



Bart Parka

Platform Engineer | Cloud Architect

Experienced technical leader and certified AWS architect, specialised in establishing CI/CD and DevOps capability as well as design & management of complex hybrid cloud and multi-cloud environments

bartparka.com

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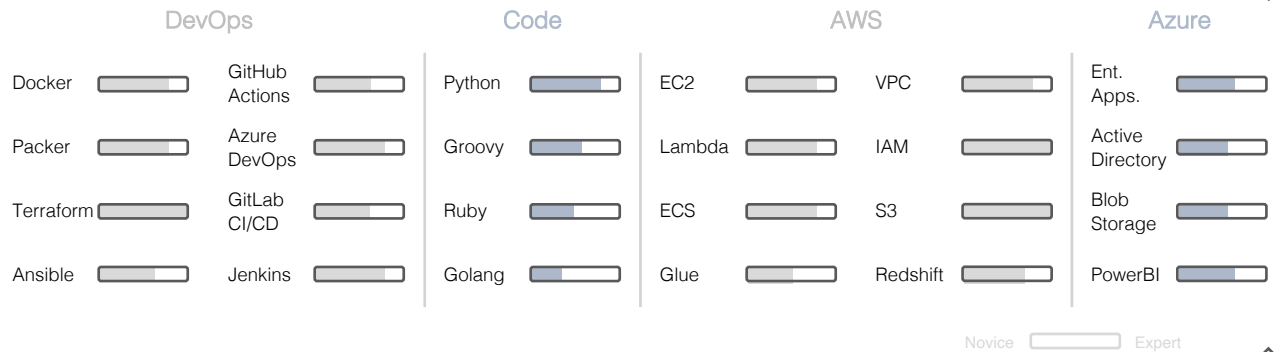
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Skills



Experience



IBM

Oct. 2016 – Present

UK Health Security Agency

Nov. 2021 – Present

DEVOPS LEAD

Enterprise Data Analytics Platform - transforming existing analytics capability and supporting UK's health protection agenda

Designed and implemented:

- **Terraform** development best practices with **remote state storage** in S3, state locking in DynamoDB and modular code, with all items described below delivered with repeatable Infrastructure as Code (IaC) in Terraform
- Networking design including VPC, private, public, transit gateway subnets for **secure hosting** of the data analytics platform
- Secure user authentication pattern leveraging **Azure AD** federated users, AWS SSO and AWS STS Assume Role chaining
- Secure dashboard development with **Power BI Desktop** streaming solution using **AppStream 2.0** and **Amazon Redshift**
- Integration of **Power BI Service** and Amazon Redshift using on-premises gateways deployed in **auto scaling groups** (ASG)
- Authentication to web-applications running in AWS via **Azure MyApps** portal leveraging **Application Proxies** deployed in ASG
- Data Science environments in **AWS SageMaker** Notebook Instances integrated with Glue Catalog through interactive sessions
- Suite of Azure DevOps (ADO) Pipelines for secure deployments into AWS, with ADO agents running on EC2 instances in ASG
- **Integration between GitHub** (both GHE and github.com) repositories and **Azure DevOps** for pipeline/build triggers
- **Centralised common pipeline templates** to prevent proliferation of yml code across project repositories
- Build pipelines for Terraform **deployments and promotion** through Dev, Integration, Preprod and Production environments, featuring template scanning using **Checkov** with both test results and Terraform plan rendered in ADO user interface for review
- Build pipelines for Container Images for **Lambda functions, Fargate and EKS clusters**. Upon a pull-request being opened in GitHub (GH), automated tests are executed on the image and checks reported back to GH. Once merged, the pipeline tags the image and pushes to **ECR while also creating the respective tag and release in GH**
- Secure SFTP solution using **AWS Transfer Family**, Network Load Balancer and NACLs
- Design and implementation of several **Python** scripts for Lambdas, **Glue Jobs** and container workloads using libraries such as AWS SDK (Boto3), Moto, Azure SDK.

Other responsibilities:

- **Technical leadership** of the development and platform teams across two work streams (~20 developers/engineers)
- Leading the **successful migration** of the existing COVID MI data platform from 3rd party supplier to agency ownership

Real Time Test Service - implementation of platform for processing all COVID-19 test results for onward contact tracing

- Led migration of the Private Test Validation (PTV) solution from 3rd party (**Node.js** and **AWS CDK**, API Gateway, DynamoDB)
- Extended API test-suite using **Postman** and integrated into CI/CD using **Newman**

Social Security Scotland - delivering social security benefit platforms through enterprise user-centered design and agile delivery

Designed and implemented:

- **Shared services AWS infrastructure** spanning **70+ AWS accounts** across Dev, Test, Pre-prod, Prod, and Common stages
- Repeatable **Infrastructure as Code (IaC)** in Terraform for 'bootstrapping' of new accounts including: VPCs, subnets, route tables, AWS Route 53 zones and AWS Transit Gateway for **hub and spoke network topology**
- Containerised GitLab architecture for source code management using AWS ECS, RDS and EC2
- Containerised and distributed Jenkins architecture with Jenkins agents across 40+ AWS accounts
- Suite of fully **automated CI/CD pipelines** on Jenkins for Docker Image builds, AMI (Amazon Machine Image) builds and release management using Packer, Ansible and Inspec for **automated compliance testing**
- IaC approach to **creating AWS Managed Active Directory resources securely** using WinRM, Kerberos and Python libraries
- Availability zone **failover architecture** for stateful Jenkins instances using AWS EBS, DLM (for snapshotting), and ASG
- AWS client **VPN endpoint solution integrated with multi-factor authentication** service (privacyIDEA) and Active Directory and mutual authentication (via AWS Certificate Manager)
- **Disaster recovery strategy leveraging multi-region replication and offsite back-up** of key services and data
- Plug-and-play containerised development environment leading to **drastically reduced engineer onboarding time**
- **Ansible roles** for configuration of '**foundation services**' including bastions, proxies, MFA service, web application firewalls, anti-virus scanning (Trend Micro) and vulnerability scanning (Tenable/Nessus)
- **Serverless workflows** using AWS Lambda, AWS Step Functions, Python and Boto3.

Other responsibilities:

- **Leadership of Platform Team** (~6 engineers)
- Authored a **DevSecOps roadmap** outlining how to closely integrate security into CI/CD pipelines, further align the platform to the **Security Pillar** of the **AWS Well-architected framework** and implement cultural changes that **conquer silo mentality**
- Established **Scrum principles and practices**

British Petroleum

Jan. 2017 - May 2018

| CONTRACTING LEAD

- Working on the BP account **leading a team** (~9 staff) coordinating contracts and commercials
- Prepared rate cards, pricing contracts, collated quarterly account results and presented these to senior stakeholders
- Led a back-office **automation initiative** using WinAutomation and Python libraries
- Developed **analytical tools** for account commercial performance monitoring using Python Pandas library

Education

University of Durham

2012 - 2016 | MPhys (Master of Physics) Degree

- **First Class Honours** | Thesis title:

"Re-claiming the third dimension for 2D materials: Developing simple approaches for the creation of heterostructures"

Honors & Awards

- **Client and Partner Success Award**
2022 | Quarterly cash award from IBM in recognition of my huge impact on the UKHSA Data Platform (EDAP) project
- **[MCA Social Value Finalists \(Highly Commended\)](#)**
2022 | Industry award for the IBM & HSA teams for the implementation of the Real Time Test Service in response to pandemic
- **[MCA Change and Transformation in the Public Sector Finalists](#)**
2022 | Industry award for the IBM & Scottish Government's continued work on delivering benefit services and strategic platforms
- **[MCA Change and Transformation in the Public Sector Winners](#)**
2020 | Industry award for the IBM & Scottish Government teams who delivered the Social Security Scotland platform
- **Special Equity Award**
2020 | Global IBM award for strong performance, skills and leadership demonstrated by me this year

Certifications

- **AWS** | Certified Solutions Architect Associate

Dec. 2020 – Dec. 2023

28/01/2023



References

Available upon request.

