Curso ATNE - Networking Essentials

Duração: 20h

Introdução

This Networking Essentials course provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology.

Público-alvo

This course is meant for those looking to get started with complexities of Networking.
This course may not be for those who are already Networking Professionals.

No final do curso

This course you, along with the instructor, will take a look at the following in depth:
• Protocols and the magic of protocols, in particular, TCP/IP.
• Working with name-resolution.
• IP address allocation.
• Troubleshooting.

Pré-requisitos

Basic Skills of computer and Operating Systems

Exames de certificação

(não existem exames)

Conteúdo programático em detalhe

Networks
• An introduction to networking, and discusses the different network topologies.
Ethernet
• Ethernet wiring standards and physical layer classifications.
OSI Model
• OSI model, and the associate layer-1 through layer-3
MAC Addresses
• What is a MAC address is and how it is derived.
• Function of Address Resolution Protocol (ARP)
TCP/IP
• What is TCP/IP how it works
• TCP/IP Architecture
• Description of IPv4 Address Structure
• IPv4 Address Classes
• IPv4 Reserved Addresses
• Setting a Static IP Address

• IPv4 Address Decimal Binary Notation
• DNS, hosts files

IPv4 Addresses

• Basic elements of an IPv4 address.

Subnet Mask

• Concepts of subnetting and standard class addressing.
• Overview of CIDR

Gateway Addresses

• The role that the default gateway plays in a network.
• The Concept of Subnetworks

DHCP

• The dynamic host configuration protocol (DHCP) including a use case for dynamic reservation tables.

Ping Utility

• The ping utility accessed through the Windows Command Prompt application.

IPConfig Utility

• Ipconfig utility through the Windows Command Prompt application. Review ipconfig show all and other options.

Switches vs Routers

• Network switch and router hardware equipment.

IP Scanner Utility

• Different hardware and software techniques for finding IP devices on a network.

Introduction to Transport Protocols

• Transmission Control Protocol (TCP)
• User Datagram Protocol (UDP)

Port Numbers

• The role of the port number in association with the IP address of a network destination.

Unicast

• Different network communication technologies with a focus on Unicast communications.

Multicast

• The benefits of Multicast communications, especially in consideration of network media streaming.

Introduction to IPv6

• IPv4 vs IPv6 Address Space
• Types of IPv6 Address

802.1x Security