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**Karthik**

**Cloud DevOps Engineer**

**[Karthikrajan487@gmail.com](mailto:Karthikrajan487@gmail.com)**

**+1 (603) 767-4129**

**Professional Summary:**

* **AWS Certified Cloud Engineer** with around 9+Years of experience in IT industry comprising of Systems Administration and Change Management, Software Configuration Management (SCM), Build and Release management and Process Engineering.
* Maintenance and Vulnerability Management of Hybrid infrastructure and **CI/CD using Chef -** Cookbooks.
* In depth Knowledge of **AWS cloud** service like **Compute, Network, Storage** and **Identity & access management.**
* Experience in implementing server-side technologies with **RESTful APIs and MVC/MVT** design patterns using Django/Flask frameworks.
* Experienced in MVWframeworks like Django, JavaScript and JQuery
* Experienced in developing web-based applications using **Python, Django, PHP, XML, CSS5, HTML, DHTML, JavaScript, RabbitMQ, Jdk1.7**
* Excellent Programming skills at a higher level of abstraction using **Scala and Spark**.
* Experience in project deployment using Jenkins/Heroku and using web services like Amazon Web Services **(AWS) EC2andAWS S3**
* In-depth understanding of the principles and best practices of Software Configuration Management in **Agile, SCRUM, Waterfall methodologies.**
* Experienced in NoSQL databases like MongoDB, Cassandra and relational databases like **Oracle, SQLite, Postgre SQL and MySQL databases.**
* Built the web application by using Python**, Django, AWS, J2EE, Postgre SQL, MySQL,** Oracle 10g and **MongoDB**.
* Deployed **Azure Iaas** virtual machines (VMs) and Cloud services (**PaaS** role instances) into secure VNets and subnets.
* Assist DNS with research, creation, implementation and assessment of policies and procedures
* Programmed the invoicing web application using **PostgreSQL** as the backend.
* Expertise in DevOps, Release engineering, Configuration Management**, Cloud Infrastructure and Automation with Jenkins, Chef, Puppet.**
* Hands on Experience in Hadoop ecosystem including **HDFS, Spark, Hive, Pig, Sqoop, Impala, Oozie, Flume, Kafka, HBase, ZooKeeper, MapReduce.**
* Experienced inReact.js and working with React Flux architecture.
* Experience in utilizing SAS Functions, SAS Procedures, and Macros for data updates, data cleansing, and reporting.
* Resolution of problems in the **Bluetooth framework** in an ARM-Cortex-A9 based automotive platforms running the Windows Embedded Compact 7 system.
* Adept in using SAS Enterprise Guide for performing day to day programming in SAS.
* Extensive knowledge and Experience in dealing with modperl development inPerl **CGI, Object oriented Perl, JavaScript, HTML and CSS.**
* In-depth experience with VMware**, VirtualBox, Open stack, Azure and Amazon Cloud Services** and managing security groups in **AWS.**
* Develop **Puppet modules** and role/profiles for installation and configuration of software for required for various applications/blueprints.
* Wrote **python** scripts to manage AWS resources from API calls using **BOTO** SDK and also worked with **AWS CLI**.
* Wrote **Ansible** playbooks to launch **AWS**instances and used **Ansible** to manage web applications, configuration files, used mount points and packages.
* Setup **Puppet** Master, client and wrote scripts to deploy applications on Dev, QA, production environment.
* Maintenance and Vulnerability Management of Hybrid infrastructure and **CI/CD using Chef - Cookbooks.**
* Experience with **Chef Enterprise**Hosted as well as On-Premise, Installed Workstation, Bootstrapped Nodes, Wrote Recipes and **Cookbooks**and uploaded them to **Chef-server**, managed On-site Applications/ Services/Packages using **Chef**as well as **AWS for EC2/S3/Route53 & ELB with Chef Cookbooks.**
* Extensive experience in developing and maintaining build, deployment scripts for test, Staging and Production environments using **ANT, Maven, Shell and Perl Scripts.**
* Maintained high Availability clustered and standalone server environments and refined automation component with scripting and configuration management (Ansible).
* Hands-on experience in **Microsoft Azure Cloud** Services (PaaS & IaaS), Storage, Web Apps, Active Directory, Application Insights, Internet of Things (IoT), Azure Search, Key Vault, Visual Studio Online (VSO) and **SQL Azure**.
* Strong experience in automating Vulnerability Management patching and **CI/CD using Chef**and other tools like **GitLab, Jenkins, and AWS/Open Stack**.
* In depth Knowledge of **AWS**cloud service like **Compute, Network, Storage** and **Identity & access management.**
* Hands-on Experience in configuration of Network architecture on AWS with **VPC**, **Subnets**, **Internet gateway**, **NAT, Route table**.
* Responsible for ensuring Systems & Network Security, maintaining performance and setting up monitoring using **Cloud Watch** and **Nagios**.
* Experience in working on version controller tools like **GitHub (GIT)**, Subversion (SVN) and software builds tools like **Apache Maven**, Apache Ant.
* Extensively worked on **CI/CD pipeline** for code deployment by engaging different tools (**Git**, **Jenkins**, **CodePipeline**) in the process right from developer code check-in to Production deployment.

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**Technical skills:**

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| **DevOps Tools** | Puppet, Chef, Ansible, Vagrant, Docker and Splunk |
| **Cloud Platform** | AWS, Azure, Open Stack, GCP |
| **Scripting Languages** | PERL, Ruby, Python, Shell Programming |
| **Web/App Servers** | Web logic, Web Sphere, Apache Tomcat, JBOSS |
| **Build & CI Tools** | ANT, Maven, Hudson/Jenkins, Cruise Control, Bamboo, Nexus |
| **SCM Tools** | CVS, SVN, ClearCase, GitHub, Perforce |
| **Databases** | Oracle, SQL,Google Big Query Enterprise NoSQL, Cassandra |
| **Operating Systems** | UNIX, Linux, MS DOS, Windows 2012, 2008 Server |
| **Programming Languages** | Java, J2EE, C++ |
| **Monitoring ToolsSpunk, Nagios** | Virtualization/Container Vagrant, Docker, VMware |

**Work Experience:**

**Sr.Cloud DevOps Engineer Mar 2020 to Till now**

**MathWorks, Natick, MA**

**Responsibilities:**

* As a Cloud Devops Engineer, I was responsible for developing and deploying the AWS resources through Terraformlike **IAM, EC2, EBS, S3, VPC, LAMBDA, Route53, SSM, SNS**. Experienced in Cloud automation.
* Built the databases in **AWS using RDS**, storage using **S3 bucket** and configuring instances backups to S3 bucket to ensure fault tolerance and high availability.
* Developed APIs to surface ML models with **GraphQL and Flask**.
* Used Cloud Infrastructure Automation which includes Amazon Web Services **(AWS), Jenkins, GitHub**.
* Developed python in automating the deployments on AWS using **GitHub, Terraform and Jenkins.**
* Setting up the build and deployment automation for Terraform scripts using **Jenkins**. Provisioned the highly available EC2 Instances using **Terraforms.**
* Visualized and manipulated the data prepared different environments for different applications on AWS by providing on EC2 instances using **Docker, Bash and Terraform**.
* Used CI/CD pipelines using **Jenkins, GitHub Terraform and AWS**.
* Used Restful Web services for integration with many monitoring devices.
* Utilized Python specific tools including Django, **Django Rest Framework, Django ORM, Flask, SQLAlchemy, Pandas, NumPy.**
* Work with Unica campaign management team to promote new products and services to existing and new customers.
* Created a full web stack using AWS Infrastructure(Beanstalk, multiple lambdas, Amazon Aurora, API Gateway etc) to create a fully functioning API using GraphQL technology with multiple data sources.
* Extensively worked on python for Jenkins automation on Jenkins for configuring and maintaining continuous integration (CI) and for End to End automation for all build and deployments.
* Worked on implementing the **CI/CD pipeline**, automation programmatically by creating **Jenkins** jobs and pipelines and solving various problems.
* Developed and designed an API (RESTful Web Service).
* Worked on all phases of the software development life – cycle (SDLC) with a specific focus on the build and release the quality software.
* Involved in **Waterfall, Agile/Scrum** and most recently Continuous Integration and Continuous Deployment (CICD) practices.
* Confidential ExperienceOne provides customer engagement solutions to clients - It includes strategic initiatives **like Coremetrics, Unica, Tealeaf, Silverpop etc.**
* Developed with installation and configuration of Docker environment (v1.5.0) including Docker registry hub for managing different Docker images and deployment of applications inside the software containers.
* Created Business Logic using **Python** to create Planning and Tracking functions.
* Integration of Coremetrics and Unica to provide additional features to the clients.
* Developed python/**Django** based web application**, PostgreSQL DB, and integrations** with Equipment data
* Designed and developed data ma
* nagement system using **MySQL.**
* Load historical machine data from Azure blob to C3IoT platform, the transformed data based on the defined annotations load into **S3, PostgreSQL, or Cassandra.**
* Developed and Implemented various SQL queries and Shell scripting as per client requirements.
* Conduct systems design, feasibility and cost studies and recommend cost-effective cloud solutions such as Amazon Web Services (AWS).

**Environment:** Java/J2EE, Jenkins, JIRA,Maven, GIT, ANT, AWS, Python, Ruby, Cassandra, Web logic, Unix Shell Scripting, Nagios,GCP, Cloud WatchJira, confluence, eclipse, intellij, Spark, Linux**.**

**Sr. Cloud Devops Engineer Oct 2018 to Feb 2020**

**Fifth-Third Bank, Cincinnati, OH**

**Responsibilities:**

* Developed entire frontend and backend modules using **Python on Django** Web Framework.
* Worked on designing, coding and developing the application in Python using Django MVC.
* Experience in working with Python ORM Libraries including **Django ORM**
* Worked on integrating **python** with Web development tools and Web Services.
* Experience with Django and Flask a high-level Python Web framework.
* Developed tools using **Python, Shell scripting, XML** to automate some of the menial tasks. Interfacing with supervisors, artists, systems administrators and production to ensure production deadlines are met.
* Designed User Interfaces using **JQuery, Bootstrap,JavaScript, CSS3, XML and HTML5.**
* Created a Handler function in **Python** using AWS Lambda that can invoke when the service is executed.
* Developed server side using PHP in both **WAMP and LAMP** server framework.
* Developed Business Logic using **Python** on **Django** Web Framework.
* Developed views and templates with Python and Django's view controller and templating language to create a user-friendly website interface.
* Designed and developed integration methodologies between client web portals and existing software infrastructure using **SOAP API's** and vendor specific frameworks.
* Used Django Database API's to access database objects.
* Used JQuery and Ajax calls for transmitting **JSON** data objects between frontend and controllers.
* Created a simple AWS Lambda function using python for deployment management in AWS.
* Design, investigation and implementation of public facing websites on Amazon Web Services (AWS).
* Designed **web UI** components for various modules and used **JavaScript** for client-side validation.
* Involved in building database Model**, APIs** and Views utilizing **Python**, in order to build an interactive web-based solution.
* Monitoring spark jobs using **Yarn application**.
* Developed **Spark/Scala** code to ingest data leveraging memory and optimizing performance
* Assist in the migration of existing SAS programs from **SAS 9.2 to SAS 9.4** and validate the resultant datasets.
* Used log the different host system event and alert information to Cassandra database.
* Deployed Core OS **Kubernetes** Clusters to manage **Docker containers** in the production environment with light weight Docker Images as base files.
* Developed micro services on boarding tools leveraging Python and **VSTS** allowing for easy creation and maintenance of build jobs and **Kubernetes** deploy and services.
* Modified and created **SAS datasets** from various input sources like flat files, CSV, and other formats, created reports and tables from existing SAS datasets.
* Worked on different data formats such **as JSON, XML** and performed machine learning algorithms in Python.
* Used **pandas, numpy, seaborn, matplotlib, scikit-learn, scipy, NLTK in Python for developing various machine learning algorithms**.
* Working in oauth group to support 2-leg and 3-leg oauth including **OIDC** protocol.
* Used Python based GUI components for the front-end functionality such as selection criteria,
* Created test harness to enable comprehensive testing utilizing Python.
* Used Amazon Web Services (AWS) for improved efficiency of storage and fast access.
* Added support for Amazon AWS S3 and RDS to host static/media files and the database into Amazon Cloud. Deployed on AWS EC2 using **nginx and gunicorn**
* Built a scalable, cost effective, and fault tolerant data ware house system on Amazon EC2 Cloud. Developed MapReduce/EMR jobs to analyze the data and provide heuristics and reports. The heuristics were used for improving campaign targeting and efficiency.
* Developed a functional design of **AWS Elastic Map Reduce** (EMR) specifications with respect to business requirements and technology alternatives.
* Configuration of **AWS EC2** Auto Scaling groups and auto scaling policies.
* Developed PySpark code to read data from Hive, group the fields and generate XML files.
* Involved in front end and utilized Bootstrap and **AngularJS** for page design.
* Involved in Developing a Restful API'S service using Python Flask framework.
* Created Data tables utilizing **PyQt** to display customer and policy information and add, delete, update customer records
* Used Scala to convert **Hive/SQL** queries into RDD transformations in **Apache Spark**.

**Environment:**Azure, GCP Java/J2EE, ANT, Maven, Subversion, Kubernetes,Puppet, OpenStack, Jenkins, GIT, Linux, Shell/Perl Scripts, PaaS, Saas, Iaas, Python, Tomcat, Jira.

**Magna Infotech, Chennai, India 2017 Aug to July 2018**

**Sr.Cloud Devops Engineer**

**Responsibilities:**

* Responsible for the building and deploying the artifacts into **DEV**, **SIT** and **QA** Environments.
* Designed and implemented scalable, secure cloud architecture based on **Amazon Web Services**. Leveraged **AWS** cloud services such as **EC2; auto-scaling;**and**VPC (Virtual Private Cloud)** to build secure, highly scalable, and flexible systems that handled expected and unexpected load bursts andare able to quickly evolve during development iterations.
* Wrote Python Scripts to Monitor Variety of Services & Perl Scripts with Hash/Arrays to Insert/Delete/Modify content in multiple servers.
* Worked on OpenStack and its components like Nova, Glance, Swift, Sahara and Manila.
* Designing and implementing fully automated server build management, monitoring and deployment By Using Technologies like **Chef, Puppet**.
* Enhanced Configuration Management using (**PUPPET**) to assist with automated, repeatable, and consist of configuration and application deployments, treating infrastructure-as-code.
* Implemented multiple high-performance **MongoDB** replica sets on **EC2** with robust reliability.
* Fundamental mastery of the **AWS** cloud computing platform, and its many dimensions of scalability - including but not limited to: VPC (Virtual Private Cloud), **EC2, load-balancing with ELB**, messaging with SQS (and scalable non-**AWS** alternatives), auto-scaling architectures.
* Created **GIT** configuration record for builds using derived objects generated during build audit process.
* Managed all the bugs and changes into a production environment using the **JIRA** tracking tool.
* Configured and automated the **Jenkins**Build jobs for Continuous Integration.
* Used **Apache Tomcat** asapplication server for deploying the artifacts and using configurations of **Puppet** and**Chef.**
* Securing Linux servers by hardening the OS using **IPtables, SELinux and RKHunter**.
* Developed **UNIX**for the purpose of manual deployment of the code to the different environments and e-mail the team when the build is completed.
* Added support for Amazon **AWS S3 and RDS** to host static/media files and the database into Amazon Cloud.
* Created a Git repository and added the project to **GitHub.**
* Utilized Agile process and **JIRA** issue management to track sprint cycles.
* Used Amazon EC2 command line interface along with Bash/Python to automate repetitive work.
* Worked on migrating data to Amazon AWS. Used AWS products like **EC2, S3, Boto3** to automate EC2 Instances, taking regular snapshots, Log Monitor, Lambda, **REST API Gateway** etc.

**Environment:** AWS, CI/CD, GCP, Docker, Kubernetes, Docker Swarm, ELB, VPC, EC2, S3, AWS Cloud Formation, Red Hat Linux, Git/SVN, Jenkins/Hudson, Maven, Shell, Jira, Ruby, Python, JAVA, Ansible, NGINX, Apache/Tomcat, MySQL, Serverless, IAM

**InfosenseGlobal, Chennai, India** **Aug 2016 - July 2017**

**Role: Jr. AWS Cloud Engineer**

**Responsibilities:**

* Created scripts in **Python (Boto)**which integrated with **Amazon API**to control instance operations.
* Designed, built and coordinate an automated build & release **CI/CD** process using **Gitlab, Jenkins and Puppet** on hybrid IT infrastructure.
* Involved in designing and developing Amazon **EC2**, Amazon **S3**, Amazon **RDS**, Amazon **Elastic Load Balancing**, Amazon**SWF**, Amazon **SQS**, and other services of the AWS infrastructure.
* Running build jobs and integration tests on Jenkins Master/Slave configuration.
* Managed Servers on the Amazon **WebServices** (AWS) platform instances using **Puppet** configuration management.
* Involved in **maintaining** the reliability, availability, and performance of Amazon Elastic Compute Cloud (**AmazonEC2**) instances.
* Conduct systems design, feasibility and cost studies and recommend cost-effective cloud solutions such as **Amazon Web Services (AWS)**.
* Responsible for monitoring the AWS resources using **Cloud Watch**and also application resources using **Nagios**.
* Created AWS Multi-Factor Authentication **(MFA)**for instance **RDP/SSH**logon, worked with teams to lockdown **security groups**.
* Involved in complete SDLC life cycle - Designing, Coding, Testing, Debugging and Production Support.
* Installed/Configured/Managed **Puppet Master/Agent**. Wrote custom Modules and Manifests, downloaded pre-written modules from puppet-forge. Up gradation or Migration of Puppet Community and Enterprise.
* Coordinate/assist developers with establishing and applying appropriate**branching**, labeling/naming conventions using **Git**.
* Branching, Merging, Release Activities on Version Control Tool GIT. Used **GitHub** as version control to store source code and implemented **Git** for branching and merging operations for Java Source Code

**Environment:**  Java/J2EE, Jenkins, JIRA,Maven, GIT, ANT, AWS, Python, Ruby, Cassandra, Web logic, Unix Shell Scripting, Nagios,GCP, Cloud Watch

**Kassapos Software Solutions, Chennai, India Oct 2014 to July 2016**

**Jr. Python Developer**

**Responsibilities:**

* Design **AWS Cloud Formation**templates to create custom sized **VPC**, **subnets**, NAT to ensure successful deployment of Web applications and database templates.
* Design, develop, test, deploy and maintain internal website and leveraged Django Database API's to access database objects.
* Designed the front end of the application using **Python, HTML, CSS, JSON and jQuery**.
* Rewrite existing Python/Django modules to deliver certain format of data.
* Creating and Managing Virtual Machines in Windows Azure and setting up communication with the help of Endpoints and also**VMMigrations** from Transitional hosts on Canada Boxes.
* specific focus on **Pandas, NumPy, SciPy, Flask,** Database Integration(SQLAlchemy) and Automation.
* Used Django Database API's to access database objects.
* Developed entire frontend and backend modules with Python on Django Web Framework.
* Used Python and Django to interface with the **jQuery UI** and manage the storage and deletion of content.
* Built a Python/Django based web application using Python scripting for data processing, **MySQL** for database, and **HTML/CSS/JQuery** and High Charts for data visualization of served pages.
* Involved in writing SQL Queries and implementing stored procedures, functions, packages, tables, views, Cursors, triggers.
* Worked in MySQL database on simple queries and writing Stored Procedures for normalization and renormalization.
* Build SQL queries for performing various CRUD operations like create, update, read and delete.
* Designed and managed API system deployment using fast http server and Amazon AWS architecture
* Developed cold data search application using a combination of Java and Hadoop technologies. Java technologies include REST **web services, Spring, Hibernate and Hadoop technologies including Oozie, MapReduce.**
* Skilled in using collections in **Python** for manipulating and looping through different user-defined objects.
* Work with team of developers on python applications for RISK management.
* Used Pandas library for statistics Analysis.
* Improved code reuse and performance by making effective use of various design patterns.
* Also used Bootstrap and Angular.js as a mechanism to manage and organize the **HTML page layout.**
* Build development environment with **JIRA**.

**Environment:** AWS, Java, Maven, SVN, GIT, Jira Jenkins, Chef, Docker, Hadoop, Elastic Map Reduce, Python, Ruby, Shell, MongoDB, PEM, AWS/GCP, ELK, ETS**.**

**Softech Solutions (India)**

**Jr. Linux Admin May 2012 – Sep 2014**

**Responsibilities:**

* Worked as a Systems Administrator on Red Hat 3/4**, CentOS ¾ and Ubuntu** (6.06, 7.04) servers.
* Worked on Applying patches, installed monitoring tools, and upgraded **BIOS** on **HPC** Clusters.
* Scheduled users to perform High Performance Computing activities on the Linux cluster.
* Created users and groups and assigned them appropriate quotas and ACLs as per company requirement.
* Experience managing and tuning **MySQL** and writing SQL scripts.
* Identified and solved any issues or errors.
* Installed and configured **Nagios** monitoring tool to manage infrastructure.
* Applied patches and supported Linux Servers with Oracle Database servers.
* Worked on Kernel tuning and Kernel patching.
* Installed, upgraded and maintained Windows, Linux and Solaris operating systems.
* Installed, set up and configured **RHEL, CentOS, OELand** VMware **ESX** on HP and IBM hardware.

**Environment:** Redhat Linux 3,4,5, Switches, VMware ESX 5.1, oracle 11, VERITAS Cluster Server 5, and VERITAS

Operations Manger

Education:

**Bachelors (University &amp; Year):2011 SRM UNIVERSITY**