

# David Kerr

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I am a capable Linux engineer who has experience from the UK dairy industry, to American fantasy sports and onto IT outsourcing, banking and the public sector. The work that I have been involved with since 2011 has been focused on delivering automation via modern tools that form part of the DevOps toolchain. I enjoy working closely with developers to deliver fast, repeatable and reliable software. My current area of interest remains on cloud computing but very much focused on containerisation.

I really enjoy working with containers and see a bright future for them, I've spent time in my last two roles deploying applications within container scheduling platforms (kubernetes/ecs). It's really changed how I think about designing and deploying modern systems. It's the future toolchain I want to pursue working in.

## Skills

Configuration management	3 years Puppet, 3 year Ansible
Cloud hosting	5+ years AWS, 6 months Azure, experimented with the Google cloud during a kubernetes course and side project.
Container technologies	2+ years Docker, currently using Kubernetes and Openshift
Linux OS experience	8+ years Debian/Ubuntu, Centos/RHEL 6/7. Keen interest in CoreOS/Container Linux and Alpine Linux.
DevOps toolset	Github, bitbucket, gitlab, jira, slack, mattermost, hipchat, sparkleformation, jenkins, docker and others
Software skills	Bash, Ruby and Python

## Experience

April 2019 - Present

### People's Postcode Lottery - DevOps Engineer

People's Postcode Lottery are migrating to AWS from their on premise data centers across Europe. As part of this work they are lifting and shifting legacy applications while also rebuilding them to make them cloud native. Alongside that work new support infrastructure is being put into AWS to replace on premise resources which all projects on AWS will use. My time here has been spent assisting them by setting up shared resources that multiple teams will consume with a focus on reliability and security. A key part of the role has been to feed back to the team's my experience and pass on knowledge by doing presentations as new infrastructure is deployed.

November 2017 - April 2019

### **Registers of Scotland – DevOps Build Automation Engineer**

Registers of Scotland are currently embarking on an ambitious digital transformation journey. My part on this journey so far has consisted of 2 stages. When I joined the organisation I went into their Phoenix team who was in the process of deploying Openshift, a platform as a service tool built on top of Kubernetes. This was deployed to their on premise VMware infrastructure and enabled developers a framework for moving their applications onto a container scheduling platform with all the tooling it came along with, for example a strong build pipeline system, improved identity management, multi tenancy support and more.

The 2nd stage of my work took me onto their new cloud working group team. Our job was to investigate our options when it came to considering a move to a public cloud provider when the VMware infrastructure came to its end of life usefulness. We undertook an evaluation of several providers before settling on AWS as our main focus although a multi-cloud solution always looked likely. With this in mind we began implementing the necessary resources that would allow us to provide the organisation with a system that would allow teams within the organisation to create their own AWS accounts and user rights while still be tied to a central organisation structure for security, logging, billing and centralised shared resources. At the time of writing this work continues.

January 2017 - November 2017

### **Tesco Bank, Edinburgh – Technical Cloud Engineer**

At Tesco Bank working on the team at the heart of their cloud migration I have worked on most of the on going cloud projects. Bringing my experience with AWS and complex designs on the cloud quickly to projects when required has been invaluable. The two major projects I have spent most of my time working on has seen me work directly with the project managers, developers, external contractors and architects to advise on existing designs, suggesting improvements where possible to make them more cloud native one day to actually building and deploying them with Ansible the next day.

My first project saw me working on deploying a IBM data governance application. This project was challenging mostly due to resource constraints and strict time restrictions. I was able to keep up with the project plan, delivering the required resources while also being able to heavily contribute and refactor the existing Ansible code to ensure the project could grow with as little code debt as possible.

My second project has been by far the more challenging one. I was put onto a project late into it where the team had grown frustrated with the direction the cloud services team had taken on the project. While managing day to day tasks I proposed a radical rewrite of what Ansible code was already written. This would cost us time in the short term but would ensure that when the project

reached the critical stages the cloud services team would be able to really deliver on time without any further issues. This required taking a grip of the cloud team project resources and enforcing better behaviour including a more reasoned approach to git branching and code reviews and a focus on improving code quality and standards across the board.

June 2016 - January 2017

### **CGI - Open Digital Services Center (ODSC), Glasgow - Senior DevOps Engineer**

During my time at CGI I settled into the senior DevOps role by mentoring junior team members, driving up standards around our configuration management tools, began working on a customer project alone and began to define the roadmap for improving the current state of code deployments, operational security and generally improving processes. I made an immediate impact on a team where the majority of staff are of a more junior experience. Having impressed since my arrival I was offered the role of DevOps technical lead which would extend my role to overseeing all internal DevOps software projects as well as undertake line management roles and increase my exposure to upper management and the direction the team takes.

Whilst employed with CGI we deployed all of our code where possible via Docker. This was a great opportunity for me to take my experience with Docker from using it for personal projects to actual real world deployments. CGI were using Docker before I arrived but I brought with me my docker-compose experience. From here at CGI we were able to combine Docker, docker-compose and systemd into a repeatable reliable deployment platform. We always knew kubernetes was our end goal but in the meantime this worked as an excellent stop gap.

It was this period as well when I began examining the new security implications containers brought. I began looking heavily into container os and host minimisation and vulnerability scanning using the coreos/clair tool. I was able to demonstrate how we could shrink our images, run them as limited users thus minimizing risks should someone escape the container and how we could gain insight into what vulnerabilities we had. I believe these foundations will serve the ODSC and their clients well for years to come.

January 2013 - June 2016

### **FanDuel, Edinburgh/Glasgow - DevOps Engineer**

My time at FanDuel saw me working in a very forward thinking team where we assisted in delivering new software and technologies alongside a number of software teams at an incredible pace. This team delivered fast, reliable results by allowing the individual members of it to express their own styles and interests while still maintaining the team ethos. As part of that team I grew immensely by learning a huge amount due to the frequent rapid exposure to new technologies. In a fast following hyper growth company working on the AWS cloud I have had to take on new challenges weekly and for it I become a far better engineer for it.

As part of the DevOps team at FanDuel it felt as if we did everything. We were deeply involved in multiple continuous delivery and integration projects and we were expected to always keep progressing the toolchain that our developers relied on. By far the best piece of work I was on was on scaling our user authentication system. On the run up to the NFL season which was our

busiest time it was identified that the current system would not be able to cope with the increase in users that was coming our way. With limited time and a total rewrite of the system off the table we had to think quickly. I embraced the technologies on offer and we entered a period of rapid architectural transformation. We evolved the platform and eventually settled on using the elasticache service on offer from AWS. Along with this and a proxy tool for redis that I suggested we introduce we were able to meet the demands of the NFL season for 2 years back to back.

October 2011 - December 2013

### **IceRobotics, South Queensferry – Systems Support Engineer**

Within IceRobotics my primary duties were split between customer/colleague support and software deployment to our Linux (Debian) servers based across multiple countries. My customer support role covered issues that can vary greatly and range from simple administrative issues to complex server configuration and software issues. Alongside providing a front line support role I was also responsible for working with an external developer. I handled the software hand over from developer to operations. Once I received the software I oversaw the deployment to all of our remote servers after passing the test deployment criteria.

It was at IceRobotics that I embraced DevOps before I knew it was DevOps. I saw a real issue where we couldn't deliver new software easily. There was no easy way to track what servers were where and how they were configured. I introduced Puppet/Foreman and package management to the company. This allowed us to package up our software, place it on our package repository and control the release of it via Puppet to different classes of servers when we deemed the time was right. I was overhauled their pxe boot setup and removed hours of manual work every week. Previously where a server would be built and then configured all by hand it was then done by puppet by joining up the new Foreman server to the existing pxe boot process. For a small company with incredibly limited manpower this was huge and set me on the path a remain on to this day.

September 2010 - October 2011

### **CS Robertson Packaging, East Kilbride – Systems Support Engineer**

My position within CS Robertson Packaging Ltd was to drive the company's e-commerce website forward, gaining new customers, adding new features, dealing with an array of issues as they arose as well as plan for the future of the website. I introduced the xcart platform they still use to this day and designed the first version of their website.

I also dealt with any day to day I.T. issues that arose within both of the company's offices , involving diagnosing problems, building and repairing pc's, working with contractors and advising on procurement.

## **Education**

2008 - 2010

### **University of Strathclyde, Glasgow – Bachelors Degree in Computer Science**

2007 - 2008

## Central College of Commerce, Glasgow – HND Software Development

2006 - 2007

## Forth Valley College, Falkirk – HNC Computing

### Additional Training

- Attended OpenShift Enterprise Administration course
- Attended puppet practitioner course, attended PuppetConf
- Undertaking courses on Udemy on Ansible, CoreOS, Kubernetes, Google Go and serverless architectures
- Completed Placement through the Step Initiative  
Business Gateway Workshop in Search Engine Optimisation Techniques and SEO Friendly Website Design
- Business Gateway Workshop in Entry Level Marketing
- Business Gateway Workshop in Using Youtube for Business
- Search Engine Optimisation Conference at City of Glasgow College

### References

#### Primary Reference

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Architect at Registers of  
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### Awards and personal interests

- I am currently assisting a few friends on a project heavily based around Docker when time permits. I like the tool enough that I have found it bleeding into my personal time quite heavily.
- Awarded Duke of Edinburgh Bronze, Silver and Gold awards
- I love keeping up to date with science, technology and politics via podcasts and long form articles which I consume tens of hours each week.
- I have for many years and still do enjoying build computers and playing with actual hardware. It's still a huge interest of mine even as everything goes to the cloud.