

Luis Santos

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I'm a passionate software engineer focused on building great solutions based on industry best practices. I've architected and built horizontally scalable solutions and implemented message queue and REST architecture patterns using Java and Linux as the main stack.

Experience

October 2018-Now

Senior Data Consultant

- Elasticsearch
 - Optimization of the Elasticsearch cluster to better meet performance requirements
 - Redesign of ES queries to meet performance requirements
- Serverless data lake
 - Development and maintenance of existing data lake ETL processes using: AWS Athena, AWS lambda functions and Aws Glue
- PoC using DWH and analytical DB such as ClickHouse and AWS Redshift
- Architecture proposal to integrate 2 legacy systems. The proposed architecture uses modern technologies such as Apache Kafka, Apache Kafka Connect and Docker to integrate 2 legacy systems. The proposal tries to achieve the following goals:
 - Reduce manual user input in both systems
 - Reduce data inconsistencies between the 2 products and deliver a better experience for the end-user
 - Provide a single source of truth

July 2017-September 2018

IoT Lead Developer

Smartfrog

- Promoting development best practices such as
 - Test Driven Development
 - Infrastructure as Code
- Implementing java services using
 - Hibernate, MySQL, DynamoDB, SpringBoot and Java8
 - AWS Cloud Formation, AWS DynamoDB, MQTT and AWS Kinesis
- Helping design and implement high available microservices using an event-driven approach.
- Leading a multicultural team of developers to deliver the next generation device management platform.

- Promote the use of the SCRUM framework as a tool to organize workloads and provide visibility into the development process.
- Architecture and development of a new camera firmware:
 - New modular design that reduces the development cost and allows for greater flexibility
 - Improved real-time communication between the camera and the cloud
 - Support for different streaming protocols
 - Multi-platform and Multi-device support
 - Design with modern technologies such as C++, MQTT, IoT, DI, Cmake, GTest and GMock, Poco C++ Framework

Feb 2016-March 2017

Software Architect

SolarWinds MSP (previously LogicNow)

- Promoting awareness of development best practices across the company
 - CI/CD , TDD
 - Code review
 - Development patterns, Integration Patterns
 - Security best practices
- Helping teams design and implement high available distributed solutions using industry patterns such as micro-services, message queues, REST architectures, and stream processing.
- Help teams choose from the wide range of AWS technologies available.
- Improving the existing data platform by:
 - Designing a new ingestion pipeline based on **gRPC** and **AWS Kinesis**
 - Introducing the **Lambda Architecture** as a way to decouple the components and enable real-time use cases
 - Suggesting the **ORC** file format as a replacement for the legacy gzip files. Up to 10x performance improvement and 50% saving on storage requirements.
 - Suggesting SparkSQL as a standard way to get the data accessible to internal users

Sep 2014-Feb 2016

Senior Software Developer

SolarWinds MSP (previously LogicNow)

As part of a small team, I was responsible for the design and implementation of the next generation of infrastructure capable of taking millions of devices under management.

This new infrastructure, based on an **Event-Driven Architecture**, is composed of several highly decoupled micro-services and uses a Message Queue (**RabbitMQ**) as a way to communicate between components.

As part of this team, I shared the responsibility of:

- Introducing company-wide code reviews using **Phabricator**
- Introducing the **Onion Architecture**
- Introducing the **Repository pattern** as a complement for the Active Record pattern
- Introducing a **DI container**
- Promoting the use of Docker and **IAC**
- Introducing a message queue a way to decouple and scale components

Key Skills:

- JAVA, JAX-RS, Guice, Guava, maven, Junit, Mockito
- AWS, Docker, DynamoDB, Elastic beanstalk
- Ansible, Linux
- PHP, PHPunit, composer, SF2

Apr 2014-Aug 2014

Java Developer

Portugal Telecom, Caixa Magica Software

As part of this project I was responsible for maintaining a **message queue** solution.

The main goals were:

- Upgrade from Netty 3 to Netty 4
- Rewrite the java client using Netty 4 and NIO
- Maintain the existing clients written in PHP, C, Perl, and Python

Key Skills:

- Netty, NIO, IP, TCP, Wireshark
- Java, multithreading programming, Maven, Junit
- JSON, XML, Protobuf, Thrift
- Linux, Android

Oct 2011-Apr 2014

PHP Developer

Portugal Telecom, Caixa Magica Software

Frontend and API developer at **wallet.pt**, a mobile, tv and web payment solution.

key Skills:

- PHP, JS, HTML
- SOA, REST
- OWASP TOP 10, PCI-DSS, Cryptography, SSL
- Unit Testing, Continuous Integration
- MySQL, Memcache, Message Queue

May 2008-Oct 2011

Software Developer

Paul Stricker SA

Software developer and sysadmin.

key Skills:

- PHP, JS, HTML, Java, JAX-WS, JAX-RS, Hibernate
- Windows Server, Cisco network appliances, SIP
- C#, .NET, Microsoft Fox Pro, ETL

Jul 2013-Dec 2013

Community enabler

PHPLX

Responsible for organizing a monthly event.

Education

2005–2011

BSc, Informatics Engineering

Instituto Superior de Engenharia de Coimbra, Portugal

- SQL Databases (Oracle, SQLserver)
- Software engineering, Software patterns, and algorithms
- Software Development Java, EJB, C/C++, C#.NET, ASP.NET
- Networks and protocols, TCP/IP, OSPF, RIP, CCNA

Interests

The Open Source Initiative (OSI) - Individual Member

Open Source software is a fundamental part of our society and I felt that after using open source software for more than 10 years, supporting the OSI was the right thing to do.

Other interests

Java: The java ecosystem is a huge and vibrant ecosystem and takes a lifetime to master. Some of many the subjects I've been studying:

- GraalVM and AOT compilation in serverless environments
- Dependency injection in serverless environments using Dagger

RabbitMQ: Message Queues are a key piece of any distributed system. I do a lot of research about MQ patterns and how to solve some common problems. I also contribute to RabbitMQ mailing list every time I have an opportunity.

Kotlin and other functional languages: Expressive code is a great way to reduce the number of bugs and increase productivity. I've been looking at other languages and tools to increase productivity on the JVM platform.

Lisp, Scheme and Racket : On free my time I've been learning Racket. My interest in such languages is due to its simplicity. This simplicity and flexibility make them very powerful and the perfect vehicle to implement new programming concepts without the need to change the language.

Other

- Languages:
 - Portuguese (Native speaker)
 - English (Professional Speaker)
 - Spanish (Basic understanding)