Zach Calvert

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Enterprise Cloud Architect

SUMMARY

Skilled Software Engineer focused in cloud migrations applying enterprise architecture patterns with a DevOps approach. Full-stack aware, trained in both ReactJS and Angular, with 15 years Java experience currently building 12-factor applications using Spring Boot Microservices. Active in applying Agile Methodologies, and DevOps CI/CD. Hands on experience with Linux server diagnostics, cloud server virtualization, and monolithic decompositions.

PROFICIENCIES

Cloud Engineering - 4 years
> Pivotal Cloud Foundry, OpenShift, Kubernetes, AWS, Event Driven Design, CQRS, Open API 3.0, Docker, 12 Factor Applications, Eventual Consistency

Java - 15 years
> Spring Boot Microservices, Hibernate, Camel, JUnit, JMockit, Gradle, OSGi, JDBC, ServiceMix, Maven, Groovy, Spock

DevOps - 8 years
> Cloud Formation, Jenkins, Travis CI, Vagrant, Ansible, Heroku, Bamboo, CI/CD

JavaScript - 7 years
> ReactJS, Angular, NPM, Bootstrap 4, ES6, Chai, Jasmine, JQuery

NoSQL - 4 years
> Cassandra, Redis, MongoDB

Eventing Systems - 8 years
> Kafka, RabbitMQ, ActiveMQ, Tibco

SQL - 15 years
> Oracle, MySQL, PostgreSQL, MS SQL Server

Atlassian Development Services - 8 years
> Jira, BitBucket, Bamboo, Confluence, FishEye

Linux - 15 years
> Server management, bash scripting, installation, performance monitoring

Development Toolkits - 15 years
> Git, IntelliJ, Eclipse, Gradle, Maven, Subversion, Ant

Security Mitigation - 9 years
> TLS, WireShark, salted hashing, encryption, Bcrypt, BouncyCastle

Server Clustering, Scaling, and Disaster Recovery - 8 years
> Disaster Recovery Planning, Chaos Monkey, Geo-redundancy, recovery analysis

Performance Testing - 10 years
> JMeter, Artillery, Thread Dump Analyzer, Garbage Collection Viewer, JConsole

EXPERIENCE

BNSF Railway   Fort Worth, TX   *February 2017 - current*
Contractor for HCL on-site at BNSF Railway serving as Enterprise Cloud Architect on the train service modernization Platform Team. Our team responsibilities are to identify the appropriate stack of technologies for a successful migration to a modern microservice architecture for train scheduling and staff management.

Private Key Material Management   *6 Months, SAFe Agile*
Served as OpenShift solutions architect and technical lead for the BNSF Enterprise Security team working on private key material management. Focus on DevOps integration and automation for securing sensitive event topics and 12-factor application TLS exposure. Full automation of authentication issuance via mTLS for internal service-to-service with signed JWT for users and external customers.

Microservice API Production Monitoring   *4 Months, SAFe Agile*
Served as Product Owner and Technical Lead for identifying applicable toolkits supporting OpenShift and Kubernetes monitoring. Performed requirement gathering and stakeholder identification ranging from technical staff to business leadership. Evaluations included Dynatrace, App Dynamics, New Relic, Nagios, Graphite/Grafana, and ELK.

Securing REST and Identity Management   *5 Months, SAFe Agile*
Provide stateless components and integration suite for migration to a modern JWT based identity solution. Integration components built for migrating existing stateless SOAP and REST APIs, Spring Boot microservices, service-to-service application communication, and JSF/JSP WAR legacy applications. Full support for native mobile IOS and Android applications.

BlueMix and Cloud Foundry Evaluation   *3 months, SAFe Agile*
Evaluate the enterprise readiness for IBM BlueMix with integration to Jenkins CI/CD pipelines for private cloud migration. Prepare best practice outlines and documentation for adopting Cloud Foundry command line utilities, configuration management, and deployment architecture.

Cache Service Evaluations   *3 months, SAFe Agile*
Served as technical lead evaluating cache offerings for Java applications to support J2EE migrations to OpenShift. Evaluations included Reddis, Caffeine, Infinispan, JBoss Data Grid, Ehcache, Hazelcast, and Memcached.

Spireon   Irving, TX   *July 2016 - February 2017*

Joined a Spring Boot Microservice REST API software team developing, testing, and reviewing security for services deployed on Amazon AWS as a Senior Software Engineer.

JWT Identity Management   *3 Months, Agile*

RESTful security transition to JWT identity services served via a Tyk Gateway and nginx reverse proxies. Responsible for implementation of the caching integration to Redis and ehCache on a Java 8 Spring Boot microservice, with a JPA based MySQL integration. Personally achieved 80% unit testing coverage of both lines and branches with cobertura code coverage delivered via Jenkins CI builds. Implemented CXF REST services. Localized authentication and principal managed via Spring Security. Performance tested using the NodeJS Artillery module.

Platform API   *3 months, Agile*

RESTful service managing vehicle asset exposure and geo-locational data. Responsible for reviewing the existing elasticsearch integration, improving search behavior, and providing business logic testing to available searches. Improved both unit testing code coverage, negative test case coverage, and security testing using Frisby and JUnit 4. Aided in improving the gradle build process and improving Jenkins CI builds and automated integration testing.

TEKsystems   Dallas, TX   *March 2016 - July 2016*

Contractor for TEKsystems as Java Technical Lead at Southwest Airlines HQ serving a team of developers managing a passenger data service which exposes Oracle persisted content via SOAP APIs and updates the same data warehouse via consuming messages off of a bridged Tibco Message Queue built on JMS.

Python Automation Initiative   *3 Months, Iterative*

Personally recognized an opportunity to improve speed of delivery and reduce manual error with automation of an internal deployment process. Using Python, an error prone deployment involving manual HTML form submission reduced team's involvement by 35 man -hours per week.

PDS Retirement   *3 Months, Waterfall*

Participated as technical lead of support staff to aid in monitoring of a migration and retirement of an XML warehouse.

Xpressdocs   Fort Worth, TX   *July 2015 - March 2016*

Joined a print firm delivering integration solutions to digital print equipment for real estate marketing, business cards, and advertising campaigns.

JDserv   *6 Months, Iterative*

Responsible for assisting the migration of a team from waterfall development to Agile Methodologies. Provided development leadership in updating products from Java 6 to Java 8, Ant to Maven, develop CI and CD Jenkins builds, work with IT to deliver JMX monitoring touch points, and aid in developing a Jira workflows.

MelissaData Smart Mover   *1 Month, Waterfall*

Independently developed an integration service that provided a 750% performance improvement in CASS and NCOA address validations using a producer/consumer design pattern over REST API. Provided a JAR artifact deliverable with 97% code coverage and end-to-end integration tests against a public sandbox test service.

Alcatel-Lucent, Contractor   Austin, TX   *June 2009 - April 2015*

Provided software contracting services for the telecommunication industry including endpoint management, mobile services, and electric smart metering network solutions.

Mobile Push Services   *4 Months, Agile Project*

Designed and implemented integration services for notifying mobile customers of service outages based on network diagnostics and manual batch notifications. Integrations provided for both Google Cloud Messaging and Apple Push Notification Service. Responsibilities included architecture, implementation, unit testing, performance testing, integration testing, and installation scripting for Linux servers.

Smart Device OSGi Services   *24 Months, Agile Project*

Designed and implemented REST API services for mobile and browser based applications allowing us to reach new customer bases, including the electric smart metering device market. Responsible for server implementation, requirement gathering, performance testing, security testing, Linux installs, and service design.

Endpoint Communication System   *6 Months, Agile Project*

Designed and developed Spring-DM OSGi Apache ServiceMix bundles for a push notification architecture supporting PC, Mac, and mobile platforms expanding client installations by hundreds of thousands of units. Responsibilities included server design, implementation, unit testing and directing remote test staff for QA testing and performance testing.

Client Application Framework   *15 Months, Agile Project*

Developed a PC solution for an application store built on top of OpenJDK and the Apache Felix OSGi stack. Responsibilities included implementation of a locally installed Jetty client service for accessing PC help flows and account management.

Broadband Care Manager   *6 Months, Agile Project*

Provided support in moving the legacy EAR project suite from manually built to a robust Maven build system centered upon a subversion repository with Atlassian build and project management tools. Improved in-house Eclipse RCP workflow utility and reduced user installation errors with a newly developed NSIS installer.

TransUnion   Austin, TX   *Jan 2005 - April 2009*

Developed flood research solutions as well as automated home valuation software for real estate and credit reporting industries.

Hornet   *12 Months, Iterative*

Improved automation output by a factor of 5,000 reducing hardware cost and improving customer feedback with faster turnaround for batch requests. Major factors contributing to the improvement included a new geospatial indexing architecture, custom RAM management, and multi-threading techniques.

Hard Rain   *24 Months, Iterative*

Developed a flood research application integrating many different data providers into an Eclipse RCP (OSGi) based application. Provided map synchronization and various research and geospatial toolsets to achieve pinpoint accuracy for floodplain identification.

EDUCATION

University of Texas at Arlington   *Jan 2000 - Dec 2004*

Graduated summa cum laude with a Bachelor of Science in Software Engineering

Online Courseware

Udemy: AWS Certified Developer - Associate 2019
Udemy: AWS Serverless APIs & Apps - A Complete Introduction
Udemy: Docker Mastery: The Complete Toolset From a Docker Captain
Udemy: JavaScript: Understanding the Weird Parts
Udemy: Vim Masterclass
Udemy: Learn DevOps: Infrastructure Automation with Terraform
Udemy: Learn DevOps: The Complete Kubernetes Course
Udemy: Getting Started with Apache Cassandra
Mongo University: MongoDB for Java: 101