

# Palanikumar Thangapandian

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## **Professional Summary**

- Backend Developer with 24 years of experience in designing and developing robust systems using AWS cloud-native solutions, microservices and enterprise J2EE based solutions.
- Extensive expertise in cloud migration, including lift-and-shift, re-platforming, and re-architecting.
- Proficient in Spring Boot, JUnit, and high-quality software delivery practices.
- Certified AWS solutions architect professional, CKA, CKS and CKAD.
- Well experienced in container orchestration using Kubernetes (AWS EKS)
- Well experienced in designing and developing CI/CD solution using GitHub actions, Jenkins.
- Skilled in GitOps and Infrastructure as Code (IaC) using Argo CD, CloudFormation and Terraform.
- Experienced in mentoring team members, recruitment processes, and project estimation.
- Strong communication and collaboration skills within diverse teams.

## **Work Experience**

- Worked as a Solutions architect at client location (Roche Diagnostics) from 3K Technologies LLC from April 2022 to Aug 2025.
- Worked as a freelance consultant with 3K Softech Pvt Ltd, India for a client project (Roche diagnostics) from Jan 2019 to Mar 2022.
- Worked as a Solutions architect at Mobigraph India Pvt Ltd from June 2015 to Dec 2018.
- Worked as Sr software engineer at HP India from Nov 2003 to May 2015.

## **Certifications**

- AWS Solutions Architect Professional
- AWS Solutions Architect Associate
- AWS Security Specialty
- Certified Kubernetes Administrator
- Certified Kubernetes Security

## **Key Competencies**

- **Cloud-native microservices:** Expert in designing and developing secure, scalable, and responsive web applications leveraging modern, event-driven microservice architectures for high availability, fault tolerance, and agility.
- **AWS Platform:** Advanced proficiency with AWS services, including S3, SQS, SNS, EC2, EKS, CloudWatch, CloudTrail for delivering optimized cloud solutions.
- **Performance engineering:** Proven track record of reducing system latency, improving throughput, and optimizing cost efficiency.

## **Technical Skills**

<b>Programming Languages</b>	Java, Scala, Golang
<b>Frameworks</b>	Spring Boot, Spring Cloud, Quarkus, Hibernate, Elastic Search
<b>Microservices Architecture</b>	Spring Boot, Spring Cloud, Quarkus
<b>Amazon Web Services</b>	EC2, S3, SQS, SNS, Event Bridge, Lambda, CloudWatch, CloudTrail, KMS, EKS, API gateway

<b>APIs and Protocols</b>	RESTful, GraphQL, OAuth, JWT, SAML, WebSocket
<b>Streaming &amp; Messaging</b>	Kafka, Kinesis, AMQP, MQTT
<b>Databases</b>	NoSQL (Cassandra), RDBMS (PostgreSQL, MySQL, SQL Server, Oracle)
<b>Container Orchestration</b>	Kubernetes, Docker Swarm
<b>Kubernetes configuration management tools</b>	Helm, Kustomize
<b>IaC</b>	CloudFormation, Terraform, OpenTofu
<b>Cloud native scaling tools</b>	Karpenter, KEDA
<b>CI &amp; CD</b>	Jenkins, Github Actions, Argo CD
<b>Monitoring and Logging</b>	Elastic Search, Kibana, Splunk, Prometheus, Grafana, Logstash, Datadog
<b>Testing Frameworks</b>	Junit 5, Mockito, Rest Assured, Gatling
<b>Testing and Analysis Tools</b>	Postman, JMeter, Locust, VisualVM, Wireshark
<b>Development methodologies</b>	Agile/Scrum

## **Professional Experience**

**Solutions Architect**

**3K Technologies, Milpitas, USA**

**Jan' 2019 – Aug 2025**

### **Navify Digital Pathology, Roche**

- Led the design and migration of on-premises solutions to the cloud, employing rehosting, replatforming, and rearchitecting strategies.
- Performed microservices decomposition utilizing the stranger fig pattern.
- Engineered connectivity solution to integrate the existing image importer with the new architecture.
- Developed and implemented CI solutions for microservices build and deployment, leveraging Jenkins, GitHub Actions, and Helm packaging for Kubernetes manifests.
- Implemented scaling mechanism using KEDA scaled jobs for short lived batch jobs.
- Migrated from a node group based EKS deployment to node group less architecture using Karpenter.
- Containerized all microservice applications to facilitate streamlined deployment to the EKS environment.
- Enhanced developer onboarding by automating local development environments using Docker Compose and Tilt.
- Developed a Java-based installer for on-premises application provisioning.
- Served as a key liaison between engineering and product management teams.
- Provided mentorship and facilitated the onboarding of new development team members.
- Established various alerting mechanisms utilizing Splunk and Datadog.
- Designed and developed an onboarding lambda to be invoked by Jenkins pipeline for the purpose of onboarding a tenant.
- Created Jenkins pipelines for the Operations team to facilitate tenant onboarding and DICOM backend deployment for individual tenants.
- Implemented tenant-specific backup and recovery processes to meet RPO requirements.
- Developed a custom CRD to deploy the DICOM service for individual tenants.

**Solutions Architect**

**Mobigraph Pvt limited, India**

**June 2015 – Dec 2018**

### **Qugo Messenger**

- Oversaw the complete server backend, including infrastructure management, RESTful service support, and messaging infrastructure (MQTT).
- Directed a team to enhance a distributed ActiveMQ server, enabling active-active deployment by integrating Cassandra DB as the persistence layer in place of LevelDB.
- Developed a custom Akka-based pipeline for GIF image rendering that leverages GPU capabilities.

**HP ePrint**

- Participated in the design of a secure credential store for safe storage of email addresses and passwords.
- Contributed to the coding, design, and development of multiple Java services.
- Worked on end-to-end automation for DevOps using Chef.

**Backoffice (IHPS)**

- Worked as lead developer
- Designed and implemented the reports web module using grails.
- Involved in coding, design and development of various java services
- Involved in establishing the data model for storing data from logged data

**EDUCATION**

**Master of Technology** in Software systems from BITS, Pilani

**Bachelor of Technology** in Chemical Engineering from Bharathidasan University, Tamil Nadu