AKHMAD MAKKI

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Summary

Lead solutions architect and engagement manager for products and services. 21+ years experiences across Ericsson, Nokia Networks, Oracle, Software AG with highlight over API and Microservices, Service Assurance and Fulfillment, Digital Operations, Telecom and Network Analytics, and IoT and Cloud Platform. Strong exposure on Telecom and ICT industries with solid academic background.

Formal Education

2001–2003 Technische Universiteit Delft, Netherlands – www.tudelft.nl
Master in Computer Science • Major: Ontwerp van Informatiesystemen

- GRE score: 730 for quantitative; 750 for analytic (Top 6 % worldwide)
- Scholarship from NUFFIC (Dutch Organization International Education Cooperation)
- TOEFL score: 250 (of scale 300) • GPA: 8.05 (of scale 10)
- Master thesis: IT Evaluation framework, based on ITIL process, Looijen tasks, and Mintzberg model, enabling an IT organization to score best-suited IT Management tool (i.e. BMC, HP OpenView, CA, IBM Tivoli) for its operational services

1994–1998 Institut Teknologi Bandung (ITB) – www.itb.ac.id
Bachelor in Computer Science • Major: Computational Intelligence • Cum Laude

- Scholarship from Multipolar (Lippo Group) • GPA: 3.42 (of scale 4)
- Bachelor project: Implementation of intelligent algorithm to improve the statistical regression accuracy of multicriteria forecasting application

Professional Experience

2020–now Country Solutions Strategist – Software AG – www.softwareag.com

- Lead the customer solution engagement and drive technical presales activities for Software AG portfolios across Telecoms and Financial Services accounts
- Develop thought leadership through solutions patterns and reference architectures for webMethods API Gateway, Microservices, Service Bus, and IPaaS portfolios
- Providing reusable solutions template of global partners i.e. Microsoft, Adobe, and Matillion, and execute technical enablement bootcamp for local business partner
- Influence for early sales cycle engagement, helps to qualify and follow up leads from marketing, and provide competitive feedback for products management
- Key selected cases of won opportunities are:
  - **PT Telkom** – Replace API Management from WSO2 platform, established security policies for external Indihome triple play use cases, and expand API Gateway to provide baseline for new Telkom digital business initiatives
  - **PT Telkom** – Migrating Oracle Network Service Gatekeeper assets into webMethods Enterprise Service Bus, while providing services monitoring to obtain end-to-end visibility of workflow automation through Aurea Insight
  - **PT Telkom** – Expand and refactor integration baseline into container-based Microservices runtime on RedHat OpenShift Kubernetes, and establish Service Governance using asset, lifecycle, and transaction management
  - **Bank BRI** – Internal API Gateway for standardizing branch automation and enforcing service access policies, improving functional reusability through Microservices runtime on RedHat Openshift Kubernetes with AppMesh and sidecar Microgateway to ensure dynamic context for Mobile Banking
  - **Bank Sinarmas** – Transforming existing Integration services into Outer-and-Inner Architecture using API Gateway to secure north-south traffic and Rancher-based Microservices to establish east-west dynamic applications
  - **AXA Insurance** – Business Process Platform using Azure-based API Gateway and webMethods.io IPaaS enabling registration, claim, and payment through Marketplace with offloading to on-premise Elasticsearch for auditing
  - **Lembaga Penjamin Simpanan** – API Gateway for all banks in Indonesia to

reports and update account information, and middleware to integrate LPS Core System with Kafka, Sharepoint Document Management, and SAP ERP

- Key selected cases of supported presales are:
  - **Indosat** – Replace Google Apigee as external API Gateway for Data bundling and rewards use cases along with API Monetization and invoicing modules, integration to SMSC and Oracle ESB that handling CRM, Charging, and ERP
  - **Indosat** – Replace Axway as OSS and BSS API Management used in Oracle Next-Generation Self-Service Provisioning (NG-SSP) which is a critical revenue generating systems surrounded into Indosat BSS and Indosat VAS
  - **Smartfren** – Enterprise distribution platform collaborating events in Whale Cloud Multi-Channel-Campaign-Management, Kafka, and Apache Pulsar, with subscriber follow up actions in NetCore Marketing and external partner
  - **Bank BNI** – Modernization of Card Management on z/OS mainframe systems with comprehensive API solutions including AppLink for screen interface, EntireX for function interface, and CONNX for VSAM data interface
- Certified with "API, Integration, & Microservices Solution" on Software AG Foundation, year 2021
- Certified with "IoT & Analytics Solution" on Software AG Foundation, year 2021
- Honor: "Software AG Tour D'Excellence" year 2021 for category "Yellow Jersey"
- Honor: "The first AppMesh customer in South Asia – Bank BRI", year 2021
- Honor: "The first SaaS customer in Indonesia – AXA Insurance", year 2020
- Reports to "Vice President Solution Architecture Asia and China"

2013–2020 Senior Lead Solutions Architect - Ericsson – www.ericsson.com

- Assuming lead presales and delivery roles for consulting and system integration services focusing on Business Transformation, Service Assurance & Fulfillment, Network Management & Orchestration, and Cloud Infrastructures practices
- Act as presales champion for Ericsson "Industry and Society" initiatives extending IoT, Cloud, Connectivity, to Public Sectors and Transportation industries
- Drive the automation initiative to optimize the service delivery, piloting Ansible and CI/CD for the upgrade, installation, and testing across OSS and BSS portfolios
- Responsible for solution architecture, value proposition, proposed technical design, network topology, and capacity dimensioning during customer presales initiative
- Own the solution proposal, technical compliance, bill of quantity, as well as implementation plan, risk analysis, and service costing during bid, RFI, RFP
- Provide detail use cases, technical specification, interface design, and test plan during solution implementation. Assess any changes and deviation to agreed scope.
- Being technology champion for IBM Tivoli products, including NetCool Omnibus, NetCool Probes, Netcool Impact, DB2 databases, Tivoli Network Manager (ITNM), Network Configuration Manager (TNCM), Network Performance Manager (TNPM)
- Being integration champion for 3rd party probes i.e. Anritsu Masterclaw, Viavi xSight & AriesoGEO, Polystar OSIX & Jupiter, and Empirix E-XMS & Intellisight
- Selected cases of end-to-end support from presales, won, to delivery are:
  - **Samudera** – IoT solution involving Speedcast VSAT Edge module with MQTT propagating the vessel information i.e. speed, fuel, pressure, temperature to Voyage Optimization Solution (VOS) and Automated Noon Reports (ANR) application, deployed under AWS (Amazon Web Services) EC2, RDS, EBS public cloud instances enabling headquarter to monitor the vessel online.
  - **Telkomsel** – OSS transformation to support LTE and Radio deployment, swap and migrate the existing OSS-RC baremetal to Virtualized ENM based on RedHat OpenStack Platform (RHOSP) on top of Huawei compute and storage infrastructure with ENIQ-S KPI reporting and TWAMP historical analytics
  - **Telkomsel** – Customer Experience Management (CEM) solution using Ericsson Expert Analytics (EEA) platform with MAPR HDFS, Hadoop, Spark for offline procesing, Kafka for streaming handling and Greenplum and Redis for online processing with Tableau for data exploraton, to provide video optimization, smart capacity planning, better time to resolution and marketing insights

with integration to Core networks GGSN-EPG (GTP probe), SGSN-MME (EBM, CTUM), as well as Radio networks WCDMA RNC (GPEH), LTE eNodeB (CTR)

- **Telkomsel** – Implement Next Generation OSS Fault Management with IBM NetCool, alarm correlation and filtering using IBM Impact, and integration of IBM Probes to network elements including Radio (Ericsson, Nokia, Huawei, ZTE), Core (Nokia, Ericsson, Huawei, Cisco), and Datacom, integration of ticketing workflow to BMC Remedy for Incident Management, MS AD for authentication, and threshold based Performance Management (SML Servo)

- **Telkomsel** – Implement Next Generation OSS Configuration Management with Telcordia Granite (Inventory and Discovery & Reconciliation), with integration to BMC Remedy for Change Management, and IBM Netcool for alarm enrichment. It covers Radio (2G, 3G, 4G), Circuit Core (MSC, MGW, NG-HLR, ITP), Packet Core (SGSN, GGSN), Datacom (Router, switches)

- **Telkomsel** – Appying Scrum in developing Core Availability dashboard using Python, RabbitMQ, and AngularJS processing the data parsed from logs, alarms, XML and MML output. Analyzed and proposed key events contributor to both planned and unplanned downtime for availability calculation.

- **Telkomsel** – Event-based traffic monitoring and troubleshooting for Ericsson CS Core, using Ericsson NET-TUNER to support MSC rejuvenation from APZ to Blade Cluster, with Anritsu Masterclaw probes to provide additional xDR i.e. MAP, SGsAP, SIP for KPI reports and call trace improvement by IMSI-TMSI mapping of MAP/G between probes, as well to mediate A- interface xDR and IUCS xDR for analytics integration to Nokia Serve@Once Intelligence

- **Indosat** – Implementing Ericsson ENIQ Statistics for the performance management of Ericson BSS and Charging (SDP, OCC, AIR, CCN) including Traffic and BHCA measurement, Success Rate, Capacity utilization, using Business Objects for analytics and Python for aggregation and mediation

- **Telkomsel** – Ericsson Virtual IMS as VNF implementation on Mirantis OpenStack covering VoLTE, VoWIfi, RCS (Rich Communication Suite), and WebRTC use cases including VoLTE traffic monitoring using Empirix E-XMS probe and Intellisight to mediate the ASDR from vSBG, vMTAS, and vCSCF.

- **Telkomsel** – Implement NFV Infrastructure (NFVI) for Virtual EPG (Evolved Packet Gateway) as VNF on Mirantis OpenStack with MANO components including Ericsson Orchestration and Ericsson Cloud Manager to manage the VNF configuration, capacity, tenancy, and infrastructure lifecycle.

- **Telkomsel** – Utilizing Ansible automation for expansion and data collection of Ericsson NET-TUNER PS monitoring Ericsson SGSN / MME and GGSN / EPG

- Selected cases of supported presales are:
  - **Telkomsel -** Enterprise Product Catalog solution covering Catalog Design and Run Time Validation integrating with Amdocs Billing and Tibco Service Bus, covering active-active high availability using EnterpriseDB Postgres Failover and Replication, JMX monitoring, and RedHat OpenStack Platform (RHOSP)
  - **Telkomsel -** Extending current IBM Netcool with Datacom monitoring for IP NEs (including Huawei, Cisco, Juniper) underlying RAN & Core infrastructure using IBM ITNM, IBM TNCM, Proviso TNPM, with WebNMS as SNMP Proxy
  - **XL Axiata** – Service Desk for M2M platform as Managed Services, on top of Ericsson hosted M2M platform, customized consolidated reports based on Business Objects and M2M application platform such as PTC ThingWorx.
  - **PT Telkom** – Expansion of SOEM and IPTNMS to manage migrated transport networks of Telkomsel including the Minilink TDM nodes and R6000 routers
  - **Telkomsel** – Geolocation network optimization based on Optimi Radio Analyzer and Radio Configuration Management with integration to OSS for RAN traces (RPMO, GPEH, CTR) and integration to MME for CTUM logs
  - **Telkomsel** – Extending current Radio OSS with SON (Self Organization Networks) Optimization Manager to ensure optimal performance of 3G and 4G networks with policy based implementation using REST interface to OSS
  - **TELIN** – Packet Core (SGSN, GGSN, SAPC) monitoring solution, using Viavi xSight probes with diagnostics and KPI reports covering Gn, Gx, Gi protocols

- **Government of Jakarta** – Video Analytics application based on Hitachi cloud platform and KiwiSecurity for traffic counting, traffic flow analysis, violation detection with integrated CCTV to Google Maps for Jakarta Smart City
- Certified as "Senior Solutions Architect" on Ericsson BUGS Global Individual Assessment Program, year 2015
- Certified as "Professional Level Solutions Architect" on Ericsson Sales Excellence Academy program, year 2016
- Held "CORE 3 Accredited" in Ericsson CORE 3 Accreditation program, year 2015
- Honor: "Ericsson Indonesia Value Award" year 2014 for category "Best Team", and year 2017 for category "Winning Team"
- Reports to "Country Head of Digital Business Solution, IT, and Cloud Domain"

2012–2013 Enterprise Architect (Telecom Industry) – Oracle – www.oracle.com

- Lead the technical engagement, roadmap development, and customer solution consulting across Oracle core technology and Oracle middleware portfolios
- Drive the presales activities, and build key opportunities and pipeline across top three strategic Telecom accounts in Indonesia: Telkomsel, Indosat, XL Axiata
- Develop architecture thought leadership through establishing reference architectures, Return on Investment (ROI) presentations, industry templates, etc
- Influence early sales cycle engagement, complete end-to-end solution scope (cross Line of Business) and focus on the business value (Total Cost of Ownership)
- Key wins opportunity in Telecommunication industry are:
    - **Indosat** – Oracle Exadata as consolidated platform for IT datawarehouse as well as Network Performance Management application. Integrated with IBM Datastage ETL as well as Comptel mediation as data sources supplier
    - **Indosat** – Expansion of Self-Service Provisioning (SSP) as the revenue critical VAS subscription platform, as full implementation of Oracle SOA platforms (including Service Bus, BPEL Process Manager, Service Registry, WebLogic)
- Key supported presales in Telecommunication industry are:
    - **XL Axiata** – Oracle Big Data Appliance, based on Cloudera Hadoop, NoSQL, and R Enterprise, as network analytical platform for processing data from GGSN DPI and other large-scale network data, to be integrated to Teradata
    - **Telkomsel** – Modernization of INDIRA Operational Data Store platform with Oracle Exadata and Oracle Data Integrator to fulfill management reporting timeframe as well as to improve validity of Customer Care information
    - **Telkomsel** – VAS and Recharging database security solutions using the Oracle Audit Vault for audit & reporting, Database Firewall for blocking & alerting, DB Vault for access control, and Advanced Security for data protection
    - **Telkomsel** – Billing software quality testing solution based on Oracle Application Testing Suite, Test Manager, and Load Testing tool integrated with Keynote SIGOS for network active testing with roaming simulation
- Reports to "Regional Director of Enterprise Architecture and Sales Consulting"

2008–2012 Solutions Architect - Nokia Siemens Networks – www.nsn.com

- Assuming presales and delivery roles for consulting and integration services (CSI) focusing on CEM (Customer Experience Management), SDM (Subscriber Data Management) and SDF (Service Delivery Framework) practices
- Responsible for solution architecture, value proposition, technical design, network topology, and capacity dimensioning during customer presales initiative
- Own the solution proposal, technical compliance, bill of quantity, as well as implementation plan, risk analysis, and service costing during bid/RFI/RFP
- Act as technical lead to Delivery Engineers. Support Project Manager in resource plan and skills enablement. Assessing if any CR and deviations of project scope
- Provide detail use cases, technical specification, interface design, and test plan during solution implementation. Establish escalation channel to 3rd party vendors
- Selected cases of end-to-end support from presales, won, to delivery are:

- **Telkomsel** – Customer Experience Management datawarehouse using BusinessObjects Dashboard and BusinessObjects ETL, Oracle Partitioning, EMC storages, with integration to Traffica and Polystar GGSN probes as data sources, and SmartTrust device management for subscriber follow ups
- **Telkomsel** – Real time control and user plane monitoring for nation wide CS Core (MSS, GCS, MGW) and PS Core (SGSN) using Traffica with IBM Solid DB
- **Telkomsel** – Traffica probe integration, enabling Traffica monitoring on Ericsson PS Core (GGSN) using Polystar OSIX probes and Traffica Gateway
- **Telkomsel** – Seamless Roaming Callback and Collect Call replacement, orchestrating HLR, MSS, IN (SCP/OCS), USSD, and SMS Gateway, with MAP, CAP4, and HTTP protocols, based on OpenCloud Service Broker and SLEE, as well as Pentaho BI and ETL as management dashboard
- **Telkomsel** – Mobile Enterprise platform, provide VPN and VPBX service for corporate subscriber based on OpenCloud SLEE, JBoss, and TecnoTree IVR
- **Telkomsel**: Enhancement to existing Provisioning software (PRISMA), refactoring Oracle Weblogic, Java Messaging Service (JMS), and Oracle DB tiers. Build new adapters: SPML, XML (NSN HLR), MML, SOAP (Huawei HLR)
- **Indosat** – CDR mediation and reporting for Fixed Networks (IMS, Local Exchange, International GW) with upstream adaptation to Convergys Billing
- **Telkomsel** – Data migration from legacy HLR: Siemens HLRc (EWSD) and Siemens HLRi (SQL) to NSN NT-HLR (LDAP), Perl scripting, Fujitsu hardware partitioning and reuse, Backup & Restore integration to EMC Networker
- **Banglalink, Bangladesh** – Migration from legacy HLR to NSN NT-HLR, provide data mapping, adapting OSS Fault Management (FM) and Performance Management (PM) interface, assist in migrating provisioning to SPML
- **NTS (Axis)** – Integration of nationwide Apertio HLR. Design SIGTRAN load balancing from Huawei STP, Huawei MSC, and Huawei SGSN. Ensure integration with Comptel provisioning. Design QoS profile for HSPA services
- **Telkomsel** – Centralized OSS access control, audit logs, and single-sign-on for network element manager based on Nakina System with WebLogic
- Selected cases of supported presales are:
  - **Telkomsel** – Intelligent Pricing, enabling cell-based discount subscription, using OpenCloud signaling gateway, and Dynotronics dynamic tarif engine
  - **Indosat** – Voucher Management system based on JBoss and DataGuard, with VSP recharge to Ericsson IN and ZTE IN, and CORBA interface to Siebel CRM
  - **NTS (Axis)** – Postpaid billing system, proposing MetraTech application to be integrated with Siebel CRM, Data warehouse, on top of WebMethods EAI
  - **Indosat** – Managed Customer experience, proposing SAI / Serve@nce Intelligence with integration to Traffica, Anritsu probes, and Tekelec probes
  - **Telkomsel** – Device Management, and terminal management enhancement including automatic device detection (ADD) and provisioning integration
  - **Telkomsel** – LDAP repository for NSN Voice Server based on Oracle Unified Directory, enabling seamless profile across mobile, SIP, and IP PBX domain
  - **Starhub** – Enterprise Subscriber Profile proposed using NDS for subscriber repository, IDM for identity management, and SIF for subscriber intelligence
- Honor: "NSN Indonesia Value Award" year 2009, for category "Win Together"
- Reports to "Country Head of Architecture, Consulting, and System Integration"

2005–2008 Senior Solutions Consultant - Oracle – www.oracle.com

- Provide middleware solution consulting and technical expertise related to Service Oriented Architecture (SOA) and Identity & Access Management (IDM) products
- Drive presales activities for medium-to-large-size middleware opportunities in Indonesia including customer engagement, product positioning, architecture workshop, value proposition, solution proposal, and competitive intelligence
- Involved in hands-on technical Proof-of-Concepts in customer environment, as well as develop customized product demos, both by Oracle and helped by partners
- Become key speaker in numerous Oracle seminars and product marketing events.

Coordinate local Java User Group to evangelize Oracle Java platform and tools

- Help Partner Development team conducting partner enablement, technology update, and boot camp. Provide technical support during implementation phase.
  - Key opportunity wins in Telecommunication industry are:
    - **PT Telkom** – Proposed Service Delivery Platform (SDP) enabling revenue generating service creation, using Oracle SOA Suite as service orchestration integrated to PT Telkom OBC (OSS/BSS/CRM) and BEA Network Gatekeeper as converged SIP server interfaced to PT Telkom Parlay network
    - **PT Telkom** – Provided consultancy services for PT Telkom integration architecture and SOA blueprint, including maturity model, service reusability & granularity, eTOM compliance, and governance strategy
    - **Sampoerna Telekom** – Delivered business process integration for "Ceria" dealer management and Voucher distribution in Sampoerna Telekom based on Oracle SOA platform: J2EE, Web Services, and BPEL Process Manager
    - **Indosat** – Implemented subscriber directory services (Oracle LDAP) with clustering and multimaster replication, consolidating prepaid data from Siemens Intelligent Network and postpaid data from Convergys Geneva Billing, to serve VAS related queries across Indosat nationwide profiles
    - **Indosat** – Enabled Indosat Sarbanes Oxley (SOX) audit compliance through implementation of Identity Management, Access Control and Audit Reports, to ensure IT policies and segregation of roles in revenue related systems and applications, i.e. Convergys Billing, SAP ERP, Siebel CRM
    - **XL Axiata** – Proposed user identity lifecycle management (Oracle IAM) & Enterprise Single-Sign-On (ESSO) to reduce internal security risks and address Sarbanes Oxley (SOX) and ISO compliance requirements
  - Key opportunity wins in Financial Services industry are:
    - **Orix Finance** – Delivered business process integration for Leasing Operation using Oracle BPEL Process Manager platform hot-pluggable to BEA AquaLogic Service Bus (ALSB), orchestrating JD Edwards ERP finance module, BEA WebLogic-based portal, and existing legacy DB2/400 database
    - **Bank Indonesia** – Proposed application modernization of Central bank accounting (SOSA) and Shariah governance application (SimWas) using Oracle J2EE & Oracle ADF (Application Development Framework)
    - **Bank Mandiri** – Implemented Identity provisioning to consolidate users of core banking applications (Silverlake AS/400 systems, Branch Delivery system, Microsoft Active Directory) with roles defined in SAP Human Resources application, in requirement of future compliance to PCI-DSS
    - **Bank BNI** – Provided Oracle IDM for BNI user identity administration and automation of approval workflow to improve IT service level agreement as well as reduce internal helpdesk workload for password management
- Honor: "Oracle Asia Pacific Club Excellence" year 2007
- Reports to "Regional Director of Middleware Technology Sales Consulting"

2003-2005 Solutions Specialist – Logica – www.logica.com

Project: **Indosat (IM3)** – CRM and Billing Enhancement
- Develop enhancement and change requests on ePoint (now Convergys) CRM and BEA Tuxedo components, with integration to Comptel provisioning, Convergys billing, and Protagona (now DoubleClick) campaign management
- Provide planned technical support, responsible for modules of Alcatel (now Subex) fraud management, ePoint CRM, Oracle Database, and BEA Tuxedo
- Carry out performance improvement for ePoint CRM, including Oracle Database tuning, and ePoint code/script optimization to improve processing time

Project: **DiGi Malaysia** – CRM Upgrade
- Lead the technical support for ePoint CRM system, responsible for change management, problem resolution, and maintaining SLA. Manage project cost baseline and engineer resources across Kualalumpur, Manila, and Dublin.
- Develop customized software patch to cater DiGi functional requirement. Plan, perform ePoint CRM version upgrade, then cutover and stability monitoring

Project: **Telkomsel** – MMSC Enhancement
- Implement Business Tools on top of LogicaCMG MMSC, enabling extensive analytical MMS usage reports and customer care queries. Improving MMS message archiving by installing extended Mirapoint storage platform
- Certified on "ITIL – IT Services Management" on Prometric, year 2014
- Reports to "Country Director of Telecom Business Operation"

2000-2001 Web Programmer – M Web – www.mweb.com

- Being champion of partner platforms i.e. Allaire (now Adobe) ColdFusion and JRun application server, Vignette (now OpenText) StoryServer content management
- Enhance news channel and banner management of Astaga! com and Satunet portal. Develop online card application and web marketing for co-branded ANZ MasterCard
- Developed B2C solution for MATS Logistics, based on PHP web server and MySQL database. Enable online shipment tracking which reduced helpdesk phone rate
- Developed news portal for Van Zorge Report, based on ColdFusion platform and MS SQL database. Enable online content publishing and personalized subscription
- Reports to "Country Director of Internet Corporate Services"

1998-2000 MIS Programmer – Central Securities Depository – www.ksei.co.id

- Responsible for analysis, system development, and assurance of core application (securities depository, clearing interface, transaction settlement, payment interface) based on Informix (now IBM) Dynamic Database and Informix 4GL
- Develop billing and invoicing module for SunSystems (now Infor) accounting system
- Develop Internet channel, based on Microsoft web technologies, enabling securities brokers and custody banks to do immobilized electronic bookentry
- Reports to "Head of Management Information System Division"

Technical Bootcamp

- Qwiklabs Quest 2020: Google Apigee Advanced
- Qwiklabs Quest 2020: Google Apigee Basic
- Qwiklabs Quest 2020: Anthos: Service Mesh
- Qwiklabs Quest 2020: Apache Kafka and Confluent Platform on Google Cloud
- Qwiklabs Quest 2020: Big Data, Machine Learning, Artificial Intelligence
- Software AG 2020: Build IoT Solution with Cumulocity (6 days)
- Software AG 2020: IoT Basic Enablement (3 days)
- Coursera 2019: Google Cloud Kubernetes Engines
- Coursera 2019: Developing Applications with Google Cloud Platform
- Coursera 2019: Essential Google Cloud Infrastructures
- Ericsson 2019: 5G Core Concepts (2 days)
- Ericsson 2018: MANO - Management and Orchestration (2 days)
- Ericsson 2018: NFVI - Network Function Virtualization Infrastructure (2 days)
- Coursera 2018: Google Cloud Platform Fundamentals

- Ericsson 2017: Order Care & Catalog Manager (5 days)
- Ericsson 2016: Cloud Manager (3 days)
- Ericsson, Kuala Lumpur 2014: Granite Adaptive Inventory (10 days)
- Ericsson, Kuala Lumpur 2014: Conceptwave Order Management (5 days)
- Ericsson 2014: Service Delivery Campus (5 days)
- Oracle, Sydney, 2012: Big Data Deep Dive (3 days)
- Oracle 2012: Telecommunication Industry Primer (2 days)
- Oracle, Bangkok, 2012: Enterprise Architecture for Practitioner (4 days)
- Oracle, Singapore, 2012: Times Ten & In-Memory Database (3 days)
- Nokia Siemens, Singapore, 2012: TOGAF 9 Preparation (4 days)
- Nokia Networks, Singapore, 2011: CSAM Solution Architecture Methodology (4 days)
- Nokia Siemens, Singapore, 2011: Customer Experience Management (4 days)
- OpenCloud, Singapore, 2010: Service Broker Development (5 days)
- Nokia Siemens, Berlin, 2009: Policy - OneAAA & Mobility - OneEIR (4 days)
- Nokia Networks, Berlin, 2009: Network Directory Server - OneNDS (2 days)
- OpenCloud, 2008: JAIN SLEE Rhino Platform (2 days)
- Nokia Networks, 2008: Apertio Next Generation HLR (2 days)
- Oracle, Kuala Lumpur, 2008: Advanced Identity Management (3 days)
- Oracle 2008: SOA Industry Focused Solution (3 days)
- Oracle, Kuala Lumpur, 2008: SOA Methodology & Maturity Model (2 days)
- Oracle, Bangkok, 2007: ERP & Siebel Integration (2 days)
- Oracle, Singapore, 2007: Web 2.0 Framework (3 days)
- Oracle, Kuala Lumpur, 2007: Fusion Center Enablement (2 days)
- IASA, Kuala Lumpur, 2007: Software Architecture Symposium (2 days)
- Oracle, Singapore, 2006: Identity & Access Management (5 days)
- PassLogix, Singapore, 2006: Enterprise Single Sign-On (4 days)
- Oracle, Singapore, 2006: BPMN & Business Process Analysis (3 days)
- Oracle, Singapore, 2006: Enterprise Service Bus & Adapters (2 days)
- Oracle, Singapore, 2006: Portal Development (3 days)
- Oracle, Singapore, 2006: Java Server Faces (3 days)
- Oracle, Singapore, 2005: Solutions for Telecommunications Industry (2 days)
- Oracle, 2005: BPEL & Business Process Orchestration (2 days)
- Oracle, Singapore, 2005: Wireless Mobility Solutions (4 days)
- Oracle, Singapore, 2005: Enterprise Java Application Server (2 days)
- BEA 2004: Tuxedo ATMI Application Development (3 days)
- BEA 2004: Tuxedo Application Administration (4 days)
- Comptel 2004: MDS/SAS3: Provisioning & Activation (2 days)
- Comptel 2004: MDS/AMD: Accounting & Mediation (2 days)
- LogicaCMG 2004: CRM: Framework & Architecture (2 days)
- LogicaCMG 2004: CRM: Scripting & Workflow (3 days)
- Oracle 2004: Database PL/SQL Programming (5 days)
- Oracle 2004: Database Administration Fundamental (5 days)

Business Trainings
- Software AG 2021: Project Management The Basics (4 days)
- Software AG 2020: Creating Value Skills (2 days)
- Software AG 2020: New Hires Induction (8 days)
- Ericsson 2018: Digital Services Excellence (6 days)
- Ericsson 2017: Accelerating Business for Project Engagement (3 days)
- Ericsson 2016: Leadership for Professional (8 days)
- Ericsson 2015: Consultative Selling for Solutions Architect (3 days)
- Ericsson 2015: Consulting Skills (3 days)
- Ericsson 2015: Sales Opportunity Creation (2 days)
- Ericsson 2015: Consulting & Systems Integration Professional (2 days)
- Ericsson 2014: High Impact CORE-3 Team (2 days)
- Ericsson 2014: SPIN Selling Skills (2 days)
- Ericsson 2013: Project Sales Toolbox (2 days)
- Oracle, Singapore, 2013: Technology Sales Foundation (5 days)
- Nokia Networks 2010: Service Excellence (2 days)
- Oracle, Singapore, 2008: Strategic Opportunity Management (2 days)
- Oracle 2007: Technology Solution Selling (3 days)
- InfoMentis, Singapore, 2005: Sales Strategy & Effectiveness (3 days)