

# Michal Linhard

## Software Engineer

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### Michal Linhard

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## Skills

Focus, thoroughness, crystal-clear language expression, java backend development, communicating tech vision, parallel/distributed computation, advanced text search algorithms and data structures, linux scripting, python, goLang, grasp of basic notions of bioinformatics

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## Experience

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### [Indra-Avitech](#) / Software Architect / Team Lead

Nov 2019 - Feb 2021, Bratislava, Slovakia

Leading development of aeronautical database (SDO) software. Established CI/CD pipeline based on Jenkins and Docker, containerized great part of the services in the product suite, accelerated code correctness feedback cycle.

Improved in communicating technical vision, argumentation of design ideas, defending principles of quality code

### [DNAStack](#) / Software Engineer

Sept 2018 - Jun 2019, Bratislava/Toronto/Remote, Canada/Slovakia

Collaborated on technological prototypes that resulted in [GA4GH Search](#) - standard for searching biomedical data (part of the DNAstack's activity in [GA4GH Discovery Workstream](#))

This work consisted mostly of writing OpenAPI specs, JSON-Schemas, writing PoC Spring Boot REST API microservices and communicating the spec design with other internal and external stakeholders. We started a reference implementation based on PrestoSQL (now [Trino](#)) that transformed to the now open-sourced [Presto Search Adapter](#).

Also worked on DNAstack's core platform backend (mostly Java EE app), transitioning the development process to cloud-native CI/CD, using Blue/Green deployment.

Learned: Kubernetes, Google Cloud tools, brushed up python and bash scripting

### [Innovatrics](#) / Senior Java Developer / Team Lead

Aug 2014 - May 2018, Bratislava, Slovakia

Led the development of the backend part of [Innovatrics ABIS](#) (Automated Biometric Identification System) - high-performance biometric identity management solution, composed of many components based on different tech stacks, ranging from Ruby on Rails to low-level C/C++/assembly components.

My team was responsible for the Java tier, which served mainly as an integration layer, with async messaging API, offering additional features, such as message ordering guarantees, high availability, native process management and parallel processing. The main process was a Java SE app that could form a cluster (using [JGroups](#)), start various services and expose a JMS API via an MQ server such as ActiveMQ.

In later stages, we extended the standard app with a new service type ([VertX](#) process) with a reworked threading model to improve performance of biometric verification.

Since Innovatics ABIS is a complex product with many development teams and dependencies it was important to define clear boundaries and responsibilities in the build and release process. I've started dependency management and release process improvement efforts for the whole product, wrote dependency tree analysis and created initial RPM installer build scripts for various components (including for Ruby and C/C++ technology stacks).

Other tasks: cooperation with product owners and other stakeholders, organising team stand-up, review and retrospective meetings, managing team's KanBan board, assisting delivery and support team, troubleshooting, debugging, performance tuning

## **[Red Hat](#) / Quality Assurance Engineer**

Apr 2010 - Mar 2014, Brno, Czechia

Started in [JBoss EAP](#) QE Team, where I delved deep into the internals of now quite archaic JBossAS 4.x and 5.x. I did QA for JAX-RS implementation [RESTEasy](#) and performance comparisons with competing products.

Later, when the [Infinispan](#) project and NoSQL movement started to get traction, Red Hat started to work on a productized version now called [Red Hat Data Grid](#). At this point the Infinispan server was based on the new JBoss AS 7, now called [WildFly](#), which was yet another rework of the AS core, that I had the pleasure to get familiar with.

I've been testing this product since it's early conceptions (cca October 2010) and I took part in QA process of releases 6.0 - 6.2 and helped to identify fair share of [bugs](#).

I wrote complex distributed functional tests running on dozens of nodes (including large scale (100+ nodes) datagrid deployments in dedicated supercomputer lab), did a lot of performance testing and profiling, co-maintained multiple test harnesses and frameworks (including [Radargun](#)), from time to time contributed simple code fixes to the projects themselves, co-founded [Performance Result Repository](#) project for recording performance test results, which I integrated to our regular performance regression test suite.

Used Python for multiple command-line utilities (e.g. [ispncon](#))

Spoke on RedHat sponsored [DevConf](#) in Brno and gave multiple lectures on Infinispan in the local area.

## **Self Employed**

Apr 2009 - Jan 2010, Pezinok, Slovakia

Development of a pet project [OpenAir](#) - client/server system for large cultural events, supposed to present up-to-date schedule information on big screens.

The project was not a commercial success, but it was a tremendous learning enterprise. By experimenting I got really good at Java2 EE, JBoss Application Server, JBoss AOP, JDBC, Postgres, WebServices, Web interface: JBoss Seam,

JSF, RichFaces, JavaFX, Axis (WebServices client)

### **Ars Nova (now [eGov Systems](#)) / Java Developer**

Jan 2007 - Mar 2009, Bratislava, Slovakia / Esslingen, Germany

Worked in a small team of 3-5 developers on intranet information system for small municipality administration (GovIS) – The system consisted of several modules, e.g. module for document authoring and versioning, registry of internal and external communication of the institution, module for planning of official meetings, module for modelling of the administration organizational structure.

Technologies: JBoss Application Server, Postgres, Ars Nova's Proprietary Web Framework and code generation framework, EJB 2.1

Projects for Ars Nova Germany were for the company Daimler (automobile manufacturer), projects were usually based on Java 1.4, IBM WebSphere, IRAD, Oracle or DB2, Proprietary web framework and code generation framework, EJB 2.1 (used to various extents on different projects), worked in teams of around 3 people.

The projects: *FAKTweb* – automobile manufacturing knowledge base, *PROMAS* – automobile manufacturing change management system and planning tool *Flashen* – system for streamlining of the development of automobile firmware

### **[Accenture](#) / Application Specialist**

Nov 2005 - Jul 2006, Bratislava, Slovakia

Maintenance of RMCA (Revenue Management Contract Accounting) SAP module for telecommunications operator. Programming in [ABAP](#). Experience with SAP development environment. Communication with consultants, documentation, testing

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## Education

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### **[Faculty of Mathematics, Physics and Informatics](#) / Master's degree**

2002 - 2007, Bratislava

Field of study: Computer Science. [Overview](#) of courses.

Diploma thesis: [Data structure for representation of maximal repeats in strings](#)

### **[Prvé súkromné gymnázium](#) / Graduation with distinction**

1998 - 2002, Bratislava

### **[Elementary school, Fándlyho](#) / Math class**

1990 - 1998, Pezinok

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## Language

**Slovak/Czech** - native

**English** - fluent in both written and spoken form

**German, Spanish, Chinese** - learned to various degrees of intermediate level, but not spoken regularly, so most of it faded away