

# Arun Avanathan

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## SUMMARY

Experienced in architecting & building highly scalable cloud based API services using Open Source technologies such as Java, Spring Boot. Has a strong sense for end to end design & ownership. Firm believer of action, automation & speed.

- Has been architecting & building distributed applications in AWS for 7+ years
- Enjoys mentoring high performance engineering teams for 8+ years
- Built an API platform for a SaaS product from scratch
- Drives engineering decisions working across different business units/groups
- Re-architected monoliths to Microservices to increase time to market, engineering productivity
- Known for boundaryless leadership working across Business units/teams
- Core engineering team member for a couple of Startups
- Playing the engineering leadership roles - Staff, Sr.Staff & Principal engineer - for the last 10+ years.

## SKILLS

Java, Spring Boot, MySQL, AWS, K8S, DynamoDB, SQS, Kafka, Redis, Memcached, Large Scale Distributed Systems, Backend engineering, RESTful/GraphQL APIs, Architecting migrations from Monolith to MicroServices, Building Event/Message Driven infrastructures, AuthN/AuthZ platforms

## EXPERIENCE

### Principal SW Engineer, Intuit

**Nov 2020 - PRESENT**

**QuickBooks Online** is a large composite application with more than 5B AuthZ decisions per day. We are decoupling AuthZ logic from Business logic using OPA based decision service

- Collaborating with central identity, security & cross functional teams towards the common goal
- Enabling & mentoring team members to achieve their goals
- Influencing a team of ~**180** engineers to use AuthZ in a consistent way towards target state
- Reduced service level dependencies(by 60%) for QuickBooks online
- Used aggressive caching & creative solutions to reduce the number of decisions from 5B to 300M.
- Switching over to new service is also controlled by a consistent hash based switch which can let us enable traffic based on product type, region, api & other attributes. Here, I built core java libraries to enable dynamic throttling for dependent services - Spring Cloud Config, Consistent Hashing
- Used Open Policy Agent (OPA) for granular permissions (ABAC)
- Working with cross domain PE/Architects on Standards & RFCs
- Interviewing senior level candidates & selecting best in class engineers

## **Principal SW Engineer/Manager, Intuit**

**Feb 2019 - Oct 2020**

Intuit encourages employees to spin up products under incubation. In this program, we found a startup - **FormFly** - A SaaS platform for Tax Information Filing.

- Led high performing & autonomous Engineering Team
- Assessed and managed risks & priorities
- Worked with cross functional groups to unblock hurdles
- Designed an event driven architecture for RESTful APIs - using DynamoDB Streams
- Worked closely with Product, Security & Compliance teams
- Built event based performance testing suite in AWS using Lambda & generate reports
- Didn't grow large enough as expected. At the time we had < 100K transactions per day.

## **Principal SW Engineer, Intuit**

**May 2018 - Feb 2019**

Built and maintained Contractor invitation system between **QuickBooks Online** & **QuickBooks Self Employed** products. An ability for Small Business owners to invite vendors/contractors for sharing 1099 Documents, Direct Deposits & to manage W4 forms. This is a small scale but complex infrastructure dealing with a few thousand events per day. But I learnt more about what customers are looking for & how 1099 forms are used for tax filing. This led me to my next gig - FormFly - listed above.

## **Architect, Intuit**

**Oct 2014 - Apr 2018**

Defined Target State Architecture for **Intuit Developer Portal** and **Intuit App Store**.

- Decomposing the monolith from internal data centers into highly available micro services in AWS (Spring Boot, MySQL RDS, ElastiCache, ActiveMQ, S3, Lambda and EC2).
- Enabling the teams to move faster to AWS (Training, Mentoring, Building Shared Libraries)
- Providing Architecture for migrating Developers from OAuth 1 to OAuth 2
- Scaling AppConnect - We moved this application to AWS to make it highly scalable & available. We had to move heavy tables to DynamoDB for some cases, partitioned MySQL tables for few other scenarios - Few million log events per day - but over time DB tables had grown into several billions records & we had to partition.
- Built a 3rd party webhooks platform (20 MM events per day) using Spring, JMS, Redis & MySQL powered by Jetty.

## **Principal SW Engineer, Intuit**

**Jan 2014 - Sep 2014**

Drove the initiative - break the monolith - for **QuickBooks Payroll**.

- Decomposed a logical slice of the application into RESTful service - a pattern for the team to continue. This was done using Java, Spring Boot & MySQL
- Trained existing developers on the nuances of microservices & why that is the direction we need to head

**Staff Engineer, Intuit****Aug 2011 - Dec 2013**

At **Intuit Partner Platform** - third party developer platform for QuickBooks - I was the core contributor for building APIs for QuickBooks Desktop in the Cloud. An agent plugin (Mobilink) in QuickBooks Desktop application will take care of two way sync between desktop and Mobilink Server. I was responsible for building the JMS messaging backbone to sync data from Mobilink Server to Intuit cloud. This enabled 3rd party developers to build applications for QuickBooks Desktop customers. This again is a large Java 3 tier application in Intuit Data Center with Oracle, Tomcat & Apache HTTP Server.

**Principal SW Engineer, NexTag****Jan 2010 - Aug 2011**

- Core contributor of Nextag Stores redesign for PCI Compliance. At this time my contribution was mainly around getting ready for PCI Level 2 Compliance.
- Built backend services using Spring, MySQL for Inventory Management System

**Director of Technology, StyleHive****Dec 2007 - Dec 2009**

- Built the social networking site for the reads top of MySQL DB (WordPress Schema).
- Writes are done via JMS messaging infrastructure.
- Content writers use Wordpress admin tools to write content.
- Think of this as an early version of Pinterest for Fashion enthusiasts.

**Software Development Manager, eBay****Sep 2005 - Jun 2007**

As a consultant, managed a team of 10 working with Product, Quality & Customer care teams

- Dynamic sales for eBay Stores Items using messaging infrastructure. This used proprietary messaging infrastructure to provide discounts to store items on a schedule. Learnt about distributed locking & how to use Oracle as a non-relational DB(no joins)
- Multi Factor Authentication with a third party service for eBay Trust & Safety

**Software Engineer, Wipro & MindTree****Oct 1996 - Nov 2007**

As a consultant worked for multiple clients such as Allied Signal, Franklin Templeton, GE & Schlumberger to name a few. Can provide more details as needed

**EDUCATION**

**University of Mysore, India** — Masters of Computer Applications, 1993 - 1996

**University of Mysore, India** — Bachelors of Mathematics & Physics, 1989 - 1993