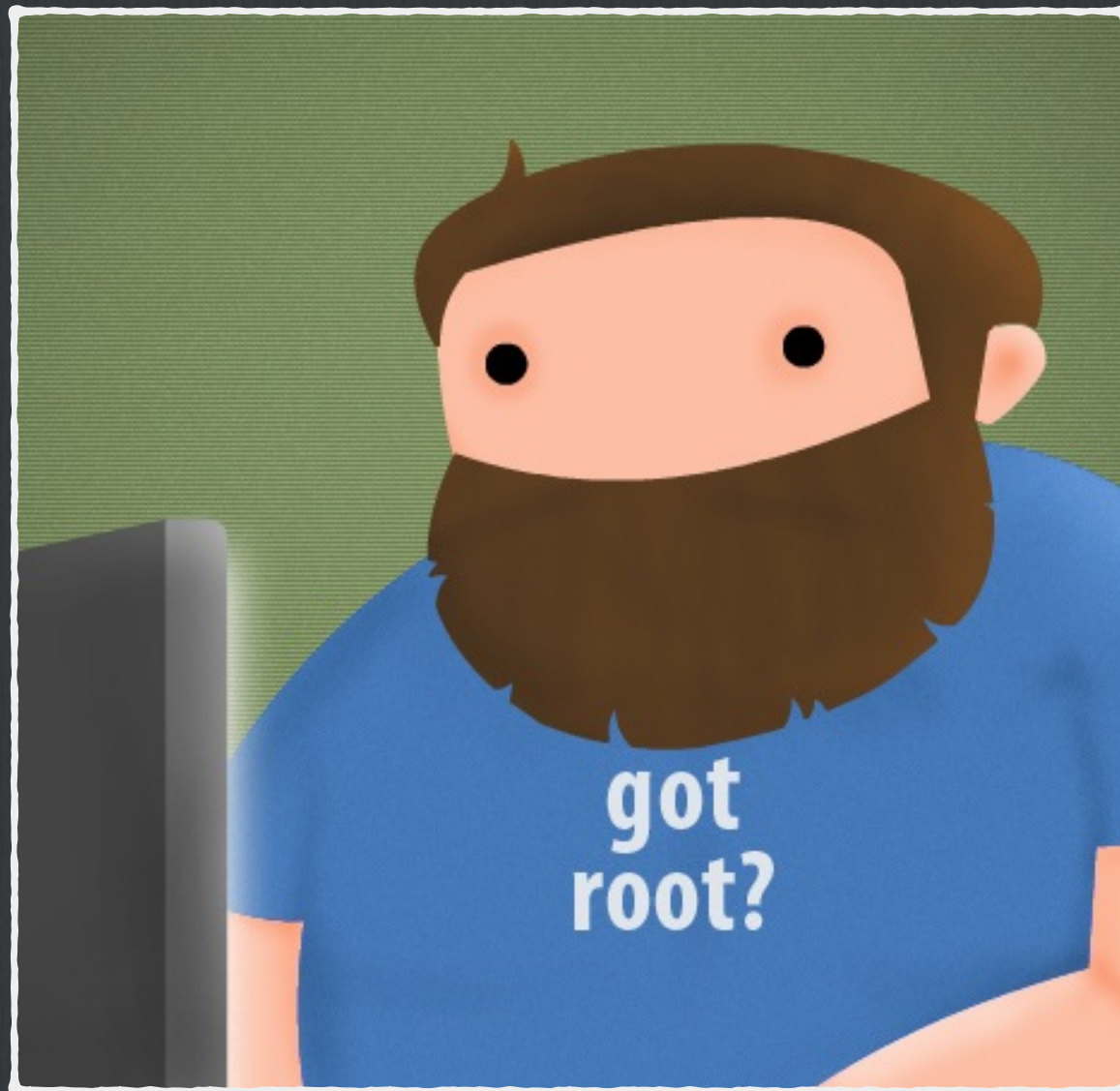


Andrew Taylor



- ☐ Senior European Live Services Specialist for Sage UK
- ☐ Utterly Forked - Contract Infrastructure / Architecture
- ☐ @ukandrewtaylor

AWS - IaaS

- ☐ **CloudFormation**
- ☐ **EC2 with IAM Roles**
- ☐ **Amazon Linux / CLI tools / CloudInit**
- ☐ **S3 / SQS / SNS**

CloudFormation

- ☐ **Repeatable and Predictable**
- ☐ **Amazon handles dependency ordering**
- ☐ **JSON**
- ☐ **Write templates, create stacks**

EC2

- ☐ **Resizable compute capacity designed for developers**
- ☐ **Full access. Build what you need / Own what you build**
- ☐ **EC2 compute unit - consistent measure of instance performance**
- ☐ **Choice of operating systems**
- ☐ **Tags**

Amazon Linux

- ☐ **Supported and maintained by AWS**
- ☐ **Lightweight and designed for EC2**
- ☐ **Twice yearly releases - continual package updates**
- ☐ **Compatible with EPEL**

Unified CLI Tools

- ☐ Unified interface to all* AWS products
- ☐ Autocomplete and built-in help
- ☐ Installed by default to Amazon Linux AMI
- ☐ JSON
- ☐ Supports EC2 IAM roles

cfn-init

- ☐ **< Salt/Ansible/Puppet/Chef**
- ☐ **> Custom bash scripts**
- ☐ **Installed by default on Amazon Linux AMI**
- ☐ **Bootstrap through UserData command**

cfn-init...

- ☐ **packages - Yum**
- ☐ **sources - S3 or GitHub**
- ☐ **users & groups**
- ☐ **files - Create a file**
- ☐ **commands - Do a thing**
- ☐ **services - sysvinit control**

IAM

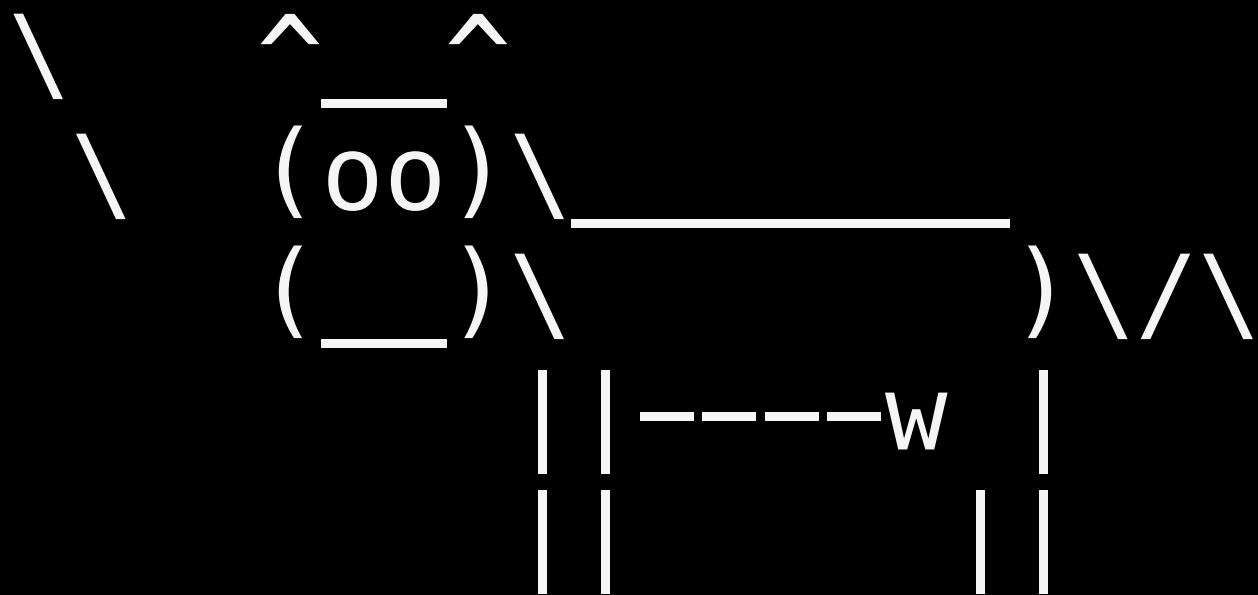
- ☐ **Identity and Access management**
- ☐ **User / Groups / Roles**
- ☐ **Fine-grained permission model**
- ☐ **Supports SSO / Federated logins via SAML**

SQS / SNS / S3

- ☐ Simple Queue Service
 - ☐ Not FIFO / 256KB / DLQ
- ☐ Simple Notification Service
 - ☐ Mobile push / SMS / Email / HTTP / SQS
- ☐ Simple Storage

**“the hello world of
infrastructure”**

< COWSAY as a SERVICE >



The challenge

- ☐ **A scalable, fault tolerant worker tier that gets messages from SQS and processes the output to S3**
- ☐ **Built through code and configuration without manual intervention**
- ☐ **Easy to deploy and maintain**

CloudFormation - Elements

- ☐ An optional list of template parameters (input values supplied at stack creation time)
- ☐ An optional list of output values (e.g. the complete URL to a web application)
- ☐ An optional list of data tables used to lookup static configuration values (e.g., AMI names)
- ☐ The list of AWS resources and their configuration values

AWS Resources

- ☐ An SQS queue to pull from
- ☐ An autoscaling group of EC2 worker nodes
 - ☐ CloudInit config to configure the node
- ☐ An IAM role and instance profile for the node to assume
- ☐ An S3 bucket to store output
- ☐ A CloudWatch alarm to trigger scaling

Questions?