



Enterprise Network Infrastructure Design Training Course

21 – 25 March 2027
Johannesburg

Enterprise Network Infrastructure Design Training Course

Ref: 1661_222739 **Date:** 21 – 25 March 2027 **Location:** Johannesburg **Fees:** 4500 Euro

Overview

Enterprise Network Infrastructure Design Training Course is a one-week course for network architects, infrastructure engineers, IT project teams and technical operations professionals, who leave with a Network Infrastructure Design Pack. It connects network infrastructure design, campus network architecture, structured cabling, capacity planning and network segmentation through documented design decisions. Participants translate service requirements into physical and logical architectures, validation evidence and migration controls. Agile Leaders Training Center develops practical enterprise network design capability.

Who Should Attend

- Teams responsible for translating business services into network requirements and architecture
- Teams responsible for physical infrastructure, cabling, pathways and equipment spaces
- Teams responsible for switching, routing, addressing and connectivity design
- Teams responsible for wireless integration, segmentation and access policy
- Teams responsible for project delivery, migration planning and technical acceptance
- Teams responsible for network operations, availability and design assurance

The course assumes participants support network projects or infrastructure operations, and it leaves out vendor-specific configuration, certification preparation and advanced protocol development.

Departments and Industries

The course supports departments and industries that plan, deliver and operate connected services.

- Network architecture, infrastructure and technical operations
- IT project delivery, facilities technology and service management
- Financial services, insurance and professional services
- Healthcare, education and public services
- Manufacturing, energy and industrial operations
- Retail, logistics and digital service providers

Learning Objectives

By the end of this course, participants will be able to:



- Build requirement, capacity and traffic-flow baselines
- Apply structured cabling and physical topology principles
- Compare switching, routing and wireless architecture options
- Analyze segmentation, resilience and availability requirements
- Evaluate design risks, dependencies and validation evidence
- Build migration, documentation and acceptance plans

Course Agenda

Day 1: Requirements and Architecture Baselines

- Business Service and Network Requirement Matrix
- Application Dependency and Traffic Flow Map
- Capacity Demand and Growth Assumption Model
- Campus and Branch Site Constraint Register
- Hierarchical Modular Architecture Decision Record

Day 2: Cabling and Physical Infrastructure

- TIA-568 Structured Cabling Topology
- TIA-569 Pathways and Spaces Assessment
- TIA-606 Labeling and Administration Scheme
- TIA-607 Grounding and Bonding Design
- TIA-455 Fiber Testing Evidence Plan

Day 3: Logical and Wireless Architecture

- Layer 2 Switching Domain Design
- Layer 3 Routing Boundary Model
- IP Addressing and Summarization Plan
- Wired and Wireless Integration Blueprint
- Network Segmentation and Policy Zone Matrix

Day 4: Resilience Security and Transition

- High Availability and Failure Domain Analysis
- Redundancy Path and Convergence Decision Matrix
- NIST SP 800-207 Trust Boundary Review
- Design Risk and Dependency Register
- Migration Wave and Rollback Plan

Day 5: Network Design Practice

- Exercise: Validate Requirements and Capacity Assumptions
- Exercise: Review Cabling and Physical Topology
- Exercise: Test Segmentation and Resilience Decisions
- Exercise: Rehearse Migration and Acceptance Controls
- Capstone: Network Infrastructure Design Pack

Practical Exercises

Suggested activities use service requirements, site constraints, network diagrams and migration scenarios.

- Suggested activity: convert application dependencies and traffic flows into a capacity and topology baseline
- Suggested activity: assess cabling, pathways, equipment spaces and labeling against a site scenario
- Suggested activity: compare logical, wireless, segmentation and high-availability options through decision records
- Suggested activity: assemble validation evidence, migration controls and acceptance criteria into a design pack

FAQs

Who should take enterprise network infrastructure design training, and what does it assume?

Enterprise network infrastructure design training suits architecture, engineering, project and operations teams that already support network services or infrastructure projects.

How does network infrastructure design training differ from network administration training?

Network infrastructure design training focuses on requirements, architecture choices, capacity, physical infrastructure, resilience and transition; network administration training focuses on configuring, monitoring and supporting an operating environment.

What belongs in a network infrastructure design?

A network infrastructure design includes requirements, traffic flows, capacity assumptions, physical and logical topology, addressing, segmentation, wireless integration, resilience, security boundaries, validation evidence and migration controls.

Why does structured cabling matter in enterprise network design?

Structured cabling creates an organized physical foundation for connectivity, testing, labeling, maintenance and future change across telecommunications rooms, pathways and work areas.



How is network design validation performed before migration?

Network design validation compares requirements with diagrams, calculations, failure scenarios, policy boundaries, test criteria and acceptance evidence before changes enter the live environment.

Conclusion

Participants take back a Network Infrastructure Design Pack containing requirements, capacity, topology, cabling, logical architecture, segmentation, resilience, validation and migration artifacts. The pack makes assumptions and design decisions traceable. It helps teams review architecture choices, coordinate delivery and control transition into operations.