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Background

A highly accomplished senior software developer with a proven track record of driving innovation and spearheading transformative projects, I've been a Software Engineer since 2002. Armed with a diverse skill set, including full-stack development and expertise in technologies such as Scala, Java, ES6, using both relational and no-sql databases, I successfully designed and implemented a wide variety of software stacks across top tech companies both in South Africa and aboard. I established best practices for service and API development and played a pivotal role in operational excellence, mentoring, nurturing a culture of continuous learning and growth.

My career is defined by a relentless pursuit of excellence, a passion for problem-solving, and a commitment to delivering outstanding results. I bring a unique blend of technical prowess and leadership abilities, making me a valuable asset to any team or organization.

Recent Experience

Amazon Web Services (AWS) : Software Development Engineer

June 2017 - Present

I am the technical lead developer in a team of 6, that develops and maintain automated ETL pipelines for big data using tools like Scala, Spark, SQL and AWS services such as S3, Glue and Lambda. Our multiple petabyte data-lake was designed and implemented by myself to ingest 60+TB of data a day and provide access (P100 read load of 19 million requests a minute) for scientists and analysts to answer business questions and run simulations to test algorithm changes before pushing them to production.

We have streamlined our ingestion layer to ingest data from multiple core EC2 teams, across multiple regions, within minutes. The system I designed, and continue to oversee, has saved Amazon millions in resources and headcount by negating the need for analytics teams to stand up and maintain their own data ingestion systems. I maintain data security, permissions solutions and policies for enterprise scale data warehouse and data lake implementations including data encryption and database user access controls, logging, as well as compliance controls for sharing data between teams. I am also responsible for overseeing the development, testing, and deploying code using internal software development tool sets. This includes the code for deploying infrastructure and solutions for secure data storage, ETL pipelines, data catalogue, and data query.

Prior to this I was also a developer on other EC2 control plane teams including those responsible for launching EC2 instances, and placing them efficiently on the underlying hardware.

Responsibilities :

• API Design / Development • Design and implementation of various ingestion layers and ETL for data-lake. • Development of Operational / Monitoring tools • Successfully mentored several of Jnr & non-Scala engineers through to promotion at Amazon

Languages and Tools used:

- Scala 2.x / Java 8/11 / ES6 / Ruby (I have experience across a wide range of languages but prefer strongly typed)
- Scanamo
- Scallop
- Jackson
- CoAP / CBOR
- Various AWS services and their SDKs:
    - DynamoDB
    - Lambda
    - S3
    - SQS
    - Glue / Spark
    - Athena
    - Cloudwatch Metrics / Logs
    - CLoud-formation / CDK
    - IAM / STS

Takealot Logistics : Senior Software Engineer / Team Lead

September 2015 - June 2017

At Takealot, I spearheaded a transformative initiative by integrating MrD into our logistics operations. Faced with the challenge of an outdated PHP application, I led the design and implementation of a cutting-edge logistics platform from the ground up, showcasing my proficiency in full-stack development and an array of technologies, including:

- Front-End: Utilizing Angular to craft a user-friendly and dynamic interfaces.
- Back-End: Employing Scala and Play framework for robust server-side functionality and APIs.
- Database Design: Employing Postgres for data storage and retrieval.

My key achievements in this role include:

- Real-time Driver and Delivery Tracking: Developed a web-based software solution enabling real-time tracking and monitoring of drivers and deliveries. This system displayed critical information such as drivers' mobile device health, package details, delivery history, and real-time location on a map.
- Driver Shift Management: Implemented a feature to efficiently manage driver shifts, indicating driver availability for food and package deliveries.
- Branch Collection/Delivery Zone Management: Introduced geographic polygons to streamline order allocation to specific branches, optimizing logistical operations.

For the back-end development, my responsibilities included:

- API Integration: Engineered APIs and order routing to seamlessly integrate MrD into the logistics platform, allowing real-time tracking of last-mile deliveries.
- Locker Order Management: Implemented a state machine to meticulously monitor and manage deliveries and collections, enhancing order management processes.

In addition to these technical achievements, I contributed to the success of the project by:

- Establishing Best Practices: Pioneered best practices for developing new services and APIs, ensuring code quality and maintainability.
- Mentoring and Training: Took an active role in the team by hiring and mentoring individuals in Scala, fostering a culture of continuous learning and skill development.

Responsibilities :

- API Design & Development
- Tech Lead on Scala projects
- Mentoring of Jnr & Non-Scala Engineers
- Full Stack Developer on Internal / Branch Tools

Languages and Tools used:
- Scala 2.x / Akka / Play-Framework
- Java 8 / OOP & Functional
- JAX-RS / JSON / REST
- JAXB / XML
- SBT / Maven
- GIT
- JavaSript / jQuery / Angularjs
- HTML / CSS
- SQL / MySQL / PostgreSQL
- Apache / Jetty / Glassfish
- Couchbase / Map-Reduce
- JPA
- Hibernate

Tag : Senior Software Engineer

April 2013 - September 2015

Responsible for the Development/Design and Implementation of :

- Architectural improvements
- WebSockets for notification of async tasks (Client & Server)
- REST APIs on flagship product.
- Metrics/metering for both performance and product activity.
- Back-office tools (API & UI).
- Supporting libraries.

Yola : Senior Software Engineer / Co-Founder

February 2007 - March 2013

Primary Engineer on Sitebuilder server-side (Java), responsible for design and implementation of:

- JSON based APIs, exposing functionality and data to JavaScript UI.

- Partner Platform, APIs allowing 3rd Party ISP integration.
- Integration of various internal and 3rd party services.
- Style Framework, allowing development of styles for use by user's sites.
- Widget Framework, allowing development of widgets for use by user's sites.
- Generating PHP source from Abstraction to produce final website for hosting.
- Database design & sharding.
- Application Level Clustering.

Development of various back-office tools with web-ui's for use by Support / QA

incuBeta / Clicks2Customers: Software Engineer

September 2004 - February 2007

Design and implementation of various Java / Web-based solutions, ranging from professional services, eg online booking systems, to in-house products and projects eg Affiliate and vertical search engines.

One of the internal products formed the basis that became Yola's SiteBuilder.

References:

Mark Dawe (Peer at Amazon for 4 years) Head Technology - Core Big Data Platforms (Absa) mark.dawe@absa.africa

Joerg Sandl (Current Manager at Amazon for 2 years) Software Development Manager for EC2 jsandl@amazon.com

Additional references available on request.