

# CompTIA Cloud+, Part 3 of 8: Understanding Network Infrastructure

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**Meet the expert:** Patrick Loner has certifications for MCSA, MCSE, MCITP, A+, Network+, Security+, and more. He has been working as a Microsoft Certified Trainer, network administrator, and network consultant for over ten years. He has over a decade of experience working with and teaching about Windows networks with client and server operating systems. He has guided many students toward Microsoft and CompTIA certifications. Most recently, he has worked as a freelance trainer and network consultant specializing in Windows Server 2008 and Microsoft Exchange 2007 and Exchange 2010 implementations, design, and upgrades. Patrick continues to branch out now working with and training on Windows Server 2012, Windows 8, Exchange 2013, and System Center Configuration Manager 2012.

**Prerequisites:** There are no Prerequisites for this course.

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**Course description:** Dive into network infrastructure, one of the foundational components of cloud computing environments, beginning with a basic understanding of network infrastructure concepts. In addition to examining the different network types and categories, such as intranets versus extranets and Local Area Networks versus Wide Area Networks, network optimization using network segmentation and the various considerations when it comes to bandwidth and latency will be explored. Finally, as we seek to implement a network infrastructure on which to build our cloud services environment, we will take a close-up look of some of the major foundational concepts behind network routers and network switches including different network ports and protocols that are heavily used for client-to-server communication.

## Course outline:

### Network Types

- Introduction
  - Understanding Network Types
  - Types of Network
  - Intranet
  - Internet
  - Extranet
  - Summary
- HTTP and HTTPS
  - FTP and FTPS
  - Other Application Protocols
  - Well-Known Ports
  - Summary

### Optimizing the Network

- Introduction
- Optimizing the Network
- Network Topology
- Topologies
- Performance Factors
- Load Balancing
- Summary

### Routing and Switching

- Introduction
- Routing and Switching
- Network Address Translation (NAT)
- Subnetting
- Supernetting
- Virtual Local Area Network (VLAN)
- VLAN Concepts
- Summary

### Network Ports and Protocols

- Introduction
- Network Ports and Protocols