**Candidate Representation Pack**



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| **Candidate Name:** | Bonamy Klu | |
| **Position Applying For:** | AWS Cloud Engineer | |
| **Interview Availability:** | | 24-hour notice |
| **Notice Period:** | | Immediately Available |
| **Status:** | | British |
| **Location** | | London |

# Bonamy Klu

I’m a passionate, energetic and multi-disciplined, DevOps Engineer. I have over 17 years experience in DevOps and software engineering using a variety of technologies, spanning several industries. This frequently enables me to add advanced technical expertise, momentum and experience to projects I'm involved in.

With commercial experience in infrastructure engineering and software engineering, I streamline and fuse the team's interactions together. This results in applications with increased performance & deployability as well as pipelines & environments that actually add value to the software development cycle.

I’m a team motivator, an evangelist of technology and best practices that automate operations, optimise processes and ensure commercial quality. As a result I am currently specialising in:

* “Boringly-stable-production-deployment”, continuous delivery pipelines
* [Kubernetes](https://kubernetes.io/) & [Docker](https://www.docker.com/)
* Platform transformations and cloud migrations
* Infrastructure testing with [Inspec](https://community.chef.io/products/chef-inspec/) & [Terraform Compliance](https://terraform-compliance.com/)
* Automated, security-focused, infrastructure development
* Continuous Integration & Delivery Systems
* BDD testing with custom Selenium Grid integration
* Complex Symfony/NodeJS/Java application deployments
* Technical consultancy and training

I’m well-spoken, self-disciplined and patient. Traits that have helped me throughout my career, whether it comes to communicating with non-technical individuals or managing projects from conception to delivery in an orderly and timely fashion.

Dedicated and reliable, I understand that sometimes early mornings and late nights are what it takes to deliver a product on time. I’ve never been comfortable with complacency and I continually strive to review myself as an individual and as part of a team to understand what could be done better next time. I am stimulated by new technologies and constantly keep myself updated by attending industry conferences of different natures ranging from DevOps to software engineering. For more information about my work, please [visit my](http://www.bonamyklu.com/portfolio) [online portfolio](http://www.bonamyklu.com/portfolio).

# Previous Employment

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| **Company:** | | [Babylon Health](https://www.babylonhealth.com/en-gb) |
| **Role:** |  | Cloud Platform Engineer (contract) |
| **Dates:**  **Duties:** |  | 03/21 - present |
|  | ● | Launched the Deep Media Archive (DMA) service. A security-first, multi-region, video and audio archiving service used to store recordings of online consultations between doctors and their patients. This included:  ○ Building an AWS Lambda based platform. All infrastructure was implemented via modularised Terraform to ensure the project was fully [IaC](https://developer.hashicorp.com/terraform/tutorials/aws-get-started/infrastructure-as-code) compliant.  ○ Deploying infrastructure via CI/CD pipelines with automated testing via [Terraform](https://terraform-compliance.com/) |

[Compliance](https://terraform-compliance.com/) and [Checkov](https://www.checkov.io/)

○ Creating and contributing towards extending the existing in-house Terraform modules

○ Consulting on behalf of Babylon Health in various meetings with 3rd party service vendors

○ Creating clear and comprehensive documentation for both the Product

Engineering Document (PED), used for InfoSec signoff, and the Confluence Wiki, used as part of the handover process.

**Company:** [Lifeworks](https://www.lifeworks.com/)

**Role:** Cloud Platform Engineer (contract)

**Dates:** 04/20 - 03/21

**Duties:**

* Complete rewrite of the Terraform used for platform infrastructure, so that it became:
  1. Testable (using [Terraform Compliance](https://terraform-compliance.com/) both locally and during Pull Requests)

○ Reusable

○ Compliant with inhouse security and governance requirements

○ Deployable via Continuous Delivery pipelines

* Implemented Continuous Delivery and a local development environment for a large Java, [Bloomreach Experience Manager](https://www.bloomreach.com/en/products/experience-manager) project so that it:
  1. Became containerised using Docker

○ Had a single-command, local-environment-setup, as consistent as possible with the production environment

○ Had automated [Inspec](https://community.chef.io/products/chef-inspec/) tests that ran both locally and during pull requests

○ Ran in an AWS ECS cluster, deployed using reusable Terraform modules and the Continuous Delivery system

* Providing technical leadership on several projects including the hosting of meetings and presentations to upskill the team

**Company:** [Arts Alliance Media](https://www.artsalliancemedia.com/)

**Role:** Devops Engineer (contract)

**Dates:** 06/19 - 03/20

**Duties:**

* Platform transformation for the company’s flagship products in the cinema industry. This involved migrating the existing microservices platform from AWS ECS to a more security focused and hardened Kubernetes based platform (AWS EKS).

Microservices were deployed using CI/CD via Jenkins and Kustomize.

* AWS account consolidation for both cost and management optimisation. Automation of account provisioning was achieved via terraform and ansible
* Terraform upgrades and refactoring to use official Hashicorp approved modules
* Introducing infrastructure testing to the platform using Inspec

**Company:** [Pearson PLC](https://kubernetes.io/case-studies/pearson/)

**Role:** Cloud Platform Engineer (contract)

**Dates:** 03/17 - 03/19

**Duties:**

* Creation of Continuous Delivery pipelines for the Docker images used by the Pearson ‘Bitesize’ Kubernetes platform. This automated the transport of images from developers local environments to the AWS ECR via quality control gates including automated tests and vulnerability scans. Tools included Github, TravisCI, Inspec tests & Twistlock security scans.
* Working closely with the SecOps team, using agile methodologies, to deliver new, testable, scalable and secure features for the ‘Bitesize’ Kubernetes platform. A variety of technologies were used including Terraform, Ansible and AWS
* Collaborating with Lead engineers to design and implement workflows that standardise and optimise the development workflows of various teams
* Migrations from inhouse Kubernetes addons to testable Kubernetes Helm Charts using

Minikube, Inspec tests and TravisCI

* Complete migration of all inhouse ‘Bitesize’ Kubernetes platform Docker images from Dockerhub to AWS ECR.
* Refactoring of all inhouse ‘Bitesize’ Kubernetes platform images to migrate them from various operating systems to one common OS

**Company:** [J Sainsburys PLC](https://www.sainsburys.co.uk/)

**Role:** DevOps Engineer (contract)

**Dates:** 07/15 - 03/17

**Duties:**

* Developing secure, highly-available, scalable, disaster-recoverable environments for critical applications
* Implementing and maintaining, continuous delivery pipelines to test and build the applications through the environments from vagrant to production
* Creating and evolving the vagrant environments used by the software engineers to develop the applications
* Implementing performance & error monitoring for the platforms and providing 3rd line support
* Architecting for projects during their conceptional phase
* Attending meetings with 3rd parties as a DevOps consultant on behalf of J Sainsburys PLC ● Applying cost-optimisation practices where possible
* Projects included:
  1. [Christmas Food Ordering 2016](http://www.bonamyklu.com/portfolio/sainsburys-xmas-food-ordering-pt50) (Lead DevOps Engineer)

○ [Storelocator V2](http://www.bonamyklu.com/portfolio/sainsburys-store-locator-v2-pt51) (Lead DevOps Engineer)

○ [Sainsburys Local Charity](http://www.bonamyklu.com/portfolio/sainsburys-local-charity-pt52) (Lead DevOps Engineer)

○ Olympus (Lead DevOps Engineer)

○ Christmas Food Ordering 2015 (DevOps Engineer)

**Sample Project:**

[Christmas Food Ordering 2016](http://www.bonamyklu.com/portfolio/sainsburys-xmas-food-ordering-pt50)

This bespoke e-commerce application is used for the sale of specialty Christmas food products. It allows customers nationwide to pre-order their Christmas dinner, define a collection time, pay a deposit online and collect from their chosen store up to 3 days before Christmas day.

This high demand, critical service, generates several million pounds of additional revenue for the business during this important time of year.

**Key Points:**

* **Lead DevOps Engineer** on the project
* Architected and implemented the whole platform for all environments with a **comprehensive infrastructure-as-code approach** using Ansible, Cloudformation and Vagrant
* **Security remained a primary focus.**
  1. Platform security was tested and passed by an independant Penetration Testing company

○ All data transferred between the client’s browser and application servers was encrypted using a CA-signed, SHA-256 with RSA Encryption, SSL certificate

○ All environments contained within separate private VPC’s

○ Data-sensitive nodes like PostgreSQL RDS, Redis Elasticache and EC2 webservers were contained within private subnets

○ Database instances and snapshots were encrypted at rest

○ Non-production environment domains were IP restricted

○ DDOS, XSS, SQL Injection and other attack prevention was implemented at the infrastructure level using the AWS Web Application Firewall (WAF)

○ AWS console login enforced 2-factor authentication

* **Scalable and robust performance** was sustained at peak times by reacting to feedback from rigorous load testing before go-live. This allowed for meaningful auto-scaling thresholds and advanced database query optimisations that enabled the application to support over 2500 unique users an hour with zero downtime comfortably
* **Full platform and application monitoring** was implemented using AWS Cloudwatch, AWS SNS (Simple Notification Service) and [AppDynamics](https://www.appdynamics.co.uk/) software. This enabled automated text messages to be sent to the mobile phones of the development team when conservative, predefined thresholds for key metrics were exceeded in the production environment. This allowed us to rapidly (and discreetly) respond to potential events before the situation became significant enough for the official Support team or business to be involved. This internal self-support approach contributed to the project being incident-free and PR-nightmare-free. Thus giving the business immense confidence in the platform and the team
* **Disaster recovery** measures were put in place including:
  1. Multi availability zone database replication

○ Automated backups of key services like the PostgreSQL database and [GOCD](https://www.gocd.io/) server

○ Full infrastructure-as-code approach allows for quick and precise redeployments of platform components if ever needed

* Implemented a **continuous delivery pipeline** with continuous deployments to QA environment and push-the-button deployments to Stage and Production using [GOCD](https://www.gocd.io/).

This allowed even Product Owners and Project managers to trigger production builds. ● For more information and visuals please [visit my portfolio](http://www.bonamyklu.com/portfolio/sainsburys-xmas-food-ordering-pt50).

**Company:** World Stores

**Role:** DevOps Engineer (contract)

**Dates:** 04/15 - 06/15

**Duties:**

* Technical leadership and implementation of best practices for the Logistics Engine project and future projects
* Best practices included:
  1. Vagrant environments (using Puppet)

○ Behaviour Driven Development (BDD) using the Behat Framework

○ Continuous Integration using Jenkins

* Tutoring and mentoring developers
* Technical presentations & consultancy

**Company:** TimeOut Group

**Role:** DevOps Engineer (contract)

**Dates:** 06/14 - 03/15

**Duties:**

* Taking ownership of key projects including the architecture, implementation and maintenance
* Projects included:
  1. [Continuous Delivery optimisation](http://www.bonamyklu.com/portfolio/timeout-continuous-delivery-improvements-pt47)

○ [Vagrant environments (using Ansible) for the platforms applications](http://www.bonamyklu.com/portfolio/timeout-vagrant-environment-setup-pt45)

○ [BDD & Continuous Integration platform with in-house Selenium grid](http://www.bonamyklu.com/portfolio/timeout-bdd-platform-pt46)

* Training the department on how to use the new systems via rich documentation and one-to-one support
* Implementing new features with comprehensive automated tests on the flagship Symfony 2 applications
* Tutoring and mentoring both back and frontend developers
* Technical consultancy

**Sample Project:**

[Continuous Delivery optimisation](http://www.bonamyklu.com/portfolio/timeout-continuous-delivery-improvements-pt47). For more info and visuals, please [visit my portfolio](http://www.bonamyklu.com/portfolio/cyber-chef-menu-builder-pt32/).

**Company:** Virgin Media Inc

**Role:** Senior Software Engineer

**Dates:** 04/13 - 06/14

**Duties:**

* Technical leadership including introduction of new technologies and practices
* Developing new, testable, object-oriented applications with Symfony2 in a full LAMP environment
* Developing Chef cookbooks for provisioning Vagrant and other environments
* Refactoring existing applications to increase performance, testability & deployability ● Tutoring and mentoring both back and frontend developers

**Sample Project:**

[TV Anywhere](http://www.bonamyklu.com/portfolio/virgin-media-tv-anywhere-pt41)

* This web application is used by Virgin Media customers to remotely access TV content provided by Virgin Media on devices like laptops and tablets. Customers can stream up to 91 live channels as well as over 2500 hours of TV On Demand using this service. This high traffic application uses a combination of local data storage and heavy consumption of 3rd party JSON/XML RESTful API’S. For more info and visuals, please [visit my portfolio](http://www.bonamyklu.com/portfolio/virgin-media-tv-anywhere-pt41/).

**Company:** Tangent Labs

**Role:** LAMP Developer

**Dates:** 02/10 - 04/13

**Sample Project:** [Cyber Chef Menu Builder](http://www.bonamyklu.com/portfolio/cyber-chef-menu-builder-pt32). For more info and visuals, please [visit my portfolio](http://www.bonamyklu.com/portfolio/cyber-chef-menu-builder-pt32/).

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| **Company:** | Marketing Matters |
| **Role:** | Senior Web Developer |
| **Dates:** | 04/09 – 02/10 |
| **Company:** | RLA Group |
| **Role:** | Senior Digital Media Developer |
| **Dates:** | 08/05 – 04/09 |

# Commercial Experience With Technologies

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| --- | --- | --- | --- |
| **Container Scheduling** | **Infrastructure As Code** | **Web Servers** | **Operating Systems** |
| Kubernetes | Terraform/Terragrunt | NGINX | Alpine Linux |
| AWS ECS | AWS Cloudformation | Apache | Ubuntu/Debian |
| **Scaling** | Ansible | NodeJS | CentOS |
| AWS ASG | Puppet | **VCS** | Amazon Linux 2 |
| AWS ELB | CHEF & Berkshelf | GIT | **File Storage** |
| AWS EC2 | **Continuous Delivery Software** | SVN | AWS S3 |
| **Security** | Github Actions | **CDN** | **Machine Imaging** |
| AWS WAF | Jenkins | AWS Cloudfront | AWS AMI |
| Twistlock CI | GOCD | **Automated Testing** | Packer |
| **Monitoring & Alerting** | Travis CI | Inspec | **Caching** |
| AWS Cloudwatch | **Databases** | BDD Testing | Redis/AWS Elasticache |
| AWS SNS | PostgreSQL/AWS RDS | Selenium Grid | Memcache/AWS  Elasticache |
| AWS SES | MySQL/AWS RDS | Unit Testing | **Application Deployment** |
| AppDynamics | **Local Dev**  **Environments** | **Scripting Languages** | Symfony & PHP Apps |
| ELK Stack | Minikube | Bash | NodeJS Apps |
| **DNS** | Docker | PHP | Python Apps |
| AWS Route 53 | Vagrant | Python | **Microservice Architectures** |
| AWS Route 53 Resolver |  |  | Containers |
|  |  |  | AWS Lambda |

# Education

**Qualification:** Computer Science BSc Hons (2:1 class)

**Institution:** University of Essex, Wivenhoe Park, Colchester CO4 3SQ

**Dates:** 09/01 – 06/04

**Qualification:** A-level Physics, Maths & History. 10 GCSE’s grade A-B

**Institution:** Cheam High School, Chatsworth Rd, Cheam, Surrey, SM3 8PW

**Dates:** 09/93 – 06/01

# Referees

Available on request.