

# BRETT MACK

## Security Conscious Senior DevOps Consultant

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## PROFILE

Starting my career as a developer, I spent my first few years developing websites, initially in ASP before then moving to PHP. I then moved into Linux sysadmin due to feeling some of the frustrations that DevOps practices and methodologies now address. It's the memories that I still have from those early years that push me to try harder, automate what can be automated, and develop tools or put in place procedures to make both developers and ops lives a little easier and enable them to work together more closely. I love that DevOps allows me to sit somewhere between these two disciplines and it's the enjoyment of both that has me continuously trying to broaden my knowledge of both, and recently I have found InfoSec allows me to do that. Throughout my career I have been fortunate enough to have some amazing mentors that have really shaped me, and it is for this reason I am a big proponent of knowledge sharing and will always try to make time for someone more junior that wants to learn.

## EXPERIENCE

### Senior DevOps Consultant

#### Contino

📅 June 2017 – Ongoing

Contino are a DevOps consultancy specialising in digital transformation for enterprise clients. The types of engagement I have been involved in here fall roughly into 3 categories.

- Perform company assessments. As part of a two person team we would analyze a company's current DevOps practices or their current abilities to implement DevOps practices and provide guidance as to how best to achieve their desired state.
- Design cloud migrations. Working directly with large enterprise clients, gathering requirements before designing, and then proposing, a cloud architecture that would meet their needs, implement a level of security that would get sign off from security teams and all while minimizing potential costs.
- Implement cloud migrations. This could really vary but almost constant between engagements would be infrastructure provisioning with Terraform, configuration management with ansible, and the general roadblocks that come with working with enterprises, requiring quick thinking or *creative* networking to minimize impact to the project while the blocker was cleared.

AWS   Report Creation   Vault   Terraform   Jenkins   Groovy   Golang   Consul  
Active Directory   Ansible   Docker   Kubernetes   CI / CD

### DevOps Consultant

#### OpenCredo

📅 Aug 2015 – June 2017

Software consultancy turned technical consultancy. OpenCredo attracted clients with interesting and highly technical challenges. There were two engagements that really stood out though.

- Creating a cloud broker for a government department. Needing to avoid showing a bias towards large global cloud providers over smaller, local providers we were tasked with creating a *hybrid*—cloud broker, allowing developers to automate the

## CERTIFICATIONS



**AWS Certified Solutions Architect**  
Associate - June 2017



**AWS Certified SysOps Admin**  
Associate - June 2017



**AWS Certified Developer**  
Associate - June 2017



**AWS Certified DevOps Engineer**  
Professional - June 2017

## OSS PROJECTS

### Saltstack Consul Pillar Integration

🔗 <https://github.com/saltstack/salt>

*Written in python, this plugin was created to remove config duplication and create a single source of truth*

### Terraform vCloud Director Plugin

🔗 <https://github.com/hashicorp/terraform>

*This project was both my introduction to VMWare vCloud Director, and Terraform. An engagement with a government department required being able to use multiple cloud providers, vcd was the only one not to use terraform. This project was developed to fix that*

## CORE STRENGTHS

Hashicorp Suite   Golang   DevOps   Linux  
Continuous Delivery   AWS

Problem Solving   InfoSec   Mentoring  
Networking   Knowledge Sharing

provisioning of a full, development environment with CI pipelines, monitoring, perimeter security on one of many different cloud providers or even split resources between multiple providers. Completely written in Golang and leveraging most of the HashiCorp suite of tools as well as ansible this project forced me to improve my Golang abilities very rapidly, creating multiple Terraform providers as well as custom integrations between components.

- Creating an encrypted Docker volume plugin for a client that needed to generate SSL/TLS certificates and store them somewhere to be picked up and used by a later process. This was my last engagement with OpenCredo and I'm thankful I was able to lead a team for this project. Initially, I thought the combination of specifications for this project to be impossible, but with lots of research and a great team we once again used Golang and an implementation of FuSE to provide a single docker volume which was able to dynamically create key material and encrypt data on the fly with per-directory granularity.

Golang AWS Vault Vagrant Terraform Jenkins Ruby Golang  
Kubernetes Openshift Ansible Puppet Bless PKI

## Lead DevOps Engineer

### Flubit

📅 May 2014 – Aug 2015

Flubit is a start up that's disrupting the E-Commerce industry. Flubit allows shoppers to demand a better price on items they want to buy. Some of my responsibilities while in the role included:

- Set up and manage monitoring services (OMD/Check\_MK/Custom Check\_MK scripts, log data collected from servers, transformed/transported with fluentd, stored in InfluxDB, then graphed with Grafana)
- Set up service discovery with DNS and individual service checking (so failing services can be removed from the DNS), leaving DNS requests only directing to healthy services (consul)
- Provision new VMs and manage configuration/packages in existing VMs (SaltStack, Consul K/V store as Salt Pillar source)
- Setup and maintain the continuous integration server (Jenkins with multiple slaves, using the workflow plugin to create dynamic build pipelines on the fly with Groovy. Speed up build times by splitting tasks and running them concurrently in their own Jenkins build slot. Almost half of the projects now have docker containers and docker-compose config allowing them to spin up their own pristine test environment for the duration of the Jenkins build)
- Run a private docker registry (Using Rackspace Cloud Files as storage), create a docker image during project build and upload it to the registry (Dockerfile, docker registry)
- Develop deployment scripts for safe, repeatable deployments to each of our environments (docker-machine/docker-swarm to remotely deploy docker images, capistrano3/rake for our other projects)
- Write custom scripts/apps whenever needed (Ruby, Python, Go, Bash)

Docker Jenkins SaltStack Vagrant Groovy Consul Service Discovery  
Ruby Fluentd InfluxDB Python Graphana Golang Mesos Elasticsearch

## PRESENTATIONS

### Creating a Terraform Provider

London Hashicorp Meetup

### Securing Microservice Comms with PKI

dotSecurity Paris

### Automating PKI With Vault

London Hashicorp Meetup

### Intro to Userland Rootkits

Linuxing in London Meetup

## COURSES

### Hands on Hacking

Hacker House

### Penetration Testing with Kali Linux

Offensive Security [OSCP Exam scheduled March 2018]

# EXPERIENCE

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## DevOps Engineer

### Foodity

📅 Oct 2013 – May 2014

Foodity is a start up that makes any print, digital or broadcast content or advertising shoppable online and in store. They help their partners incentivise and reward shoppers and help them make their shoppers' journeys simple and relevant. My responsibilities included:

- Redesigning the systems architecture and expressing the new architecture with puppet scripts
  - Migrating from AWS to Azure
  - Providing support for the existing architecture
  - Writing ruby scripts to automate manual processes where ever possible
  - Setting up a clustered database solution with replication (Percona XtraDB Cluster 5.6, Galera 3)
  - Supporting both the Java and PHP development teams
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## TechOps Consultant

### OgilvyOne Worldwide

📅 Jul 2013 – Sep 2013

Ogilvy is one of the top advertising agencies in the world, handling advertising campaigns for the likes of Coca-Cola, Unilever, British Airways and Barclays Capital among many others. This was a contract role and I was initially brought on to perform an audit on 2 dedicated Windows servers used for development and staging that had been poorly managed to assess what was on there, what was being used, and develop a strategy for setting up and provisioning servers on the Amazon cloud and migrating data across. This then led on to further projects including setting up auto provisioning, auto scaling cloud servers for the BA 'To Fly To Serve' campaign (<http://toflytoserve.britishairways.com/>), and setting up a custom continuous delivery solution, easily managed with a json dataset stored on github.

- Continuous Integration with Jenkins (Set up to provide continuous delivery and automated to the point of not needing to be administered by anyone)
  - Auditing Windows servers (Ruby, Scraping file system/config files)
  - Automated deployment (Ruby/Capistrano)
  - Setting up and provisioning cloud servers (AWS, Cloudformation, Puppet)
  - Migrating data between servers
  - Analysing developers workflow and code in order to provide solutions to speed up creation and deployment of new projects
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## Build Engineer

### Ticketmaster

📅 Dec 2012 – Jun 2013

TicketMaster is the largest online ticketing platform, with over 6.2 million unique hits per month in the UK alone. My task here was to transform their outdated deployment method and bring them in line with current devops/continuous delivery best practices.

- Migrate the existing SVN repo (1 repository holding multiple projects) to git, separating the projects and only keeping commits relevant to those projects (gitolite, gitlab).
  - Setting up an artifact repository (Artifactory)
  - Setting up CI/CD with Jenkins and build pipelines, and modifying existing Jenkins plugins to provide functionalities needed for our projects.
  - Set up Sonar to provide code metrics for the PHP and Java projects
  - Create/modify build script (ant)
  - Automated deployment (Ruby/Capistrano)
  - Support PHP and Java development teams based in London and Sweden
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## DevOps Engineer

### Bauer Media

📅 Jan 2012 – Oct 2012

Bauer Media Group is a multinational media company; within the UK they publish in excess of 50 magazines, and own more than 30 local and national radio stations. My primary project here had me provide devops support while they brought the websites for each of their radio stations in-house while also developing a service oriented architecture to provide a single flexible backend for all of them.

- Continuous Integration with Jenkins (Set up to provide continuous delivery)
- Automated testing and generation of software metrics (PHPUnit, Phing, PHPMD, PHP\_CPD, PHP\_CodeSniffer)
- Automated deployment (Ruby/Capistrano)
- Setup/Configure servers to run on VMs within 3 separated environments (gitosis, apache2, nginx, varnish, memcache, solr, mysql, gearman)
- Work closely with the ops team based in Poland to make sure groups (developers, UAT, penetration testers) have everything they need to do their job without impacting each other
- Work with employment agencies and conduct interviews to further grow the development team

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## DevOps Engineer

[theAudience](#)

📅 May 2011 – Dec 2011

theAudience is a fairly new social media startup providing services for a growing list of registered celebrities. Joining the company soon after its creation, I was responsible for setting up their first LAMP stack on a single VPS and growing the infrastructure with the business with multiple instances on the Rackspace cloud, provisioned with Puppet and monitored by Zabbix with triggers to fire up extra instances when the load demanded it.

- Implement VCS (SVN initially, later migrated to git)
- Develop RESTful API (PHP, custom mvc framework)
- Develop core system with admin area to use the API (PHP, Zend Framework)
- Install / configure MTA to process all incoming emails (Postfix, Custom perl script)
- Create Facebook apps for client Facebook pages
- Design, implement, and administrate a cloud server architecture based on data collected from existing user interaction and requirements gathered from CTO (Rackspace Cloud, Amazon S3 for backups and media storage)
- Managing the London office when the manager is on holiday or visiting the LA office

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Full details of historic positions have been omitted to preserve paper but are available upon request.

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## PHP Developer / Server Admin

[Lightfarm](#)

📅 May 2011 – Dec 2011

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## PHP Developer

[3dMarComms](#)

📅 Nov 2009 – Sep 2010

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## PHP Developer

[Ardent Creative](#)

📅 Jan 2006 – Nov 2006

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## PHP Intranet Developer

[Cruise Control](#)

📅 Oct 2004 – Oct 2005

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## ASP Developer

[Lizard Design](#)

📅 Jun 2001 – Oct 2004