John Cook

john.b.cook05@gmail.com

Arvada, CO

Skill Summary

- Full Stack Engineer with expertise in cloud engineering, serverless, development, devops, continuous integration, automation, process improvement and technical team leadership
- AWS Certified Solutions Architect - Professional
- AWS Serverless application development
- AWS Automation with Terraform, Cloud Formation and Python
- Developed applications in C#, Node.js, and Python
- Expert in automation to include infrastructure as code, build automation, and CICD
- Extensive expertise in implementing best practice agile development methodologies
- Successful in implementing repeatable, cost effective solutions that immediately increase the efficiency of the project team and help to ensure the release of high-quality software

Key Expertise

DevOps Architecture Design	Serverless Development	Continuous Integration Implementation	Technical Team Leadership	Agile Process Improvement
AWS Lambda	Docker	AWS	DevOps	Infrastructure as Code

Technical and Management Skills

- 18 years Software Development Experience
- 5 years Management Experience
- **Programming Languages/Frameworks**: C#, .Net 3.0-4.5, .Net Core, SQL, C++, Java, Shell, Perl, Python, Node.js, React
- **Cloud Technologies**: AWS, Python Boto2-3, Terraform, Cloud Formation, Serverless Framework
- **Containerization**: Docker, Kubernetes, Rancher
- **Operating Systems**: Linux (Ubuntu, CentOS, Debian) Windows (up to Windows 10) Mac (OSX)
- **Continuous Integration/Release Engineering**: Jenkins, Maven, GitHub, BitBucket, Git, GitLabs, AWS CodeBuild
- **Configuration Management**: Ansible, Packer
- **Database Platforms**: Oracle 8i-11g, MS SQL Server 2000-2008, MySQL, DB2, Teradata, PostgreSQL, Cassandra, DynamoDB, AWS RDS (Aurora Postgres/MySQL)

Project Experience

DevOps Consultant/AWS Solutions Architect, Equity Staffing 10/2018-2/2019

Infrastructure as Code
- Developed Terraform modules for several AWS assets to include EKS, ElastiCache, Redis, Aurora, DynamoDB, S3, Route 53, Subnets, ALB, Security Groups, Route Tables, VPC Endpoints, Internet Gateway and Nat Gateway
- Implemented full environments (test and dev) via Terraform leveraging developed modules and using S3 remote state to allow resources to be managed by a team
- Implemented and Managed EKS Nodes via Cloud Formation

Serverless
- Developed and implemented secure AWS Lambda serverless functions in Python and Node.js
- Leveraging AWS APIs, IAM and Node.js, developed a Lambda function triggered on put object to S3 that converted a html file to a PDF file for customer delivery
- Leveraging Python and boto3, developed a secure VPC enabled Lambda function allowing for KMS decryption of Vault unseal tokens and unsealing of a target Vault implementation
- Developed and implemented a Python boto3 Lambda function that acted as a Login service taking encrypted user credentials and providing back AWS Cognito tokens (Access, Refresh and Identity)
- Managed all Serverless functions with the Serverless Framework allowing for ease of management and cloud provider flexibility
- Provided training and guidance on effective Serverless implementation

DevOps and Cloud Engineering
- Implemented Cloud Watch events to keep Lambda functions warm ensuring quick response time
- Configured Nginx servers with 301 http to https redirects
- Configuration management with Ansible, Terraform, Python and Cloud Formation
- Leveraging Cloud Watch Agent, implemented memory based Autoscaling on EKS Node resources via Cloud Formation
- Implemented resource tagging strategy to manage resources via tag-based AWS Resource Groups
- Implemented AWS Config for continuous monitoring of resources (SNS Subscription based)
- Leveraging AWS Trusted Advisor, monitored resource security to ensure security compliance

Solutions Architecture
- Recommended secrets mgmt via AWS Secrets Manager, KMS and Systems Manager Parameters
- Designed Kubernetes/AWS secrets mgmt approach that automated the creation and management of secrets and ensured secrets were never stored in memory
- Recommended extending spring cloud config manager to include AWS Secrets Manager
- Recommended interservice TLS microservice communication be enforced via the use of itsio sidecar containers
- Designed serverless approach for customer specific html to pdf conversion
- Implemented IAM Role/Group security for AWS assets and Kubernetes
- Developed and implemented a Kubernetes Namespace environment approach that allowed development teams to work in isolation and streamlined microservice project development

Kubernetes
- Implemented and Managed Kubernetes via EKS
- Implemented and managed EKS Nodes via Cloud Formation
- Implemented role-based security using role bindings, config-map, IAM Authenticator and AWS Roles, Groups and Policies
- Developed utilities for managing deployments, services, pods and other assets
- Managed multiple microservices environments and namespaces across multiple EKS clusters.
- Provided guidance to dev, test and devops teams on effective Kubernetes management

Python
- Developed AWS Automation libraries leveraging boto2-3

- Developed AWS asset automation scripts for various assets such as Cognito User Mgmt, KMS encrypt/decrypt, and Add Target Groups to ASG
- Developed automation that will generate Terraform projects (hcl main, vars, outputs etc.) based only on AWS resource tags
- Developed database management scripts for environment automation

Independent Consultant/AWS Solutions Architect/DevOps Architect

Independent consultant specializing in DevOps and AWS Solutions Architecture

Drupal, Docker, Rancher/Kubernetes and GitLab CICD Solution Migration to Client AWS Infrastructure

- Identified and updated internal and external dependencies (Drupal Modules, Compose, Docker, and Infrastructure) to allow for complete decoupling from existing host architecture
- Configured and migrated GitLabs repositories and docker registries
- Configured GitLab Runner with docker executor and custom build container within AWS
- Developed CloudFormation templates for AWS environment management
- Developed Ansible playbooks to manage GitLab GitRunner and additional infrastructure
- Provided AWS services cost estimates for a Rancher/Kubernetes GitLab environment to include multiple options based on budget, HA and security requirements
- Leveraging AWS CloudFormation and Ansible delivered a secure Rancher Cattle infrastructure orchestration within AWS.
- Configured AWS deliverables to allow for push button spin up/down
- Provided architectural recommendations for migration of existing infrastructure to AWS
- Provided infrastructure architecture, build flow and development documentation and guidance to management and development teams on a complex system inherited from a previous vendor

AWS Solutions Architect/CICD Architect Sr. Consultant, Cable Labs/Kyrio 08/2017

Revisited Kyrio to provide refresher training and Microservices/CICD system updates

- Upgraded CICD systems to .Net Core 2.0 and Docker 17.06 and provided corresponding Ansible Playbooks
- Developed and implemented multi-stage Dockerfile for Aspnet and .Net Core microservices
- Upgraded Jenkins to 2.0
- Updated Microservice CICD Pipeline to include dynamic test execution
- Provided training and guidance on Kubernetes, AWS, Jenkins, Docker and .Net Core 2.0
- Provided training on the full spectrum CICD solution ensuring development and operations staff could spin up and maintain the environment as well as efficiently onboard new Microservices

DevOps/Solutions Architect Sr. Consultant, Cable Labs/Kyrio 10/2016 – 02/2017

- Designed and Implemented a Microservices container CICD solution within AWS leveraging Jenkins, GitLabs, Docker, Ansible and Kubernetes
- Implemented a production ready, load balanced, highly available, fault tolerant, auto scaling Kubernetes AWS infrastructure and microservice container orchestration
- Implemented CICD allowing for deploy to multiple client Kubernetes/AWS environments

- Leveraging Ansible and Packer implemented a streamlined Jenkins solution allowing for initial environment spin up and or recovery in minutes
- Developed Ansible playbooks to manage development and build servers
- Leveraging kops implemented a Kubernetes Container Orchestration solution within AWS allowing for easy management, creation and recovery of AWS assets
- Managed AWS assets and architecture to include VPC, Subnets, Routing Tables, Security Groups, EC2 and Route 53
- Developed and maintained Dockerfiles for Debian .Net Core microservices
- Developed microservice onboarding tools leveraging Python and Jenkins allowing for easy creation and maintenance of build jobs and Kubernetes deploy and services
- Leveraging Jenkins and Groovy provided a fully recoverable microservices build solution
- Performed administration on AWS Assets, Jenkins, GitLabs and Kubernetes
- Implemented Jenkins and Slack integration
- Trained staff on effective use of Jenkins, Docker, GitLabs and Kubernetes
- Trained staff on Kubernetes administration
- Provided guidance to development regarding effective microservice architectures

Sr. Build Engineer/DevOps Consultant, Charter Communications 03/2015 – 02/2016

- Implemented Continuous Integration (CI) for Java REST API micro services (Maven), Node.js applications (Grunt, Gulp), leveraging Nexus, Git Stash, Jenkins, AWS, Docker and Ansible
- Implemented a Docker delivery pipeline allowing for CICD of tomcat web service containers
- Managed Jira Agile Scrum/Kanban boards and developed queries for project management teams
- Implemented AWS asset management leveraging Python ec2-boto2 and ec2-boto3 to control AWS costs and to ensure uninterrupted development
- Managed a PAAS system leveraging Jenkins, Nexus, Ansible, Packer and AWS
- Implemented Netflix OSS components Zuul and Ribbon client in support of a CI environment
- Configuration management leveraging Ansible and Packer
- Developed Python class libraries for AWS Automation leveraging Python boto
- Managed Jenkins in a multiple VPC AWS environment
- Provided guidance regarding effective infrastructure automation, test automation and integration
- Automated the configuration of AWS assets such as ASGs, ELBs, AMI's, and Ec2 Instances
- Developed and implemented automated builds leveraging Maven, NPM, Grunt, and Gulp
- Performed administration on AWS Assets, Jenkins, Stash, Nexus (CICD Environment)

Staff Software Configuration Engineer, Digital Globe 06/2014 - 02/2015

- Led the version control migration effort to migrate all repos from SVN to Git
- Automated the migration of 150+ repos from SVN to Github
- Developed Python build utilities which greatly increased the efficiency of the build automation
- Developed automated builds leveraging Jenkins, CMake, Make, Ant, and Maven
- Implemented CI across several development teams allowing for a continuous feedback loop
- Developed a phased approach to CI implementation that facilitated and eased the adoption of CI
- Managed a CI environment leveraging Jenkins, Ansible, Linux, Windows and AWS
- Trained staff on Git and GitHub API usage

- Installed, configured and performed full spectrum administration on Jenkins, Jira and Confluence
- Configured tools for max performance and max uptime in support of 100+ users

Independent Consultant/Automation Architect 05/2013 – 06/2014

As an independent software consultant specialized in developing and implementing automation architecture and frameworks, refactoring existing automation for maximum efficiency, implementing and maintaining continuous integration and custom C# development.

Summary of Previous Employment (1993 – 2012)

Automation Architect, Louisville, CO
CICD Engineer, Broomfield, CO
Automation Architect Consultant, Boulder, CO
Jira Consultant/Developer Centennial, CO
Automation Architect/Jira Admin, Vergennes, VT
Automation Architect, Robert Half Technology, Loveland, CO
Automation Engineer Lead and Process Consultant, Anteo Group, ADP, Fort Collins, CO
Automation Engineer Team Lead, Vega Consulting, NYS Dept of Labor, Albany, NY
Lead Automation Engineer Consultant, IP Logic/ IA System, Albany, NY
Lead Automation Engineer, Experian, Albany NY
Tech Lead, Solutions Point/Sprint PCS, Overland Park KS
Oracle Developer CSC/DOD, Kansas City, MO
USMC 1993-1999 E-5 Platoon Sergeant

Education

Bachelor of Science**: Management Computer Information Systems Park University, Parkville, Mo.**

Certifications

AWS Certified Solutions Architect – Professional

AWS Certified Solutions Architect – Associate

AWS Certified Developer – Associate

AWS Certified SysOps Administrator – Associate