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EXPERIENCE

Deutsche Börse Prague Branch

Associate Vice President — Software Engineer, Full-time

September 2024 – Present

Prague, Czech Republic

- Deliver backend features for Securities Clearing in a microservices architecture; internal service communication via REST (authored multiple REST APIs based on technical designs). External integrations use AMQP (Apache Qpid). Dev deployments run on OpenShift.
- Proactively contributed to the migration from Spring Boot 2 to Spring Boot 3 and from Java 11 to Java 17 across 10+ microservices; took on many migration tasks and resolved compatibility issues. Production rollout completed with zero Sev-1/Sev-2 incidents.
- Authored a CI-integrated Liquibase library that enables cross-repo, cross-database test provisioning, allowing services to bootstrap dependent schemas/data for end-to-end tests.
- Introduced Testcontainers for integration testing in local development and Jenkins CI, improving developer confidence and reducing manual verification.
- Active in PR reviews and peer support/mentoring.

Thales DIS s.r.o.

Software Solutions Engineer, Full-time

May 2023 – August 2024

Prague, Czech Republic

- Focused on backend development for a full-stack application involving post-issuance operations for smart cards. My primary role was to ensure the backend supported various operations aligned with the application's requirements.
- Developed using Spring Boot, ensuring the application was compliant with security requirements, scalable, and integrated seamlessly with the front end.
- Delved deeply into the Application Protocol Data Unit (APDU) standard to craft and execute specific APDU commands, requiring a detailed understanding of smart card communication protocols.
- Defined and implemented REST APIs using OpenAPI Specification (OAS) for seamless data exchange.
- Adhered to best practices throughout the software development lifecycle.
- Utilized MySQL as the primary database for application data storage and retrieval.
- Implemented Liquibase for effective database schema management and version control.

Komerční banka, a.s.

Development Engineer, Full-time

Dec 2020 – Apr 2023

Prague, Czech Republic

- Analyzed CNB CERTIS (interbank payment system) specifications and translated them into robust, production-ready solutions.
- Developed and maintained Java/Spring Boot services for payments and open banking in line with coding standards, regulatory constraints, and project timelines.
- Partnered with product owners, analysts, architects, and adjacent teams to refine requirements and design pragmatic solutions.
- Contributed to Agile delivery (stand-ups, planning, reviews, retrospectives) and continuous improvement across the Squad.
- Provided L2 support for the Payment Open Banking Squad, triaging incidents and driving root-cause fixes.

Steiner s.r.o.

Junior Java Developer, Different projects

Nov 2017 – Nov 2020

Prague, Czech Republic

- Built a Donor Registry import/export service (WMDA/EMDIS): Spring Batch jobs and scheduled runs with REST endpoints to enqueue tasks, check status, and fetch reports for auditable processing.
- Implemented WMDA/EMDIS XML transformations with XSD validation to ensure standards-compliant donor and CBU data exchange.
- Automated secure file flows with PGP encryption/decryption and SFTP transfers (e.g., NMDP B2B) plus Nextcloud storage; added queueing, retries, and progress tracking for resilience.
- Delivered a WMDA Export application in Java 8/Spring Boot to generate filtered XML exports validated against schemas and deliver to WMDA REST, Nextcloud (WebDAV), and FTP.
- Developed an EMDIS REST API and Azure Service Bus PoC to send/receive EMDIS-compliant messages via a central server, reusing Prometheus donor DB structures; collaborated with QA on Java integration tests and TestComplete suites.

- Improved bulk run performance and added utilities/tests (JUnit) to validate structure and processing logic across import/export pipelines.
- Tech: Java 8, Spring Boot 2.x (Web, Security, Batch, Scheduling), REST, XML/XSD, JAXB, JDBC, PGP (BouncyCastle), SFTP (JSch), Apache Commons VFS, WebDAV/Nextcloud, Azure Service Bus, Maven, JUnit, Lombok.

Steiner s.r.o.

Jul 2015 – Nov 2020

Prague, Czech Republic

Delphi Developer, Full-time

- Delivered Windows-native components using WinAPI and DLL integrations; implemented XML Schema validation with Microsoft MSXML 6.0 (SAX) for high-throughput, low-memory processing.
- Built database interoperability via ODBC and native Delphi data access (FireDAC/DBExpress) for InterSystems Caché, Oracle, and Firebird; optimized bulk operations and resolved locking/transaction issues in production.
- Designed and maintained ETL jobs to synchronize customer databases with Prometheus, including connectors for Firebird, Oracle, and InterSystems Caché with rigorous validation and error handling.
- Wrote performance-critical SQL across Firebird/Oracle/Caché and tuned bulk operations for reliability and throughput.
- Developed the WMDA export capability with comprehensive validation and logging to ensure data integrity and traceability.
- Implemented import/export logic aligned with World Marrow Donor Association (WMDA) and EMDIS specifications for cross-registry interoperability.
- Represented Steiner, s.r.o. in a WMDA working group defining XML file standards for donor data exchange.

EDUCATION

Faculty of Information Technology and Management, University of Hradec Kralove

2024-2027

Applied Informatics, Specialization: Software Engineering

Hradec Kralove, Czech Republic

- **Relevant Coursework:** Introduction to Object Modeling, Systems Approaches, Introduction to Artificial Intelligence

Faculty of Nuclear Sciences and Physical Engineering, CTU in Prague

2012-2016

Application of Software Engineering (coursework completed; program not finished)

Prague, Czech Republic

- **Relevant Coursework:** Basics of Algorithmization, Generation of Internet Applications, Programming in C++, Programming in Java, Introduction to Object-Oriented Architecture, Introduction to Operating Systems

Kostanay Construction College, Technician Programmer (Red Diploma)

2007-2011

Completed

Kostanay, Kazakhstan

- Red Diploma (highest honors). Four-year Software Development program with strong foundations in programming, algorithms, databases, and networks; primary languages: Delphi and Pascal.
- Thesis: Polyclinic management application developed in Delphi (end-to-end design and implementation).

PROJECTS

URLShortener | .NET 9/C# 12, ASP.NET Core 9 Web API, Blazor WebAssembly 9

EF Core 9, SQL Server, Redis, OpenAPI/Swagger

OpenTelemetry, Application Insights, Azure, JWT, Testcontainers, GitHub Actions

UHK | Seminar project

- Established an OpenAPI-first approach: a single `api.yaml` generates typed server/client SDKs consumed by the ASP.NET Core API and the Blazor WebAssembly app; added contract tests to prevent breaking changes.
- Implemented authentication with JWT access/refresh tokens, device/session tracking, token revocation, and role-based authorization with secure defaults.
- Introduced per-IP/user rate limiting, and idempotency keys for write paths; supported multiple link types (standard, expiring, custom alias, password-protected) with QR generation.
- Built a secure link-routing service that safely redirects users, enforces access rules, tracks usage, and protects against abuse.
- Delivered click analytics (daily aggregates and per-URL metrics) and audit logs;
- Derived short codes from SHA-256 with URL-safe encoding, collision checks, and reserved-word filtering.
- Drove production readiness: health probes, structured logging, centralized configuration, feature flags. Automated integration tests with xUnit and Testcontainers (SQL Server); CI with GitHub Actions.

Post-Issuance Web Application | Java 17, Spring Boot 3, REST API, Smart Cards, APDU

Thales DIS s.r.o.

- Developed comprehensive backend APIs for a web application using Java 17 and Spring Boot 3, following a design-first pattern with OpenAPI specifications.
- Implemented secure communication with Smart Cards via the APDU protocol, facilitating reliable post-issuance processes.

- Enhanced the application's performance and scalability by optimizing API endpoints and adhering to best practices in REST API design.
- Collaborated closely with front end developers and QA teams to ensure thorough testing and seamless deployment of the application.

WMDA Connect — EMDIS REST API Integration | Java 11, Spring Boot, JPA/Hibernate

Azure SDK, Azure Service Bus, Azure AD

REST API, Firebird DB, Testcontainers, JUnit 5

Steiner s.r.o.

- Designed and delivered a Java/Spring Boot integration linking onpremise Firebird with WMDA's Azure platform.
- Implemented secure message exchange via Azure Service Bus with Azure AD authentication.
- Built a validation framework and ETLstyle processing for healthcare messages (typing, samples, IDM, reservations).
- Ensured reliability with Testcontainersbased integration tests against realistic Firebird datasets.
- Added comprehensive logging and error handling for production operations.

Payments Open Banking Applications | Java 17, Spring Boot 3, Apache Avro, OpenAPI Specification Komercni Banka a.s.

- Successfully delivered a robust and scalable API solution capable of handling bulk payments with high throughput. Implemented comprehensive validation mechanisms to ensure data integrity and compliance with client requirements.
- Modernization of the bank's PSD2 PIS, AIS, and CIS applications, transitioning from Java 11 to 17 to meet evolving security standards and maintain language support, ensuring the bank's compliance with PSD2 regulations.
- Collaborated with cross-functional teams to analyze existing systems and gather new requirements, ensuring the seamless integration of legacy functionalities with new platform capabilities using the latest technologies.
- Developed an API tailored for the investment portal, facilitating the initiation of investment payments through a REST API, enabling a seamless start to the payment process directly from the portal interface.
- Worked on the Investicni Portal project, developing REST APIs for one-time payment investments and standing order investments, implementing extensive input and business logic validation.
- Developed REST APIs for batch payment processing, incorporate significant input and business logic validation to ensure data integrity and compliance with business rules, passing validated information to subsequent systems.

Donor Registry Import/Export Service (WMDA/EMDIS)

Java 8, Spring Boot 2.x (Web, Security, Batch, Scheduling)

JDBC, PGP (BouncyCastle), SFTP (JSch), Apache Commons VFS, Maven, JUnit

Steiner s.r.o.

- Designed and implemented import/export flows for donors and CBUs with Spring Batch and scheduled jobs.
- Built REST endpoints to enqueue tasks, query status, and retrieve reports for operational control and auditability.
- Implemented WMDA/EMDIS XML transformations (v2.1/v2.2) with XSD validation to ensure standards compliance.
- Added PGP encryption/decryption and key management; automated secure file transfer via SFTP (e.g., NMDP B2B) and Nextcloud storage.
- Introduced queueing, retries, and progress tracking for resilient, observable processing of bulk operations.
- Wrote tests and utilities to validate structure and processing logic; improved performance of high-volume runs.

TECHNICAL SKILLS

Languages: Java (Java 17), Kotlin, Python, Go (Golang), TypeScript, Scala, C# (C# 12)

Technologies: Spring Boot 3, JAX-RS/Jersey, OpenAPI, REST APIs, Google Protocol Buffers, Apache Kafka, Apache Avro, Django, gRPC, Liquibase, MySQL, AMQP, Azure Service Bus, APDU, Smart Cards, .NET, ASP.NET Core, Blazor WebAssembly, EF Core, SQL Server, JWT

DevOps/Cloud & Tools: OpenShift, CI/CD, Jenkins, Docker, SonarQube, ArgoCD, Ansible, Grafana, Kibana, Git, SVN, LaTeX, GitHub Actions, .NET CLI, NuGet, Testcontainers, GitHub Copilot, JetBrains Junie, LM Studio, Claude

Environment: Jira, Confluence, Bitbucket, JetBrains IDE, Enterprise Architect, Agile (Scrum), Microsoft Office

LANGUAGES

English: B2 (Upper-intermediate)

Czech: B2–C1 (Fluent)

Russian: Native