

WONG KUM SOON

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SUMMARY

Senior Solution Architect with strong involvement from client engagement, deal shaping, leading solution bids focusing on bespoke application/infra/SI, DevSecOps, delivery, monitoring and roadmap planning. I get hands-on with strong analytical and logical aptitude for solving programming problems as well as passion towards quality of work achieved. Presentation is what I do often and together with strong leadership skill, it brings significant recognition/impact within internal and external stakeholder for each track that I'm involved. Apart from that, constantly learning and identifying best practice/solution towards design architecture and issue is what makes me excited where with minimum supervision, I excel fast with positive working attitude that result in outstanding result achieved.

SKILLS

Languages/Framework/Development Tools and Technologies

- Java, Node, Spring (Boot, Security, Cloud Stream, Reactive Webflux, OAuth), NodeJS, MyBatis, Groovy
- UI/Framework: React, React Native
- Websocket, Netty, AWS AppMesh, Istio, Flink, Change Data Capture (CDC)
- Queue: SQS, SNS, Kafka, ActiveMQ, RabbitMQ
- Database: MySQL, Oracle, MSSQL, Postgres, Redis, DynamoDB
- Platform/Tools: Gitlab, Jenkins, Kubernetes, OpenShift, Vault, Terraform, Nexus, Artifactory, Keycloak, SwaggerIO, Docker, ECR, Jira, Confluence, RocketChat, Harbor, Kaniko, Nginx, Calico,
- AWS Cloud: Beanstalk, EC2, Route53, VPC, S3, EKS, MSK, ElastiCache, CloudFormation, CloudWatch, Amazon MQ, Lambda, ELB, IAM, Secret Manager, KMS, EFS, Workspace, ECR, RDS, WAF, SSM
- Analytic: ElasticSearch (ELK), Kibana, Prometheus, Grafana, APM metric, InfluxDB, Alerting

Ad-hoc responsibility/exposure

- Big Data Specialization (Spark), Machine Learning/AI, Tensorflow, Cassandra
- Cyber-security, RASP, SIEM, PKI
- Leadership Management, Project Management

PROFESSIONAL EXPERIENCE

Cloud Solution Architect

Aug 2020— Current

IBM, Singapore

Achievement:

- 2021 Singapore Delivery Super Star (MVP of the Year)
- 2021 Quarterly Delivery Super Star
- Closing total > 25 M SGD deals within 1 year with quality/innovative solution and client confident towards the capability projected in me
- **Cloud Architect** in cloud transformation, modernisation strategy, solutioning design and integration for banking, public and private sectors. Engagement in crafting strategy, leading discussion, and closing proposal with client to provide innovative solutions for large/highly strategic accounts.
 - Solutioning across complex system, API Management, hybrid cloud structure, cloud native microservices and containerised section.
 - As Architecture Board of Review to ensure architecture from projects are solutioned properly across process, people, and technology

- **Lead AWS Architect** on application/infra solution from design to delivery for cloud and hybrid that deliver high levels of performance, security, scalability, maintainability, and reliability.
 - Compare and leverage other cloud provider services to provided alternative approach in design and delivery
 - Build and design Common Services Platform for sensitive secure services on AWS Cloud
 - Advise and educate the approach to leverage on native services to reduce workload and resolve business use cases in the cloud native/serverless approach
- **Lead Technical Architect** on application design and implementation for full stack micro-service architecture (Java, React Native, ReactJS, NodeJS, Redis, MSSQL/MYSQL/Oracle/Postgres, OpenShift/Kubernetes)
 - Managing and collaborate with team to ensure delivery of high-quality cloud native applications following best practices
 - Design technical app and AWS infra solution for Digital Factory (DF) product with collaboration together with Product Owner and Product Manager
 - Govern and advise across Squad on infra and security architecture as well as integration point control
- **Lead DevSecOps & Cloud Engineer Architect** on designing and implementing Infra CI/CD through IaC (Terraform/CloudFormation), Platform & Management on OpenShift/Kubernetes, App CI/CD pipeline and security approach/strategy for government projects through GitOps.
 - Design integration for ActiveDirectory, Infra/Network architecture involving tools such as Jira, Confluence, MailServer, RocketChat, Artifactory, OpenShift/Kubernetes, Hashicorp Vault, ArgoCD
 - Define CI/CD Pipeline structure and deployment strategies with delivery automation of product in a secure, agile, scalable, and auditable way
 - Plan and implement application infrastructure model on AWS and the security boundary and constraint around it
 - Defining scalable core structure component, conduct delivery together and leading > 25 DevSecOps Engineer in planning/delivery and troubleshooting
- **Lead MLOps Architect** on designing solution together with client for Enterprise Data Analysis Platform using OpenShift with ClearML, Gitlab, Artifactory, Prodigy, Seldon on Nutanix platform
- **Cloud Security Architect** on blueprint design for data privacy handling of sensitive information between end device across cloud and on-prem DMZ zones. Architecting application/infrastructure flow handling, design structure/boundary and best practices together with the pros and cons among solution proposed involving SSL, encryption, tokenized, hashing, KMS and HSM.
- **Lead Cloud Service Management & Operation (CSMO)** in strategy planning, COE, operation and building integration/automated component through cloud native/COTS product to ensure achieving resolution objective in short and efficient way while maintaining the reliability of the operation on the cloud
- **Leadership & Growth** in mentoring and supporting peers through knowledge sharing and collaboration to growth the team together. Lead technical discussion among Squads to ensure team are capable and understand microservice/full stack/database development and release strategies

Solutions Architect

Jun 2018— July 2020

Orion Consultancy Pte Ltd, Singapore

Achievement:

- Financial Trading architecture design and implementation in AWS and High Availability stream solution running in Kubernetes environment
- Revamp, restructure, and redesign application to allow 70% server resource & cost reduction through migration towards micro-services architecture running on Kubernetes from Beanstalk
- Design and plan Kubernetes architecture, network, security, infra tools/strategy, container tools and monitoring
- Plan, architect and implement CI/CD model that improve overall product delivery time
- Mentorship with multi series presentation involving topic from architecture infra to CI/CD which allow better understanding for all stakeholder

Requirement analysis and design solution focusing on cloud native, cloud infrastructure, networking, distributed DB/System/Stream Processing, GitOps Strategy, Infrastructure-as-a-Code, analytic, cost efficiency, automation, DevOps and security segment:

- Application:
 - Design and setup container pipeline integrating vault secret access together with GitOps method to ensure automated flow from development until production environment
 - Design, integrate and collaborate with:
 - **QA team:** Migrate manual test flow into automated Jenkins pipeline flow using Katalon, jMeter in test and utilizing S3 as storage for test result; all within Kubernetes.
 - **React team:** Automate pipeline for building node image together with best practice and deployment strategy for multiple projects
 - **Android/IOS team:** Provide efficient pipeline to build and deploy over 70 apps build at one time for intra client usage.
 - **Java team:** Build strong customizable pipeline for multiple project using self-coded in-house shared library, custom JDK image and deployment into environment through proper CI/CD process. Moving ahead to split CD using tools like Spinnaker/Rundeck and packing as Helm with Operator
 - **DB team:** Design and automate script deployment steps that perform script joining, deploy versioning control, approval process and deployment scenario mitigation
 - **Data team:** Designing and implement pipelining process to extract data from multiple DB and load into S3 for Tableau integration usage.
 - **Network team:** Structure deployment improvement for Nginx config files management to migrate into GitOps automation
 - **PM team:** Providing strategy and implementation plan to use Jira to perform linked operation with Jenkins, Gitlab for self-serviced and automated solution such as changing domain, new client on-boarding procedure with infra/DB/application auto rollout.
 - Collaborate and design change data capture (CDC) structure/infra to stream DB change event into Kafka and towards S3 for data lake storage. Designing event sourcing from changed data with stream processing (Flink) and materialize view to sink source such as Postgres/ElasticSearch and alerting criteria.
 - Plan RTO and RPO strategy to ensure application failure will result in minimal recovery.
- Infrastructure:
 - Design and implement cloud infra:
 - Plan and design VPC, peering, private link integration, subnet assignment
 - Security group and policy setting for services such as RDS, Amazon MQ, EKS, Redis, ElasticSearch, Managed Kafka, Beanstalks, S3
 - ElastiCache Redis server resource planning, setting configuration and integration
 - Backup strategy for volume using AWS backup
 - S3 access and application integration. Data swap for hot and cold strategy including glacier for long term storage
 - Kubernetes architecture design and implementation from KOPS into Managed EKS, nodegroup and Fargate for serverless node.
 - AWS Storage solution and provisioning using EFS, GP and IO type for different product storage requirement. Kubernetes provisioning using CSI
 - Plan and implement autoscaling strategy for EC2/Beanstalks; Kubernetes node/pods scaling strategy using cluster-autoscale, horizontal pod autoscaler, vertical pod autoscaler, over-provisioning and cronHPA to ensure application runs in optimal condition without wasting resource. Leveraging Fargate together for on-demand pods and docker spawning to scale up fast when needed
 - Network:
 - Design and implement AWS ALB, NLB integration with Endpoint, EC2, beanstalks and EKS. Setting up load balancing, target group and health-check policy
 - Route53 planning such as weighted/fail-over strategy and host entry automation with Kubernetes ingress/services using external-dns. Implementing DNS resolution and optimization strategy

- Plan Kubernetes Service Mesh network/communication using Istio/App Mesh and networking using calico.
 - Involved in On-Perm design to work with BGP, ASN, Router, Switch to build CDN solution through cross-connect with AWS.
- Design and implement infrastructure as a code methodology using terraform, (structure/Workflow/deployment), CloudFormation, Jenkins, Jira, Slack to ensure all changes are capture and accountable.
- Analyst and architect data lake structure for data team to securely deliver data from Source to destination and performing ETL process using airflow.
- Analysis and Monitoring
 - Plan Monitoring strategy and implementation to ensure server, application, MQ, storage metrics are all visible for relevant parties to visualize and act on when hitting alert threshold. Provide guidance to monitoring metric setup.
 - Define log filtering structure and scrapping through Prometheus and visualizing from Grafana.
 - Building integration with Slack/Jenkins for alerting and web hooks
 - Custom graph tweak and creation with integration from Elasticsearch to provide rich monitoring data.
 - Design and implement metric and logging infrastructure to support fallback, high transaction, and efficient transmission: Shipping logs from app through FileBeats
 - Plan APM (NewRelic/Elastic APM/Jaeger) integration to allow distributed tracing and app troubleshooting. Measuring the API transaction metrics and plan the alerting strategy.
- Security:
 - Integrate solution with SSL using Cert manager, ACM and custom private CA.
 - Defining termination strategy and passthrough option based on products and access policy
 - Private CA integration with AWS Workspace through policy update to ensure secure connection on peered/cross-region network communication.
 - Plan and implement Zero trust policy structure within the organization involving JumpServer to secure access and limit server command access. Providing AAA security control.
 - Minimum Role privilege, SSO, SAML
 - Plan secured access to every in-house product (Jira/Jenkins/Registry Repo/etc.) through Keycloak using LDAP and vulnerability checks strategy such as port scanning, penetration test
 - Involved in Application WAF using AWS WAF, FortiWeb and custom Nginx ModSecurity to protect system from OWASP attack
 - Involved in DDOS strategy planning to use AWS ActiveShield/Cloudflare/Incapsula.
 - Containerized security using distroless image and reviewing security exposure on build image through Clair scanning, to ensure it adhered to the latest security best practice
 - Plan and design Vault HA solution to manage credential for all application access to sensitive data and generate template for runtime container without exposing data as environment variable (using consul template)
 - Plan security implementation and DevSecOps strategy for different product where:
 - Dockerfile build strategy enforced security to minimize attack surface
 - Docker images securely pull/pushed through private Harbor registry to ensuring image used are scanned and approved to be used within the organization
 - Define and integrate AWS access from Kubernetes only through ServiceAccount on pods to ensure minimal access exposure
 - Kubernetes RBAC policy and OPA to ensure no pods gain unwanted privilege. Network policy to restrict ingress and egress through Istio and Calico
- Active research in new technology/open-source solution which fit the company direction and provide POC to demonstrate benefit and implementation:
 - Security, Graph DB, Big Data Processing (airflow/spark/flink/cloud data flow), Anomaly Detection, Machine Learning, Automated Services, Kubernetes, CNCF solutions, CDN, HA strategy and DR strategy

- Technical:
 - Java architecture and technical solution design together with requirements translation on chat/payment/financial trading application. Provide technical insight when troubleshooting issue such as memory, GC, multi-threading, spring performance.
 - Define the technical stack/strategy for microservices framework, library, build, versioning, deployment, logging, metrics and structure to work with
 - Lead team for implementation on product that needs to support high volume transaction of > 600k TPM that can perform transaction within ~ 10ms with connected services like Redis and oracle during peak period
 - Architect, migrate and implement chatting solution from monolith app into microservices (using STOMP, Netty, Sockjs MQ and Kafka); splitting functions, services clearly and dealing with websockets layer transaction like profanity filter. Scaling connection automatically when the request arises with multiple scaling strategy. Structuring the container resource usage and load test use case. Ensuring failover implemented and monitored properly.
 - Design and implement stock data feed from third party that utilized Kafka HA to scale with large consumer group (spring app) in real-time stream transaction and processing. Scalable when new market is added. Crafting the backbone for HA strategy on event driven solution for all project with schema validation controls and capture + transform data from CDC for data lake pipeline
 - Kafka infra and structure design to use schema registry and Arvo format for versioning message structure
 - Enforce development policy to cover unit test through JUnit using BDD and TDD methods.
 - Code Coverage using JaCoco and SonarQube as quality inspection gate to facilitate automated pipeline.
- Leadership:
 - Lead multiple teams in discussion and implementation strategy to ensure structure implementation are correctly delivered throughout the pre and post product delivery. Managing multiple team such as Java, QA, Frontend, DevOps, Cloud System Engineer
 - Provide technical talks and presentation for different department from time to time to help cultivate innovative mindset and allowing the company staff to be as knowledgeable and hands-on with the latest technology and cloud native trend.

Solutions Architect
Systems Analyst

August 2015— May 2018
 August 2013— July 2015

Bluecrystal Solutions Sdn. Bhd., Kuala Lumpur, Malaysia

- Lead and supervise team of more than 10 from different region and departments. Perform code and database query review and performance tuning as well as system support.
- Lead E-commerce architecture design and development with mixture of open source/API library
- Provide solution to bank on hire purchase frontend project with proof of concept on Image-to-Text (OCR) technology.
- Lead research and development in new technology/framework/API to identify potential business direction and delivering Proof of Concept
- Project lead and architecture framework design on ERP system for Supply Chain Management software from sketch which involve integrated module for HR, Payroll, Accounting, Inventory, Purchasing, Warehouse & Logistic, Marketing, Sales, CRM, Admin, Maintenance, Email Service and Workflow Engine.
- Manage development and project lifecycle for standalone piping material database web system involving dynamic tables and complex logic
- Design, develop and manage project development lifecycle.

- Project lead for architecture design, implementation, and development. Involved in performance fine tuning for code and database structure
- Research, develop and maintain Business Intelligence (Anti-Money Laundering) software accessed by over 300 U.S. banks
- Manage SVN controls, release package Quality Assurance, deployment process and assert impact area towards each release

EDUCATION

**Universiti Teknologi
Malaysia (UTM)**
Skudai, Johor
2007 to 2010

B.Sc. in Computer Science (Computer Graphics and Multimedia Software)

- First Class Honour

Awards ICT Innovation Day Overall Winner Awards

Certifications

- AWS Certified Solutions Architect – Associate: 11/2021
- Red Hat Delivery Specialist - Cloud-Native Development: 06/2021
- Red Hat Delivery Specialist - Container Platform Deployment II: 06/2021
- Cloud Architecture with Google Cloud on Coursera: 05/01/2020
- Cloud Engineering with Google Cloud on Coursera: 04/26/2020

ADDITIONAL INFORMATION

Availability 1 Month