
Technical Architect/Software Engineer

Technical Architect and Software Engineer with over 15 years of commercial experience in designing and implementing distributed software systems. Expert in **Microservices**, **Containerisation (Kubernetes, Docker)**, and **Cloud-native architectures**. Proven track record in high-stakes environments, including Financial Markets (Securities, Equity Trading, Risk Control) and Global Banking.

Core Competencies

- **Java & Python:** Over 15 years of commercial development experience in the Java ecosystem (8/11/21, Spring Boot, Spring Cloud) as well as in-depth expertise in Python for data analytics, ETL & ELT processes, and automation of cloud infrastructures.
- **Containerization & Orchestration:** Extensive experience with **Kubernetes**, **OpenShift**, and **Docker** for large-scale deployments.
- **Architecture:** Specialist in **Microservices**, SOA, and Event-Driven Architecture.
- **Financial Domain:** Knowledge of Securities, Order Management Systems (OMS), and MiFID II compliance.
- **API Design:** Advanced expertise in **REST (OpenAPI/Swagger)** and GraphQL.
- **Cloud Platforms:** Highly proficient in Cloud-native solutions (Azure, AWS).

Languages: English (fluent), German (fluent)

Education & Certifications

- **Diplom Ingenieur (M.Sc.)** Information and Communications Engineering | University of Duisburg-Essen (Germany).
- **Certifications:** TOGAF 9, Certified ScrumMaster (CSM), PMP Training, Cloudera Data Science Training.

Koweg Software Solutions	London, UK
Developer/Director (Contractor) - Securities Data Analytics	01/2014 - present

- Design and development of software solutions for analysing and visualising securities data.
- Ingestion and analysis of stock and market data for trading and portfolio optimisation.
- API integration solutions for various small businesses.

Technologies: Python(Pandas, Numpy, Matplotlib, Scikit-learn, FastAPI), Kotlin, Spring Boot, RESTful HTTP, GraphQL, React, Azure, AWS(Lambda, S3, CDK, SAM), GitHub Actions, Terraform

Shell Information Technology International	London, UK
Solutions Architect (Contractor) - Metagenomics Data Management Platform	02/2023 - 01/2024

- Led collaboration with stakeholders in defining and shaping a Lakehouse solution for analysis of metagenomic datasets that directly supported decisions in carbon credit evaluation, decarbonisation, and green energy initiatives.
- Conducted detailed requirement gathering to capture data producer and data consumer API specifications, including high-level components required for a Lakehouse architecture.
- Designed cloud-native architectures that leveraged Azure services for the data platform solution.

- Implemented rapid prototypes of end-to-end workflows and data pipelines for architecture validation.

Technologies: Python, Azure Databricks, OpenAPI, RESTful HTTP, Azure, Terraform, MongoDB

NewDay	London, UK
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Software Engineer (Contractor) - GraphQL PoC	07/2021 - 11/2021
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- Architected the transformation of RESTful BFF layers to a unified GraphQL integration layer.
- Implemented and ran performance tests to validate indicators against internal service level objectives.

Technologies: Kotlin, Spring Boot, OpenAPI, GraphQL, Node.js, JMeter, BlazeMeter, GitHub Actions, Terraform, Azure, Octopus Deploy

Mercedes-Benz Group AG	Stuttgart, Germany
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Solutions Architect (Contractor) - Vehicle Order Management System Modernisation	02/2021 - 07/2021
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- Collaborated with business architects on high-level designs for sales, pricing, and order workflows.
- Modernised Vehicle Order Management Systems using Microservices and cloud-native principles.
- Implemented rapid prototypes to evaluate workflow engine solutions.

Technologies: Java, Spring Boot, Apache Camel, OpenAPI, GraphQL, Angular, Microservices, BPMN & DMN modelling, Archimate, AWS, Terraform, Jenkins

Innogy/E.ON	Dortmund, Germany
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Solutions Architect (Contractor) - eMobility Platform Modernisation	06/2019 - 12/2019
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- Facilitated and participated in Event Storming sessions to translate new stakeholder feature requirements into actionable architecture for an EV charging network platform
- Collaborated with delivery teams to refine business use cases and develop technical designs that aligned with strategic platform objectives.
- Supported delivery teams in troubleshooting and optimising their microservice implementation to meet Service Level Objectives.

Technologies: Java, Spring Boot, Apache Camel, SQL, RESTful HTTP, GraphQL, OpenAPI, Angular, UML, GitLab, Maven, JMeter, Gatling, MySQL, RabbitMQ, ActiveMQ, Glassfish, AppDynamics, CA API Gateway, Docker, AWS, Pivotal Cloud Foundry

HSBC Holdings	London, UK
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Technical Team Lead (Contractor) - Front Office Regulatory Platform	06/2018 - 03/2019
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- Led the delivery of a Front Office Regulatory Platform for financial risk control and collaborated with various stakeholders in analysing various supervisory controls and reporting processes for automation.
- Delivered API specifications and architecture designs for financial risk control services.
- Designed integration and workflow solutions for evidencing, approving, reporting or escalating various controls such as late trades, stop-loss limit breaches, and personal account dealing breaches.
- Coached and led teams in agile software development practice -TDD, BDD, and peer reviews.

Technologies: Java 8, Kotlin, Spring Boot, VertX, Activiti, SQL, RESTful HTTP, Swagger, Angular, OAuth 2, Oracle 11g, UML, Git, Maven, REST Assured, Cucumber, JMeter, WireMock, Docker, Kubernetes, Jenkins

Deutsche Bank	Frankfurt, Germany
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Senior API Engineer (Contractor) - Securities Order Management System Integration	06/2017 - 05/2018
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- Designed partner APIs for an internal Order Management System that handled the execution of equity order flows.
- Integrated MiFID II directives regarding best order execution rules and cost transparency.

- Implemented mock services to test and validate trade execution interfaces.

Technologies: Java 8, Spring Boot, Angular, SQL, RESTful HTTP, Swagger, Cucumber, OpenID Connect, OAuth 2, Oracle 11g, UML, Git, Maven, Tomcat, REST Assured, SoapUI, WireMock

HSBC Holdings	London, UK
Technical Team Lead(Contractor) - Digital Transformation Programme	08/2016 - 04/2017

- Directed an API-First migration for internal corporate banking services by defining and documenting comprehensive API specifications using RAML and RESTful HTTP.
- Led architectural evaluations and Proof of Concepts for ForgeRock OpenAM and OpenIDM to implement enterprise-grade access control and identity management solutions.
- Strategised the modernisation of a monolithic trade services platform by collaborating with SMEs to define bounded contexts for various functional components, including a complex Letter of Credit component.
- Engineered scalable backend logic and designed distributed user onboarding workflows leveraging Java and Spring Boot for deployment on Pivotal Cloud Foundry (PCF).

Technologies: Java, Spring Boot, SQL, RESTful HTTP, Oracle 11g, MongoDB, RAML, Jenkins, Git, Maven, IBM MQ, Pivotal Cloud Foundry(PCF), OpenAM, OpenIDM, OpenDJ, MuleSoft Runtime Engine, React

Barclays Bank / Accenture Technology Services	Knutsford, UK
Senior Agile Developer(Contractor) - Cheque Image Clearing Hub	10/2015 - 06/2016

- Implemented business rules and integration solutions for an electronic cheque image processing system.
- Defined build pipelines and created scripts for deployments to the OpenShift platform.

Technologies: Java, Spring, JDBC, Hibernate, RESTful HTTP & SOAP Web Services, XML/XSD, Camel, Oracle 11g, UML, Jenkins, Git, Maven, Gradle, ActiveMQ, JBoss EAP, OpenShift

Erste Group Bank	Vienna, Austria
Senior Agile Developer(Contractor) - Digital Banking Platform Modernisation	03/2015 - 09/2015

- Designed and implemented services for migrating a monolithic digital banking platform to a microservice architecture.
- Collaborated with SMEs in defining API specifications for core banking domains, including Cards, Accounts, and User Services. card.
- Facilitated cross-team synchronisation within a Scrum of Scrums framework, resolving dependencies across multiple business units to ensure delivery teams met sprint objectives.

Technologies: Java, JavaScript, Spring, JDBC, JPA, SQL, RESTful HTTP & SOAP, Cucumber, JSON, XML/XSD, AngularJS, Camel, Oracle 12c, UML, Git, Maven, ActiveMQ, Tomcat

Monitise Group	London, UK
Senior Software Developer - Mobile Banking and Payment Services	07/2012 - 11/2013

- Implemented various payment integration modules for the VISA payment processing platform, ensuring high-throughput, low-latency performance and strict adherence to financial security standards.
- Implemented a secure web management interface for a Hardware Security Module (HSM) infrastructure, automating the lifecycle management and rotation of encryption keys and sensitive cryptographic credentials.
- Collaborated with cross-functional teams in the strategic technical planning and design of a global reference platform for a telecommunications service provider.

Technologies: Java, Spring, JDBC, JPA, PL/SQL, RESTful HTTP, SOAP, JBehave, Selenium, JMeter, JSON, XML/XSD, XSL/XSLT, XPath, Camel, Oracle 11g, UML, Git, Maven, Ant, Fuse ESB, Glassfish

Net mobile AG/DOCOMO Deutschland	Düsseldorf, Germany
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Project Lead, Software Developer - Mobile Payments	06/2010 - 07/2012
<ul style="list-style-type: none"> Collaborated with external stakeholders in defining functional and technical requirements for various payment services and mobile carrier billing integration initiatives. Integrated the Visa 3-D Secure protocol within the core payment gateway, enhancing transaction security and ensuring compliance with international financial industry standards. Led ad-hoc teams in delivering various optimisation solutions for data ingestion jobs and application workflow orchestration. Designed and implemented various tools for automated monitoring, anomaly detection, and payment transaction insights. 	
Technologies: Java, Perl, Python, JDBC, JPA, SQL, JSP, Servlets, JSF, Web Services (REST, SOAP/WSDL), XML/XSD, XPath, ActiveMQ, PostgreSQL, Fuse ESB, UML, SVN, Maven, Ant, JMeter, Archi	
sms eSolutions GmbH	Düren, Germany
Project Lead, Software Developer - Phone Number Allocation & Porting System	03/2009 - 03/2010
<ul style="list-style-type: none"> Collaborated with external stakeholders in defining functional requirements for integrating a phone number allocation and management system. Led a team of 4 in implementing the German Federal Network Agency specification for phone number porting and management. Provided 3rd-level support to major telecom providers at various deployment phases, including QA testing and release migration. 	
Technologies: Java, EJB, Spring, Shell Scripting, JPA, Hibernate, SQL, Web Services (REST, SOAP/WSDL), XML/XSD, Tomcat, Glassfish v3, ActiveMQ, Oracle 10g, UML, Subversion, CVS, Hudson, Maven, Ant, Eclipse, Umbrello, XML Spy, SQL Developer	
Logica GmbH	Düsseldorf, Germany
IT Consultant	05/2008 - 02/2009
<ul style="list-style-type: none"> Collaborated with clients in defining functional and technical requirements for an information management system at an electric utility company. Consulted with public service clients in optimising and implementing new features for a legacy information management system at a government data center. Implemented various design solutions. 	
Technologies: Java, EJB, Spring, Shell Scripting, PLSQL, JPA, Hibernate, SQL, JSF, JSP, Servlets, XML, XHTML, Tomcat, JBOSS, Oracle 10g, UML, SVN, CVS, Hudson, Maven, Ant, Eclipse, MagicDraw	
Volkswagen AG	Wolfsburg, Germany
Intern (R&D) - Offboard Diagnostic System	10/2006 - 04/2007
<ul style="list-style-type: none"> Designed and developed a concept for a fault diagnostic system. Modelled electrical component networks and decision-making strategies using extended Bayesian networks. Implemented a prototype inference and decision engine using Java and the Hugin API. 	
Technologies used: Java, Spring, JSP, XML/XSD, XSLT, Tomcat, UML, Together, Hugin Decision Engine	
University of Duisburg-Essen	Duisburg, Germany
Programmer & System Administrator	10/2002 - 06/2006
10/2002 – 06/2006 Programmer & System Administrator, University of Duisburg-Essen, Germany	
<ul style="list-style-type: none"> Developed an information management system that motivated funding for a major portal project. Collaborated with stakeholders on an architecture planning team that was responsible for a university-wide portal project. Evaluated various portal software solutions such as Liferay and uPortal. Instructed PHP/MySQL programming courses and provided mentorship to participants in team projects. 	

Technologies used: PHP, Java, Spring, Shell Scripting, JSP, Servlets, XML, XSL/XSLT, XHTML, CSS, Tomcat, JBOSS, Apache HTTP Server, UML, Subversion, Ant, Eclipse, Zend IDE