DETAILS

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GITHUB
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BLOG
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SKILLS

- *Languages*
  - ○ **q/kdb+**
  - ○ **Python**
- *EDA*
  - ○ **Apache Kafka**
- *Cloud Engineering*
  - ○ **AWS**
- *Containerisation*
  - ○ **Docker**
- *Orchestration*
  - ○ **Kubernetes**
  - ○ **Swarm**
  - ○ **EKS**
  - ○ **ECS**
  - ○ **Helm**
- *IaC*
  - ○ **Terraform**
  - ○ **Cloudformation**
- *Configuration Management*
  - ○ **Ansible**
- *CI/CD Pipleines*
  - ○ **Github Actions**
  - ○ **Jenkins**
- *Observability*
  - ○ **Prometheus**
  - ○ **Loki**
  - ○ **Grafana**
  - ○ **AlertManager**
- *Linux*
  - ○ **shell**
  - ○ **awk**
- *Version Control*
  - ○ **Git**
- *Code / Security Scanning*
  - ○ **SonarQube**
  - ○ **Snyk**
  - ○ **Trivvy**
  - ○ **Defender for Cloud**

JAMES DICKSON

DEVOPS ENGINEER

MSci. Physics

PROFILE

A DevOps Engineer with a strong coding background, skilled in architecting and deploying scalable, secure cloud infrastructures. Proven expertise in containerising applications within Kubernetes environments, improving deployment cadence through advanced CI/CD pipelines, and configuring immutable infrastructure using Infrastructure as Code (IaC). I am a well-rounded and professional team player, always striving to build strong relationships with those around me and to make a positive impact within any organisation I work with.

EMPLOYMENT HISTORY

DevOps engineer, MRP
United Kingdom

Oct 2020 — Mar 2024

- Spearheaded the migration from a monolith system to a cloud-native, containerised SaaS platform, driving modernisation efforts to align with industry best practices and enhance scalability and agility.
- Engineered CI/CD pipelines using GitHub Actions for a multi-environment setup, automating build and deployment processes to ensure rapid and reliable delivery of software.
- Implemented Kubernetes for container orchestration, optimising resource utilisation and enabling seamless scaling of applications to meet fluctuating demand.
- Created Helm templates to streamline the deployment of applications to EKS clusters, ensuring consistency and efficiency in the release project.
- Leveraged Terraform and CloudFormation to design and provision infrastructure as code, enabling the creation of immutable infrastructure and safer deployment processes.
- Established a comprehensive monitoring solution utilising Prometheus, Loki, and Grafana stack, providing real-time visibility into system performance and reliability.
- Ensured secure credential management using Secrets Manager, maintaining compliance with security best practices and regulatory requirements.
- Integrated a variety of SAST, SCA and DAST security scanning tools into CI/CD pipelines. implementing a shift-left approach to identify and remediate code quality issues early whilst also reducing potential risks associated with third-party dependences.
- Managed and maintained self-managed Kafka clusters, facilitating scalable and reliable event streaming solutions to accommodate high volumes of data, with throughput reaching tens of millions of events to support critical business operations and extensive data processing requirements.
- Enhanced web-scraping efficiency by integrating Scrapy with Kafka, resulting in a ten-fold increase in data throughput and processing capabilities.
- Developed a custom microservice to ingest web traffic hits from a CloudFront application, leveraging serverless architecture with AWS Lambda, enabling real-time data processing and analysis.

Senior q/kdb+ engineer, FD Technologies
United Kingdom

Aug 2019 — Oct 2020

- Lead developer in the migration towards containerisation for a Tier one Investment bank.

- Spearheaded the modernisation of legacy infrastructure by implementing a next-generation kdb +/Kafka trading platform in the North American region, delivering heightened scalability, flexibility, and performance.
- Transformed traditional tickerplant components into a Kafka cluster, facilitating the retrieval of offsets and data by RDBs and other subscribers upon startup, thus enabling horizontal scalability and independent subscriber placement on separate hosts.
- Ensured compliance with a latency Service Level Agreement (SLA) of within 1 second. Upon completion, the platform processed nearly 2 billion orders daily, offering low latency and high-performance access to sales and trading activity.
- Orchestrated the migration of q processes responsible for transforming FIX order messages into q binary format to a hybrid cloud platform, enabling horizontal scalability and elasticity.
- Implemented parser processes deployed to isolated spot servers across multiple data centres, automatically spawning additional instances during high-volume trading periods to meet latency SLAs, such as market open and close.

q/kdb+ engineer, FD Technologies, Centre of Excellence

United Kingdom

Nov 2015 — Aug 2019

- Served as a kdb+ developer in an offshore centre of excellence for the Fixed Income Division of a Tier 1 Investment Bank.
- Developed, tested, and deployed new client request functionality for FX and FX Options plants, collaborating with desk quants to maintain Fixed Income kdb+ analytic libraries and stored procedures.
- Provided on-call support for production issues, ensuring prompt resolution and minimal disruption to operations.
- Acted as a matrix manager, liaising with five internal teams to oversee on-the-ground activities including workspace professionalism, conducting 1-1 colleague engagements, and managing monthly timesheets.

EDUCATION

MSci. Physics , First Class Honours (1:1)

Queen's University Belfast

Sep 2011 — Jul 2015

- Completed a broad range of modules including Quantum Mechanics, Astrophysics, General Relativity, Atomic and Condensed Matter Physics, Solid State Physics, Electromagnetism, Nuclear and Fundamental Physics and Biological physics.

Certified Machine Learning Engineer, Udacity Mar 2018 — Jan 2019

Cloud DevOps Engineer, Udacity July 2020 — Dec 2020

OPEN-SOURCE PROJECTS

Kafka Scrapy Connect, PyPi

- A custom library that integrates Scrapy with Kafka to improve broad crawl throughput - https://pypi.org/project/kafka-scrapy-connect/

Kafka KRaft, GitHub Action

- Builds a lightweight kafka cluster for seamless integration testing in CI/CD pipelines - https://github.com/marketplace/actions/kafka-kraft

References available upon request.