



**AuroraIQ**

Cloud made easy

# PFE Book 2025-2026



# Who are we?

- AuroralQ is a consulting and cloud engineering company specialized in:
  - Cloud transformation & open-source infrastructure
  - Private, hybrid & sovereign cloud deployments
  - Application Modernization & DevOps Automation



# Our mission

- Provide cloud solutions that are:
  - **Simple** – reducing complexity through automation
  - **Flexible** – powered by open-source & modular architectures
  - **Sovereign** – full control, no foreign jurisdiction risks
  - **Cost-Effective** – optimized workloads, no licensing fees



# Why Open-Source?

**96.3%**

of the world's top 1 million servers run Linux

**100%**

of supercomputers run Linux

**90%**

of all cloud workloads run on Linux / OSS-based systems



# Why Open-Source?

- Cost Efficiency & No Vendor Lock-In
- Security Through Transparency
- Innovation at Scale
- Talent & Community
- Sovereignty & Full Control



# Our Services

# Cloud Platform Deployment



We master the full open-source cloud ecosystem:

- OpenStack (Compute, Neutron, Cinder, Keystone, Octavia...)
- Kubernetes (Charmed K8s, kubeadm, MicroK8s)
- Ceph Storage (object, block, CephFS)
- MicroCloud (simplified cloud for edge/regional deployments)
- LXD Containers & VMs



# Infrastructure Automation

We automate infrastructure to ensure consistency, reliability, and speed:

- Terraform, MAAS (infrastructure as code)
- Ansible (configuration automation)
- Juju (model-driven automation)
- CI/CD pipelines (GitHub Actions, GitLab CI, Jenkins)
- GitOps workflows



# Application Deployment & Modernization

We support full application lifecycle:

- Packaging apps into containers
- Setting up registries, pipelines, artifact management
- Deploying microservices architectures
- Implementing autoscaling, load balancing
- Integrating logs, metrics, tracing
- Securing CI/CD pipelines



# Training & Upskilling

We deliver applied, hands-on training:

- Kubernetes fundamentals & advanced
- OpenStack administration
- Terraform & Ansible automation
- DevOps practices
- Cloud architecture
- Workshops for IT teams migrating to cloud



# Public Cloud Platform

AuroraIQ is building a **public cloud platform** that's **flexible**, **easy to use**, and **fully sovereign** — *helping IT teams lower costs and keep their applications running reliably and scale effortlessly.*



# Capstones



# Capstone 1 : CRM As A Service

## Description

Design and build a cloud-native, multi-tenant CRM delivered as a managed service on the AuroralQ public cloud. The platform uses a microservices-based SaaS architecture with scalable backend services, secure integrations, and full observability, enabling organizations to manage customers and sales workflows without handling infrastructure.

## Used Technologies

Php, Mysql, Docker, Kubernetes, Helm, Keycloak, Prometheus, Grafana , ELK Stack , GitHub, GitLab , CI/CD pipelines, Terraform, Ansible



# Capstone 2: Zero Touch Infrastructure

## Description

This capstone focuses on designing and implementing a software-defined infrastructure platform enhanced with AI, deployed on the AuroralQ public cloud. The system abstracts compute, storage, and networking resources and exposes them through APIs and declarative configurations. An AI component analyzes infrastructure telemetry (metrics, logs, events) to provide intelligent provisioning, anomaly detection, and optimization recommendations, demonstrating how cloud operations can evolve toward autonomous and self-optimizing systems.

## Used Technologies

OpenStack, Neutron, Kubernetes, Docker, Terraform, REST APIs, Prometheus, ELK / Loki, RabbitMQ, PyTorch, n8n



# Capstone 3: Kubernetes As A service

## Description

This capstone focuses on designing and delivering a fully managed Kubernetes as a Service (KaaS) platform on the AuroralQ public cloud. The solution automates cluster provisioning, scaling, upgrades, networking, and security, allowing developers to deploy and operate applications without managing Kubernetes infrastructure.

## Used Technologies

Kubernetes, Docker, Containerd, Helm, Terraform, GitLab, Prometheus, Grafana, Loki, CNI (Calico or Cilium), CSI Drivers, Vault



# Capstone 4: Firewall As A service

## Description

Design and build a cloud-native Firewall as a Service integrated into the AuroralQ public cloud networking layer. The platform provides centralized, API-driven security policies for traffic filtering, isolation, and auditing across tenants and applications.

## Used Technologies

OpenStack Neutron, Kubernetes, Cilium, eBPF, Linux iptables/nftables, REST APIs, Python, Keycloak, Prometheus, Grafana, ELK Stack, Terraform





# How to apply?

**Send us a resume: [amina.mseddi@auroraiq.cloud](mailto:amina.mseddi@auroraiq.cloud)**



# Thank you

Together, let's build the future of cloud computing.

