Birgit Kratz

Softwarearchitect and Developer Java, Cloud, SpringBoot, Clean Code

Dormagen, 41539, Germany

+49 172 9925467 • mail@birgitkratz.de

🔗 Website , LinkedIn

Skills

Java 22+

SpringBoot, Spring Batch

RESTful APIs

Microservice Architecture

Softwarearchitektur

Clean Code

Kubernetes, Docker, Helm

Testcontainers

JUnit-Testing (JUnit5, Mockito)

Git

PostgreSQL

OAuth2, OpenID

Maven

Languages

English

Russian

Professional Summary

- Software developer specialized in Java, SpringBoot, Cloud, and Software Architecture
- Trainer, international conference speaker, conference and meetup organiser
- Many years of experience in backend development of web applications
- Experience working on large and medium-sized (agile) projects/teams in various industries, including finanancial services, insurance, logistics, retail, and manufacturing
- Freelance trainer for SpringBoot
- Passionate about agile development methodologies, Clean Code principles (especially TDD), and Domain-Driven Design (DDD)
- Proficient in common programming languages (Java, Spring, SpringBoot, REST, JSON, XML, SQL...), development tools (IntelliJ IDEA, Git, Maven, Jenkins, Nexus...), and frameworks (Microservices, Docker, Kubernetes, JUnit, Mockito ...)

Principles (which I consider essential in a project environment)

- Readable code (Clean Code)
- Test-Driven Development (TDD), Domain-Driven Design (DDD)
- Pair/Mob Programming, Refactoring
- Continuous communication, continuous learning, and knowledge
- sharing

Projects

Backend Development for a Compliance and Fraud Detection platform

May 2025 – August 2025

Working in a Scrum organised team. Implementation, Testing, Analysis and Review of Requirements.

Technologies:

Java 17, SpringBoot, Spring Batch, Gradle, Docker, JUnit5, PostgreSql, Git, Github, Jenkins, Sonar, JIRA, Confluence, Asciidoc

Backend Development for Contract Migration from Mainframe to Web Application

July 2022 — April 2025

- Working in a small team consisting of mainframe and Java Backend Developers
- Designing and implementing the migration application architecture
- Automating builds and deployments using Jenkins and Docker
- Performance measurement and optimisation to ensure a fast migration (~1 million contracts)
- Intensive and production-like testing of the migration application
- Documentation of the migration application and test results, extensive logging and log analysis

Technologies:

TDD, Pair Programming, IntelliJ IDEA, Java 21, Spring Boot, Message Queue, Docker, OAuth, OpenID-Connect, JUnit5, Testcontainers, DB2, PostgreSQL, Maven, Git, Jenkins, Sonar, JIRA, Conuence, Asciidoc

Backend Development for a New Collection Services Platform

May 2020 — June 2022

- Agile development in a Scrum team
- Close collaboration and coordination with other Scrum teams and client development teams
- Architecture design and implementation
- Staging concepts, automation of builds and deployments using Jenkins (CI/CD)

Technologies:

TDD, Pair Programming, IntelliJ IDEA, Java 17, REST Services, SpringBoot, Docker, Kubernetes, Helm Charts, OpenAPI, OAuth, OpenId-Connect, HashiCorp Vault, JUnit5, Gauge, MongoDB, Maven, Git, Jenkins, Sonar, JIRA, Conuence, Azure, Rancher, OTC, Asciidoc

Backend Development for a Mobile Backend Framework in the Automotive Industry

March 2019 — April 2020

Agile development in a Scrum team

Technologies:

IntelliJ IDEA, Java 8, REST Services, JSON, JUnit 5, Git, Jenkins, JIRA, Confluence, Sonar, Kubernetes, FitNesse

Development of a Port Advisor for Deutsche Post

October 2018 — February 2019

Agile development in a Scrum team

Technologies:

IntelliJ IDEA, Java 8, Spring Boot 2, REST Services, JSON, ANTLR, JUnit 5, Git, Jenkins, JIRA, Confluence, Sonar, TeamCity

Multi Tenant, multi lingual Webshop

April 2018 — September 2018

Green field development of a multi tenant, multi lingual Webshop for a big player in the area of Office and Storage Equipment. Working in a SCRUM team

Technologies:

IntelliJ IDEA, Java 8, Spring Boot, SelfContainedSystems (SCS), Kafka, REST, JSON, Freemarker, Bootstrap, Gradle, JUnit, Git, Jenkins, JIRA, Confluence, Sonar

Microservices for a Retail E-Commerce Platform

October 2017 — March 2018

Maintenance, Support and Development of various Microservices with E-Commerce Tribe for shop.rewe.de. Working in a SCRUM team

Technologies:

IntelliJ IDEA, Java 8, Spring Boot, Groovy, Microservice, Docker, Kafka, REST, JSON, Maven, Gradle, JUnit, Spock, Git, Jenkins, JIRA, Confluence

Webapplication Development for Online Bycicle Shop

January 2017 — September 2017

Maintenance, Support and Development of various Webapplications for veloplace.com

Technologies:

IntelliJ IDEA, WebStorm, Java 7+8, Spring, Spring Boot, Kotlin, Docker, OAuth2, REST, Apache Nutch, GWT 2.8, JSInterop, PHP, Pimcore, Tomcat, MySQL, JSON, Maven, Git, JUnit, Jenkins, JIRA, Nexus

Webapplication Development for Mobility Services

January 2016 — December 2016

Concept, Architecture, Implementation and Testing of various Web Applications

- Conceptual Design and Architecture
- Implementing, testing and documentation of changes
- Preparation of deployments and development of scripts for database changes
- Spring Boot REST Services
- Mule ESB Flows

Technologies:

Eclipse, Java 6 + 8, Spring, Spring Boot, REST, JSF2, GWT 2.7, SmartGWT, Mule ESB, Liferay, JBoss, Oracle, JavaEE, JSON, Maven, SVN, JUnit, Arquillian, Mockito, Sonar, Rundeck, Jenkins

Refactoring/Enhancement for a project for internal booking balancing

April 2015 — December 2015

Refactoring/Enhancement for a project for internal booking balancing

- Conversion from Spring/Hibernate to using JEE6 OpenJPA and CDI

- Frontend development with VAADIN 6/7
- Frontend tests with VAADIN-Testbench
- development of services and databases
- Unit-Tests with Easy-Mock

Technologies:

Websphere Software Architect, Java 6, VAADIN 6/7, Maven, CVS, JUnit, EasyMock, Sonar, Jenkins, Checkstyle, FindBugs, Refactoring Principles

Banking Sales Cockpit

January 2015 — March 2015

Development of a Sales Cockpit for dealer in securities which shows data of several systems collected in a neatly arranged dshboard

- Development using SCRUM method
- Frontend development with VAADIN 7
- Frontend tests with VAADIN-Testbench
- Development of services and databases
- Unit-Tests with Easy-Mock

Technologies:

Websphere Software Architect, Java 6, VAADIN 7, Maven, CVS, JUnit, EasyMock, Sonar, Jenkins, Checkstyle, FindBugs, SCRUM

PAYBACK Real Time Connection for Retail Company

April 2014 — December 2014

Development to connect REWE markets to PAYBACK via realtime data transfer

- Development of multithread backend services for realtime data transfer between REWE markets and PAYBACK with focus on mass data (up to 8 million bons per day)
- Implementation of SOAP web-services as a means of communication with PAYBACK
- Use of TDD practices (test driven development) and pair programming
- Development of integration and acceptance tests
- Data transfer to REWE data warehouse
- Documentation in source code as well as in a wiki according to the REWE project rules
- Monitoring of adherence to architectural guidelines by means of quality tools

Technologies:

Eclipse, Java 7, SOAP, Spring, Maven, SVN, JUnit, DBUnit, Mockito, JMockit, Sonar, QuickBuild, Checkstyle, FindBugs

PAYBACK Connection for Retail Company

June 2013 — March 2014

Development to connect REWE markets to PAYBACK

- Development of multithread backend services and batch resp. scheduler jobs with focus on mass data (up to 8 million bons per day)

- Implementation of SOAP web-services as a means of communication with PAYBACK
- Use of TDD practices (test driven development) and pair programming
- Development of integration and acceptance tests
- Documentation in source code as well as in a wiki according to the REWE project rules
- Monitoring of adherence to architectural guidelines by means of quality tools

Technologies:

Eclipse, Java 7, Spring, Maven, SVN, JUnit, DBUnit, Mockito, JMockit, SOAP, Sonar, QuickBuild, Checkstyle, FindBugs

Webapplication Development for Retailer Storage Management

October 2012 — May 2013

Development of a web-application in order to manage items that „linger" in the storehouses of the REWE business group

- Development of backend services and batch jobs
- Documentation in source code as well as in a wiki according to the REWE project rules
- Development of JUnit and DBUnit tests
- Installation of a cross-project process of testing procedures for developers
- Monitoring of adherence to architectural guidelines by means of quality tools

Technologies:

Eclipse, JavaEE 6, Spring, JSP, Maven, SVN, JUnit, DBUnit, Mockito, Sonar, QuickBuild, JIRA, Checkstyle, FindBugs, Velocity

Quality Assurance Tool for Retail Market

April 2012 — July 2012

- Responsibility for adherence to architectural guidelines and code quality for mobile device application called „Beste Frische" („Best freshness")
- Formulation of a road map to analyse and improve project source code
- Introduction and configuration of static code analysis tools like Checkstyle, FindBugs, PMD and Sonar
- Development and introduction of strategies for Unit Testing with Mockito
- Documentation of quality assurance guidelines and release management rules

Technologies:

Eclipse, JavaEE 6, Maven, SVN, Mockito, Sonar, QuickBuild, JIRA, Checkstyle, FindBugs

Application Development for Mobility Services

January 2012 — March 2012

Implementation of a GWT application for customer complaints of road charge bills

- Implementation of the user interface with SmartGWT
- Implementation and testing of business logic
- Creation of reports as exports from the application with Jasper, resp. DynamicJasper (export formats: PDF, Excel, CSV)

Technologies:

Eclipse, GWT 2.4, SmartGWT 2.5, JBoss, Oracle, Java, JavaEE 6, Maven, SVN, Jasper, DynamicJasper

Webapplication Development for Postal Service

December 2011 — December 2011

Development of a Webapplication for monitoring a System Integration

- Concept development according to customer requirements
- Implementation, Testing and Documentation
- Deployment preparation

Technologies:

(Eclipse, Java, JavaEE 6, JPA, CDI, JSF2, Apache Tomcat 7, Linux, Oracle)

Reengineering of a Monolithic Webapplication

August 2011 — November 2011

Restructuring and Modularisation of an existing GWT-Webapplication

Development of Liferay-Portal Portlets

- Concepts for Modularisation of the application
- Implementation, Testing and Documentation of the Changes
- Preparation of Deployments and Scripts for Database changes

Technologies:

Eclipse, GWT 2.1, SmartGWT 2.5, Liferay, JBoss, Oracle, Java, JavaEE, JSF2, Maven, SVN

UNICEF

May 2011 — May 2011

Concept and Implementation of Change Requests for an Intranet Webapplication

- Proposition for necessary changes
- Implementation, Testing and Documentation of the changes
- Preparation of Deployments and Database change scripts

Technologies:

IntelliJ IDEA, DB2, JBoss, Java, JavaEE, JSP, Prototype, SQL, SVN

Bio-Technology

April 2011 — April 2011

Development of a Web Application and Integration of a Report Generator for PDF Report Creation and Display

- Development of the web application using GWT
- Integration of the report generator into a servlet for access via the web application

- Installation of the runtime environment
- Documentation of the application

Technologies:

Suse Linux, GWT, Tomcat, Java, CSS, HTML

Multinational Web-Application

September 2010 — March 2011

Concept and Implementation of Configuration and Deployment for a Multinational Web Application, ESB Middleware, and SAP Backend, Quality Assurance

- Development of a configuration and deployment management concept for a web application with an SAP Backend for multinational use
- Setup and coordination of development, QA, and production environments for the web application and ESB middleware (installation and configuration of JBoss instances)
- Coordination of tag, branch, and merge activities for development
- Coordination of application deployments with all involved subprojects
- Code and architecture reviews for quality assurance
- Team size: approx. 20 people, multinational
- Project language: English

Technologies:

Windows Server 2008, SVN, Trac, Maven, Hudson, Nexus, Eclipse, Apache Web Server, JBoss, ActiveMQ, Mule, Oracle

SAP to Java Integration

April 2010 — August 2010

Concept and development of customer integration for a tire manufacturer via an AdHocEDI interface to the SAP Backend.

Objective: Replace order acceptance via phone or fax with direct customer communication using software solutions supporting AdHocEDI.

- Functional and technical design
- Development of BPEL processes for handling inquiries, orders, and order status requests
- Creation of WSDLs for communication with AdHocEDI via web services
- Logging of communication in a database
- Setup of a 64-bit CentOS Linux server, including installation of all necessary applications and tools
- Deployment of the complete solution on Linux servers
- Development of a web application for statistical analysis of logged communication
- Execution of technical and functional tests
- Documentation of the solution in the TRAC wiki

Technologies:

CentOS Linux, GlassFish, OpenESB, BPEL, Java, MySQL, Trac, SVN, PHP, Zend Framework, WSDL, XSD

Advanced Rating Tool for a Bank

June 2009 — March 2010

Concept and Development in the ART (Advanced Rating Tool) Project

- Functional and technical design of a web application for internal bank rating of customers, industries, projects, and securitisations
- Consulting on GUI design, handling, and usability
- Test design, execution of technical and functional tests, creation of test metrics
- Development of automated GUI tests using Selenium
- Documentation of the concept according to BaFin regulations
- Team size: approx. 25 people

Technologies:

Windows XP, MyEclipse, Java 6, Java EE, Selenium, Oracle 11g, Maven, Word, Excel, SVN, Clover

B2B Communication

May 2009 — May 2009

Concept and development of a solution for B2B communication for outgoing ORDERS messages

- Creation of various format and interface descriptions (WSDL, XSD)
- Control of customer-specific mapping
- Implementation of the mapping
- Creation of the target data structure EANCOM-ORDERS (XSL(T))

Technologies:

Windows XP, Kubuntu, GlassFish, OpenESB, NetBeans, JDK 6, Informix

SOA-based Media Library

March 2009 — April 2009

Integration of a media library into external business processes

- Identification and documentation of use cases
- Detailing of use cases with activity diagrams
- Business process modelling and implementation using OpenESB
- Creation and testing of web services and integration into the media library's business processes

Technologies:

Windows XP, JPA, MySQL, Java 5, JSF (SUN), EJB3, Web Services, LDAP, NetBeans, GlassFish, OpenESB, BPEL, BPMN, UML, SOA

Transport Information Platform for Postal Service

January 2009 — February 2009

- Development of GUI components
- Development of JUnit tests
- Software documentation according to ISO standards
- Team size: approx. 50 people

Technologies:

Windows XP, Eclipse RCP (Equinox), Java, J2EE, SWT, OSGi, Spring-EJB, JPA, Hibernate, Oracle 11g, Derby, Model-Driven Software Development, oAW, Serena Dimensions CM, Ant, Mercury Quality Center

Customer Data Integration

October 2008 — December 2008

Project KAPLAN (Calculation of Prepayment Penalties for Loans)

- Design, modelling, and implementation of customer data integration using WSDL services
- Documentation

Technologies:

Java, J2EE, WebSphere RAD 7.0, WSDL, IBM Telelogic Synergy, Visual Studio, Ant

Point of Sale

June 2008 — September 2008

Point of Sale manages credit approvals for instalment purchases in retail stores.

- Gathering business requirements and creating a functional concept for merchant management
- Designing the technical implementation of merchant management (Backend)
- Developing the business logic for merchant management
- Developing GUI components using JSP
- Developing and executing JUnit tests
- Team size: approx. 30 people

Technologies:

Java, J2EE, CSS, JSP, Eclipse, Hibernate, MagicDraw, AndroMDA, JUnit, Maven

Trading Risk Control for Banking

February 2006 — May 2008

In-House Product Development: sDis+ (Software for Risk Control in Proprietary Trading for Banks)

- Design, modelling, and implementation of a JNI computation core interface for the applied calculation engine
- Sub-project management for the team integrating the computation core (3-4 team members)
- Design of the interface connecting the computation core (C++) to a J2EE application via services
- Modelling of the interface
- Development of software generators using oAW to generate interface programs in C++ and Java
- Design and execution of JUnit tests
- Documentation
- Team size: approx. 25 people

Technologies:

C++, Java, J2EE, JNI, JUnit, Eclipse, Visual Studio, MagicDraw, oAW, CVS, Ant, Mercury Quality Center

Feasability Study

December 2005 — January 2006

Feasibility Study, Design, and Development of a Java-Based Integration Layer for a Financial Mathematics Computation Core

- Feasibility study for an interface to use a C++ computation core in a Java environment
- Design and development of a prototype

Technologies:

Java, JNI, C++, Eclipse

Construction Financing Application

May 2005 — November 2005

Project IKR-Baufi (Construction Financing Application)

Implementation of the application's print module

- Creation of the functional concept in collaboration with the business department
- Creation of the technical concept for implementation
- Development of the interface to populate PDF documents from within the application
- Documentation

Technologies:

Java, J2EE, Eclipse, PDF

Hospital Management

January 2005 — May 2005

In-House Product Development Kolumbus (Hospital Management) for the Review of Hospital Billing

- UI development with Swing
- Interface integration for an external computation core
- Documentation

Technologies:

Java, Eclipse, Swing

Bank Risk Management

June 2002 — December 2004

In-House Product Development (S-Depot, Bank Risk Management) Software with MaH Compliance

- Gathering of business requirements and creation of a technical concept
- Development of business logic
- Refactoring of a sub-application
- Migration of database tables to the new state using PL/SQL
- Documentation

Technologies:

Microsoft Visual C++, Rational Rose, Oracle DB, Microsoft SourceSafe, PL/SQL

Swiss Bank Change Information Management System

January 2001 — May 2002

Development of a Change and Information Management System ERIMS 2.0

- Setup and development of the DB2 database
- Design and development of a proprietary XML interface for communication between client and server
- Development of the server-side business logic

Technologies:

Java, XML, DB2, NetBeans, Together, Client-Server Architecture

Workflow-Supported Application

January 1999 — December 2000

Development and Implementation of a Workflow-Supported Application for TeamConnection

- Gathering of business requirements
- Creation of a technical concept for deployment on Windows NT and OS/2
- Implementation
- Documentation
- User training

Technologies:

Borland C++ for Windows NT and OS/2

Shortening the Production Chain

April 1997 — December 1998

Project VPK (Shortening the Production Chain)

- Development of the sub-application for car insurance
- Test creation and execution

Technologies:

C under DOS 5.0, hierarchical databases

Employment History

Freelancing IT Consultant

January 2013 — Present

- Focus: Java and SpringBoot Backend Development
- Projects in various industries (insurance, banking, retail, mobility, etc.)
- SpringBoot Trainer
- International conference speaker

Senior IT Consultant, MT AG

January 2009 — December 2012

- Focus: Java Ecosystem and Open Source
- IT Consulting, Conceptual Work, Architecture, Development
- Web-Applications, Frontend and Backend
- Experience in various sized, customer-faced projects
- Experience in MT AG Competency Center SOA, Mobile, Software-
- Development (Clean Code)

Senior IT Consultant, msg Gillardon

April 1997 — December 2008

- Focus and Java and C++
- IT Consulting, Conceptual Work, Architecture, Development
- Client/Server and Web-Applications
- Experience in various sized, customer-faced projects
- Experience in in-house projects

Education

Dipl.-Ing., TU Dresden

September 1987 — July 1992

Technical Kybernation and Automation Engineering