

Marouan Chakran

Senior Site Reliability & Platform Engineer

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PROFESSIONAL SUMMARY

Certified Kubernetes Administrator (CKA) with 5+ years of experience specializing in Platform Engineering and SRE. Expert in architecting Internal Developer Platforms (IdP), automating multi-cloud infrastructure, and designing high-availability distributed systems. Proven track record of building custom tooling (Python/Go) to bridge the gap between complex infrastructure and developer experience. Passionate about FinOps implementation, GitOps maturity, and operational excellence.

CERTIFICATIONS & EDUCATION

Certified Kubernetes Administrator (CKA)	Linux Foundation (ID: LF-svrxtbxri) – Oct 2021
Computer Science Engineering Degree	Sorbonne Paris-Nord Villetaneuse – Sep 2017–2021

PROFESSIONAL EXPERIENCE

Sr. Site Reliability Engineer <i>Oct 2023 – Present</i>	<i>Instadeep LTD/BioNTech, Paris</i>
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- **Internal Developer Platform (IdP) Architect:** Designed and built a comprehensive platform ecosystem to unify infrastructure management across teams, moving from manual operations to self-service:
 - **Infrastructure Composition Engine:** Developed a custom Python-based Crossplane function to abstract multi-cloud complexity. Enables dynamic composition of GKE (GCP), EKS (AWS), and AKS (Azure) clusters with standardized security and networking.
 - **Custom MaaS Provider:** Developed a new Crossplane Provider for MaaS (Metal-as-a-Service), enabling the Baremetal team to provision physical infrastructure using the same unified control plane as cloud resources.
 - **GitOps Control Plane:** Architected a centralized Flux CD repository to manage the state of management clusters. Implemented strict multi-environment isolation (Dev, Prod, Sandbox) and workload identity for secure, credential-free authentication.
 - **Unified Platform Dashboard:** Built a full-stack application (**Next.js**, **FastAPI**) to visualize Crossplane Claims (XClusters) and Flux reconciliation status.
 - **FinOps Integration:** Integrated cost-allocation logic into the dashboard, enforcing labeling strategies to track infrastructure costs per project/team within the IdP.
- **AlphaFold2 Infrastructure:** Architected high-availability environment on GCP using Terraform, Vertex AI, and Firebase caching for critical bio-tech research.
- **Operator Development:** Created custom Kubernetes operators using Python (Kopf framework) to automate mTLS certificate lifecycle management.
- **Multi-Tenant Monitoring:** Engineered a secure observability stack (Mimir, Loki, Grafana) with mTLS, scaling to support varying loads across tenant clusters.
- **SRE Maturity:** Leading the implementation of Google SRE practices, specifically defining SLIs/SLOs, error budget policies, and toil reduction strategies.

DevOps Engineer <i>May 2022 – Oct 2023</i>	<i>Blocs & Compagnie, Paris</i>
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- **Observability:** Built a comprehensive platform using the LGTM stack (Loki, Grafana, Tempo, Mimir/Prometheus) to improve system visibility.
- **Security:** Implemented HashiCorp Vault for centralized secrets management and secured cryptographic smart contracts for Web3 solutions.
- **Multi-Cloud Kubernetes:** Operated clusters across AWS EKS, Azure AKS, and OVH, managed via automated GitLab CI/CD pipelines.

- **Storage Solutions:** Developed Web3 storage architectures utilizing IPFS and CouchDB.

Kubernetes Expert & Technical Referent

Société Générale, Val de Fontenay

Nov 2021 – May 2022

- Maintained 20+ HA Kubernetes clusters for critical financial services; participated in 24/7 on-call rotations.
- Standardized incident response via detailed runbooks and post-mortem documentation.

Deployment Engineer

Sagemcom, Rueil-Malmaison

Sep 2019 – Aug 2021

- Led the migration of legacy Java applications to containerized microservices (Docker/Kubernetes).
- Designed Helm charts and implemented early GitOps workflows using ArgoCD.
- Managed on-premise infrastructure including VMware vSphere nodes and Rook/Ceph storage.

PERSONAL PROJECTS (HOME LAB)

High-Availability Kubernetes Homelab

- **Virtualization:** Architected a Proxmox VE cluster on physical bare-metal servers.
- **Storage & GitOps:** Implemented Rook/Ceph for distributed storage and managed all resources via ArgoCD pipelines.
- **Networking:** Designed a Zero-Trust network architecture using WireGuard, Netbird, and Tailscale for secure remote access.

TECHNICAL SKILLS

- **Platform Engineering & IdP:** Crossplane (Compositions, Functions, Providers), Flux CD, ArgoCD, Backstage concepts, FinOps.
- **Cloud & Infrastructure:** AWS (EKS), GCP (GKE, Vertex AI), Azure (AKS), OVH, Terraform, Ansible, VMware vSphere, MaaS.
- **Container Orchestration:** Kubernetes (CKA), Docker, Rancher, Helm, Kustomize, Istio, Linkerd.
- **Development:** Python (Kopf, FastAPI), Golang, TypeScript (Next.js), Bash.
- **Observability:** Prometheus, Mimir, Grafana, Loki, OpenTelemetry, AlertManager.
- **Security:** HashiCorp Vault, mTLS, OIDC/OAuth, RBAC, Workload Identity.