Christian Stegmann

Senior Software Engineer / Cloud Native Engineer /

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Since 2012, I have been working as a Solution Architect, Software Engineer, Cloud Engineer, and IT Consultant on enterprise IT solutions and web-based systems for various companies. My extensive experience spans multiple industries and includes planning, developing, and optimizing complex software solutions. I bring deep technical expertise in modern cloud architectures and microservices. My goal is to create efficient and scalable systems using innovative technologies and agile methods that meet and advance business requirements.

Technical Skills

Java, Kotlin, Golang, PHP, TypeScript, JavaScript, Spring Boot, Quarkus, AKKA, Slim Framework, Play Framework, React (Nextjs, ReactHookForm, shadcn/ui), Angular, Vue.js (Nuxt.js), Ember.js, HTML, CSS, WebRTC, PWA, MySQL, PostgreSQL, Oracle, Redis, DynamoDB, Kafka, RabbitMQ, AKHQ, Docker, Kubernetes, Terraform, Helm, FluxCD, AWS (IAM, S3, Lambda, EKS, MSK, SNS, SQS, SSM, Secrets Manager, Athena), Jenkins, Gitlab CI/CD, Github, JUnit, SBT, Maven, Git, SVN, AWS Certified Solutions Architect, Kubernetes Certified Application Developer (CKAD), AWS Certified Cloud Practitioner, iSAQB Certified Professional for Software Architecture

Experiences

Software Engineer - Dirk Rossmann GmbH

February/2025 -today - remote

For Dirk Rossmann GmbH, one of Europe's leading drugstore chains, the development and modernization of the PIM (Product Information Management) and MDM (Master Data Management) system landscape was carried out. The focus was on the technical transformation of the existing infrastructure as well as the continuous development of the master data systems.

Main Tasks and Responsibilities:

- Development and enhancement of Java-based microservices within an agile Scrum team in the context of master data management

- Support and further development of the PIM/MDM system STEP from Stibo Systems
- Migration of version control from Bitbucket to GitLab including setup and optimization of GitLab CI/CD pipelines
- Migration of server infrastructure to OpenShift/Kubernetes with ArgoCD for GitOps-based deployments and HashiCorp Vault for secrets management
- Implementation of business requirements in Java microservices as well as directly in the MDM Stibo STEP system
- Ensuring consistency and reliability of software changes in test and production environments
- Consulting internal stakeholders on content-related development of products and services
- Active participation in requirements management and conception of new features
- Software development using modern tooling (Atlassian Suite) including code reviews and quality assurance

Technologies: Java, Spring Boot, Vaadin, Hibernate/JPA, Web Services, Stibo Systems STEP (PIM/MDM), GitLab, GitLab CI/CD, OpenShift, Kubernetes, ArgoCD, HashiCorp Vault, Maven, Git, Docker, IntelliJ IDEA, Atlassian Suite (Jira, Confluence), Azure, Azure Blob Storage

Software Engineer - IDnow GmbH

March/2025 - July/2025 - remote

For IDnow, a leading provider of identity verification solutions, a comprehensive integration of a new remote signature interface was implemented. The project aimed to extend the existing platform with modern digital signature capabilities and enhance the security of the entire identification and signature process.

Main Tasks and Responsibilities:

- Integration of the Cloud Signature Consortium (CSC) API version 1.0.4 for digital signatures with OAuth 2.0
- Implementation of OAuth 2.0 for secure authentication and authorization of digital signatures
- Development of a technical session management system to secure the combined identification and signature process
- Connection of DigiCert services for generation and management of digital signatures
- Cross-platform adaptations and implementations for Android, iOS, and web applications
- Integration of DSS client (Digital Signature Service) for standards-compliant signature processing
- Implementation of Keycloak as OAuth 2.0 provider for secure authentication flows

Technologies: Spring Boot, Java, Play Framework, Cloud Signature Consortium (CSC) 1.0.4, DigiCert, Remote Signature, eSignature, DSS Client, Keycloak OAuth 2.0

CTO / Software Engineer / Cloud Native Engineer - UptimeEye

September/2024 - today - remote

UptimeEye is a monitoring tool to keep track of the availability and uptime of API's, Websites, CronJobs and periodically executed tasks. The system not only keeps track of the availability and uptime it also notifies users via teams, slack, email and many other notification methods when a system fails so the user can act rapidly.

Key Responsibilities

- **Defining and Documenting Business requirements**
- **Backend Development**: Implementing multiple microservices with golang
- **Frontend Development**: Implementing a frontend with modern web technologies like NextJS 15, React, Shadcn/ui, React-Hook-Form
- **Infrastructure Management**: Set up the project infrastructure in Hetzner and AWS

Technologies: Golang, Echo, sqlx, Huma.rocks, OpenAPI, NextJS 15, React 19, react-hook-form, Postgres, terraform, kubernetes, Hetzner Cloud, AWS, Stripe payment integration, clerk

Software Engineer / Cloud Native Engineer - TUI InfoTec GmbH

February/2022 - June/2024 - Hannover (remote)

In the "PandA" project, we developed a high-performance cache system to deliver dynamic price and availability searches for hotel accommodations. This system not only facilitates rapid search functionality but also processes hundreds of thousands of daily offer updates from external suppliers, ensuring up-to-date information for users.

Key Responsibilities and Achievements

- **Planning, Development, and Testing**: Engaged in the full software development lifecycle, focusing on Java-based microservices and AWS Lambda functions to ensure robust and scalable solutions.
- **Business Requirements Analysis**: Conducted thorough analysis, evaluation, and structuring of business requirements to align technical solutions with business objectives.
- **Backend Development**: Specialized in building and optimizing high-performance cache systems to support rapid search.
- **Infrastructure Management**: Set up and extended the project infrastructure in AWS, leveraging its cloud services to enhance performance and scalability.
- **Technology Selection**: Evaluated and selected appropriate technologies to develop technical concepts and solutions that meet project needs.

- **Software Consistency and Reliability**: Ensured the consistency and executability of the software, maintaining high standards of performance and reliability throughout the project lifecycle.

Through these efforts, the "PandA" project successfully delivered a powerful tool for dynamic hotel pricing and availability searches, significantly improving the efficiency and accuracy of information retrieval from a vast array of external sources.

Technologies: Java 17, Spring Boot, Quarkus, REST, Event Driven, Golang, Kafka, Redis, FluxCD, Terraform, Kubernetes, AWS Services (IAM, S3, Lambdas, DynamoDB, EKS, MSK, SNS, SQS, SSM, Secrets Manager, Athena etc), Gitlab CI/CD, Cucumber, JUnit, Pact, Datadog

Software Engineer - GEFA Direkt GmbH
August/2023 - March/2024 - Halle (Saale) (remote)

We developed a Progressive Web Application (PWA) to help Sales Agents digitize and automate back-office requests. Key features include:

1. **Dynamic Forms**: Configurable via the database for flexible and customized request handling.
2. **Request Management**: Automatic forwarding to a ticketing system ensures effective tracking.
3. **Real-Time Notifications**: Web push notifications keep users updated on request status changes.

Tasks:

- **Proof of Concept to Final Solution**: Successfully validated and implemented the full solution.
- **Frontend**: Developed with React for a responsive, user-friendly interface.
- **Backend**: Built with PHP Slim framework for efficient server-side operations.
- **Automated Deployments**: GitLab CI/CD pipelines ensure seamless testing and deployment.

This PWA enhances operational efficiency and improves request management for Sales Agents.

Technologien: React, React Hook Form, shadcn/ui, Vite, TanStack Query, PHP, SlimFramework 4, Web Push Notification, Gitlab CI/CD

Software Engineer - Deutsche Post IT-Services Berlin GmbH
August/2021 - December/2021 - Berlin (remote)

OCR-based sender recognition has been added to Deutsche Post's "Briefankündigung" product. The product "Briefankündigung" informs customers about the planned delivery of letters via emails. An email contains an image of the envelope and a delivery date.
Within the scope of the project, the information of the sender was added to the letter announcement.

For this purpose, the existing OCR solution for recognizing recipients was used and the sender of a letter was read out. The read out senders were then validated against a master data system and the emails of the letter announcement were refined with the sender.

As part of a team of 4, daily tasks included the following:

- Implementation of sender recognition (OCR with Tesseract)
- New and further development of Spring Boot based microservices
- Deployment and maintenance of productive systems

Technologien: Java 11, Kotlin, Spring Boot, REST, Tesseract, OpenCV, Oracle DB, Kanban, DevOps, JUnit, RestAssured, TeamCity

Software Engineer - GEFA Direkt GmbH

April/2021 - May/2021 - Halle (Saale) (remote)

To enable the digital onboarding of one of GEFA Direkt GmbH's clients, a VideoIdent app was developed for both iOS and Android. The apps integrate external SDK's from VideoIdent providers.

- Implementation of the apps
- Integration of external SDK's
- AppStore/PlayStore provision and release

Technologies: Android, Java, iOS, Swift, AppStore, PlayStore

Software Engineer / Tech-Lead - IDnow GmbH

November/2019 - April/2021 - Munich (remote)

In the context of a conversion rate improvement project I have implemented various improvements to the existing video/audio chat system. Among others:

- Implementation of a CallQualityCheck, which determines the quality of the connection based on parameters such as upload/download speed, packet loss, jitter and other metrics
- Automatic video codec adjustment based on connection metrics
- Analysis and fixing of memory and performance issues
- Analysis and fixing of business critical issues in the production system
- Technical analysis, architecture design, documentation and POC's of new projects and/or integration of external systems

Technologies: Icelink, WebRTC, Video Codecs VP8/VP9, Java, Play Framework, Spring Boot, iOS, AWS, MySQL, REST Web Services, JUnit, Jenkins CI/CD, Github, Angular, EmberJS

Software Engineer - Internet

November/2019 - July/2021

Design and implementation of a monitoring application, which checks whether regularly executed tasks, e.g. cron jobs, have actually been executed. The dead man's switch technique is used: The monitored system must "check in" at regular, configurable time intervals. As soon as a missed check-in is detected, alerts are sent via email.

- Development of microservices in Golang
- Development of a web application with Vue.js
- Recording of Check-In's
- Alerting via Email

Technologien: Vue.js (Nuxt.js), Golang, gin, gorm, Postgres, Time Series, Docker, Kubernetes, REST Web Services

Software Engineer - IDnow GmbH

November/2019 - Munich (remote)

Migration of a session system to Redis as Distributed Session Storage.
- Migration to Redis
- Load and performance testing
- Cluster and failover testing

Technologies: Java, Play Framework, Spring Boot, Redis, Jedis, AKKA, AWS

Software Engineer - IDnow GmbH

May/2019 - October/2019 - Munich (remote)

In the video server migration project, an existing video/audio chat system was completely redeveloped based on the WebRTC framework IceLink 3.
- Design of a Signaling API
- Implementation of a SFU (Selective Forwarding Unit) based on Icelink 3
- Selective recording of video and audio stream and afterwards synchronization as well as automatic merging of the tracks into one MP4 file with FFmpeg

Technologies: Java, Play Framework, Spring Boot, Microservices, Docker, WebRTC, IceLink, Video/Audio Encoding, Akka, REST Web Services, FFmpeg, WireShark, HOCON, JUnit, SBT, Jenkins, Docker, ScrumBan, AWS, MySQL, Jenkins CI/CD, Github, Angular, EmberJS

Software Engineer - GEFA Direkt GmbH

December/2018 - February/2019 - Halle (Saale) (remote)

Design and development of the corporate website of GEFA Direkt GmbH based on the content management system WordPress.

- Implementation of the design as WordPress theme
- Development of a job advertisement plugin as WordPress plugin
- Development of a Carousel-Plugin as WordPress Plugin
- Initial launch of the website
- Initial content insertion

Technologies: Wordpress, Bootstrap, HTML, Sass, JavaScript

Software Engineer / Tech-Lead - IDnow GmbH

February/*2018 - May/2019* - Munich (remote)

With the AutoIdent project, a product was developed that performs a fully automated identification of a person based on machine learning / artificial intelligence services. Within the project I took over the role as Tech-Lead for one of 2 teams. Team size approx. 10 persons.

- PoC development
- Microservices Architecture Concept
- Design of a uniform interface between backend systems and SDK's (Android, iOS and Web)
- Integration of ML/AI services like OCR, Face Comparison, Liveness Check and many more
- Consulting and verification of the technical possibilities of new features
- Code reviews and code merges of features developed by the team
- Guidance of the team members in the development of new requirements
- PoC to migrate from docker-compose to kubernetes

Technologien: Java, Play Framework, Spring Boot, Microservices, Akka, REST Web Services, HOCON, JUnit, SBT, Jenkins, Docker, Scrum, Angular, EmberJS, Kubernetes, AWS, MySQL

Software Engineer - IDnow GmbH

February/*2017 - January/2018* - Munich (remote)

Subproject GMUP: Within the scope of the project, processes and technical systems were analyzed in order to optimize them. From a technical point of view, special attention was paid to the performance of individual systems and UI improvements. From a business perspective, processes were simplified and optimized.

- Analysis and optimization of individual business processes

- Analysis and optimization of Java backend systems (Play Framework / Spring Boot)
- New development of individual parts of the agent portal with Angular

Subproject Wallet: Within the scope of the project a solution was developed that allows the creation of an account during a video/eSign idents. This enables the signing of documents with a user account, even without a renewed VideoIdent.
- Multi-tenant architecture concept, implementation and testing of the wallet micro service based on the Play Framework / Spring Boot
- Integration into the video/eSign platform

Technologies: Java, Play Framework, Spring Boot, Microservices, Akka, REST Web Services, HOCON, JUnit, SBT, Jenkins, Docker, Scrum, Angular, EmberJS, AWS, MySQL, Jenkins CI/CD, Github

Software Engineer - GEFA Direkt GmbH
March/2017 - Halle (Saale) (remote)

Conception and development of a web application for the collection of personal data and integration of external systems for video legitimization.
- Implementation of the web application with Angular
- Integration of external services via REST API
- Setup of the production environment

Technologies: Angular, HTML, SASS, PHP, Slim Framework

Software Engineer - IDnow GmbH
September/2015 - July/2016 - Munich

In order to replace the inconvenient Post-Ident procedure, an Identity-Verification-as-a-Service platform was developed. Customers can identify themselves via video chat with a specially trained agent with an identity document to open a bank account or similar.
In addition, contract documents can also be digitally signed during Videochat.
Focal points:
- Further development of the platform for scalability and high load requirements
- Development of web applications with JavaScript and Ember.js and extension of the native mobile SDK's
- Microservices Architecture Concept
- Development of microservices with Java 8 and Play Framework / Spring Boot
- Cluster capability with Akka
- Asynchronous communication between Microservices with Akka

- Quality assurance and testing
- TestRobot: Extensive test automation with Selenium and phantomJS.
- Continuous Integration (CI) and Cloud Deployment-Prozess (GIT, SBT, Jenkins, Docker)

Technologies: Java, Play Framework, WebSockets, Microservices, Akka, REST Web Services, HOCON, JUnit, SBT, Jenkins, Docker, Scrum, Angular, AWS, MySQL

Software Engineer - Knorr Bremse GmbH

January/2015 - September/2016 - Munich (remote)

Conception and partial realization of an IoT platform for the collection and evaluation of measurement data from vehicles (trains), as well as the monitoring and control of vehicle fleets based on this data. Sensors are used to record measurement data on vehicles and transmit it to an on-board unit via a CAN bus. Measurement data are e.g. position data, temperature values, wear data of installed components, and much more.

Within the scope of the sub-project "Remote System Management and Software Deployment" a multi-tenant management application was developed, with which:

- vehicles (trains) and vehicle fleets can be created and managed
- cloud servers (nodes) can be created and managed
- Software deployments in the form of OSGi bundles can be made from a central cloud repository to the vehicles (on-board units) and the cloud servers. The software deployments were designed to be fault-tolerant and rollback-capable.

The management application was implemented as a multi-layer JEE web application using Vaadin as front-end technology.

- System architecture and software architecture
- Technical design incl. data model
- Software development JEE web application
- Software development of OSGi bundles
- Deployment-Prozess
- Test in laboratory environments with Raspberry as mobile units (OCU)
- Quality assurance and testing
- Execution of management demos

Within the subproject " Eco System" basic mechanisms for the IoT platform and the associated Eco System were designed and implemented.

These mechanisms include:

- Messaging, Storage and Logging API
- Error Handling
- System functions

- ▪ Subsystem-Adapter
- ▪ GUI-Framework
- ▪ Reporting

Tasks in the project:
- ▪ Software Architecture
- ▪ Technical design
- ▪ Java / JEE software development
- ▪ Deployment-Prozess
- ▪ Quality assurance and testing

Technologies: UML, Enterprise Architect, Java /JEE, XML, Vaadin, WebServices, Messaging, JMS, SQL, OSGi, Apache Karaf, Apache Aries, JUnit, git, Integrity, Maven, DevOps, Raspberry Pi, Onboard-Units, SCRUM, Trello, PostgreSQL

Software Engineer - McDonald's Deutschland

January/2015 - March/2015 - Munich (remote)

Content of this project was the conception and realization of a portal for planning and execution of promotions. Requirements workshops were held with the project stakeholders and a technical concept was developed. Afterwards a technical solution concept was developed and the implementation was carried out by a SCRUM team.

The technical implementation was based on a JEE-Liferay portal with Vaadin as GUI. The process logic was implemented using BPMN 2.0 based on the inubit BPM Suite in conjunction with WebServices. Several databases (MS SQL Server and IBM DB2) must be accessed in the backend.

- ● Requirements workshops
- ● Business concept and IT architecture
- ● SW Development BPM Process
- ● Consulting for surface development
- ● Data analyses
- ● Technical team leader:
  - ○ Definition of task packages
  - ○ Task Coordination

Technologies: Java / JEE, Vaadin, XML, Webservices, Liferay Portal, BPMN 2.0, Inubit BPM Suite, SQL, MS SQL Server, AS400, IBM DB2

Software Engineer - NTT Data Deutschland GmbH

June/2012 - December/2014 - Munich

Within the scope of the project, a Unified Sales Platform was developed, which enables a retailer to handle the entire sales process from the collection of customer data, to the configuration of a vehicle, to the delivery of the vehicle to the customer.

Technical requirements:

- sales process management
- Customer-Management
- Configuration of vehicles
- Offer-Management
- Contract-Management
- Order-Management

Technical challenges:

- Integration of many external systems
- Multi-client capability (Tenant+Tenantscope)
- Rollout in more than 6 countries

The project is handled according to the agile method Scrum and consists of 8 teams. One team consists of 5 to 7 developers, 2 PO supporters and one IT PO and one business PO. The project language is English.

As a software engineer I was part of the "customer" team. Which mainly deals with customer management, customer visibility, business codes, activity management, SPL check (sanctioned-party list check), business context and others.

Tasks:

- Conception and implementation of technical requirements
- Integration of external systems
- Create and maintain selenium and integration tests
- Analysis and evaluation of topics and user stories
- Participation in community of practices dealing with topics such as "Frontend Architecture" and "Portal development"
- Error analysis and bug fixing
- Communication and coordination with interface partners
- Presentation of Sprint results

Technologies: JEE6 (EJB3, CDI, JPA, JSF, Rest, SOAP), Spring Framework, Primefaces, Oracle DB, Mockito, Selenium, Restassured, Maven, Glassfish 3, Jenkins, Intellij IDEA, SVN, Confluence, JavaScript (jQuery, Jasmine), SCRUM

Software Engineer - Commerz-Finanz GmbH

March/2012 - May/2012 - Munich

In order to give customers a better overview of their existing point of a cashback system, a web application was developed, which lists the transactions and received points. Additionally a mail inbox functionality was developed.

- Development of the web application with AngularJS
- Development of a micro service with Spring

Technologies: AngularJS, Tomcat, Spring

Software Engineer - T-Systems GmbH

July/2010 - January/2012 - Berlin

The project focused on the automation of deployment and delivery processes of special software development projects. The software development projects were based on the technologies Oracle 11g database and IIS web server.

Tasks of the application:

- Monitor issue tracking systems and retrieve relevant information from these sources from version management (VSS/SVN)
- Manage environments (databases/web servers)
- Creation of Builds
- Automated installation of builds

Tasks in the project:

- Creating and maintaining the project plan (cutting work packages, determining times, assigning resources)
- Design and implementation of the application architecture
- Development of interfaces to applications like SVN, VSS, HP Quality Center 10
- Development of a web application with Struts
- Setup of the test and productive environments
- Execution of black box and usability tests

Technologies: Java 6, Axis 2 1.6, Struts 2.1, Ant, Tomcat 6, Eclipse, Enterprise Architect, SVN, VSS, Oracle 11g

Education and employment

Feb/2017 - today

    Senior IT-Consultant & Software Engineer - Freelance

Jul/2015 - Jul/2016

    Senior IT-Consultant & Software Engineer - eForce21 GmbH

Feb/2012 - Jun/2015

    IT-Consultant und Software Engineer - CONET Solutions GmbH

Sep/2009 - Jan/2012

    Training as IT specialist in application development - Deutsche Telekom AG

Languages

- German (native language)
- English (fluently)

Certifications

2022 - AWS Certified Solutions Architect – Associate

2022 - CKAD: Certified Kubernetes Application Developer

2021 - AWS Certified Cloud Practitioner

2021 - Programming with Google Go Specialization

2014 - iSAQB Certified Professional for Software Architecture (Foundation Level)

2011 - Oracle Certified Professional, Java SE 6 Programmer