Migration of JEE Services to Cloud Native Architecture with Quarkus_

Proposta de Bolsa/Estágio na Altice Labs

ID do Projeto	2024/25_N33
Departamento	SSO42
Proponente	Ricardo Santos Ferreira
Data de validade	31-Dec-2024

IDI - Key areas

Digital Services & Platforms

Subject / Title

Migration of JEE Services to Cloud Native Architecture with Quarkus

Context

Cloud native systems are essential for telecom operators who want to stay up-to-date and offer innovative services.

A cloud-based software architecture brings many benefits, including scalability, resiliency, flexibility and efficiency, which can be applied to OSS systems (Operations Support Systems) used by telecom operators. The adoption of cloud native software architectures helps telecom operators remain competitive in an ever-changing market, providing significant advantages over traditional monolithic systems.

Public cloud platforms such as AWS, Azure and GCP are at the state of the art for supporting these architectures and technologies such as Kubernetes and Quarkus are important tools for orchestrating and developing microservices in OSS systems.

Project Goals

This internship aims to provide the candidate with the opportunity to participate in a project to migrate JEE services from Altaia platform, belonging to the NOSSIS One Suite by Altice Labs, to micro-services prepared for the cloud. The project aims to optimize and modernize the performance data processing and transformation component of telecommunications networks, evolving their services to the Cloud ecosystem, making them more scalable, resilient and flexible.

During the internship, the intern will work with an experienced engineering and software architecture team where he will have the opportunity to acquire, apply and consolidate concepts/practices of micro-services architecture in cloud environments.

Keys

- Cloud-native architectures;
- Micro-service orchestration;
- Devops.

Tools

- Java;
- Quarkus;
- Apache Kafka;
- Oracle/PostgreSql;
- Docker;
- Kubernetes;
- Centralized Logs;
- Grafana;
- Prometheus;

- Other support tools like: JIRA, WIKI, GitHub.

References

- https://www.alticelabs.com/products/performance/
- https://quarkus.io/

Activities

- Understand/be aware of Altaia system;
- Migrate embedded functions inside monolith system in new micro-services;
- Implement new services as micro-services;
- Integrate services with each other and with other systems;
- Perform integration and acceptance tests;
- Configure and deploy services in a cloud environment (k8s).

Required Skills

- Strong coding and problem-solving skills;
- Knowledge in the area of JAVA and systems architecture;
- Knowledge of Oracle and/or PostgreSQL relational databases;
- Proactive and self-awareness;
- Teamwork and collaboration skills.

Supervisor (name and e-mail)

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