**SANDEEP SINGH**

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**EDUCATION**

Bachelors in computer science 2010 (HNB University)

M.S. Computer Science (BITS PILANI)

January 2011 - December 2014 Bangalore, INDIA

# WORK EXPERIENCE

* **11 years of IT experience as a Java Programmer** with diversified exposure in Software Process Engineering, designing & building a Web Applications using **Java/J2EE**& open-source technologies.
* Followed **Agile Software Development** Methodology to build the application iteratively and incrementally. Participated in scrum related activities and daily scrum meetings.
* Work with multiple teams with cross platform interactions for discussing requirement and resolving any issues.
* Involve in whole lifecycle of an API (Java Webservices/Microservices) build from analysis to design to build, test and deployment (on AWS Cloud).
* Built Microservices for various Banking flows for Payments and Transfers using Spring Boot.
* Implemented Microservices based design patterns to convert monolithic applications to individual microservices.
* Developed a Kafka Streaming api for receiving and publishing Bank Events like Noc Swap
* Worked on a Kafka Streaming api for receiving and publishing Events to change the status of the records , depending on business use case.
* Design, develop and maintain Kubernetes clusters for deployment of Apis.
* Monitor and troubleshoot Kubernetes clusters and applications.
* Build deployment pipelines that automate the deployment process and reusable utilities that reduce development time and increase productivity.
* Setup meetings with the stakeholders including product owners, peer teams and design review board to understand the requirements and review the API design.
* Ensures the deliverables meet the established enterprise quality standards – Sonar checks, Erato code assessment etc.
* Build infrastructure pipeline to automate the AWS infra build (ECS cluster, ALBs, instance and container autoscaling policies – scale in and scale out, CloudWatch alarms,

        application and EC2 health checks) and rehydration.

* Used Aws Services like S3 Lambda and Dynamo Db.
* Configure and setup API and Docker container monitoring infrastructure using New relic.
* Define and setup alerting polices (Cloud watch alarms and Pager Duty) for various. Infrastructure and application parameters including memory, CPU and application health check.
* Build performance test plans and automate performance testing using JMeter,K6.
* Define the deployment plan including the instance, container sizing and obtain stakeholder sign off.
* Define the release plan including validation plan, traffic throttling, continuous monitoring, and rollback.
* Used **J2EE** Design patterns like Factory, Abstract Factory, Iterator, Façade, and Observer during development.
* Involved in writing the action classes and from beans for different modules using **Spring MVC**.
* Actively involved in using **Core java** concepts - Collections, Exception Handling, Multi-Threading, Serialization.
* Used **Cassandra** database to connect as backend for different microservices.
* Used **GIT** as source control management giving a huge speed advantage on centralized systems that must communicate with a server.
* Involved in **database** design and developed **SQL Queries on MySQL and Oracle.**
* Used **SVN**to manage the versions and merge the code. Used Log back for writing the logs including errors, warnings, and information.
* Experience in testing on multiple operating systems including **Linux**, **Unix and Windows.**

**Skill Set -**

**Programming Languages -** Java, J2EE.

**AWS Cloud Services –** Lambda, ECS, EC2, ALB, SQS, SNS, S3, EFS, CloudWatch, Glue, EMR, VPC, IAM, Route 53, Dynamo DB, Security Group, VPC.

**Web Technologies –** Java , Microservices , Spring Framework(Spring Boot, MVC ), JAX-RS , JAX-WS , Rest Api’s , Apache Spark , Kafka.

**Database –** Oracle , PostgreSQL, Datastax Cassandra , MySQL.

**Scripting Languages-** JavaScript , Shell Script, HTML, JSON, CSS.

**Web and Application Servers-** WebLogic, Apache Tomcat , Apache Spark.

**Build and Deployment Tools –** Ant , Maven, Docker, Kubernates ,Artifactory, Jenkins, Terraform , Ansible.

**Testing Tools –** Junit, Cucumber, Mockito, Easy Mock, Power Mock, K6 , JMeter.

**Monitoring Tools-** Splunk, Data Dog, New Relic , Pager Duty , ELK.

**Software Engineering Tools/Methodologies –** Agile , Scrum Ceremonies , SDLC, Jira , GitHub , Svn , Oracle SQL Developer , Sonar , Eclipse , STS, Visual Code, Postman, Insomnia .

**Project Description**

Tek Leaders

Client - Capital One

Department – EP2 Tech

Role – Senior Software Engineer

June 2021 - Current.

McLean ,Virginia.

**Roles and Responsibilities-**

* Working on Design and Development of serverless Data Hygiene jobs to reduce the cost of dedicated EC2’s.
* Built Microservices for handling Customer Payments using Spring Boot.
* Converted a monolithic Payments api into different microservices to reduce

single point of failure and implement loosely coupled architecture.

* Working on Different Data Hygiene jobs and created different microservices handling Noc Swap and reconciliation of customer payment profiles, changing Bank name, purging closed accounts.
* Working on Building an application based on REST and DynamoDB to store customer account details so that it can be used for future transfers, which is a new initiative and will help in better customer experience so that they no need to add or enter their details again and can choose the already present details.
* Discussing with the different LOB stakeholders to get the input details to create a spark job for migrating data into a common Cassandra Database.
* Build the Streaming Api based on Apache Kafka for listening to real time events for changing customer accounts data and then producing the results for the other consumers. These streams helped in updating real time customer data in case something was changed like routing number, account number and Noc process.
* Designed and implemented Kubernetes clusters for Payment based Rest Apis .
* Managed containerized applications using Kubernetes and automate the deployment of microservices.
* Build the daily Repair Jobs based on AWS Lambda to fix the Database tables inconsistencies.
* Build Different Jobs based on Spark Java and AWS Lambda, to maintain Database records for analyzing and reporting discrepancies and fixing those.
* Built a Java and Springboot based Library basically a microservice to Collapse the duplicate database records into a single record with capturing best columns values amongst all the rows.
* Built an Audit table on Snowflake to store the changes done on any customer payment account for better debugging purposes.

WIPRO Technologies

Client - Capital One

Department – COF Technology

Role – Senior Software Engineer

January 2017 - May 2021

Vienna, Virginia

**Roles and Responsibilities-**

* Worked with product managers and architects to create a common Cassandra Database Repository to store all payment accounts details for all the Lines of Business reducing the overall cost of legacy systems and services by at least 40%.
* Worked on building the Rest Api with Java and Spring Boot which was responsible for all payment accounts, to perform CRUD operations on the common repository, used AWS( EC2,ECS,ALB,R53,CloudWatch,S3) , Docker, Terraform and Jenkins for its infrastructure part.
* Tested Api for bugs and operating speed, fixing bugs, and documenting processes to increase efficiency by 18%
* Created a reusable Java Script based performance testing project (K6) for the Api for efficient and accurate performance testing which helped in identifying the thread related issues and improved the performance of api.
* Created monitoring Dashboards and Used Splunk, New Relic and Data Dog for monitoring the Application and created Dashboard based on TPS, Response Time, Status and JVM Metrics to for easy debugging and monitor the health of application.
* Did memory analysis on JVM Stats of api’s to make sure that there are no errors due to multiple threads and garbage collection.
* Created multiple Spark Jobs for migrating accounts from different legacy Lines of Business into the common Database, around 110 million accounts. Also created Validation Jobs for the migrated records.
* Worked on Tokenization of Customer accounts to hide sensitive data like Account number in the Apis Responses.
* Worked on creating DynamoDB, for storing default payments accounts for customers moving from legacy systems improving response times, increasing availability, and reducing cost by 30%.
* Worked on creating a flow to create a unique identifier for customers who are not digitally active to store their payment information.
* Worked on Creating a logic and forming a unique keys based on Account number, Aba and other fields to uniquely identify Customer records , removing duplicate entries from GET response of Rest Api.

WIPRO Technologies

Client – Capital One

Department – COF Technology

Role –Software Engineer

January 2015 - December 2016

Bangalore, India

**Roles and Responsibilities-**

* Worked in Building RESTful APIs which acted as a Rules Engine based on Java and Spring, which cut across various Lines of Business, which validates each internal customer account to check if its good standing account or not to make sure the account can be used for further banking transactions. This Rules Engine was used across most of the apis especially apis involved in Payments and transfer of money.
* Created Rules engine File which held all the rules to decide if an account was an good standing account or not . This Rule engine used to block and prevent Fraud accounts from performing any transactions.
* Used AWS for Deploying the Rules Engine Api to QA, PROD, using ELB, EC2, ECS, CloudWatch and S3, which increased the performance of api’s and reduced the cost of hosting, after moving it to AWS from On Premise environment.
* Used Splunk for monitoring the Application and created Dashboard based on TPS,ResponseTime, Status and other metrics to easily monitor the health of the application.

WIPRO Technologies

Client – Capital One

Department – Enterprise IT

Role - Software Engineer

January 2013 - December 2014

Bangalore, India

**Roles and Responsibilities-**

* Worked on Capital One Credit Card Website (ICORE Platform), modified web pages based on JSF and JSP’s , java code , Database scripts for new enhancements and fixes.
* Using Cucumber and Gherkin to build out a unit testing infrastructure for a client application that reduced the number of bugs reported by the client by 11% month over month.
* Fixed the Logging in the Apis, to improve the overall logging of the Application, and it made error detection easy and fast.