

# MUHILAN THILLAIVANAN

## DevOps Engineer

6x AWS certified DevOps and Solution Architect Professional, 2x Kubernetes certified Administrator and Application Developer with 8+ years of experience in Cloud Environment and Software Development. A creative thinker, adept in software development, AWS, Kubernetes, Terraform, Git, Ansible, CI/CD, Security and Networking.



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## CERTIFICATES

Certified Kubernetes Administrator CKA (10/2022 - 10/2025)

Certificate ID LF3j5fzd11kr

AWS DevOps Engineer Professional (09/2022 - 09/2025)

Credential ID Z3M0DJQ26NBQQC53

Certified Kubernetes Application Developer CKAD (10/2022 - 10/2025)

Certificate ID LF-rsdh5ics8j

AWS Solution Architect Professional (09/2022 - 09/2025)

Credential ID JEB4D7WCTMRQ15CY

## PROFESSIONAL EXPERIENCE

### Manager, Devops HDFC Securities Limited

01/2024 - Present

Achievements/Tasks

- Managing complex microservices of two main projects of the company HDFC SKY and Investright using many custom tooling like cilium cluster mesh, Keycloak for SSO management, Tracing and APM using elastic and guard duty in Hybrid Cloud environment.
- Setup Active-Active Disaster Recovery by utilising RDS Aurora Global, Elasticache Global DataStore, Cilium Cluster mesh, Hubble monitoring and automated rollout using Route53 health checks and argocd.
- Setup cost efficient infrastructure using Karpenter, reserved and spot instance. Timing based scaling of instances and applications using KEDA backed by custom app metrics.
- Managed the complex network of multiple clouds and on premise data centres across India using Palo Alto and WAF firewalls, transit gateways, Aws Direct Connect, GLB and segregated Network, Logging and Application across various accounts and network.
- Managing automated deployments of workloads using ArgoCD, gitlab pipelines, terraform and CDK. es, utilising Jib and Ko for incremental building of images.
- Achieved simple Trunk Based Branching for the code base and streamlined the approval flow and also setup complex code quality checks using SonarQube, Linting, regression test suites, unit tests, CVE scans, custom docker images.
- Setup various alerts for uptime, application performance, Infrastructure, Keda, Karpenter, cilium monitoring using custom dashboards. Utilised S3 for long term storage and easy recovery of logs and metrics data.
- Setup Redash for Database access, alerts and data visualisation. Monitored and optimised SQL queries using metrics and performance insights.
- Developed Custom CDK Constructs and terraform modules for EKS clusters, Pod Identity management, IRSA using OIDC.
- Deployed EKS Anywhere in on premise servers to manage compliance required workload within kubernetes and cloud networks. Setup hybrid elastic monitoring for both cloud and on premise.

## TECHNICAL SKILLS

### AWS

EC2, S3, EKS, CDK, IAM, RDS, GlueETL, EMR/Spark, DMS, SageMaker, Redshift, Kinesis, SSM, Config, CW, Athena, DocDB

### Kubernetes

Helm, ArgoCD, karpenter, cilium, calico, nginx, istio, linkerd, external dns, cert-manager, vault, CSI, CRI, CNI, IRSA, OIDC

### Containers

Docker, Containerd, Buildx & BuildKit, Jib, Ko, compose and swarm, ECS, Fargate

### Serverless

Lambda, SAM, Serverless Fargate, DynamoDB, API Gateway.

### Monitoring & Automation

Elastic, Grafana, DataDog, Guard duty, Prometheus, VM Metrics, Fluentd and fluentbit, Loki, CloudWatch, Eventbridge, Cloudtrail, Papertrail, APM.

### CI/CD

Github Actions, CircleCI, Code Build, Code Deploy, Code Pipeline, Jenkins, Gitlab CI/CD, Git flow, GitOps

### Infrastructure as Code

CloudFormation, Terraform, CDK(Python, Typescript), Serverless, Terragrunt

### Programming and Scripting

Python, JavaScript, Typescript, Java, Golang, Bash, Zsh, Powershell

### VC and Repositories

Git, Github, BitBucket, Gitlab Code Commit, ECR, Dockerhub

### Networking

DNS, GNS3, Wireshark, OSI, ClusterMesh, CNI, Complex Networks, Istio, Service Discovery

## SKILLS

NeoVIM

VsCode

LucidChart

Jira

Confluence

Photoshop

Tally

Excel

Accounting

TMUX

## EDUCATION

### Bachelor of Engineering Thiagarajar College Of Engineering(Autonomous)

06/2012 - 04/2016

8.5



## PROFESSIONAL EXPERIENCE

### Devops Lead Seamless Payments Inc.,

03/2022 - 01/2024  
Independent Contractor

Newyork, USA

#### Achievements/Tasks

- Managed the Cloud Infrastructure in a completely isolated Private Network spanning across multiple aws accounts in a Highly Secure Environment to meet the PCI-DSS Compliance and also certified in PCI-DSS Compliance. Heavily used CloudHSM, KMS and other security tools.
- Automated complex RestAPI deployments using combination of Lambda, API Gateway, RDS, DocDB and Redis served via CloudFront using CircleCI and CDK(Typescript and Python) and developed many complex custom CDK Constructs for reusability.
- Maintained custom artifacts and registries using code artifact and managed mono repo library of many complex dependencies using lerna, Nx, and github actions.
- Achieved multiple data migrations using both Direct Migration using DMS as well ETL workloads using glue and pyspark. This stack include Lambda and State Machine for complete automation and was deployed using AWS Cloudformation.

### Senior DevOps Engineer Tempo Software

11/2022 - 04/2023  
Independent Contractor

Burlington, MA

#### Achievements/Tasks

- Managed the cloud infrastructure running across US, Canada, Ireland, Europe, South East Asia and Australia regions running entirely on AWS EKS kubernetes cluster by completely automated deployment, monitoring and incident management using various tools.
- Managed multiple Terraform and terragrunt custom modules and setting up complex pipelines in gitlab using native tools, ansible for configuration management. Managed complex argocd Apps of App pattern using Helm and go templates.
- Setup monitoring, logging and tracing using DataDog, Opsgenie, Paertrail, VM Metrics, Linkerd, Loki, Fluentd and Fluentbit.

### DevOps Engineer Freelance Multiple Projects/ Companies

05/2016 - Present  
Independent Contractor

Global

#### Achievements/Tasks

- Contributed to many OpenSource Projects like riot-redis, documentdbindex-tool, cloudformation Registry for Cloudflare DNS, Cloudflare plugin for serverless plugin, Mockserver.
- Developed many CLI tool for the organisation using python click framework, typescript and setup dynamic Local Mock server API testing by using velocity templates, java and javascript.
- Prevented many complex DDoS, Phishing, and other threats by a combination of Cloudflare, AWS Shield and GuardDuty. Involved in setting up Live Uptime Monitoring and implemented code level error monitoring using Sentry.



## PERSONAL PROJECTS

### Cloudformation Registry for cloudflare DNS (02/2023 - 03/2023)

- Custom cloudformation registry for managing cloudflare dns records using typescript.
- In contrast to custom resource lambda provider it will provide more capabilities and infra is managed within Aws owned infra and also gives additional List and Read capability.

### Serverless Plugin for cloudflare (02/2023 - 03/2023)

- Plugin for managing cloudflare DNS in serverless Framework using typescript.

### CDK EKS Construct (12/2023 - 02/2024)

- Cdk Construct for creating eks cluster, karpenter for nodes management, Argocd for application deployment.
- Separate stacks for Networking, iam and Security Resources.
- Capability to manage and create multiple cluster across different accounts/regions and also on premise eks anywhere.

### Helm Charts and Argo Applications (11/2022 - Present)

- Namespace based apps of app pattern argocd applications for deploying Infrastructure and Applications.
- Ability to deploy different projects each involving Hundred's of microservices using file based orchestration.

### CDK REST API Construct (04/2022 - 01/2024)

- Complex Rest Api deployment using cdk custom constructs.
- Involving Lambda, Api gateway, Cloudfront, WAF and custom package registries.
- Runtime building and packaging of serverless artefacts.

### Dynamic Mock Server (07/2022 - 11/2022)

- Dynamic local mock api server for testing achieved using velocity templates.
- Local Lambda and DynamoDb environment backed by SAM local.

### CDK Pod Identity and IRSA Construct (01/2024 - Present)

- Pod Identity association with customisation for iam roles, service accounts.
- OIDC connection of IAM Roles for high security.



## CONFERENCES & COURSES

### AWS Partner Accreditation(Technical) (09/2022 - Present) AWS

### Migration Ambassador Foundations(Business) (11/2022 - Present) AWS

### PCI Security Awareness (05/2022 - 05/2024) Curricula

### NISM Certificate (01/2024 - Present) Conference/Issuer of the certificate