Adil MEKTOUB

DevOps Engineer 6 YEARS

SMILING AND HAPPY MORNING
POSITIVE INNOCENCE

 @AdilMektoub
 @Adil Mektoub

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SKILLS

AWS
PYTHON
 ROBOT FRAMEWORK / FLASK
CICD / SECRET SEALED / SOPS / GITHUB ACTION
PROMETHEUS / GRAFANA / ARGO CD / ARGO WORKFLOW
DOCKER / KUBERNETES / MICROSERVICES / SCALABILITY / RESILIENCE
TERRAFORM / TERRAGRUNT / ANSIBLE / IaC / INFRASTRUCTURE AS CODE

PROFESIONNAL EXPERIENCE

DevOps Engineer

VITOL

05/2023   *Biot*

Deployment from scratch Platform E-Mobility Solution developed in **NodeJS** so :
● Implementation of a **Microservices Architecture** for the E-Mobility Solution application (Before Monolithe) :
→ Create **Dockerfile** to containerize the **Microservices** to deploy on **Kubernetes**
● Complete automation of infrastructure and application deployment :
→ Code/Develop **Terraform** Infrastructure as code (IaC) with **Terragrunt** to automate deployment infrastructure in **HA**
and applications with providers hashicorps **AWS** / Modules
● Implement **Operator Kubernetes** in **Ansible** to have a better resilience
● **50% Reduction** in application deployment **Time** using Helm Charts :
→ Create and Code the **Helm Chart** to deploy app in HA on **Kubernetes**
● Improved code quality with the integration of quality tests and static code analysis in the CI/CD Pipeline:
→ Put in place pipeline **CI/CD** with **Argo Workflow** & **ArgoCD** & **Github Action**
→ Create yaml template for the build and the test of new features in **Argo Workflow**
→ Create application file for **ArgoCD** to synchronize the deployment on the clusters
→ **Github Action** to test the quality of the " code static code analysis " and **Integration test**
● Switch from **ECR** to **Github Registry** to centralize in github

● Proactive application performance monitoring using Prometheus and Grafana
→ Deployment of **Prometheus** & **Grafana**,
→ Create Dashboard and code queries for **Metrics**
● Optimizing resources and improving application **Scalability** by using **Auto Scaling** with HPA / Optimization code for web
socket / Replicas / put algorithm on load balancer
● Work closely with development teams to solve performance and scalability problems :
→ **CDN Cloud Front** / **Global Accelerator** / Simulator to simulate + 10 000 charging station / ALB or NLB (depends ip
static or not, etc...) for each services / **K6** to simule in each region the performance and retrieve all metrics in grafana
→ Setup a **Profiler** for nodejs " **Clinic JS** " to optimize the code to have a better performance, Optimize the size of
Docker image

● Implemented a **Resilience** Architecture to have a good SLA
● Implementing a data backup and recovery strategy with **AWS S3**
→ Automated backup and restore of application data
→ **Snapshot /** PVC & PV MongoDB /

● Reduce infrastructure costs by 30% by optimizing resource utilization in Kubernetes
→ **Finops** with spot and optimization cost with manages service of **AWS** (switch from tools consume a lot resource to
manages services)

● **Secure** the solution
→ **Attack DDOS** with annotation ingress (rps) and manage services AWS
→ Secret with **Gihtub secret** / **Sops** and **Sealed Secrets**
→ Optimize the **Security** of docker image to deploy on kubernetes with more security (No Root, Distroless)

PROFESIONNAL EXPERIENCE

● **DevOps Engineer**
SAP

06/2022 – 05/2023   *Mougins, France*

I work on the project **OpenSource** "Open E-Mobility" to MANAGE MILLIONS of charging stations
Deployment from scratch Supervison Platform E-Mobility Solution developed in **NodeJS** so :
● Successfully migrate the applications from ECS Fargate to Kubernetes EKS, resulting in improved scalability and performance

● Reduced the size of Docker images by 30% and implemented security measures such as running containers as non-root users and using distroless images, enhancing the overall security of the deployment

● Implemented Infrastructure as Code (IaC) using Terraform and Terragrunt, automating the deployment of infrastructure and applications in a highly available environment
→ Code/Develop **Terraform** for Infrastructure as code (**IaC**) with **Terragrunt** with **Providers Hashicorps AWS** / Modules

● Developed **Helm Charts** to deploy **Microservices** in a **highly available** configuration on **Kubernetes**, ensuring seamless scalability and fault tolerance

● Implemented CI/CD pipeline using Argo Workflow, ArgoCD, and Github Actions, enabling automated testing, build, and deployment of new features with improved efficiency and reliability
→ Create yaml template for the build and the test of new features in **Argo Workflow**
→ Create application file for **ArgoCD** to synchronize the deployment on the clusters
→ **Github Action** to test the quality of the code " **Static Code Analysis** " and **Integration Test**
→ Managed and maintained the CI/CD pipeline, ensuring smooth integration and deployment of code changes across multiple environments

● Implemented Monitoring and logging solutions using Prometheus and Grafana, providing real-time visibility into the performance and health of the infrastructure
→ Deploy **Prometheus** & **Grafana**, create dashboard and code queries for metrics

● Optimized the deployment process by implementing **Blue-Green** deployments and canary releases, reducing downtime and minimizing the impact of new releases on the production environment "**Canary**"
→ Progressive deployment (weight)

● **Scalability** with HPA / Optimization code for web socket / Replicas / put algorithm on load balancer

● **Resilience** pod on node-group in different region (az) / Replicas / **Snapshot** / PVC & PV for **MongoDB** / Back up / Job / ALB for each services

● Performance with **CDN Cloud Front** / **Global Accelerator** / Simulator to simulate + 10 000 charging station / ALB or NLB (depends ip static or not, etc...) for each services / **K6** to simule in each region the performance and retrieve all Metrics in **Grafana**
→ Setup a **Profiler** for **NodeJS** " Clinic JS " to optimize the code to have a better Performance
→ **Collaborated** with the development team to optimize application performance, **reducing response** time by 40%

● Implement **security best practices**, including vulnerability scanning
→ Put in place **Sonarqube**
→ Scanning vulnerability of containers with Snyke

● Implemented automated scaling of infrastructure based on traffic patterns, resulting in cost savings of 20% on cloud resources "Self Service" **Finops**
→ Spot and Reserved by years
→ Manages service of AWS (switch from tools consume a lot resource to manages services)

● Secure the solution
→ **Attack DDOS** with annotation ingress (rps) and manage services **AWS**
→ Secret with **Gihtub Secret** / **Sealed Secrets** / **Sops** and **Secret Manager** on AWS

● Developed and maintained documentation for infrastructure and deployment processes, facilitating knowledge sharing and onboarding of new team members

● Led the implementation of a disaster recovery plan, ensuring business continuity in case of infrastructure failures

PROFESIONNAL EXPERIENCE

Devops Engineer
AMADEUS

08/2020 – 06/2022   *Sophia Antipolis, France*

- Successfully **Migrated** multiple applications and data to the **Azure Cloud**, resulting in improved scalability and cost efficiency.
- **Automated** deployment of applications on **Kubernetes**, reducing deployment time by 50%.
  Implementation of a monitoring and log management infrastructure, enabling proactive detection of problems and faster resolution
- Working with development teams to optimise application performance and reduce infrastructure costs by 30%.
- Implementation of a data backup and recovery strategy, ensuring continuous availability of services
- Training internal teams in DevOps best practice and cloud technologies, improving their expertise and productivity

Devops Apprenticeship
AMADEUS

09/2018 – 07/2020   *Sophia Antipolis, France*

- Collaborated **PAAS** data-mesh on the cloud, enhancing data accessibility and security.
- Implemented highly available infrastructure using **Kubernetes**, **Terraform**, and **Ansible**, ensuring continuous availability of applications.
- Collaborated with cross-functional teams to integrate BI platforms on the cloud, enabling automatic deployment on both internal **IaaS** and public clouds.

Devops Intern
AMADEUS

01/2018 – 07/2018   *Sophia Antipolis, France*

Collaborated with the team to implement and maintain **OpenStack** and **OpenShift Platforms**, enabling seamless deployment and management of applications. :
Contributed to the continuous integration and continuous deployment (CI/CD) pipeline, streamlining the software development and release process :

● Create a Tool in **Python / Robot Framework** and **Flask** to Automated the testing process for the QA team by developing a Python tool using Robot Framework and Flask, resulting in a significant **reduction in manual effort** and improved efficiency.
● for QA Team to **Automate** the tests with
● Provisioned and managed development, staging, and pre-production environments for the developers, ensuring they had all the necessary packages, languages, and libraries to deploy new features
● Optimized resource utilization in the data center by conducting a comprehensive **inventory** of server topology and updating packages, languages, and libraries using **Ansible Playbook**.

HOBBIES

Sailing: Sailing instructor (student Job) 18 to 21 years old,Laser radial & standard, 420 & 470, Windsurf

Extreme sport: Kite-Surf / Surf

Electric Car

DEGREE & QUALIFICATION

Master's degree Big Data
EPITECH

09/2020 – 07/2022   *Nice, France*
DevOps in Big Data