Curriculum Vitae

Tassilo Smola

DevOps Engineer / Solution Architect

PERSONAL DATA

Born: 23.03.1992 / Coburg
Marital status Unmarried

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LANGUAGES

German:
Englisch:

PROFESSIONAL BACKGROUND

From April 2023 — **Tassilo Smola / Smola-Software**
Self Employed / Freelancer
DevOps Engineer / Solution Architect

05/2019 – 03/2023 — **AraCom IT Services AG**
Backend Engineer
Focus on Microservices and DevOps

08/2016 – 04/2019 — **EMCC DR. RASEK**
IT Expert
Focus on IT-Operations and Software Engineering

02/2012 – 08/2014 — **LASCO Umformtechnik GmbH**
Electrician
Wiring and commissioning of machines at home and abroad

EDUCATION

09/2014 – 07/2016 — **Technikerschule Erlangen**
Specialization: Computer Science
Degree: IT Technician

08/2008 – 01/2012 — **LASCO Umformtechnik GmbH**
Degree: Mechatronics Engineer

KNOWLEDGE AND SKILLS

Programming Languages
Python, Golang, C#, Java

Methodologies
DevOps, MLOps, Continuous Integration, Continuous Delivery, GitOps, Microservices, Unit / Integration Testing, Agiles Projektmanagement, Domain Driven Design, Test Driven Design, Requirements Engineering, Infrastructure as Code, Configuration Management, Logging, Monitoring

Infrastrukture
Docker, Kubernetes, OpenShift, Helm, Terraform, Ansible, Operator SDK, OLM, Azure Pipelines, Tekton, ArgoCD, Prometheus, Grafana, Elasticsearch, Logstash, Kibana

Messaging
Kafka, RabbitMQ, Redis

API Technologies
REST (Swagger, OpenAPI), GraphQL, gRPC

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Databases
Oracle, MongoDB, S3, PostgreSQL, MySQL

Project Management
SCRUM, Kanban

Certificates
CCNA Routing and Switching: Scaling Networks
CCNA Routing and Switching: Essentials

INTERESTS & HOBBYS

Technical Writing
Regularly publishing articles about technology and insights in projects on my homepage

Trailrunning
Long days in the mountains. From time to time also like to go beyond the marathon length

Sportklettern
“Climbing is neither a battle with the elements nor against the law of gravity. It's a fight against yourself" - Walter Bonatti

Tassilo Smola

Curriculum Vitae

PROJECT EXPERIENCE

04/2022 – 03/2023 **DevOps Engineer**
Infineon Technologies AG, Munich

Implementation of an AI infrastructure for cloud based development and execution of ML trainings with MLOps methods

An infrastructure was to be created for one of the leading manufacturers of semiconductors and system solutions in order to automatically deploy cloud IDE instances to an OpenShift-based Kubernetes cluster for machine learning workflows. It should be possible to select resources (CPU, memory, GPU) that are then available in the cloud development environment.
For unified access, the orchestrating pipelines for Cloud IDE creation should be wrapped behind REST APIs.
The aim was to support data scientists and machine learning engineers in setting up MLOps methods and to create a low / no code environment for fast onboarding.

Responsibilities:
• Planning and design
• DevOps
• MLOps

Task description:
• Evaluation of best practices for MLOps based DevOps workflows
• Design and construction of multicluster Kubernetes solutions
• Conception and design of the pipeline orchestration as well as deployment for the automated creation of Cloud IDE instances with Tekton and Helm
• Set up CI/CD pipelines to automate deployments with Tekton, Gitlab, Bash, Python and integrate GitOps processes with ArgoCD
• Setting up API gateways and authentication / authorization procedures with IAM, OIDC and OAUTH2
• Setting up log management solutions (KPI, metrics) and performance measurements with Prometheus, Grafana and ELK Stack (Elasticsearch, Logstash, Kibana)
• Design of security-relevant architecture and infrastructure (load balancing, high availability, horizontal / vertical auto scaling)
• Operation and incident management of the software solutions
• Advice, best practices / industry standards
• Architecture and implementation of microservices in distributed systems with Go and Python
• Agile work in the SCRUM team with active support from the PO for design-specific infrastructure issues
• Requirements engineering in close communication with stakeholders and documentation of architectural decisions
• Development of Kubernetes Operators for automated Application Lifecycle Management with Operator SDK and OLM
• Implementation of a high performance cache for I/O operations with Redis

Technologies used:
Kubernetes, OpenShift, Helm, Docker, Terraform, Tekton, ArgoCD Bash, Python, Go, PowerShell, Prometheus, Grafana, NGINX, Redis, Git, OpenAPI, Swagger, REST, OIDC, OAUTH2, IAM, Gitlab, Bitbucket, Operator SDK, Operator Lifecycle Manager (OLM), Elastic Stack, Jira, Confluence, MLFLow, Seldon Core, DVC, S3, JFrog

Curriculum Vitae

10/2020 – 04/2022 **DevOps Engineer / Backend Engineer**
GTÜ Gesellschaft für Technische Überwachung, Stuttgart

For a customer in the field of technical testing organization, infrastructure for a backend microservice landscape based on DevOps methods was to be created that connects the existing database systems (SQL) with the new database systems (NoSQL) in order to ensure data consistency and enable access to historical data. The aim of the developers was to create an environment to ensure the most time-saving and automated releases of microservices possible.

Responsibilities:
• Planning and design
• Setting up message brokers
• DevOps
• Backend development

Task description:
• Construction and operation of an on prem Kubernetes cluster and configuration of Dev, Staging and Prod Environments
• Design and implementation of the CI / CD pipelines with Azure Pipelines, Helm and Terraform
• Setting up build and deployment scripts with Bash, Powershell and Python
• Design of a development and release flow with Git
• Set up logging and monitoring with Prometheus and Elastic Stack
• Implementation of trace spans for monitoring across microservices using APM
• Automated packaging and deployment of infrastructure artifacts (containers, helm charts and terraform) in JFrog
• Implementation of the microservices with .NET Core and Entity Framework Core
• Design of the OpenAPI REST specifications
• Implementing GraphQL APIs
• Migration of an existing Kibana dashboard to Grafana
• Incident management through proactive monitoring of the infrastructure
• Setting up the Kafka Message Broker for event-based workflows
• Design of the Kafka schemas for cross-microservice messaging
• Setting up the cloud-based integrative test environment
• Connection of cloud-based linting tools for detecting code smells and style errors in the CI pipelines using Sonar Cloud
• Cross-project monitoring, reporting and alerting of the CI/CD pipeline results to a central location (success / error rate, artifact uploads, vulnerabilities)
• Implementation of security-relevant architecture patterns for authentication and authorization for the REST endpoints (OAUTH2, OIDC)
• Automating the administration of Windows Server instances to provide release candidates on a virtual Azure Cloud instance using Ansible
• Maintenance and extension of the virtual Citrix Environments to provide software for test engineers
• Incident management when operating the software solutions

Technologies used:
Azure DevOps, C# / .NET Core, Entity Framework Core, Helm, Terraform, Python, Docker, Kubernetes, Gitlab, Azure Pipelines, SonarCloud, REST, GraphQL, Prometheus, Grafana, Kibana, Elastic Search, Logstash, Kibana, APM, SQL , Oracle, MongoDB, Linux, Windows Jira, Confluence, Powershell, OAUTH2, OIDC, Ansible, Kafka, JFrog, OpenAPI, Bash, YAML

Curriculum Vitae

05/2020 – 10/2020

Backend Engineer
AKDB Anstalt für Kommunale Datenverarbeitung, Regensburg

Setting up a microservice backend landscape for e-government services

Project description:
A microservice landscape for various e-government services was to be created for a customer who works in the public service sector.
It should be possible to connect these components to the existing websites of the municipalities.
The services should also communicate with each other via a message broker for event-driven workflows.

Responsibilities:
• Backend development
• DevOps

Task description:
• Design of the microservice architecture
• Creating OpenAPI specifications with Swagger
• Implementation of Spring Boot Microservices
• Writing unit and integration tests using SpringBootTest and Postman
• Setting up the message broker for event-driven workflows
• Creation of Helm chats for the deployment of microservices
• Provisioning and configuration of the Kubernetes cluster instances for multi-stage deployments
• Implementation of a microservice scaffolding framework with Ansible

Technologies used:
Spring Boot, SpringBootTest, Python, Ansible, Kubernetes, Docker, Rabbit MQ, Helm, REST, OpenAPI, Postman,

05/2019 – 05/2020

Backend / DevOps Engineer
GTÜ Gesellschaft für Technische Überwachung, Stuttgart

Migration of a legacy application for HU test report generation from VB6 to C# and setting up an automated application lifecycle

Project description:
A solution was to be created for a customer in the field of technical testing organization in order to migrate a legacy application from VB6 to .NET Framework 4.8 / C#. This included a complexity analysis of the software and database, identifying possible problems during development and analyzing possible show stoppers.
The migrated components should then be refactored to reduce complexity and increase stability.
In addition, a CI / CD flow for the automated lifecycle should be set up in order to integrate agile development methods in the development team

Responsibilities:
• Advice on implementation
• Refactoring of components
• DevOps Engineer

Task description:
• Requirements and complexity analysis of the legacy software
• Redesign of the database requirements
• Migration of legacy functionalities and refactoring
• Splitting of the legacy monolith into individual NuGet packages for defining version-specific dependencies
• Best practices advice on migration and development
• Setting up an agile development process according to SCRUM

• Introducing DevOps Practices, CI/CD Pipelines, Testing, and QA using Azure Pipelines and JFrog
• Cross-team communication and gap analysis
• Implementation of automated deployments on Citrix test VMs for acceptance testing of the releases

Technologies used:
C#, .NET 4.8, Oracle, Azure DevOps, Azure Pipelines, JFrog, Bash, Citrix, NuGet,

01/2019 – 04/2020

Full Stack Entwickler
EMCC DR. RASEK

Android app for automatic collection of device maintenance results

Project description:
For an accredited test laboratory in the field of EMC measurements, an automated solution for device maintenance as well as recording and validation of target and actual states should be implemented.
For this purpose, devices were recorded with a camera using a QR code, results and defects as well as photo documentation were entered live on site and then automatically synchronized in the company's own database.

Responsibilities:
• Frontend development
• Backend development
• Database development

Task description:
• Devices to be serviced are loaded when the app starts
• Barcode scanner function for device IDs to display all the tasks to be performed by the device
• Complete offline compatibility while performing device maintenance
• Results can be entered on site as well as photos for documentation
• Sync with database as soon as network is available again

Technologies used:
C#, Xamarin.Forms, Microsoft SQL Server, SQLite, JSON,

10/2016 – 04/2019

Full Stack Entwickler
EMCC DR. RASEK

Automatic generation of calibration certificates for measuring devices

Project description:
For an accredited test laboratory in the field of EMC measurements, an automated solution for the creation of calibration certificates as well as the collection and validation of measurement data should be created.
After successful data acquisition and release, an export of a signed PDF document should be made available.

Responsibilities:
- Database design
- Database development
- Frontend development
- Backend development
- Second level support

Task description:
- Measuring device and measured values are entered
- Measured values are evaluated and overall conformity is issued
- PDF with digital signature of reviewer and reviewer are stored in the database

- inserted (4 eyes principle).
- PDF of the calibration certificate is replaced by a
- Report generator created automatically
- Templates of report templates can be created type-specifically on devices
- Drift analyzes of past measurements can be viewed via graph

Technologies used:
C#, .NET Framework, Winforms, Microsoft SQL Server, List & Label report generator