

Network administration essentials

Course outline · issued 14 September 2026

Technology areas	Network Administration
Level	Foundation
Short course	5 days
One-month track	4 weeks · 16 training days · 96 contact hours
Two-month track	8 weeks · 32 training days · 192 contact hours
Delivery	In person, Hybrid
Class size	8 to 16 participants
Certification	Certificate of completion
Entry requirements	Basic ICT support experience. Hands-on lab access required.

Who it is for

ICT support staff responsible for office networks.

By the end, participants can

- Configure switches, routers and wireless access points
- Segment networks and apply access controls
- Troubleshoot connectivity methodically

Short course modules (5 days)

1. TCP/IP and addressing
2. Switching and VLANs
3. Routing and WAN links
4. Wireless and security
5. Troubleshooting lab

One-month track — weeks 1 to 4

4 weeks · 16 training days · 96 contact hours

Week 1 — TCP/IP and addressing

- The stack, in the order faults actually occur
- IPv4 subnetting and address planning
- DHCP, DNS and name resolution failures
- IPv6 in outline

Practical: Design and document an addressing plan for a regional office.

Week 2 — Switching and VLANs

- Switch operation, MAC tables and loops
- VLANs, trunking and inter-VLAN routing
- Spanning tree in practice
- Port security and access control

Practical: Build and segment a multi-VLAN office network in the lab.

Week 3 — Routing and WAN links

- Static routing and default gateways
- Dynamic routing fundamentals
- WAN technologies and links between offices
- NAT, firewalls and internet edge

Practical: Connect two lab sites and route between them.

Week 4 — Wireless and network security

- Wireless design, channels and coverage
- Enterprise authentication for wireless
- Access control lists and segmentation policy
- Guest and contractor access

Practical: Deploy secured wireless with enterprise authentication.

Checkpoint: the one-month track is assessed [here](#).

Two-month track — continues through weeks 5 to 8

8 weeks · 32 training days · 192 contact hours

Week 5 — Monitoring and troubleshooting

- A method that finds faults fast
- Packet capture and reading a trace
- SNMP, syslog and monitoring dashboards
- Documenting a fault and its fix

Practical: Diagnose a set of injected faults against the clock.

Week 6 — Network services and resilience

- Redundancy, link aggregation and failover
- Quality of service for voice and video
- VPN and remote access for field officers
- Capacity planning

Practical: Add resilience and remote access to the lab build.

Week 7 — Operations and change

- Configuration management and backups
- Change windows and rollback
- Asset and cabling records
- Working with an internet service provider

Practical: Produce the as-built documentation and change procedure.

Week 8 — Capstone build and handover

- Completing the multi-site build
- Peer review and fault injection by another team
- Formal handover documentation
- Presenting the design and defending choices

Practical: Hand over and defend the capstone network build.

Capstone assessment and post-course evaluation.

Capstone

A working multi-site network build in the lab: addressing plan, segmented VLANs, routed WAN links, secured wireless and full as-built documentation.

About this outline

Indicative extended tracks. The one-month track runs weeks 1 to 4; the two-month track continues through week 8 with deeper labs, certification preparation and a capstone. Weeks, contact hours and cohort sizes are finalised with each client.

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