# Sai Kumar

**Sr Cloud & DevOps Engineer**

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**Summary:**

9+Yr of IT experience of in Cloud and On-Prem Environments with Build and release, Linux Admin and Continuous Integration/ Automated Deployment including end-to-end code configuration using different Third-party tools and Cloud Services like AWS, Azure and GCP.

* Expertise on various AZURE services like Compute (Web Roles, Worker Roles), AZURE Websites, Caching, SQL AZURE,

NoSQL, USQLS, Storage, Network services, Data Factory, AZURE Active Directory, API Management, Scheduling, Auto Scaling, and PowerShell Automation.

* Designed and architected technical solutions on GCP using industry-standard practices and leveraging GCP services

effectively.

* Highly Experienced in AWS services such asEC2, ELB, Auto - Scaling, S3, IAM, VPC, RDS, Dynamo DB, Route 53, EMR, CloudTrail, CloudWatch, Lambda, Elastic Cache, Glacier, SNS, SQS, Cloud Formation, Cloud Front, Beanstalk, AWS Workspaces.
* Integrated Vault configurations into IaC tools like Terraform or Ansible, enabling the automated provisioning and management of Vault infrastructure.
* Analyzed various distributed file systems suitable for a cloud storage using a storage benchmark. Tested a private storage cloud using Open Stack SWIFT software and worked as well with OpenStack.
* Experience with Cloud automation technologies such as Cloud Formation and Terraform and experienced in using

Terraform for building, changing, and manage existing and cloud infrastructure as well as custom in-house solutions. Proficient in writing Templates for AWS IAC using Terraform to build staging and production environments.

* Actively monitor advancements in IoT technologies, including edge computing, 5G connectivity, and AI-driven

analytics, to anticipate opportunities for innovation and optimization in Azure-based IoT solutions.

* Experience in Kubernetes to deploy scale, load balance and manage Docker containers with multiple names spaced versions and good understanding of Open Shift Platform in managing Docker Containers and Kubernetes Clusters.
* Experience in writing Ansible playbooks, created custom playbooks written in YAML, encrypted the data using Ansible

Vault and maintained role-based access control by using Ansible Tower to manage web applications, Environment’s configuration files, Users, Mountpoints and Packages.

* Experience in Chef Cookbooks for various DB configurations to modularize and optimize end product configuration,

converting production support scripts to Chef Recipes and AWS server provisioning using Chef Recipes.

* Experienced in authoring pom.xml, build.xml files performing releases with the Maven, ANT release plugin, and managing artifacts in sonatype NEXUS, JFrog Artifactory.
* Experience with Jenkins administration, backups and plugins. Using master slave configuration maintained various

jobs in Jenkins and supported development teams.

* Expert in using ELK Stack; Elasticsearch for deep search and data analytics, Logstash for centralized logging, log enrichment and parsing and Kibana for powerful and beautiful data visualizations.
* Experience using Nagios monitoring system and different Bug Tracking Tools like Remedy, Jira, ServiceNow and Clear

Quest. Designed, deployed and coordinated with different teams to enhance ELK platform and took ownership of new technologies.

* Experience in working with SQL database like MySQL, Oracle 10i/9i/8i, SQL Server and NoSQL databases like

MongoDB, DynamoDB and Cassandra.

* Experience in installing, configuring, supporting, and troubleshooting Unix/Linux Networking services and protocols like TCP, SMTP, HTTP, SNMP, NIS, NIS+, OSPF, LDAP, DNS, NFS, DHCP, NAS, FTP, SSH, and SAMBA.
* Expertise in Installation, Support, Configuration with different flavors of LINUX RHEL4.x, 5.x, 6.x, CentOS, Oracle Linux

(OEL)5.x, 6.x, Debian, and Ubuntu 14.04., 16.04.4, Installed and configured Red Hat LINUX Kickstart and Solaris 9, 10 jumpstart Servers.

* Experience in Big Data processing using Apache Hadoop.

# Technical Skills

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| Cloud Environments | Amazon Web Services (AWS), GCP, Azure |
| Configuration Management Tools | Chef, Puppet, Ansible, Ansible Tower, Chef Automate |
| CI CD | Jenkins, Azure Devops, Git LAb |
| Containerization Tools | Docker, Kubernetes, Docker swarm, Docker weave,  Openshift |
| Virtualization | VMWare ESX/ESXi, Windows Hyper-V, Virtual box,  Vagrant |
| Operating Systems | Unix, SUSE Linux, Ubuntu, Centos, RHEL, Windows |
| Automation Tools | Jenkins, Bamboo, Terraform, CloudFormation |
| Web Servers | Apache HTTP 2.x ,3.x, Nginx, IIS, Apache Tomcat |
| Database | AWS RDS, Aurora, DynamoDB, MongoDB, MySQL, MS SQL SERVER 2008/12 |
| Scripting languages | Python, Ruby, Bash shell, Power shell, JSON, YAML, JAVA, .net |
| Networking/Protocol | DNS, DHCP, WAN, TCP/IP, NIS, NFS, SMTP, LAN, FTP |
| Version Control Tools | GIT, Bitbucket, SVN, TFS |

**Education**

Master’s in information technology from Concordia University, River Forest, IL, USA – 2017. Bachelor’s in mechanical Engineer from GITAM University, India – 2014.

# Certifications

* + AZ cloud certified,
  + AWS Certified Associate Developer – Basic Chef Fluency Certification.

# Professional Experience

**BCBS, Jacksonville, FL Mar 2023 - Till Date**

**Sr Cloud & DevOps Engineer**

**Responsibilities**:

* Deployed and optimized two tier .NET web application to Azure DevOps to focus on development by using services such as Azure Repos to commit codes, Azure Test Plans to trigger unit tests on the application.
* Created ADO Pipelines for build and release and used Azure Boards for support planning and tracking work, code

defects, and issues using Kanban and Scrum method by using other Azure DevOps Services.

* Migrating on-premises web applications to Azure Pipelines by utilizing ARM templates, VPN gateway, site-to-site IPSec/IKE VPN, DNS server Firewall, and Application Gateway.
* Worked on the application environment to operate at high availability in different Azure regions by using CDN, Azure

Traffic Manager, App Services-Web Apps, EntraID, Storage Queues, Cognitive Services, Azure Storage account, Redis cache, and SQL Database.

* Deployed microservice applications on Azure Kubernetes by using Azure Kubernetes service (AKS), Kubernetes

Cluster, which are responsible for cluster management, Virtual Network to deploy agent nodes, Ingress API Gateway, MySQL Databases and Cosmo DB for stateless storage of external data, and setup reverse proxy Nginx

the cluster.

* Recreated existing application logic and functionality in the Azure Data Lake, Azure Data Factory, Azure SQL Database and Azure SQL Data Warehouse environment.
* Worked with Terraform Templates to automate the Azure Iaas virtual machines using terraform modules and

deployed virtual machine scale sets in production environment.

* Created CI/CD pipelines to deploy Terraform configuration using Azure DevOps (ADO) Pipelines for building Infrastructure.
* Configured ArgoCD applications for multi-cluster deployments, facilitating consistent application rollouts and improving operational reliability across diverse environments.
* Developed and Implemented Kubernetes manifests, helm charts for deployment of microservices into k8s clusters.
* Implemented a production ready, load balanced, highly available, fault tolerant, auto scaling Kubernetes cloud infrastructure and microservice container orchestration.
* Created Clusters using Kubernetes and worked on creating many pods, replication controllers, replica sets, services,

deployments, labels, health checks and ingress by writing Yaml files.

* Working knowledge of Docker Hub, Docker Container network, creating Image files primarily for middleware installations &amp; domain configurations. Evaluated Kubernetes for Docker Container Orchestration.
* Created and configured Automated Continues Integration Build and release Pipelines for all microservices in Azure

DevOps across multiple projects in Organization.

* Monitored Kubernetes clusters with Datadog in real-time, configuring live dashboards to track key metrics such as container health, pod status, and resource usage (CPU, memory, disk I/O). Proactively identified performance degradation by setting up custom alerts for critical thresholds, immediately troubleshooting issues such as pod failures, resource contention.
* Installed Ansible Tower, which provides an easy-to-use dashboard and role-based access control, so that it's easier to allow individual teams access to use Ansible for their deployments.
* Driving change with the development and IT Operational Teams to adopt Continuous Integration and Continuous Delivery with iterative Agile project delivery and DevOps tools (GitHub, Kubernetes, Docker, ADO, Jenkins, Artifactory, Ansible, cloud platform and Chef)
* Involved in building database models, APIs, and views using Python for an interactive web-based solution, and facilitated the build and release of cloud-based products containing Linux and Windows environments through Python scripting.
* Utilized Postman for API testing and automation, designing and executing test cases to validate the functionality, reliability, and performance of RESTful and SOAP APIs in both development and production environments.
* Worked on WebLogic 9.x/10.x to implement zero downtime deployment using python and bash/shell script and used Jenkins to automate it.
* Responsible for automating the ETL process through scheduling and exception-handling routines.
* Extensively worked with PowerShell to automate SQL tasks, environment management related tasks and procedures

on Windows machines.

* Worked on migrating projects from .NET framework 2.0 to .NET framework 4.0 (Visual Studio 2003 to Visual Studio 2010).

**Environment**: Azure, Azure DevOps, Kubernetes, Docker, Ansible, Terraform, Jenkins, Jumpstart, Terraform, Maven, Ruby, shell, python, weblogic server 11g, Load Balancers, WLTS, Apache Tomcat 7.x, Nginx, LDAP, GitHub, Data Dog,

**AT&T, Plano Tx Feb 2021 – Feb 2023**

**Sr DevOps Engineer**

**Responsibilities**:

* Configured Azure Virtual Networks, subnets, DHCP address blocks, NSG, DNS settings, security policies, and routing. Azure API Management, Security, Cloud-to-Cloud Integration.
* Worked on the end-to-end design and implementation of Azure DevOps CI/CD pipelines, automating the build, test,

and deployment processes for multiple applications and microservices.

* Deployed the Azure VM’s, VMSS, Azure Storage (Blob, Files) using ARM Templates and PowerShell scripts.
* Configured Kubernetes Replication controllers to allow multiple pods such as Jenkins’s master server in multiple

minions. Managed Kubernetes charts using Helm, managed Kubernetes manifest files and created reproducible builds of the Kubernetes application.

* Extensively worked on Kubernetes for scheduling, deploying, and managing pods, replication controllers,

deployments, labels, health checks and ingress by writing YAML files onto a node cluster using Helm Charts.

* Utilized Terraform to define and provision AKS clusters as code, ensuring infrastructure consistency across different environments and enabling version-controlled infrastructure changes.
* Automated the Build Process using Jenkins and handled complete Build and Release process including code,

documentation and supporting testing team along with the server Administration.

* ADO Module is responsible for the creation of the Azure Devops environment and access mechanism. This module creates the VMSS for ADO Pool used for deploying resources via pipelines. This agent pool will be used by multiple ADO NF Projects and need to be scaled appropriately. This module will also create a jumpserver VM to access azure resource via the Conexus-Bastion. Logs from VMSS and VM need to be sent to Log Analytics to be Astra compliant using the Private Links
* MASS(Mobility Artifacts Security Scanning) this module is used to read the vendor specific BOM , pull the images &

charts and artifacts using the BOM details and push to ACR. This stage also includes the security scanning of the images and artifacts and generating reports.

* MASS module is part of the Jarvis framework that helps upload Helm Charts and Images into Azure Container

Registry. It uses python code to pull and push the images and artifacts corresponding to the network functions

* Worked on Docker to create images and containerize the application build, by writing Docker file and Docker- compose YAML files.
* Possessed in-depth knowledge of LINUX/UNIX system builds, administration, installations, upgrades, and troubleshooting on various distributions such as Ubuntu, CentOS, Red Hat, and RHEL 4.x/5.x/6.x, and worked on Windows NT/8/12/12R2 servers.
* Implement DHCP to dynamically assign IP addresses to devices, enabling automated and efficient network configuration.
* Worked on Prometheus and Grafana to monitor AKS clusters deployed on Azure, collecting critical metrics such as pod status, container resource utilization (CPU, memory), and application performance in real time.
* Collaborated with security teams to implement Azure AD Multi-Factor Authentication (MFA) with SSO, enhancing user access control and bolstering security for sensitive applications and data. Successfully integrated MFA policies, ensuring compliance with regulatory standards GDPR, HIPA and reducing the risk of unauthorized access while maintaining a seamless user experience across cloud and on-premises platforms.

Environment: Azure, Auto Scaling, GCP, Web logic, Nexus, JIRA, Oracle, Terraform, Python, Maven, Java, Linux, Apache TOMCAT, ELK, GIT, LDAP, NFS, NAS, MS Share point, XML, Fedora, Windows, Prometheus, Perl Scripts, Shell Scripts, Chef, Ansible, Docker, Kubernetes.

**Chevron, Houston, TX Feb 2020 – Jan 2021**

**Cloud & DevOps Engineer**

**Responsibilities**:

* Configured and implemented storage blobs and Azure files - Created Storage accounts, Configured the Content Delivery Network (CDN), custom domain, Managing access and storage access key.
* Implemented Azure Development, worked on Azure web application, App services, Azure storage, Azure SQL

Database, Fabric controller, Azure AD

* Designed and maintained Microsoft Azure environment to include Office 365 and involved in administrative tasks that include Build, Design, Deploy of Azure environment, Azure systems and Permissions security.
* Deployed Azure IaaS virtual machines (VMs) and PaaS role instances (Cloud services) into secure VNets and subnets,

designed VNets and subscriptions to conform to Azure Network Limits.

* Performed provisioning of IAAS, PAAS Virtual Machines and Web, Worker roles on Microsoft AZURE Classic and Azure Resource Manager, and Deployed Web applications on Azure using PowerShell Workflow.
* Designed and developed stand-alone data migration applications to retrieve and populate data from Azure Table /

BLOB storage to on-premise SQL Server instances.

* Managed Azure Infrastructure Azure Web Roles, Worker Roles, SQL Azure, Azure Storage, Azure AD Licenses,Virtual Machine Backup and Recover from a Recovery Services Vault using Azure PowerShell and Portal.
* Exported data to Azure Data Lake Stores and stored them in their native formats using different sources, Relational

and Semi-structured data using Azure Data Factory.

* Automated various infrastructure activities like Continuous Deployment, Application Server setup, Stack Monitoring using Ansible playbooks and has integrated Ansible with Run deck and Jenkins also provisioned and patched servers regularly using Ansible.
* Worked on Docker and Ansible in build automation pipeline and Continuous Deployment of code using Jenkins and

wrote Playbooks to automate Ansible servers using YAML scripting and Developed an Ansible role for Zabbix-agent which will be integrated into the to the CICD pipeline.

* Installed and configured a private Docker Registry, authored Docker files to run apps in containerized environments and used Kubernetes to deploy scale, balance the load and manage Docker containers with multiple namespace ids.

**Environment**: Red hat Linux 7.x, AZURE, Docker, OpenShift, Ansible, Jenkins, Jumpstart, Terraform, Kubernetes, ANT, Maven, Ruby, Shell, Python, WebLogic Server 11g, Load Balancers, WLST, Apache Tomcat 7.x, Virtualization, Configured plug-ins for Apache HTTP server 2.4, Nginx, LDAP, JDK1.7, XML, SVN

**ConocoPhillips, Houston, TX Jun 2019 – Jan 2020**

**Cloud & DevOps Engineer**

**Responsibilities**:

* Configured and implemented storage blobs and Azure files - Created Storage accounts, Configured the Content Delivery Network (CDN), custom domain, Managing access and storage access key.
* Implemented Azure Development, worked on Azure web application, App services, Azure storage, Azure SQL

Database, Fabric controller, Azure AD.

* Designing and Implementing Azure Cloud Infrastructure by Creating ARM templates for Azure Platform also used Terraform to deploy the infrastructure necessary to create development, test, and production environments for a software development project.
* Worked on tagging standard for proper identification and ownership of EC2 instances and other AWS Services like Cloud Front, cloud watch, RDS, S3, VPC, EC2, ELB, Route53, SNS, SQS, Cloud Trail.
* Used Docker for virtualization, run, ship, and deploy the application securely to fasten the build/release engineering

and used Kubernetes in managing and monitoring the cluster.

* Jenkins by installing, configuring and maintaining the purpose of Continuous Integration (CI) and for End-to-End automation for all build and deployments and in implementing CI/CD for database using Jenkins.
* Developed automation scripting in Python (core) using Chef to deploy and manage Java applications across Linux

servers.

* Worked on NoSQL database MongoDB to replica setup and sharding. Also experienced in managing replica set.
* Extensively used ADO.NET and data objects such as Data Adapter, Data Reader, Data Set, Data Table, Data view to access data from SQL Data sources to Business Objects and updating the changes accordingly to SQL data sources.

**Environment:** Red hat Linux 7.x, AZURE, Docker, Ansible, Jenkins, Jumpstart, Terraform, Kubernetes, ANT, Maven, Ruby, Shell, Python, WebLogic Server 11g, Load Balancers, WLST, Apache Tomcat 7.x, Virtualization, Configured plug-ins for Apache HTTP server 2.4, Nginx, LDAP, JDK1.7, XML.

**Ameriprise Financial, MN Jan 2018 – May 2019**

**Jr DevOps Engineer**

**Responsibilities**:

* Designing and implementing High Available Kubernetes cluster in Dev, QA and Prod and Own all Kubernetes clusters.
* Created and configured infrastructure using heat templates in OpenStack to create Instances, security groups, networks, VIPs etc.
* Writing CloudFormation & Terraforms templates to automate end-to-end infrastructure in AWS.
* Working with AWS VPC, EC2, S3, IAM, RDS, EMR to leverage desired infrastructure.
* Creating Docker images for micro-services applications and automating the entire flow using Jenkins pipeline.
* Experience in building Java, NodeJS/ReactJS/AngularJS, .NET, Python and Golang application.
* Writing Docker files and automated building Docker images using Jenkins and deploy to Kubernetes.
* Automated the application deployments to Kubernetes using YAMLs and later migrated to HELM charts and maintain all the helm charts in the relevant repositories.
* Designed and implemented high availability (HA) and disaster recovery (DR) solutions for Red Hat Linux workloads

on AWS, utilizing services like Amazon RDS, EFS, and Route 53 to ensure business continuity and data integrity

* Deployed Jenkins with dynamic slaves on Kubernetes and configured with external Jenkins servers for triggering jobs.
* Designed and automated Jenkins pipelines to generate various configurations of Prometheus exporters and deploy

to Kubernetes.

* Experience in working wif Windows, UNIX/LINUX platform wif different technologies such as Big Data, SQL, XML, HT ML, Core Java, Shell Scripting etc.

**Environment:** Shell, AWS**,** RHEL 6.x, Solaris and Windows, Git, Puppet, udeploy Bash, Python, Tomcat 7.x, Apache2, Nginx, Nagios, OpenStack, Bit Bucket, Test Director, Quality Center, BMC Remedy, JAVA, CI/ CD, SVN, MAVEN.

**Soft Sol, India May 2014 - MAY 2016**

**System Administration**

**Responsibilities**:

* Installation, Configuration of Linux and Windows operating systems on large, distributed environment.
* Enabling/disabling switch port interfaces upon request from Desktop support group/security team.
* Physical LAN jack activation. Verify NAT translations on Dell SonicWALL.
* Wrote Python code to simplify lists in Python with list comprehension and Python OOP. Worked with POSTMAN for API testing. Developed REST APIs and created User Model for application.
* Good experience of software development in **Python** (libraries used: libraries- Beautiful Soup, Numpy, Scipy, matplotlib,
* python-twitter, Pandas data frame, network, urllib2, MySQL for database connectivity) and IDEs - sublime text, Spyder,
* pycharm, Eclipse, emacs.
* Experience in Installing, upgrading and configuring Redhat LINUX 4.x,5.x ,6.x,7.x using Kickstart Servers, Solaris 8, 9, 10 using Jumpstart Servers and Interactive Installation.
* Responsible for Active directory, GPO, Domain users, Administrating users and groups and given appropriate permissions and privilege to access our LAN and Domain environment.
* Active Directory Administration: Managing NTFS and share permissions, creating domain accounts, security groups,

dynamic security groups, exchange resource accounts.

* Running PowerShell scripts to create and import federated users into our LDAP database and security groups for various projects (FSS request).

**Environment:** WINDOWS, Oracle Virtual box, VMware, SSH, Putty, Cyber duck, Ubuntu, RHEL, SFTP, FTP, TCP/IP, DNS, DHCP, VPN,

RPM, YUM, SCP, WinScp, and FileZilla.