

MUHAMMAD IRFAN BIN ZULKIFLE

Junior Network Engineer | CompTIA Network+ | AWS Certified Cloud Practitioner | Routing, Switching and Network Troubleshooting

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PROFESSIONAL SUMMARY

CompTIA Network+ and AWS Certified Cloud Practitioner certified junior network engineer candidate and AWS re/Start graduate with hands-on lab experience across enterprise routing, switching, LAN and WAN design, IP addressing, and structured network troubleshooting. Built, configured and fault-diagnosed 50+ multi-device topologies covering VLANs, 802.1Q trunking, inter-VLAN routing, STP, EtherChannel, static routing, RIPv2, OSPF, EIGRP, NAT and PAT, ACLs, DHCP, DNS, NTP and Syslog through device command-line interface. Applies OSI-layer fault isolation, configuration backup and change documentation, and disciplined record-keeping developed in regulated banking operations. Seeking a junior network engineer role covering datacom deployment, commissioning, and network operations and maintenance.

CERTIFICATIONS

AWS Certified Cloud Practitioner (CLF-C02) | Certified August 2026
CompTIA Network+ (N10-009) | Certified March 2026
CompTIA Cloud+ (CV0-004) | Exam scheduled October 2026
AWS Certified Solutions Architect - Associate (SAA-C03) | Exam scheduled November 2026
Google IT Support Professional Certificate | July 2020

TECHNICAL SKILLS

Routing and Switching: Static routing, RIPv2, OSPF, EIGRP, BGP fundamentals, default and floating routes, routing table analysis, administrative distance, inter-VLAN routing, router-on-a-stick, VLANs, 802.1Q trunking, STP and RSTP, root bridge selection, EtherChannel and LACP, switch port configuration, Layer 2 and Layer 3 switching

IP Networking and Protocols: TCP/IP, OSI model, IPv4 and IPv6 addressing, subnetting, VLSM, CIDR, ARP, ICMP, MTU, unicast, multicast and broadcast, NAT and PAT, DHCP and DHCP relay, DNS, NTP, HTTP and HTTPS, FTP and TFTP, SSH, Telnet, SNMP, Syslog, common port numbers

Network Security: Standard and extended ACLs, switch port security, DHCP snooping, 802.1X and NAC concepts, AAA concepts, firewall concepts, IPsec site-to-site VPN, SSH remote access hardening, privilege levels and password policy, network segmentation, defence in depth

Network Operations and Troubleshooting: OSI-layer fault isolation, ping, traceroute, ipconfig and ifconfig, nslookup and dig, arp, netstat, show and debug commands, packet capture concepts, structured cabling, copper and fibre media, PoE, network topology and addressing documentation, configuration backup and firmware upgrade, incident triage and escalation

Wireless and WAN: 802.11a/b/g/n/ac/ax, SSID and channel planning, WPA2 and WPA3, wireless controller concepts, leased line and WAN topologies, MPLS concepts, SD-WAN concepts, link redundancy and high availability

Cloud and Data Centre Networking: AWS VPC, subnet design, route tables, Internet Gateway, NAT Gateway, Security Groups, NACLs, VPC Flow Logs, Elastic IP, Route 53 DNS, load balancing, Auto Scaling, Azure VNet fundamentals, virtualization fundamentals, bastion host patterns, disaster recovery concepts

Systems and Scripting: Linux (Ubuntu, RHEL, Amazon Linux), Bash, systemctl, chmod, Windows Server fundamentals, Python, asyncio, SQL fundamentals, SQLite, Git and GitHub, AWS CLI, Markdown technical documentation

Automation and Infrastructure as Code: Terraform, AWS CloudFormation, GitHub Actions, CI/CD pipelines, GitHub OIDC federation, Docker, Kubernetes manifests, Trivy image scanning, cfn-lint, Checkov, cloud-init and user data

Monitoring and Observability: Amazon CloudWatch metrics and logs, CloudTrail, AWS Config, VPC Flow Logs, Prometheus, Grafana, Syslog, SNMP, NTP, health and port checks, webhook alerting

Tools: Cisco Packet Tracer, Cisco IOS CLI, PuTTY, AWS Management Console, AWS CLI, AWS Systems Manager, Terraform, Docker, VS Code, Git Bash, curl, Microsoft Office, Google Workspace

NETWORK LABS AND TECHNICAL PROJECTS

Enterprise Campus Network Design and Troubleshooting Labs | Cisco Packet Tracer, Cisco IOS CLI | 2025 - 2026

- Built and troubleshot 50+ multi-device topologies using routers, Layer 2 and Layer 3 switches, servers and end hosts, covering campus LAN, branch interconnect and small enterprise designs.
- Configured VLANs, 802.1Q trunking, inter-VLAN routing, STP root bridge selection and EtherChannel link aggregation to segment traffic and remove Layer 2 loops and single points of failure.
- Deployed static routing, RIPv2, OSPF and EIGRP, verified neighbour adjacencies, routing tables and path selection, and resolved missing-route, mismatched-network-statement and wrong-subnet-mask faults.
- Implemented NAT and PAT for internet edge translation, DHCP pools and relay, DNS, NTP and Syslog services, then validated end-to-end reachability using ping, traceroute and show commands.
- Hardened devices with standard and extended ACLs, switch port security, DHCP snooping, SSH remote access, privilege levels and login banners, and performed IOS configuration backup, restore and upgrade procedures.
- Produced topology diagrams, IP addressing plans, configuration steps and fault-resolution notes for each lab to support repeatable troubleshooting and handover.

Cloud Network and Connectivity Troubleshooting Labs | AWS VPC, EC2, Systems Manager | 2026

- Designed VPC address plans covering CIDR allocation, public and private subnets, route tables, Internet Gateway and NAT Gateway, then diagnosed instance reachability failures layer by layer.
- Isolated connectivity faults caused by incorrect route table entries, Security Group rules, NACL rule ordering, missing public IP assignment and SSH key-pair issues.
- Reviewed VPC Flow Logs, CloudWatch metrics and logs, CloudTrail events and AWS Config records to trace rejected traffic and support root cause analysis, and administered instances securely using Systems Manager Session Manager, Run Command, Parameter Store and AWS CLI.

Cloud Security Posture Analyzer | Python, Network Exposure Analysis | github.com/irfanzulkifle/cloud-security-posture-analyzer

- Developed a Python command-line tool that parses infrastructure inventory, security group rules and VPC Flow Log samples to detect network exposure and misconfiguration risks.
- Flagged publicly reachable SSH, RDP and database ports, open storage buckets, weak encryption settings, missing MFA, stale credentials and repeated rejected traffic to administrative ports.
- Generated Markdown reports with severity ratings, supporting evidence, risk scores and remediation steps mapped to CIS AWS Foundations Benchmark v1.4.0, with logic covered by Python unittest.

Network Health Monitor | Python, asyncio, SQLite, systemd | github.com/irfanzulkifle/network-health-monitor

- Built an asynchronous command-line monitor that checks host reachability by ICMP and TCP service ports from a YAML inventory, running all checks concurrently with asyncio.
- Recorded every run in SQLite, computed per-host uptime percentage and average latency, and produced CSV and self-contained HTML reports for handover and review.
- Implemented state-change alerting so a webhook fires only on an up-to-down or down-to-recovered transition rather than on every poll, preventing alert fatigue during sustained outages; scheduled by a systemd timer and exits non-zero when any host is down so it can gate a cron job or CI step.

Additional Projects | Infrastructure as Code, CI/CD and Technical Documentation

- ECS Fargate CI/CD Pipeline (github.com/irfanzulkifle/ecs-fargate-cicd-pipeline): deployed a FastAPI service to AWS ECS Fargate through GitHub Actions using OIDC federation with no static AWS credentials, with Trivy image scanning and Terraform-provisioned VPC, ALB, ECR and CloudWatch.
- AWS VPC and EC2 Baseline (github.com/irfanzulkifle/aws-vpc-ec2-baseline): parameterised CloudFormation baseline with Systems Manager-only access, no open SSH port, VPC Flow Logs enabled and cfn-lint and Checkov scanning in CI.
- AWS re/Start Notes Website (github.com/irfanzulkifle/aws-notes-website): built and deployed a searchable documentation site holding 36 lecture notes and 11 weekly summaries across networking, Linux, security, databases and cloud services.
- K8s Demo App (github.com/irfanzulkifle/k8s-demo-app): containerised a FastAPI service with health and metrics endpoints, wrote Kubernetes Deployment, Service, ConfigMap, Secret and HPA manifests, and set up an automated build, image scanning and deployment pipeline.

TECHNICAL TRAINING

Future AWS Agentic AI Business Professional Nanodegree Program | Udacity, sponsored by AWS | 2026 - Present

- Currently completing a sponsored nanodegree covering agentic AI systems, autonomous workflow design and the application of AI agents to business operations, alongside self-directed agent infrastructure work involving multi-model LLM routing and Prometheus and Grafana observability on a Linux VPS.

Network and Multicloud Bootcamp | Nexperits Academy, sponsored by Yayasan Peneraju | November 2025 - December 2025

- Completed a 6-week programme combining 3 weeks of CompTIA Network+ N10-009 routing, switching and network security training with 3 weeks of CompTIA Cloud+ CV0-004 multicloud training.
- Focused on hands-on device configuration, subnetting and VLSM practice, protocol verification and structured troubleshooting workflows across Cisco IOS CLI and cloud console environments.

AWS re/Start Program | Forward College, Exabytes CCoE and AWS | April 2026 - August 2026

- Completed a full-time cloud and infrastructure programme covering networking fundamentals, Linux administration, Python, SQL, databases, cloud security, systems operations and technical support practice.
- Delivered graded labs and assessments in TCP/IP, DNS, DHCP, subnetting, OSI layers, routing concepts, VPC components, Security Groups versus NACLs, common ports and network hardening.

PROFESSIONAL EXPERIENCE

Store Operations Associate and Division Leader | AEON Co. (M) Berhad | 2019 - 2020

- Coordinated daily division operations, staff scheduling, stock movement and issue resolution in a high-volume retail environment across rotating morning, evening, weekend and public-holiday shifts.
- Triaged and prioritised operational faults and customer escalations under time pressure, communicated clear next steps and escalated system issues to IT support.
- Operated point-of-sale and internal systems for transaction processing, inventory tracking and accurate operational reporting.
- Monitored performance indicators to support task prioritisation and resource planning across the department.

Credit Analyst | Public Bank Berhad | 2017 - 2018

- Assessed individual and corporate credit applications by analysing financial statements, repayment capacity and risk factors to support evidence-based decisions.
- Coordinated with solicitors, valuers, engineers and internal departments to resolve documentation discrepancies and keep cases progressing to deadline.
- Maintained accurate records in regulated banking systems with strict attention to confidentiality, data integrity and compliance procedures.
- Managed multiple concurrent cases and dependencies, building the documentation discipline and stakeholder communication applied to network change and incident records.

EDUCATION

Bachelor of Science, Microbiology | The University of Queensland, Australia | January 2014 - July 2017 | CGPA 5.96/7.0 (equivalent to 3.61/4.0)

ADDITIONAL INFORMATION

Languages: Bahasa Malaysia (native), English (professional working proficiency)

Availability: Immediate. Open to onsite work, rotating shifts, standby duty and travel to customer sites within Malaysia.

Work authorisation: Malaysian citizen, no sponsorship required.