Nathan Bijnens

INTRODUCTION

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I am Nathan Bijnens, a developer turned Solution Architect with a passion for great code, Big Data and the Interiof Things. I am interested in programming and system administration, especially where they meet, from scal platforms to designing the architecture of new and existing products and everything in between.

I am a passionate speaker and evangelist, on Big Data, IoT and Cloud. I am helping my customers with Dig Transformation and becoming Data Driven, as well as all their data in the Cloud needs.

My focus is on data analytics and building Big Data applications. Using Spark, Storm, Hadoop, Cassandra, Azı Data Lake, Azure SQL Data Warehouse, Stream Analytics, EventHubs, Kafka and Azure IoT Hub. I am especia interested in real-time Big Data, actively developing applications on top of Spark Streaming and Storm, design Lambda and Kappa-like architectures. I advise on Big Data Strategies and evangelize Cloud, Big Data and IoT clients and at conferences.

I am experienced with Java, Scala and have a general interest in Functional Programming. I am also a passional Linux system engineer, follower of the DevOps movement, with experience in Puppet, Chef, NixOS and the Cloud I enjoy working with clients and partners, from giving advice, talking about the Business and Technological valof Big Data and Internet of Things, to Requirement Analysis.

PRESENTATIONS

Many presentations to clients and partners, typically on:

- Digital Transformation
- Cortana Intelligence and Cognitive Services
- The Internet of Things
- Azure and Cloud

Cloudera, Azure and Big Data at Cloudera Meetup '17 on October 2017

Microsoft AI at SAI '17 on September 2017

The Internet of Things: Things, Connectivity, Data and Insight, bringing it all together at the Microsoft Services I March '17, on March 2017

Microsoft Advanced Analytics, with a special focus on Cognitive Services and Azure Machine Learning at the Di Science Belgium Bootcamp October '16. on October 2016

Microsoft Advanced Analytics @ Data Science Ghent '16 meetup on April 2016

Spark on Azure: a Gentle Introduction at Cloudbrew '15 on November 2015

Virdata: lessons learned from the Internet of Things and M2M Cloud Services @ IBM Big Data Developers Meeti Silicon Valley on July 2014

A Lambda Architecture using Hadoop and Storm @ NoSQL Matters Cologne '14 on April 2014

A Big Data Overview, from DataCrunchers @ Devoxx 2013 on December 2013

A real time architecture using Hadoop and Storm @ Devoxx 2013 on November 2013

A real time architecture using Hadoop and Storm @ JAX London 2013 on November 2013

A series of 3 Apache Storm workshops on August 2013

Microsoft Big Data @ SQLUG 2013 on April 2013

A real time architecture using Hadoop and Storm @ FOSDEM 2013 on February 2013

Microsoft Inspirience '12: Getting more out of your Big Data on November 2012

Hadoop Pig: Map Reduce the Easy Way @ FOSDEM 2011 on February 2011

EXPERIENCE

On February 2016 I joined **Microsoft** as a **Cloud Solution Architect**, **Advanced Analytics** + **AI**, forme known as **Data Solution Architect**. As a DSA I drive high priority customer initiatives, leveraging Corta Intelligence on Azure to solve the biggest and most complex data and IoT challenges faced by Microsomenterprise customers. It is a technical, customer facing role, accountable for the end-to-end customer deployment and usage experience for cloud data and IoT services

From October 2013 till January 2016 I worked for **Virdata** a start-up funded by **Technicolor**, as a **sr. Big Data and IoT Engineer**, previously as a **DevOps Engineer**. Virdata is an Internet of Things Cloud platform, scalable millions of devices, from tiny sensors to TVs to Cars.

I work on our Data Processing stack, on top of Spark and Spark Streaming, mostly in Scala. I also worked as I lead on our Spark as a Service Infrastructure.

At the end of 2013 I co-founded lambda-architecture.net, a website about the **Lambda Architecture**. T Lambda Architecture is a data-processing architecture designed to handle Big Data by combining both batch- a stream-processing, while attempting to balance latency, throughput, and fault-tolerance. Batch Processing is us to provide comprehensive and accurate (although slightly out of date) views, while simultaneously using real-ti stream processing to bridge the gap.

From April 2012 till March 2014 I worked for **DataCrunchers**, as a **Hadoop and Big Data Consulta** DataCrunchers is the leading Belgian consultancy firm around everything Big Data. I co-developed on our inter Semantic Analysis Engine on top of Storm, in Java, I co-presented our Hadoop Ecosystem course, I created a n website using Drupal and I was responsible for our Microsoft Big Data partnership.

I have been working for the following clients: Technicolor, Flemish Government, AWV (Macq), a social me startup, HSHMRK & Ewals Intermodal.

From March 2011 till April 2012 I worked for **iController**, as **Lead Application and Warehouse Developer**. 'build a credit management web application, written in PHP. I managed a small group of developers, took the le on everything technical and coordinated with the directors, partners and clients.

My job involved lots of PHP, refactoring, performance tuning, system engineering and bits of data analysis.

From September 2010 till February 2011 I was employed at **Netlog** as a **Warehouse and Web Develop** creating an analytical warehouse based on Hbase. I also created large parts of the processing infrastructure us Hadoop and Hadoop Pig. I also advised on new technologies, git migration, best practices & unit tests. Netlog i social community network, with over 70 million members, mainly active in Europe and the Arabic world.

From October 2009 to August 2010 I started working at **iController**, a small SME in Ghent, as **web applicati developer**. I developed a new, greatly improved debtor & credit management web application. We used t symfony framework as a starting point to create a stable and easy to maintain application.

From March 2007 till December 2014 I was the **Consultant**, **Managing Director and founder** of **Servs** BVI mainly active as a (part-time) IT consultant in the field of Big Data & Spark, Scala, web applications (PHP, s scalability, ...), DevOps & Linux system administration and hosting applications.

During my secondary education I created a **PHP CMS**, with features as native PHP templates, module in mod support (recursion) following a very basic MVC pattern. It was used and expanded by two web agencies to creative 30 websites.

SKILLS



I am very interested in and work with **Big Data**, from the processing and storage of large volumes, to real-time stream processing, and machine learning. I read, tweet, and try out as much as I can about new Big Data technologies, like Spark, Samza, Storm and Kafka, as well as more established technologies like Hadoop and Cassandra and learning as much as I can in the process. I use Scala, Java and bits of Python and Hadoop Pig Latin. I setup, administered and monitored Hadoop, Mesos, Storm, Cassandra & Zookeeper clusters.

Big Data related skills:

- Do interactive ad-hoc analytics using Python based Jupyter Notebooks, as well as Scala based notebooks, combined with Spark SQL.
- Query the data with Spark, Spark SQL, Hadoop Pig & Hive.
- Using & administrating Spark, Hadoop and Mesos clusters, including Storm, ElasticSearch, Cassandra, Kafka and Zookeeper.
 - Deploying Hadoop on Azure, Amazon 8
 Softlayer.
 - Using HDInsight, combined with Azure Data Lake
 - Azure Machine Learning, Azure Notebooks and Cognitive Services
 - Chef, Puppet and NixOps to deploy Mesos and Hadoop to the Cloud.

I have extensive exposure to **Azure** and **Corta Intelligence**, including, but not limited to:

- Azure Data Lake
- HDInsight
- Azure Machine Learning
- Azure Notebooks
- Cognitive Services
- Azure EventHubs

- Azure IoT Hub
- Azure Stre Analytics

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- Azure
 DataWarehouse
- Azure SQL
- Power BI
- ...

I currently mostly develop using **Scala**. Scala is a JV based language, with both full support for OO as well Functional Programming approach. I started with Sc at the end of 2013.

- Using Scala to create Spark and Spark Stream jobs.
- Using Akka and Akka Persistence to create a CQ application, in Scala.
- Creating Thrift based services, using Finagle.
- Unit testing using Scalatest and Cucumber.

I am interested in **Functional Programming**, mos looking at Scala, and a bit at Clojure. Especial functional programming in relation to Big Data has a focus.

- Developing solutions for real-time Big Data using Spark Streaming, Storm, Azure Stream Analytics, EventHubs, Azure IoT Hub and Kafka.
- Combining batch and real-time technologies to create a Lambda architecture (of Nathan Marz), that is resilient to failure, scalable and fast.
 - As well as using only Stream Processing to build a Kappa Architecture.

Next to programming I have always been passionate about **Linux** and open source. I have used over the last 10+ years several distributions from Debian & Ubuntu, CentOS over Gentoo to Linux From Scratch, lately I am very interested in NixOS. NixOS is a purely functional Linux. I have setup countless servers from Cloud to virtualized to bare metal servers.

I am following the DevOps movement. I am using Puppet, Chef and NixOps to automate and Ganglia to monitor critical infrastructure. I have open sourced and contributed to several NixOS and Puppet modules.

I follow and try out with great interest Cloud related techniques and technologies, in all its forms: IaaS, PaaS, SaaS, ... I have used as test or in production Azure, OpenStack, Amazon AWS, Google BigQuery (private beta tester) and Softlayer.

Languages

Dutch Mother tongue **English** Very fluent

I am using **Java**, mostly using Spring, maven a Jersey in combination with the JavaScript M framework AngularJS.

- Developing a Java EE application, with Glassfi using JPA with EclipseLink.
- Creating Threaded servers, using Thrift.
- Autowiring & Dependency Injection using Spring.
- Consuming the Twitter & LinkedIn APIs, us OAuth.
- Creating a REST and SOAP based services, us Jersey or JAX-WS.
- Unit testing using JUnit and Mockito.

I have used **PHP** and **JavaScript** for over 10 year mostly in a combination with the symfony & Symfor frameworks as well as a multitude of SQL and NoS databases, as MySQL, PostgreSQL, Oracle, Informix a Redis, Membase, Memcached and ...

- html5, CSS & jQuery
- Creating a Drupal site, using Bootstrap ε deploying on Azure.
- Creating browser based applications us AngularJS.

Some basic knowledge, but willing to improve:

- Graph databases: Neo4J, HyperGraphDB & Titan.
- Various NoSQL data stores, like Mongol Voldemort, riak, ...
- Clojure, Ruby and Python.
- Scrum, Extreme Programming
- Security & penetration testing.

Other skills

In possession of a driver's license.

EDUCATION

Perform Big Data Engineering on Microsoft Cloud Services (70-776)

Microsoft | Feb 2018

Insight Selling

Microsoft | Dec 2017

MCSA Cloud Platform 2017

Microsoft | May 2017

Designing and Implementing Cloud (70-473)

Microsoft | May 2017

Design and Implement Big Data Analytics Solutions (70-475)

Microsoft | February 2016

IBM Big Data Fundamentals Technical Mastery (N32)

IBM | 000-28363001 | January 2013

IBM InfoSphere BigInsights (Hadoop & Big Data) Technical Professional

IBM | 000-28146057 | October 2012

SARA Hadoop workshop

SURF SARA, Amsterdam | December 2010

Institute University of Antwerp **Program** Social-Economic Sciences

Period 2005 - 2007
Achieved Not Achieved

Institute Hibernia Steinerschool in Antwerp

Program ASO, Higher Secondary education

Period 1999 - 2005

Achieved 2005