

Michael Crilly

Cloud Automation Specialist

Primary Skills

- AWS + general public Cloud providers
- Continuous Integration and Delivery (CI/CD)
- Infrastructure As Code via Terraform, CloudFormation
- Configuration As Code via Ansible
- Images As Code via Packer
- Cloud Automation (I can automate virtually anything)

Published Writing

- The Cloud Coach - <https://thecloud.coach>
- The Register - <https://www.theregister.co.uk/Author/Michael-Crilly/>

Published Video Content

- YouTube - <https://www.youtube.com/thecloudcoach>
- Crash Courses - <https://store.thecloud.coach>

Meetups & Communities

- Brisbane CloudOps - <https://www.meetup.com/brisbanecloudops/>
- Brisbane Video - <https://www.meetup.com/brisbane-video/>
- The Cloud Coach Discord - <https://discord.gg/MTzBvSS>

Employment History

Public Safety Business Agency

October 2019 - March 2020

- Implemented an entire Continuous Integration/Continuous Delivery solution using Azure DevOp Pipelines, Terraform and Ansible

- Built pipelines to build and manage individual development environments enabling engineers to develop Ansible roles in isolation
- Designed the entire Terraform module implementation and structure
- Designed the entire Ansible roles implementation and structure
- Introduced and implement Terraform Enterprise (v4)
 - Automated the deployment using Terraform
 - Automatic setup of Azure DevOps Pipeline agents to use the Terraform Enterprise instance for running Terraform jobs
- Delivered extensive training sessions (brown bags) to skill up permanent PSBA staff
 - Terraform State Basics
 - Ansible Basics
 - Pipelines and Automation

Queensland Treasury State Department

May 2019 - October 2019

- Tasked with three primary projects:
 - Develop a faster, leaner automated AWS environment to deliver the highly critical, highly visible state budget website on Tuesday 11th smoothly
 - Move several systems from the Treasury's Private Cloud to a Public Cloud offering as part of the department's "Legacy Uplift" plans
 - Develop an IRAP compliant secure environment using Terraform, Ansible, Packer, and GitLab to deliver highly sensitive government projects
- The AWS environment had very little automation and was "hand crafted"
 - All resources are now managed from a single Terraform code base
 - The Terraform code base is executed from GitLab CI/CD Pipelines
 - The Ansible implementation has been matured and is much more maintainable
 - I have introduced the entire team to Terraform and Infrastructure As Code, showing them the power of managing Public Cloud using code and putting them in a much better position going forward
- We're now exploring the possibility of transposing all websites managed by our team into static website, removing the need for expensive, complex infrastructure during budget time

- I delivered a “brown bag” on Terraform to offer a wide range of interested stakeholders a view of the technology due to the government’s aggressive focus on “Cloud first”

Flight Centre

November 2018 - February 2019

- Overall task was to migrate a massive internal component to a (Tectonic) Kubernetes cluster along with its very large and old Oracle database instance...
- Onsite Oracle 11g moved to AWS RDS
 - Extensive CloudFormation work to introduce RDS instances
 - Training DBA on the use of RDS DMS for data migrations and continuous replication
 - Developed NLB architecture for exposing RDS endpoints
 - Also developed Lambda for updating NLB Target Groups when the RDS instance IPs changed after a maintenance window
 - Dealt with cross account RDS snapshots (using DMS)
 - Ported 11g to 12.2g
 - Produced Dockerised version of 12.2g for development needs
- Automated the delivery of Liquibase changes
 - Future changes to the DB schema are built into a Docker image and executed
 - Executed as a Kubernetes Job
- Standalone Java application (Cobra) moved to Docker
 - Built a new image for the application and all dependencies
 - Produced Kubernetes definition for the Service and Deployment
 - Managed via Rundeck and Tectonic
- AWS RDS cross-account snapshot migrations
 - Custom Python script for managing CloudFormation stacks
 - Fully automate DMS based migration of data from an RDS instance in one account across to another
 - DMS, CloudFormation, VPC Endpoints, Python, Boto3

Jumbo Interactive

November 2017 - November 2018

- Refactored a ticket purchasing system written in Perl, porting it to Go
- Assisted with implementing a Go based JWT issuing microservice
- Assisted with implementing a Go based social syndicates microservice

SilverRail

June 2017 - October 2017

- Worked closely with the development teams to implement AWS X-Ray into microservices architecture
- Implemented an automated Kubernetes cluster
- Integrated Prometheus and Grafana, introducing the beginning of a monitoring stack
- Introduced the organisation to semantic versioning

Itoc Australia

February 2017 - May 2017

- Helped create a PCI DSS environment on AWS
- Ported an internal PHP5 SMS API to a Python based, serverless architecture

XVT

May 2016 - December 2016

- Wrote extensive Roles and Playbooks for handling OS updates, user management, patch management, and much more
- Wrote custom modules for handling unsupported AWS services such as the Web Application Firewall
- Wrote CloudFormation templates were used for deploying and managing existing and new products
- DroneCI (Docker) based CI/CD pipeline for application testing and development

QTAC (2nd Contract)

May 2016 - December 2016

- Developed an Ansible pull based configuration management suite for automatically configuring newly provisioned EC2 instances (built in ASGs)
- Terraform modules and code for building flexible, auto-scaling AWS infrastructure
- Packer builds for creating base, versioned AMIs on top of AWS Linux
- Custom Python scripts for implementing a smart, bespoke A/B deployment process
- Custom metrics in CloudWatch for monitoring RAM and JVM memory utilisation
- Local development environments using Vagrant, helping to speed up development time and heavily reduce operational costs
- Dashboard written from scratch to enable visibility into the existing deployments and their state, including deployed software versions

Console (Formerly IIX)

April 2015 - May 2016

- Ansible Roles and Playbooks for all our services
- A customised Python script for handling GCP compute resources and acting as an Ansible dynamic inventory
- Local development systems using Vagrant
- Packer builds to automate the delivery of GCP images for continuous deployments
- NewRelic implementation for systems monitoring and observability
- An ELK stack for monitoring log data from all network services
- Telegraf & InfluxDB for monitoring metrics and processes
- Continuous Integration via JenkinsCI for unit tests and image building (via Packer)

QTAC

May 2015 - June 2015 (two week contract)

- Complete automation of JBOSS EAP, RHEL6 deployments on Hyper-V

DVLA & DWP

November 2014 - March 2015

- Automating processes using existing and bespoke libraries and code
- Integrating Configuration Management via Puppet & Ansible
- Developing a Continuous Integration/Delivery platform using JenkinsCI
- Implementing Git Flow