Michel de Bree

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Summary

My greatest challenge as a software developer is keeping complexity manageable, in order to deliver software that can adapt to change. With over 20 years of experience, writing clear, robust code has become basic hygiene. Over 15 years of experience with Java, including 10+ years in complex, mission-critical systems using Spring Boot, REST, Kubernetes, and DevOps. Building software as part of a team is still my greatest passion. Besides coding, I work closely with end users, architects, platform experts, and vendors to arrive at an effective, reliable, and efficient solution. I have developed a sharp, critical eye, balanced with a pragmatic attitude — enabling me to identify risks early and assess the long-term impact of changes. My focus is on Java backend services, with additional experience in React, TypeScript, Elasticsearch, Docker, Kubernetes, Helm, and Gitlab CI.

Experience

Rule system and services for environmental legislation ***2018 — present***

Digitaal Stelsel Omgevingswet (Rijkswaterstaat), Rotterdam

`Java 21 Maven Spring Boot Hibernate PostgreSQL Liquibase React Typescript Elasticsearch REST HAL+JSON OpenAPI (Swagger) SOAP OAuth JWT Docker Kubernetes Helm OpenShift NGINX Drools DMN Scrum Gitlab CI SAFe-Agile Jira Confluence JUnit Mockito Cucumber Wiremock JMeter SonarQube Jest React Testing Library Kibana Grafana Git Bash Python AI-assisted coding`

One of the core components of the Digital System for the Environmental Act is the Applicable Rules module. This application receives legislation from municipalities, provinces, water authorities, and the national government in an open standard format. These rules are used to automatically generate dynamic questionnaires for end users. Completed questionnaires are evaluated in real-time by a rule engine, resulting in advice or a permit application. This functionality is offered on the national Environmental Act portal and is also available via open REST APIs for anyone wanting to build on this functionality.
Due to its public nature and large user base, high demands are placed on reliability, availability, security, and scalability.
Over time I developed into the most experienced developer on this project. Through knowledge transfer, code reviews, and coaching I was able to quickly bring new developers up to speed and leave the project in good hands.

Responsibilities

- **Building core functionality from scratch.** Example: Design and implementation of the synchronisation mechanism that keeps master data up-to-date with the external source. The design choices I made have ensured that this mechanism has been working reliably since its introduction without any significant issues. The simple yet robust setup has also enabled easy data recovery and migration on multiple occasions.

Personality

- Analytic thinking
- Quality conscious
- Good communicator
- Independent
- Team player
- Proactive
- Eager to learn

Skills

Programming Languages

Java 21 ☆☆☆☆½ **(9/10)**	**Javascript** ☆☆☆☆ **(8/10)**
Typescript ☆☆☆½ **(7/10)**	**Bash** ☆☆☆½ **(7/10)**

Tools & Frameworks

Spring Boot ☆☆☆☆½ **(9/10)**	**Hibernate** ☆☆☆☆½ **(9/10)**
PostgreSQL ☆☆☆☆ **(8/10)**	**React** ☆☆☆½ **(7/10)**
Git ☆☆☆☆½ **(9/10)**	**Maven** ☆☆☆☆ **(8/10)**
Elasticsearch ☆☆☆½ **(7/10)**	**Liquibase** ☆☆☆☆ **(8/10)**
LangChain4j ☆☆☆½ **(7/10)**	**AI-assisted coding** ☆☆☆☆ **(8/10)**

Integration

REST ☆☆☆☆½ **(9/10)**	**HAL+JSON** ☆☆☆☆ **(8/10)**

- **Designing, aligning and building REST (HAL+JSON) APIs with users and architects, using OpenAPI (Swagger) specifications** Example: The redesign of an existing API to deliver data in a more granular and paginated manner using HAL+JSON. API calls and database actions became short-lived and scalable, reducing the load on the system, and the throttling we had in place could be lifted.
- **Designing and aligning new functionality with users, business analysts, and architects.** Example: During a migration of our application's integration into the overarching portal, I took the initiative to discuss the impact with users. After probing further, it turned out the integrated version was barely used, so I consulted with the architect about the necessity of this integration. The outcome was that we did not proceed with the weeks-long migration trajectory for our application and removed the unused integration logic.
- **DevOps for development pipeline and production.** Development and configuration of Gitlab CI pipelines, Helm charts, Docker images, SonarQube, reporting, performance testing and tuning. Analysis and mitigation of incidents. Consultation with external maintainability and security auditors.

Hub for API access and authorisation *2016 — 2018*

Digitaal Stelsel Omgevingswet (Rijkswaterstaat), *Den Haag, Rotterdam*

`Java Spring WSO2 Docker Ansible OAuth`

Within the Digital System for the Environmental Act, all APIs are offered via the Hub. The Hub also provides authentication using DigID, eHerkenning, OAuth, API keys, and PKIO certificates. Communication between components inside and outside the system runs through the Hub, centrally managing routing, logging, error handling, throttling, and security. The Hub also provides an open system for third parties to consume APIs.
Since the DSO was more or less the "launching customer" of the Standard Platform at the time, I gradually transitioned from my role at the Standard Platform to working full-time at the DSO.

Responsibilities

- **Lead development** At the start of the project, I was one of three developers. Over time, my role organically grew into lead developer in a team with changing composition.
- **Integration development** Developing new components and extensions on the standard open source product WSO2, in Java and Spring Boot. Example: an adapter enabling API keys for consumers in the open system. The adapter uses OAuth2 authentication under the hood to connect to WSO2.
- **Interim Scrum Master** At the start of the project, I was asked to take on the role of Scrum Master. Besides organising, I represented our team in coordination with other teams in Scrum-of-scrums. The role of representative and point of contact overlaps significantly with that of lead developer. I did notice that I prefer to invest the time and energy spent coaching a Scrum team in other matters. As the team grew, I was therefore happy to hand over the role.

Standard Platform for government applications *2015 — 2017*

Ministerie van Infrastructuur en Waterstaat, *Den Haag*

OpenAPI (Swagger) ☆☆☆☆ **(8/10)**
OAuth ☆☆☆☆ **(8/10)**
JWT ☆☆☆½ **(7/10)**
SOAP ☆☆☆½ **(7/10)**

DevOps

Kubernetes ☆☆☆☆ **(8/10)**
OpenShift ☆☆☆ **(6/10)**
Helm ☆☆☆☆ **(8/10)**
Docker ☆☆☆☆ **(8/10)**
Gitlab CI ☆☆☆½ **(7/10)**
Linux ☆☆☆☆ **(8/10)**
Kibana ☆☆☆ **(6/10)**
Grafana ☆ **(2/10)**
SAFe-Agile ☆☆ **(4/10)**
Jira ☆☆☆½ **(7/10)**
Confluence ☆☆☆½ **(7/10)**

Testing

JUnit ☆☆☆☆½ **(9/10)**
Mockito ☆☆☆☆½ **(9/10)**
Cucumber ☆☆☆☆ **(8/10)**
Wiremock ☆☆☆☆ **(8/10)**
JMeter ☆☆☆ **(6/10)**
Jest ☆☆☆½ **(7/10)**
React Testing Library ☆☆☆½ **(7/10)**

Languages

Dutch	Native
English	Fluent

`Java Hibernate Maven Nexus JBoss WSO2 SOAP REST Angular JSF SAML2 OpenLDAP Selenium JUnit JMeter Jenkins Ruby PostgreSQL MySQL Elasticsearch MongoDB Graylog HAProxy Squid Apache Linux Vagrant OpenStack AWS`

The Standard Platform is a standard, scalable container platform for government applications. In my current project, it is the underlying platform on which the Environmental Act applications run. When I started, the Standard Platform was a complete standard enterprise architecture that could be deployed fully automatically, including custom-built components and CI/CD functionality. During my work with the Standard Platform, it evolved into the Kubernetes-based platform that it is today.

Responsibilities

- **Development of custom components and extensions.** Building, as part of a team, generic platform components for deployment, authentication and integration.
- **Development of automated deployment and provisioning scripting.** With this solution, a complete application platform could be deployed on Amazon EC2 in less than an hour, ready for hosting and lifecycle management of a complete enterprise application.

Online authentication ***2014 — 2015***

ING, *Amsterdam*

`Java Spring Angular Oracle Websphere Tomcat Maven Nexus Jenkins SonarQube Jira Confluence Mockito Selenium`

In my first assignment as a freelancer, I was part of a Scrum/DevOps team. One of the features we delivered to production was the "forgot username" functionality for online banking.

Responsibilities

- **Backend and integration development**
- **Frontend development**
- **DevOps**

Started as freelancer ***2014***

micheldebree.nl, *Den Haag*

In 2014 I started working as a freelancer to bring more freedom and focus to my work. Since 2014, I carry out my assignments as a freelancer.

Senior Software Engineer ***2005 — 2014***

E-ID, *Vianen*

`Java .NET C# REST Angular Javascript DigiD SAML2 SQLServer SOAP NHibernate HL7`

Various in-house and on-site projects in Java and .NET. My first assignment was maintaining and extending software at Aegon Bank as part of a team. My last project left the biggest mark: building the public portal for the National Electronic Patient Record from scratch. The prototype was built in Java, after which — due to organisational changes — the actual build was done in C#. Because the legislation did not pass, the software was put into production in a reduced form.

I also carried out projects for DELA, KPN, DPD, Saltro, Leaseloket, Ziggo, TNT and Infinitas.

Software Engineer ***2001 — 2005***

PaC/Imtech ICT, *Den Haag*

`Java Visual Basic`

Started with a Visual Basic project, followed by various in-house Java projects.

Developer ***1994 — 2001***

Leids Universitair Medisch Centrum, *Leiden*

During my computer science studies in Delft, I worked part-time for LUMC.

Responsibilities

- **Development of a multimedia exam system** Together with another student and a surgeon with development aspirations, I did the development work on a new system for composing and administering exams to students at LUMC. The system supports photos, videos and audio recordings as part of the question.
- **Maintenance of scientific software** The software supported research into the biological clock led by a professor.

🎓 Education

Computer Science ***1991 — 1998***

Delft University of Technology

Pre-university education (science track) ***1984 — 1991***

Vlietland College Leiden