Kubernetes and Docker.**
  + Structured cluster AutoScaler for **Azure Kubernetes Service (AKS)** by using **Terraform** and worked with scheduling, deploying, and managing pods and replicas in **EKS**.
  + Experience with version control tools such as **GIT** and **Bitbucket**. Comprehensive knowledge of source controller concepts including branches, tags, and merges.
  + Implementing a Continuous Delivery framework using **Jenkins**, **Maven** & **Nexus** in the **Linux** environment.
  + **AppDynamics** end to end readiness for Dev, QA and Prod environments.
  + Interact with Product Managers to fine tune user stories and with the testing team to approve functional specification and test cases.
  + Working with Clients and Development team to Implement ongoing changes in the environment.
  + Use **Maven** as a build tool for application build and deployment.
  + Creating jobs in **Jenkins** to deploy applications.
  + Designed, Developed and deployed tools for Continuous integration to enhance productivity.
  + Experience working on Production support tickets from devops team to resolve any issues and troubleshoot.
  + Use **Git and Bitbucket** for version control of the code repositories.
  + Monitoring the logs of transactions using **Splunk** and analyzing them to find errors.
  + Working on Continuous Integration and Continuous Deployment using **Jenkins** and **sonar**.
  + Developed an infrastructure as a code using **Terragrunt with Terraform** while applying a fully modularized approach. Built networking infrastructure, **EKS (Kubernetes) clusters**, and relational databases in AWS as a code.
  + Created detailed **AWS Security groups** which behaves as virtual firewalls that controlled the traffic allowed to reach one or more **AWS EC2 instances.**
  + Created Buckets in AWS and stored files. Enabled Versioning and security for files stored and implemented, maintained monitoring & alerting of production & corporate servers/costs using **AWS Cloud Watch**.
  + Used **Splunk** data Connector between Splunk Enterprise and Relational Database. Fetching the data from databases using "DB Connect Application" from **SQL servers** as well using windows authentication.
  + Creating the harness that can be similar to production load on OTS.
  + Installing the secrets on **Docker** and incorporated the same through a script for automating.
  + Running the benchmark and creating the dashboard of analysis.
  + Analyzing the metrics from Grafana and Dynatrace dashboards.
  + Automating the runs through shell script for doing the alternate runs on **docker** and **BareMetal**.
  + I figured out the variation in the execution time of the benchmark on DC/BM is because of the security policy evaluation time for the task type ‘va’ and ‘r’.
  + Verifying the metrics of OTS service inside docker for the canary tenants.
  + Going through environments to find out the BM and DC hosts.
  + Documenting all the system, **JVM** and OMS task metrics for OTS service.
  + Above is documented before and after the transition of OTS service from BM to DC.
  + Tuning JMeter performance scenarios for evaluating the docker's performance over bare metal for the ORS service.
  + Implementation of various **DevOps automation** tools to improve CICD pipeline process for Billing Application.
  + Maintains Source code versions using version control tools like **Bitbucket**.
  + Configure **Role Based Access Control (RBAC)** for Azure Resources.
  + Develop **PowerShell scripts**, master and child configuration templates to automate multi environment and datacenter deployments.
  + Configured scalable search **services on azure.**
  + Configured secure and scheduled backups for on **prem** and cloud servers using **Azure Backup**.
  + Experience working in and building **Continuous Integration (CI)** and **Continues Deployment (CD)** by building custom build and deployments jobs in Octopus Deploy and TeamCity.
  + Running the workload with and without harness to measure the duration and the throughput of the report on Bare metal and **Docker**.
  + Collecting and documenting the metrics for the above scenarios.
  + Analyzing the regression further.
  + Evaluating the snapshot boot times with single **JVM** on BM and DC.
* Goal of the BI reports performance benchmark.
  + Expertise on complete Automation process, starting from creating **Git/Azure Repos**, and configuring them to **Jenkins** using **Git hooks** and Git Plugin, and storing **artifacts** and docker images in **Jfrog Artifactory**.
  + Integrate Docker container orchestration framework using Kubernetes by creating pods, config Maps, deployments, ingress and secrets with helm package manager.
  + Setting up new Jenkins pipelines using **Azure and Docker.**
  + Microservices Containerization using **Docker and Kubernetes.**
  + Involved in maintaining **Kubernetes clusters**, **checking pod status**, version deployed, log analysis. Integrate
  + Docker container orchestration framework using Kubernetes by **creating pods, config Maps, deployments, ingress and secrets** with **helm package manager**.
  + Created **CI/CD** pipelines and setup auto trigger, auto build & auto deployment with help of the **CI/CD** tool like **Jenkins**, **used Ansible Control server** to deploy Playbooks to machines & systems in inventory.
  + Installed and configured private **Docker registry** to store the various versions of Docker images which is used by **Kubernetes cluster** to perform deployments of the Micro Services developed in **NodeJS**.
  + Worked on creation of **Docker** containers and **Docker consoles** for managing the application life cycle. Implemented Docker automation solution for Continuous Integration / Continuous Delivery model. To achieve **Continuous Delivery (CD)** goal on a highly scalable environment, configured **Docker** coupled with load-balancing tool **Nginx.**
  + Worked with **Atlassian tools** like **Confluence, Jira** and Skilled in **Test Driven Development (TDD**) and **Agile Development**. Experience customizing **JIRA** projects with various schemas, complex workflows, screen schemes, permission schemes, and notification schemes.
  + Experience working with **CI/CD** model and able to create a complete **Jenkins** pipeline for **java** applications and **deployed** automatically in **Dev, QA and Prod** environmentswith various application server technologies like **Web logic, Jboss & Apache Tomcat**.
  + Built Continuous Integration environment using Jenkins and created Continuous delivery environment as well as defined branching, labeling, and merge strategies for all applications in **Git**.
  + Installed and Implemented Ansible configuration management system. Used **Ansible** to manage Web applications, Environments configuration Files, Users, Mount points and Packages
  + Experience in Server Monitoring, Capacity Planning, Application and Log Monitoring with help of **Splunk**. Documented the deployment process (Migration Doc) of code to production on an Excel Sheet. Used **Jira** for tracking and ticketing.
  + Hands on Experience in maintaining **Version Control Management** tools  **like GIT, SVN and ClearCase.** Successfully integrated **GIT** into **Jenkins** to automate the code check-out process using **Webhooks.**
  + Running the harness and collecting the thread dumps for the analysis.
  + Checking the memory churn.
  + Disabling the **JIT** compiler to get more detailed thread dumps.
  + Analyzing the size of the instance context cache (ICC) for BI projects.
  + Built Continuous Integration environment using **Jenkins** and created Continuous delivery environment as well as defined branching, labeling, and merge strategies for all applications in **Git**.
  + Installed and Implemented Ansible configuration management system. Used **Ansible** to manage Web applications, Environments configuration Files, Users, Mount points and Packages
  + Experience in Server Monitoring, Capacity Planning, Application and Log Monitoring with help of **Splunk**. Documented the deployment process (Migration Doc) of code to production on an Excel Sheet. Used **Jira** for tracking and ticketing.
  + Evaluating the GC activity and the report’s performance by reducing ICC.
  + Running the benchmarks for the default instance cache size of 250K and 5K ICC.
  + Creating the dashboards with metrics to see the GC activity and the report’s runtime.
  + Since the report’s runtime and GC activity is not altering so much for the default and reduced ICC, it is further analyzed.
  + Evaluating the above using the memory balloon so that the overflow area is occupied.
  + Evaluating ICC further by using profiler and debugger.
  + System administration support involving server build, installation, configuration and implementation on Linux flavors and worked on Disk Partition, mirroring root disk drive, configuring device groups in **UNIX/LINUX** environment.
  + Creating **volume groups, logical volumes, extending logical volumes** based on the requirements using **Logical Volume Management** (LVM) commands, also created and activated SWAP volumes to enhance system Performance and Tuning.
  + Provided the support of building the **server, patching**, user administration tasks, deployment, software installation, performance tuning and troubleshooting.
  + Setting up breakpoints using remote debugging with **Intellij**.
  + Jprofiler and Jmap histo to see the occupancy of ICC on the heap.
  + OMS profiler to see the variation in memory allocation.
  + Checking what are the instances on the ICC and Overflow area.
  + Recommending the IM team to notify the ICC cache size so that it helps for the memory awareness in the quark accelerator.
  + Benchmarking runs on performance tenant for the evaluations of the report performance in BI.
  + Created **BASH shell** scripts to automate **Cron jobs** and system maintenance. Modifying user’s password **policies, group policy, UID** and **GID** assignment policies.
  + Configured Networking Concepts **DNS & DHCP**, troubleshooting network problems such as **TCP/IP,** providing support for users in solving their problems.
  + Evaluating Gumby eviction policy over the baseline.
  + Enabling IDSet on the report and running through Job.
  + Scaling the number of read pool threads on 48 cores m/c and evaluating TLab settings.
  + Examining the performance scalability of the report after the parallel lock fix by BI team and reducing the number of GenPauselessNewThreads and GenPauselessOldThreads on 72 core m/ c.
  + Sizing instance cache using with and without GPGCTimeStampPromotionThreshold.
  + For all the above, doing the warmup runs using an internal tool and getting the analysis mostly through Grafana and GClogAnalyzer.
  + Working with Wireshark using **TCP** dumps and net stats to drill down the analysis for showing the socket latency.
  + Working with tableau for identifying the hotspots.
  + Creating a script to capture the netstat/ TCP dumps at a particular time when the report is running.​
  + Contributing to the analysis of weak references issue and I developed a python script to extract the metrics from the logs.
* Goal of this project is to analyze the performance impact on the following search projects:
  + Monitored the performance of the system using **netstat, iostat, top, sar, ps, prstat, vmstat, and cpuinfo** to check the CPU utilization, bottlenecks of **I/O** devices, memory usage and network traffic.
  + Troubleshooting Linux network, security related issues, capturing packets using tools such as **IP tables, firewall, TCP, wrappers, NMAP**. Responsible for Basic Router Configuration and network equipment (Cisco, Linksys, Net-gear, D-Link, Brocade Switches)
  + Impact of **SCC** libraries over the user defined encryption library on Syman search full reindex job.
  + Impact of catalog SID on the Syman search full reindex job and to observe the impact of SCC encryption on the catalog SID.
  + For both above, creating the test scenarios, to get the CPU utilization to match the prod environment and get the job, system, JVM-zing and OMS-task metrics for the analysis in **Grafana**.
  + Evaluating the capacity of the documents for the requisition searchable/Catalog SID.
  + Figuring out the space required for the primary and secondary storage based on the number of Shards in the perf environment for **ElasticSearch**.
  + Contributing to the analysis for the report performance for fuzzy and spell check searches.
  + Preparing the environment and running the tests to evaluate the execution of the search end point.
  + Analyzing the performance of reindexing jobs with Geo-facet toggle.
  + Creating the scenarios, populated data using web services to analyze the performance and get the metrics for the analysis.
  + Worked on installing postman and running the **REST APIs.**
  + Used **Datadog** for the observability purposes.

**SAP:**  **San Ramon CA, US**

**DevOps Engineer / Cloud Engineer Sept 2014 – May 2019.**

**Description:** SAP is one of the most global companies in the world and a leading designer of enterprise software. This software assisted various corporations to manage their business operations and customer relations. SAP ASE (Adaptive Server Enterprise) is a popular Sybase database and is acquired by SAP. SAP Sybase ASE database is known for its lower operational costs with a highly-efficient database management system. It also maintains the performance and availability for the extreme transaction processing. SAP HANA is an in memory data platform with OLTP/OLAP engines that retrieves and analyzes the real time data seamlessly by simplifying the business operations.

**Platform:** HANA, docker, Github, python, shell/bash scripting, AWS stack (CFT, EC2, EBS, S3, VPC & subnets, route53, DynamoDB, Elastic Load balancer, S3), Golang, Pprof (Golang profiler), delve (Golang debugger), Goland (IDE), Dynatrace, Kibana, Grafana, ASE (Adaptive Server Enterprise), AWS stack (CFT, EC2, EBS, S3, VPC subnets), SAP HANA, C++, python, Gtests, Githhub, Microsoft Azure, SAP Lumira, shell scripting, PERL and Database: ASE (Adaptive Server Enterprise)

**Responsibilities:**

* **Goal** of the project is to create a service model of HANA database on AWS cloud. It involves the execution of orchestration jobs for creating/deleting/updating service. Service creation helps in creating the HANA (of specific size) inside the docker container on AWS VM.
  + Analyzing the performance of **Hana Kernel Trace** (HKT) processor by checking the memory and CPU usage of the machine using the top/free/docker stats commands. HKT helps in collecting the Hana Kernel Trace files from each of the HANA hosts and puts them in AWS S3 bucket and further processes it to insert the required information in Influx DB.
  + Setting up the development environment successfully end to end and preparing the document that can help others setup their development environment.
  + Created **Jenkins CICD** pipelines for continuous build & deployment and integrated **Junit** and **SonarQube** plugins in **Jenkins** for automated testing and for code quality check.
  + Developed **Cron jobs** and **Shell scripts** for automation of administration tasks like file system management, process management, routine backup and restore enabling system logging, network logging of servers for maintenance, performance tuning, testing.
  + Handled **JIRA** tickets for **SCM** Support activities. Created user level of access to GitHub project directories to the code changes.
  + Automated server builds using **Logstash (ELK Stack)** by integrating with centralized log tool ELK and built **Elasticsearch (ELK Stack**). cluster in multiple data centers to provide **High Availability**.
  + Wrote **Perl/Shell scripts** for deployments to **WebSphere** and **WebLogic** Application servers. Automated creating projects in **Jenkins** and **Nexus repository** as release process.
  + Migrate the existing code to **CI/CD** pipeline viz **Ant** to **Maven** build tool on java projects for the development of build artifacts on the source code, **TFS** to **Git**, **Team city** to **Jenkins**.
  + Installed and administered **GIT** Source code tools and ensured the reliability of the application as well as designed the **Branching** strategies for **GIT**, by **tagging**, handling merge requests and notifications and setting up the **GIT repos** for **Jenkins** build jobs.
  + Participated in configuring and monitoring distributed and multiple platform servers using **Puppet**. Used **Puppet server** and workstation to manage and configure nodes. **Installed** and **configured Jenkins** for **Automating Deployments** and providing an automation solution.
  + Responsible for all **software builds**, including **continuous integration builds, nightly builds**, and **release builds**.
  + Documentation of detailed **Build configuration, Build procedures**, schedule build calendars and change history for releases. Rolling out **Configuration management**, **Change Management** and Requirement management strategies to the development team.
  + Analyzing the performance of service creation using pprof (Golang profiler), delve (Golang debugger) using the development setup. This also involves checking the logs through Kibana,
  + Optimizing the code to improve the performance of the service creation by altering the orchestration jobs.
  + Working on the P1/Customer issue in analyzing the problem and raising the tickets through **AWS** customer support for further analysis. Creating the scripts in bash/python for stress testing the network issue of the **NAT** host and the HANA host.
  + Measuring the performance of HANA on VM with HANA on docker by creating different size **VMs** and HANA of different sizes.
  + Debugging the code for the container placement module using Golang delve to fix the docker update of the container that is created on the HANA host.
  + Also, involved in the **New Relic** monitoring tool to check the health of the services.
* **Goal** of the project is to create a subscription model of ASE database on AWS cloud.
  + Installing Linux on a loaner laptop without SAP image and configuring network settings. Installing and configuring **ASE** on Linux.
  + Testing different migration techniques including BCP, dump/load, sybmigrate utility and Data Migration Services(DMS) provided by Amazon.
  + Enhancing **CFT** to include the specification for elastic IP address.
  + Creating nested stack to run TPCC like/OLTP workloads and documenting it.
  + Testing different scenarios of the CFT and testing the functionality of ASE on AWS cloud.
  + Doing performance tuning on different t-shirt sizes of **AWS** instances.
* **Goal** of the project is to redevelop the HWCCT tool in C++ with HANA libraries and to enhance it with new specifications.
  + Fixing CRs related to LandscapeTest, FilesystemTest and NetworkTest in python.
  + Running the tool on a virtual environment including monsoon and Microsoft Azure and troubleshooting issues.
  + Executing the tool in a distributed environment.
  + Communicating with hardware colleagues and partners for various requirements and including them in the tool.
  + Redeveloping tool in **C++** using standard **HANA** libraries so that tool is simplified into a single tool and to avoid manipulation by customers.
  + Writing **Gtests** and **Gmock** tests to test the code written in C++ and making sure the new code is having 80% test coverage.
  + Creating/Updating SAP Notes, wiki pages that notifies the changes in the releases of the tool.
  + Merging the changes into the development/production branch in the **Git** and reviewing the changes through Gerrit.
  + Incorporating new changes into the tool and resolving the issues raised by customers/partners.
* **Goal** of the project is to measure the performance of the **ASE** product and analyze the performance numbers by providing them to the performance engineering team for further analysis.
  + Creating **shell** scripts to automate the process of performance testing and schedule them to run through the cron job on the nightly build of the database product.
  + Creating dashboard reports that provide the high-level picture of the **performance numbers** and analyze the performance numbers through re-runs using detailed level reports.
  + Creating scripts to automate the process of back-to-back runs on the baseline release and the current builds.
  + Creating scripts to perform auto re-runs by doing automatic comparison of the detailed level reports inside the scripts.
  + Generating **ASE** builds using the scripts with the help of build engineers and also testing the ASE installations from the images downloaded from **SAP Service MarketPlace**.
  + Creating reports for the performance runs and CRs using **SAP Lumira**. Writing complex SQL queries using **DB visualizer** framework and these queries are used for retrieving reports.

**Allied Innovation:** ***Leawood MO, US***

**DevOps Engineer / Cloud Engineer Apr 2013 – Aug 2013.**

**Description:** Allied innovation is a conglomeration of different companies (inside academics, inside response and answer media) delivering a variety of solutions to its clients. Inside response takes an approach that works closely with the client to establish creative campaigns and ROI goals. The results produced exceed the expectations of the clients by working diligently. The ongoing analysis and refinement process is put in motion to proactively manage the dynamics of everyday business.

**Platform:** PHP, UNIX and Database: MySQL, shell scripting

**Responsibilities:**

* Goal of the project was to create front end reports for the users and do analyses on the number of calls to significantly enhance Allied Innovation’s analysis and decision making functions.
* Involved in Designing, Coding and promoting the code into different environments.
* Develop a framework using **Shell** Scripting, **Chef** Cookbooks driven automated build and deployments.
* Coordination with multiple internal and external teams for adopting **Devops** practices.
* Involved in developing Grafana dashboard with Prometheus and node exporter metrics from non- production to production environments.
* Provisioning servers through **Azure**, ARM templates, Terraform scripts.
* Primary responsibilities include Build and Deployment of the Microservices onto different environments like **Dev, QA, Demo, UAT and Prod**.
* Help automate and streamline the operations, processes, troubleshoot and resolve issues in the dev, test and higher environments.
* Setting up new Jenkins pipelines using **Bitbucket** and **Docker**.
* Involved in maintaining **Kubernetes** clusters, checking pod status, version deployed, and log analysis.
* Design of Cloud architectures to migrate or develop new PaaS, IaaS, or hybrid solutions utilizing Microsoft **Azure** or Amazon Web Services (**AWS**), **GCP**, and **Tanzu**.
* Involve in performing Proof of Concepts on any tools in **Sandbox** environments.
* Design and Implement automation strategies with ARM & Terraform template driven rules for AWS, Azure infrastructure via terraform and Jenkins - software and services configuration via chef **cookbooks**.
* Building/Deploy **Docker** **containers** to be managed by Kubernetes platforms in Tanzu, Aws, Azure, GCP,
* Create Cloud Formation base templates for several AWS services to implement iterative infrastructure deployments.
* Orchestrate **Kubernetes** to the deployment, scaling and management of **Docker** **Containers**.
* Exclusively used **AWS S3 bucket API** for Monitoring and Internal Devops Operations.
* Solution across multiple AWS Accounts using **AWS Cloud Formation** and Azure Pipelines.
* Set the standards for decommissioning, shutting down the environments to minimize the cost impact of new provisioning of environments.
* Perform cost analysis of Prod & Non-Prod environments along with all **Devops** tools in usage.
* Implemented a complete automated build-release solution using a combination of technologies like **Maven**, **Jfrog**, **Bamboo** and **Jenkins**.
* Standardize the automated deployment of **Docker** Images in **ECR** using **Azure** **DevOps** Pipelines.
* Design and help scrum teams to follow merging, branching and Tag’s strategies.
* Implemented replication and tuned the reports performance for one of their clients named Select Quote (SQ).
* Analyzing strategies like partitioning and fragmentation to tune the reports for the users.
* Automated the archiving of the files during the process flow through **PHP** **scripting**.
* Create procedures to load the data from the source files to the database.
* Achieved Create-Read-Update-Delete (**CRUD)** operations for various tasks and objects within user's authority on MySQL database.

**Tata Consultancy Services (TCS) Mumbai, India**

**DevOps Engineer / Cloud Engineer Feb 2010- Dec 2012**

**Description:** National Stock Exchangeis the largest stock exchange by market capitalization in INDIA. It was formed by the government of India in 1991. NSE is establishing nationwide trading facilities for all types of securities, ensuring equal access to investors all-over the country through an appropriate communication network, meeting international benchmarks and standards, Enabling shorter settlement cycles and book entry settlements.

Main Aim of this project is to do supervision on Stockbrokers, Investors and the market intermediaries and significantly enhance NSE’s decisions on trading systems.

**Platform:** Informatica Power Center Designer, UNIX, Database: Greenplum, SAS DI Studio, Management console, Process Manager, UNIX, Database: Netezza.

**Responsibilities:**

* Goal of the project is to enhance the existing warehouse of stock brokers, investors and the market intermediaries significantly and to enhance NSE’s decisions on trading systems.
* Created the pipeline on **AWS** and using **Aurora DB.**
* Created **crontab** to schedule the flows.
* Used **SVN** to checkin the code.
* Implemented enterprise data warehouse for the Indian National Stock Exchange (NSE)
* Extracted, transformed, and loaded data from source to target files.
* Created source, targeted files, designed the mappings, deployed and scheduled them.
* Created the mappings and scheduled them with file events.
* Created stored procedures and shell scripts to automate the ETL process.

**Description:** Securities and Exchange Board of India is the regulator for the securities market in INDIA. It was formed officially by the government of India in 1992. SEBI is responsive to the needs of three groups, which constitute the market issuers of securities, the investors and the market intermediaries.

Main Aim of this project is to do surveillance on Stockbrokers, Investors and the market intermediaries and significantly enhance SEBI’s investigation and surveillance functions.

**Platform:** SAS DI Studio, Management console, Process Manager, UNIX, Database: Netezza

**Responsibilities:**

* Goal of the project is to create a warehouse and perform surveillance on stock brokers, investors and the market intermediaries and significantly enhance SEBI’s investigation and surveillance functions.Scripted
* Scripted copying the files using **scp** from one server to another.
* Established **passwordless** ssh from one server to another.
* Checking the **disk usage** with the shell commands.
* Used **SVN** to checkin the code.
* Implemented data warehousing business intelligence system for the Securities and Exchange Board of India (SEBI).
* Extracted, transformed, and loaded data from source to target files.
* Created source, targeted files, designed the jobs, deployed and scheduled them.
* Executed and rectified the errors in the process flow.
* Created the flows and scheduled them with file events.
* Worked on performance improvement techniques in the workflows and mappings.
* Create procedures and shell scripts for the process.
* Debugging the errors and resolving issues in the development and production environments.